

Marin Sanitary Service  
1050 Andersen Drive, San Rafael CA, 94901  
Tel 415-456-2601  
www.marinsanitaryservice.com



# SERVICE AREA ANNUAL REPORT

FOR CALENDAR YEAR 2017

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# EXECUTIVE SUMMARY

## Executive Summary

### CONTINUED COMMITMENT

Marin Sanitary Service (MSS) continuously puts forth its best effort to help our jurisdictions meet their Zero waste and greenhouse gas reduction goals. In 2012, an amendment was made to the Franchisors' Group (FG) agreements that included a provision of a comprehensive annual report to describe progress and achievements in meeting Zero waste goals through programs and activities. This amendment was implemented in 2013. All data presented is for the entire MSS Service Area (San Rafael, Larkspur, Ross, LGSVD, Ross Valley-North, Ross Valley-South, County of Marin, Fairfax and San Anselmo). This report is for calendar year 2017.

### OPERATIONAL EFFICIENCY

The Operational Improvement Plan and Zero Waste Programs detailed in this report illustrate MSS's commitment to diverting resources from the landfill. 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. 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.

### 2017 IN REVIEW

No new programs were added in 2017. MSS focused on refining routes, increasing participation, decreasing contamination in the recycling and organics streams, and helping customers become compliant with the State laws for Mandatory Commercial Recycling (AB 341) and Mandatory Commercial Organics Recycling (AB 1826). In addition, the MSS 4R Planet School Programs in partnership with Zero waste Marin continued to expand.

### LOOKING AHEAD

For 2018, MSS will focus on improving the quality of recycling and organics materials collected. In light of stricter requirements to move materials to Asian markets, MSS must collect recycling materials that are virtually contaminant free to ensure the materials can be sold. Due to State mandates on cleanliness of finished compost, Composters are also requiring a much cleaner feedstock of organic materials collected by MSS. Customer education and improvements in collection and processing will continue to be a priority.

# OPERATIONAL IMPROVEMENT PLAN

## Operational Improvement Plan

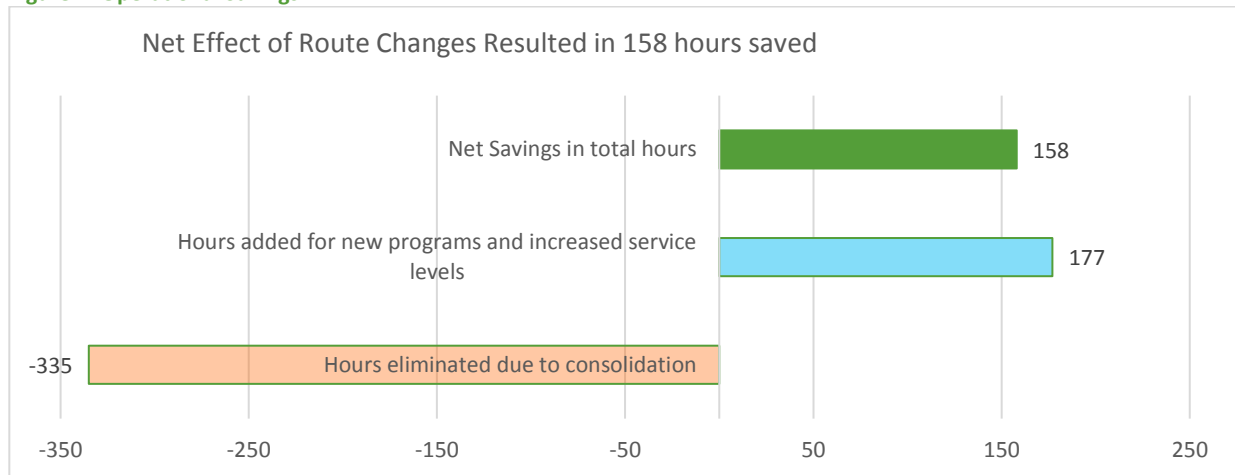
### OPERATIONAL EFFICIENCY

MSS continuously strives for operational improvements. By attending conferences, subscribing to trade journals and being active members in various trade associations, we are able to learn the latest trends and best practices in the industry. This knowledge has allowed us to make investments in new technologies and equipment, to improve our fleets, and increase operational efficiency. **Keeping costs low** while maintaining **quality service** is our overarching goal.

### ROUTING OPTIMIZATION

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. As a result of our routing efficiencies, we were able to enhance services while reducing our net route hours by 158 hours per week (Figure 1).

Figure 1: Operational Savings



**We are no longer a “garbage” company. We are “resource haulers”.** With time and personnel savings that have been achieved, MSS has been able to devote more resources to the implementation of additional diversion routes. In 2012, MSS needed a total of 54 drivers to complete all routes; due to consolidations, we now have 49 drivers (Table 1).

Table 1: Routes and Employee Breakdown

Collected Material	# of Routes	# of Employees
Garbage	18	21
Recycling	18	18
Organics	9	9
Food Waste (F2E)	1	1
Totals	46	49

# OPERATIONAL IMPROVEMENT PLAN

## ROUTING COLLECTION CHANGES

### Commercial Recycling

In 2016, MSS investigated the feasibility of using split body trucks, similar to those used in residential areas, for commercial recycling collection. Test runs proved successful and led to the decision to purchase three rear loading split body collection vehicles, essentially separating commercial recycling collection from residential recycling collection. The addition of these new vehicles on commercial recycling routes has allowed for consolidation and more efficiency. Prior to this, commercial recycling was collected in separate trucks--one for containers (glass, plastics, metal) and one for fibers (papers, cardboard) and residential trucks were often used to help with the increasing volume of recyclables in businesses and multifamily dwellings. The decision to use rear loader vehicles allows the driver to see what customers are placing in the containers and will help to reduce contamination of materials delivered to Marin Recycling for processing.



All commercial and multifamily accounts were reviewed, and analyzed by service type, location, service levels, service time, and tonnage for inclusion in sequencing the new routes. Using RouteSmart, three new route territories were created covering 3,631 service stops per week. New five-day routes were created and optimized within each territory. Implementation took place in June 2017, and after initial adjustments, the project was completed in July 2017.

### SMALL TRUCK SERVICES

MSS has provided small truck collection services along private driveways and small, narrow streets for many years. Small truck routes are interspersed in existing larger truck routes which makes routing more difficult to optimize. Historically this service was only provided to garbage carts, but in response to customer demand service was expanded to include recycling and organics collection. This added another layer of complexity to the routing. In June 2017, MSS evaluated the small truck routes using RouteSmart to determine how to increase route efficiency. The project had three main goals:

1. Eliminate an existing 4 hour recycle route 2 days per week by integrating into a full-time small recycle truck route.
2. Eliminate all overtime.
3. Optimize sequencing of all routes by area.

4,631 small truck service stops were entered into RouteSmart for review and re-sequencing. All routes were reorganized by day and area along with new route sequencing by type:

- 1,717 garbage stops
- 1,331 organics stops
- 1,583 recycle stops

Because the small truck routes are service area wide, it was necessary to change some customers service collection days. This meant that some streets serviced by small trucks had different collection days than neighbors on streets that could accommodate the larger trucks. All customers received

# OPERATIONAL IMPROVEMENT PLAN

prior notice if their service day was changed. The project was completed in September 2017 with minimal impact to customers.

## On Board Computers (Tablets)

MSS introduced driver handheld tablets into our fleet in Spring 2015. Additional tablets were added in 2017 bringing the total for use on routes to 43 (Table 2). Tablets not only save paper as the need for printed route lists is eliminated, they save time for the drivers by making route changes easier to implement. They also improve communication by allowing real time feedback to the Operations and Office Staff on what is happening on the routes. This ultimately improves customer satisfaction and improves overall work flow efficiency.



Tablets are also used to perform service audits on Commercial Garbage routes to verify billing accuracy. Updated service data can then be loaded onto the tablets for daily use. The goal for 2018 is to use tablets on all routes. We will be adding tablets to the Residential Curbside Recycling routes and the remaining Residential Organics routes.

**Table 2: 2017 Tablet Implementation**

Route Type	# of Tablets
Roll-off and Cart Delivery	13
Residential Garbage	9
Commercial Garbage (Front End Loaders)	4
Organics	6
Food Waste (F2E)	1
Commercial Recycle	10
Total Tablets in Use	43

# RESIDENTIAL SERVICES

## Residential Services

### RESIDENTIAL SERVICE LEVELS

**Residential Customers: Comprehensive** hauling services **for one low rate**

**We're more than just the garbage company - we're your resource hauler, providing comprehensive recycling and landfill services in a basic bundled service package for one low cost.**



#### Dual Sort Recycling

Recycle bottles, cans and containers on the brown side and paper products on the blue side.



#### Organics Yard /Food Waste

Recycle yard trimmings, kitchen scraps and food soiled paper in the green cart so they can be composted into a rich soil amendment.



#### Garbage Hauling

Everything put in the garbage goes directly to landfill.

**The more you recycle, the more you save.** See reverse side to learn how.

Visit [www.marinsanitaryservice.com](http://www.marinsanitaryservice.com) for guidelines on what is recyclable and compostable.

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. At the end of 2017, there were 30,154 customers signed up for service with MSS. Duplexes and Triplexes are considered residential customers. If a property manager pays the bill, the duplex or triplex is considered to be a single customer; therefore, the cart numbers will exceed the actual customer count. Not all customers have recycling carts and many customers have multiple organics carts. Tables 3 and 4 show the residential cart subscription levels for year end 2017 compared to year end 2016. The subscription to 20-gallon carts continues to increase annually. This could be a reason for an increase in contamination seen at the Marin Recycling Center. These numbers are only for MSS supplied tipper carts and do not reflect customer owned cans or bags that contain extra garbage, yard waste and/or recycling.

**Table 3: Residential “Landfill” Cart Service Subscriptions**

Residential Weekly Garbage Service			
Number of Carts			
CART size	2017	2016	% change
20 gallon	5,663	5,291	7%
32 gallon	18,856	19,165	-2%
64 gallon	5,495	5,529	-1%
96 gallon	589	567	4%
<b>Total</b>	<b>30,603</b>	<b>30,552</b>	

# RESIDENTIAL SERVICES

**Table 4: Residential Cart Service Subscription for Recycling and Organics**

<b>Residential Weekly Dual Sort Recycling Service</b>			
<b>Number of Carts</b>			
<b>CART size</b>	<b>2017</b>	<b>2016</b>	<b>% change</b>
5 gallon bucket*	752	821	<b>-8%</b>
32 gallon**	22	22	<b>0%</b>
64 gallon	28,010	28,233	<b>-1%</b>
96 gallon	1,715	1,393	<b>23%</b>
Total	30,499	30,469	
<b>Residential Weekly Green Waste Service</b>			
<b>Number of Carts</b>			
<b>CART size</b>	<b>2017</b>	<b>2016</b>	<b>% change</b>
35 gallon	1188	786	<b>51%</b>
64 gallon	29,924	29,998	<b>0%</b>
96 gallon***	36	35	<b>3%</b>
Total	31,148	30,819	

\*Use of 5 gallon bucket is being phased out.

\*\*Only offered in duplexes or triplexes where each tenant pays their own bill.

\*\*\*Only available at Duplexes and Triplexes with shared service and are being phased out.

## ADDITIONAL DIVERSION SERVICES

In 2016, the following new programs were added to help divert more materials from the landfill.

1. Residential Scheduled Curbside Clean-up 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.
2. Residential On-Call collection of up to two (2) bulky items twice per year.
3. Municipal Illegal Dumping support for all service areas.



# RESIDENTIAL SERVICES

These programs have been very well received by the community and continue to grow in popularity. (Table 5). Overall, there was a significant increase in participation from 12% to 21%. Customers receive flyers twice per year with the printed or emailed bill that alerts them to the clean-up dates and program details (Figure 2). Details are also listed on the website <http://marinsanitaryservice.com/special-residential-services/>.

Table 5: Program Statistics

	2017	2016	% Change
Tonnage Diverted	279	199	40%
• Scheduled Clean-ups	116	94	23%
• Bulky Items	156	99	58%
• Illegal Dumping	7	6	17%
Bulky Items collected (items)	6483	3656	77%
<b>Participation</b>	<b>21%</b>	<b>12%</b>	

Figure 2: Sample Mailers

# COMMERCIAL AND MULTIFAMILY SERVICES

## Commercial and Multifamily Services

### COMMERCIAL BUSINESS SERVICE LEVELS

Commercial businesses are offered recycling services as part of a “bundled rate”. Beginning in 2015, two organics programs were offered for the same charge to all commercial customers. Since there is a wide variety of container types, sizes and collection frequency, the data is reported based on overall weekly yardage of service. 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.

Overall, the percentage of landfill (garbage) service subscriptions have decreased (Table 6) and the level of “diversion” services has increased (Table 7). This is significant and is primarily due to enhanced commercial recycling service offerings and outreach & education.

**Table 6 Commercial Weekly Landfill (Garbage) Service in Cubic Yards**

SERVICE IN YARDS	2017	2016	% Change
<b>LANDFILL</b>			
CARTS	1418	1421	-0.2%
BINS	3960	3968	-0.2%
ROLL-OFF BOXES	719	698	3.0%
COMPACTORS*	2308	2255	2.4%
<b>TOTAL</b>	<b>8405</b>	<b>8342</b>	<b>0.8%</b>

\*Compaction Rate is 2:1

# COMMERCIAL AND MULTIFAMILY SERVICES

Table 7 Commercial Weekly Services for Recycling and Organics

SERVICE IN YARDS	2017	2016	% Change
<b>RECYCLING</b>			
CARTS	1798	1732	4%
BINS	2731	2466	11%
COMPACTORS*	184	184	0%
<b>TOTAL</b>	<b>4713</b>	<b>4382</b>	<b>8%</b>
<b>ORGANICS</b>			
CARTS	166	150	11%
BINS	18	3	500%
ROLL-OFF BOXES	63	56	13%
F2E	244	227	7%
<b>TOTAL</b>	<b>491</b>	<b>436</b>	<b>13%</b>

\*Compaction Rate is 2:1

## MULTIFAMILY DWELLING SERVICE LEVELS

### Multifamily Dwellings: Comprehensive hauling services for one low rate

**NEW** We're more than just the garbage company - we're your resource hauler, providing comprehensive recycling and landfill services in a basic bundled service package for one low rate.



**RECYCLING**

- Organics
- Paper
- Glass, metal and plastic
- Cardboard

**GARBAGE**

Everything put in the garbage goes directly to landfill.

**The more you recycle, the more you save.** See reverse side to learn how.  
 Call **415-456-2601** or visit [www.marinsanitaryservice.com](http://www.marinsanitaryservice.com) for more information.

Multifamily Dwellings (MFDs) are offered recycling services as part of a “bundled rate”. In 2016, organics service was offered to tenants at apartment buildings and is included as part of the bundled rate. In addition, MFD tenants receive kitchen pails after attending a workshop for the collection of compostable materials. Since there is a wide variety of container types and sizes and collection frequency, the data is reported based on overall weekly yardage of service. MFD 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.
- 1, 2, 3, 4, 5, and 6 cubic yard bins.

# COMMERCIAL AND MULTIFAMILY SERVICES

- 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.

While the percentage of landfill service subscriptions have increased, the level of “diversion” service subscriptions have also increased, especially for organics services (Table 8). MSS is hopeful that with increased outreach & education and the addition of organics service, we will see a decrease in landfill and an increase in diversion.

**Table 8 Multifamily Weekly Services for Landfill (Garbage), Recycling and Organics.**

SERVICE IN YARDS	2017	2016	% Change
<b>LANDFILL</b>			
CARTS	1605	1585	1%
BINS	1860	1791	4%
ROLL-OFF BOXES	25	43	-42%
COMPACTORS*	32	50	-36%
<b>TOTAL</b>	<b>3522</b>	<b>3469</b>	<b>2%</b>
<b>RECYCLING</b>			
CARTS	1659	1648	1%
BINS	130	82	59%
<b>TOTAL</b>	<b>1789</b>	<b>1730</b>	<b>3%</b>
<b>ORGANICS</b>			
CARTS	360	284	27%
ROLL-OFF BOXES	25	25	0%
<b>TOTAL</b>	<b>385</b>	<b>309</b>	<b>25%</b>

\*Compaction Rate is 2:1

# COMPLIANCE WITH STATE LAWS

## Compliance with State Laws

### MANDATORY COMMERCIAL RECYCLING (AB 341)

Mandatory Commercial Recycling (AB 341) has been in effect since July 2012. This law calls for recycling 75 percent of California's solid waste by 2020. It is important to note that AB 341 is a continuation of an effort by the state to reduce greenhouse-gas (GHG) emissions, as required by AB 32, which became law in 2006. Simply stated, recycling reduces GHG emissions, and, through the implementation of AB 341 will make a significant reduction in these emissions.

Educating businesses about recycling is a dynamic and ongoing process. MSS has two (2) Commercial Recycling Coordinators working with businesses and apartment buildings on all organics and recycling programs. In addition, there is a full-time School Recycling Coordinator. New businesses and their employees are educated about recycling requirements and opportunities. Existing businesses and their employees are monitored and encouraged to divert even more resources from the landfill.

Every year, the MSS Director of Compliance meets with CalRecycle staff to discuss outreach, education and monitoring efforts and results for each jurisdiction we serve. In addition, CalRecycle staff conduct site visits of our model customers. The State staff have consistently praised the work we are doing on implementation and monitoring of state goals for diversion.

Waste audits are part of the monitoring process and help to identify waste types and volumes of divertible materials in the disposed of waste stream. Every year drivers perform visual waste audits for all commercial and multifamily dwelling customers. Drivers visually inspect garbage carts and bins to determine the percentage of divertible material such as glass, plastic, cans, paper, cardboard, yard waste and food waste. There were ~1,600 **visual** audits performed in 2017. Customers with 50% or more of divertible material were referred to the appropriate Outreach Staff for waste stream assessments. Waste stream assessments are on-site assessments of the waste stream (total flow of materials generated) and recycling potential of an individual business, institution, or household. From this assessment, service and education needs are determined and a waste reduction plan is developed and implemented.

MSS has 2,317 commercial business customers. We are proud to report that 99% of all businesses are compliant with the law (Table 9). Under AB 341, only 560 commercial customers (24%) of all customers are required to have recycling services. Of the 770 Multifamily Dwellings (MFDs), 99% are compliant with the law (Table 10). Six (6) MFDs remain non-compliant and are in San Rafael. The majority of these MFDs are managed by the same property management company. The Compliance Manager continues to work with code enforcement and the Climate Corp intern with the City of San Rafael to get them to gain compliance. Collaboration between the public, the city/town staff and MSS is key to the success of this law. Of the jurisdictions MSS serves, only Fairfax has a Mandatory Commercial Recycling Ordinance that requires ALL commercial businesses and multifamily dwellings to recycle and/or

# COMPLIANCE WITH STATE LAWS

compost. This has been very successful in increasing diversion and participation in MSS recycling and organics programs.

**Table 9: Commercial Business Compliance with AB 341 (4+ CY per week of service must recycle)**

	Qualifies: <b>NOT</b> compliant	Qualifies: Recycles	Grand Total
2012 Year End Total	<b>82</b>	NA	NA
2013 Year End Total	<b>54</b>	341	395
2014 Year End Total	<b>25</b>	378	403
2015 Year End Total	<b>5</b>	552	557
2016 Year End Total	<b>0</b>	566	566
2017 Year End Total	<b>2</b>	560	562

**Table 10: Multifamily Dwelling Compliance with AB 341**

	Qualifies: <b>NOT</b> compliant	Qualifies: Recycles	Grand Total
2012 Year End Total	<b>133</b>	NA	NA
2013 Year End Total	<b>94</b>	284	378
2014 Year End Total	<b>43</b>	601	644
2015 Year End Total	<b>28</b>	621	649
2016 Year End Total	<b>9</b>	629	638
2017 Year End Total	<b>6</b>	653	659

## MANDATORY COMMERCIAL ORGANICS RECYCLING (AB 1826)

AB 1826 Mandatory Organic Recycling Collection was established out of the need to decrease greenhouse gas emissions in the AB 32 (California Global Warming Solutions Act of 2006) scoping plan. The goal is to capture and recycle organic waste (food scraps, yard and plant debris, landscape and pruning material, nonhazardous wood, and food-soiled paper). MSS has offered two organics recycling program options to all commercial customers since 2014. Customers can choose to participate in Commercial Food Waste to Energy (F2E) or Commercial Composting. These services are offered for 30% less cost than Landfill services as an incentive to encourage customers to participate. Customers receive tools to help them recover the materials such as kitchen pails, slim jim bins, posters and hands-on training.

Commercial businesses and multifamily dwellings are required to subscribe to composting or anaerobic digestion service for their organic waste. This law phases in the mandatory recycling of commercial organics over time. In 2017, the threshold for compliance decreased from eight (8) cubic yards of organics per week to four (4) cubic yards of organics per week. Compliance is shown in Table 11. It should be noted that Fairfax is the only jurisdiction in Marin County that has passed an ordinance that states all businesses with organic waste **MUST** subscribe to and divert all organics generated. Without the strength of similar ordinances across Marin County, we do not anticipate significant increases in

# COMPLIANCE WITH STATE LAWS

customers subscribing to organics services even with our ongoing customer outreach activities.

**Table 11: Commercial Business Compliance with AB 1826 at Year End 2017**

JURISDICTION	Qualifies 4+ CY Organics: <b>NOT</b> compliant	Qualifies: Has Organics	Grand Total
San Rafael	104	20	124
Consolidated County of Marin	9	4	13
Las Gallinas Valley Sanitary District	6	1	7
Ross	2	2	4
Larkspur	27	5	32
San Anselmo	6	2	8
Fairfax*	13	35	48
Grand Total	167	69	236

\*Fairfax commercial customers that have more than 32 gallons per week of organic material must participate in a diversion program.

Multifamily Dwelling (MFDs) are exempt from counting food waste in their total organics per week calculation, and are required only to divert yard debris, landscaping and pruning materials only under this law. Most apartment buildings with 24 or more units self-haul or contract with a landscaping company. For this reason, MSS is focusing on getting the food scraps, food soiled paper and smaller volumes of yard debris. Since implementation of the organics program in 2016, 51% (393) are now participating.

## COMMERCIAL AND MULTIFAMILY OUTREACH, EDUCATION AND MONITORING

Having specialized Recycling Program Coordinators has allowed MSS to streamline and individualize outreach efforts for the variety of customers in the commercial sector. Assessments of the customers' waste stream is then used to tailor a recycling program that best suits the business type. The Operations staff and Outreach staff use this data to create a comprehensive diversion plan. Once recycling and/or organics services are established, the teams work to "right size" the garbage service which often results in decrease in the overall "resource hauling" bill. There have been 3,585 different outreach contacts for 2017 (Table 12). This is down 22% primarily due to the loss of a Recycling Coordinator (4,356 in 2016). MSS plans to fill the position in 2018.

**Table 12: Commercial/Multifamily Outreach by Type January-December, 2017**



# DIVERSION, RECYCLING, AND GLOBAL IMPACTS OF STATE MANDATES

## 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 13 details the State diversion goals and activities that contribute to it.

**Table 13: State Diversion Goal: AB 939 (1989)**

<b>AB 939 State Goal: 50 Percent Diversion from the Landfill (Jurisdictional Mandate)</b>	
<b>Activities that Count Toward Goal</b>	<b><i>Diversion:</i></b> Source Reduction Composting Recycling ADC AIC Other Beneficial Reuse Transformation Credit
<b>Activities that <b>Do Not</b> Count Toward Goal</b>	<b><i>Disposal:</i></b> Landfill (Including Exports) Some Transformation Engineered Municipal Solid Waste (EMSW) Green Waste ADC (Beginning in 2020)
<b>Baseline Waste Generation and Base Years in pounds per person per day (ppd)</b>	12.6 ppd (2003-2006)
<b>Statewide Disposal Target in pounds per person per day (ppd)</b>	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 MSS Service Area 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 14 shows the historical trends in the County Diversion Rates reported to CalRecycle. The Marin JPA AB 939 landfill diversion rate dropped to 69% in 2016 from 74% in 2015 and is primarily based on the following reasons:



# DIVERSION, RECYCLING, AND GLOBAL IMPACTS OF STATE MANDATES

- Landfill disposal increased from 188,116 tons in 2015 to 223,071 tons in 2016, an increase of 34,955 tons, while the population increased by only 4,178 people.
- The PG&E transmission facility in San Rafael was demolished and contributed to a significant increase in landfilled tonnage. This was a one-time event.
- The pounds per person per day increased from 4.0 PPD to 4.6 PPD.
- China’s National Sword Initiative, which has tightened the market specifications for mixed waste paper and mixed rigid plastics, has become an effective ban for many recyclers that do not have dual-stream collection.

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 15).

**Table 14: Marin County Historical Diversion Rates**

Year	Diversion Rate
<b>2012</b>	75%
<b>2013</b>	74%
<b>2014</b>	75%
<b>2015</b>	74%
<b>2016</b>	69%
<b>2017</b>	NA*

\*Will be available in August 2018

**Table 15: 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	2.50
2017	NA*	NA*	2.41

\*Will be available in August 2018

## 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 16. For the purpose of this report, only tonnages for materials collected and processed under the Franchise Agreement with the MSS Franchised Service Areas are presented going forward as “Recycling Rates”.

# DIVERSION, RECYCLING, AND GLOBAL IMPACTS OF STATE MANDATES

**Table 16: AB 939 Definition of Recycling**

State Goal: 75 Percent Recycling Rate	
Activities that Count Toward Goal	<b>Recycling:</b> Source Reduction Composting Recycling
Activities that <b>Do Not</b> Count Toward Goal	<b>Disposal:</b> Landfill (Including Exports) Engineered Municipal Solid Waste (EMSW) <b>Disposal-Related:</b> 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 in pounds per person per day (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 (Table 17).

**Table 17: Historical Recycling Rates: County vs. MSS**

Year	State of California	MSS Rate Regulated
2012	50%	45%
2013	50%	53%
2014	50%	50%
2015	47%	50%
2016	44%	52%
2017	NA*	53%

*\*Data will be available August 2018*

# DIVERSION, RECYCLING, AND GLOBAL IMPACTS OF STATE MANDATES

## REVIEW OF CALIFORNIA'S FIRST RECYCLING LAW: AB 939

California's landmark recycling law, AB 939, is nearly 30 years old. Convenient, low-cost curbside recycling programs currently serve the vast majority of residents in the state. In Marin County all single and multifamily residents and businesses have access to recycling services. Hundreds of millions of tons of waste have been diverted from landfills since the law's inception, conserving scarce natural resources and providing a host of other environmental benefits---including GHG emissions reductions---in the process. Along the way, an expensive and highly sophisticated network of recycling and composting facilities was developed by private industry---with critical assistance from local government---to handle and process that portion of the waste stream that was formerly disposed in landfills. All of that may soon change due to changes in the international commodity markets and lack of domestic markets.

## 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). The Statewide goal also includes all residential recycling programs as well as construction & demolition. 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.

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 18). Figure 3 shows the trends in contamination at the Marin Recycling Center (MRC) from 2012 through 2017. Prior to 2012, the Marin Recycling Center had average residual (contamination) rates of 1%.

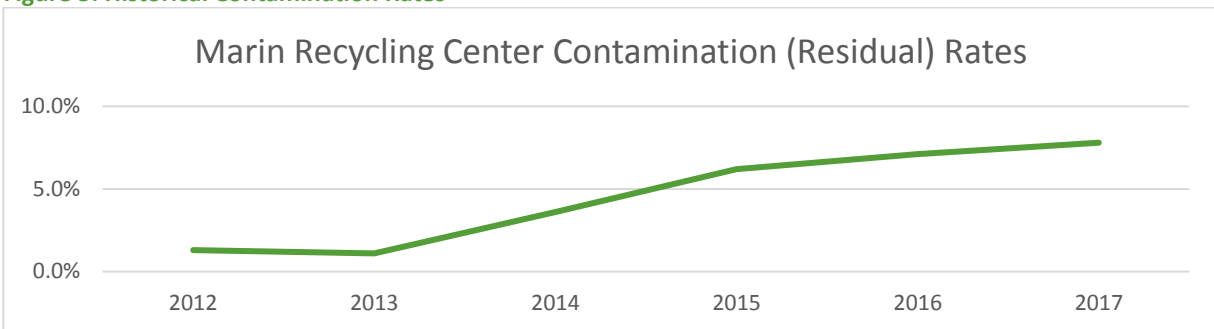
**Table 18: Commodity Price Changes (5-year review) Average Price Per Ton**

Commodity	2013	2014	2015	2016	2017	% Change 2013-2017
Cardboard	\$177	\$163	\$147	\$151	\$204	15%
Newsprint	\$144	\$157	\$132	\$145	\$162	13%
Office paper	\$181	\$192	\$191	\$222	\$215	19%
Mixed paper	\$125	\$121	\$106	\$116	\$125	0%

# DIVERSION, RECYCLING, AND GLOBAL IMPACTS OF STATE MANDATES

Aluminum cans	\$1,358	\$1,593	\$1,214	\$1,137	\$1,317	-3%
Glass	\$39	\$80	\$18	\$19	\$27	-31%
HDPE #2 natural	\$614	\$814	\$544	\$415	\$524	-15%
HDPE #2 color	\$402	\$537	\$395	\$278	\$288	-28%
PET #1	\$487	\$486	\$221	\$194	\$248	-49%
Mixed Rigid Plastics (#3-7)	\$23	\$88	\$20	\$1	\$10	-57%

**Figure 3: 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. Driver tablets help streamline this process. Repeat customers or those with extreme contamination are charged for contaminated carts and bins.

# DIVERSION, RECYCLING, AND GLOBAL IMPACTS OF STATE MANDATES

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.

## Outreach Campaigns

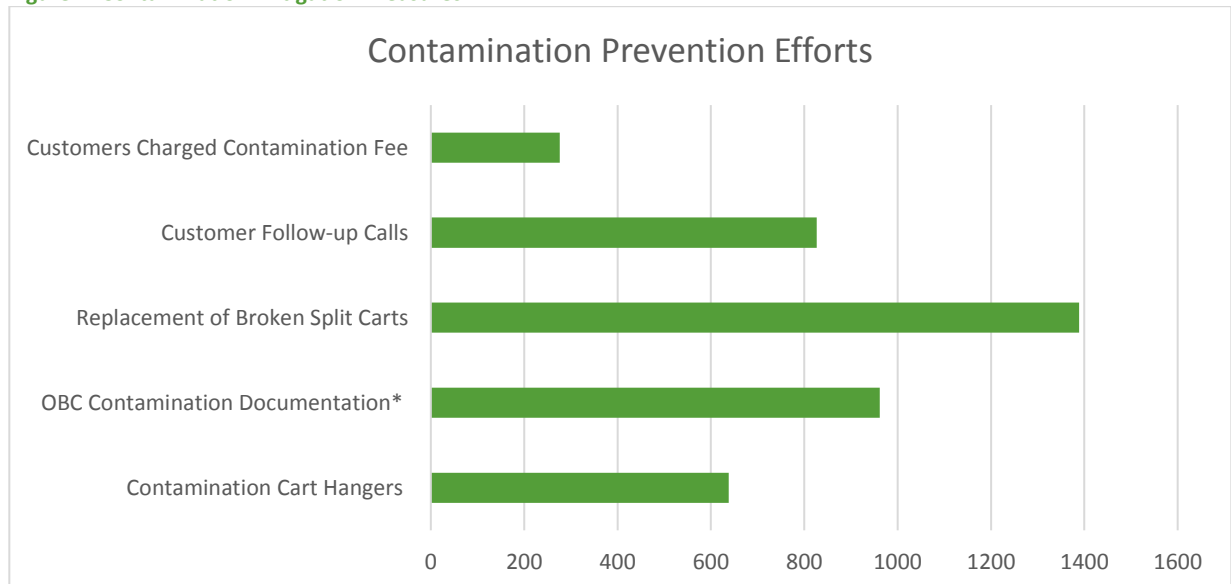
1. Bill inserts were mailed to all customers (single family, multifamily and commercial business).
2. New flyers for commercial recycling and cardboard were created and distributed to drivers to leave with customers.
3. Flyers on the rules of recycling were created and distributed to residential drivers 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 distributed to Operations staff.

Since April, 2017, a total of 4,000 separate actions have been taken to try and minimize contamination (Figure 4).

Figure 4: Contamination Mitigation Measures



\*OBC=On-board Computer documentation using tablets.

# RECYCLING RATES (WEIGHT AND VOLUME BASED)

## Recycling Rates (Weight and Volume Based)

### RECYCLING RATES BY WEIGHT AND BY VOLUME

In 2016, MSS hired a new Director of Financial Reporting. One of the primary roles of this position is to continually update and fine tune the tonnage reporting system in order to accumulate the most accurate data available. Since coming on board, enhancements have been made to the system which have resulted in a restatement of the 2016 data, primarily in the commercial recycling tonnage. Table 19 shows the restated 2016 data and the 2017 data by sector. The recycling rates by sector are highlighted in yellow. Table 20 shows the volumetric recycling rate by sector and is based on overall volume of service subscriptions. Overall, weight based and volumetric based recycling rates have increased slightly.

**Table 19: MSS SERVICE AREA DISPOSAL AND RECYCLING Rates (tons)**

Tons Collected:	Residential 2017	Residential 2016	Commercial 2017	Commercial 2016	Total 2017	Total 2016
Curbside Organics	22,702	21,089	* N/A	* N/A	22,702	21,089
Curbside Containers Recycling	5,327	4,915	2,467	2,117	7,794	7,032
Curbside Paper Fiber Recycle	6,099	5,433	2,810	2,320	8,909	7,753
Curbside Cardboard Recycle	N/A	N/A	4,085	4,272	4,085	4,272
Transfer Station	26,107	26,346	19,169	21,547	45,275	47,893
Curbside Food Waste (F2E)	N/A	N/A	2,460	2,352	2,460	2,352
Commercial processed at Marin Resource Recovery Center (MRRC)	N/A	N/A	10,156	10,056	10,156	10,056
<b>Total Tons Collected</b>	<b>60,235</b>	<b>57,783</b>	<b>41,146</b>	<b>42,664</b>	<b>101,381</b>	<b>100,448</b>

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

Tons Recycled:	Residential 2017	Residential 2016	Commercial 2017	Commercial 2016	Total 2017	Total 2016
Curbside Organics	22,702	21,089	* N/A	* N/A	22,702	21,089
Curbside Containers Recycling	5,327	4,915	2,467	2,117	7,794	7,032
Curbside Paper Fiber Recycle	6,099	5,433	2,810	2,320	8,909	7,753
Curbside Cardboard Recycle	* N/A	* N/A	4,085	4,272	4,085	4,272
Curbside Food Waste (F2E)	* N/A	* N/A	2,460	2,352	2,460	2,352
Commercial recovered through MRRC	* N/A	* N/A	6,703	7,241	6,703	7,241
<b>Total Tons Recycled</b>	<b>34,128</b>	<b>31,437</b>	<b>18,525</b>	<b>18,301</b>	<b>52,653</b>	<b>49,739</b>

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

<b>Recycling Rate</b>	<b>57%</b>	<b>54%</b>	<b>45%</b>	<b>43%</b>	<b>52%</b>	<b>50%</b>
-----------------------	------------	------------	------------	------------	------------	------------

# RECYCLING RATES (WEIGHT AND VOLUME BASED)

**Tons to Landfill**

Population

Landfill pounds per person per day

2017	2016
48,728	50,709
111,000	111,000
2.41	2.50

Table 20: Volumetric Recycling Rates by Sector (Cubic Yards of Service)

Service Volume (Cubic Yards):	Volumetric Service Recycling Rates (Cubic Yards of Service)						
	Residential		Commercial/MF		Total		
	2017	2016	2017	2016	2017	2016	
Organics	9,687	9,646	876	723	10,563	10,369	
Curbside Recycle (Fibers & Containers)	9,709	9,649	6,410	6,036	16,119	15,685	
Landfill	5,569	5,583	10,757	10,743	16,326	16,326	
Recycling Rate	78%	78%	40%	39%	62%	61%	

# CUSTOMER SERVICE DATA

## Customer Service Data

### RESIDENTIAL AND COMMERCIAL/MULTIFAMILY NEW STARTS AND ACCOUNT CLOSURES FOR 2017

Table 21 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 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 21: New Starts and Account Closures by Customer Type**

New Starts		Closed Accounts	
Residential	2325	Residential	2188
Commercial Businesses & Multifamily Dwellings	162	Commercial Businesses & Multifamily Dwellings	152

### 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. 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 22). In 2016, 7,860 customers participated in this program. This increased to 8,869 in 2017.

**Table 22: Automatic Payment Data**

Online Bill Pay 2017		Automatic Payments not web-based 2017	
Residential	6,010	Residential	2,121
Multifamily Dwellings	101	Multifamily Dwellings	99
Commercial Business	360	Commercial Business	106

### RESIDENTIAL AND COMMERCIAL/MULTIFAMILY CUSTOMER COMPLAINTS

In 2016, MSS switched to a new phone system that allowed customers to select the reason for their call from a menu, based on customer feedback. The intent was to allow customers to get to a customer



# CUSTOMER SERVICE DATA

service representative who could best help them with their question or service need. Calls to the main number hear the following:

*“Hello, you have reached Marin Sanitary Service. Please note, our menu options have changed. If you know your party’s extension, you may dial it at any time. For residential services and payments, please press 1. For commercial, multi-family service and payments, press 2. For document shredding, press 4. For temporary debris boxes, press 6. To hear these options again, please press 9.”*

We have also added options to reach Marin Resource Recovery Center (Indoor Dump) and Marin Recycling Center. In 2017, MSS received 62,209 calls regarding franchised service. This is a 38% decrease from 2016 (100,393 calls received). This is most likely due to more customers are getting information from the website and are paying bills online. The majority of calls are service related (start/stop service, change service), billing related or general education questions about collection and program information. The average time to answer calls is eight (8) seconds which is less than 2 rings. This has remained steady.

We are proud to report that there are minimal complaint calls from the customers we serve. The total number of complaint calls decreased 6% in 2017 compared to 2016 and are detailed in Table 23. The majority of calls were due to missed collections and broken containers. 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. In addition, MSS had 72 separate written (letter, email) compliments for MSS staff in 2017.

**Table 23: Complaints and Compliments by Type by Service Area 2016-2017**

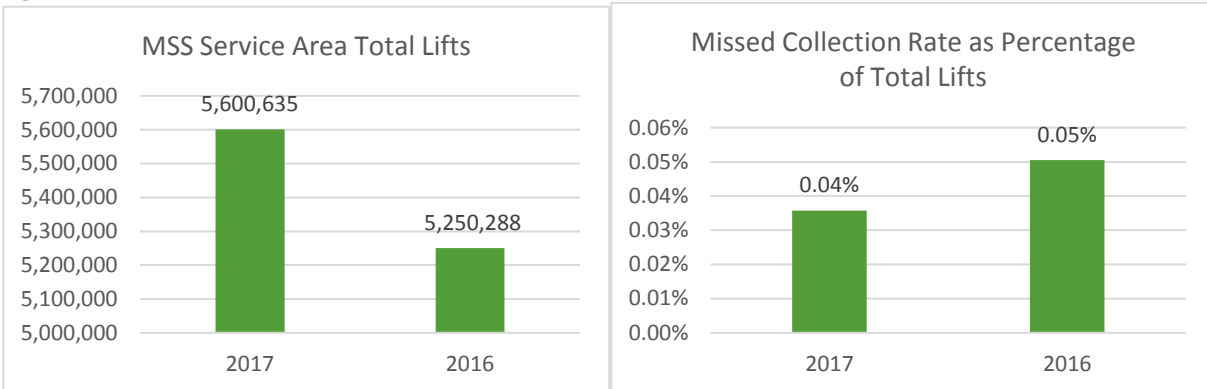
Jurisdiction	Missed Collections		Broken Containers		Service Issues		Compliments	
	2017	2016	2017	2016	2017	2016	2017	2016
<b>Consolidated County of Marin</b>	257	370	604	513	56	58	23	45
<b>San Rafael</b>	922	1092	2343	2195	29	144	15	31
<b>Las Gallinas Valley Sanitary District</b>	171	203	515	572	5	16	6	17
<b>Ross</b>	75	108	112	141	3	15	5	8
<b>Larkspur</b>	155	243	333	460	12	32	6	22
<b>San Anselmo</b>	264	383	1120	742	15	39	10	23
<b>Fairfax</b>	159	255	297	280	17	52	7	8
<b>MSS Service Area Totals</b>	2,003	2,654	5324	4,903	137	356	72	154

Every time a driver empties a container, it is recorded as a “lift”. It is important to know the number of lifts to gain an understanding of the magnitude of misses. In 2016, MSS recorded 5,250,288 lifts. With increased recycling and organics containers in use, the number of lifts increased in 2017 to 5,600,635. Figure 7 shows the increase in lifts (chart on left) and decrease in misses (chart on right). There was a 6% decrease in the number of reported misses from 2016 to 2017. This is due to several factors, tablet

# CUSTOMER SERVICE DATA

use by drivers that allows for GPS monitoring and date/time stamping of container lifts and accuracy in documentation by Customer Service Representatives.

**Figure 5: Missed Collection Statistics**



## REPORTS OF INJURIES AND DAMAGE TO PROPERTY

Marin Sanitary Service has an active safety committee that meets monthly to review accidents and injuries. The committee includes owners, supervisors, loss control and insurance personnel. Each department has a tailored safety plan that includes ongoing training and review of new equipment and procedures, OSHA required. 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 determined 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.

In 2016, along with the appointment of Ron Piombo as General Manager Operations (former Chair of the MSS Safety Committee), we raised the bar in many areas of safety and operations. Incidents that may have been considered non-preventable or possibly not noted under prior criteria are now counted as preventable and all are considered recordable. The number and type of incidents continue to be reviewed on a monthly basis under the scrutiny of the Safety Committee and addressed via additional training, operational changes, etc. In 2017, we saw a decrease in the number of preventable events but an increase in the number of non-preventable events. The increase in work comp claims is due to repeated heavy lifting and new workers compensation parameters that require all first aid injuries to be reported as claims. Overall, we continue to see a low number of incidents annually. Details are shown in Table 24 below.

# CUSTOMER SERVICE DATA

**Table 24: Injuries and Accidents 2017 compared to 2016**

<b>TITLE</b>	<b>DESCRIPTION</b>	<b>2017 TOTALS</b>	<b>2016 TOTALS</b>
<b>Preventable Damage Event</b>	Property or vehicle damage determined the fault of MSS driver.	14	23
<b>Non-preventable Damage Event</b>	Not due to driver negligence and not the 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.	13	5
<b>Work comp injuries</b>	Injuries on the job defined by OSHA as work related.	20	9
	<b>GRAND TOTAL</b>	<b>47</b>	<b>37</b>

# PUBLIC OUTREACH AND ZERO WASTE PROGRAMS

## Public Outreach and Zero Waste 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 three full-time Recycling Programs Coordinators each dedicated to a customer type in addition to a full-time Household Hazardous Waste Coordinator. Their contact information and program specialty are listed below (Table 25).

**Table 25: Outreach Department Staff Contacts by Specialty**

OUTREACH DEPARTMENT STAFF			
Name	Title	Email	Primary Focus
Jennifer Grenier Selvig	Recycling Programs Coordinator	<a href="mailto:Jennifer.Grenier@marinsanitary.com">Jennifer.Grenier@marinsanitary.com</a>	Large Commercial Businesses and C&D Programs
Ruben Hernandez	Recycling Programs Coordinator	<a href="mailto:Ruben.Hernandez@marinsanitary.com">Ruben.Hernandez@marinsanitary.com</a>	Food to Energy and Commercial Organics
Izzy Parnell-Wolfe	Community Outreach and School Recycling Programs Coordinator	<a href="mailto:izzy.parnell-Wolfe@marinsanitary.com">izzy.parnell-Wolfe@marinsanitary.com</a>	Tours, Recycling Education and Outreach in School, Community Outreach and Events.
Kathy Wall	HHW Coordinator	<a href="mailto:Kathy.Wall@marinsanitary.com">Kathy.Wall@marinsanitary.com</a>	Curbside and Drop-off HHW Programs

All Service Area residential and commercial customers have received multiple mailed communication pieces informing them of MSS 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 Mandatory Commercial Recycling and Organics Recycling (AB 341 and AB 1826). Materials were also distributed to public libraries, city/town halls, police and fire departments, Chambers of Commerce and community bulletin boards to reach more of the community.

Figure 8 below details the various Outreach and Communications activities. Community meetings include, but are not limited to, Chambers of Commerce, Climate Action Planning committees, School Green Teams, Home Owner and Neighborhood Association meetings. Community newsletters are non-MSS publications and include City and Town Manager electronic newsletters, school newsletters and neighborhood association print and online newsletters. Community events are fairs or workshops for the public.

# PUBLIC OUTREACH AND ZERO WASTE PROGRAMS

Figure 6: Public Outreach by Type (not including Schools or Mandatory Commercial Recycling)

	<b>ADVERTISEMENT</b>	<b>49</b>
	<b>SOCIAL MEDIA POSTS</b>	<b>161</b>
	<b>ONLINE ADS</b>	<b>25</b>
	<b>BILLING INSERTS</b>	<b>186</b>
	<b>COMMUNITY EVENTS</b>	<b>38</b>
	<b>COMMUNITY MEETINGS</b>	<b>144</b>
	<b>PRESENTATIONS</b>	<b>19</b>
	<b>NEWSLETTERS</b>	<b>2</b>
	<b>COMMUNITY NEWSLETTER ARTICLES</b>	<b>4</b>
	<b>COMMUNITY TOURS</b>	<b>15</b>

## ONLINE EDUCATION


Nowadays, more people turn to the internet for information. The MSS website is filled with information on all programs and details on how to recycle more and subscribe to services ([www.marinsanitaryservice.com](http://www.marinsanitaryservice.com)). To keep up with this trend, MSS is increasing its online social media presence. We had 161 social media posts in 2017 and have a goal to double this in 2018. Please like us at (<https://www.facebook.com/marinsanitary>) and follow our Twitter and Instagram handles at ([mssrecycles](https://www.instagram.com/mssrecycles))! We launched a You Tube Channel <https://www.youtube.com/user/MSSoutreach> and have several videos posted for customers to learn about us. We worked with a videographer this year and will launch a virtual tour in 2018.

 **Marin Sanitary** @mssrecycles · 26 Dec 2017

Happy Holidays! Service this week has been delayed by one day because of the Christmas Holiday. If you are normally serviced on Tuesday, you carts will be emptied on Wednesday. Friday customers will be emptied on Saturday morning.

**HOLIDAY COLLECTION SCHEDULE FOR RECYCLING, ORGANICS & GARBAGE**  
 Collection for recycling, organics and garbage WILL NOT occur on Christmas Day or New Year's Day.  
 Collection for all service days will be moved to the following day. The service schedule will return to normal the week after New Year's Day, January 8-12, 2018.

YOUR REGULAR COLLECTION DAY	MONDAY December 25 January 1	TUESDAY December 26 January 2	WEDNESDAY December 27 January 3	THURSDAY December 28 January 4	FRIDAY December 29 January 5
SERVICE UPDATE	COLLECTION MOVED TO TUESDAY December 26 January 2	COLLECTION MOVED TO WEDNESDAY December 27 January 3	COLLECTION MOVED TO THURSDAY December 28 January 4	COLLECTION MOVED TO FRIDAY December 29 January 5	COLLECTION MOVED TO SATURDAY December 30 January 6

 **Marin Sanitary Service**  
 Published by Izzy Parnell-Wolfe [?] · January 24 at 2:43pm · 🌐

Have you ever wondered what to do with your collection of used corks? You can bring them to the Marin Recycling Center at 535 Jacoby Street to drop them off at our ReCORK public collection bin (located at the same place as our bottles and cans Buy-Back Center). Since 2016, we have collected approximately 13,000 corks to be used by ReCORK to make yoga blocks! For more information please check out the link below.

**ReCORK**  
 Cork Recycling Experts  
[RECORK.ORG](http://RECORK.ORG)

# PUBLIC OUTREACH AND ZERO WASTE PROGRAMS

## 4R PLANET SCHOOL PROGRAM AND TOURS

At MSS, our goal is to educate, equip and empower school districts, individuals and/or classrooms to develop comprehensive waste reduction and recycling plans.



The following services are provided to schools at no cost:

- Onsite evaluation of recycling needs.
- Waste audits to help schools know what recyclables are still being thrown in the trash.
- Signage, stickers, and curbside containers to help with source separation.
- Educational lessons and assemblies on the 4R's.
- Source separation trainings.
- Green team guidance on waste reduction planning.
- Educational tours of MSS recycling facilities.
- Lending library of resources: books, DVDs, binders with lesson plans that meet California curriculum standards.
- Online resources: sample letters, lesson ideas, recycling procedures and more.

The 4R Planet School Program is twofold. The first is our on-site program which includes tours of the MSS recycling facilities and lessons on the 4 R's in the MSS Environmental Classroom. Second is our in-school program which includes hands-on training, waste diversion program assistance, and customized educational lessons. All of these activities are led by our Education & School Recycling Program Coordinator. There was a total of 417 outreach activities performed in the schools we serve (Figure 9). Onsite Outreach & Education includes, but is not limited to: onsite trainings with Green Teams, meetings with administrators and/or custodians, lunch visits to help with monitoring the sorting stations, guest speaking at environmental club meetings, conducting staff trainings, etc.

Figure 7: School Outreach by Type Calendar year 2017



# PUBLIC OUTREACH AND ZERO WASTE PROGRAMS

MSS partners with Zero Waste Marin on The Zero Waste Schools Program designed to help Marin County schools implement composting and recycling programs in order to comply with new mandatory state laws. The program has already enrolled ten (10) schools in the MSS Service area. They are listed below (Table 26). Middle Schools and High Schools will be enrolled after all elementary schools complete the program. Dixie, Coleman, Brookside, and San Pedro Schools will be enrolled for the 2018-2019 school year.

**Table 26: Zero Waste Marin Schools Program Participants**

School Name	Status
Laurel Dell (San Rafael)	Completed the program in 2016
White Hill Middle School (Fairfax)	Completed the program in 2016
Glenwood (San Rafael)	Completed the program in 2017
Vallecito (San Rafael)	Completed the program in 2017
Manor (Fairfax)	Currently enrolled
Wade Thomas (San Anselmo)	Currently enrolled
Short Elementary (San Rafael)	Currently enrolled
Mary Silveira (San Rafael)	Currently enrolled
Sun Valley (San Rafael)	Currently enrolled
Bacich Elementary (Unincorporated County)	Currently enrolled
Bahia Vista (San Rafael)	Currently enrolled

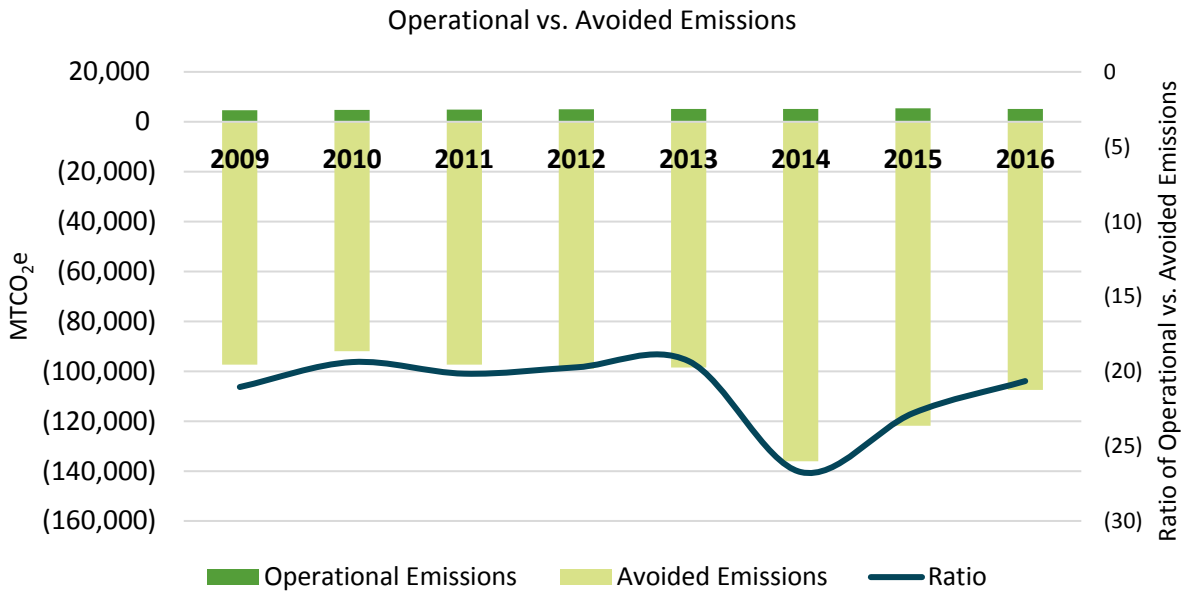
# GREEN HOUSE GAS MITIGATION

## Green House Gas Mitigation

### GREEN HOUSE GAS MITIGATION

MSS has been annually tracking its operational emissions since 2006 and its avoided emissions since 2009 (Figure 5), and has fully offset its direct emissions, on average 21 times - well beyond Net-Zero! The majority of our emissions are from direct mobile combustion, which includes all of our on and off-road vehicles. Figure 1 below depicts the history of MSS' avoided emissions and demonstrates how MSS' Net-Zero offsets have been steadily improving. We now have three Parker E3 Hydraulic Hybrid Refuse Trucks that use RunWise® technology—which are decreasing our emissions further. RunWise® is a unique hydrostatic drive combined with brake energy recovery capabilities that delivers dramatic fuel savings, lowers noise levels, reduces brake wear and improves vehicle performance. The RunWise® technology is on the Environmental Protection Agency (EPA) National Clean Diesel Campaign's Emerging Technologies List and can decrease fuel usage up to 50 percent resulting in lower carbon emissions. All three trucks continue to perform well and are using ~40% less fuel.

Figure 8: 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



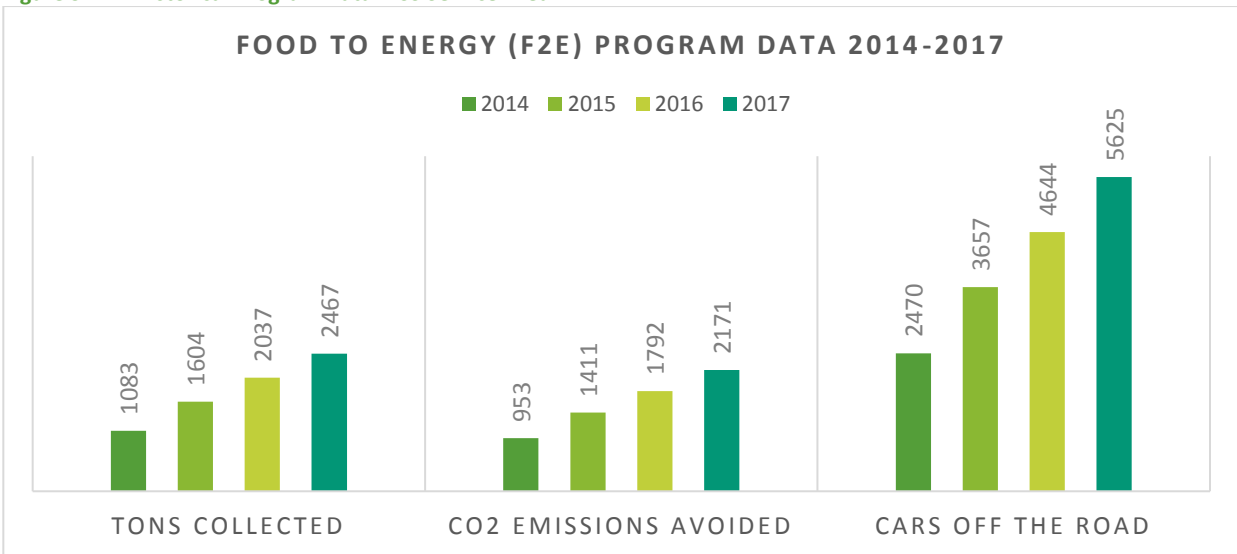
# GREEN HOUSE GAS MITIGATION

Recycling-2016) and are ahead of the curve for compliance with SB 1383 (Short Lived Climate Pollutants-2017).

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 2017, 200 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 2,171 metric tons of carbon dioxide from being released into the atmosphere (Figure 9).

In addition to expanding the Food to Energy (F2E) program, MSS continues to encourage customers to put the food scraps into the organics containers and not the landfill containers. In 2017, ~1,700 more tons of organic feedstock were recovered and sent to WM Earth Care at Redwood Landfill for more for composting in 2017 than in 2016 primarily due to an expansion of the program to include commercial businesses and multifamily dwellings.

Figure 9: F2E Historical Program Data MSS Service Area



# LOOKING AHEAD TO 2018

## Looking Ahead to 2018

*In keeping with our mission to conserve natural resources*, MSS will continue to strive to provide the highest level of collection and recovery service to our jurisdictions and customers in the most cost-effective manner.

The following overarching goals have been identified by the company for 2018.

1. Continue to focus on increasing organic diversion through ongoing outreach activities to overcome what is commonly known as the “ick” factor.
2. Increase electronic communications not only to conserve paper but to allow customers to have real time relevant information.
3. Continue our work to consolidate commercial recycling routes, making them more efficient overall.
4. Continue work with R3 and the Franchisors’ Group to streamline the rate setting methodology.
5. Collaborate with all Sonoma and Marin County haulers on a joint publication on the consequences of contamination in the recycling stream. The goal is to educate the community on the effects of contamination on processing, recovering and selling quality materials.
6. Continue to encourage customer participation in all programs, increase recycling rates to keep resources out of the landfill, and decrease contamination.

### **Major challenges facing the industry and our company**

2018 will be a year of great uncertainty with the ability to meet state and local mandated recycling and diversion goals.

Like most other recyclers, MSS has long operated at the mercy of a volatile, international recycling market. We are familiar with and plan for the occasional, significant drop in commodities prices, and are poised to weather most of these fluctuations in pricing. What is happening today is completely different. The mixed paper and plastics markets have largely disappeared, with no sign that it will return anytime soon, if ever. China, a major market for recyclables in the United States, has imposed stricter regulations known as the National Sword on imports of recycling materials. These regulations will mandate the contamination rate for mixed paper and other plastics and metals to just 0.05%. China’s decisions to significantly reduce the amount of contaminated materials they have been receiving has major implications for recycling operations. To keep up with the mandates, recycling processors, like the Marin Recycling Center, are having to add costly measures such as increased staffing, slowing of conveyor belts, and the addition of specialized equipment, to guarantee cleaner bales.

Industry experts tell that this is the new “norm” and that materials will be harder to sell and prices will be significantly lower with a tighter range of lows and highs. Beginning mid-February, many of our industry affiliates were told they no longer have markets for their materials. MSS, like other franchised haulers, are still obligated to collect these materials despite having nowhere to send the materials. Due to this crisis, our professional trade association, the California Refuse Recycling Council, is seeking emergency relief in the form of legislation. We will keep the jurisdictions we serve informed as this crisis

# LOOKING AHEAD TO 2018

continues to unfold and work closely on solutions that are realistic and cost effective. It is critical that we sustain high expectations for clean materials.

On behalf of all Marin Sanitary Service employees, we thank you for the opportunity to be your "Resource Hauler". We truly appreciate the trust you have placed in us and we value the close working relationship we have developed over the years and look forward to a successful 2018.

Sincerely,

Kimberly Scheibly,  
Director of Compliance & Customer Relations

# CONTACT INFORMATION

## Contact Information

<b>KIM SCHEIBLY</b> DIRECTOR, COMPLIANCE & CUSTOMER RELATIONS	<b>ROGER WILLIAMS</b> CHIEF FINANCIAL OFFICER	<b>PATTY GARBARINO</b> PRESIDENT
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**Tel 415-458-5514**

[Kim.Scheibly@marinsanitary.com](mailto:Kim.Scheibly@marinsanitary.com)

**Tel 415-456-2601**

[Roger.Willimas@marinsanitary.com](mailto:Roger.Willimas@marinsanitary.com)

**Tel 415-485-5648**

[Patty.Garbarino@marinsanitary.com](mailto:Patty.Garbarino@marinsanitary.com)