

Chapter 10 - Department of Environmental Services

The Department of Environmental Services (ENV) plans, directs, operates and administers the city's wastewater and solid waste programs. ENV directly supports the mayor's core infrastructure priorities through its various programs and functions.

The department's goals and objectives are:

- Sustainability — Ensure that operations and services emphasize sustainable practices;
- Operating as a Business — Provide cost effective, quality service through improved business and work processes;
- Employee Development — Invest in employee development in order to improve operational and fiscal competencies;
- Communication — Improve collaboration and communication with employees, customers, and the community; and
- Customer Service — Better understand and respond to internal and external customer needs.

The department's administration directs and coordinates the operation and maintenance of the city's wastewater, and solid waste programs and provides overall development and management through financial and capital planning, scheduling and tracking, information technology support, and other services for the following divisions:

Environmental Quality	Collection System Maintenance	Wastewater Treatment and Disposal	Refuse Collection and Disposal
<ul style="list-style-type: none">• Oversees compliance with environmental permits, administrative orders and consent decree requirements; and provides monitoring, analysis, and compliance with state and federal regulatory agencies	<ul style="list-style-type: none">• Oversees and maintains 2,100 miles of gravity sewer system, numerous pump stations, and respective force mains around the island	<ul style="list-style-type: none">• Operates city wastewater treatment plants	<ul style="list-style-type: none">• Responsible for administering, managing, and planning the city's solid waste program

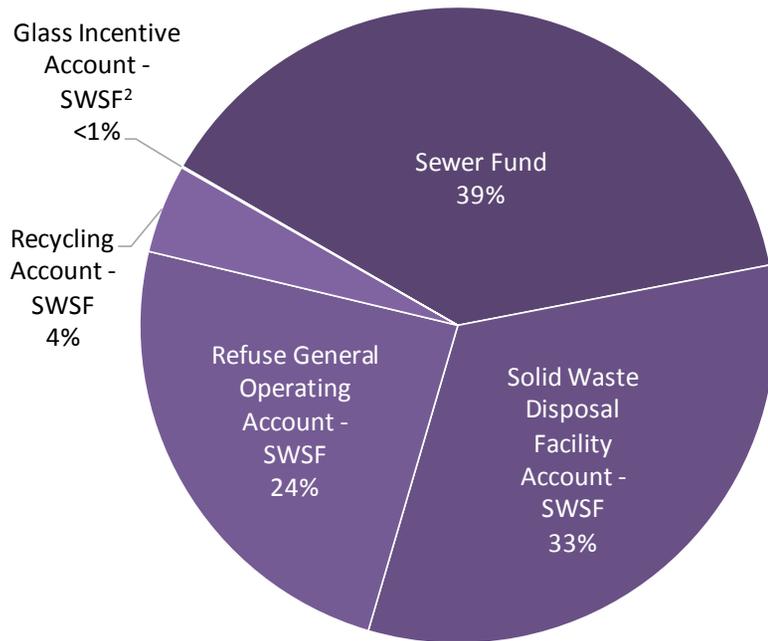


To protect public health and the environment by efficiently and effectively managing the wastewater and solid waste systems of the City and County of Honolulu.

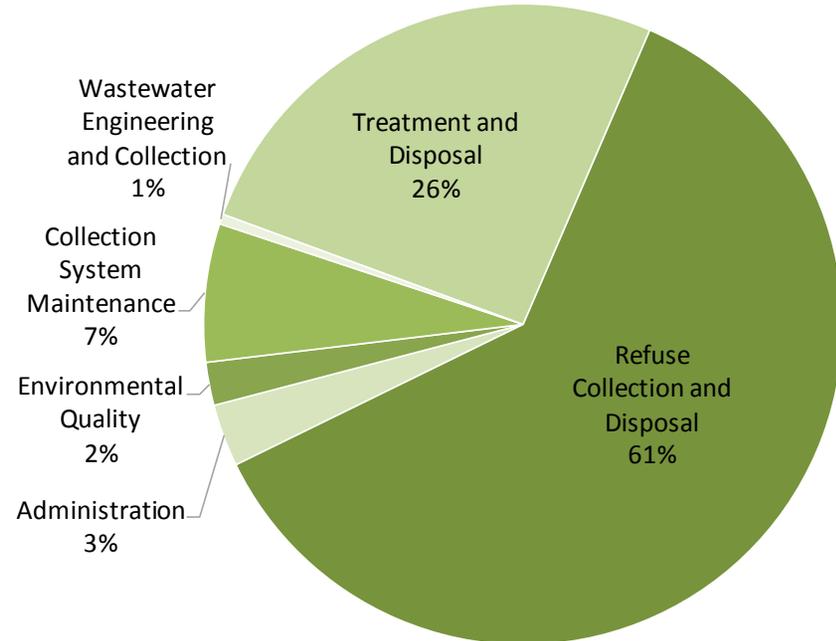
Mission Statement

Spending and Staffing

Fund Sources¹



Fund Uses



	Total Operating Expenditures (\$ million)	Revenues (\$ million)	Staffing		Cost Per FTE ³	Overtime Expenditures ⁴	
			Total Authorized FTE	Total Vacant FTE		Total (\$ million)	Non-Holiday (\$ million)
FY 2015	\$251.08	\$540.98	1,065	213	\$235,755	\$9.69	\$8.34
FY 2016	\$233.49	\$573.22	1,041	194	\$224,289	\$10.54	\$9.26
FY 2017	\$253.80	\$616.30	1,041	178	\$243,808	\$10.78	\$9.25
FY 2018	\$250.06	\$582.75	1,077	219	\$232,180	\$10.54	\$9.09
FY 2019	\$258.18	\$597.79	1,174	267	\$219,912	\$11.96	\$10.33
Change from last year	3%	3%	9%	22%	-5%	14%	2%
Change over last 5 years	3%	11%	10%	25%	-7%	23%	24%

Source: Department of Budget and Fiscal Services. ¹Percentages do not total 100% due to rounding. ²SWSF = Solid Waste Special Fund. ³Cost Per FTE = Total Operating Expenditures/Total Authorized FTE. ⁴Overtime pay is established bargaining unit agreement, as applicable.

Spending and Staffing



Operating Expenditures

\$258.18 M ▲ 3%

The department's operating expenditures increased 3% over the last year.



Overtime Expenditures

\$11.96 M ▲ 14%

Overtime expenditures increased 14% from FY 2018 to FY 2019. The department attributes this to operator vacancies in the Wastewater Treatment and Disposal division, which have been historically hard to fill.

Five Year Trends



- The department's operating expenditures increased 3% from \$251.08 million to \$258.18 million over the last five years.



- Total overtime expenditures increased by 23% from \$9.69 million in FY 2015 to \$11.96 million in FY 2019. The department attributes this to salary rate increases.

FY 2019 ACCOMPLISHMENTS

- The National Association of Clean Water Agencies (NACWA) recognized eight wastewater treatment plants with honors for compliance with permits and four of the treatment plants garnered special recognition as Platinum honorees for 100% compliance with National Pollutant Discharge Elimination System permits for five or more consecutive years
- Received a national award from NACWA for ENV's Public Service Announcement entitled *The F.O.G. Zone*

CHALLENGES MOVING FORWARD — FY 2020

- *With the ongoing planning, design, and construction associated with the upgrade to secondary wastewater treatment at the Sand Island Wastewater Treatment Plant and other treatment facilities, special considerations should be made to account for future impacts of rising sea levels due to climate change*

Administration and Sewer Charge

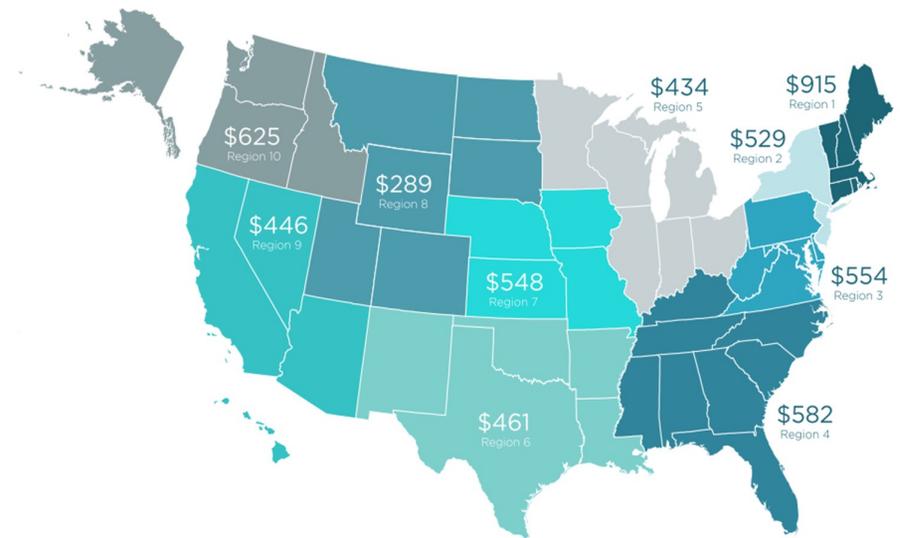
Administration’s operating expenditures decreased 16% from \$9.74 million in FY 2018 to \$8.14 million in FY 2019 and 21% over the past five years. According to the department, the decrease was primarily due to budgeted but unused funds.

The average annual sewage charge remained the same from CY 2018 to CY 2019. Over the last five years, the charge increased 5% from \$1,262 in CY 2015 to \$1,320 in CY 2019.

According to the *National Association of Clean Water Agencies (NACWA)*, the national average annual sewage service charge in CY 2019 was \$504. The average cost of wastewater services rose 3.9% nationally in CY 2018, surpassing the increase in the rate of inflation as measured by the Consumer Price Index.

This marks the 17th consecutive year that sewer charges have increased faster than inflation. The average annual sewage charge in Region 9 (which includes Hawai‘i) was \$446. Comparatively, Honolulu’s average annual sewer charge was \$1,320 in CY 2019.

Regional Average Annual Charge (2018)



Regional Average Annual Charges (2018)

Source: National Association of Clean Water Agencies (NACWA), 2018 Cost of Clean Water Index

	Operating Expenditures (\$ millions)	Revenue Sources (\$ millions)				Honolulu's Average Annual Sewage Charge	Bond Rating
		Charges for Services	Utilities or Other Enterprises	Non-Revenue Receipts	Other Revenues ¹		
FY 2015	\$10.25	\$407.86	\$111.57	\$20.00	\$1.55	\$1,262	AA
FY 2016	\$9.29	\$433.21	\$110.75	\$27.77	\$1.49	\$1,222	AA
FY 2017	\$10.08	\$466.40	\$125.86	\$23.26	\$0.78	\$1,320	AA
FY 2018	\$9.74	\$463.61	\$117.48	\$0.22	\$1.44	\$1,320	AA
FY 2019	\$8.14	\$464.01	\$129.69	\$3.56	\$0.53	\$1,320	AA
Change from last year	-16%	<1%	10%	1506%	-63%	0%	--
Change over last 5 years	-21%	14%	16%	-82%	-66%	5%	--

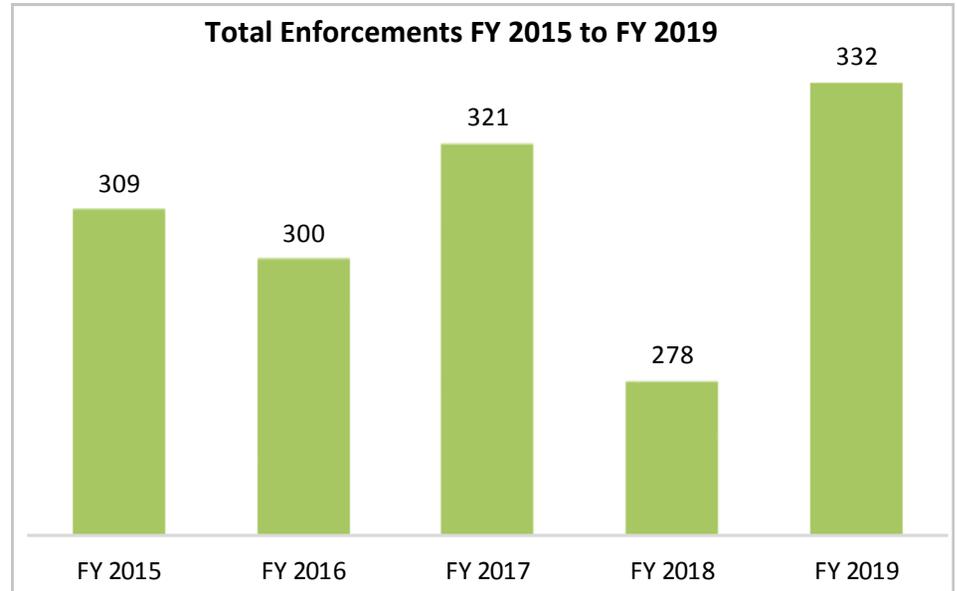
Source: Department of Budget and Fiscal Services and Department of Environmental Services. ¹Other Revenues include: Licenses and Permits, Intergovernmental Revenue, Fines and Forfeits, and Miscellaneous Revenues.

Environmental Quality (EQ) oversees pretreatment, air, wastewater, and receiving water quality permit requirements, and provides monitoring, analyses, and compliance with state and federal regulatory agencies. The pretreatment program monitors wastewater to prevent the discharge of substances that might be harmful to the environment or cause damage to the wastewater system.

Operating expenditures decreased 49% over the past five years from \$11.01 million in FY 2015 to \$5.61 million in FY 2019. The department explained that the Storm Water Quality Branch was transferred to the Department of Facility Maintenance in FY 2015, removing their budget from the operating expenses in FY 2016-FY 2019.

There were 332 total enforcements in FY 2019, which represents a 19% increase over the previous year and a 7% increase over the past five years.

The total number of parameter results decreased 2% from 34,401 in FY 2018 to 33,599 in FY 2019 and decreased 10% over the last five years. ENV attributes this to recent National Pollutant Discharge Elimination System permit changes which reduced the number of samples and parameters required.



Source: Department of Environmental Services

	Operating Expenditures (\$ million)	Regulatory Control ¹		Water Quality Laboratory	
		Total Investigations/ Inspections	Total Enforcements	Parameter Results	Samples
FY 2015	\$11.01	6,264	309	37,323	16,435
FY 2016	\$5.23	5,500	300	32,399	16,759
FY 2017	\$7.58	6,058	321	32,854	16,854
FY 2018	\$8.72	5,802	278	34,401	16,667
FY 2019	\$5.61	5,975	332	33,599	16,646
Change from last year	-36%	3%	19%	-2%	<-1%
Change over last 5 years	-49%	-5%	7%	-10%	1%

Source: Department of Budget and Fiscal Services and Department of Environmental Services. ¹Regulatory Control Branch regulates commercial operations to determine if wastewater discharge (e.g. fats, oils, and grease) poses a threat to the city's sewer system.

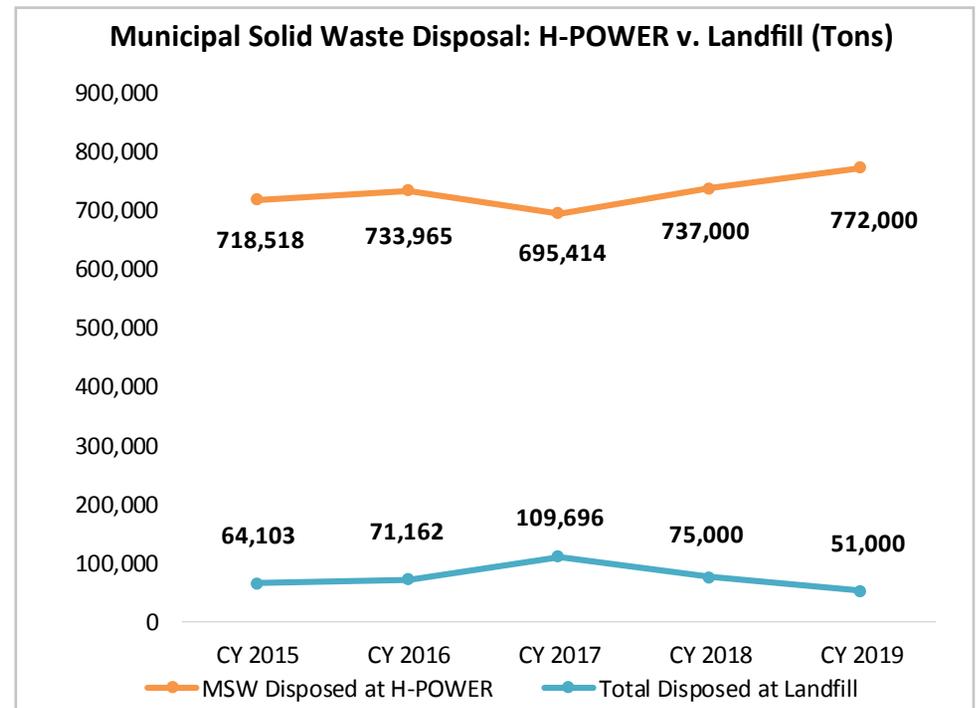
Refuse Collection and Disposal

Refuse Collection and Disposal Division is responsible for administering, managing, and planning the city's solid waste program. It collects, transports, and disposes solid waste through recycling, transfer stations, landfills, residential and non-residential collection, and the H-POWER waste-to-energy facility.

Over the last five years, the division's operating expenditures increased 6% from \$149.82 million in CY 2015 to \$158.25 million in CY 2019.

In the 2019 National Community Survey, 66% and 53% of Honolulu residents rated garbage collection and yard waste pick-up as *excellent* or *good*, respectively. These ratings were lower than national benchmark comparisons.

The total municipal solid waste (MSW) diverted from the landfill rose 8% from 963,972 in CY 2015 to 1,044,783 in CY 2019. Subsequently, the total MSW disposed at the landfill fell by 20% over the past five years. ENV's goal is to divert as much MSW as possible and are continuously seeking ways to divert and/or reuse materials.



Source: Department of Environmental Services

	Operating Expenditures (\$ million) ¹	Municipal Solid Waste Disposal (MSW) Categories (Tons)					
		Total MSW ²	General Material Recycling	MSW Disposed at H-POWER	H-POWER Ash and Residue	Total MSW Diverted from Landfill ³	Total Disposed at Landfill
CY 2015	\$149.82	1,231,773	449,152	718,518	203,698	963,972	64,103
CY 2016 ⁴	\$143.11	1,211,876	430,831	733,965	186,000	978,796	71,162
CY 2017	\$152.82	1,240,043	434,933	695,414	170,730	959,617	109,696
CY 2018	\$151.68	1,265,576	453,576	737,000	174,000	1,016,576	75,000
CY 2019	\$158.25	1,294,783	470,783	772,000	198,000	1,044,783	51,000
Change from last year	4%	2%	4%	5%	14%	3%	-32%
Change over last 5 years	6%	5%	5%	7%	-3%	8%	-20%

Source: Department of Budget and Fiscal Services and Department of Environmental Services. ¹Operating Expenditures are reported by fiscal year. ²Total MSWS reflects all MSW from the island of O'ahu. ³Total MSW Diverted from the Landfill = (General Material Recycling + MSW Disposed at H-POWER) - H-POWER Ash and residue. ⁴MSW data for CY 2016 are estimates reported by ENV.

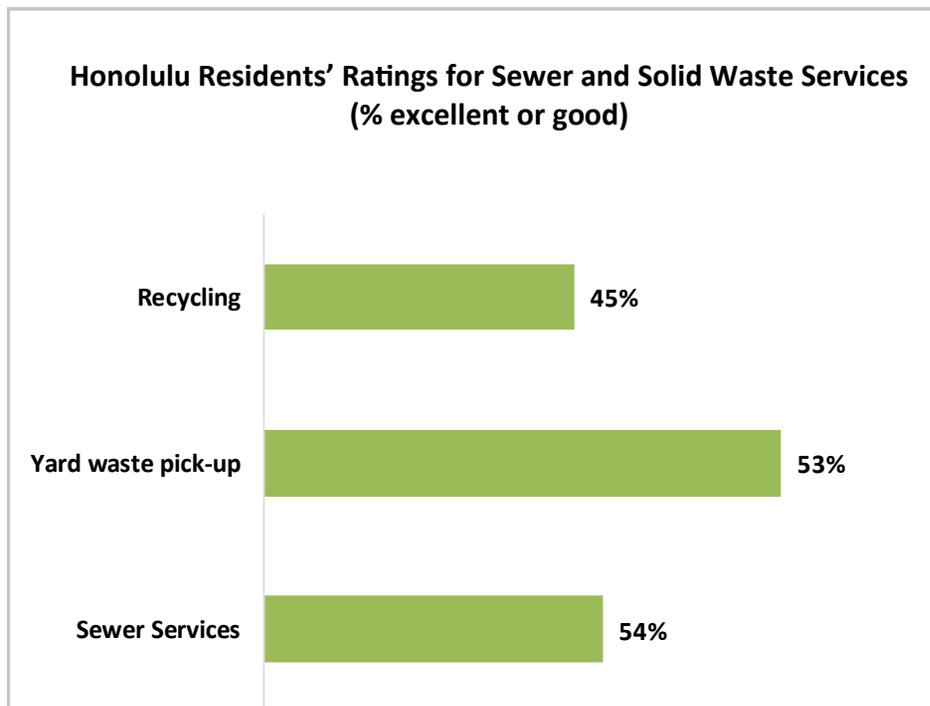
Collection System Maintenance and Wastewater Treatment and Disposal

Collection System Maintenance Division operates and maintains 2,100 miles of the gravity sewer system, 70 pump stations, and related force mains around the island. Wastewater Treatment and Disposal Division operates nine wastewater treatment plants and four pretreatment facilities on O’ahu. The municipal facilities treat approximately 111 million gallons of wastewater daily.

Wastewater Collection System’s operating expenditures decreased 3% from \$18.54 million in FY 2018 to \$18.01 million in FY 2019.

Wastewater Treatment and Disposal’s operating expenditures increased 9% from \$61.37 million in FY 2018 to \$66.85 million in FY 2019.

In FY 2019, the number of gravity main spills decreased by 30% from the previous year. ENV states that the decrease can be attributed to rehabilitation of gravity sewer mains by indefinite delivery, indefinite quantity contracts in combination with regular preventative maintenance. It is ENV’s mission to maintain gravity mains and conduct public outreach to prevent spills.



Source: 2019 National Community Survey (Honolulu)

	Wastewater Collection System Maintenance				Wastewater Treatment and Disposal	
	Operating Expenditures (\$ millions)	Miles of Lines Maintained	Miles of Lines CCTV Inspected	Number of Gravity Main Spills ¹	Operating Expenditures (\$ millions)	Wastewater Collected and Treated (mgd) ²
FY 2015	\$17.59	758	59	13	\$62.41	105.3
FY 2016	\$16.65	726	65	24	\$59.22	112.7
FY 2017	\$20.99	702	102	21	\$60.78	116.9
FY 2018	\$18.54	721	79.5	23	\$61.37	113.9
FY 2019	\$18.01	706	80	16	\$66.85	110.8
Change from last year	-3%	-2%	1%	-30%	9%	-3%
Change over last 5 years	2%	-7%	36%	23%	7%	5%

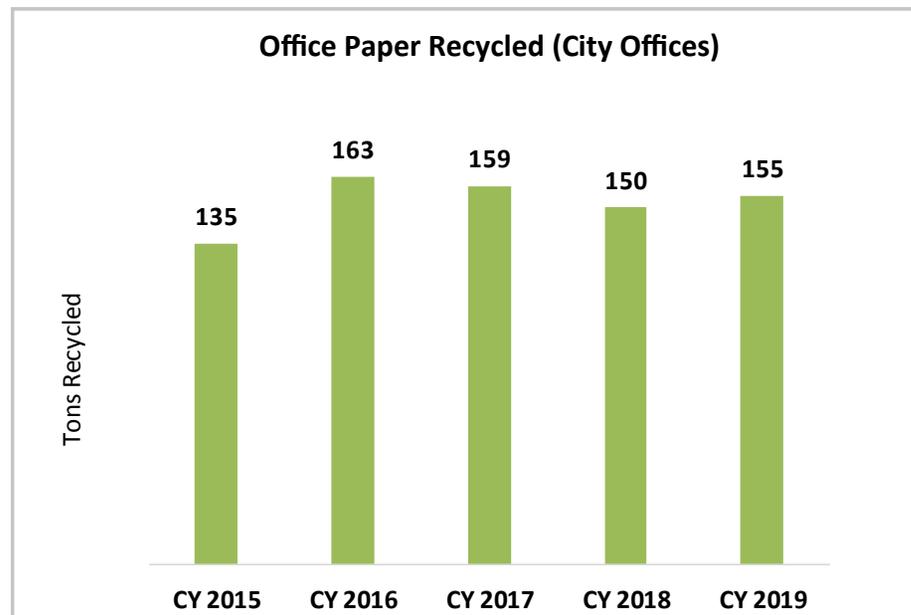
Source: Department of Environmental Services. ¹Gravity main spills are defined as wastewater escaping from a non-pressurized pipe due to back-up, breakage, or excessive flow. ²mgd = million gallons per day.

Environmental Sustainability-Recycling

According to the department, O’ahu recycling rates are above the national average and Honolulu ranks among the top cities in the country in landfill diversion. By employing both recycling and waste-to-energy, more than 50% of O’ahu’s municipal solid waste is being diverted from Waimanalo Gulch Landfill.

Green waste decreased 9% from 78,300 in CY 2018 to 70,880 in CY 2019 and decreased by 11% over the past five years. The decreases can be attributed to improved monitoring of city contracts and resources that have diminished abuse of city recycling centers (for green waste). CY 2019 was a dry year which also equates to less green waste being generated.

Curbside mixed recyclables has risen 14% over the past calendar year and 16% over the past five years. The department stated that it has stepped-up public outreach and education due to increased contamination levels in curbside recyclables.



Source: Department of Environmental Services

	Municipal Solid Waste Recycling Categories ¹ (Tons)					
	Total MSW Diverted from Landfill by Recycling (Tons) ³	Green Waste	Office Paper (City Offices)	Curbside Mixed Recyclables	H-POWER MSW Recycled ²	Other Recyclables ³
CY 2015	649,170	79,750	135	22,750	518,000	28,535
CY 2016	653,910	78,656	163	23,539	523,883	27,669
CY 2017	624,949	71,609	159	23,265	507,929	21,987
CY 2018	686,550	78,300	150	23,100	563,000	22,000
CY 2019	671,414	70,880	155	26,379	537,000	37,000
Change from last year	-2%	-9%	3%	14%	-5%	68%
Change over last 5 years	3%	-11%	15%	16%	4%	30%

Source: Department of Environmental Services. ¹Reflects only city collected MSW. ²MSW categories from CY 2016 to CY 2018 are estimates reported by ENV. ³Other recyclables include white goods, propane tanks, tires, batteries and recovered metals at H-POWER.