

# Appendices A-F

## The Current State of Collection Report

### A Plastic Pollution Prevention and Packaging Producer Responsibility Act Needs Assessment Report

February 2026

**Data and information used in this report provided as part of contract number DRR24043.**

**Disclaimer:** This document is published for the purposes of SB 54 (The Plastic Pollution Prevention and Packaging Producer Responsibility Act (Allen, Chapter 75, Statutes of 2022)) only and is based on legal authority in effect as of the date of publication. In the event of any conflict between this document and any statutory or regulatory provision, the statutory or regulatory provision controls. This document is not intended to issue new statutory interpretations or to provide explanations not dictated by formal regulations.

This document is not a waiver of any rights or remedies available to CalRecycle. Users are encouraged to seek the assistance of legal counsel regarding compliance with all laws applicable to their particular circumstances.

The terminology used in this report is consistent with the definitions set forth in the glossary and is only intended for this report. Terminology used in this report may differ from the definitions used by other organizations or as outlined in the Plastic Pollution Prevention and Packaging Producer Responsibility Act (SB 54, Allen, [Chapter 75, Statutes of 2022](#)). The terminology used in this report does not represent or affect the interpretation, implementation, or enforcement of SB 54.

# Table of Contents

---

Appendix A: Method .....	4
1. Regional Stratification .....	4
2. Collection Programs for Covered Materials .....	3
2.A Onsite Curbside Collection .....	3
2.B Local Jurisdiction Drop-Off .....	4
2.C Alternative Collection Programs .....	5
3. Access and Participation .....	6
3.A Onsite Curbside Collection .....	6
3.B Alternative Collection Programs .....	10
3.C Demographics Without Access .....	10
4. Acceptance of Covered Materials .....	12
4.A CMC Collection Group Identification .....	12
4.B Enhancing Capture of Covered Materials .....	21
4.C Current Capture of Covered Materials .....	21
4.D Costs and Funding Model Development .....	23
4.E Reasons and Factors Contributing to Contamination .....	25
4.F Monitoring and Reducing Contamination .....	25
5. Public Health, Environmental, and Community Impacts .....	25
5.A Impact Mapping .....	25
5.B Local Jurisdiction and Community Feedback on PHEC Impacts .....	28
6. Other Data Sources Used for this Report .....	28
6.A Additional Surveys .....	28
6.B Interviews and Engagement .....	29
6.C Additional Data .....	29
7. Assumptions .....	30
7.A General Assumptions .....	30
7.B Cost Model Assumptions .....	30
8. Limitations and Barriers .....	31
8.A Data Collection Limitations .....	31
8.B Analysis Limitations .....	32
Appendix B: Cost and Funding Model Development Supporting Tables and Assumptions .....	34
1. Assumptions .....	34
2. Approach for Calculating Estimated Statewide Collection Costs .....	35
3. Calculating Initial Projected Statewide Collection Cost per Ton .....	36

4. Calculating Tonnage by Region .....	38
5. Modifying Initial Projected Statewide Collection Cost per Ton .....	41
5.A Labor Cost Adjustments .....	42
5.B Regional Customer Density Adjustments .....	42
5.C Material Density Adjustments.....	43
6. Calculating Estimated Statewide Collection Costs.....	44
Appendix C: Covered Material Category Tonnage Detailed Tables .....	46
Appendix D: Collection Survey Development and Responses .....	64
1. Collection Survey Development and Deployment .....	64
2. Collection Survey Response Rate .....	64
3. Responses to Collection Survey Questions .....	65
3.A Collection Programs for Materials that May be Covered Materials.....	65
3.B Acceptance of Materials that May Be Covered Materials .....	72
3.C Contamination .....	76
3.D Environmental and Public Health Impacts .....	86
4. Collection Survey .....	93
4.A Collection Survey Glossary .....	93
4.B Collection Survey .....	97
Appendix E: Community Recycling and Composting Survey – Engagement with Community Based Organizations and Environmental Justice Groups .....	132
1. Community Recycling and Composting Survey Development and Deployment	132
2. Community Recycling and Composting Survey Response Rates for CBOs and EJ Groups.....	132
3. Responses to Community Recycling and Composting Survey Questions from CBOs and EJ Groups .....	135
3.A Collection Programs for Materials that May be Covered Materials.....	135
3.B Contamination .....	143
3.C Environmental and Public Health Impacts .....	145
4. Full List of Community Recycling and Composting Survey Questions.....	148
4.A Introduction .....	148
4.B Respondent Contact Information.....	150
4.C Demographic Questions.....	150
4.D Community Information .....	151
4.E General Awareness.....	152
4.F Access and Equity.....	153
4.G Environmental Impacts .....	156
4.H Public Health Impacts .....	157

4.I Sorting and Contamination .....	159
4.J Information and Education .....	162
Appendix F: Community Recycling and Composting Survey – Engagement with California Native American Tribes .....	166
1. Community Recycling and Composting Survey Deployment to Tribes .....	166
2. Community Recycling and Composting Survey Tribal Community Response Rates .....	166
3. Tribal Community Responses to Community Recycling and Composting Survey .....	167
3.A Collection Programs for Materials that May be Covered Materials .....	167
3.B Contamination .....	171
3.C Environmental and Public Health Impacts .....	172
4. Full List of Community Recycling and Composting Survey Questions .....	174
4.A Introduction .....	174
4.B Respondent Contact Information .....	176
4.C Demographic Questions .....	176
4.D Community Information .....	177
4.E General Awareness .....	179
4.F Access and Equity .....	180
4.G Environmental Impacts .....	184
4.H Public Health Impacts .....	186
4.I Sorting and Contamination .....	189
4.J Information and Education .....	193
Bibliography .....	198

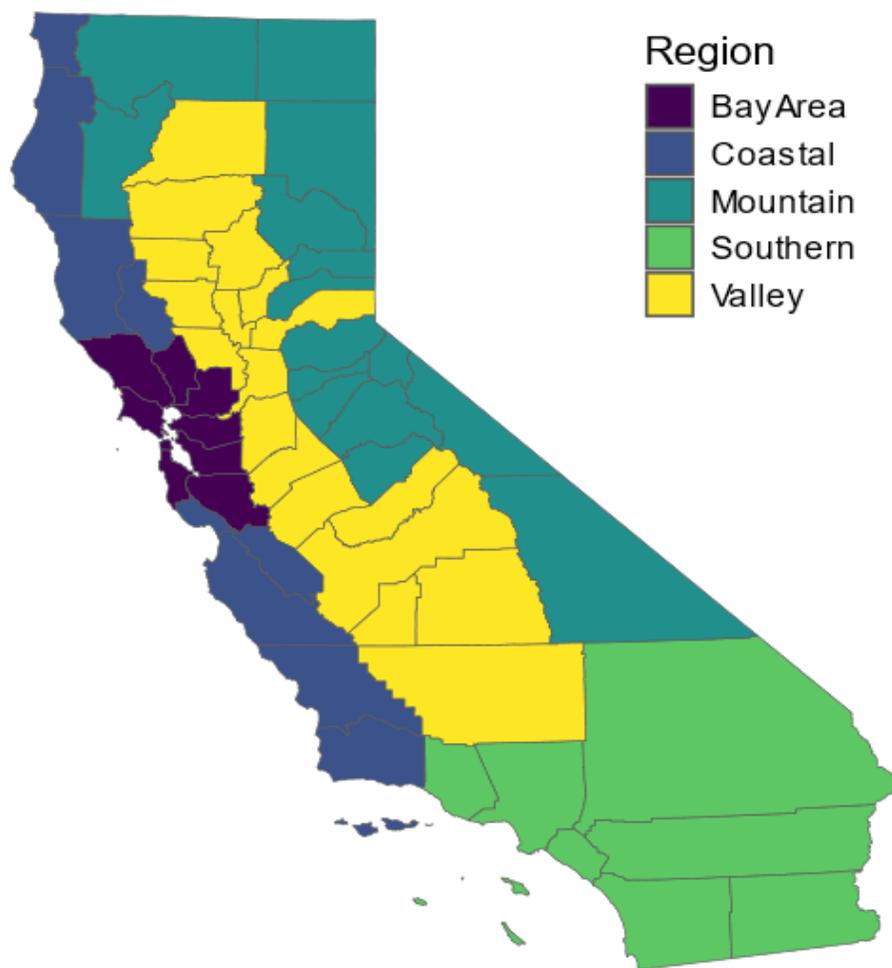
# Appendix A: Method

---

The contractor used a combination of primary and secondary research to obtain the information needed for this report.

## 1. Regional Stratification

Data presented in this report were aggregated and analyzed by region. The regions are Bay Area, Coastal, Mountain, Southern, and Valley, as defined in CalRecycle's SB 343 Report and shown in Figure A-1.



**Figure A-1 Map of California Regions**

Description of each region from the SB 343 Report as follows: \

- Bay Area  
Includes the counties in the San Francisco Bay Area, which are more metropolitan counties with a strong industrial component in the economy.
- Coastal  
Includes the counties on or near the coast that are not in either the Bay Area or Southern regions. The Coastal region is more populated than the rural Mountain region and has a large agricultural component, similar to the Central Valley.
- Mountain  
Includes counties that are primarily rural, with strong agricultural economies, low population density, and a low industrial base.
- Southern  
Includes counties that are strongly industrial with large populations and some agricultural influences.
- Valley  
Includes counties between the Sierra Nevada Mountains and the Coast Range that have a major agricultural base, with important population centers and some manufacturing.

The full list of counties included in each region can be found on CalRecycle's website: <https://www2.calrecycle.ca.gov/WasteCharacterization/Regions>. Table A-1 shows the total population and percentage of total population of each region in the state, using the DOF E-5 Report. Table A-2 documents the number and type of local jurisdictions within each region.

**Table A-1. Population of Each Region**

<b>Metric</b>	<b>Bay Area</b>	<b>Coastal</b>	<b>Mountain</b>	<b>Southern</b>	<b>Valley</b>	<b>Statewide</b>
Population	7,656,691	1,813,274	597,801	22,100,945	7,360,390	39,529,101
Percentage of State Population	19.4%	4.6%	1.5%	55.9%	18.6%	100%

**Table A-2. Number and Type of Local Jurisdictions per Region**

<b>Metric</b>	<b>Bay Area</b>	<b>Coastal</b>	<b>Mountain</b>	<b>Southern</b>	<b>Valley</b>	<b>Statewide</b>
Cities and counties	109	56	42	216	117	540
Special districts	19	15	6	22	15	77
<b>Total</b>	<b>128</b>	<b>71</b>	<b>48</b>	<b>238</b>	<b>132</b>	<b>617</b>

## **2. Collection Programs for Covered Materials**

### **2.A Onsite Curbside Collection**

The contractor maintains a database of hauling arrangement types for local jurisdictions throughout the state. The database uses the contractor’s internal data (e.g., franchise agreements, ordinances, prior surveys), as well as research from local jurisdictions’ and recycling service providers’ websites to determine hauling arrangement types (e.g., exclusive, nonexclusive). The contractor used this database to aggregate information on a regional level for this report (Tables 3-1, 3-2, and 3-3 in the main body of this report).

Jurisdiction 2023 Electronic Annual Report (2023 EAR) which provides data about state regulations Mandatory Commercial Recycling (AB 341), Mandatory Commercial Organics Recycling (AB 1826), and Short-lived Climate Pollutants (SB 1383) was used as the primary data source to determine residential and commercial onsite curbside collection service type (e.g., 3+, 3-, 2-, 1-container.), for all the local jurisdictions in the state. However, data may be incomplete or inconsistently reported by local jurisdictions. Therefore, the following steps were taken, in this order, to interpret 2023 EAR data:

- Removed irrelevant rows (e.g., commercial for residential and vice versa).
- If a jurisdiction reported one container collection system type, or if 90% of generators fell into one container system type, then that system was identified as the collection service type for that jurisdiction.
- If a jurisdiction left comments in the 2023 EAR, those were taken into account when making determinations.

- If one container system type was not selected, or if one service type did not have 90% of the generators using it, and no notes clearly explained the system, then the jurisdiction was labeled "indiscernible."
- "Indiscernible" jurisdictions were further analyzed. If container colors were entered, then that data was used to make the determination. If the container colors did not include a gray container, the data was not used (e.g. if only "green" was entered, the collection system remained "indiscernible.")
- For any jurisdictions with no data (reported all zeroes or "false"), the contractor backfilled with internal data (e.g., franchise agreements, ordinances, prior surveys).

Tables A-3 and Table A-4 summarize the origin of data used to determine onsite curbside collection service types (e.g., 3+, 3-, 2-, 1-container) throughout the state.

**Table A-3. The Number of Local Jurisdictions for which Residential Onsite Curbside Collection Service Types were Assessed Using each Type of Data Source**

Data Source	Bay Area	Coastal	Mountain	Southern	Valley	Statewide
2023 EAR <sup>+</sup>	128	71	48	233	132	612
Contractor's Internal Data	0	0	0	5	0	5
<b>Total</b>	<b>128</b>	<b>71</b>	<b>48</b>	<b>238</b>	<b>132</b>	<b>617</b>

+ Includes data that were undiscernible or not provided in the 2023 EAR and were unable to be verified through other means.

**Table A-4. The Number of Local Jurisdictions for Which Commercial Onsite Curbside Collection Service Types were Assessed Using Each Type of Data Source**

Data Source	Bay Area	Coastal	Mountain	Southern	Valley	Statewide
2023 EAR <sup>+</sup>	128	71	48	234	132	613
Contractor's Internal Data	0	0	0	4	0	4
<b>Total</b>	<b>128</b>	<b>71</b>	<b>48</b>	<b>238</b>	<b>132</b>	<b>617</b>

+ Includes data that were undiscernible or not provided in the 2023 EAR and were unable to be verified through other means.

## 2.B Local Jurisdiction Drop-Off

The contractor used a combination of data to determine local jurisdiction drop-off programs used throughout the state, as shown in the following:

- Collection Survey responses

- The contractor's internal data (e.g., franchise agreements, ordinances, prior surveys)
- Program-specific public websites (CalRecycle et al. 2025, *Community Service Programs*; CalRecycle et al. 2025, *Recycling Programs Defined*; Mojave Desert and Mountain Recycling Authority et al. 2025; PineCone Press Newsletter et al. 2022)
- Interested parties' interviews

The contractor conducted interviews with the following interested parties:

- Larry Sweetser, Sweetser and Associates (Household Hazardous Waste; Rural Counties Joint Powers Authority)
- John Kennedy, Rural County Representatives of California

Interviews included receipt of information on drop-off collection programs. However, these interviewees did not differentiate between local jurisdiction or private entity operations.

## **2.C Alternative Collection Programs**

The contractor used a combination of data to determine alternative collection programs used throughout the state, as shown in the following:

- Collection Survey responses (limited to awareness by jurisdiction staff of alternative collection programs operating within or near their local jurisdiction)
- Program-specific public websites (detailed in footnotes and bibliography)
- Interviews with interested parties

Outreach to alternative collection systems included interviews with the following industry partners, based on their level of engagement and service opportunities for alternative collection:

- Goodwill Industries International
- Ridwell
- TerraCycle.
- California Product Stewardship Council
- National Stewardship Action Council

It should be noted that, due to the evolving nature of alternative collection programs and the limited availability of such services for materials covered under the Act, data for alternative collection were restricted and less accessible than onsite collection data. Consequently, the research and findings for alternative collection programs primarily relied on available program-specific public websites and interested party interviews.

### 3. Access and Participation

#### 3.A Onsite Curbside Collection

The contractor analyzed access to onsite curbside collection services using information from SB 1383 and SB 613 department-issued waiver data, which were obtained from the 2023 EAR and the CalRecycle website (Jurisdiction Electronic Annual Data Reports and Department-Approved Waivers for Reporting Entities). Jurisdictions may apply to CalRecycle for waivers for portions of the SB 1383 regulations (CalRecycle et al. 2025, *Department-Approved Waivers*):

- SB 1383 Elevation Waiver

A jurisdiction may apply to CalRecycle for a waiver from the requirement to separate and recover food waste and food-soiled paper if the entire jurisdiction is at or above an elevation of 4,500 feet or for portions of an unincorporated county with specific census tracts that are at or above an elevation of 4,500 feet. In jurisdictions with high elevation waivers, onsite curbside collection must still be provided for the collection of yard trimmings.

- SB 1383 Rural Exemption

Jurisdictions may apply for rural exemptions if they meet the definition of a “Rural Jurisdiction” (defined in PRC section 42649.8) and the jurisdiction’s governing body adopts a resolution that includes a finding regarding the purpose of and need for the exemption. In jurisdictions with rural exemptions, onsite curbside collection for materials collected for organics recycling is not required.

- SB 1383 Low Population (Cities and Special Districts)

A city or special district providing solid waste collection services may apply to CalRecycle for a waiver if the jurisdiction disposed of less than 5,000 tons of solid waste in 2014 and the jurisdiction has a total population of less than 7,500 people. Cities and special districts with low population waivers are not required to provide onsite curbside collection for materials collected for organics recycling.

- SB 1383 Low Population (Counties and Special Districts)

Unincorporated counties or special districts providing solid waste collection services that are located in an unincorporated county may apply to CalRecycle for a waiver if the unincorporated census tracts individually have a population density of less than 75 people per square mile. In these cases, onsite curbside collection for materials collected for organics recycling varies based on population density and is not consistent throughout an unincorporated county or special district.

- SB 613 Low Population

Jurisdictions that do not otherwise qualify for SB 1383 waivers may apply to CalRecycle for an SB 613 waiver if the jurisdiction disposed of less than 5,000 tons of solid waste in 2014 and the jurisdiction has a total population of less than

7,500 people. Jurisdictions with SB 613 waivers are not required to provide onsite curbside collection for materials collected for organics recycling. SB 613 waivers differ from other low population waivers in that they expire December 1, 2028.

The contractor also used the DOF E-5 Report to generate population and household estimates for each of the 540 cities and counties. Special districts within cities and counties are not included in this analysis (see limitations in Appendix A, Section 8). The contractor determined the level of access in Section 3.3 of the main body of this report, as outlined:

- Full Access

Full access to onsite curbside collection services refers to a local jurisdiction providing onsite curbside collection service for solid waste, materials collected for recycling, and materials collected for organics recycling to all generators (i.e., any generator, regardless of size, type, or location, is eligible to subscribe to these services). This includes cities and counties with approved SB 1383 high-elevation waivers and those with no waivers. For such cities and counties, it is assumed that organics recycling collection containers are available to all generators in all geographic areas. This applies regardless of whether the containers accept food scraps, since SB 1383 requires collection service for yard trimmings even in areas with high-elevation waivers.

- Partial Access

Partial access refers to onsite curbside collection services that differ within a local jurisdiction, which often happens in large geographic regions with varied population densities and topography. For instance, a local jurisdiction's urban and suburban areas with high-population density may receive full access to onsite curbside collection services, including materials collected for recycling and materials collected for organics recycling, while that same local jurisdiction's rural areas with lower population density may have limited or no access to onsite curbside collection services for materials collected for recycling and/or materials collected for organics recycling. This includes counties with SB 1383 low-population waivers that only cover certain census tracts within the county. Some local jurisdictions may still require recycling service providers to offer services (e.g., to comply with state laws, such as AB 341 and AB 1826) and some generators may subscribe to nonmandated programs on a voluntary basis. Please note that special districts within cities and counties may offer full access to services, but population estimates for special districts are not available.

- No Access

Cities with approved low-population SB 1383 and SB 613 waivers, as well as cities and counties with rural exemptions. In these instances, it is assumed that onsite curbside collection services are unavailable because they are not required by SB 1383. Please note that some local jurisdictions may still require recycling service providers to offer services (e.g., to comply with state laws, such as AB

341 and AB 1826) and special districts within cities and counties may offer full access to services, but population estimates for special districts are not available.

The contractor extrapolated participation in onsite curbside collection services for materials collected for recycling and organics recycling to regional levels using Collection Survey, DOF E-5 Report, and 2023 EAR data. Collection Survey respondents provided the percentage of generators subscribed to onsite curbside collection services. The contractor averaged these subscription rates within each region and then multiplied each region’s average subscription rate by either (1) the region’s estimated number of occupied households identified in the DOF E-5 Report for residential generators, or (2) the region’s total number of commercial businesses subject to AB 1826 according to the 2023 EAR data for commercial generators. The sum of the number of generators in the five regions was used to determine statewide figures. Data from the Mountain region were based on one response to the Collection Survey.

Tables A-5 and A-8 provide, respectively, the number of occupied households per region based on the DOF E-5 Report and the total number of commercial generators subject to AB 1826 based on the 2023 EAR data. Tables A-6 and A-9 display, respectively, the regional average percentage of residential or commercial generators subscribed to onsite curbside collection services. Tables A-7 and A-10 show the number of survey respondents that provided subscription data for residential and commercial onsite curbside collection service, respectively.

**Table A-5. Total Number and Percentage of Occupied Households (2025)**

Data Source	Bay Area	Coastal	Mountain	Southern	Valley	Statewide
DOF E-5 Report <sup>+</sup>	2,082,410 (19.7%)	557,641 (5.3%)	235,356 (2.2%)	5,513,423 (52.2%)	2,167,749 (20.5%)	10,556,579 (100%)

+ Number of occupied single detached, single attached, two to four, and mobile home units.

**Table A-6. Percentage of Residential Generators Subscribed to Onsite Curbside Collection Service (Collection Survey, 2024-2025)**

Material Type	Bay Area	Coastal	Mountain	Southern	Valley	Statewide
Materials Collected for Recycling	99.3%	99.2%	98.7%	97.5%	99.3%	98.3%
Materials Collected for Organics Recycling	97.7%	92.7%	87.1%	94.4%	92.8%	94.5%

**Table A-7. Number of Local Jurisdictions that Provided Residential Onsite Curbside Collection Service Subscription Data (Collection Survey, 2024-2025)**

Description	Bay Area	Coastal	Mountain	Southern	Valley	Statewide
Number of Local Jurisdictions	22	7	1	11	5	46

**Table A-8. Total Number and Percentage of Businesses Subject to AB 1826 (2023)<sup>+</sup>**

Data Source	Bay Area	Coastal	Mountain	Southern	Valley	Statewide
2023 EAR	89,177 (19.2%)	21,912 (4.7%)	3,597 (0.8%)	276,768 (59.6%)	72,938 (15.7%)	464,392 (100%)

+ Includes multifamily properties with five or more units.

**Table A-9. Percent of Commercial Generators Subscribed to Onsite Curbside Collection Service (Collection Survey, 2024-2025)<sup>+</sup>**

Material Type	Bay Area	Coastal	Mountain	Southern	Valley	Statewide
Materials Collected for Recycling	92.5%	85.7%	63.8%	83.0%	69.1%	82.6%
Materials Collected for Organics Recycling	75.6%	47.6%	66.5%	65.3%	25.1%	60.1%

+ Includes multifamily properties with five or more units.

**Table A-10. Number of Local Jurisdictions that Provided Commercial Onsite Curbside Collection Service Subscription Data (Collection Survey, 2024-2025)<sup>+</sup>**

Description	Bay Area	Coastal	Mountain	Southern	Valley	Statewide
Number of Jurisdictions	35	8	1	14	6	64

+ Includes multifamily properties with five or more units.

Tables A-11 and A-12 show the regional average percentage of multifamily properties subscribed to onsite curbside collection services and the number of survey respondents that provided subscription data for multifamily property onsite curbside collection services, respectively. The multifamily property data provided in Tables A-11 and A-12 is a subset of the commercial data shown in Tables A-9 and A-10.

**Table A-11. Percent of Multifamily Property Generators Subscribed to Onsite Curbside Collection Service (Collection Survey, 2024-2025)**

Material Type	Bay Area	Coastal	Mountain	Southern	Valley	Statewide
Materials Collected for Recycling	97.4%	97.3%	100.0%	92.5%	92.0%	95.4%
Materials Collected for Organics Recycling	97.6%	80.3%	100.0%	82.6%	75.2%	90.8%

**Table A-12. Number of Local Jurisdictions that Provided Multifamily Property Onsite Curbside Collection Service Subscription Data (Collection Survey, 2024-2025)**

Description	Bay Area	Coastal	Mountain	Southern	Valley	Statewide
Number of Local Jurisdictions	20	6	1	10	5	42

### 3.B Alternative Collection Programs

The contractor determined the awareness level by local jurisdictions, access to and participation in alternative collection programs. Collection Survey results related to alternative collection programs were limited. Survey data were further supplemented by completed requests for information and interviews with various interested parties with expertise or experience with alternative collection, which included responses related to access, participation, and barriers. Alternative collection programs are operated by third-party entities not under contract with a local jurisdiction meaning that the programs may have fewer requirements or obligations for reporting participation or tonnage data. Due to this systemic underreporting, it is reasonable to assume that a greater volume of participation is occurring in these systems than the volume or level of detail that was reported by respondents in the Collection Survey and interviews.

### 3.C Demographics Without Access

The contractor used CalRecycle-provided data on waived census tracts from department-issued SB 1383 rural exemption and low-population waivers as well as the CalRecycle website to identify cities with department-issued SB 1383 low-population waivers and counties with department-issued SB 1383 rural exemptions. For the purpose of demographic analysis, only cities and counties were analyzed (not special districts).

The contractor compared the unweighted average demographics of these waived areas to the unweighted average demographics of each region using 2020 American Community Survey (ACS) Data. Table A-13 provides information on the proportion of

the California population split by race/ethnicity while Table A-14 provides the same information, but only for areas with waivers. In Table A-15, Selected Economic Characteristics were used to compare median household income for people in waived areas compared to the entire state. Census tract data were used for rural exemptions and low-population counties, whereas cities and towns were selected under the “places” filter to select cities waived via low-population waivers. ACS demographic datasets used do not sum to 100% and that using unweighted averages also provides results that do not sum to 100% (this applies to Tables A-13 and A-14).

**Table A-13. Average Percent of Population Race/Ethnicity of Each Region in California (ACS, 2020)**

<b>Race/ Ethnicity</b>	<b>Bay Area</b>	<b>Coastal</b>	<b>Mountain</b>	<b>Southern</b>	<b>Valley</b>	<b>Statewide</b>
White	40.2%	53.5%	78.3%	33.8%	41.6%	38.3%
Hispanic or Latino (of any race)	22.5%	36.0%	12.9%	43.8%	39.7%	37.9%
Asian	25.8%	4.2%	2.3%	12.6%	9.1%	13.9%
Black or African American	5.9%	1.7%	1.1%	6.0%	4.9%	5.5%
American Indian and Alaska Native	0.2%	1.0%	1.6%	0.3%	0.5%	0.4%
Native Hawaiian and Other Pacific Islander	0.5%	0.2%	0.2%	0.2%	0.4%	0.3%
Some Other Race	4.9%	3.4%	3.6%	3.3%	3.8%	3.7%

**Table A-14. Average Percent of Population Race/Ethnicity in Waived Areas of Each Region in California (ACS, 2020)**

Race/ Ethnicity	Bay Area	Coastal	Mountain	Southern	Valley	Statewide
White	51.0%	55.9%	76.3%	50.3%	53.5%	58.7%
Hispanic or Latino (of any race)	16.2%	27.2%	13.0%	28.0%	31.7%	25.2%
American Indian and Alaska Native	0.3%	2.8%	2.3%	2.9%	1.2%	2.1%
Asian	6.8%	2.0%	1.5%	2.1%	2.1%	2.1%
Black or African American	2.4%	1.5%	1.5%	3.6%	1.5%	1.9%
Native Hawaiian and Other Pacific Islander	0.5%	0.2%	0.3%	0.4%	0.1%	0.2%
Some Other Race	0.1%	0.3%	0.3%	0.1%	0.1%	0.2%

**Table A-15. Average Median Household Income in California (ACS, 2020)**

Description	Bay Area	Coastal	Mountain	Southern	Valley	Statewide
Entire region	\$119,103	\$78,100	\$69,266	\$81,077	\$67,663	\$85,631
Waived areas	\$144,368	\$68,959	\$59,954	\$64,694	\$62,265	\$66,234

## 4. Acceptance of Covered Materials

### 4.A CMC Collection Group Identification

This report relies upon the CMC list that was published on December 31, 2024, by CalRecycle and contains 94 CMCs that categorize covered material under the Act.<sup>i</sup> However, based on the nature of the recycling system, at each stage in the process the

---

<sup>i</sup>CalRecycle, Plastic Pollution and Packaging Producer Responsibility Act – SB 54 Covered Materials Category List, 2025, [calrecycle.ca.gov/packaging/packaging-epr/cmclist](https://calrecycle.ca.gov/packaging/packaging-epr/cmclist), (09/27/2025)

granularity of the accepted materials will differ. For example, collection contains the least granularity, as it is focused on what post-consumer items are intended to be included in each onsite collection container (or accepted at a drop-off site or alternative collection system). By comparison, processing facilities segregate materials into marketable commodities by grade, and other facilities that may qualify as end markets may further disaggregate the materials based on physical and chemical properties. Additionally, to improve participation, collection programs often use simplified messaging with less granular detail, making it easier for generators to understand and participate. As such, for the purposes of this report, the contractor aggregated the list of CMCs into 31 CMC collection groups that better align with how collection systems are typically tracked and evaluated.

Table A-16 lists the CMC collection groups and which CMC collection group each CMC falls into.

**Table A-16. CMC Collection Groups for Collection Report**

<b>Material Class</b>	<b>CMC Form</b>	<b>CMC Code</b>	<b>CMC Collection Group</b>
Glass	Bottles and jars without plastic component	24_G1N	Glass
Glass	Bottle and jars with plastic component	24_G1P	Glass
Glass	Other forms without plastic component	24_G2N	Glass
Glass	Other forms with plastic component	24_G2P	Glass
Glass	Small – two or more sides measuring 2 inches or less without plastic component	24_G3N	Glass
Glass	Small – two or more sides measuring 2 inches or less with plastic component	24_G3P	Glass
Ceramic	All forms without plastic component	24_C1N	Ceramic
Ceramic	All forms with plastic component	24_C1P	Ceramic
Ceramic	Small – two or more sides measuring 2 inches or less without plastic component	24_C2N	Ceramic

<b>Material Class</b>	<b>CMC Form</b>	<b>CMC Code</b>	<b>CMC Collection Group</b>
Ceramic	Small – two or more sides measuring 2 inches or less with plastic component	24_C2P	Ceramic
Aluminum	Non-aerosol container without plastic component	24_M1N	Aluminum
Aluminum	Non-aerosol container with plastic component	24_M1P	Aluminum
Aluminum	Foil sheets without a plastic component	24_M2N	Aluminum
Aluminum	Foil sheets with a plastic component	24_M2P	Aluminum
Aluminum	Foil molded containers without plastic component	24_M3N	Aluminum
Aluminum	Foil molded containers with plastic component	24_M3P	Aluminum
Aluminum	Other forms without plastic component	24_M5N	Aluminum
Aluminum	Other forms with plastic component	24_M5P	Aluminum
Aluminum	Aerosol can with plastic component	24_M4P	Aluminum
Other Nonferrous	All forms without plastic component	24_M9N	Other Nonferrous
Other Nonferrous	All forms with plastic component	24_M9P	Other Nonferrous
Tin/Steel/Bimetal	Non-aerosol container without plastic component	24_M6N	Tin/Steel/Bimetal
Tin/Steel/Bimetal	Non-aerosol container with plastic component	24_M6P	Tin/Steel/Bimetal
Tin/Steel/Bimetal	Aerosol can with plastic component	24_M7P	Tin/Steel/Bimetal
Tin/Steel/Bimetal	Other forms without plastic component	24_M8N	Tin/Steel/Bimetal

<b>Material Class</b>	<b>CMC Form</b>	<b>CMC Code</b>	<b>CMC Collection Group</b>
Tin/Steel/Bimetal	Other forms with plastic component	24_M8P	Tin/Steel/Bimetal
Other Ferrous	All forms without plastic component	24_M10N	Other Ferrous
Other Ferrous	All forms with plastic component	24_M10P	Other Ferrous
Metal	Small – two or more sides measuring 2 inches or less without plastic component	24_M12N	Other Metal
Metal	Small – two or more sides measuring 2 inches or less with plastic component	24_M12P	Other Metal
Kraft Paper	All forms without plastic component	24_PF1N	Mixed Paper
Kraft Paper	All forms with plastic component	24_PF1P	Mixed Paper
Multi-Material Laminate	Aseptic cartons	24_PF15P	Aseptic Cartons
Multi-Material Laminate	Gable-top cartons	24_PF5P	Gable-Top Cartons
Paperboard	All forms without plastic component	24_PF10N	Paperboard
Paperboard	All forms with plastic component	24_PF10P	Paperboard
Multi-Material Laminate	Other forms with plastic component	24_PF7P	Mixed Paper
OCC	Cardboard without plastic component	24_PF9N	OCC
OCC	Cardboard with plastic component	24_PF9P	OCC
OCC	Waxed cardboard without plastic component	24_PF8N	Waxed OCC
OCC	Waxed cardboard with plastic component	24_PF8P	Waxed OCC

<b>Material Class</b>	<b>CMC Form</b>	<b>CMC Code</b>	<b>CMC Collection Group</b>
White Paper	All forms without plastic component	24_PF11N	Mixed Paper
Molded Fiber	All forms with plastic component	24_PF14P	Mixed Paper
Molded Fiber	All forms without plastic component	24_PF14N	Mixed Paper
Other/Mixed Paper	All forms without plastic component	24_PF12N	Mixed Paper
Other/Mixed Paper	All forms with plastic component	24_PF12P	Mixed Paper
White Paper	All forms with plastic component	24_PF11P	Mixed Paper
Paper and Fiber	Small – two or more sides measuring 2 inches or less without plastic component	24_PF16N	Mixed Paper
Paper and Fiber	Small – two or more sides measuring 2 inches or less with plastic component	24_PF16P	Mixed Paper
PET (#1)	Bottles, jugs, and jars (Clear/Natural)	24_P1P	Plastic #1 - PET Rigid
PET (#1)	Bottles, jugs, and jars (Pigmented/Color)	24_P2P	Plastic #1 - PET Rigid
PET (#1)	Other rigid containers, cups, lids, plates, trays, and tubs	24_P38P	Plastic #1 - PET Rigid
PET (#1)	Other rigid items	24_P39P	Plastic #1 - PET Rigid
HDPE (#2)	Bottles, jugs, and jars (Clear/Natural)	24_P6P	Plastic #2 - HDPE Rigid
HDPE (#2)	Bottles, jugs, and jars (Pigmented/Color)	24_P7P	Plastic #2 - HDPE Rigid
HDPE (#2)	Pails and buckets	24_P8P	Plastic #2 - HDPE Rigid
HDPE (#2)	Other rigid items	24_P40P	Plastic #2 - HDPE Rigid

<b>Material Class</b>	<b>CMC Form</b>	<b>CMC Code</b>	<b>CMC Collection Group</b>
PVC (#3)	Rigid items	24_P11P	Plastic #3 - PVC Rigid
LDPE (#4)	Bottles, jugs, and jars	24_P13P	Plastic # 4 - LDPE Rigid
LDPE (#4)	Other rigid items	24_P14P	Plastic # 4 - LDPE Rigid
PP (#5)	Bottles, jugs, and jars	24_P17P	Plastic #5 - PP Rigid
PP (#5)	Other rigid containers, cups, lids, plates, trays, and tubs	24_P41P	Plastic #5 - PP Rigid
PP (#5)	Utensils	24_P19P	Plastic #5 - PP Rigid
PP (#5)	Other rigid items	24_P20P	Plastic #5 - PP Rigid
PS (#6)	Utensils	24_P27P	Plastic #6 - PS Rigid
PS (#6)	Solid hinged containers, plates, cups, tubs, trays, and other solid forms	24_P43P	Plastic #6 - PS Rigid
Plastics and Polymers Designed for Compostability	Rigid items	24_P44P	Plastic #7 - Other Rigid Designed for Compostability
Other/Mixed Plastics	Rigid items	24_P35P	Other Mixed Plastics
Multi-Material Laminate	Other forms	24_P33P	Other Multi-Material Laminate
Other/Mixed Plastics	Textiles	24_P34P	Other Mixed Plastics
Plastic	Small – two or more sides measuring 2 inches or less	24_P47P	Other Mixed Plastics

<b>Material Class</b>	<b>CMC Form</b>	<b>CMC Code</b>	<b>CMC Collection Group</b>
PS (#6)	Expanded/foamed hinged containers, plates, cups, tubs, trays, and other foamed containers	24_P23P	Plastic #6 - Expanded or Foamed Plastic, Rigid
PS (#6)	Other expanded/foamed forms	24_P42P	Plastic #6 - Other Expanded or Foamed Plastic
PET (#1)	Flexible and film items	24_P5P	Flexible and Film Plastic
HDPE (#2)	Flexible and film items	24_P10P	Flexible and Film Plastic
PVC (#3)	Flexible and film items	24_P12P	Flexible and Film Plastic
LDPE (#4)	Clear nonbag film	24_P15P	Flexible and Film Plastic
LDPE (#4)	Other flexible and film items	24_P16P	Flexible and Film Plastic
PP (#5)	Clear nonbag film	24_P21P	Flexible and Film Plastic
PS (#6)	Flexible and film items	24_P29P	Flexible and Film Plastic
PP (#5)	Other flexible and film items	24_P22P	Flexible and Film Plastic
Plastics and Polymers Designed for Compostability	Flexible and film items	24_P45P	Flexible and Film Plastic Designed for Compostability
Other/Mixed Plastics	Flexible and film items	24_P36P	Flexible and Film Plastic
Multi-Material Laminate	Pouches and envelopes	24_P46P	Plastic Pouches and Envelopes
Wood	All untreated forms without plastic component	24_WO1N	Wood - Untreated
Wood	All untreated forms with plastic component	24_WO1P	Wood - Untreated

<b>Material Class</b>	<b>CMC Form</b>	<b>CMC Code</b>	<b>CMC Collection Group</b>
Wood	All treated or painted forms without plastic component	24_WO2N	Wood - Treated
Wood	All treated or painted forms with plastic component	24_WO2P	Wood - Treated
Other/Mixed Organic	Textiles without plastic component	24_WO3N	Textiles
Other/Mixed Organic	Textiles with plastic component	24_WO3P	Textiles
Other/Mixed Organic	Other forms without plastic component	24_WO4N	Other Mixed Organic
Other/Mixed Organic	Other forms with plastic component	24_WO4P	Other Mixed Organic
Wood and Other Organic Materials	Small – two or more sides measuring 2 inches or less without plastic component	24_WO6N	Other Mixed Organic
Wood and Other Organic Materials	Small – two or more sides measuring 2 inches or less with plastic component	24_WO6P	Other Mixed Organic

**4.A.1 Onsite Curbside Collection**

The contractor used a combination of 2023 EAR data and Collection Survey responses to determine which CMC collection groups are accepted in onsite curbside collection services throughout the state (Table 4-1 in the main body of this report). Local jurisdictions reported in the 2023 EAR which materials are collected for recycling and organics recycling in onsite curbside collection services. The contractor matched these materials to the CMC list to identify which CMC collection groups are being collected by region. Some CMC collection groups, like ceramic and waxed old corrugated cardboard (OCC), were not included in the 2023 EAR. Therefore, acceptance data for these materials are based on Collection Survey responses.

Table A-17 shows the data sources for each CMC collection group in jurisdictions’ residential onsite curbside collection programs.

**Table A-17. Data Sources for CMC Collection Group Collection in Residential Onsite Curbside Collection Services**

<b>CMC Collection Group</b>	<b>Data Source</b>
Aluminum	2023 EAR
Aseptic Cartons	2023 EAR
Ceramic	Collection Survey
Flexible and Film Plastic	2023 EAR
Flexible and Film Plastic Designed for Compostability	Collection Survey
Gable-Top Cartons	2023 EAR
Glass	2023 EAR
Mixed Paper <sup>+</sup>	2023 EAR
OCC	2023 EAR
Other Ferrous	Collection Survey
Other Metal	Collection Survey
Other Mixed Organic	2023 EAR
Other Mixed Plastics	Collection Survey
Other Multi-Material Laminate	Collection Survey
Other Nonferrous	Collection Survey
Paperboard	2023 EAR
Plastic #1 - PET Rigid	2023 EAR
Plastic #2 - HDPE Rigid	2023 EAR
Plastic #3 - PVC Rigid	2023 EAR
Plastic # 4 - LDPE Rigid	2023 EAR
Plastic #5 - PP Rigid	2023 EAR
Plastic #6 - Expanded or Foamed Plastic, Rigid	2023 EAR
Plastic #6 - PS Rigid	2023 EAR
Plastic #7 - Other Rigid Designed for Compostability	2023 EAR
Plastic Pouches and Envelopes	Collection Survey
Textiles	2023 EAR
Tin/Steel/Bimetal	2023 EAR
Waxed OCC	Collection Survey
Wood – Treated	2023 EAR
Wood – Untreated	2023 EAR

+ Mixed paper was not a category in the 2023 EAR. “Other mixed paper” responses in Table A-17 indicate that local jurisdictions selected “acceptance of multiple types of paper material in their collection containers.”

#### **4.A.2 CMC Collection Groups Collected by Alternative Collection Programs**

The contractor used a combination of data to determine which CMC collection groups are accepted in alternative collection programs throughout the state. Due to limited Collection Survey responses and the variability of alternative collection programs across California, the contractor supplemented survey data with additional resources, as listed:

- 2023 EAR data
- Interviews with interested parties
- Program specific public websites

#### **4.B Enhancing Capture of Covered Materials**

The Collection Survey asked local jurisdictions to identify strategies they currently employ to enhance the capture of covered materials and which strategies they consider to be most effective. Responses to these two questions were reviewed to determine how strategies currently employed may differ from what is seen as most effective. Narrative responses from the survey provided additional detail or context about how local jurisdictions implement or would like to implement strategies to enhance the capture of covered materials.

#### **4.C Current Capture of Covered Materials**

The approach for quantifying covered materials in the waste stream relied on integrating existing waste characterization studies with regional tonnage data and internal collection insights.

Using the tonnage data from Appendix A.4.D.2, the contractor derived the estimated tons for collection for solid waste, organics recycling, and recycling collection for each region. The contractor then applied the waste characterizations to the derived tons for each material stream.

For disposed tonnage, the analysis used “California Landfills: Measuring Single Use Packaging and Plastic Food Service Ware Disposed (2025),” a CalRecycle landfill waste characterization study specifically designed to estimate covered material disposed of in California landfills<sup>ii</sup>, which can be downloaded at the publications website: <https://www2.calrecycle.ca.gov/Publications/Details/1758>.

This dataset provided a reliable landfill waste characterization through the lens of covered materials. The report estimated that approximately 19.6% of the total statewide landfill material included covered materials in 2024. OCC, flexible and film plastic, and mixed paper accounted for 57.37% of covered materials sent to landfill. Additionally, the report included a confidence interval for each sorting category for covered material and the range of confidence intervals varied substantially among categories.

---

<sup>ii</sup>CalRecycle, California Landfills: Measuring Single Use Packaging and Plastic Food Service Ware Disposed, Preliminary Findings, 2025, accessed on September 27, 2025

The contractor used the 2021 American Chemistry Council's Resin Review to estimate the maximum tons of plastic covered materials that could be available for collection in California and used this to adjust the estimated amount disposed of within the range of the confidence interval.

For estimating material streams collected for recycling and organics recycling, the methodology used findings from the Alameda County 2023-24 Waste Characterization Study (WCS).<sup>iii</sup> While this study was not conducted specifically to estimate covered material under the Act, its level of material detail allowed CMC collection groups to be mapped to its results with the introduction of additional data sources. This included data from the 2021 American Chemistry Council's Resin Review and CalRecycle's January 1, 2025, Recycling Program Rates which were applied to validate and refine the estimated tonnage of CMC collection groups collected for recycling and organics recycling. These refinements included:

- Removal of CRV Material
  - Some categories within the Alameda County WCS did not disaggregate CRV and non-CRV materials. CRV containers are not covered under the Act and should be excluded from this analysis. To address the categories that were not disaggregated into CRV and non-CRV materials, the contractor used CalRecycle's 2025 Recycling Program Rates Effective January 1, 2025, to estimate the percentage of CRV materials for glass, PET plastics, and HDPE plastics collected in onsite curbside collection programs. The contractor used this information to adjust the overall tonnage of covered material collected for recycling and organics recycling from the Alameda County WCS.
- Disaggregation of Covered Materials
  - Many categories within the Alameda County WCS did not differentiate between single-use plastic packaging and single-use plastic food service ware, which are covered by the Act, and plastics which are not. The contractor used the American Chemistry Council's Resin Review (2021) to estimate the amount of plastic not considered covered materials and removed that tonnage from the covered material collected for recycling and organics recycling.
- Allocation of Flexible and Film Plastics
  - The Alameda County WCS did not define flexible and film plastics congruently with how they are considered for covered materials. Specifically, it included a catch-all category for all other film and flexible plastic. The contractor used the American Chemistry Council Report to further estimate

---

<sup>iii</sup> StopWaste – Alameda County Waste Management Authority, Alameda County 2023-2024 Waste Characterization Study, 2025, accessed on September 27, 2025

the composition of the other flexible film category between the various resin types.

- The contractor applied the estimated distributions of CMC collection groups based on the adjusted Alameda County WCS to all regions in California.

The Alameda County WCS examined materials collected for recycling and organics recycling. For the former material stream, the study demonstrated that mixed paper and OCC were the two largest CMC collection groups, comprising 76.29% of the total tons collected for recycling. Glass, flexible and film plastic, and plastic #2 – HDPE rigid accounted for 13.02% of material collected for recycling. For materials collected for organics recycling, the study identified mixed paper and OCC as the highest concentration of materials that included covered materials, accounting for 54.73%.

To refine the analysis, the contractor used Collection Survey data and internal data on waste characterizations to account for regional differences in material collection availability and inform adjustments to the CMC collection group distribution by customer class and geographic region. The contractor used the Alameda County WCS distribution of CMCs and adjusted the total volume of materials that included covered materials available for recovery based on residue rates. The relative proportions of covered material within the broader set of recoverable materials were retained from the Alameda County WCS, while the specific composition of covered materials in the waste stream was updated to reflect differences in residue and contamination levels.

For all three material collection streams, the contractor made the following assumptions. For glass, paper, metal, and organic CMC, the contractor assumed a 50/50 split of tonnage between plastic and non-plastic CMC (e.g., 50/50 split between 24\_M1N and 24\_M1P). For tin/steel cans, the contractor assumed that seven percent of tin/steel cans consisted of aerosol containers, consistent with the SB 343 material characterization.<sup>iv</sup> These assumptions were made because other sources of information were not available and the report required estimating tons collected for each CMC. The accuracy of these assumptions may vary among and within regions, among CMC, and by factors.

Finally, by multiplying the adjusted CMC collection group distributions by the corresponding regional and customer-class tonnages, the methodology produced estimates of covered materials at both the regional and statewide level.

#### **4.D Costs and Funding Model Development**

The contractor developed the Cost and Funding Model in several steps. First, the contractor created a statewide estimate for the collection cost per ton by dividing the total collection costs reported by surveyed jurisdictions and obtained through other contractor projects by the total tons collected in those jurisdictions. This averaged cost is the initial projected statewide collection cost per ton. Second, the contractor took this

---

<sup>iv</sup> CalRecycle. "Publication Summary: SB 343 Final Findings Report (DRRR-2025-1750)." *CalRecycle*, 4 Apr. 2025, [www2.calrecycle.ca.gov/Docs/Publications/Details/1751](http://www2.calrecycle.ca.gov/Docs/Publications/Details/1751).

statewide estimate and adjusted it by region and material stream to integrate cost impacts related to operational and financial differences among regions and material streams. Third, the contractor used the adjusted collection cost estimates (which were specific to material stream and region) to recalculate the statewide cost by multiplying the adjusted regional-material stream costs per ton with their respective annual collected tons (e.g., the cost per ton estimate for the solid waste stream in the Bay Area was multiplied by the solid waste tons in the Bay Area). For purposes of this model, the contractor excluded self-haul collection costs and tonnage from the regional calculation because it was assumed that:

- The cost for each self-hauler varies widely.
- Materials that are currently self-hauled will continue to be self-hauled.
- Costs of that activity would not change significantly.

The driving factors of this methodology were: (1) compilation of regional collection data; (2) calculation of annual collected tons by region; and (3) application of adjustment factors for regional differences, as described in D.1. Regional Collection Data.

#### **4.D.1 Regional Collection Data**

As noted in Appendix A.8, Limitations and Barriers and Appendix B.1, Assumptions, the contractor supplemented Collection Survey responses from private and public sector recycling service providers with data from the contractor's project files from the past five years. All costs were inflated or deflated, as necessary, to represent costs in 2024 dollars. Collection costs included cost categories related to directly collecting materials or supporting the collection of materials. The contractor gathered data at the most granular level available, which, at times, included breakouts by customer class (residential and commercial/multifamily) and/or breakouts by material stream (solid waste, materials collected for recycling, and organics).

The contractor aggregated the regional cost points for collection and tonnage data into a compiled collection cost per ton, then further extrapolated by total statewide tons collected in 2024 across all material streams to estimate an initial projected statewide collection cost.

#### **4.D.2 Annual Collected Tons by Region**

The contractor acquired tonnage landfilled in 2024 (i.e., solid waste), summarized by local jurisdiction and by region, from the Recycling and Disposal Reporting System (RDRS). As no detailed dataset is available to accurately determine tons collected by solid waste, materials collected for recycling, and materials collected for organics recycling, the contractor used a combination of Collection Survey respondents' tonnage reports, the contractor's project files, and facility characterization studies to estimate annual collected tons of materials for the state and each local region by material stream. The contractor used the percentage of solid waste generated by each customer class from CalRecycle's "2021 Disposal Facility-based Characterization of Solid Waste in California" Report to allocate the state's annual collected tons of solid waste, materials collected for recycling, and materials collected for organics recycling within each region.

While there are regional differences in culture, self-haul programs, exemptions for service due to rural or population status, and other programmatic factors that would increase or decrease the percentage generation of materials collected for recycling and materials collected for organics recycling between regions and between customer classes, there is no publicly available study or Collection Survey data at this time to support a different approach.

#### **4.D.3 Adjustment Factors**

Starting with the initial projected statewide collection cost per ton, the contractor adjusted each region's portion of the initial projected statewide collection costs to account for variances in geography, program maturity, population density, cost of living, economies of scale, and other operational or financial factors that affect the cost per ton collected of solid waste, materials collected for recycling, and materials collected for organics recycling. These adjustment factors were interwoven by region to modify each region's collection cost per ton to most accurately reflect the unique regional cost of collection.

To calculate the estimated statewide collection costs, the contractor multiplied each region's adjusted cost per ton by its respective annual tons collected. The resulting statewide cost of collection includes the impact of each region's operational and financial impact on the cost of collection and better integrates additional costs or savings by region based on the amount of material collected within each region.

#### **4.E Reasons and Factors Contributing to Contamination**

The contractor used the Collection Survey and the Community Recycling and Composting Survey to identify reasons and factors contributing to contamination. The contractor filtered these data by region to understand how the impacts vary across the state. The contractor also used findings from the Recycling Partnership's 2020 "West Coast Contamination Initiative Research Report."

#### **4.F Monitoring and Reducing Contamination**

The contractor used the Collection Survey and the Community Recycling and Composting Survey to identify impacts of contamination on local jurisdictions and individuals. The contractor filtered these data by region to understand how the impacts vary across the state. The contractor also used findings from the Recycling Partnership's 2020 "West Coast Contamination Initiative Research Report," Recreate Waste Collaborative's "Residential Recycling Contamination Pilot Project Report of Findings," and findings from the pilot studies described in section A.4.C and conducted in the cities of San Francisco and Livermore.

### **5. Public Health, Environmental, and Community Impacts**

#### **5.A Impact Mapping**

To map the environmental and public health impacts of collection operations, several areas in California were identified where large regional facilities or truck yards are located, or where clusters of solid waste facilities are located close together. These areas included North Richmond, Sacramento, Bakersfield, Industry, Long Beach, the

Sun Valley neighborhood in Los Angeles, and Barrio Logan in San Diego. For this analysis, the geographic boundary for Barrio Logan included census tracts 673005100, 6073005000, and 6073003800. The geographic boundary for Sun Valley included census tracts within California Senate District 20 and California Assembly District 43. Each of these areas serves as a regional hub for several collection operations within the surrounding areas. To identify the specific communities within each area that are most impacted by collection operations, census tracts in each area — those with a CalEnviroScreen 4.0 solid waste indicator greater than 75 — were selected. The solid waste indicator expresses the overall burden on a community due to the presence of solid waste facilities. This burden can include exposure to toxins and chemicals released into the air, soil, or water, and negative community impacts such as litter, odor, and noise.<sup>v</sup>

All indicators are represented by a percentile. For example, a census tract with a pollution burden score of 75 means that community has a higher pollution burden than 75% of the state’s census tracts.

It can be challenging to isolate the impacts of collection operations on nearby communities from those caused by other industrial and transportation-related activities. To estimate the potential burden to communities from collection truck traffic and pollution, the following CalEnviroScreen 4.0. indicators were used:

- Overall pollution burden: The CalEnviroScreen 4.0 tool describes Pollution Burden as “the potential exposures to pollutants and the adverse environmental conditions caused by pollution.”<sup>vi</sup>
- PM2.5: The CalEnviroScreen 4.0 tool describes particulate matter, or PM2.5, as “very small airborne particle pollution, less than 2.5 micrometers, which is less than the thickness of a human hair. PM2.5 is a mixture of particles that can include organic chemicals, dust, soot and metals. These particles can come from cars and trucks, factories, wood burning, and other activities.” It further states that “The smaller the particles, the deeper they can move into the lungs when we breathe; fine particle pollution has been shown to cause many serious health effects, including heart and lung disease; exposure to PM2.5 contributes to deaths across California; and children, the elderly, and people suffering from

---

<sup>v</sup> *CalEnviroScreen 4.0 Indicator Maps*,” State of California Office of Environmental Health Hazard Assessment, October 2021, <<https://oehha.ca.gov/calenviroscreen/indicator/solid-waste-sites-and-facilities>,> (September 18, 2025).

<sup>vi</sup>“*CalEnviroScreen 4.0 Indicator Maps*,” State of California Office of Environmental Health Hazard Assessment, October 2021, <<https://experience.arcgis.com/experience/ed5953d89038431dbf4f22ab9abfe40d/page/Indicators?views=Pollution-Burden>> (September 18, 2025).

heart or lung disease, asthma, or chronic illness are most sensitive to the effects of PM2.5 exposure.”<sup>vii</sup>

- Diesel: The CalEnviroScreen 4.0 tool states that “exhaust from trucks, buses, trains, ships and other equipment with diesel engines contains a mixture of gases and solid particles. These solid particles are known as diesel particulate matter (diesel PM). Diesel PM contains hundreds of different chemicals. Many of these are harmful to health. The highest levels of diesel PM are near ports, rail yards and freeways.”<sup>viii</sup>

All indicators are represented by a percentile. For example, a census tract with a pollution burden score of 75 means that community has a higher pollution burden than 75% of the state’s census tracts.

In addition to pollution burden indicators, the following socioeconomic factors were analyzed for each identified community:

- Linguistic isolation: The CalEnviroScreen 4.0 tool describes linguistic isolation as “a term used by the U.S. Census Bureau for limited English-speaking households. More than 40% of Californians speak a language other than English at home. About half of those do not speak English well or at all.”<sup>ix</sup>
- Poverty: The CalEnviroScreen 4.0 tool uses the [Federal Poverty Level](#) as determined by the U.S. Census Bureau each year. “The poverty level is based on the size of the household and the ages of family members. If a person or family’s total income before taxes is less than the poverty level, the person or family is considered in poverty.”<sup>x</sup>

---

<sup>vii</sup> *CalEnviroScreen 4.0 Indicator Maps*,” State of California Office of Environmental Health Hazard Assessment, October 2021, <<https://oehha.ca.gov/calenviroscreen/indicator/air-quality-pm25>,> (September 18, 2025).

<sup>viii</sup> *CalEnviroScreen 4.0 Indicator Maps*,” State of California Office of Environmental Health Hazard Assessment, October 2021, <<https://oehha.ca.gov/calenviroscreen/indicator/diesel-particulate-matter>,> (September 18, 2025).

<sup>ix</sup> *CalEnviroScreen 4.0 Indicator Maps*,” State of California Office of Environmental Health Hazard Assessment, October 2021, <<https://oehha.ca.gov/calenviroscreen/indicator/linguistic-isolation>,> (September 18, 2025).

<sup>x</sup> *CalEnviroScreen 4.0 Indicator Maps*,” State of California Office of Environmental Health Hazard Assessment, October 2021, <<https://oehha.ca.gov/calenviroscreen/indicator/poverty>,> (September 18, 2025).

- Race: The following race/ethnicities are identified in the CalEnviroScreen 4.0 Tool:
  - Latino
  - White
  - Black
  - Native American
  - Asian American
  - Pacific Islander
  - Other/Multiple

### **5.B Local Jurisdiction and Community Feedback on PHEC Impacts**

Responses to various questions in the Collection Survey and the Community Recycling and Composting Survey were analyzed by region to understand how the impacts vary across the state. Questions related specifically to how collection services impact local communities and key concerns with collection operations were asked in both surveys.

Key findings from the listening sessions, further described under section A.6.B, were also reviewed and used to supplement the findings from the survey results.

Limited Community Recycling and Composting Survey responses were received from areas identified as heavily impacted in the report. Specifically, no responses were received for Sun Valley, Bakersfield, Barrio Logan, and City of Industry. Two responses were received from Long Beach, and 12 responses were received from Sacramento, nine of which did not express concern with the impacts of solid waste collection facilities.

## **6. Other Data Sources Used for this Report**

### **6.A Additional Surveys**

The following additional surveys developed as part of the Collection, Processing, and End Markets Study were used in this report:

- Community Recycling and Composting Surveys, completed by CBOs, EJ groups, and Tribes. Detailed survey responses are in Appendices E and F. Detailed methodology on engagement with CBOs, EJ groups, and Tribes are in Appendix A and G of the Current State of Processing Report.
- Processing Survey, completed by recycling and composting facilities
- Notes from listening sessions with CBOs, EJ groups, and Tribes. Details on these listening sessions can be found in the Current State of Processing Report Appendix G.

## 6.B Interviews and Engagement

Recycling service providers, alternative collection systems, and other entities were contacted to obtain further information to supplement the survey data.

The contractor also hosted multiple virtual listening sessions throughout the project to provide opportunities to Tribes, CBOs, and EJ groups to share their insights, experiences, and expertise. Meeting summaries were analyzed to extract key findings that expanded upon and supplemented the quantitative survey results. Key findings from these meetings can be found in Appendix G of the Current State of Processing Report. Twelve CBOs and EJ groups and three Tribes participated in the listening sessions. Table A-18 identifies the number of CBOs and Tribes from each region that participated in meetings and listening sessions.

**Table A-18. Number of Listening Session Participants from Each Region**

Description	Bay Area	Coastal	Mountain	Southern	Valley	Statewide
CBOs	1	2	3	5	3	14
Tribes	0	0	3	1	0	4

## 6.C Additional Data

The contractor used the following additional secondary data sources during the research and analysis phase of this report:

- Several CalRecycle data sources and publications such as:
  - RDRS
  - 2023 EAR
  - SB 343 Report
  - Publication titled “What’s in California Landfills: Measuring Single-Use Packaging and Plastic Food Service Ware Disposed (2025)”
  - 2021 Disposal Facility-Based Characterization of Solid Waste in California
  - 2022 State of Disposal and Recycling Report
  - Needs Assessment study specific-provided data regarding department-issued waivers (number of generators waived, census tracts waived, etc.)
- California DOF’s E-5 Report
- 2020 American Community Survey Data
- Waste characterization data, including the contractor’s client data (anonymized for confidentiality), and waste characterization reports from eight local jurisdictions that provided full reports in response to the Collection Survey. The primary waste characterization used was the Alameda County 2023-24 Waste

Characterization Study which was the most granular and the easiest for mapping to CMCs. The anonymized waste characterization was used to adjust for varying regional residue levels.

- Prior contractor project engagements, including recycling service provider procurements, rate studies, and cost-of-service studies. These data were aggregated and anonymized at the regional level for client confidentiality purposes.

## **7. Assumptions**

### **7.A General Assumptions**

- The data reported by or on behalf of local jurisdictions in response to the Collection Survey were assumed to be accurate.
- The data reported to CalRecycle (e.g., Electronic Annual Reports) were checked for consistency against HF&H internal data (franchise agreements, ordinances, customer subscription data). Outlier data were further clarified through contacting jurisdictions and conducting research using the jurisdictions' and recycling service providers' websites. Any information that could not be verified was discarded. Remaining responses were assumed to be accurate.

### **7.B Cost Model Assumptions**

Assumptions related to the Collections Cost Model are summarized. Refer to Appendix B for a more comprehensive discussion of the following assumptions:

- The calculation of regional collection costs per ton and the estimated current statewide collection costs excludes disposal and processing costs.
- Granular cost and tonnage data gathered for each region required consideration of local jurisdiction differences, including number of available cost points per region, allocation of multifamily cart and bin cost data and tonnage, and limited detail beyond the residential and commercial customer class levels for cost data and tonnage.
- For the purposes of this study, total annual tons of solid waste, materials collected for recycling and materials collected for organics recycling for both the state and for each region were estimated using calculated collection ratios based on tonnage reports from Collection Survey results, facility waste characterization reports, and the contractor's internal data sources since there are no reliable reports or data with which to estimate current collection of these material streams or allocate collection to each region. Refer to Appendix B for additional information on this methodology.
- This cost model is specific to onsite collection and excludes self-haul collection and drop-off sites. Tonnage and costs related to these activities were excluded from the calculation of the estimated statewide collection costs.

- The calculated statewide collection costs are not representative of any specific region, but rather a weighted average of regional costs and tons.

## **8. Limitations and Barriers**

### **8.A Data Collection Limitations**

#### **8.A.1 Sample Size**

Some analysis is limited by the number of survey responses and the extent to which the surveys were completed (for both the Collection Survey and the Community Recycling and Composting Survey). For example, few respondents provided detailed cost data, and some regions were represented by only a single response. Where possible, other data sources were used to supplement survey data. Survey responses were supplemented with data from the contractor's project files from 2020 to the present and were inflated or deflated to reflect 2024 dollars to ensure a similar comparison between regions and local jurisdictions. In other analyses, other more complete datasets were used in lieu of Collection Survey responses as identified in Appendix A (e.g., 2023 EAR data for type of collection program).

Additionally, data availability varies by region. As shown in Tables 3-1, 3-2, and 3-3 in the main body of this report, there is less data available for jurisdictions in the Coastal, Mountain, and Valley regions compared to the Southern and Bay Area regions. The contractor made efforts to gather data for all jurisdictions equally; however gaps still remain.

#### **8.A.2 Representativeness of Samples**

The number of Collection Survey and Community Recycling and Composting Survey responses received varied by region. See Appendix D, E, and F for a detailed breakdown of the 324 total survey respondents from CBOs and EJ groups by region. Additionally, eight Tribal responses to the Community Recycling and Composting Survey were received from three distinct Tribes. Responses to the survey or feedback shared at introductory meetings or listening sessions are not assumed to reflect the views of communities at large; however, analysis of themes from these engagement activities is provided in this report.

#### **8.A.3 Survey Design**

When designing the Collection Survey and Community Recycling and Composting Survey, the contractor aimed to balance the desired level of detail with the likelihood of receiving responses. Limiting the number of questions reduces survey fatigue and limiting additional write-in responses can streamline analysis. However, this would limit the nuance of responses and confidence in the accuracy and consistency of information reported. For example, asking for the recycling service providers' cost per ton or cost per hour would be a less detailed approach that may provide a higher response rate, but responses would lack the detail of whether it included jurisdiction fees, processing costs, or other factors that are not germane to the study design. The survey was designed to balance response rates and the level of detail with the goal of maximizing confidence in the data.

#### 8.A.4 Timeline of Survey Data Collection

The Collection Survey and Community Recycling and Composting Survey had a relatively short response window, which may have hindered participation or led to incomplete submissions from local jurisdictions, recycling service providers, and community members.

#### 8.A.5 Recycling Service Provider Response Rate

Some recycling service providers declined to participate in the Collection Survey due to the short timeline and the sensitive nature of current cost data. Others chose to engage in a CalRecycle-hosted roundtable to discuss current programs and cost information at a high level.

#### 8.A.6 Specificity to Covered Material

Not all of the existing data sources used were specific to covered material and CMCs. Where applicable, the contractor used additional data sources to estimate only the portion related to covered material.

### 8.B Analysis Limitations

#### 8.B.1 Region Selection

Regions were selected to align with CalRecycle's most recent waste characterization study: Bay Area, Coastal, Mountain, Southern, and Valley regions. There may be distinct differences within each region that may not be accounted for in the analysis. For example, population density may vary widely, and this would impact routing efficiency, off-route collection vehicle time, and collection costs.

#### 8.B.2 Special Districts Population Data

There are 77 special districts in the state that facilitate onsite curbside collection to generators in their geographic boundaries, which overlap with boundaries of both cities and counties. For the purpose of determining the population with access to onsite collection for materials collected for recycling and organics recycling (Table 3-6 in the main body of this report), population data from the DOF E-5 Report was used for each city and county. This dataset does not separately include population estimates for special districts, and therefore access may vary from what is shown in Table 3-6 in the main body of this report.

#### 8.B.3 Commercial Generator Identification

Determining the total number of commercial generators in the state, and by region, is difficult to quantify because local jurisdictions regulate commercial businesses differently (e.g., some require business licenses while others do not and businesses may hold business licenses in several jurisdictions despite not having physical locations within the jurisdictions). Additionally, the total number of businesses is not useful for this analysis, as businesses can share onsite curbside collection services (e.g., in shopping plazas, mixed-use properties, etc.). Therefore, this analysis assumes that the total number of commercial generators is equal to the number of "commercial businesses required to recycle organics" per the 2023 EAR. This number includes commercial

businesses and multifamily properties in areas of the state waived or exempt from SB 1383 but may not include small businesses and multifamily properties that generate less than 2 cubic yards of total solid waste per week.

#### **8.B.4 The Act's Ongoing Rulemaking Process**

CalRecycle was in the rulemaking process for the Act proposed regulations during the time period in which data collection and analysis for this report was conducted. This report was prepared based on the statute and this project's scope of work.

#### **8.B.5 Rounding and Tabulation**

Values presented in this report are based on estimates and may have been rounded for clarity. As a result, some tables, subtotals, and percentages may not add up precisely to the totals shown. These minor discrepancies do not affect the overall analysis or conclusions of this report.

# Appendix B: Cost and Funding Model Development Supporting Tables and Assumptions

---

## 1. Assumptions

- Collection Survey responses for collection costs, subscription data, and tonnage by material stream included partial, incomplete, or no data. Therefore, Collection Survey responses were supplemented with data from the contractor's project files from 2020 to the present, including rate reviews, procurements, and cost-of-service studies. Cost information was inflated or deflated to reflect 2024 dollars and ensure a similar comparison between regions and local jurisdictions.
- Because of limited Collection Survey data, the coarse nature of information obtained through desk research, and constraints of available data in the contractor's project files, there was not enough information to further divide all regions into sub-regions (e.g., based on geographic, social, or financial factors) to reflect differences in programs, routing, or cost. The contractor acknowledges that study results may vary within region (e.g., urban versus rural), but there was not enough information available to analyze these intra-regional differences.
- The calculation of regional collection costs per ton and the estimated current statewide collection costs exclude disposal and processing costs, as this report is intended to focus on the costs to directly or indirectly collect and deliver material to the disposal or processing locations.
- Based on data available at the time of this study, granular cost and tonnage information was obtained from between 2 and 12 local jurisdictions per region.. As a result, local nuances, such as unique financial and operational practices, may influence the extrapolated collection cost per ton. These differences were mitigated through adjustments for regional labor, route density, and material density, as further described in this appendix.
- Cost data from local jurisdictions included separate figures for multifamily cart and bin services. These costs were not combined with commercial data. Instead, multifamily cart costs were grouped with residential costs, since these programs typically serve smaller complexes (2-4 units) that receive services most similar to residential customers. Multifamily carts are often collected using the same vehicles as residential carts. In contrast, multifamily bins are generally co-collected with commercial bins. Therefore, assumptions about multifamily costs, and data provided by recycling service providers, were informed by allocation factors.
- Regions with limited cost data were summarized at the customer class level (i.e., residential and commercial), instead of at the material stream level (i.e., solid waste, materials collected for recycling, and materials collected for organics

recycling). The resulting collection cost per ton was calculated and applied to all material streams under the given customer class, in an effort to reflect as much nuance as possible for each region while navigating data limitations.

- The CalRecycle Recycling and Disposal Reporting System (RDRS) was used to estimate the 2024 annual statewide and regional tons of solid waste collected. RDRS tracks solid waste tons disposed of from all customer classes, including material taken directly to disposal by generators and residual material from processing facilities that is ultimately disposed of. This database was the most granular and comprehensive view of California disposal available at the time of this study.
- Accurate annual tonnage origin information for solid waste, materials collected for recycling, and materials collected for organics recycling is not readily available through a database reporting system. Available data in RDRS do not specify origin for materials collected for recycling and organics recycling, and in many cases the tons reported appear to be underreported. As such, the 2024 tonnage of materials collected were estimated statewide and by region based on the tonnage reported from the Collection Survey, the contractor's project files, and facility characterization studies. To convert the 2024 tons of solid waste disposed of into tons of solid waste collected, the contractor used the collection ratios to estimate tons of material collected for recycling and organics recycling. Essentially, the contractor assumed that the ratios of solid waste, and materials collected for recycling and for organics recycling reported in the Collection Survey could serve as a reasonable proxy for estimating the regional generation of these materials. Because there are regional differences in culture, maturity of collection programs for recycling, exemptions for service due to rural or population status, and other programmatic factors that would increase or decrease the ratio of diversion of materials collected for recycling and materials collected for organics recycling between regions, this methodology attempts to quantify these qualitative factors when attributing tonnage to each region. Refer to Appendix B section 4 for more detail and examples of this methodology.
- Self-haul use of drop-off locations was excluded from the estimated statewide collection cost calculations. Although many rural areas rely on drop-off sites as a primary or alternative method to curbside collection, self-hauler costs vary widely. The contractor assumed these costs would not significantly affect the overall estimate.

## **2. Approach for Calculating Estimated Statewide Collection Costs**

As of this report, there is no official reporting system or independent method for calculating the current cost of collection in California. Additionally, data are not readily available from every municipal or private recycling service provider in the state to quantify the statewide collection cost. Of the data that are available, certain regions such as the Bay Area have more granular data available due to reporting requirements for their recycling service providers. Given these limitations, the approach for estimating

the current statewide cost of collection was to assemble cost information that was available from jurisdictions (compiled collection costs), which encompassed a fraction of the local jurisdictions within the state. Compiled collection costs were used to estimate a cost per ton, which was used as the basis for the initial projected statewide collection cost. The initial projected statewide collection cost was determined by multiplying the cost per ton with the total estimated tons of material collected through onsite curbside collection statewide. The initial projected statewide collection cost served as a starting point to estimate regional costs. That is, the statewide cost was adjusted per region given the amount of material collected per region and based on nuances related to operational environments and financial factors. These adjusted regional costs were then added together to estimate current statewide collection costs for all material streams.

### 3. Calculating Initial Projected Statewide Collection Cost per Ton

First, cost and tonnage data were gathered from Collection Survey responses, private and public sector recycling service providers, and from the contractor’s project files from the past five years. Data were attempted to be gathered for each combination of customer class (residential and commercial/multifamily) and material stream (solid waste, materials collected for recycling, and materials collected for organic recycling), leading to six possible combinations. Refer to Table B-1 for a summary of the number of such combinations (or “lines of business”) that were found for each region when compiling cost and tonnage data. Local jurisdictions in the Valley Region typically reported costs by residential or commercial customer classes and did not provide detail into costs by material stream.

**Table B-1. Lines of Business Compiled by Region**

Description	Bay Area	Coastal	Mountain	Southern	Valley
Lines of Business	6	6	6	6	2

The collection costs and tons were compiled from available data for a total of 38 cost data points. Within each region, the number of cost data points varied. Refer to Table B-2 below for the number of cost data points per region.

**Table B-2. Number of Cost Data Points Compiled By Region**

	Bay Area	Coastal	Mountain	Southern	Valley	Statewide
Number of Cost Points	12	9	2	7	8	38

Table B-3 presents anonymized summaries of the collection costs and tonnage compiled by region. Note that costs in the table do not reflect each region’s total costs, since the table shows costs only for those jurisdictions for which the contractor acquired data. The contractor was not able to acquire costs for all jurisdictions in each region. For additional data limitations, see Appendix A Section 8, Limitations and Barriers and Appendix B Section 1, Assumptions. To protect confidentiality, data are aggregated in sum within each region.

**Table B-3. Summary of Compiled Collection Costs (Covered and Non-covered material) By Region (2024)**

<b>Expense Category</b>	<b>Bay Area</b>	<b>Coast</b>	<b>Mountain</b>	<b>Southern</b>	<b>Valley</b>	<b>Statewide</b>
Labor (\$)	253,192,574	20,430,620	4,375,966	224,429,853	84,680,301	587,109,314
Vehicle (\$)	30,389,089	5,420,963	1,286,401	56,778,565	30,954,021	124,829,039
Fuel (\$)	12,851,836	1,964,718	458,491	21,317,131	7,522,518	44,114,694
Other (\$)	18,366,265	5,382,919	614,125	53,220,427	35,642,609	113,226,345
Depreciation (\$)	21,557,836	3,121,343	1,537,353	137,563,805	21,346,919	185,127,256
General and Administrative (\$)	107,628,823	17,333,180	4,219,738	117,802,677	38,702,033	285,686,451
Profit (\$)	35,010,885	5,123,117	807,117	11,421,554	3,811,928	56,174,601
Compiled Regional Costs (\$)	478,997,308	58,776,860	13,299,191	622,534,012	222,660,329	1,396,267,700
Compiled Regional Tons	1,465,340	190,447	35,385	2,770,857	1,010,677	5,472,706
<b>Cost Per Ton</b>	<b>\$327</b>	<b>\$309</b>	<b>\$376</b>	<b>\$225</b>	<b>\$220</b>	<b>\$255</b>

The compiled collection costs were summarized into statewide compiled costs and divided by the total compiled statewide tons to calculate the average compiled statewide cost per ton. The initial statewide projected collection cost per ton was estimated to be \$255 per ton. This figure did not reflect regional nuances at this stage.

The initial statewide projected collection cost per ton (\$255 per ton) was used to calculate the total initial projected statewide collection costs (Table B-4) by multiplying the cost per ton value by the statewide residential and commercial tons of solid waste, materials collected for recycling, and materials collected for organics recycling, which yielded \$11,736,134,790. Refer to Table B-8 for the estimated amount of residential and commercial tons collected, which was estimated to be 46,024,058 tons collected through onsite curbside collection. Refer to Appendix B Section 4 for a more detailed description of how the total tons were estimated. As described earlier in the assumptions, self-hauled tonnage was excluded from this calculation.

The initial projected statewide collection costs were allocated across expense categories based on the distribution observed in the compiled cost data. For example, labor costs accounted for 42.05% of total compiled cost (\$587,109,314 out of \$1,396,267,700). Refer to Table B-4 for a summary of this calculation.

**Table B-4. Statewide Compiled and Projected Collection Costs per Ton (2024)**

<b>Expense Category</b>	<b>Compiled Collection Costs</b>	<b>Expense Category Distribution</b>	<b>Initial Projected Collection Costs</b>
Labor (\$)	587,109,314	42.05%	4,935,044,680
Vehicle (\$)	124,829,039	8.94%	1,049,210,450
Fuel (\$)	44,114,694	3.16%	370,861,859
Other (\$)	113,226,345	8.11%	951,800,531
Depreciation (\$)	185,127,256	13.26%	1,556,211,473
General and Administrative (\$)	285,686,451	20.46%	2,401,213,178
Profit (\$)	56,174,601	4.02%	471,792,619
Total Costs (\$)	1,396,267,700	100.00%	11,736,134,790
<b>Total Tons</b>	<b>5,472,706</b>		<b>46,024,058</b>
<b>Cost Per Ton</b>	<b>\$255</b>		<b>\$255</b>

The initial projected statewide collection costs and cost per ton are reflective of an average across the state and are intended as a baseline from which each region’s collection costs and costs per ton by material stream will be modified to best reflect regional differences.

#### **4. Calculating Tonnage by Region**

To estimate the regional amount of materials collected for recycling and materials collected for organics recycling, the contractor combined disposal data from RDRS with reports from the Collection Survey, the contractor’s project files, and facility characterization results. The contractor used this methodology because there are no other third-party reports or survey results regarding the relative collection of materials collected for recycling and organics recycling among regions.

First, the contractor used RDRS to calculate each region’s total and proportional contribution to the 2024 total disposal of solid waste (i.e., in 2024, California disposed of 40,007,585 tons of total solid waste, and the contractor calculated the number and proportion of these tons originating from each region). Then, the contractor reviewed and compiled tonnage information provided by approximately 60 surveyed private and public recycling service providers and the contractor’s project files to estimate the regional distribution of materials collected for recycling and materials collected for organic recycling per ton of total collected material. Tonnage collected by material stream within each region was summed and calculated as a percentage based on total tonnage collected within the region. This relationship can also be expressed as a collection factor based on solid waste collection. For example, if a region collects 0.4 tons for recycling for every 1 ton of solid waste collected, then the estimated tons collected for recycling would be calculated by multiplying the tons of solid waste collected by 0.4). Refer to Table B-5 for the rounded collection factors for reporting

purposes only. The model used the more precise percentage factors in the actual calculation to improve accuracy.

**Table B-5. Estimated Tonnage Collection Factor by Region and Material Stream (2024)**

Material Stream	Bay Area Collection Factor	Coastal Collection Factor	Mountain Collection Factor	Southern Collection Factor	Valley Collection Factor
Solid Waste	1.0	1.0	1.0	1.0	1.0
Material Collected for Recycling	0.4	0.2	0.3	0.2	0.2
Material Collected for Organics Recycling	0.5	0.4	0.3	0.2	0.4

In order to convert the 2024 total tons of solid waste disposed of (40,007,582 tons) into tons of solid waste collected, the contractor needed to remove the annual tons of processing residue from material collected for recycling and organics recycling that was disposed, as this material was originally collected with material collected for recycling and organics recycling. Using the Alameda County 2023-24 Waste Characterization Study to account for the average processing residue by material stream and the Current State of Processing Report (2025) to account for the processing facility loss of material collected for recycling, the contractor calculated the average residue for each material stream. This residue tonnage was removed from the 2024 total tons disposed of to calculate the 2024 total tons of solid waste collected.

Once the contractor calculated each region’s estimated collection factors by material stream and converted the total tons of solid waste disposed of into total tons of solid waste collected, the contractor used the collection factors to calculate the annual collected tons by region (Table B-6) for a statewide collected tonnage of 57,386,604.

**Table B-6. Summary of Annual Collected Tons (Covered and Non-covered material) by Region (2024)**

Material Stream	Bay Area Tons	Coastal Tons	Mountain Tons	Southern Tons	Valley Tons	Statewide Tons
Solid Waste	4,703,462	1,634,697	517,632	23,343,545	6,780,077	36,979,413
Material Collected for Recycling	1,916,225	393,204	130,148	5,598,753	1,352,171	9,390,501
Material Collected for Organics Recycling	2,453,349	583,019	131,082	5,300,837	2,548,403	11,016,690

Material Stream	Bay Area Tons	Coastal Tons	Mountain Tons	Southern Tons	Valley Tons	Statewide Tons
<b>Annual Collected Tons</b>	9,073,036	2,610,920	778,862	34,243,135	10,680,651	<b>57,386,604</b>

The contractor then used CalRecycle’s “2021 Disposal Facility-Based Characterization of Solid Waste in California” Report to allocate solid waste tonnage within each region by residential, commercial/multifamily and self-haul as shown in Table B-7. This report estimated the proportion of solid waste disposed of at landfills that originated from each sector. The contractor assumed these same sector proportions applied to material collected for recycling and for organics recycling. These proportions were applied across all material streams due to the lack of third-party reports or Collection Survey data detailing the sector-specific distribution of recycling and organics collection materials collected for recycling or organic recycling to justify distributing generation differently from solid waste.

**Table B-7. Estimated Tonnage Disposal Distribution by Customer Class**

Customer Class	Percent of Disposed Waste	Percent of Materials Collected for Recycling	Percent of Materials Collected for Organics Recycling
Residential	32.10%	32.10%	32.10%
Commercial/Multifamily	48.10%	48.10%	48.10%
Self-Hauled	19.80%	19.80%	19.80%
<b>Total</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>

By applying the distributions in Table B-7 to each region’s waste stream, the streams are divided into source sector (residential, commercial/multifamily, and self-hauled). For example, the contractor assumed that the solid waste, materials collected for recycling, and materials collected for organics recycling were 32.10% residential for all regions. Table B-8 summarizes the results of these calculations.

**Table B-8. Tons by Region and Customer Class (2024)**

Customer Class	Bay Area	Coastal	Mountain	Southern	Valley	Statewide
<b>Residential</b>						
Solid Waste	1,509,811	524,738	166,160	7,493,278	2,176,405	11,870,392
Materials Collected for Recycling	615,108	126,219	41,778	1,797,200	434,047	3,014,352

<b>Customer Class</b>	<b>Bay Area</b>	<b>Coastal</b>	<b>Mountain</b>	<b>Southern</b>	<b>Valley</b>	<b>Statewide</b>
Materials Collected for Organics Recycling	787,525	187,149	42,077	1,701,569	818,037	3,536,357
<b>Commercial /Multifamily</b>						
Solid Waste	2,262,366	786,289	248,981	11,228,245	3,261,217	17,787,098
Materials Collected for Recycling	921,705	189,131	62,601	2,693,000	650,394	4,516,831
Materials Collected for Organics Recycling	1,180,061	280,432	63,051	2,549,702	1,225,782	5,299,028
<b>Self-Hauled</b>						
Solid Waste	931,285	323,670	102,491	4,622,022	1,342,455	7,321,923
Materials Collected for Recycling	379,412	77,854	25,769	1,108,553	267,730	1,859,318
Materials Collected for Organics Recycling	485,763	115,438	25,954	1,049,566	504,584	2,181,305
<b>Total</b>	<b>9,073,036</b>	<b>2,610,920</b>	<b>778,862</b>	<b>34,243,135</b>	<b>10,680,651</b>	<b>57,386,604</b>

## 5. Modifying Initial Projected Statewide Collection Cost per Ton

The initial projected statewide collection cost per ton was applied to each region's allocated tons to estimate each region's initial cost for collection. Because the statewide cost was based on a sample of jurisdictions from each region, the statewide cost did not accurately represent any one region. Therefore, the initial projected statewide collection cost was modified for each region to account for variation among regions in factors that affect collection costs, particularly geography (e.g., rural, urban, mountain), program designs (e.g., mature programs like in the Bay Area region, newer programs with limited participation), and economies of scale. While some regions contributed more data than others to the initial statewide estimate, cost data were limited across all regions.

Therefore, when adjusting costs to reflect regional differences, the amount of data contributed by each region did not influence the degree of cost adjustment. Region-specific modifications were made by adjusting for the following factors:

- Labor cost

- Regional customer density
- Material density

### 5.A Labor Cost Adjustments

Regional differences in the cost of living are reflected in the wage rates for collection vehicle drivers, making labor costs a major factor in regional cost variation. The contractor adjusted each region’s labor costs to reflect regional labor differences by either increasing or decreasing the labor costs as compared to the statewide average labor costs using the factors in Table B-9. These factors were calculated based on average regional collection driver salaries as compared to the average collection driver salary across all regions, which was obtained through review of Collective Bargaining Agreements and municipal collector’s job postings. For reference, the statewide average labor factor is 100% and a factor greater than 100% increases the labor costs to the region and a factor less than 100% decreases the labor costs to the region.

**Table B-9. Labor Cost Adjustment Factors (Percent Of Statewide Average Costs)**

Region	Labor Adjustment Factor
Bay Area	130.23%
Coastal	84.74%
Mountain	92.29%
Southern	108.40%
Valley	84.33%

### 5.B Regional Customer Density Adjustments

Regions that have a majority of residential and commercial customers in densely populated areas have more efficient routing and material collection. Rural areas may have similar operating costs per route but collect less material per route per day. Therefore, each region’s overall route costs were adjusted to reflect increased costs per ton (a less dense region) or decreased costs per ton (a denser region) using the factors in Table B-10. These factors were calculated based on weighted average regional lifts per route hour as compared to the weighted average lifts per route hour across all regions, which was obtained through the contractor’s project files and further weighted based on tonnage by local jurisdiction within each region. This information was limited in certain regions of the state and actual customer density may differ from estimates based on survey and internal data. For reference, the statewide average density factor is 100%, a factor greater than 100% increases the overall costs to the region, and a factor less than 100% decreases the overall costs to the region.

**Table B-10. Density Adjustment Factors (Percent Of Statewide Average Costs)**

Region	Density Adjustment Factor
Bay Area	81.02%
Coastal	139.05%
Mountain	116.10%
Southern	88.50%
Valley	137.28%

### 5.C Material Density Adjustments

The amount of route time it takes to collect a single ton of a higher-density material (e.g., materials collected for organics recycling) will be less than a single ton of a lower-density material (e.g., materials collected for recycling). This means it will take less time, and cost less, to collect the same weight of higher-density materials. Therefore, the costs within each region were adjusted to reflect this difference in material density using the factors in Table B-11. The contractor increased the cost-per-ton of lower-density materials and decreased the cost-per-ton of higher-density materials. These factors were calculated based on reports from the contractor's project files from franchised collectors on the average pounds per cubic yard over an entire year, which captures seasonal differences in material density due to weather or availability of material. For reference, the average material factor is 100%, a factor greater than 100% increases the overall costs, and a factor less than 100% decreases the overall costs.

**Table B-11. Material Adjustment Factors (Percent Of Statewide Average Costs)**

Region	Material Adjustment Factor
Solid Waste	95.79%
Materials Collected for Recycling	239.77%
Materials Collected for Organics Recycling	74.11%

After applying these adjustment factors to each region's collection costs, the contractor recalculated the per-ton cost of collection for each region. For readability of this report, the contractor has foregone including tables demonstrating application of each adjustment factor to each region's cost and instead provided the resulting regional per-ton cost of collection by material stream after application of all adjustment factors. Refer to Table B-12 for a summary by region and material stream of the adjusted per-ton cost of collection.

**Table B-12. Adjusted Regional Per-Ton Cost of Collection by Material Stream for Covered and Non-covered Material (2024)**

<b>Customer Class</b>	<b>Bay Area (\$/Ton)</b>	<b>Coast (\$/Ton)</b>	<b>Mountain (\$/Ton)</b>	<b>Southern (\$/Ton)</b>	<b>Valley (\$/Ton)</b>	<b>Statewide (\$/Ton)</b>
Solid Waste	\$258	\$288	\$262	\$234	\$283	\$249
Materials Collected for Recycling	\$645	\$720	\$655	\$587	\$708	\$623
Materials Collected for Organics Recycling	\$199	\$223	\$202	\$181	\$219	\$196
<b>Weighted Average</b>	<b>\$324</b>	<b>\$338</b>	<b>\$317</b>	<b>\$284</b>	<b>\$321</b>	<b>\$300</b>

## 6. Calculating Estimated Statewide Collection Costs

Both Table B-8 and Table B-12 were used to extrapolate the estimated statewide collection costs by multiplying each region’s allocated tonnage by its respective adjusted per-ton cost of collection. The sum of each region’s adjusted cost of collection estimates the statewide collection costs for both covered and non-covered material. Table B-13 summarizes collection costs by region and estimated statewide collection costs.

As shown in Table B-13, the estimated statewide collection cost of \$13,803,576,495 is higher than the initial projected statewide collection cost of \$11,736,134,790 in Table B-4 due to the use of the adjustment factors for labor, route density, and material stream. The contractor estimates that the revised collection cost is more accurate than the initial projected collection cost because the initial projected costs were an amalgamation of available information across all regions, which varied in proportion and weight to the overall statewide composition. In other words, the compiled costs used to extrapolate the initial projected costs were dependent on available data, which was not weighted to the distribution of costs across various regions and across all material streams. The process of adjusting the statewide collection cost for each region corrected the weighting of available information to more accurately reflect the weight of each region in the total cost of collection.

**Table B-13. Estimated Regional and Statewide Collection Costs for Covered and Non-covered Material (2024 Dollars)**

<b>Region</b>	<b>Total Collection Costs (\$)</b>
<b>Bay Area</b>	2,356,015,665
<b>Coastal</b>	708,898,339
<b>Mountain</b>	198,371,043
<b>Southern</b>	7,786,063,833
<b>Valley</b>	2,754,227,615
<b>Statewide</b>	13,803,576,495

# Appendix C: Covered Material Category Tonnage Detailed Tables

For all three material collection streams, the contractor applied an allocation methodology in the material characterization process. A 50/50 split of tonnage was assumed for category IDs between CMCs with and without a plastic component (e.g., 50/50 split between 24\_M1N and 24\_M1P) for glass, paper, metal, and organic covered material categories across these collection streams. In addition, the contractor assumed that seven percent of tin/steel cans consisted of aerosol containers, consistent with the SB 343 material characterization.<sup>11</sup> These assumptions were made for analytical purposes and may not fully reflect site-specific material composition.

The following tables provide supplementary information on estimates of covered materials, by collection stream and region, as calculated per the methodology in Appendix A. For all tables in this Appendix C, rounding may affect how values sum to totals (e.g., 100%).

Table C-1 shows the estimated tons of covered materials collected for solid waste by CMC collection group and Table C-2 shows the same information by CMC code.

Table C-3 shows the estimated tons of covered materials collected for recycling by CMC collection group and Table C-4 shows the same information by CMC code.

Table C-5 shows the estimated tons of covered materials collected for organics recycling by CMC collection group and Table C-6 shows the same information by CMC code.

Table C-7 shows the estimated tons of covered materials collected statewide by CMC collection group and Table C-8 shows the same information by CMC code.

**Table C-1. Tons of Covered Material Collected by CMC Collection Group (2024) – Solid Waste**

CMC Collection Group	Bay Area	Coastal	Mountain	Southern	Valley	Statewide	Percent of Total
Ceramic	623	203	63	2,733	836	4,458	0.07%
Glass	17,262	5,634	1,746	75,733	23,165	123,540	1.97%
Aluminum	18,689	6,100	1,891	81,996	25,081	133,757	2.13%
Other Ferrous	2,192	716	222	9,619	2,942	15,691	0.25%
Other Metal	1,518	496	154	6,661	2,037	10,866	0.17%

<sup>11</sup> CalRecycle. “Publication Summary: SB 343 Final Findings Report (DRRR-2025-1750).” *CalRecycle*, 4 Apr. 2025, [www2.calrecycle.ca.gov/Docs/Publications/Details/1751](http://www2.calrecycle.ca.gov/Docs/Publications/Details/1751).

<b>CMC Collection Group</b>	<b>Bay Area</b>	<b>Coastal</b>	<b>Mountain</b>	<b>Southern</b>	<b>Valley</b>	<b>Statewide</b>	<b>Percent of Total</b>
Tin/Steel/Bimetal	24,688	8,059	2,497	108,317	33,131	176,692	2.81%
Other Nonferrous	1,317	430	133	5,779	1,768	9,427	0.15%
Plastic #1 - PET Rigid	39,450	12,877	3,991	173,081	52,941	282,340	4.50%
Flexible and Film Plastic	130,405	42,565	13,191	572,136	175,001	933,298	14.86%
Plastic #3 - PVC Rigid	1,868	610	189	8,194	2,506	13,367	0.21%
Plastic #4 - LDPE Rigid	3,158	1,031	319	13,856	4,238	22,602	0.36%
Plastic #5 - PP Rigid	28,230	9,215	2,856	123,856	37,884	202,041	3.22%
Plastic #6 - Expanded or Foamed Plastic, Rigid	1,224	399	124	5,369	1,642	8,758	0.14%
Plastic #6 - PS Rigid	11,455	3,739	1,159	50,256	15,372	81,981	1.31%
Other Multi-Material Laminate	8,130	2,654	822	35,671	10,911	58,188	0.93%
Other Mixed Plastics	21,452	7,002	2,170	94,119	28,788	153,531	2.44%
Plastic #2 - HDPE Rigid	23,144	7,554	2,341	101,542	31,059	165,640	2.64%
Plastic #6 - Other Expanded or Foamed Plastic	522	170	53	2,291	701	3,737	0.06%
Plastic #7 - Other Rigid Designed for Compostability	2,858	933	289	12,538	3,835	20,453	0.33%

<b>CMC Collection Group</b>	<b>Bay Area</b>	<b>Coastal</b>	<b>Mountain</b>	<b>Southern</b>	<b>Valley</b>	<b>Statewide</b>	<b>Percent of Total</b>
Flexible and Film Plastic Designed for Compostability	1,707	557	173	7,491	2,291	12,219	0.19%
Plastic Pouches and Envelopes	6,603	2,155	668	28,968	8,861	47,255	0.75%
Mixed Paper	128,528	41,953	13,002	563,902	172,482	919,867	14.65%
Paperboard	54,582	17,816	5,521	239,474	73,249	390,642	6.22%
Aseptic Cartons	6,421	2,096	650	28,173	8,617	45,957	0.73%
Gable top Cartons	9,457	3,087	957	41,491	12,691	67,683	1.08%
Waxed OCC	12,256	4,001	1,240	53,773	16,448	87,718	1.40%
OCC	228,768	74,672	23,142	1,003,696	307,003	1,637,281	26.07%
Wood - Untreated	78,729	25,698	7,964	345,416	105,653	563,460	8.97%
Wood - Treated	9,785	3,194	990	42,929	13,131	70,029	1.12%
Textiles	715	233	72	3,137	960	5,117	0.08%
Other Mixed Organic	1,699	555	172	7,454	2,280	12,160	0.19%
<b>Total</b>	<b>877,435</b>	<b>286,404</b>	<b>88,761</b>	<b>3,849,651</b>	<b>1,177,504</b>	<b>6,279,755</b>	<b>100.00%</b>

**Table C-2. Tons of Covered Material Collected by CMC (2024) – Solid Waste**

CMC ID	Bay Area	Coastal	Mountain	Southern	Valley	Statewide	Percent of Total
24_C1N	66	21	7	288	88	470	0.01%
24_C1P	66	21	7	288	88	470	0.01%
24_C2N	246	80	25	1,079	330	1,760	0.03%
24_C2P	246	80	25	1,079	330	1,760	0.03%
24_G1N	7,307	2,385	739	32,058	9,806	52,295	0.83%
24_G1P	7,307	2,385	739	32,058	9,806	52,295	0.83%
24_G2N	518	169	52	2,272	695	3,706	0.06%
24_G2P	518	169	52	2,272	695	3,706	0.06%
24_G3N	806	263	82	3,537	1,082	5,770	0.09%
24_G3P	806	263	82	3,537	1,082	5,770	0.09%
24_M1N	1,369	447	139	6,007	1,837	9,799	0.16%
24_M1P	1,369	447	139	6,007	1,837	9,799	0.16%
24_M10N	1,096	358	111	4,809	1,471	7,845	0.12%
24_M10P	1,096	358	111	4,809	1,471	7,845	0.12%
24_M12N	759	248	77	3,330	1,019	5,433	0.09%
24_M12P	759	248	77	3,330	1,019	5,433	0.09%
24_M2N	3,712	1,212	376	16,288	4,982	26,570	0.42%
24_M2P	3,712	1,212	376	16,288	4,982	26,570	0.42%
24_M3N	1,804	589	182	7,913	2,420	12,908	0.21%
24_M3P	1,804	589	182	7,913	2,420	12,908	0.21%
24_M4P	2,171	709	220	9,527	2,914	15,541	0.25%
24_M5N	1,374	449	139	6,027	1,844	9,833	0.16%
24_M5P	1,374	448	139	6,027	1,843	9,831	0.16%
24_M6N	7,693	2,511	778	33,751	10,323	55,056	0.88%
24_M6P	7,693	2,511	778	33,751	10,323	55,056	0.88%
24_M7P	4,359	1,423	441	19,126	5,850	31,199	0.50%
24_M8N	2,472	807	250	10,845	3,317	17,691	0.28%
24_M8P	2,472	807	250	10,845	3,317	17,691	0.28%
24_M9N	659	215	67	2,889	884	4,714	0.08%
24_M9P	659	215	67	2,889	884	4,714	0.08%
24_P1P	9,008	2,940	911	39,523	12,089	64,471	1.03%

CMC ID	Bay Area	Coastal	Mountain	Southern	Valley	Statewide	Percent of Total
24_P10P	5,462	1,783	553	23,965	7,330	39,093	0.62%
24_P11P	1,868	610	189	8,194	2,506	13,367	0.21%
24_P12P	2,030	662	205	8,905	2,724	14,526	0.23%
24_P13P	991	323	100	4,348	1,330	7,092	0.11%
24_P14P	2,167	707	219	9,507	2,908	15,508	0.25%
24_P15P	29,505	9,631	2,985	129,449	39,595	211,165	3.36%
24_P16P	13,001	4,244	1,315	57,042	17,448	93,050	1.48%
24_P17P	266	87	27	1,165	356	1,901	0.03%
24_P19P	674	220	68	2,957	905	4,824	0.08%
24_P2P	4,726	1,543	478	20,735	6,342	33,824	0.54%
24_P20P	7,564	2,469	765	33,187	10,151	54,136	0.86%
24_P21P	1,751	572	177	7,684	2,350	12,534	0.20%
24_P22P	3,534	1,154	357	15,505	4,743	25,293	0.40%
24_P23P	1,224	399	124	5,369	1,642	8,758	0.14%
24_P27P	3,043	993	308	13,352	4,084	21,780	0.35%
24_P29P	1,253	409	127	5,497	1,681	8,967	0.14%
24_P33P	8,130	2,654	822	35,671	10,911	58,188	0.93%
24_P34P	2,888	943	292	12,669	3,875	20,667	0.33%
24_P35P	13,213	4,313	1,337	57,970	17,732	94,565	1.51%
24_P36P	72,797	23,762	7,364	319,388	97,692	521,003	8.30%
24_P38P	22,924	7,483	2,319	100,575	30,763	164,064	2.61%
24_P39P	2,792	911	282	12,248	3,746	19,979	0.32%
24_P40P	5,680	1,854	575	24,921	7,623	40,653	0.65%
24_P41P	19,726	6,439	1,995	86,546	26,472	141,178	2.25%
24_P42P	522	170	53	2,291	701	3,737	0.06%
24_P43P	8,411	2,746	851	36,904	11,288	60,200	0.96%
24_P44P	2,858	933	289	12,538	3,835	20,453	0.33%
24_P45P	1,707	557	173	7,491	2,291	12,219	0.19%
24_P46P	6,603	2,155	668	28,968	8,861	47,255	0.75%
24_P47P	5,352	1,747	541	23,480	7,182	38,302	0.61%
24_P5P	1,071	350	108	4,701	1,438	7,668	0.12%
24_P6P	5,339	1,743	540	23,426	7,165	38,213	0.61%

CMC ID	Bay Area	Coastal	Mountain	Southern	Valley	Statewide	Percent of Total
24_P7P	5,076	1,657	513	22,271	6,812	36,329	0.58%
24_P8P	7,049	2,301	713	30,925	9,459	50,447	0.80%
24_PF1N	16,231	5,298	1,642	71,211	21,781	116,163	1.85%
24_PF1P	16,231	5,298	1,642	71,211	21,781	116,163	1.85%
24_PF10N	27,291	8,908	2,761	119,737	36,624	195,322	3.11%
24_PF10P	27,291	8,908	2,761	119,737	36,624	195,322	3.11%
24_PF11N	1,036	338	105	4,547	1,391	7,418	0.12%
24_PF11P	1,036	338	105	4,547	1,391	7,418	0.12%
24_PF12N	6,295	2,055	637	27,618	8,448	45,054	0.72%
24_PF12P	6,295	2,055	637	27,618	8,448	45,054	0.72%
24_PF14N	9,152	2,987	926	40,155	12,282	65,503	1.04%
24_PF14P	9,152	2,987	926	40,155	12,282	65,503	1.04%
24_PF15P	6,421	2,096	650	28,173	8,617	45,957	0.73%
24_PF16N	787	257	80	3,452	1,056	5,632	0.09%
24_PF16P	787	257	80	3,452	1,056	5,632	0.09%
24_PF5P	9,457	3,087	957	41,491	12,691	67,683	1.08%
24_PF7P	61,525	20,082	6,224	269,936	82,566	440,333	7.01%
24_PF8N	6,128	2,000	620	26,887	8,224	43,859	0.70%
24_PF8P	6,128	2,000	620	26,887	8,224	43,859	0.70%
24_PF9N	114,384	37,336	11,571	501,848	153,502	818,641	13.04%
24_PF9P	114,384	37,336	11,571	501,848	153,502	818,641	13.04%
24_WO1N	39,365	12,849	3,982	172,708	52,827	281,731	4.49%
24_WO1P	39,365	12,849	3,982	172,708	52,827	281,731	4.49%
24_WO2N	4,892	1,597	495	21,464	6,565	35,013	0.56%
24_WO2P	4,892	1,597	495	21,464	6,565	35,013	0.56%
24_WO3N	358	117	36	1,569	480	2,560	0.04%
24_WO3P	358	117	36	1,569	480	2,560	0.04%
24_WO4N	301	98	30	1,319	403	2,151	0.03%
24_WO4P	301	98	30	1,319	403	2,151	0.03%
24_WO6N	549	179	56	2,408	737	3,929	0.06%
24_WO6P	549	179	56	2,408	737	3,929	0.06%
<b>Total</b>	<b>877,438</b>	<b>286,406</b>	<b>88,765</b>	<b>3,849,652</b>	<b>1,177,503</b>	<b>6,279,764</b>	<b>100.05%</b>

**Table C-3. Tons of Covered Material Collected by CMC Collection Group (2024) – Materials Collected for Recycling**

<b>CMC Collection Group</b>	<b>Bay Area</b>	<b>Coastal</b>	<b>Mountain</b>	<b>Southern</b>	<b>Valley</b>	<b>Statewide</b>	<b>Percent of Total</b>
Aluminum	2,088	428	142	6,099	1,473	10,230	0.19%
Aseptic Cartons	2,677	549	182	7,823	1,889	13,120	0.24%
Flexible and Film Plastic	25,146	5,160	1,708	73,471	17,744	123,229	2.24%
Flexible and Film Plastic Designed for Compostability	17,703	3,633	1,202	51,723	12,492	86,753	1.58%
Gable top Cartons	4,765	978	324	13,922	3,362	23,351	0.42%
Glass	24,320	4,990	1,652	71,059	17,162	119,183	2.16%
Plastic #2 - HDPE Rigid	27,518	5,647	1,869	80,401	19,418	134,853	2.45%
Mixed Paper	290,774	59,666	19,749	849,571	205,182	1,424,942	25.88%
OCC	603,400	123,816	40,982	1,762,991	425,785	2,956,974	53.70%
Waxed OCC	31,349	6,433	2,129	91,596	22,122	153,629	2.79%
Other Ferrous	27,645	5,673	1,878	80,771	19,507	135,474	2.46%
Other Mixed Plastics	13,663	2,804	928	39,920	9,641	66,956	1.22%
Other Nonferrous	10,166	2,086	690	29,704	7,174	49,820	0.90%
Plastic #1 - PET Rigid	9,762	2,003	663	28,523	6,889	47,840	0.87%
Plastic #5 - PP Rigid	7,843	1,609	533	22,915	5,534	38,434	0.70%
Plastic #7 - Other Rigid Designed for Compostability	1,498	307	102	4,376	1,057	7,340	0.13%

<b>CMC Collection Group</b>	<b>Bay Area</b>	<b>Coastal</b>	<b>Mountain</b>	<b>Southern</b>	<b>Valley</b>	<b>Statewide</b>	<b>Percent of Total</b>
Tin/Steel/Bimetal	14,295	2,933	971	41,766	10,087	70,052	1.27%
Wood - Untreated	9,034	1,854	614	26,395	6,375	44,272	0.80%
<b>Total</b>	<b>1,123,646</b>	<b>230,569</b>	<b>76,318</b>	<b>3,283,026</b>	<b>792,893</b>	<b>5,506,452</b>	<b>100.00%</b>

**Table C-4. CMC Tons Collected (2024) – Materials Collected for Recycling**

<b>CMC ID</b>	<b>Bay Area</b>	<b>Coastal</b>	<b>Mountain</b>	<b>Southern</b>	<b>Valley</b>	<b>Statewide</b>	<b>Percent of Total</b>
24_G1N	8,893	1,825	604	25,984	6,275	43,581	0.79%
24_G1P	8,893	1,825	604	25,984	6,275	43,581	0.79%
24_G2N	3,267	670	222	9,546	2,305	16,010	0.29%
24_G2P	3,267	670	222	9,546	2,305	16,010	0.29%
24_M10N	13,822	2,836	939	40,385	9,754	67,736	1.23%
24_M10P	13,822	2,836	939	40,385	9,754	67,736	1.23%
24_M1N	1,044	214	71	3,050	737	5,116	0.09%
24_M1P	1,044	214	71	3,050	737	5,116	0.09%
24_M6N	6,647	1,364	451	19,421	4,690	32,573	0.59%
24_M6P	6,647	1,364	451	19,421	4,690	32,573	0.59%
24_M7P	1,001	205	68	2,924	706	4,904	0.09%
24_M9N	5,083	1,043	345	14,852	3,587	24,910	0.45%
24_M9P	5,083	1,043	345	14,852	3,587	24,910	0.45%
24_P10P	861	177	58	2,515	607	4,218	0.08%
24_P16P	20,866	4,282	1,417	60,965	14,724	102,254	1.86%
24_P17P	6,345	1,302	431	18,539	4,477	31,094	0.56%
24_P19P	1,498	307	102	4,376	1,057	7,340	0.13%
24_P1P	6,600	1,354	448	19,284	4,657	32,343	0.59%
24_P21P	3,420	702	232	9,992	2,413	16,759	0.30%

CMC ID	Bay Area	Coastal	Mountain	Southern	Valley	Statewide	Percent of Total
24_P35P	8,935	1,834	607	26,107	6,305	43,788	0.80%
24_P39P	3,162	649	215	9,239	2,231	15,496	0.28%
24_P44P	1,498	307	102	4,376	1,057	7,340	0.13%
24_P45P	17,703	3,633	1,202	51,723	12,492	86,753	1.58%
24_P6P	27,518	5,647	1,869	80,401	19,418	134,853	2.45%
24_PF11N	64,214	13,177	4,361	187,618	45,312	314,682	5.71%
24_PF11P	64,214	13,177	4,361	187,618	45,312	314,682	5.71%
24_PF12N	60,067	12,326	4,080	175,503	42,386	294,362	5.35%
24_PF12P	60,067	12,326	4,080	175,503	42,386	294,362	5.35%
24_PF14N	5,219	1,071	354	15,249	3,683	25,576	0.46%
24_PF14P	5,219	1,071	354	15,249	3,683	25,576	0.46%
24_PF15P	2,677	549	182	7,823	1,889	13,120	0.24%
24_PF1N	15,886	3,260	1,079	46,416	11,210	77,851	1.41%
24_PF1P	15,886	3,260	1,079	46,416	11,210	77,851	1.41%
24_PF5P	4,765	978	324	13,922	3,362	23,351	0.42%
24_PF9N	301,700	61,908	20,491	881,496	212,893	1,478,488	26.85%
24_PF9P	301,700	61,908	20,491	881,496	212,893	1,478,488	26.85%
24_PF8N	15,675	3,216	1,065	45,798	11,061	76,815	1.39%
24_PF8P	15,675	3,216	1,065	45,798	11,061	76,815	1.39%
24_P47P	4,727	970	321	13,812	3,336	23,166	0.42%
24_WO1N	4,517	927	307	13,197	3,187	22,135	0.40%
24_WO1P	4,517	927	307	13,197	3,187	22,135	0.40%
<b>Total</b>	<b>1,123,644</b>	<b>230,570</b>	<b>76,316</b>	<b>3,283,028</b>	<b>792,891</b>	<b>5,506,449</b>	<b>99.95%</b>

**Table C-5. Tons of Covered Material Collected by CMC Collection Group (2024) –  
Materials Collected for Organics Recycling**

<b>CMC Collection Group</b>	<b>Bay Area</b>	<b>Coastal</b>	<b>Mountain</b>	<b>Southern</b>	<b>Valley</b>	<b>Statewide</b>	<b>Percent of Total</b>
OCC	27,649	6,571	1,477	59,739	28,720	124,156	12.25%
Waxed OCC	1,082	257	58	2,339	1,124	4,860	0.48%
Mixed Paper	98,756	23,469	5,277	213,377	102,582	443,461	43.76%
Aseptic Cartons	1,181	281	63	2,551	1,226	5,302	0.52%
Gable top Cartons	1,181	281	63	2,551	1,226	5,302	0.52%
Plastic #1 - PET Rigid	918	218	49	1,983	953	4,121	0.41%
Plastic #2 - HDPE Rigid	1,214	289	65	2,624	1,261	5,453	0.54%
Plastic #5 - PP Rigid	2,310	549	123	4,992	2,400	10,374	1.02%
Other Mixed Plastics	4,355	1,035	233	9,410	4,524	19,557	1.93%
Flexible and Film Plastic	24,982	5,937	1,335	53,977	25,950	112,181	11.07%
Flexible and Film Plastic Designed for Compostability	18,098	4,301	967	39,104	18,800	81,270	8.02%
Glass	2,754	654	147	5,950	2,861	12,366	1.22%
Tin/Steel/Bimetal	1,377	327	74	2,975	1,430	6,183	0.61%
Aluminum	984	234	53	2,125	1,022	4,418	0.44%
Other Ferrous	5,115	1,216	273	11,052	5,313	22,969	2.27%
Other Nonferrous	984	234	53	2,125	1,022	4,418	0.44%
Wood - Untreated	32,264	7,667	1,724	69,711	33,514	144,880	14.30%
Plastic #7 - Other Rigid Designed for Compostability	468	111	25	1,012	487	2,103	0.21%
<b>Total</b>	<b>225,672</b>	<b>53,631</b>	<b>12,059</b>	<b>487,597</b>	<b>234,415</b>	<b>1,013,374</b>	<b>100.01%</b>

**Table C-6. Tons of Covered Material Collected by CMC (2024) – Materials Collected for Organics Recycling**

<b>CMC ID</b>	<b>Bay Area</b>	<b>Coastal</b>	<b>Mountain</b>	<b>Southern</b>	<b>Valley</b>	<b>Statewide</b>	<b>Percent of Total</b>
24_Pf9N	13,824	3,285	739	29,870	14,360	62,078	6.13%
24_Pf9P	13,824	3,285	739	29,870	14,360	62,078	6.13%
24_Pf8N	541	129	29	1,169	562	2,430	0.24%
24_Pf8P	541	129	29	1,169	562	2,430	0.24%
24_Pf11N	5,312	1,262	284	11,476	5,517	23,851	2.35%
24_Pf11P	5,312	1,262	284	11,476	5,517	23,851	2.35%
24_Pf12N	34,032	8,087	1,818	73,532	35,351	152,820	15.08%
24_Pf12P	34,032	8,087	1,818	73,532	35,351	152,820	15.08%
24_Pf1N	2,558	608	137	5,526	2,657	11,486	1.13%
24_Pf1P	2,558	608	137	5,526	2,657	11,486	1.13%
24_Pf15P	1,181	281	63	2,551	1,226	5,302	0.52%
24_Pf5P	1,181	281	63	2,551	1,226	5,302	0.52%
24_Pf14N	7,477	1,777	399	16,154	7,766	33,573	3.31%
24_Pf14P	7,477	1,777	399	16,154	7,766	33,573	3.31%
24_P39P	459	109	25	992	477	2,062	0.20%
24_P1P	459	109	25	992	477	2,062	0.20%
24_P17P	1,274	303	68	2,753	1,324	5,722	0.56%
24_P16P	20,663	4,910	1,104	44,646	21,464	92,787	9.16%
24_P45P	18,098	4,301	967	39,104	18,800	81,270	8.02%
24_P19P	1,036	246	55	2,239	1,076	4,652	0.46%
24_G1N	688	164	37	1,488	715	3,092	0.31%
24_G1P	688	164	37	1,488	715	3,092	0.31%
24_G2N	688	164	37	1,488	715	3,092	0.31%
24_G2P	688	164	37	1,488	715	3,092	0.31%
24_M6N	640	152	34	1,383	665	2,874	0.28%

CMC ID	Bay Area	Coastal	Mountain	Southern	Valley	Statewide	Percent of Total
24_M6P	640	152	34	1,383	665	2,874	0.28%
24_M1N	492	117	26	1,063	511	2,209	0.22%
24_M1P	492	117	26	1,063	511	2,209	0.22%
24_M10N	2,558	608	137	5,526	2,657	11,486	1.13%
24_M10P	2,558	608	137	5,526	2,657	11,486	1.13%
24_M7P	96	23	5	208	100	432	0.04%
24_M9N	492	117	26	1,063	511	2,209	0.22%
24_M9P	492	117	26	1,063	511	2,209	0.22%
24_WO1N	16,132	3,834	862	34,856	16,757	72,441	7.15%
24_WO1P	16,132	3,834	862	34,856	16,757	72,441	7.15%
24_P6P	1,214	289	65	2,624	1,261	5,453	0.54%
24_P47P	3,887	924	208	8,399	4,038	17,456	1.72%
24_P10P	868	206	46	1,876	902	3,898	0.38%
24_P21P	3,450	820	184	7,455	3,584	15,493	1.53%
24_P35P	468	111	25	1,010	486	2,100	0.21%
24_P44P	468	111	25	1,012	487	2,103	0.21%
<b>Total</b>	<b>225,670</b>	<b>53,632</b>	<b>12,058</b>	<b>487,600</b>	<b>234,416</b>	<b>1,013,376</b>	<b>99.99%</b>

**Table C-7. Tons of Covered Material Collected by CMC Collection Group (2024) – All Material Streams**

CMC Collection Group	Bay Area	Coastal	Mountain	Southern	Valley	Statewide	Percent of Total
Ceramic	623	203	63	2,733	836	4,458	0.03%
Glass	44,336	11,278	3,545	152,742	43,188	255,089	1.99%
Aluminum	21,761	6,762	2,086	90,220	27,576	148,405	1.16%
Other Ferrous	34,952	7,605	2,373	101,442	27,762	174,134	1.36%
Other Metal	1,518	496	154	6,661	2,037	10,866	0.08%
Tin/Steel/Bimetal	40,360	11,319	3,542	153,058	44,648	252,927	1.98%

<b>CMC Collection Group</b>	<b>Bay Area</b>	<b>Coastal</b>	<b>Mountain</b>	<b>Southern</b>	<b>Valley</b>	<b>Statewide</b>	<b>Percent of Total</b>
Other Nonferrous	12,467	2,750	876	37,608	9,964	63,665	0.50%
Plastic #1 - PET Rigid	50,130	15,098	4,703	203,587	60,783	334,301	2.61%
Flexible and Film Plastic	180,533	53,662	16,234	699,584	218,695	1,168,708	9.13%
Plastic #3 - PVC Rigid	1,868	610	189	8,194	2,506	13,367	0.10%
Plastic #4 - LDPE Rigid	3,158	1,031	319	13,856	4,238	22,602	0.18%
Plastic #5 - PP Rigid	38,383	11,373	3,512	151,763	45,818	250,849	1.96%
Plastic #6 - Expanded or Foamed Plastic, Rigid	1,224	399	124	5,369	1,642	8,758	0.07%
Plastic #6 - PS Rigid	11,455	3,739	1,159	50,256	15,372	81,981	0.64%
Other Multi-Material Laminate	8,130	2,654	822	35,671	10,911	58,188	0.45%
Other Mixed Plastics	39,470	10,841	3,331	143,449	42,953	240,044	1.88%
Plastic #2 - HDPE Rigid	51,876	13,490	4,275	184,567	51,738	305,946	2.39%
Plastic #6 - Other Expanded or Foamed Plastic	522	170	53	2,291	701	3,737	0.03%
Plastic #7 - Other Rigid Designed for Compostability	4,824	1,351	416	17,926	5,379	29,896	0.23%

<b>CMC Collection Group</b>	<b>Bay Area</b>	<b>Coastal</b>	<b>Mountain</b>	<b>Southern</b>	<b>Valley</b>	<b>Statewide</b>	<b>Percent of Total</b>
Flexible and Film Plastic Designed for Compostability	37,508	8,491	2,342	98,318	33,583	180,242	1.41%
Plastic Pouches and Envelopes	6,603	2,155	668	28,968	8,861	47,255	0.37%
Mixed Paper	518,058	125,088	38,028	1,626,850	480,246	2,788,270	21.78%
Paperboard	54,582	17,816	5,521	239,474	73,249	390,642	3.05%
Aseptic Cartons	10,279	2,926	895	38,547	11,732	64,379	0.50%
Gable top Cartons	15,403	4,346	1,344	57,964	17,279	96,336	0.75%
Waxed OCC	44,687	10,691	3,427	147,708	39,694	246,207	1.92%
OCC	859,817	205,059	65,601	2,826,426	761,508	4,718,411	36.86%
Wood - Untreated	120,027	35,219	10,302	441,522	145,542	752,612	5.88%
Wood - Treated	9,785	3,194	990	42,929	13,131	70,029	0.55%
Textiles	715	233	72	3,137	960	5,117	0.04%
Other Mixed Organic	1,699	555	172	7,454	2,280	12,160	0.10%
<b>Total</b>	<b>2,226,753</b>	<b>570,604</b>	<b>177,138</b>	<b>7,620,274</b>	<b>2,204,812</b>	<b>12,799,581</b>	<b>99.98%</b>

**Table C-8. CMC Tons Collected (2024) – All Material Streams**

<b>CMC ID</b>	<b>Bay Area</b>	<b>Coastal</b>	<b>Mountain</b>	<b>Southern</b>	<b>Valley</b>	<b>Statewide</b>	<b>Percent of Total</b>
24_C1N	66	21	7	288	88	470	0.00%
24_C1P	66	21	7	288	88	470	0.00%
24_C2N	246	80	25	1,079	330	1,760	0.01%
24_C2P	246	80	25	1,079	330	1,760	0.01%
24_G1N	16,888	4,374	1,380	59,530	16,796	98,968	0.77%
24_G1P	16,888	4,374	1,380	59,530	16,796	98,968	0.77%
24_G2N	4,473	1,003	311	13,306	3,715	22,808	0.18%
24_G2P	4,473	1,003	311	13,306	3,715	22,808	0.18%
24_G3N	806	263	82	3,537	1,082	5,770	0.05%
24_G3P	806	263	82	3,537	1,082	5,770	0.05%
24_M1N	2,905	778	236	10,120	3,085	17,124	0.13%
24_M1P	2,905	778	236	10,120	3,085	17,124	0.13%
24_M10N	17,476	3,802	1,187	50,720	13,882	87,067	0.68%
24_M10P	17,476	3,802	1,187	50,720	13,882	87,067	0.68%
24_M12N	759	248	77	3,330	1,019	5,433	0.04%
24_M12P	759	248	77	3,330	1,019	5,433	0.04%
24_M2N	3,712	1,212	376	16,288	4,982	26,570	0.21%
24_M2P	3,712	1,212	376	16,288	4,982	26,570	0.21%
24_M3N	1,804	589	182	7,913	2,420	12,908	0.10%
24_M3P	1,804	589	182	7,913	2,420	12,908	0.10%
24_M4P	2,171	709	220	9,527	2,914	15,541	0.12%
24_M5N	1,374	449	139	6,027	1,844	9,833	0.08%
24_M5P	1,374	448	139	6,027	1,843	9,831	0.08%
24_M6N	14,980	4,027	1,263	54,555	15,678	90,503	0.71%
24_M6P	14,980	4,027	1,263	54,555	15,678	90,503	0.71%
24_M7P	5,456	1,651	514	22,258	6,656	36,535	0.29%

CMC ID	Bay Area	Coastal	Mountain	Southern	Valley	Statewide	Percent of Total
24_M8N	2,472	807	250	10,845	3,317	17,691	0.14%
24_M8P	2,472	807	250	10,845	3,317	17,691	0.14%
24_M9N	6,234	1,375	438	18,804	4,982	31,833	0.25%
24_M9P	6,234	1,375	438	18,804	4,982	31,833	0.25%
24_P1P	16,067	4,403	1,384	59,799	17,223	98,876	0.77%
24_P10P	7,191	2,166	657	28,356	8,839	47,209	0.37%
24_P11P	1,868	610	189	8,194	2,506	13,367	0.10%
24_P12P	2,030	662	205	8,905	2,724	14,526	0.11%
24_P13P	991	323	100	4,348	1,330	7,092	0.06%
24_P14P	2,167	707	219	9,507	2,908	15,508	0.12%
24_P15P	29,505	9,631	2,985	129,449	39,595	211,165	1.65%
24_P16P	54,530	13,436	3,836	162,653	53,636	288,091	2.25%
24_P17P	7,885	1,692	526	22,457	6,157	38,717	0.30%
24_P19P	3,208	773	225	9,572	3,038	16,816	0.13%
24_P2P	4,726	1,543	478	20,735	6,342	33,824	0.26%
24_P20P	7,564	2,469	765	33,187	10,151	54,136	0.42%
24_P21P	8,621	2,094	593	25,131	8,347	44,786	0.35%
24_P22P	3,534	1,154	357	15,505	4,743	25,293	0.20%
24_P23P	1,224	399	124	5,369	1,642	8,758	0.07%
24_P27P	3,043	993	308	13,352	4,084	21,780	0.17%
24_P29P	1,253	409	127	5,497	1,681	8,967	0.07%
24_P33P	8,130	2,654	822	35,671	10,911	58,188	0.45%
24_P34P	2,888	943	292	12,669	3,875	20,667	0.16%
24_P35P	22,616	6,258	1,969	85,087	24,523	140,453	1.10%
24_P36P	72,797	23,762	7,364	319,388	97,692	521,003	4.07%
24_P38P	22,924	7,483	2,319	100,575	30,763	164,064	1.28%
24_P39P	6,413	1,669	522	22,479	6,454	37,537	0.29%

CMC ID	Bay Area	Coastal	Mountain	Southern	Valley	Statewide	Percent of Total
24_P40P	5,680	1,854	575	24,921	7,623	40,653	0.32%
24_P41P	19,726	6,439	1,995	86,546	26,472	141,178	1.10%
24_P42P	522	170	53	2,291	701	3,737	0.03%
24_P43P	8,411	2,746	851	36,904	11,288	60,200	0.47%
24_P44P	4,824	1,351	416	17,926	5,379	29,896	0.23%
24_P45P	37,508	8,491	2,342	98,318	33,583	180,242	1.41%
24_P46P	6,603	2,155	668	28,968	8,861	47,255	0.37%
24_P47P	13,966	3,641	1,070	45,691	14,556	78,924	0.62%
24_P5P	1,071	350	108	4,701	1,438	7,668	0.06%
24_P6P	34,071	7,679	2,474	106,451	27,844	178,519	1.39%
24_P7P	5,076	1,657	513	22,271	6,812	36,329	0.28%
24_P8P	7,049	2,301	713	30,925	9,459	50,447	0.39%
24_PF1N	34,675	9,166	2,858	123,153	35,648	205,500	1.61%
24_PF1P	34,675	9,166	2,858	123,153	35,648	205,500	1.61%
24_PF10N	27,291	8,908	2,761	119,737	36,624	195,322	1.53%
24_PF10P	27,291	8,908	2,761	119,737	36,624	195,322	1.53%
24_PF11N	70,562	14,777	4,750	203,641	52,220	345,951	2.70%
24_PF11P	70,562	14,777	4,750	203,641	52,220	345,951	2.70%
24_PF12N	100,394	22,468	6,535	276,653	86,185	492,234	3.85%
24_PF12P	100,394	22,468	6,535	276,653	86,185	492,234	3.85%
24_PF14N	21,848	5,835	1,679	71,558	23,731	124,652	0.97%
24_PF14P	21,848	5,835	1,679	71,558	23,731	124,652	0.97%
24_PF15P	10,279	2,926	895	38,547	11,732	64,379	0.50%
24_PF16N	787	257	80	3,452	1,056	5,632	0.04%
24_PF16P	787	257	80	3,452	1,056	5,632	0.04%
24_PF5P	15,403	4,346	1,344	57,964	17,279	96,336	0.75%
24_PF7P	61,525	20,082	6,224	269,936	82,566	440,333	3.44%

CMC ID	Bay Area	Coastal	Mountain	Southern	Valley	Statewide	Percent of Total
24_PF8N	22,344	5,345	1,714	73,854	19,847	123,104	0.96%
24_PF8P	22,344	5,345	1,714	73,854	19,847	123,104	0.96%
24_PF9N	429,908	102,529	32,801	1,413,214	380,755	2,359,207	18.43%
24_PF9P	429,908	102,529	32,801	1,413,214	380,755	2,359,207	18.43%
24_WO1N	60,014	17,610	5,151	220,761	72,771	376,307	2.94%
24_WO1P	60,014	17,610	5,151	220,761	72,771	376,307	2.94%
24_WO2N	4,892	1,597	495	21,464	6,565	35,013	0.27%
24_WO2P	4,892	1,597	495	21,464	6,565	35,013	0.27%
24_WO3N	358	117	36	1,569	480	2,560	0.02%
24_WO3P	358	117	36	1,569	480	2,560	0.02%
24_WO4N	301	98	30	1,319	403	2,151	0.02%
24_WO4P	301	98	30	1,319	403	2,151	0.02%
24_WO6N	549	179	56	2,408	737	3,929	0.03%
24_WO6P	549	179	56	2,408	737	3,929	0.03%
<b>Total</b>	<b>2,226,753</b>	<b>570,609</b>	<b>177,136</b>	<b>7,620,281</b>	<b>2,204,811</b>	<b>12,799,590</b>	<b>99.96%</b>

# Appendix D: Collection Survey Development and Responses

---

## 1. Collection Survey Development and Deployment

The Collection Survey was developed to collect data for the report from local jurisdictions which may have required them to obtain additional information from their recycling service providers. The Collection Survey focused on gathering information pertaining to the current state of collection programs as they relate to the Act (see Introduction 1.3).

The contractor released the Collection Survey on June 12, 2025, with an initial submission deadline set for July 3, 2025. In response to feedback from local jurisdictions and to encourage more comprehensive participation, the survey deadline was extended to July 23, 2025. Survey responses received after the extended deadline were also considered, and this report incorporates responses submitted up to August 8, 2025. The full Collection Survey was 71 questions, but participants were not required to answer all questions.

Each local jurisdiction was notified about the Collection Survey through the following methods:

- Direct emails to local jurisdictions (either to existing direct contacts or to the email addresses listed for the agency's EAR submittal)
- Follow-up phone calls and emails
- Email distribution to the contractor's interested parties list
- Email blast from CalRecycle to relevant Listservs
- Presentations at industry meetings and events

At least two direct communications regarding the survey were sent to each local jurisdiction, with some local jurisdictions receiving up to five follow-up communications. Supplementary resources were also created for the Collection Survey, such as an informational webinar, a frequently asked questions document, nondisclosure agreements, and an editable Word version of the survey to facilitate internal collaboration. Additionally, a dedicated email inbox was set up to address survey-related questions and support respondents as needed.

## 2. Collection Survey Response Rate

The response rate for the Collection Survey, by region, is summarized in Table D-1. Some regional agency representatives completed a single survey response that represented multiple local jurisdictions. Table D-1 shows the number of survey responses, the total number of local jurisdictions represented, and the total population represented (using the DOF E-5 Report).

**Table D-1. Collection Survey Regional Response Rate – Local Jurisdictions and Population Represented**

<b>Metric</b>	<b>Bay Area</b>	<b>Coastal</b>	<b>Mountain</b>	<b>Southern</b>	<b>Valley</b>	<b>Statewide</b>
Total number of local jurisdictions	128	71	48	238	132	617
Number of responses	40	13	2	40	11	106
Number of local jurisdictions represented by responses	60	24	3	40	16	143
Percent of local jurisdictions represented	47%	34%	6%	17%	12%	23%
Total population of region	7,656,691	1,813,274	597,801	22,100,945	7,360,390	39,529,101
Population represented	4,723,049	1,079,918	113,680	8,008,198	1,452,100	15,376,945
<b>Percent of population represented</b>	<b>62%</b>	<b>60%</b>	<b>19%</b>	<b>36%</b>	<b>20%</b>	<b>39%</b>

The number of local jurisdictions represented in the Collection Survey responses collectively constitutes 23% of the total number of local jurisdictions statewide, which represents 39% of the state’s total population. Representation from local jurisdictions varied across regions, with the Mountain region having the lowest number of local jurisdictions and population represented. Conversely, the Bay Area and Coastal regions had the most local jurisdictions represented, 47% and 34%, respectively, each with 60% of the population represented. This appears to correlate with a high number of agencies that submitted a single Collection Survey response representing multiple local jurisdictions in the Bay Area and Coastal regions.

### **3. Responses to Collection Survey Questions**

#### **3.A Collection Programs for Materials that May be Covered Materials**

Table D-2 shows the percentage of Collection Survey respondents that allow self-haul or back-haul programs, and the generator types permitted to utilize self-haul and/or back-haul collection programs. Generators throughout the state are generally permitted to self-haul materials. Sometimes self-hauling supplements an onsite curbside collection service and other times it is the only option for managing materials. Based on survey

responses, local jurisdictions most frequently allow for self-hauling by the commercial sector compared to single-family and multifamily sectors.

**Table D-2. Local Jurisdictions By Sector Type that Allow Self-Haul/Back-Haul (Percent of Collection Survey Respondents by Region Out of 106 Total Responses)**

Sector	Bay Area	Coastal	Mountain	Southern	Valley
Single-family	77.8%	72.7%	100.0%	62.2%	72.7%
Multifamily	86.1%	72.7%	100.0%	56.8%	54.5%
Commercial	100.0%	100.0%	100.0%	97.3%	100.0%

Table D-3 shows the percentage of Collection Survey respondents with drop-off sites for non-CRV materials. Notably, 100% of Collection Survey respondents in the Mountain region have drop-off programs; although, the low number of respondents should be considered.

**Table D-3. Local Jurisdictions with Drop-Off Sites for Non-CRV Materials (Percent of Collection Survey Respondents by Region Out of 52 Total Responses)**

Percent of Local Jurisdictions with Drop Off (Non-CRV)	Bay Area	Coastal	Mountain	Southern	Valley	Statewide
Percent of Responding Local Jurisdictions by Region	55.0%	69.2%	100.0%	30.0%	63.6%	49.1%

Table D-4 shows the percentage of localized and shared drop-off collection programs identified by local jurisdictions by region. Statewide, 59.5% of respondents indicated that available drop-off locations were shared amongst local jurisdictions, while 33.8% indicated available drop-off locations were only available to residents of the local jurisdiction. Collection Survey respondents did not indicate whether these locations were operated by the jurisdiction or a third party.

**Table D-4. Localized versus Shared Amongst Local Jurisdictions for Drop-Off (Percent of Collection Survey Respondents by Region Out of 32 Total Responses)**

Percent Localized or Shared Drop-Off	Bay Area	Coastal	Mountain	Southern	Valley	Statewide
Percent Shared	75.0%	62.5%	16.7%	68.0%	36.4%	59.5%
Percent Local	18.8%	25.0%	83.3%	32.0%	45.5%	33.8%
Percent Other	6.3%	12.5%	0.0%	0.0%	18.2%	6.8%

The Collection Survey asked respondents to rank the significance of barriers to access and participation. Table D-5 shows the average significance rating, with 1 indicating lowest significance and 7 indicated the highest significance, for each barrier in each region. The most significant barriers across all regions are related to knowledge gaps and accessibility. Only the Southern region also identified cost as a significant barrier.

**Table D-5. Barriers to Access and Participation in Recycling and Organics Programs (Collection Survey Respondents by Region Out of 105 Total Responses) (Average Significance Rating 1-7)**

Barrier	Bay Area	Coastal	Mountain	Southern	Valley	Statewide
Confusion on how to sort materials and need for education	4.1	3.8	5.5	4.6	4.4	4.3
Lack of importance and priority	3.7	4.1	6.0	4.6	4.1	4.2
Difficulty coordinating with property managers, landlords, etc. for service changes or educational material	3.5	3.9	3.0	4.9	3.4	4.1
High cost of service	3.5	3.5	3.0	4.9	4.0	4.0
Lack of trust in the Recycling system	3.3	3.4	5.5	4.1	4.5	3.8

<b>Barrier</b>	<b>Bay Area</b>	<b>Coastal</b>	<b>Mountain</b>	<b>Southern</b>	<b>Valley</b>	<b>Statewide</b>
Lack of awareness of available programs	3.3	3.0	5.5	3.6	3.8	3.5
Lack of access to collection containers or access is inconvenient	2.4	2.4	2.0	2.8	2.0	2.5
Information not available in spoken languages	2.4	2.2	2.0	2.3	2.1	2.3
Difficulty requesting service or information from the jurisdiction or recycling service provider	2.1	1.8	1.5	2.1	2.3	2.1
Other	1.8	2.5	3.5	2.1	1.4	2.0

In addition to the barriers listed, survey respondents reported the following themes:

- Lack of motivation for recycling, a perception that recycling is not a high priority or not the resident’s responsibility
- Confusion due to varying program rules across neighboring local jurisdictions
- Lack of enforcement of program rules and requirements
- Distance from communities to recycling processing facilities
- Insufficient outreach and education to build knowledge and awareness
- Storage and space constraints
- Concern about the environmental impact of transporting material to different facilities

The Collection Survey asked respondents about barriers to administering collection programs. Table D-6 shows the barriers faced in administering collection programs, as reported by survey respondents.

**Table D-6. Local Jurisdiction Barriers to Administering Collection Programs for Recycling (Percent of Collection Survey Respondents by Region Out of 73 Total Responses)**

Barrier	Bay Area <sup>+</sup>	Coastal <sup>+</sup>	Mountain	Southern	Valley <sup>+</sup>	Statewide
Contamination	34.0%	19.4%	33.3%	21.6%	24.1%	26.0%
Staff capacity	19.1%	16.7%	0.0%	24.1%	17.2%	20.3%
Funding	14.9%	27.8%	0.0%	19.0%	13.8%	17.8%
Challenges in educating ratepayers	13.8%	11.1%	16.7%	16.4%	10.3%	14.2%
Lack of public engagement	8.5%	16.7%	33.3%	10.3%	17.2%	11.7%
Oversight of recycling service providers and franchise service agreements/permitted service processes	6.4%	0.0%	0.0%	3.4%	6.9%	4.3%
Lack of political support	1.1%	2.8%	16.7%	1.7%	0.0%	1.8%
Procuring a franchise service agreement or other contract arrangement with recycling service providers	0.0%	2.8%	0.0%	0.9%	0.0%	0.7%
Other	2.1%	2.8%	0.0%	2.6%	10.3%	3.2%

+ Columns may not sum to 100.0% due to displayed decimals and rounding.

The Collection Survey asked respondents to provide information on educational materials they provide. Table D-7 shows the percentage of respondents that offer educational materials in various languages and formats.

**Table D-7. Local Jurisdiction Education Materials Provided by Language and Material Type (Percent of Collection Survey Respondents by Region Out of 105 Total Responses)**

Languages Provided	Digital/ Online Ads	Direct Mailers	Emails	Physical Public Ads	Radio/ Television	Social Media Posts	Website
English	43.7%	43.3%	52.2%	54.1%	47.4%	51.6%	47.2%
Spanish	29.6%	33.8%	29.8%	34.4%	32.1%	28.1%	24.8%
Cantonese	8.5%	6.7%	7.3%	3.3%	3.8%	7.8%	4.1%
Mandarin	8.5%	7.9%	7.3%	3.3%	2.6%	7.8%	4.6%

Languages Provided	Digital/ Online Ads	Direct Mailers	Emails	Physical Public Ads	Radio/ Television	Social Media Posts	Website
Vietnamese	3.5%	2.1%	1.1%	1.6%	5.1%	1.6%	3.7%
Tagalog	3.0%	1.7%	1.7%	1.6%	3.8%	1.0%	3.7%
Korean	1.5%	0.8%	0.6%	0.8%	1.3%	0.5%	2.3%
Russian	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.2%
Other	1.5%	3.8%	0.0%	0.8%	3.8%	1.6%	6.4%

The Collection Survey asked respondents to provide information on the languages in which they provide their educational materials. Table D-8 shows the total percentage of local jurisdictions providing any form of educational materials in each language.

**Table D-8. Local Jurisdictions Providing Any Educational Materials in Each Language (Percent of Collection Survey Respondents by Region Out of 105 Total Responses)**

Languages Provided In	Bay Area	Coastal	Mountain	Southern	Valley
English	100.0%	100.0%	100.0%	100.0%	100.0%
Spanish	82.5%	100.0%	0.0%	82.5%	100.0%
Mandarin	52.5%	30.8%	0.0%	5.0%	20.0%
Cantonese	42.5%	30.8%	0.0%	2.5%	20.0%
Vietnamese	10.0%	30.8%	0.0%	7.5%	20.0%
Tagalog	10.0%	30.8%	0.0%	5.0%	20.0%
Russian	7.5%	23.1%	0.0%	0.0%	10.0%
Korean	5.0%	23.1%	0.0%	5.0%	10.0%
Other	17.5%	23.1%	0.0%	12.5%	30.0%

In addition to providing educational materials, many local jurisdictions provide in-person technical assistance to generators to encourage program participation. Table D-9 shows the percentage of Collection Survey respondents in each region that provide in-person technical assistance and the sectors (single-family, multifamily, or commercial) for which that assistance is provided.

**Table D-9. Local Jurisdictions Providing In-person Technical Assistance by Sector (Percent of Collection Survey Respondents by Region Out of 101 Total Responses)**

Sector	Bay Area	Coastal	Mountain	Southern	Valley	Statewide
Commercial	41.0%	35.1%	50.0%	36.4%	34.5%	37.8%
Multifamily	37.0%	35.1%	0.0%	35.4%	34.5%	35.6%
Single-family	22.0%	29.7%	0.0%	27.3%	31.0%	25.8%
Other	0.0%	0.0%	50.0%	1.0%	0.0%	0.7%

To assess the accessibility of technical assistance, Collection Survey respondents reported the languages in which their technical assistance staff are fluent. Table D-10 shows the percentage of Collection Survey respondents that have staff fluent in various languages, by region and language. This information suggests there is gap in the number of respondents with technical assistance staff fluent in English and Spanish and those with staff fluent in other languages.

**Table D-10. Languages Spoken by Local Jurisdiction Technical Assistance Staff (Percent of Collection Survey Respondents by Region Out of 103 Total Responses)**

Language Spoken	Bay Area	Coastal	Mountain	Southern	Valley	Statewide
English	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Spanish	79.5%	100.0%	0.0%	84.6%	60.0%	80.6%
Mandarin	33.3%	7.7%	0.0%	12.8%	0.0%	18.4%
Cantonese	38.5%	7.7%	0.0%	2.6%	0.0%	16.5%
Korean	0.0%	7.7%	0.0%	10.3%	0.0%	4.9%
Vietnamese	5.1%	7.7%	0.0%	5.1%	0.0%	4.9%
Tagalog	2.6%	7.7%	0.0%	2.6%	0.0%	2.9%
Russian	2.6%	0.0%	0.0%	2.6%	0.0%	1.9%
Other	5.1%	0.0%	0.0%	5.1%	0.0%	3.9%

Table D-11 shows the number of reported alternative collection program types based on data provided from local jurisdiction respondents to the Collection Survey by region. This question did not differentiate between programs that could be considered curbside collection and those that are managed or operated by third parties.

**Table D-11. Number of Reported Alternative Collection Program Types (Collection Survey Respondents by Region)**

Alternative Collection Program Type	Bay Area	Coastal	Mountain	Southern	Valley	Statewide
Home Pick-Up	7	0	0	4	0	11
Mail-Back	4	0	0	1	1	6
Drop-Off	2	2	0	0	0	4
Other	2	1	0	3	0	6
Total	15	3	0	8	1	27

### 3.B Acceptance of Materials that May Be Covered Materials

Table D-12 presents the number of Collection Survey respondents that accept materials within CMC collection groups for diversion in residential onsite curbside collection services by region. These data were used to supplement 2023 EAR data that were not present in that dataset.

**Table D-12. CMC Collection Groups Accepted for Diversion in Residential Curbside Collection Programs (Number of Collection Survey Respondents by Region Out of 106 Total Responses)**

CMC Collection Group	Bay Area	Coastal	Mountain	Southern	Valley	Statewide
Aluminum	39	13	1	39	10	102
Aseptic Containers	18	5	0	30	3	56
Ceramic	0	3	0	7	0	10
Flexible and Film Plastic	8	5	0	6	2	21
Flexible and Film Plastic Designed for Compostability	5	4	0	7	2	18
Gable-Top Cartons	29	6	0	32	3	70
Glass	39	13	1	39	10	102
Mixed Paper	38	13	1	39	11	102
OCC	37	13	1	35	11	97
Other Ferrous	35	11	1	28	8	83
Other Metal (Small, Measuring 2" or Less)	26	10	1	20	7	64
Other Mixed Organic	30	10	1	29	7	77
Other Mixed Plastics	10	5	1	13	6	35

<b>CMC Collection Group</b>	<b>Bay Area</b>	<b>Coastal</b>	<b>Mountain</b>	<b>Southern</b>	<b>Valley</b>	<b>Statewide</b>
Other Multi-Material Laminate	1	3	0	7	1	12
Other Nonferrous	34	11	1	28	8	82
Paperboard	37	13	1	39	9	99
Plastic #1 PET Rigid	39	13	1	39	10	102
Plastic #2 HDPE Rigid	39	13	1	39	10	102
Plastic #3 PVC Rigid	21	4	1	23	7	56
Plastic #4 LDPE Rigid	32	4	1	23	9	69
Plastic #5 PP Rigid	26	10	1	38	8	83
Plastic #6 Expanded or Foamed Plastic Rigid	2	3	0	15	0	20
Plastic #6 Other Expanded or Foamed Plastic Rigid (Any Resin)	2	3	0	15	0	20
Plastic #6 PS Rigid	18	5	1	22	4	50
Plastic #7 Other Rigid Designed for Compostability	9	5	1	18	3	36
Plastic Pouches and Envelopes	4	3	0	6	1	14
Textiles	1	2	0	5	2	10
Tin/Steel/Bimetal	39	13	1	39	9	101
Waxed OCC	23	3	0	10	4	40
Wood – Treated	0	3	0	7	1	11
Wood – Untreated	33	9	1	35	10	88

Tables D-13 and D-14 present data from the Collection Survey respondents, identifying the strategies most frequently used by onsite curbside collection services to increase the capture of these materials and their perceived effectiveness.

**Table D-13. Strategies Employed by Local Jurisdictions for Enhancing Material Capture (Percent of Collection Survey Respondents by Region Out of 103 Total Responses)**

<b>Strategy</b>	<b>Bay Area</b>	<b>Coastal</b>	<b>Mountain</b>	<b>Southern</b>	<b>Valley</b>	<b>Statewide</b>
Conduct education and outreach	97.5%	92.3%	100.0%	100.0%	100.0%	98.1%
Conduct contamination reduction initiatives	82.5%	69.2%	50.0%	70.0%	81.8%	75.5%
Increase or modify service frequency	70.0%	69.2%	100.0%	60.0%	54.5%	65.1%
Expand onsite collection access	45.0%	30.8%	100.0%	25.0%	45.5%	36.8%
Increase alternative collection opportunities	40.0%	30.8%	0.0%	17.5%	18.2%	27.4%
Increase drop-off sites	27.5%	7.7%	0.0%	25.0%	9.1%	21.7%
Improve clarity of product labeling	32.5%	23.1%	0.0%	7.5%	18.2%	19.8%
Increase source separation (e.g., additional collection container streams)	17.5%	7.7%	100.0%	25.0%	9.1%	19.8%
Implement incentive-based programs	7.5%	15.4%	0.0%	15.0%	18.2%	12.3%
Other	5.0%	7.7%	0.0%	7.5%	0.0%	5.7%

**Table D-14. Most Effective Strategies for Enhancing Curbside Material Capture (Percent of Collection Survey Respondents by Region Out of 104 Total Responses)**

<b>Strategy</b>	<b>Bay Area</b>	<b>Coastal</b>	<b>Mountain</b>	<b>Southern</b>	<b>Valley</b>	<b>Statewide</b>
Conduct education and outreach	95.0%	53.8%	0.0%	82.1%	90.0%	82.7%
Conduct contamination reduction initiatives	75.0%	53.8%	0.0%	64.1%	50.0%	64.4%
Improve clarity of product labeling	32.5%	46.2%	50.0%	25.6%	40.0%	32.7%
Increase or modify service frequency	42.5%	7.7%	0.0%	25.6%	10.0%	27.9%
Implement incentive-based programs	15.0%	30.8%	50.0%	12.8%	30.0%	18.3%
Increase alternative collection opportunities	10.0%	7.7%	0.0%	20.5%	10.0%	13.5%
Expand curbside collection access	2.5%	30.8%	0.0%	7.7%	10.0%	8.7%
Increase drop-off sites	2.5%	15.4%	0.0%	12.8%	0.0%	7.7%
Increase source separation (e.g., additional collection container streams)	2.5%	7.7%	50.0%	5.1%	0.0%	4.8%
Other	7.5%	30.8%	50.0%	12.8%	0.0%	12.5%

### 3.C Contamination

Table D-15 presents the contaminants most often found in residential materials collected for recycling, by region, based on survey responses. Collection Survey respondents were allowed to select up to three materials.

**Table D-15. Contaminants in Curbside Residential Materials Collected for Recycling (Percent of Collection Survey Respondents by Region Out of 104 Total Responses)**

Residential Materials Collected for Recycling Contaminant	Bay Area	Coastal	Mountain	Southern	Valley	Statewide
Plastic bags/ plastic film	85.0%	84.6%	0.0%	92.3%	60.0%	83.7%
Poly-coated paper (e.g., lined paper cups, lined paper to-go containers)	52.5%	38.5%	50.0%	30.8%	40.0%	41.3%
Food-soiled paper	45.0%	30.8%	0.0%	28.2%	40.0%	35.6%
Food-soiled plastic, metal, or glass containers	17.5%	38.5%	0.0%	10.3%	20.0%	17.3%
Tanglers (e.g., hoses, cords, wires)	15.0%	23.1%	0.0%	15.4%	30.0%	17.3%
Bulky items	7.5%	0.0%	0.0%	35.9%	0.0%	16.3%
Food	20.0%	15.4%	0.0%	15.4%	0.0%	15.4%
Plastics designed for compostability	10.0%	30.8%	0.0%	7.7%	10.0%	11.5%
Yard waste	2.5%	7.7%	0.0%	12.8%	0.0%	6.7%
Other	27.5%	30.8%	100.0%	43.6%	40.0%	36.5%

“Other” residential recyclable material contaminants (Table D-15) reported by Collection Survey respondents include, but are not limited to:

- Textiles
- Luggage
- General municipal solid waste
- Batteries

- Nonrecyclable plastic containers
- Food packaging (e.g., potato chip bags)
- Composite materials and fines
- Nonrecyclable paper
- Expanded polystyrene foam and rigid containers
- E-waste
- Household hazardous waste
- Scrap metal
- Small appliances
- Medical waste
- Plastic toys
- Construction and demolition debris

Table D-16 shows the most frequently selected contaminants in commercial materials collected for recycling, by region, based on survey responses.

**Table D-16. Contaminants in Curbside Commercial Materials Collected for Recycling (Percent of Collection Survey Respondents by Region Out of 102 Total Responses)**

<b>Commercial Materials Collected for Recycling Contaminant</b>	<b>Bay Area</b>	<b>Coastal</b>	<b>Mountain</b>	<b>Southern</b>	<b>Valley</b>	<b>Statewide</b>
Plastic bags/plastic film	87.5%	69.2%	50.0%	79.5%	50.0%	77.9%
Poly-coated paper (e.g., lined paper cups, lined paper to-go containers)	42.5%	61.5%	0.0%	28.2%	30.0%	37.5%
Bulky items	17.5%	0.0%	0.0%	51.3%	30.0%	28.8%
Food	42.5%	7.7%	0.0%	17.9%	10.0%	25.0%
Food-soiled paper	22.5%	30.8%	50.0%	12.8%	20.0%	20.2%
Tanglers (e.g., hoses, cords, wires,)	12.5%	23.1%	0.0%	20.5%	20.0%	17.3%
Food-soiled plastic, metal, or glass containers	10.0%	38.5%	0.0%	5.1%	20.0%	12.5%
Plastics designed for compostability	12.5%	15.4%	50.0%	5.1%	0.0%	9.6%
Yard waste	0.0%	7.7%	0.0%	10.3%	0.0%	4.8%
Other	22.5%	23.1%	0.0%	51.3%	30.0%	33.7%

Other contaminants reported by Collection Survey respondents in commercial materials collected for recycling include:

- Construction and demolition debris
- Petroleum-based plastic cups
- Noncompostable food packaging and food service ware
- Products labeled biodegradable or compostable that are not accepted in the materials collected for recycling stream
- Fats, oils, grease, and rendering waste which should be collected separately from curbside collection streams

Table D-17 shows the most frequently selected contaminants in residential materials collected for organics recycling, by region, based on survey responses.

**Table D-17. Contaminants in Curbside Residential Materials Collected for Organics Recycling (Percent of Collection Survey Respondents by Region Out of 103 Total Responses)**

Residential Organics Contaminant	Bay Area	Coastal	Mountain	Southern	Valley	Statewide
Plastics	95.0%	76.9%	100.0%	92.3%	90.0%	91.3%
Poly-coated paper (e.g., lined paper cups, lined paper to-go containers)	65.0%	38.5%	0.0%	48.7%	30.0%	51.5%
Plastics designed for compostability (if not accepted)	40.0%	76.9%	100.0%	46.2%	10.0%	44.7%
Treated wood	35.0%	15.4%	0.0%	30.8%	20.0%	29.1%
Glass	12.5%	7.7%	0.0%	10.3%	0.0%	9.7%
Bulky items	0.0%	15.4%	0.0%	2.6%	0.0%	2.9%
Other	25.0%	53.8%	100.0%	48.7%	20.0%	37.9%

Other residential materials collected for organics recycling contaminants reported by Collection Survey respondents include, but are not limited to:

- Concrete, bricks, rocks, dirt, and inerts
- Diapers
- Cardboard
- General municipal solid waste
- Fibrous yard waste (e.g., succulents, palm fronds)
- Pet waste

Table D-18 lists the most commonly cited contaminants in commercial materials collected for organics recycling.

**Table D-18. Contaminants in Curbside Commercial Materials Collected for Organics Recycling (Percent of Collection Survey Respondents by Region Out of 100 Total Responses)**

<b>Commercial Organics Contaminant</b>	<b>Bay Area</b>	<b>Coastal</b>	<b>Mountain</b>	<b>Southern</b>	<b>Valley</b>	<b>Statewide</b>
Plastics	95.0%	76.9%	100.0%	82.1%	70.0%	85.4%
Poly-coated paper (e.g., lined paper cups, lined paper to-go containers)	65.0%	76.9%	100.0%	74.4%	40.0%	68.0%
Plastics designed for compostability (if not accepted)	70.0%	69.2%	0.0%	51.3%	20.0%	57.3%
Bulky items	0.0%	7.7%	0.0%	17.9%	0.0%	7.8%
Treated wood	0.0%	7.7%	0.0%	17.9%	0.0%	7.8%
Glass	12.5%	7.7%	0.0%	2.6%	0.0%	6.8%
Metal	5.0%	0.0%	0.0%	2.6%	0.0%	2.9%
Other	25.0%	15.4%	100.0%	30.8%	30.0%	27.2%

Other commercial materials collected for organics recycling contaminants reported by Collection Survey respondents include, but are not limited to:

- Glass
- Metal
- C&D material
- Cardboard
- General trash
- Fats, oils, and grease

Table D-19 lists the number of contamination tags issued on a per capita basis, by region, based on survey responses.

**Table D-19. Number of Contamination Tags Issued (Collection Survey Respondents by Region Out of 62 Total Responses)**

Year	Bay Area	Coastal	Mountain	Southern	Valley	Statewide
2024	26,551	4,908	N/A	122,050	6,748	160,257

Table D-20 shows the number of FTE used for contamination reduction initiatives, by region, based on survey responses.

**Table D-20. Total Full Time Equivalent (FTE) Staffing Level for Contamination Reduction Initiatives (Collection Survey Respondents by Region Out of 80 Total Responses)**

FTEs	Bay Area (36)	Coastal (8)	Mountain (1)	Southern (30)	Valley (5)	Statewide (80)
Total FTE	213.98	18.75	2.50	102.32	5.00	342.55

Table D-21 shows the most common contamination impacts, by region, based on survey responses.

**Table D-21. Most Common Contamination Impacts in 2025 (Percent of Collection Survey Respondents by Region Out of 105 Total Responses)**

Impact	Bay Area	Coastal	Mountain	Southern	Valley	Statewide
More loads disposed rather than recycled	65.0%	53.8%	100.0%	80.0%	40%	67.6%
Increased monitoring and enforcement costs	62.5%	53.8%	50.0%	60.0%	70.0%	61.0%
Reduced revenue from recyclable materials sales	72.5%	53.8%	50.0%	55.0%	30.0%	59.0%
Higher costs for ratepayers due to contamination fees	57.5%	46.2%	50.0%	47.5%	90.0%	55.2%
Missed collections	60.0%	46.2%	0.0%	50.0%	40.0%	51.4%
Other	22.5%	7.7%	0.0%	7.5%	0.0%	12.4%

Other impacts of contamination reported by Collection Survey respondents include, but are not limited to, the following:

- Worker safety impacted by need to remove tangles, stop equipment, and the potential contamination of batteries
- Slightly higher cost for ratepayers due to lower value of contaminated commodities at processor
- Increased customer fees due to increased hauler costs to process highly contaminated material

Table D-22 lists the percentage of Collection Survey respondents identifying factors for contamination, by region.

**Table D-22. Factors Contributing to Contamination in Local Jurisdictions' Programs in 2025 (Percent of Collection Survey Respondents by Region Out of 106 Total Responses)**

<b>Factor/Reason</b>	<b>Bay Area</b>	<b>Coastal</b>	<b>Mountain</b>	<b>Southern</b>	<b>Valley</b>	<b>Statewide</b>
Confusion over how to sort	85.0%	76.9%	100.0%	77.5%	54.5%	78.3%
Recycling is not a priority for generators	47.5%	38.5%	100.0%	60.0%	72.7%	54.7%
Perceived feelings of lack of cleanliness or "gross" factor	32.5%	46.2%	50.0%	57.5%	27.3%	43.4%
Incorrect service levels	30.0%	38.5%	0.0%	32.5%	18.2%	30.2%
Lack of faith in recycling systems	15.0%	23.1%	50.0%	20.0%	27.3%	19.8%
Materials being sold by businesses are not aligning with local system ordinances (e.g., food service ware)	25.0%	7.7%	0.0%	17.5%	9.1%	17.9%
Lack of educational resources	5.0%	7.7%	0.0%	17.5%	9.1%	10.4%
Insufficient access to proper collection containers	2.5%	0.0%	0.0%	12.5%	0.0%	5.7%
Other	7.5%	7.7%	0.0%	2.5%	18.2%	6.6%

The Collection Survey asked respondents to identify the methods they use for monitoring contamination. Table D-23 shows the percentage of survey respondents using each contamination monitoring method, by region.

**Table D-23. Contamination Monitoring Methods Used by Local Jurisdictions in 2025 (Percent of Collection Survey Respondents by Region Out of 106 Total Responses)**

<b>Contamination Monitoring Method</b>	<b>Bay Area</b>	<b>Coastal</b>	<b>Mountain</b>	<b>Southern</b>	<b>Valley</b>	<b>Statewide</b>
Route monitoring	92.5%	92.3%	50.0%	92.5%	90.9%	91.5%
Technical assistance audits	80.0%	76.9%	0.0%	57.5%	81.8%	69.8%
Truck-mounted cameras	62.5%	61.5%	50.0%	32.5%	81.8%	52.8%
Waste characterizations	60.0%	38.5%	0.0%	35.0%	27.3%	43.4%
Bin-mounted cameras	0.0%	7.7%	0.0%	0.0%	0.0%	0.9%
Other	2.5%	0.0%	0.0%	5.0%	18.2%	4.7%

The Collection Survey asked respondents to identify which methods they use for reducing contamination. Table D-24 provides the percentage of Collection Survey respondents using each contamination reduction method, by region.

**Table D-24. Contamination Reduction Initiatives Employed by Local Jurisdictions in 2025 (Percent of Collection Survey Respondents by Region Out of 106 Total Responses)**

Contamination Reduction Initiative	Bay Area	Coastal	Mountain	Southern	Valley	Statewide
Public education and outreach	97.5%	100.0%	50.0%	100.0%	100.0%	98.1%
Collection container tags	92.5%	92.3%	0.0%	95.0%	90.9%	91.5%
Mailed notices	65.0%	69.2%	50.0%	65.0%	63.6%	65.1%
Contamination fees	65.0%	61.5%	50.0%	60.0%	63.6%	62.3%
Emailed notices	57.5%	76.9%	0.0%	47.5%	36.4%	52.8%
Door notices	30.0%	30.8%	0.0%	7.5%	18.2%	19.8%
Other	15.0%	0.0%	50.0%	5.0%	9.1%	9.4%

Other contamination monitoring methods reported by Collection Survey respondents include:

- Fees for refuse collection vehicle to return and pick up contaminated collection containers with the landfill stream
- Code enforcement citations

Collection Survey respondents were asked to rank strategies for reducing contamination from 1 to 7, with 1 being the least effective and 7 being the most effective. Table D-25 shows the average effectiveness rating for each strategy, by region, based on survey responses.

**Table D-25. Perceived Effectiveness of Contamination Reduction Strategies by Local Jurisdictions (Collection Survey Respondents by Region Out of 97 Total Responses) (Average Significance Rating 1-7)**

Strategy	Bay Area	Coastal	Mountain	Southern	Valley	Statewide
Contamination fees	6.0	5.1	5.0	5.1	5.2	5.5
Technical assistance audits	5.9	5.2	6.0	5.0	5.6	5.4
Public education and outreach	5.4	5.0	4.0	4.9	5.0	5.1
Truck-mounted cameras	5.5	4.2	6.0	4.3	5.0	4.9
Contamination tags	4.9	4.8	0.0	4.7	4.6	4.8
Route monitoring	5.0	4.5	0.0	4.3	4.3	4.6
Waste characterizations	4.5	4.2	0.0	4.0	4.0	4.3
Bin-mounted cameras	4.3	4.0	0.0	0.0	0.0	4.3
Other	4.0	4.0	0.0	5.3	3.0	4.4

### 3.D Environmental and Public Health Impacts

Collection Survey respondents were asked to select the most significant potential negative public health impact from collection programs. Table D-26 demonstrates the percentage of respondents that selected each impact as most significant, by region.

**Table D-26. Negative Public Health Impacts of Collection Programs as Perceived by Local Jurisdictions (Percent of Collection Survey Respondents by Region Out of 71 Total Responses)**

Public Health Impact	Bay Area	Coastal	Mountain	Southern	Valley	Statewide
Asthma and other respiratory health impacts	47.6%	60.0%	0.0%	63.3%	55.6%	<b>56.3%</b>
Cancer risk impacts	4.8%	0.0%	100.0%	26.7%	0.0%	<b>14.1%</b>
Heart (cardiovascular) impacts	4.8%	0.0%	0.0%	3.3%	0.0%	<b>2.8%</b>
Other	42.9%	40.0%	0.0%	6.7%	44.4%	<b>26.8%</b>

The “Other” response from Table D-26 included statements identifying:

- All of these impacts as significant.
- Environmental impacts, such as air and water pollution as the most significant.
- That no direct, negative, public health impacts result from collection operations.

The Collection Survey asked respondents to select the most significant potential negative environmental impact from collection programs. Table D-27 demonstrates the percentage of respondents that selected each impact as most significant, by region.

**Table D-27. Negative Environmental Impacts of Collection Programs as Perceived by Local Jurisdictions (Percent of Collection Survey Respondents by Region Out of 81 Total Responses)**

<b>Environmental Impact</b>	<b>Bay Area</b>	<b>Coastal</b>	<b>Mountain</b>	<b>Southern</b>	<b>Valley</b>	<b>Statewide</b>
Greenhouse gas emissions from collection vehicles	61.5%	36.4%	100.0%	59.5%	50.0%	56.8%
Litter caused by materials falling out of collection containers and trucks	23.1%	9.1%	0.0%	13.5%	16.7%	16.0%
Particulate Pollution	0.0%	9.1%	0.0%	10.8%	16.7%	7.4%
Polluted waterways	3.9%	9.1%	0.0%	5.4%	0.0%	4.9%
All Impacts Selected	0.0%	9.1%	0.0%	8.1%	0.0%	4.9%
Other	11.5%	27.3%	0.0%	2.7%	16.7%	9.9%

Local jurisdiction respondents that selected “other” provided some additional context about negative environmental impacts. These included:

- The identification of noise as an additional negative impact
- Underscoring that all impacts listed are significant
- Highlighting that while these negative impacts are significant, they may be offset by the positive impacts of collection programs

The Collection Survey asked respondents to identify the primary potential negative impacts collection programs have on neighborhood safety and communities. Table D-28 shows the percentage of respondents selecting each impact as most significant by region.

**Table D-28. Negative Community Impacts of Collection Programs as Perceived by Local Jurisdictions (Percent of Collection Survey Respondents by Region Out of 79 Total Responses)**

<b>Community Impact</b>	<b>Bay Area</b>	<b>Coastal</b>	<b>Mountain</b>	<b>Southern</b>	<b>Valley</b>	<b>Statewide</b>
Noise pollution	40.0%	8.3%	0.0%	31.4%	16.7%	29.1%
Traffic congestion or accidents	32.0%	8.3%	0.0%	22.9%	33.3%	24.1%
Collection worker safety	8.0%	25.0%	0.0%	8.6%	16.7%	11.4%
Pedestrian safety	0.0%	8.3%	0.0%	14.3%	0.0%	7.6%
Reduced walkability of streets from collection containers	8.0%	8.3%	0.0%	8.6%	0.0%	7.6%
All of the above	0.0%	0.0%	0.0%	11.4%	0.0	5.1%
Other	12.0%	41.7%	100.0%	2.9%	33.3%	15.2%

The Collection Survey assessed key public health benefits of collection systems. Table D-29 shows the percentage of Collection Survey respondents in each region who identified their top benefit.

**Table D-29. Positive Public Health Benefits of Collection Programs as Perceived by Local Jurisdictions (Percent of Collection Survey Respondents by Region Out of 89 Total Responses)**

<b>Public Health Benefit</b>	<b>Bay Area</b>	<b>Coastal</b>	<b>Mountain</b>	<b>Southern</b>	<b>Valley</b>	<b>Statewide</b>
Recycling helps reduce materials sent to landfills, which emit air pollutants that can negatively impact health	51.9%	58.3%	100.0%	71.8%	22.2%	59.6%
Proper sorting and collection of compostable materials can reduce contamination in composting facilities, improving soil health and food safety	33.3%	16.7%	0.0%	15.4%	33.3%	22.5%
Both	7.4%	8.3%	0.0%	7.7%	0.0%	6.7%
Other	7.4%	16.7%	0.0%	5.1%	44.4%	11.2%

The Collection Survey asked respondents to identify the most significant positive environmental benefit from collection programs. Table D-30 shows the percentage for each benefit by region.

**Table D-30. Positive Environmental Benefits of Collection Programs as Perceived by Local Jurisdictions (Percent of Collection Survey Respondents by Region Out of 95 Total Responses)**

<b>Environmental Benefit</b>	<b>Bay Area</b>	<b>Coastal</b>	<b>Mountain</b>	<b>Southern</b>	<b>Valley</b>	<b>Statewide</b>
Reducing greenhouse gas emissions by diverting recyclable materials/organic materials from landfills helps address climate change	81.1%	50.0%	50.0%	62.2%	42.9%	66.3%
Recycling materials consumes less energy and resources than producing new materials, leading to lower carbon footprint and protection of natural resources.	5.4%	16.7%	0.0%	5.4%	42.9%	9.5%
Properly composting organic materials produces nutrient-rich compost, which enhances soil quality and improves water retention.	10.8%	8.3%	0.0%	8.1%	0.0%	8.4%
Recycling helps raise awareness about environmental conservation – fostering a culture of environmental responsibility in communities	0.0%	8.3%	0.0%	13.5%	14.3%	7.4%

Environmental Benefit	Bay Area	Coastal	Mountain	Southern	Valley	Statewide
Collecting and recycling plastic waste helps reduce the amount of plastic that ends up in the ocean and environment as litter	0.0%	0.0%	50.0%	5.4%	0.0%	3.2%
Other	2.7%	16.7%	0.0%	5.4%	0.0%	5.3%

Collection Survey respondents chose their top community benefit from collection programs. Table D-31 shows the percentage of respondents in each region who selected each benefit.

**Table D-31. Positive Community Benefits of Collection Programs as Perceived by Local Jurisdictions (Percent of Collection Survey Respondents by Region Out of 84 Total Responses)**

Community Benefit	Bay Area	Coastal	Mountain	Southern	Valley	Statewide
Collection of materials can reduce the amount of materials that end up as litter, which helps support cleaner communities	55.6%	75.0%	100.0%	72.2%	57.1%	66.7%
Recyclable Materials and Organic Materials programs create green jobs that can provide employment in local communities	33.3%	8.3%	0.0%	19.4%	28.6%	22.6%
Both of them	3.7%	0.0%	0.0%	8.3%	0.0%	4.8%
Other	7.4%	16.7%	0.0%	0.0%	14.3%	6.0%

Table D-32 shows the percentage of Collection Survey respondents in each region who have participated in public meetings or discussions about environmental and public health impacts of collection services.

**Table D-32. Local Jurisdiction Public Meeting Participation on PHEC Impacts (Percent of Collection Survey Respondents by Region Out of 99 Total Responses)**

Public Meeting Participation?	Bay Area	Coastal	Mountain	Southern	Valley	Statewide
Yes	62.2%	50.0%	50.0%	42.5%	37.5%	50.5%
No	35.1%	50.0%	50.0%	55.0%	37.5%	45.5%
Other	2.7%	0.0%	0.0%	2.5%	25.0%	4.0%

## 4. Collection Survey

### 4.A Collection Survey Glossary

The following glossary is provided as a supplementary resource to further clarify the Collection Survey distributed as part of the Collection, Processing, and End Markets Needs Assessment required under the Plastic Pollution Prevention and Packaging Producer Responsibility Act (the Act). The terms in this glossary shall be defined as follows, unless another meaning is otherwise clearly necessitated. These definitions are provided for the purposes of the Collection Survey only and are in no way intended to conflict with applicable local, state, or federal laws and regulations (“Applicable Law”), including but not limited to the Act. The following definitions shall in no way be considered Applicable Law nor part of the regulatory process for the Act.

“**Alternative Collection**” means a program that collects materials and is not curbside collection (e.g. mail-back, store drop-off, home-pickup).

“**Back-haul**” means generating and transporting solid waste, recyclable materials, organic waste, or recovered material to a destination owned and operated by the generator using the generator’s own employees and equipment.

“**Bin**” means a container with a capacity of 1 to 8 cubic yards and a hinged lid. Bins may or may not have wheels (bin volumes may vary by jurisdiction).

“**Cart**” means a plastic container with a hinged lid and wheels with varying capacities ranging, typically, from 10 to 100 gallons (typical cart volumes may vary by jurisdiction).

“**Commercial**” means of, from, or pertaining to nonresidential premises where business activity is conducted, including, but not limited to, retail sales, services, wholesale operations, institutions, manufacturing and industrial operations, along with hotels, motels, and other similar premises, and any and all facilities operated by governmental entities, but excluding businesses conducted upon premises that are permitted under applicable zoning regulations and are not the primary use of the property.

“**Compactor**” means a mechanical apparatus that compresses materials to reduce their volume.

**“Composting”** means the controlled biological decomposition of organic solid wastes that are source separated from the municipal solid waste stream, or which are separated at a centralized facility.

**“CRV Materials”** means containers that are subject to California Refund Value (CRV) under [California’s Beverage Container Recycling Program](#), established by the Beverage Container Recycling and Litter Reduction Act of 1986, as it may be amended or superseded from time to time. CRV materials are not considered covered materials under the Act and will therefore not be analyzed as part of the Collection, Processing, and End Markets Needs Assessment (e.g., PET bottles that are CRV materials will not be analyzed, but PET thermoform containers that are not CRV materials will be included).

**“Curbside Collection”** means a program that includes the collection of material, including but not limited to covered materials regulated under the Act, by a local jurisdiction or recycling service provider under contract with a local jurisdiction.

**“Customer”** means the person whom a local jurisdiction or their recycling service provider(s) submits its billing invoice to and collects payment from for collection services provided to a premises. The customer may be the occupant, owner, or manager of the premises.

**“Exclusive”** means and refers to a type of agreement or service arrangement between a local jurisdiction and a recycling service provider for solid waste handling services in which the recycling service provider has the sole or exclusive right to collect designated material(s) within the local jurisdiction or designated part(s) of a local jurisdiction.

**“Food Waste”** means a subset of organic waste including: Food scraps (discarded food that will decompose and/or putrefy including: [i] all kitchen and table food; [ii] animal or vegetable waste that is generated during or results from the storage, preparation, cooking or handling of food stuffs; [iii] fruit waste, grain waste, dairy waste, meat, and fish waste; and [iv] vegetable trimmings, houseplant trimmings, and other organic waste common to the occupancy of residential dwellings and some commercial kitchen operations).

**“Franchise Service”** means a type of agreement or service arrangement in which a recycling service provider may conduct collection services in a local jurisdiction, as memorialized in a franchise agreement between the jurisdiction and recycling service provider. Franchise service may be exclusive or nonexclusive.

**“Landfill Stream”** means solid waste that is accepted by a local jurisdiction for collection, transfer (if applicable), and transport to a disposal facility. The exact list of solid waste accepted for collection in the landfill stream will vary by local jurisdiction and is therefore not specifically listed herein. This does not include disaster debris or designated waste sent to the landfill.

**“Local Jurisdiction” or “Jurisdiction”** means a city, county, city and county, regional agency formed pursuant to Chapter 5 (commencing with section 6500) of Division 7 of Title 1 of the Government Code or Article 3 (commencing with section 40970) of Chapter 1 of Part 2, or special district that provides solid waste collection services.

**“Mixed Waste”** means solid waste that includes landfill stream material combined with recyclable materials and/or organic materials, as applicable to the local jurisdiction’s collection program, which is required by Title 14 of the California Code of Regulations sections 18984.1, 18984.2, or 18984.3 to be transported to a high diversion organic waste processing facility. The exact list of mixed waste accepted for collection will vary by local jurisdiction and is therefore not specifically listed herein.

**“Multifamily”** means of, from, or pertaining to residential premises with five or more dwelling units. Multifamily premises do not include hotels, motels, or other transient occupancy facilities, which are considered commercial businesses.

**“Municipal Service”** means a service arrangement in which a local jurisdiction conducts solid waste collection services directly.

**“Nonexclusive”** means a type of agreement or service arrangement between a local jurisdiction and a recycling service provider for solid waste handling services in which the recycling service provider does not have the exclusive right to collect materials within the local jurisdiction or a designated part of a jurisdiction.

**“Organic Materials” or “Organics”** means organic waste that is accepted by a local jurisdiction for collection, transfer (if applicable), and transport to a facility(ies) for composting, anaerobic digestion, or other organic waste processing permitted under applicable law. The exact list of organic materials accepted for collection will vary by local jurisdiction and is therefore not specifically listed herein.

**“Organic Waste”** means solid wastes containing material originated from living organisms and their metabolic waste products, including but not limited to: food, green material, landscape and pruning waste, organic textiles and carpets, lumber, wood, paper products, printing and writing paper, manure, biosolids, digestate, and sludges, or as otherwise defined in Title 14 of the California Code of Regulations section 18982(a)(46).

**“Permitted Service”** means a type of agreement or service arrangement in which a recycling service provider may conduct specified collection services in a local jurisdiction, provided that the recycling service provider has received a permit from the local jurisdiction.

**“Person”** means an individual, firm, limited liability company, association, partnership, public or private corporation, or any other legal entity.

**“Rate Sheet”** means a document demonstrating the dollar amount charged to generators for collection service, by service type. The format of the rate sheet may vary by local jurisdiction.

**“Recycle” or “Recycling”** means the process of collecting, sorting, cleansing, treating, and reconstituting materials that would otherwise ultimately be disposed of onto land or into water or the atmosphere, and returning them to, or maintaining them within, the economic mainstream in the form of recovered material for new, reused, or reconstituted products, including compost, that meet the quality standards necessary to be used in the marketplace. Recycle or recycling does not include any of the following:

combustion, incineration, energy generation, fuel production (except for anaerobic digestion of source-separated organic materials), or other forms of disposal.

**“Recyclable Materials” or “Recyclables”** means materials accepted by a local jurisdiction for collection, transfer (if applicable), and transport to a facility(ies) for recycling, in accordance with applicable law. The exact list of recyclable materials accepted for collection will vary by local jurisdiction and is therefore not specifically listed herein. This definition is not intended to align with determinations of recyclability as part of the Act List of Covered Material Categories.

**“Recycling Service Provider”** means a solid waste enterprise that provides solid waste handling services on behalf of a local jurisdiction.

**“Residential”** means of from or pertaining to single-family dwellings and multifamily dwellings used for human shelter, irrespective of whether such dwelling units are rental units or are owner-occupied, excluding hotels, motels, or other similar premises.

**“Roll-Off Box”** means an open-top container with a capacity, typically, of eight to 40 cubic yards that is serviced by a roll-off collection vehicle (typical roll-off box volumes may vary by local jurisdiction).

**“SB 54”** means Senate Bill 54, the Plastic Pollution Prevention and Packaging Producer Responsibility Act, signed into law on June 30, 2022.

**“Self-Hauler” or “Self-Haul”** means a person who hauls solid waste, organic waste, recyclable materials, or recovered material they have generated to another person. Self-hauler also includes a person who back-hauls waste.

**“Single-Family”** means of, from, or pertaining to a residential premises with less than five units.

**“Solid Waste”** means and refers to the definition of “solid waste” in PRC section 40191, as it may be amended or superseded from time to time.

**“Technical Assistance”** means a form of education and outreach conducted by a local jurisdiction, or their recycling service provider or designee, that typically involves direct contact with generators (e.g., on-site visits, phone calls, or video calls) for purposes such as general education, trainings, waste assessments, compliance support, service level adjustments (“right sizing”), or other outreach.

**“Vehicle List”** means a written inventory that lists all vehicles used in relation to solid waste handling services by a local jurisdiction or recycling service provider, including collection vehicles, by manufacturer, identification number, date of acquisition, model name, model year, vehicle mileage, fuel type, capacity, anticipated replacement date, and decibel rating.

**“Yard Trimmings”** means a subset of organic waste including grass, lawn clippings, shrubs, plants, weeds, branches, and other forms of organic waste generated from landscapes, yards, or gardens.

## 4.B Collection Survey

# SB 54 Needs Assessment Collection Survey

## Introduction

HF&H Consultants, LLC (HF&H), on behalf of the California Department of Resources Recycling and Recovery (CalRecycle), requests your participation in a survey related to the Plastic Pollution Prevention and Packaging Producer Responsibility Act (Senate Bill 54, Allen, Chapter 75, Statutes of 2022) (the Act). The Act established a new extended producer responsibility (EPR) program to manage single-use packaging and plastic single-use food service ware (covered material) in California.

### **What is this survey and why participate?**

HF&H developed this survey to research the current and needed state of California's recycling and composting system for covered materials, specifically regarding collection systems, including topics such as acceptance, contamination, and environmental and public health impacts.

Your responses are valued and critical because:

- Responses will directly inform understanding of current system functioning, gaps, challenges, opportunities for growth, and needed improvements.
- Producers of covered material, largely through the operation of a Producer Responsibility Organization (PRO), will implement plans and budgets designed to meet the law's requirements, including through the disbursement of funds to recycling system providers. Your responses will inform the PRO's plan and budget.
- Limited information exists about the collection system that is specific to covered material.

### **How do I participate?**

Please complete one survey for EACH Jurisdiction that you represent that collects single-use packaging or single-use plastic food service ware.

Please use your most recently available data. HF&H acknowledges that Jurisdictions are required to report information to CalRecycle via the Electronic Annual Report (EAR). Some questions in this survey may ask for similar data to the EAR; however, these questions intend to capture additional detail and place a more specific focus on SB 54. Furthermore, the EAR is a tool used to document compliance with specific state-wide regulations. This survey is intended to document implementation gaps for SB 54, a regulation not considered in the data required for the EAR. Data collected through this survey will be aggregated and individual jurisdiction responses will not be shared directly with CalRecycle or any other regulatory agency. Data will not be used to assess

compliance with SB 1383, AB 939 (Sher, 1989), AB 1826, or any other regulations for which the EAR requires reporting.

The Glossary of Terms (see Appendix D section 4.A) has been developed to clarify terminology used in the survey. Defined terms have been capitalized throughout the survey.

HF&H staff are available to answer questions at [EPRNeedsAssessment@hfh-consultants.com](mailto:EPRNeedsAssessment@hfh-consultants.com). The survey can be completed in multiple sessions (i.e., your progress will be saved).

Please complete the survey by **Thursday, July 3, 2025**. We do understand this is a tight timeline and appreciate your effort in this manner. Participation is voluntary.

Please email [EPRNeedsAssessment@hfh-consultants.com](mailto:EPRNeedsAssessment@hfh-consultants.com) if you would like to put in place a non-disclosure agreement (NDA) before completing the survey.

### **Questions?**

If you have any questions related to this survey or the work being conducted by HF&H, then please email [EPRNeedsAssessment@hfh-consultants.com](mailto:EPRNeedsAssessment@hfh-consultants.com). If you have questions related to the broader implementation of the Act or the needs assessment, then please email CalRecycle at [packaging@calrecycle.ca.gov](mailto:packaging@calrecycle.ca.gov).

## General

1. Name of Jurisdiction\*:
2. Name of Person filling out survey: First: Last:
3. Title of Person filling out survey:
4. Email address:
5. Phone number:

## Collection Operations Questions

The questions in this section pertain to the operations of Collection programs. For some Jurisdictions, it may be beneficial to collaborate with your Recycling Service Provider or share questions or excel attachments directly with them to complete, as applicable.

6. Please complete and upload the following Excel file regarding collection operations details. [Download Excel and upload completed file in [online survey](#)]
7. How are different sectors routed (e.g., commingling sectors vs. separate routing)?
8. Please upload tonnage reports, preferably broken down by sector and material stream (calendar years 2022, 2023, 2024). [Upload file in [online survey](#)]
9. Please upload your most recent Vehicle List. See Glossary (download link located in the survey introduction) for a description of what should be included in a Vehicle List. [Upload file in [online survey](#)]

### **Carts**

10. Please fill in the number of collection routes by material type for carts.

<b>Material Stream</b>	<b># of routes</b>	<b>#of containers (total, all routes)</b>
Landfill Stream/Mixed Waste		
Recyclable Materials		
Organic Materials		
Other		

11. Explain the “other” item indicated above:

### **Bins**

12. Please fill in the number of collection routes by material type for bins.

<b>Material Stream</b>	<b># of routes</b>	<b>#of containers (total, all routes)</b>
Landfill Stream/Mixed Waste		
Recyclable Materials		
Organic Materials		
Other		

13. Explain the “other” item indicated above:

### Program Questions

Questions in this section of the survey pertain to the design of your Jurisdiction’s solid waste and recycling programs. For some Jurisdictions, your Recycling Service Provider may have easier access to or the most up to date data requested. We encourage Jurisdictions to share these questions with their Recycling Service Providers as needed to assist in providing accurate responses.

Data/information that may be necessary or helpful for completing this section of the survey include:

- Quarterly or annual Recycling Service Provider reports**
- Customer subscription data**
- Rate Sheets**
- Program brochure / accepted materials list**
- Program budget**
- Description/status of education and outreach programs**
- Description/status of contamination monitoring programs**

### **Access and Participation**

14. Please upload the current Rate Sheet for your Jurisdiction, as of June 30, 2025:  
[Upload file in [online survey](#)]
15. Please insert the number of collection Customers by Customer type
  - Residential**
  - 15.a. Single-Family\*:
  - 15.b. Multifamily (2-4 units)\*:
  - Commercial**
  - (if your Jurisdiction separately tracks Commercial vs. industrial sectors, combine industrial with Commercial businesses below)*
  - 15.c. Commercial businesses\*:
  - 15.d. Multifamily (5+ units)\*:

16. Please briefly describe if there are specific populations within your Jurisdiction that do not receive collection service and the specific local conditions, circumstances, or challenges with providing service to such populations.

**Residential Stream**

17. Please specify residential collection container colors for the following items\*:

<b>Commodity</b>	<b>Black/gray</b>	<b>Blue</b>	<b>Green</b>	<b>Brown</b>	<b>Other/notes</b>
Glass					
Ceramic					
Aluminum					
Tin/Steel/Bimetal					
Other Nonferrous					
Other Ferrous					
Other Metal (Small, measuring 2" or less)					
Mixed Paper					
Aseptic Containers					
Gable Top Cartons					
Paperboard					
Waxed OCC					
OCC					
Plastic #1 PET Rigid					
Plastic #2 HDPE Rigid					
Plastic #3 PVC Rigid					
Plastic #4 LDPE Rigid					
Plastic #5 PP Rigid					
Plastic #6 PS Rigid					
Plastic #7 Other Rigid Designed for Compostability					
Other Mixed Plastics					
Other Multi-Material Laminate					

<b>Commodity</b>	<b>Black/gray</b>	<b>Blue</b>	<b>Green</b>	<b>Brown</b>	<b>Other/notes</b>
Glass					
Ceramic					
Aluminum					
Tin/Steel/Bimetal					
Other Nonferrous					
Other Ferrous					
Other Metal (Small, measuring 2" or less)					
Mixed Paper					
Aseptic Containers					
Gable Top Cartons					
Paperboard					
Waxed OCC					
OCC					
Plastic #1 PET Rigid					
Plastic #2 HDPE Rigid					
Plastic #3 PVC Rigid					
Plastic #4 LDPE Rigid					
Plastic #5 PP Rigid					
Plastic #6 PS Rigid					
Plastic #7 Other Rigid Designed for Compostability					
Other Mixed Plastics					
Plastic #6 Expanded or Foamed Plastic Rigid					

<b>Commodity</b>	<b>Black/gray</b>	<b>Blue</b>	<b>Green</b>	<b>Brown</b>	<b>Other/notes</b>
Glass					
Ceramic					
Aluminum					
Tin/Steel/Bimetal					
Other Nonferrous					
Other Ferrous					
Other Metal (Small, measuring 2" or less)					
Mixed Paper					
Aseptic Containers					
Gable Top Cartons					
Paperboard					
Waxed OCC					
OCC					
Plastic #1 PET Rigid					
Plastic #2 HDPE Rigid					
Plastic #3 PVC Rigid					
Plastic #4 LDPE Rigid					
Plastic #5 PP Rigid					
Plastic #6 PS Rigid					
Plastic #7 Other Rigid Designed for Compostability					
Other Mixed Plastics					
Plastic #6 Other Expanded or Foamed Plastic Rigid (Any resin type)					

<b>Commodity</b>	<b>Black/gray</b>	<b>Blue</b>	<b>Green</b>	<b>Brown</b>	<b>Other/notes</b>
Glass					
Ceramic					
Aluminum					
Tin/Steel/Bimetal					
Other Nonferrous					
Other Ferrous					
Other Metal (Small, measuring 2" or less)					
Mixed Paper					
Aseptic Containers					
Gable Top Cartons					
Paperboard					
Waxed OCC					
OCC					
Plastic #1 PET Rigid					
Plastic #2 HDPE Rigid					
Plastic #3 PVC Rigid					
Plastic #4 LDPE Rigid					
Plastic #5 PP Rigid					
Plastic #6 PS Rigid					
Plastic #7 Other Rigid Designed for Compostability					
Other Mixed Plastics					
Flexible and Film Plastic					
Flexible and Film Plastic Designed for Compostability					

<b>Commodity</b>	<b>Black/gray</b>	<b>Blue</b>	<b>Green</b>	<b>Brown</b>	<b>Other/notes</b>
Glass					
Ceramic					
Aluminum					
Tin/Steel/Bimetal					
Other Nonferrous					
Other Ferrous					
Other Metal (Small, measuring 2" or less)					
Mixed Paper					
Aseptic Containers					
Gable Top Cartons					
Paperboard					
Waxed OCC					
OCC					
Plastic #1 PET Rigid					
Plastic #2 HDPE Rigid					
Plastic #3 PVC Rigid					
Plastic #4 LDPE Rigid					
Plastic #5 PP Rigid					
Plastic #6 PS Rigid					
Plastic #7 Other Rigid Designed for Compostability					
Other Mixed Plastics					
Plastic Pouches And Envelopes					
Wood – Untreated					
Wood – Treated					

<b>Commodity</b>	<b>Black/gray</b>	<b>Blue</b>	<b>Green</b>	<b>Brown</b>	<b>Other/notes</b>
Glass					
Ceramic					
Aluminum					
Tin/Steel/Bimetal					
Other Nonferrous					
Other Ferrous					
Other Metal (Small, measuring 2" or less)					
Mixed Paper					
Aseptic Containers					
Gable Top Cartons					
Paperboard					
Waxed OCC					
OCC					
Plastic #1 PET Rigid					
Plastic #2 HDPE Rigid					
Plastic #3 PVC Rigid					
Plastic #4 LDPE Rigid					
Plastic #5 PP Rigid					
Plastic #6 PS Rigid					
Plastic #7 Other Rigid Designed for Compostability					
Other Mixed Plastics					
Textiles					
Other Mixed Organic					

<b>Commodity</b>	<b>Black/gray</b>	<b>Blue</b>	<b>Green</b>	<b>Brown</b>	<b>Other/notes</b>
Glass					
Ceramic					
Aluminum					
Tin/Steel/Bimetal					
Other Nonferrous					
Other Ferrous					
Other Metal (Small, measuring 2" or less)					
Mixed Paper					
Aseptic Containers					
Gable Top Cartons					
Paperboard					
Waxed OCC					
OCC					
Plastic #1 PET Rigid					
Plastic #2 HDPE Rigid					
Plastic #3 PVC Rigid					
Plastic #4 LDPE Rigid					
Plastic #5 PP Rigid					
Plastic #6 PS Rigid					
Plastic #7 Other Rigid Designed for Compostability					
Other Mixed Plastics					
Other Multi-Material Laminate					
Plastic #6 Expanded or Foamed Plastic Rigid					

<b>Commodity</b>	<b>Black/gray</b>	<b>Blue</b>	<b>Green</b>	<b>Brown</b>	<b>Other/notes</b>
Glass					
Ceramic					
Aluminum					
Tin/Steel/Bimetal					
Other Nonferrous					
Other Ferrous					
Other Metal (Small, measuring 2" or less)					
Mixed Paper					
Aseptic Containers					
Gable Top Cartons					
Paperboard					
Waxed OCC					
OCC					
Plastic #1 PET Rigid					
Plastic #2 HDPE Rigid					
Plastic #3 PVC Rigid					
Plastic #4 LDPE Rigid					
Plastic #5 PP Rigid					
Plastic #6 PS Rigid					
Plastic #7 Other Rigid Designed for Compostability					
Other Mixed Plastics					
Plastic #6 Other Expanded or Foamed Plastic Rigid (Any resin type)					
Flexible and Film Plastic					

<b>Commodity</b>	<b>Black/gray</b>	<b>Blue</b>	<b>Green</b>	<b>Brown</b>	<b>Other/notes</b>
Glass					
Ceramic					
Aluminum					
Tin/Steel/Bimetal					
Other Nonferrous					
Other Ferrous					
Other Metal (Small, measuring 2" or less)					
Mixed Paper					
Aseptic Containers					
Gable Top Cartons					
Paperboard					
Waxed OCC					
OCC					
Plastic #1 PET Rigid					
Plastic #2 HDPE Rigid					
Plastic #3 PVC Rigid					
Plastic #4 LDPE Rigid					
Plastic #5 PP Rigid					
Plastic #6 PS Rigid					
Plastic #7 Other Rigid Designed for Compostability					
Other Mixed Plastics					
Flexible and Film Plastic Designed for Compostability					
Plastic Pouches And Envelopes					

<b>Commodity</b>	<b>Black/gray</b>	<b>Blue</b>	<b>Green</b>	<b>Brown</b>	<b>Other/notes</b>
Glass					
Ceramic					
Aluminum					
Tin/Steel/Bimetal					
Other Nonferrous					
Other Ferrous					
Other Metal (Small, measuring 2" or less)					
Mixed Paper					
Aseptic Containers					
Gable Top Cartons					
Paperboard					
Waxed OCC					
OCC					
Plastic #1 PET Rigid					
Plastic #2 HDPE Rigid					
Plastic #3 PVC Rigid					
Plastic #4 LDPE Rigid					
Plastic #5 PP Rigid					
Plastic #6 PS Rigid					
Plastic #7 Other Rigid Designed for Compostability					
Other Mixed Plastics					
Wood – Untreated					
Wood – Treated					
Textiles					
Other Mixed Organic					

**Commercial Stream**

18. Are the material types and collection container colors the same for Commercial and Residential?

Yes  No, container colors and/or material types differ for Commercial

18.a. If no, please specify commercial collection container colors for the following items:

<b>Commodity</b>	<b>Black/gray</b>	<b>Blue</b>	<b>Green</b>	<b>Brown</b>	<b>Other/notes</b>
Glass					
Ceramic					
Aluminum					
Tin/Steel/Bimetal					
Other Nonferrous					
Other Ferrous					
Other Metal (Small, measuring 2" or less)					
Mixed Paper					
Aseptic Containers					
Gable Top Cartons					
Paperboard					
Waxed OCC					
OCC					
Plastic #1 PET Rigid					
Plastic #2 HDPE Rigid					
Plastic #3 PVC Rigid					
Plastic #4 LDPE Rigid					
Plastic #5 PP Rigid					
Plastic #6 PS Rigid					
Plastic #7 Other Rigid Designed for Compostability					
Other Mixed Plastics					

Commodity	Black/gray	Blue	Green	Brown	Other/notes
Other Multi-Material Laminate					
Plastic #6 Expanded or Foamed Plastic Rigid					
Plastic #6 Other Expanded or Foamed Plastic Rigid (Any resin type)					
Flexible and Film Plastic					
Flexible and Film Plastic Designed for Compostability					
Plastic Pouches And Envelopes					
Wood – Untreated					
Wood – Treated					
Textiles					
Other Mixed Organic					

**Service Information**

19. Please upload your most current Customer subscription/service data (Residential and Commercial) and provide the date the data was generated in the file name. [e.g., file name: Jurisdiction Name\_MonthYear] [Upload file in [online survey](#)]

**OR**

20. Please fill in the number of containers by size and container stream.

Container size	Black/gray	Blue	Green	Brown	Other
15-25 gal carts					
30-36 gal carts					
60-65 gal carts					
90-100 gal carts					
1 CY					
1.5 CY					

Container size	Black/gray	Blue	Green	Brown	Other
2 CY					
3 CY					
4 CY					
6 CY					
8 CY					
10 CY					
12 CY					
15 CY					
20 CY					
25 CY					
30 CY					
40 CY					

21. Who is the Recycling Service Provider(s) for your Jurisdiction, if applicable, and what is the contracting/hauling arrangement?

21.a. Residential\*:

Recycling Provider Name	Hauling Arrangement Type	If you selected other, explain
	<input type="checkbox"/> Exclusive Franchise Service <input type="checkbox"/> Nonexclusive Franchise Service <input type="checkbox"/> Exclusive Permitted Service <input type="checkbox"/> Nonexclusive Permitted Service <input type="checkbox"/> Municipal Service <input type="checkbox"/> Other	
	<input type="checkbox"/> Exclusive Franchise Service <input type="checkbox"/> Nonexclusive Franchise Service <input type="checkbox"/> Exclusive Permitted Service <input type="checkbox"/> Nonexclusive Permitted Service <input type="checkbox"/> Municipal Service <input type="checkbox"/> Other	
	<input type="checkbox"/> Exclusive Franchise Service <input type="checkbox"/> Nonexclusive Franchise Service <input type="checkbox"/> Exclusive Permitted Service <input type="checkbox"/> Nonexclusive Permitted Service <input type="checkbox"/> Municipal Service <input type="checkbox"/> Other	

21.b. Commercial\*:

Recycling Provider Name	Hauling Arrangement Type	If you selected other, explain
	<input type="checkbox"/> Exclusive Franchise Service <input type="checkbox"/> Nonexclusive Franchise Service <input type="checkbox"/> Exclusive Permitted Service <input type="checkbox"/> Nonexclusive Permitted Service <input type="checkbox"/> Municipal Service <input type="checkbox"/> Other	
	<input type="checkbox"/> Exclusive Franchise Service <input type="checkbox"/> Nonexclusive Franchise Service <input type="checkbox"/> Exclusive Permitted Service <input type="checkbox"/> Nonexclusive Permitted Service <input type="checkbox"/> Municipal Service <input type="checkbox"/> Other	
	<input type="checkbox"/> Exclusive Franchise Service <input type="checkbox"/> Nonexclusive Franchise Service <input type="checkbox"/> Exclusive Permitted Service <input type="checkbox"/> Nonexclusive Permitted Service <input type="checkbox"/> Municipal Service <input type="checkbox"/> Other	
<i>Add additional rows if needed</i>		

21.C. Industrial (if applicable)\*:

Recycling Provider Name	Hauling Arrangement Type	If you selected other, explain
	<input type="checkbox"/> Exclusive Franchise Service <input type="checkbox"/> Nonexclusive Franchise Service <input type="checkbox"/> Exclusive Permitted Service <input type="checkbox"/> Nonexclusive Permitted Service <input type="checkbox"/> Municipal Service <input type="checkbox"/> Other	
	<input type="checkbox"/> Exclusive Franchise Service <input type="checkbox"/> Nonexclusive Franchise Service <input type="checkbox"/> Exclusive Permitted Service <input type="checkbox"/> Nonexclusive Permitted Service <input type="checkbox"/> Municipal Service <input type="checkbox"/> Other	
	<input type="checkbox"/> Exclusive Franchise Service <input type="checkbox"/> Nonexclusive Franchise Service <input type="checkbox"/> Exclusive Permitted Service <input type="checkbox"/> Non-Exclusive Permitted Service <input type="checkbox"/> Municipal Service <input type="checkbox"/> Other	
<i>Add additional rows if needed</i>		

22. Is Self-Hauling and/or Back Hauling of materials allowed in your Jurisdiction?

- Yes, Self-Hauling
- Yes, Back-Hauling
- Yes, Both Self-Hauling and Back-Hauling
- No

22.a. If yes, what generator type(s) is allowed to Self-Haul or Back Haul? Select all that apply.

- Single-Family
- Multifamily
- Commercial

23. Does your Jurisdiction have publicly available drop-off locations to recycle non-CRV Materials?\*  Yes  No

23.a. If yes, please complete the following for each drop-off location.\*

Description	Drop-Off Location 1	Drop-Off Location 2	Drop-Off Location 3	Drop-Off Location 4	Drop-Off Location 5
Address					
Allowable users (e.g., Residents/ Commercial businesses)					
Permitted tonnage or material limit					
Specify if localized or shared amongst Jurisdictions					

23.b. Select the material types accepted by the drop-off locations listed above.\*

Material	Drop-Off Location 1	Drop-Off Location 2	Drop-Off Location 3	Drop-Off Location 4	Drop-Off Location 5
Glass					
Ceramic					
Aluminum					
Tin/Steel/Bimetal					
Other Nonferrous					
Other Ferrous					
Other Metal (Small, measuring 2" or less)					
Mixed Paper					
Aseptic Containers					
Gable Top Cartons					
Paperboard					
Waxed OCC					
OCC					
Plastic #1 PET Rigid					

<b>Material</b>	<b>Drop-Off Location 1</b>	<b>Drop-Off Location 2</b>	<b>Drop-Off Location 3</b>	<b>Drop-Off Location 4</b>	<b>Drop-Off Location 5</b>
Plastic #2 HDPE Rigid					
Plastic #3 PVC Rigid					
Plastic #4 LDPE Rigid					
Plastic #5 PP Rigid					
Plastic #6 PS Rigid					
Plastic #7 Other Rigid Designed for Compostability					
Other Mixed Plastics					
Other Multi-Material Laminate					
Plastic #6 Expanded or Foamed Plastic Rigid					
Plastic #6 Other Expanded or Foamed Plastic Rigid (Any resin type)					
Flexible and Film Plastic					
Flexible and Film Plastic Designed for Compostability					
Plastic Pouches And Envelopes					
Wood – Untreated					
Wood – Treated					
Textiles					
Other Mixed Organic					

24. Are you aware of Alternative Collection programs for recyclable materials operating in your Jurisdiction?\*

Yes  No

24.a. If yes, please complete the following information for each Alternative Collection program.

Description	Program 1	Program 2	Program 3	Program 4	Program 5	Program 6
Program Type (e.g., mail-back, home pickup)						
Name of Company Providing Service						
Allowable Users (e.g. Residential or Commercial)						

24.b. Select the material types accepted by the Alternative Collection programs listed above.

Material	Program 1	Program 2	Program 3	Program 4	Program 5	Program 6
Glass						
Ceramic						
Aluminum						
Tin/Steel/Bimetal						
Other Nonferrous						
Other Ferrous						
Other Metal (Small, measuring 2" or less)						
Mixed Paper						
Aseptic Containers						
Gable Top Cartons						
Paperboard						
Waxed OCC						
OCC						
Plastic #1 PET Rigid						
Plastic #2 HDPE Rigid						
Plastic #3 PVC Rigid						
Plastic #4 LDPE Rigid						
Plastic #5 PP Rigid						
Plastic #6 PS Rigid						
Plastic #7 Other Rigid Designed for Compostability						

Material	Program 1	Program 2	Program 3	Program 4	Program 5	Program 6
Other Mixed Plastics						
Other Multi-Material Laminate						
Plastic #6 Expanded or Foamed Plastic Rigid						
Plastic #6 Other Expanded or Foamed Plastic Rigid (Any resin type)						
Flexible and Film Plastic						
Flexible and Film Plastic Designed for Compostability						
Plastic Pouches And Envelopes						
Wood – Untreated						
Wood – Treated						
Textiles						
Other Mixed Organic						

25. If your Jurisdiction or region maintains a map/database of drop off facilities for non-CRV Material(s), please upload a copy or provide a link to such map/database. [Upload file in [online survey](#)]

**OR**

26. Provide a link to such map/database:

27. How significant are each of the following barriers or challenges to individuals/communities for participating in Recyclable Materials/Organic Materials programs in your Jurisdiction?

Description	1 (not at all)	2	3	4	5	6	7 (extremely)
High cost of service							
Lack of awareness of available programs							
Confusion on how to sort materials and need for education							
Lack of importance and priority							
Lack of trust in the Recycling system							
Lack of access to containers or access is inconvenient							
Information not available in spoken languages							
Difficulty requesting service or information from the Jurisdiction or Recycling Service Provider							
Difficulty coordinating with property managers, landlords, etc. for service changes or educational information							
Other							

28. Explain the “Other” item indicated above:

29. What strategies does your Jurisdiction implement to overcome the main participation and access barriers identified above? Please describe.

30. What are the biggest barriers and challenges for administering your Recyclable Materials/Organic Materials programs as a Jurisdiction? Select the top three (3) barriers/challenges.\*

Funding

Staff capacity

Procuring a Franchise Service agreement or other contract arrangement with Recycling Service Providers

Oversight of Recycling Service Providers and Franchise Service agreements/Permitted Service processes

- Lack of public engagement
- Challenges in educating ratepayers
- Contamination
- Lack of political support
- Other:

31. Please indicate which public education and outreach materials are provided in which language(s).

31.a. Direct Mailers:

- English
- Spanish
- Cantonese
- Mandarin
- Korean
- Vietnamese
- Tagalog
- Russian
- N/A
- Other:

31.b. Physical Public Ads (Bus shelters, billboards, etc.):

- English
- Spanish
- Cantonese
- Mandarin
- Korean
- Vietnamese
- Tagalog
- Russian
- N/A
- Other:

31.c. Digital/Online Ads:

- English
- Spanish
- Cantonese
- Mandarin
- Korean
- Vietnamese
- Tagalog
- Russian
- N/A
- Other:

31.d. Social Media Posts:

- English
- Spanish
- Cantonese
- Mandarin
- Korean
- Vietnamese
- Tagalog
- Russian
- N/A
- Other:

31.e. Website

- English
- Spanish
- Cantonese
- Mandarin
- Korean
- Vietnamese
- Tagalog
- Russian
- N/A
- Other:

31.f. Radio/Television:

- English
- Spanish
- Cantonese
- Mandarin
- Korean
- Vietnamese
- Tagalog
- Russian
- N/A
- Other:

31.g. Emails

- English
- Spanish
- Cantonese
- Mandarin
- Korean
- Vietnamese
- Tagalog

- Russian
  - N/A
  - Other:
32. Do you provide in-Person Technical Assistance? If so, please indicate which sectors you provide Technical Assistance to.
- Single-Family
  - Multi-Family
  - Commercial
  - None
  - Other:
33. What languages are your Technical Assistance staff or contractors fluent in?
- English
  - Spanish
  - Cantonese
  - Mandarin
  - Korean
  - Vietnamese
  - Tagalog
  - Russian
  - Other:
34. How many full time equivalent (FTE) Technical Assistance staff do you have (including contractors)? *(If one staff member spends 25% of their time on contamination reduction initiatives, please include that as .25 FTE)*
35. How much does your Jurisdiction spend annually on public education and outreach related to Recyclable Materials and Organic Materials programs?
36. How much does your Recycling Service Provider spend annually on public education and outreach related to Recyclable Materials and Organic Materials programs in your Jurisdiction?

**Acceptance of Materials**

37. Are there materials you believe should not be accepted in your recycling program?
- Yes  No
- 37.a. If yes, what types of materials and why?
38. Which of the following strategies do you currently employ to increase the capture of Recyclable Materials and Organic Materials in your collection programs?
- Conduct education and outreach
  - Conduct contamination reduction initiatives
  - Increase or modify service frequency
  - Expand curbside collection access
  - Increase drop-off sites
  - Increase alternative collection opportunities
  - Increase source separation (e.g., additional container streams)
  - Implement incentive-based programs

- Improve clarity of product labeling
- Other:

39. Which of the following strategies do you believe are most effective for increasing the capture of Recyclable Materials and Compostable Materials in your collection programs? Select up to three (3).

- Conduct education and outreach
- Conduct contamination reduction initiatives
- Increase or modify service frequency
- Expand curbside collection access
- Increase drop-off sites
- Increase alternative collection opportunities
- Increase source separation (e.g., additional container streams)
- Implement incentive-based programs
- Improve clarity of product labeling
- Other:

### **Contamination**

40. What are the top three contaminants in your Residential Recyclable Materials program? Select up to three (3).

- Plastic bags/plastic film
- Tanglers (e.g., hoses, cords, wires)
- Food
- Yard waste
- Food-soiled paper
- Food-soiled plastic, metal, or glass containers
- Poly-coated paper (e.g., lined paper cups, lined paper to-go containers)
- Plastics designed for compostability
- Bulky items
- Other:

41. What are the top three contaminants in your Residential Organic Materials program? Select up to three (3).

- Plastics
- Treated wood
- Metal
- Glass
- Poly-coated paper (e.g. lined paper cups, lined paper to-go containers)
- Plastics designed for compostability (if not accepted)
- Bulky items
- Other:

42. What are the top three contaminants in your Commercial Recyclable Materials program? Select up to three (3).

- Plastic bags/plastic film
  - Tanglers (e.g., hoses, cords, wires)
  - Food
  - Yard waste
  - Food-soiled paper
  - Food-soiled plastic, metal, or glass containers
  - Poly-coated paper (e.g., lined paper cups, lined paper to-go containers)
  - Plastics designed for compostability
  - Bulky items
  - Other:
43. What are the top three contaminants in your Commercial Organic Materials program? Select up to three (3).
- Plastics
  - Treated wood
  - Metal
  - Glass
  - Poly-coated paper (e.g. lined paper cups, lined paper to-go containers)
  - Plastics designed for compostability (if not accepted)
  - Bulky items
  - Other:
44. Which forms of contamination monitoring do you conduct?\*
- Technical assistance audits
  - Route monitoring
  - Waste characterizations
  - Truck-mounted cameras
  - Bin-mounted cameras
  - Other:
45. Which contamination reduction initiatives do you utilize?\*
- Public education and outreach
  - Container tags
  - Door notices
  - Mailed notices
  - Emailed notices
  - Contamination fees
  - Other:
46. How effective have you found each of the following strategies for curbing contamination?

Description	1 (Least)	2	3	4	5	6	7 (Most)	N/A
Public education and outreach								
Technical assistance audits								
Contamination tags								
Contamination fees								
Route monitoring								
Waste characterizations								
Truck-mounted cameras								
Bin-mounted cameras								
Other								

47. Explain the “Other” item indicated above:

48. Please explain why the methods listed above have been most effective at curbing contamination.

49. Total number of contamination notices sent in 2024:

50. In 2024, how many instances of non-collection occurred due to contamination (Landfill Stream in the Recyclable Materials/Organic Materials container, Recyclables Materials in the Organic Materials container, etc.)?

51. Indicate the amounts charged for container contamination fees, if applicable.

51.a. Residential:

51.b. Commercial:

51.c. Other:

52. In instances of container contamination, indicate what actions occur. Check all that apply. If a notice is issued first and a fee assessed on a subsequent incident of contamination, please select both the notice and fee option.

Recyclable Materials/Organic Materials containers regularly serviced the same day and a contamination notice is sent to the Customer after the fact

Recyclable Materials/Organic Materials containers regularly serviced the same day and a contamination fee is sent to the Customer after the fact

Recyclable Materials/Organic Materials containers serviced as Landfill Stream the same day and a contamination notice is assessed on the Customer after the fact

Recyclable Materials/Organic Materials containers serviced as Landfill Stream the same day and a contamination fee is assessed on the Customer after the fact

- Not collected until action taken from Customer (e.g., contamination removed, Customer agrees to fee)
- Other:

53. Please insert the number of loads from your Jurisdiction that were rejected at facilities over the past three years for contamination.

Description	2022	2023	2024
Recyclable Materials			
Organic Materials			

54. Have you, or your Recycling Service Provider, ever conducted a waste characterization or audit?  Yes  No

54.a. If yes, please describe the results:

**OR**

54.b. Upload data or a final report: [Upload file in [online survey](#)]

55. What issues arise as a result of contamination in your Jurisdiction?

- Increased monitoring/ enforcement costs
- Reduced revenue from Recyclable Materials sales
- Higher cost for ratepayers due to contamination fees
- Missed collections
- More loads disposed rather than Recycled
- Other:

56. How many full time equivalent staff (FTEs) (including contractors) do you have for contamination reduction initiatives? (monitoring contamination, enforcing rules, conducting education and outreach on contamination, etc.) *(If one staff member spends 25% of their time on contamination reduction initiatives, please include that as .25 FTE):*

57. What is your annual operational cost to conduct contamination reduction activities? *(Please include costs to conduct route review or audits, printing costs for contamination tags/notices, and any other expenses incurred directly related to contamination reduction [please include costs incurred by your Recycling Service Provider if they conduct contamination reduction activities for your Jurisdiction])*

58. If your resources were unlimited, what would you implement to make your contamination monitoring program more effective?\*

- Increased contamination monitoring staff
- More frequent waste characterizations
- More robust education campaigns
- Increased use of auditing technology
- Increased use of bin or truck mounted cameras
- Other:

59. What would you say are the top three factors that contribute to contamination? Select up to three (3).\* Incorrect service levels (e.g., not enough room in one container leading to material being placed in the wrong container)

- Confusion over how to sort
- Lack of faith in the Recycling systems

- Recycling is not a priority for generators
- Perceived feelings of lack of cleanliness or “gross” factor (e.g., leading people to not want to participate in Organic Materials programs)
- Materials being sold by businesses are not aligning with local system ordinances (e.g., food service ware)
- Lack of educational resources
- Insufficient access to proper containers (e.g. containers are in a locked enclosure or property has missing containers)
- Other:

**Environmental and Public Health Impacts**

60. Have you participated in meetings or discussions with Recycling Service Providers regarding community impacts of their services? Yes No Other:
- 60.a. If yes, please provide further details on if you felt the meeting was successful and why (e.g., was the engagement meaningful, were your needs met?)
61. Have you participated in meetings or discussions with the public regarding environmental and public health impacts of collection services? Yes No Other:
- 61.a. If yes, provide further details on the results of those discussions.

**Constituent Concerns**

62. What do you see as the most important concerns for constituents in your Jurisdiction? 1 = highest priority and 5 = lowest priority. Please select each value only once.

Priority	Public health	Environmental protection	Neighborhood safety and community impacts	Worker safety
1				
2				
3				
4				

63. Explain any other important concerns for constituents in your Jurisdiction:

**Public Health**

64. What do you see as the most significant negative public health impacts from collection of Recyclable Materials and Organic Materials? (Select one)
- Asthma and other respiratory health impacts
  - Heart (cardiovascular) impacts
  - Cancer risk impacts
  - Other:
65. What do you see as the most significant positive public health benefits from collection of Recyclable Materials and Organic Materials? (Select one)

- Recycling helps reduce materials sent to landfills, which emit air pollutants that can negatively impact health
- Proper sorting and collection of compostable materials can reduce contamination in composting facilities, improving soil health and food safety
- Other:

## **Environmental**

66. What do you see as the most significant negative environmental impacts from collection of Recyclable Materials and Organic Materials? (Select one)
- Greenhouse gas emissions from collection vehicles
  - Litter caused by materials falling out of containers and trucks
  - Polluted waterways
  - Particulate pollution (e.g., dust kicked up from collection activities)
  - Other:
67. What do you see as the most positive environmental benefits from collection of Recyclable Materials and Organic Materials? (Select one)
- Reducing greenhouse gas emissions by diverting Recyclable Materials/Organic Materials from landfills helps address climate change
  - Properly composting Organic Materials produces nutrient-rich compost, which enhances soil quality and improves water retention
  - Recycling materials consumes less energy and resources than producing new materials, leading to lower carbon footprint and protection of natural resources.
  - Collecting and recycling plastic waste helps reduce the amount of plastic that ends up in the ocean and environment as litter
  - Recycling helps raise awareness about environmental conservation – fostering a culture of environmental responsibility in communities
  - Other:

## **Safety/Community**

68. What do you see as the most significant negative neighborhood safety/community impacts from collection of Recyclable Materials and Organic Materials? (Select one)
- Noise pollution
  - Traffic congestion or accidents
  - Reduced walkability of streets from containers
  - Pedestrian safety
  - Collection worker safety
  - Other:
69. What do you see as the most positive community impacts of Recyclable Materials and Organic Materials collection?
- Recyclable Materials and Organic Materials programs create green jobs that can provide employment in local communities
  - Collection of materials can reduce the amount of materials that end up as litter, which helps support cleaner communities

Other:

70. What strategies would you find most effective to reduce the potential negative impacts if collection of Recyclable Materials and/or Organic Materials were to be expanded in your community? (Select all that apply.)

Use of electric vehicles to reduce emissions

More efficient collection routes to minimize traffic

Increased public education on how to use Recyclable Materials/Organic Materials programs to benefit public health, communities, and the environment

Specific operating hours to avoid traffic congestion and improve pedestrian safety

Increased buffers between roads and housing/businesses (e.g. greenways, more trees)

Improved bike lanes and sidewalks

Other:

**Other**

71. Do you have any other comments you would like to include?

# **Appendix E: Community Recycling and Composting Survey – Engagement with Community Based Organizations and Environmental Justice Groups**

---

## **1. Community Recycling and Composting Survey Development and Deployment**

The Community Recycling and Composting Survey was developed to understand the perspectives of priority populations (CBOs, EJ groups, and Tribes) in relation to past, current, and future recycling collection services and processing infrastructure. This information is intended to fill knowledge gaps to support both current and needed state reports. Forty-six questions were developed to seek responses related to the following categories:

- Respondent contact information
- Community information
- General awareness of collection programs for recycling
- Access and equity
- Environmental and public health impacts from collection, processing, and end market operations
- Material sorting and contamination
- Recycling information and education
- Demographic questions.

Jotform, an online survey platform tool, was used to administer the survey and collect responses. The survey was translated into Spanish, simplified Chinese, and a version of the survey was adapted for Tribes and their community members. All survey respondents completed the English version of the survey. More information on the Tribal adaptation of the community recycling and composting survey is in Appendix F. The Community Recycling and Composting Survey was distributed to CBOs, EJ groups, and Tribes who were also asked to participate in a virtual introduction meeting and listening sessions.

## **2. Community Recycling and Composting Survey Response Rates for CBOs and EJ Groups**

The contractor contacted 43 CBOs and EJ groups to participate in the study, resulting in 14 CBOs and EJ groups completing the Community Recycling and Composting Survey and generating a total of 324 survey responses.

In total, there were 332 responses to the Community Recycling and Composting Survey; 324 from CBOs and EJ groups, and eight from Tribes. Appendix F contains details on survey responses from Tribes.

**Table E-1. Community Recycling and Composting Survey Response Rates by Region**

Organization	Total Number of Surveys Completed	Number of Surveys Completed in Spanish	Number of Surveys Completed in Chinese	Regions Represented
CBOs and EJ Groups	324	0	0	Valley (87) Coastal (46) Southern (108) Mountain (80) Bay Area (3)
Tribes	8	N/A	N/A	Mountain (5) Southern (3)

**Table E-2. Community Recycling and Composting Survey CBO and EJ Group Respondents<sup>12</sup>**

Name of Community Based Organization or EJ Group	Number of Surveys	Region Represented	Community Represented
Black Women for Wellness	35	Southern	Black women and girls in Los Angeles County, Stockton, and the San Joaquin Valley.
Comite Civico Del Valle	1	Southern	Grassroots CBO with over 20 years of experience delivering community asthma programs and environmental advocacy and remediation in Imperial County

<sup>12</sup> Details from the “Community Represented” column have been taken from each individual organization’s website.

Name of Community Based Organization or EJ Group	Number of Surveys	Region Represented	Community Represented
Communities for Sustainable Monterey County	37	Coastal, Bay Area	Monterey County
Del Norte & Tribal Lands Community Food Council	1	Coastal	Rural areas of Del Norte County
Growing Modoc	26	Mountain	Rural families in Modoc County
Hmong Youth and Parents United	23	Valley	Hmong Americans and under-resourced, marginalized, and vulnerable communities in the greater Sacramento region
I Love A Clean San Diego	42	Southern	Residents and businesses in San Diego County
Plumas County Community Development Commission	29	Mountain	Low-income residents in Plumas County
Los Angeles Environmental Justice Network	15	Southern, Valley	Unincorporated neighborhoods of Harbor Gateway between the cities of Torrance, Carson, Gardena, and Harbor City, within Los Angeles County, that are subject to heavy truck traffic due to major highways and warehouses, as well as emissions from nearby industrial facilities.

<b>Name of Community Based Organization or EJ Group</b>	<b>Number of Surveys</b>	<b>Region Represented</b>	<b>Community Represented</b>
Mono Lake Committee	22	Mountain)	Citizens dedicated to protecting and restoring the Mono Basin ecosystem
Monterey Bay Aquarium	1	Valley	Citizens dedicated to ocean conservation
Pacoima Beautiful	1	Southern	Northeast San Fernando Valley
Physicians for Social Responsibility Los Angeles	4	Southern	Health professionals advocating for communities impacted by environmental racism, pollution, and injustice
Valley Improvement Projects	59	Valley, Bay Area	Underrepresented and marginalized residents of the Northern San Joaquin Valley.
Responses from Undisclosed CBOs and EJ Groups	28	Southern (11), Mountain (3), Coastal (10), Valley (4)	
Total	324		

### **3. Responses to Community Recycling and Composting Survey Questions from CBOs and EJ Groups**

#### **3.A Collection Programs for Materials that May be Covered Materials**

Perceived access is an important measure, as it helps identify opportunities to improve program accessibility. Table E-3 presents the percentage of community respondents who reported perceived access to disposal, recycling, and composting services. Please note that response rates in the tables may not total 100% due to displayed decimal values and rounding.

**Table E-3. Perceived Level of Sufficient Community Access to Collection Services (Percent of Community Recycling and Composting Respondents from CBOs and EJ Groups Out of 324 Total Responses)**

Service	Yes	Somewhat	No	Unsure
Recycling Services	31%	35%	30%	4%
Composting Services	13%	18%	56%	13%
Disposal Services	35%	35%	19%	11%

Table E-4 and Table E-5 present data on how often respondents use collection containers for materials collected for recycling and organics recycling at common locations within their communities. Respondents selected from options ranging from “none of the time” to “all of the time.” Access to, and participation in, programs for collection of materials for recycling is much higher than programs for collection of materials for organics recycling.

**Table E-4. Use of Collection Containers for Materials Collected for Recycling by Location (Percent of Community Recycling and Composting Respondents from CBOs and EJ Groups Out of 324 Total Responses)**

Location	All of the Time	Most of the Time	Some of the Time	None of the Time	Not Available
At home <sup>+</sup>	52%	19%	16%	2%	10%
At work/school	41%	16%	15%	6%	22%
In public	42%	23%	19%	5%	11%

+ Row sums to 99% due to displayed decimal values and rounding.

**Table E-5. Use of Collection Containers for Materials Collected for Organics Recycling by Location (Percent of Community Recycling and Composting Respondents from CBOs Out of 324 Total Responses)**

Location	All of the Time	Most of the Time	Some of the Time	None of the Time	Not Available
At home	27%	14%	20%	9%	29%
At work/school	17%	11%	13%	13%	46%
In public	16%	14%	24%	11%	35%

Alternative collection programs most commonly used by Community Recycling and Composting Survey respondents from CBOs and EJ groups are shown in Table E-6. This question did not differentiate between programs that could be considered curbside collection and those that are managed or operated by third parties.

**Table E-6. Alternative Collection Programs Most Commonly Used (Percent of Community Recycling and Composting Respondents from CBOs and EJ Groups Out of 297 Total Responses)**

<b>Alternative Collection Program Type</b>	<b>Bay Area</b>	<b>Coastal</b>	<b>Mountain</b>	<b>Southern</b>	<b>Valley</b>	<b>Statewide Total</b>
Bottle CRV recycling centers	33%	15%	46%	48%	76%	50%
Drop-off sites	100%	37%	34%	34%	26%	33%
Composting at home or through community programs	67%	57%	33%	33%	21%	33%
Metal recycling centers	0%	15%	30%	8%	37%	22%
Collection containers at retail stores	33%	22%	15%	20%	11%	17%
Mail-back programs	67%	13%	8%	6%	2%	7%
Specialized home pick-up	0%	11%	3%	9%	3%	6%
None of the above	0%	15%	21%	16%	11%	16%

The Community Recycling and Composting Survey explored obstacles to curbside collection participation. Respondents ranked barriers from a provided list, and Tables E-7, E-8, and E-9 show the percentage selecting each rating for single-family, multifamily, and all respondents, respectively. It is likely that respondents interpreted this question to reflect access specifically to onsite curbside collection.

**Table E-7. Barriers to Participation in Curbside Programs for Single-Family Residents (Percent of Community Recycling and Composting Survey Respondents Out of 239 Respondents)**

<b>Barrier</b>	<b>Significant Barrier</b>	<b>Somewhat a Barrier</b>	<b>Not at All a Barrier</b>
Lack of availability/services	28%	30%	42%
Lack of awareness of available programs	26%	38%	36%
Unclear product labels	27%	49%	24%
Lack of trust in the recycling system	24%	36%	40%
Cost of service	25%	30%	45%
Confusion on how to sort materials	24%	52%	24%
Difficulty requesting service or information from local collection services provider <sup>+</sup>	15%	28%	56%
Inconvenience	15%	41%	44%
Lower priority compared to other needs and concerns	15%	38%	47%
Misinformation received about recycling <sup>+</sup>	15%	28%	56%
Not enough space for collection containers for materials collected for recycling and materials collected for organics recycling	15%	29%	56%
Information not available in your primary language	12%	14%	74%
Difficulty coordinating with property managers, landlords, homeowners' associations, city services, etc.	13%	23%	64%

<sup>+</sup> Row sums to 99% due to displayed decimals and rounding.

**Table E-8. Barriers to Participation in Curbside Programs for Multifamily Residents (Percent of Community Recycling and Composting Survey Respondents from CBOs and EJ Groups Out of 52 Respondents)**

<b>Barrier</b>	<b>Significant Barrier</b>	<b>Somewhat a Barrier</b>	<b>Not at All a Barrier</b>
Confusion on how to sort materials <sup>+</sup>	46%	40%	13%
Unclear product labels <sup>+</sup>	42%	44%	13%
Lack of awareness of available programs <sup>+</sup>	40%	38%	21%
Lack of availability/services	35%	38%	27%
Cost of service	33%	25%	42%
Not enough space for collection containers for materials collected for recycling and materials collected for organics recycling	23%	38%	38%
Inconvenience <sup>+</sup>	23%	38%	38%
Difficulty coordinating with property managers, landlords, homeowners' associations, city services, etc.	19%	46%	35%
Lower priority compared to other needs and concerns	21%	42%	37%
Lack of trust in the recycling system <sup>+</sup>	17%	42%	40%
Difficulty requesting service or information from local collection services provider <sup>+</sup>	13%	48%	38%
Misinformation received about recycling <sup>+</sup>	13%	40%	46%
Information not available in your primary language	6%	23%	71%

+ Row sums to 99% due to displayed decimals and rounding.

**Table E-9. Barriers to Participation in Curbside Programs for Residents in All Dwelling Types (Percent of Community Recycling and Composting Survey Respondents from CBOs and EJ Groups Out of 324 Total Respondents)**

<b>Barrier</b>	<b>Significant Barrier</b>	<b>Somewhat a Barrier</b>	<b>Not at All a Barrier</b>
Lack of availability/services <sup>+</sup>	29%	32%	38%
Unclear product labels <sup>+</sup>	30%	48%	23%
Lack of awareness of available programs <sup>+</sup>	29%	39%	33%
Confusion on how to sort materials	27%	51%	22%
Cost of service	26%	30%	44%
Lack of trust in the recycling system	23%	38%	39%
Inconvenience	17%	41%	42%
Lower priority compared to other needs and concerns	16%	40%	44%
Difficulty requesting service or information from local collection services provider	16%	32%	52%
Difficulty coordinating with property managers, landlords, homeowners' associations, city services, etc.	16%	27%	57%
Not enough space for collection containers for materials collected for recycling and materials collected for organics recycling	16%	32%	52%
Misinformation received about recycling	15%	32%	53%
Information not available in your primary language	12%	16%	72%

+ Row does not sum exactly to 100% due to displayed decimals and rounding.

The Community Recycling and Composting Survey asked respondents to rank motivating factors on a four-point scale ranging from “not at all motivated” to “very motivated” for each factor. Tables E-10 and E-11 show the percentage of survey respondents from CBOs and EJ groups that selected each ranking level for each motivating factor by type of residence. Top motivating factors for both single-family and multifamily residents were to make the world better for future generations and to reduce waste overall.

**Table E-10. Motivating Factors for Participation in Recycling Collection Programs for Single-Family Residents (Percent of Community Recycling and Composting Survey Respondents from CBOs and EJ Groups Out of 239 Respondents)**

<b>Motivating Factor</b>	<b>Very Motivated</b>	<b>Somewhat Motivated</b>	<b>Slightly Motivated</b>	<b>Not at All Motivated</b>
To make the world better for future generations	78%	13%	8%	1%
To reduce waste overall, litter and dumping in my neighborhood	77%	14%	8%	1%
To do the right thing <sup>+</sup>	77%	15%	8%	1%
To improve public health and safety	74%	16%	9%	1%
To reduce greenhouse gas emissions (GHGs) and protect the environment <sup>+</sup>	64%	19%	13%	5%
To follow the leadership of influential people/organizations	32%	23%	24%	21%
To earn extra income or save money (CRV deposit refunds, metal recycling, refill discounts, etc.) <sup>+</sup>	41%	21%	18%	21%
To avoid penalties from mandatory sorting requirements <sup>+</sup>	38%	26%	22%	15%

+ Row does not sum exactly to 100% due to displayed decimals and rounding.

**Table E-11. Motivating Factors for Participation in Recycling Collection Programs for Multifamily Residents (Percent of Community Recycling and Composting Survey Respondents from CBOs and EJ Groups Out of 52 Respondents)**

Motivating Factor	Very Motivated	Somewhat Motivated	Slightly Motivated	Not at All Motivated
To make the world better for future generations <sup>+</sup>	85%	6%	8%	2%
To reduce waste overall, litter and dumping in my neighborhood	81%	13%	6%	0%
To do the right thing	77%	13%	6%	4%
To improve public health and safety	71%	17%	10%	2%
To reduce greenhouse gas emissions (GHGs) and protect the environment	71%	15%	10%	4%
To avoid penalties from mandatory sorting requirements	29%	31%	17%	23%
To follow the leadership of influential people/organizations	23%	37%	19%	21%
To earn extra income or save money (CRV deposit refunds, metal recycling, refill discounts, etc.)	37%	13%	25%	25%

+ Row does not sum exactly to 100% due to displayed decimals and rounding.

Table E-12 shows whether Community Recycling and Composting Survey respondents received education from their local jurisdiction or recycling service provider on how to properly sort waste and prevent contamination. Most respondents from CBOs and EJ groups reported either not receiving this education or being unsure if they had received it.

**Table E-12. Sorting and Contamination Education Received by Community (Percent of Community Recycling and Composting Survey Respondents from CBOs and EJ Groups Out of 324 Total Responses)**

Description	Bay Area	Coastal	Mountain	Southern	Valley <sup>+</sup>	Statewide Total
No	33%	15%	70%	39%	51%	46%
Yes	67%	74%	24%	44%	28%	39%
Unsure	0%	11%	6%	17%	22%	15%

+ Column does not sum exactly to 100% due to displayed decimals and rounding.

### 3.B Contamination

Table E-13 demonstrates the perceived impacts of contamination, as reported by Community Recycling and Composting Survey respondents from CBOs and EJ groups. Respondents were allowed to select multiple choices. The vast majority of respondents appear to understand that contamination can lead to materials being processed as trash.

**Table E-13. Perceived Impacts of Contamination (Percent of Community Recycling and Composting Survey Respondents from CBOs and EJ Groups Out of 324 Responses)**

Impact	Respondents Selected (Percent)
Improperly sorted materials processed as trash	77%
Fees from collection service providers	25%
Discontinuation of service due to repeated contamination	18%
Other	3%

Table E-14 provides the percentage of Community Recycling and Composting Survey respondents from CBOs and EJ groups that selected each of the factors as contributing to contamination. Respondents were allowed to select multiple choices. More than half of respondents selected confusion over how to sort as a main factor contributing to contamination.

**Table E-14. Factors Contributing to Contamination (Percent of Community Recycling and Composting Survey Respondents from CBOs and EJ Groups Out of 324 Responses)**

Factor/Reason	Respondents Selected (Percent)
Confusion over how to sort	52%
Lack of trust in the recycling system	37%
Other people placing items in your collection containers	32%
Too messy or unsanitary to prepare and sort materials	27%
Difficult to access recycling and composting collection containers	23%
More convenient to place all items in one collection containers	17%
Other	4%

Additional reasons identified by respondents who selected “other” included:

- Containers are not available to sort into
- Lack of space for separate containers in one’s home

Table E-15 presents the types of education that respondents reported receiving, as well as their preferred method for receiving information about recycling collection programs. Respondents could select multiple education methods. Receiving education by mail was the most common current method, while email was the most preferred.

**Table E-15. Types of Education Received and Preferred Method for Receiving Education (Percent of Community Recycling and Composting Survey Respondents from CBOs and EJ Groups Out of 324 Responses)**

Education Method	Currently Receiving	Prefer to Receive
Mail	48%	33%
Label on product	36%	38%
Email	29%	41%
Website	28%	27%
Social media	26%	25%
Infographic on collection programs for recycling	24%	33%
TV or radio advertisements	21%	23%
Educational materials from schools	19%	27%

Education Method	Currently Receiving	Prefer to Receive
Billboard/outdoor advertisements	19%	23%
Phone	15%	13%

### 3.C Environmental and Public Health Impacts

Table E-16 identifies the percentage of Community Recycling and Composting Survey respondents from CBOs and EJ groups who feel environmental problems disproportionately affect certain groups in their area (e.g. low-income residents, minorities, people of color, youth). Approximately two-thirds of respondents believe certain groups are disproportionately burdened.

**Table E-16. Perception That Certain Groups are Disproportionately Burdened by Environmental Problems (Percent of Community Recycling and Composting Survey Respondents from CBOs and EJ Groups Out of 324 Responses)**

Description	Respondents <sup>+</sup>
Yes	65% (209)
Unsure	23% (73)
No	13% (42)

+ Column does not sum exactly to 100% due to displayed decimals and rounding.

Table E-17 represents the percentage of respondents who identified the following collection vehicle impacts as either “concerning” or “very concerning.” The most popular response showed concerns over filling the nearest landfill.

**Table E-17. Perceived Level of Concern with Potential Impacts of Collection Vehicles (Percentage of Community Recycling and Composting Respondents “Concerned” or “Very Concerned” from CBOs and EJ Groups Out of 324 Total Responses)**

Impact	Bay Area	Coastal	Mountain	Southern	Valley	Statewide
Filling Nearest Landfill	33%	59%	25%	64%	56%	51%
Litter/Spillover	0%	33%	16%	55%	51%	40%
Neighborhood Cleanliness	0%	17%	19%	45%	48%	35%
GHG Emissions	0%	26%	18%	47%	45%	36%
Environmental Impacts	0%	13%	18%	39%	36%	29%

Table E-18 demonstrates the extent to which Community Recycling and Composting Survey respondents from CBOs and EJ groups believe they and/or their community have been directly impacted by certain challenges with waste in their community. Littering and illegal dumping were the most selected impacts.

**Table E-18. Perceived Extent of Personal and/or Community Impacts from Waste-Related Challenges (Percentage of Community Recycling and Composting Survey Respondents from CBOs and EJ Groups Perceiving Impacts Out of 324 Total Responses)**

Challenge	Yes	Somewhat	No	Unsure
Littering	57%	28%	12%	3%
Illegal dumping <sup>+</sup>	44%	21%	24%	10%
Unreliable collection schedule	13%	19%	59%	9%
Loss of recycling service providers	14%	14%	53%	19%

+ Row does not sum exactly to 100% due to displayed decimals and rounding.

The Community Recycling and Composting Survey asked respondents to identify positive environmental benefits from recycling and composting. Table E-19 demonstrates the percentage of survey respondents from CBOs and EJ groups that selected each impact. Respondents could make multiple selections.

**Table E-19. Perceived Positive Environmental Impacts of Recycling and Composting (Percentage of Community Recycling and Composting Survey Respondents from CBOs and EJ Groups Out of 324 Total Responses)**

<b>Positive Environmental Impact</b>	<b>Bay Area</b>	<b>Coastal</b>	<b>Mountain</b>	<b>Southern</b>	<b>Valley</b>	<b>Statewide</b>
Collecting and recycling plastic waste helps reduce the amount of plastic that ends up in the environment as litter	100%	76%	86%	75%	71%	77%
Composting produces nutrient-rich compost, which enhances soil quality, improves water retention, and reduces the need for chemical fertilizers	100%	87%	79%	71%	68%	75%
Recycling materials consumes less energy and resources than producing new materials, leading to lower carbon footprint and protection of natural resources	100%	78%	71%	72%	67%	72%
Reduced greenhouse gas (GHG) emissions by diverting recyclable materials/compostable materials from landfills (helps address climate change)	100%	76%	64%	68%	64%	67%
Recycling programs help raise awareness about environmental conservation, fostering a culture of environmental responsibility in communities	100%	85%	68%	64%	61%	67%
Other	0%	2%	1%	1%	1%	1%
None	0%	2%	0%	1%	2%	1%

Table E-20 shows the number of respondents from CBOs and EJ groups who reported that they live near a recycling or composting facility. Table E-21 shows the percentage of respondents living near a recycling or composting facility who feel they have had opportunities to express their feelings about the facility with local community leaders, elected officials or facility staff. While most survey respondents did not knowingly live near facilities, the majority of those who did felt they had not had the opportunity to express their feelings about it.

**Table E-20. Respondents Living Near a Recycling or Composting Facility (Number of Community Recycling and Composting Survey Respondents from CBOs and EJ Groups Out of 324 Total Responses)**

Response	Number of Respondents <sup>+</sup>
No	219 (68%)
Yes	64 (20%)
Unsure	41 (13%)

+ Column does not sum exactly to 100% due to displayed decimals and rounding.

**Table E-21. Respondents Who Feel They Have Had Opportunities to Express Their Feelings About Nearby Facilities (Percent of Community Recycling and Composting Survey Respondents from CBOs and EJ Groups Out of 64 Living Near Facilities)**

Response	Bay Area	Coastal	Mountain	Southern	Valley	Statewide
No	N/A	22%	29%	57%	90%	56%
Yes	N/A	78%	71%	43%	10%	44%

## 4. Full List of Community Recycling and Composting Survey Questions

### 4.A Introduction

HF&H Consultants, LLC (HF&H), on behalf of the California Department of Resources Recycling and Recovery (CalRecycle), **requests your participation in a survey** related to a new law established to cut down on single-use packaging and plastic single-use food service ware, improve the recycling and composting of such materials, and mitigate the impacts of plastic pollution in California. Learn more about the [Plastic Pollution Prevention and Packaging Producer Responsibility Act](#) on CalRecycle’s webpage.

#### What is this survey and why participate?

As part of a statewide needs assessment, CalRecycle is researching needed changes to the recycling system in a way that minimizes public health and environmental impacts and maximizes community benefits. This survey was created to hear directly from communities about their perspectives, experiences, and ideas for improving recycling and composting in California.

Your responses are valued and critical because:

- CalRecycle wants to ensure the needs assessment reflects the diverse challenges and perspectives of California communities impacted by plastic pollution and the recycling system.
- Changes identified in this needs assessment must be considered by industry as they implement and fund improvements to meet the law’s requirements.

Compensation may be provided to community participants for providing their expertise and knowledge through completion of the survey. For more information on compensation, please email [EPRNeedsAssessment@hdrinc.com](mailto:EPRNeedsAssessment@hdrinc.com).

**Will my responses be confidential?**

All information shared through this survey will be treated confidentially by HF&H. Responses will be aggregated before sharing data with CalRecycle or presenting data in published reports.

**How do I participate?**

Please complete the survey by August 1, 2025. We do understand this is a tight timeline and appreciate your effort in this manner. Participation is voluntary.

HF&H staff are available to answer questions at [EPRNeedsAssessment@hdrinc.com](mailto:EPRNeedsAssessment@hdrinc.com). The survey can be completed in multiple sessions (i.e., your progress will be saved).

**Questions?**

If you have any questions related to this survey or the work being conducted by HF&H, then please email [EPRNeedsAssessment@hdrinc.com](mailto:EPRNeedsAssessment@hdrinc.com). If you have questions related to the broader implementation of the Act or the needs assessment, then please email CalRecycle at [packaging@calrecycle.ca.gov](mailto:packaging@calrecycle.ca.gov).

#### 4.B Respondent Contact Information

1. Name (First name and Last name)
2. Phone Number
3. Email Address
4. Name of Organization/Tribe
5. Please enter your 5-digit ZIP code

#### 4.C Demographic Questions

The following questions help us understand who is participating. Your responses are completely optional and confidential. You may skip any question in this section.

1. What is your date of birth?
2. Which best describes your type of residence or living situation?
  - a. Single-family home
  - b. Apartment or condominium
  - c. Townhouse or duplex
  - d. Mobile home
  - e. Unhoused
  - f. Other [If you selected "Other" please explain.]
3. Which of the following best describes your current annual household income?
  - a. Less than \$25,000
  - b. \$25,000 to \$49,999
  - c. \$50,000 to \$74,999
  - d. \$75,000 to \$99,999
  - e. \$100,000 to \$149,999
  - f. \$150,000 to \$199,999
  - g. \$200,000+
4. What is your race and/or ethnicity? Please select all that apply.
  - a. White
  - b. Hispanic or Latino
  - c. Black or African American
  - d. Asian
  - e. American Indian or Alaska Native
  - f. Middle Eastern or North African
  - g. Native Hawaiian or Pacific Islander
  - h. Prefer not to answer [*Because you selected "Prefer not to answer" no other responses to this question will be recorded.*]

#### 4.D Community Information

5. How would you describe the community you live in?
  - a. Rural (Low population density, distant from urban centers)
  - b. Suburban (Primarily residential, outside of urban centers)
  - c. Urban (High population density, within city limits)
6. Which language(s) are spoken in your community? Please select all that apply.
  - a. English
  - b. Spanish
  - c. Cantonese
  - d. Mandarin
  - e. Vietnamese
  - f. Tagalog
  - g. Korean
  - h. Armenian
  - i. Farsi
  - j. Arabic
  - k. Russian
  - l. Japanese
  - m. Punjabi
  - n. Khmer
  - o. One or more languages of California Native American tribes
  - p. Other [If you selected "Other" please explain.]
7. Do you feel concerned about how the following environmental issues impact your community or neighborhood?

Description	Yes	No	Unsure
Water quality and contamination			
Neighborhood cleanliness			
Air pollution from traffic or industry			
Soil contamination			
Lack of plants and animals			
Neighborhood safety			

8. Have you and/or your community been impacted by the following challenges with waste management?

Description	Yes	Somewhat	No	Unsure
Illegal dumping				
Littering				
Unreliable waste collection schedule				
Loss of waste management service providers				
Sharps/needles disposed of unsafely (littered, or not in sharps containers)				

9. Have you and/or your community been financially impacted by the waste management impacts above?

- a. Yes
- b. Somewhat
- c. No
- d. Unsure

10. In the last 6 months, have local organizations or your municipality hosted events in your community around environmental education and waste management/disposal?

- a. Yes
- b. No
- a. Unsure

#### 4.E General Awareness

Packaging makes up over 50% of what we dump in California landfills by volume. Senate Bill 54 (SB 54 or the “Plastic Pollution Prevention and Packaging Producer Responsibility Act”) was signed into law in June 2022 to reduce single-use packaging and plastic food service ware. By 2032, the state of California will:

- Cut 25% of single-use plastic packaging and food ware
- Recycle 65% of single-use plastic packaging and food service ware
- Ensure 100% of single-use packaging and plastic food service ware sold in the state of California is recyclable or compostable

11. Before this survey, what was your knowledge of SB 54?

- a. No prior knowledge of SB 54
- b. Heard of SB 54 but unsure what it’s about
- c. Familiar with SB 54 and its goals
- d. Knowledgeable about SB 54
- b. Supporting SB 54 goals

12. Do you feel knowledgeable and/or concerned about potential impacts of single-use packaging and plastic waste on the environment and public health?

Description	Yes	Somewhat	No	Unsure
Knowledgeable about potential impacts				
Concerned about potential impacts				

#### 4.F Access and Equity

Feeling motivated to recycle and compost is unique for every California resident. CalRecycle wants to understand what makes it easy or hard for you to access and participate in recycling and composting programs.

13. How often do you make an effort to use **COMPOSTING** containers that are available?

Description	Not available	None of the time	Some of the time	Most of the time	All of the time
At home					
At work/school					
In public					

14. How often do you make an effort to use **RECYCLING** containers that are available?

Description	Not available	None of the time	Some of the time	Most of the time	All of the time
At home					
At work/school					
In public					

15. Where do you find **RECYCLING** and **COMPOSTING** most easily accessible? Please select all that apply.

Description	At home	At work/school	In public	Not accessible
Recycling				
Composting				

16. Which other recycling programs do you use in addition to curbside collection programs, if any? Please select all that apply.

- a. Bottle CRV recycling centers
- b. Metal recycling centers
- c. Collection containers at retail stores
- d. Mail back programs
- e. Specialized home pick-up
- f. Drop-off sites
- g. Composting at home or through community programs

- h. None of the above [*Because you selected "None of the above" no other responses to this question will be recorded.*]
17. What would make it easier for you to participate in CURBSIDE recycling and composting collection programs? Please select all that apply.
- a. New curbside collection programs made available in my area
  - b. Additional materials accepted by the programs available in my area, if any
  - c. Reduced cost
  - d. Additional or clearer information on what to recycle and compost
  - e. Trainings conducted by local jurisdictions, service providers, or other entities
  - f. Having more containers or more convenient access to containers
  - g. Verification that my items are being recycled/composted
  - h. Clearer labels on collection containers
  - i. Clearer labels on packaging
  - j. None of the above [*Because you selected "None of the above" no other responses to this question will be recorded.*]
18. What would make it easier for you to participate in NON-CURBSIDE collection programs? Please select all that apply.
- a. Availability of free or low-cost alternatives to paying fees at a drop-off center
  - b. More locations within a short distance from home (less than a 5-minute drive)
  - c. More locations within walking distance from home (less than a 10-minute walk)
  - d. Home pickup services
  - e. Mail back programs
  - f. Locations in commonly visited places
  - g. None of the above [*Because you selected "None of the above" no other responses to this question will be recorded.*]
19. How motivated are you by the following reasons to participate in recycling programs?

Description	Not at all motivated	Slightly motivated	Somewhat motivated	Very motivated
To reduce greenhouse gas emissions (GHGs) and protect the environment				
To reduce waste overall, litter and dumping in my neighborhood				
To improve public health and safety				
To do the right thing				
To make the world better for future generations				
To follow the leadership of influential people/organizations				
To avoid penalties from mandatory sorting requirements				
To earn extra income or save money (CRV deposit refunds, metal recycling, refill discounts, etc.)				

20. Do you feel your community has enough access to:

Description	Yes	Somewhat	No	Unsure
Waste disposal services				
Recycling services				
Composting services				
Clean and safe parks and outdoor spaces				
Reliable environmental health information				
Community programs about health risks and pollution				

21. Do you feel environmental problems disproportionately affect certain groups in your area (e.g. low-income residents, minorities, people of color, youth)?

- a. Yes
- b. No
- c. Unsure

Please share any additional thoughts or feedback.

#### 4.G Environmental Impacts

The goal of recycling and composting programs is to have a positive impact on the environment, but CalRecycle wants to know if you have experienced environmental impacts from the methods used to collect and process recyclable and compostable materials.

22. How concerned are you about the potential **impacts** caused by collection trucks?

Description	Unsure or unaware of impacts	Somewhat concerned	Concerned	Very concerned
Environmental impacts				
Greenhouse gas (GHG) emissions				
Neighborhood cleanliness issues				
Litter or spillover from trucks				
Increased waste filling the nearest landfill				

23. Do you feel that the collection and processing of recyclable and compostable materials have any of the following **negative environmental impacts**? Please select all that apply.

- a. Greenhouse gases (GHGs) produced by collection vehicles
- b. Increased energy consumption by processing facilities
- c. Litter caused by materials falling out of containers and trucks
- d. Water pollution by chemicals from material processing
- e. None [*Because you selected "None" no other responses to this question will be recorded.*]
- f. Other [If you selected "Other" please explain.]

24. What do you feel are the most **positive environmental benefits** of recycling and composting? Please select all that apply.

- a. Reduced greenhouse gas (GHG) emissions by diverting recyclable materials/compostable materials from landfills (helps address climate change)
- b. Composting produces nutrient-rich compost, which enhances soil quality, improves water retention, and reduces the need for chemical fertilizers
- c. Recycling materials consumes less energy and resources than producing new materials, leading to lower carbon footprint and protection of natural resources

- d. Collecting and recycling plastic waste helps reduce the amount of plastic that ends up in the environment as litter
- e. Recycling programs help raise awareness about environmental conservation, fostering a culture of environmental responsibility in communities
- f. None [*Because you selected "None" no other responses to this question will be recorded.*]
- g. Other [If you selected "Other" please explain.]

#### 4.H Public Health Impacts

Composting, reducing, reusing, and recycling can provide many public health benefits; however, the methods used to collect and process materials for recycling and composting could have impacts that CalRecycle wants to take into consideration.

25. How concerned are you about the potential **health** impacts caused by collection trucks?

Description	Unsure or unaware of impacts	Somewhat concerned	Concerned	Very concerned
Health impacts				
Noise impacts				
Neighborhood safety impacts				
Traffic				
Odors				

26. Do you live near a recycling or composting facility?

a. Yes

- 1. Do you feel that the facility impacts your health and the local environment?
  - 1. Has a positive impact
  - 2. Has no impact/neutral
  - 3. Has a negative impact
  - 4. Unsure
- 2. Do you feel that you've had opportunities to express your feelings about the facility with your local community leaders, elected officials or facility staff?
  - 1. Yes
  - 2. No

b. No

c. Unsure

27. What do you feel are the most **positive neighborhood and community benefits** of recycling collection? Please select all that apply.

- a. Recycling and composting programs create green jobs that can provide employment in local communities

- b. Collection of materials can reduce the number of materials that end up as litter and pollution, which helps create cleaner neighborhoods
  - c. Fosters a culture of environmental responsibility among community members
  - d. If a California Redemption Value (CRV) collection facility is present, it can provide supplementary income for local residents
  - e. None [*Because you selected "None" no other responses to this question will be recorded.*]
  - f. Other [If you selected "Other" please explain.]
28. Do you feel that the collection and processing of recyclable and compostable materials has any of the following **negative neighborhood and community impacts**? Please select all that apply.
- a. Noise pollution
  - b. Traffic congestion or accidents
  - c. Reduced space for driving, parking and biking in the streets on collection day due to containers in the way
  - d. Reduced space for walking, wheelchairs and strollers in the sidewalks and streets on collection day due to containers being in the way
  - e. Pedestrian safety
  - f. Collection worker safety
  - g. Litter
  - h. None [*Because you selected "None" no other responses to this question will be recorded.*]
  - i. Other [If you selected "Other" please explain.]
29. Which strategies would you feel would be the most effective in reducing the **potential negative impacts** if recycling and compostable materials collection were to be expanded in your area? Please select all that apply.
- a. Use of electric collection vehicles to reduce emissions and noise
  - b. More efficient collection routes
  - c. Increased public education on how to use recycling and composting programs to benefit public health, communities and the environment
  - d. Limiting operating hours to avoid traffic congestion and improve pedestrian safety
  - e. Improved bike lanes and sidewalks
  - f. None [*Because you selected "None" no other responses to this question will be recorded.*]
  - g. Other [If you selected "Other" please explain.]

#### 4.I Sorting and Contamination

Contamination occurs when waste is not sorted into the right containers for trash/landfill, recycling, or composting. When an item is placed into the wrong container and is not recyclable or compostable by your local service provider, the contents of the whole container could be labeled “contaminated” and sent to the landfill, because many collection facilities do not have the capacity to sort through contaminated contents.

30. Have you received education from your city or recycling service provider on how to sort waste and prevent contamination?

a. Yes

1. What types of information materials have you received? Please select all that apply.

1. Newsletter
2. Postcard
3. Sorting signage on collection bins
4. Container tag / warning notice
5. Contamination fee
6. Social media posts
7. In-person technical assistance / site visits
8. Other [If you selected “Other” please explain.]

b. No

c. Unsure

31. Which materials do you feel most confident about placing into your recyclable materials container? Please select all that apply.

a. Not applicable – no separate recycling container provided in my area or I don’t subscribe for this service. *[Because you selected “Not applicable” no other responses to this question will be recorded.]*

b. Paper

c. Cardboard

d. CA Redemption Value (CRV) beverage containers

e. Metal cans and tins (Other than CRV beverage containers)

f. Plastic containers and tubs

g. Glass jars

32. Which materials are the most confusing for you to sort for recycling or disposal?

Please select all that apply.

a. Paper

b. Cardboard

c. Metals

d. Plastics

e. Glass

f. Items with multiple material types (e.g., paper lined with plastic)

g. Electronic waste

h. Hazardous chemicals and cleaning supplies

i. Medications

j. Sharps/needles

k. Other [If you selected “Other” please explain.]

33. Which scenarios are the most confusing to you when sorting materials? Please select all that apply
- Not applicable – no separate recycling container provided in my area or I don't subscribe for this service. [*Because you selected "Not applicable" no other responses to this question will be recorded.*]
  - When items are recyclable but have not been cleaned or might be too dirty
  - When packaging is made of mixed materials (e.g. plastic yogurt cup with aluminum foil lid, clear plastic shell glued to cardboard backing)
  - When plastics do not have a recycling number on them (such as ♻)
  - When parts of a package need to be separated for recycling
  - When plastic pieces are very small (such as bottle caps)
  - When plastic packaging or plastic bags say "recyclable in certain areas" or similar
  - When food scraps contain ingredients that seem like they might not be compostable (such as meat and bones)
  - When single-use food containers and utensils appear recyclable or compostable
  - Where to sort common items like coffee cups, wine corks, waxed paper, etc.
  - Other [If you selected "Other" please explain.]
34. How do you decide whether to put plastic items in the trash or recycling container (if available)? Please select all that apply.
- Not applicable – no separate recycling container provided in my area or I don't subscribe for this service. [*Because you selected "Not applicable" no other responses to this question will be recorded.*]
  - Put all plastic items in the trash
  - Put all plastic items in the recycling container
  - Separate plastic items between trash, recycling, and containers based on personal knowledge and experience
  - Look for the recycling **symbol** (♻) on the item to decide whether to put items in the recycling containers
  - Look at the **number** in the recycling symbol (♻) labeled on the item to decide whether to put it in the recycling container
  - Other [If you selected "Other" please explain.]
35. What are some of the ways you prepare your recyclables before placing them in the recycling container? Please select all that apply.
- Not applicable – no separate recycling container provided in my area or I don't subscribe for this service. [*Because you selected "Not applicable" no other responses to this question will be recorded.*]
  - Rinse and dry recyclables
  - Rinse recyclables without drying
  - Scrape out food and/or other substances
  - Remove pieces that seem non-recyclable (e.g., film, tape, adhesive labels, envelope windows, etc.)

- f. No preparation before placing recyclables in container [*Because you selected "Not applicable" or "No preparation" no other responses to this question will be recorded.*]
  - g. Other [If you selected "Other" please explain.]
36. Which materials are the most confusing to sort into your composting container? Please select all that apply.
- a. Not applicable – no separate composting container provided in my area or I don't subscribe for this service. [*Because you selected "Not applicable" no other responses to this question will be recorded.*]
  - b. Food scraps (raw and cooked)
  - c. Packaged and processed foods
  - d. Garden and plant materials (e.g. yard waste, potting soil)
  - e. Compostable plastic food containers
  - f. Compostable paper food containers (e.g. some types of paper takeout boxes or coffee cups)
  - g. Compostable food service ware (straws and utensils marked "compostable")
  - h. Soiled paper
  - i. Other [If you selected "Other" please explain.]
37. Which scenarios have you faced that might lead to contamination and improper sorting? Please select all that apply.
- a. Confusion over how to sort
  - b. Other people placing items in your containers
  - c. Difficult to access recycling and composting containers
  - d. More convenient to place all items in one container
  - e. Too messy or unsanitary to prepare and sort materials
  - f. Lack of trust in the recycling system (e.g., feeling like materials are not actually recycled)
  - g. Other [If you selected "Other" please explain.]
38. What are the impacts of contamination that you are aware of? Please select all that apply.
- a. I can be charged fees from my collection service provider for contamination
  - b. My collection services can be temporarily or permanently discontinued due to repeated contamination
  - c. Improperly sorted material can be processed as trash
  - d. Other [If you selected "Other" please explain.]

#### 4.J Information and Education

Being motivated to recycle and compost is the first step, but if you and your community can't easily find information on how to participate in local programs, sorting your waste into the right containers can quickly turn into a guessing game. CalRecycle wants to know about the information and education that have been available to you, which will help us understand how to provide the resources you need to feel confident about recycling and composting.

39. How do you currently receive and/or would prefer to receive information about recycling programs? Please select all that apply.

Description	I currently receive information through this method	I made changes in how I recycle after I received information through this method	I prefer to receive information through this method	Does not apply
Mail				
Email				
Phone				
Social media				
TV or radio advertisements				
Billboard/outdoor advertisements				
Infographic on recycling programs				
Educational materials from schools				
Label on product				
Website				
Other				

If you selected "Other" please explain:

40. Recently, have you made any changes to your recycling behavior?

Description	Yes	No
Increased effort to sort recycling		
Gained knowledge about recycling		
Looked into local options for recycling		
Coordinated with family and/or neighbors about recycling		
Participated in CRV redemption programs		
Purchased recyclable, bulk packaged, or packaging-free products		
Other		

If you selected "Other" please explain:

41. What are some of the challenges or barriers you face in participating in CURBSIDE recycling and composting programs and how significant are these barriers? Please select all that apply.

Description	Not at all a barrier	Somewhat a barrier	Significant barrier
Lack of availability/services			
Cost of service			
Lack of awareness of available programs			
Confusion on how to sort materials			
Unclear product labels			
Inconvenience			
Lower priority compared to other needs and concerns			
Lack of trust in the recycling system			
Not enough space for recycling and composting containers			
Information not available in your primary language			
Difficulty requesting service or information from local collection services provider			
Difficulty coordinating with property managers, landlords, homeowners associations, city services, etc.			
Misinformation received about recycling			

Please share any additional thoughts or feedback.

42. What information and educational materials would you like to be provided about recyclable and compostable materials collection? Please select all that apply.
- a. Which items to place in recycling containers
  - b. Which items to place in compost containers
  - c. Recycling and/or compost collection services that are available locally
  - d. Why properly sorting and cleaning recyclables before disposal is good for recycling
  - e. The environmental benefits of recycling and composting
  - f. Tips to minimize the challenges of recycling and compost management
  - g. None [*Because you selected "None" no other responses to this question will be recorded.*]
  - h. Other [If you selected "Other" please explain.]

**[End of Survey]**

Thank you for completing the CalRecycle SB 54 Needs Assessment Survey. Your responses will be used to inform the newly created Extended Producer Responsibility (ERP) Program in California that seeks to shift the burden of reducing single-use packaging and plastic waste back to producers and distributors.

Please consider [submitting a comment](#) to CalRecycle regarding your experience with the SB 54 Statewide Needs Assessment project. Public comments received via this portal will be considered as they relate to the statewide needs assessment and will not receive a direct response.

**What if I have questions about the survey?**

Visit the [CalRecycle website](#) or email questions to [EPRNeedsAssessment@hdrinc.com](mailto:EPRNeedsAssessment@hdrinc.com). Please include “CalRecycle SB54 Needs Assessment Survey” in the subject line of your email.

Learn more about the [Plastic Pollution Prevention and Packaging Producer Responsibility Act](#) (SB 54) on CalRecycle’s webpage.

# Appendix F: Community Recycling and Composting Survey – Engagement with California Native American Tribes

---

## 1. Community Recycling and Composting Survey Deployment to Tribes

As mentioned in Appendix E, the Community Recycling and Composting Survey was developed to gather information directly from community-based organizations and environmental justice groups. The contractor created an adaptation of the Community Recycling and Composting Survey to more appropriately address Tribal community perspectives and concerns. The adapted Community Recycling and Composting Survey amended the language and framing of some of the questions, but the same topics were covered. The survey was administered directly to Tribal leaders via an email link to Jotform, an online survey platform tool, during the engagement periods from July 16 to August 18, 2025.

## 2. Community Recycling and Composting Survey Tribal Community Response Rates

A total of eight survey responses were received from Tribal communities. The contractor worked closely with CalRecycle staff to identify and solicit engagement from 20 Tribal communities throughout the state. The results described may not reflect opinions of all Tribal communities across the state. Refer to Table F-1 for the number of survey responses by region.

**Table F-1. Tribal Community Survey Response Rate by Region**

Description	Bay Area	Coastal	Mountain	Southern	Valley	Total
Number of Responses	0	0	5	3	0	8

A list of the Tribes represented is shown in Table F-2.

**Table F-2. Community Recycling and Composting Survey Tribal Respondents**

<b>Tribal Organization Name</b>	<b>Number of Surveys Returned</b>	<b>Region Represented</b>	<b>Community Represented</b>
Big Pine Paiute Tribe of the Owens Valley	1	Mountain	Reservation is 279 acres located 18 miles from Bishop with 462 enrolled members.
Chicken Ranch Rancheria of Me-Wuk Indians of California	4	Mountain	Reservation is a 2.85 acre parcel just below the south eastern face of Table Mountain. Tribe owns and operates a casino.
Ipai Nation of Santa Ysabel	3	Southern	Reservation encompassing more than 15,000 acres.
Total	8		

### 3. Tribal Community Responses to Community Recycling and Composting Survey

#### 3.A Collection Programs for Materials that May be Covered Materials

Table F-3 presents perceived access to disposal, recycling, and composting services, by percentage of Tribal respondents. The majority of Tribal respondents reported insufficient access to collection for materials collected for recycling and organics recycling. Percentages reported may not sum to 100% due to displayed decimals and rounding.

**Table F-3. Perceived Level of Sufficient Community Access to Collection Services (Percent of Tribal Community Respondents Out of Eight Total Responses)**

<b>Service</b>	<b>Yes</b>	<b>Somewhat</b>	<b>No</b>	<b>Unsure</b>
Recycling Services <sup>+</sup>	0%	38%	63%	0%
Composting Services <sup>+</sup>	0%	13%	88%	0%
Disposal Services <sup>+</sup>	38%	25%	38%	0%

+ Row does not sum exactly to 100% due to displayed decimals and rounding.

Tables F-4 and F-5 present data on how often Tribal community respondents use collection containers for materials collected for recycling and organics recycling at common locations within their communities. Respondents selected from options ranging from “none of the time” to “all of the time”. Access to, and participation in, programs for collection of materials for recycling is much higher than programs for collection of materials for organics recycling.

**Table F-4. Use of Collection Containers for Materials Collected for Recycling by Location (Percent of Tribal Community Respondents Out of Eight Total Responses)**

Location	All of the Time	Most of the Time	Some of the Time	None of the Time	Not Available
At home	50%	25%	0%	25%	0%
At work/school	50%	38%	13%	0%	0%
In public	25%	50%	0%	13%	13%

**Table F-5. Use of Collection Containers for Materials Collected for Organics Recycling by (Percent of Tribal Community Respondents Out of Eight Total Responses)**

Location	All of the Time	Most of the Time	Some of the Time	None of the Time	Not Available
At home <sup>+</sup>	25%	13%	13%	25%	25%
At work/school <sup>+</sup>	38%	13%	25%	13%	13%
In public <sup>+</sup>	13%	25%	25%	13%	25%

+ Row does not sum exactly to 100% due to displayed decimals and rounding.

Alternative collection programs commonly used by Tribal community respondents are shown in Table F-6. This question did not differentiate between programs that could be considered curbside collection and those that are managed or operated by third parties.

**Table F-6. Alternative Collection Programs Most Commonly Used (Percent of Tribal Community Respondents Out of Eight Total Responses)**

<b>Alternative Collection Program Type</b>	<b>Statewide Total</b>
Bottle CRV recycling centers	63%
Composting at home or through community programs	63%
Drop-off sites	38%
Metal recycling centers	38%
Collection containers at retail stores	25%
Mail back programs	13%
Specialized home pick-up	13%

Tribal community respondents ranked barriers from a provided list, and Table F-7 shows the percentage selecting each rating. Cost of service and lack of services were the most common responses, where cost of service was not selected as a significant barrier for Community Recycling and Composting Survey respondents.

**Table F-7. Barriers to Participation in Curbside Programs (Percent of Tribal Community Respondents Out of Eight Total Responses)**

<b>Barrier</b>	<b>Significant Barrier</b>	<b>Somewhat a Barrier</b>	<b>Not a Barrier</b>
Cost of service <sup>+</sup>	63%	0%	38%
Lack of availability/services	50%	25%	25%
Unclear product labels <sup>+</sup>	38%	50%	13%
Lack of awareness of available programs	25%	50%	25%
Lower priority compared to other needs and concerns	25%	50%	25%
Inconvenience	25%	50%	25%
Misinformation received about recycling <sup>+</sup>	13%	50%	38%
Confusion on how to sort materials <sup>+</sup>	13%	63%	25%
Not enough space for collection containers for materials collected for recycling and materials collected for organics recycling <sup>+</sup>	13%	38%	50%
Information not available in your primary language <sup>+</sup>	0%	13%	88%
Difficulty requesting service or information from local collection services provider	0%	50%	50%
Difficulty coordinating with property managers, landlords, homeowners' associations, city services, etc.	0%	50%	50%
Lack of trust in the recycling system	0%	50%	50%

+ Row does not sum exactly to 100% due to displayed decimals and rounding.

Table F-8 shows if Tribal Community Survey respondents have received education from their local jurisdiction or recycling service provider on how to properly sort waste and prevent contamination. Three-quarters reported that they had not received any education.

**Table F-8. Sorting and Contamination Education Received (Percent of Tribal Community Respondents Out of Eight Total Responses)**

Response	Respondents Selected
No	75%
Yes	25%
Unsure	0%

### 3.B Contamination

Table F-9 demonstrates the perceived impacts of contamination, as reported by Tribal community respondents. Similarly to CBO and EJ group respondents, Tribal community respondents selected materials processed as trash as the main impact.

**Table F-9. Impacts of Contamination as Perceived by Tribal Communities (Percent of Tribal Community Respondents Out of Eight Total Responses)**

Impact	Respondents Selected
Improperly sorted materials processed as trash	63%
Fees from collection service providers	38%
Discontinuation of service due to repeated contamination	13%
Other	13%

Table F-10 provides the percentage of Tribal respondents that selected each of the factors as contributing to contamination. Respondents were allowed to select multiple choices. Tribal community respondents identified other people placing items in containers and confusion over how to sort as the main factor contributing to contamination, which was not reported by CBO and EJ group respondents.

**Table F-10. Factors Contributing to Contamination as Perceived by Tribal Communities (Percent of Tribal Community Respondents Out of Eight Total Responses)**

Factor/Reason	Respondents Selected
Other people placing items in containers	50%
Confusion over how to sort	50%
Difficult to access recycling/compost containers	38%
More convenient to place in one container	25%
Too messy/unsanitary to prepare/sort materials	25%
Lack of trust in recycling system	25%

Table F-11 demonstrates the type of education that Tribal respondents reported receiving and their preferred method for receiving education related to recycling programs. Respondents were allowed to select multiple choices. In the case of Tribal communities, social media is the main way education is received as well as the preferred method.

**Table F-11. Types of Education Received and Preferred Method for Receiving Education (Percent of Tribal Community Respondents Out of Eight Total Responses)**

Education Method	Currently Receiving	Prefer to Receive
Social media	50%	50%
Label on product	50%	13%
TV or radio advertisements	25%	25%
Billboard/outdoor advertisements	25%	0%
Infographic on collection programs for recycling	25%	25%
Educational materials from schools	25%	38%
Website	25%	25%
Mail	13%	25%
Email	13%	25%
Phone	13%	0%

### 3.C Environmental and Public Health Impacts

Table F-12 identifies the percentage of Tribal community respondents who feel environmental problems disproportionately affect certain groups in their area (e.g. low-income residents, minorities, people of color, youth). Similar to the Community Recycling and Composting Survey respondents, most Tribal community respondents selected that certain groups are disproportionately burdened.

**Table F-12. Perception That Certain Groups are Disproportionately Burdened by Environmental Problems (Percent of Tribal Community Respondents Out of Eight Total Responses)**

Response	Respondents Selected <sup>+</sup>
Yes	75%
Unsure	13%
No	13%

+ Column does not sum exactly to 100% due to displayed decimals and rounding.

Table F-13 represents the percentage of Tribal community respondents who identified the following collection vehicle impacts as either “concerning” or “very concerning”. Similar to CBO and EJ group respondents, most Tribal community respondents selected that filling the nearest landfill is the main concern.

**Table F-13. Level of Concern with Collection Vehicle Impacts (Percent of Tribal Community Respondents That Selected “Concerned” or “Very Concerned” Out of Eight Total Responses)**

Impact	Respondents Selected
Filling Nearest Landfill	63%
Litter/Spillover	38%
Neighborhood Cleanliness	38%
GHG Emissions	38%
Environmental Impacts	38%

Table F-14 demonstrates the extent to which Tribal respondents have been directly impacted by certain challenges with waste in their community. Similar CBO and EJ group respondents, illegal dumping and littering were reported as the main personal and community impacts.

**Table F-14. Extent of Personal and/or Community Impact from Waste-Related Challenges (Percent of Tribal Community Respondents Out of Eight Total Responses)**

Challenge	Yes	Somewhat	No	Unsure
Illegal Dumping	38%	25%	25%	13%
Littering	25%	75%	0%	0%
Unreliable Waste Collection	13%	13%	63%	13%
Loss of Service Providers	13%	25%	50%	13%
Sharps/Needles Disposed of Unsafely	25%	25%	38%	13%

The Community Recycling and Composting Survey asked Tribal respondents to identify positive environmental benefits from recycling and composting. Table F-15 shows the percentage of Community Recycling and survey Tribal respondents that selected each impact. Respondents could make multiple selections.

**Table F-15. Positive Environmental Impacts of Recycling and Composting (Percent of Tribal Community Respondents Out of Eight Total Responses)**

Positive Environmental Impact	Percent of Respondents
Collecting and recycling plastic waste helps reduce the amount of plastic that ends up in the environment as litter	100%
Composting produces nutrient-rich compost, which enhances soil quality, improves water retention, and reduces the need for chemical fertilizers	100%
Recycling materials consumes less energy and resources than producing new materials, leading to lower carbon footprint and protection of natural resources	88%
Recycling programs help raise awareness about environmental conservation, fostering a culture of environmental responsibility in communities	88%
Reduced greenhouse gas (GHG) emissions by diverting recyclable materials/compostable materials from landfills (helps address climate change)	75%

Table F-16 shows the number of respondents who identified that they live near a recycling or composting facility. None of the Tribal community respondents reported knowingly living near a facility.

**Table F-16. Number of Respondents Living near a Recycling or Composting Facility (Number of Tribal Community Respondents Out of Eight Total Responses)**

Response	Number of Respondents
No	6
Unsure	2
Yes	0

## 4. Full List of Community Recycling and Composting Survey Questions

Tribal communities completed the community recycling and composting survey. See Appendix F.4 for the full list of questions.

### 4.A Introduction

HF&H Consultants, LLC (HF&H), on behalf of the California Department of Resources Recycling and Recovery (CalRecycle), requests your participation in a survey related to a new law established to cut down on single-use packaging and single-use plastic food

service ware, increase recycling and composting of such materials, and mitigate the impacts of plastic pollution in California. Learn more about the Plastic Pollution Prevention and Packaging Producer Responsibility Act on CalRecycle's webpage.

### **What is this survey and why participate?**

As part of a statewide needs assessment, CalRecycle is researching needed changes to the recycling system that will also minimize public health and environmental impacts and maximize benefits for Tribal communities. This survey was created to hear directly from California Native American tribes about their perspectives, experiences, and ideas for improving recycling and composting in California.

Your responses are valued and critical because:

- CalRecycle acknowledges the longstanding environmental stewardship of Tribal nations and is committed to ensuring that this needs assessment reflects the unique challenges, priorities, and knowledge of Tribal communities.
- Changes identified in this needs assessment must be considered by industry as they implement and fund improvements to meet the law's requirements, including those that may affect Tribal communities.

Compensation may be provided to Tribal participants for providing their expertise and knowledge through completion of the survey. For more information on compensation, please email [EPRNeedsAssessment@hdrinc.com](mailto:EPRNeedsAssessment@hdrinc.com).

### **Will my responses be confidential?**

All information shared through this survey will be treated confidentially by HF&H. Responses will be aggregated before sharing data with CalRecycle or presenting data in published reports.

### **How do I participate?**

Please complete the survey by **August 22, 2025**. We do understand this is a tight timeline and appreciate your effort in this manner. Participation is voluntary.

HF&H staff are available to answer questions at [EPRNeedsAssessment@hdrinc.com](mailto:EPRNeedsAssessment@hdrinc.com). The survey can be completed in multiple sessions (i.e., your progress will be saved).

### **Questions?**

If you have any questions related to this survey or the work being conducted by HF&H, then please email [EPRNeedsAssessment@hdrinc.com](mailto:EPRNeedsAssessment@hdrinc.com).

If you have questions related to the broader implementation of the Act or the needs assessment, then please email CalRecycle at [packaging@calrecycle.ca.gov](mailto:packaging@calrecycle.ca.gov).

#### **4.B Respondent Contact Information**

1. Name (First name and Last name)
2. Phone Number
3. Email Address
4. Name of Organization/Tribe
5. Please enter your 5-digit ZIP code

#### **4.C Demographic Questions**

The following questions help us understand who is participating. Your responses are completely optional and confidential. You may skip any question in this section.

1. What is your date of birth?
2. Which best describes your type of residence or living situation?
  - a. Single-family home
  - b. Apartment or condominium
  - c. Townhouse or duplex
  - d. Mobile home
  - e. Unhoused
  - f. Other [If you selected "Other" please explain.]

#### 4.D Community Information

3. How would you describe the community you live in?
  - a. Rural (Low population density, distant from urban centers)
  - b. Suburban (Primarily residential, outside of urban centers)
  - c. Urban (High population density, within city limits)
4. Do you feel concerned about how the following environmental issues impact your community or neighborhood?

	Yes	No	Unsure
Water quality and contamination			
Neighborhood cleanliness			
Air pollution from traffic or industry			
Soil contamination			
Lack of plants and animals			
Neighborhood safety			

5. Have you and/or your community been impacted by the following challenges with waste management?

	Yes	Somewhat	No	Unsure
Illegal dumping				
Littering				
Unreliable waste collection schedule				
Loss of waste management service providers				
Sharps/needles disposed of unsafely (littered, or not in sharps containers)				

6. Have you and/or your community been financially impacted by the waste management impacts above?
  - a. Yes
  - b. Somewhat
  - c. No

- d. Unsure
- 7. In the last 6 months, have local organizations or your municipality hosted events in your community around environmental education and waste management/disposal?
  - a. Yes
  - b. No
  - c. Unsure

#### 4.E General Awareness

Packaging makes up over 50% of what we dump in California landfills by volume. Senate Bill 54 (SB 54 or the “Plastic Pollution Prevention and Packaging Producer Responsibility Act”) was signed into law in June 2022 to reduce single-use packaging and plastic food service ware. By 2032, the state of California will:

- Cut 25% of single-use plastic packaging and food ware
- Recycle 65% of single-use plastic packaging and food service ware
- Ensure 100% of single-use packaging and plastic food service ware sold in the state of California is recyclable or compostable

8. Before this survey, what was your knowledge of SB 54?

- a. No prior knowledge of SB 54
- b. Heard of SB 54 but unsure what it’s about
- c. Familiar with SB 54 and its goals
- d. Knowledgeable about SB 54
- e. Supporting SB 54 goals

9. Do you feel knowledgeable and/or concerned about potential impacts of single-use packaging and plastic waste on the environment and public health?

	Yes	Somewhat	No	Unsure
Knowledgeable about potential impacts				
Concerned about potential impacts				

#### 4.F Access and Equity

Feeling motivated to recycle and compost is unique for every California resident. CalRecycle wants to understand what makes it easy or hard for you to access and participate in recycling and composting programs.

10. How often do you make an effort to use **COMPOSTING** containers that are available?

	Not available	None of the time	Some of the time	Most of the time	All of the time
At home					
At work/school					
In public					

11. How often do you make an effort to use **RECYCLING** containers that are available?

	Not available	None of the time	Some of the time	Most of the time	All of the time
At home					
At work/school					
In public					

12. Where do you find **RECYCLING** and **COMPOSTING** most easily accessible? Please select all that apply.

	At home	At work/school	In public	Not accessible
Recycling				
Composting				

13. Which other recycling programs do you use in addition to curbside collection programs, if any? Please select all that apply.

- a. Bottle CRV recycling centers
- b. Metal recycling centers
- c. Collection containers at retail stores
- d. Mail back programs
- e. Specialized home pick-up

- f. Drop-off sites
  - g. Composting at home or through community programs
  - h. None of the above [*Because you selected "None of the above" no other responses to this question will be recorded.*]
14. What would make it easier for you to participate in CURBSIDE recycling and composting collection programs? Please select all that apply.
- a. New curbside collection programs made available in my area
  - b. Additional materials accepted by the programs available in my area, if any
  - c. Reduced cost
  - d. Additional or clearer information on what to recycle and compost
  - e. Trainings conducted by local jurisdictions, service providers, or other entities
  - f. Having more containers or more convenient access to containers
  - g. Verification that my items are being recycled/composted
  - h. Clearer labels on collection containers
  - i. Clearer labels on packaging
  - j. None of the above [*Because you selected "None of the above" no other responses to this question will be recorded.*]
15. What would make it easier for you to participate in NON-CURBSIDE collection programs? Please select all that apply.
- a. Availability of free or low-cost alternatives to paying fees at a drop-off center
  - b. More locations within a short distance from home (less than a 5-minute drive)
  - c. More locations within walking distance from home (less than a 10-minute walk)
  - d. Home pickup services
  - e. Mail back programs
  - f. Locations in commonly visited places
  - g. None of the above [*Because you selected "None of the above" no other responses to this question will be recorded.*]
16. How motivated are you by the following reasons to participate in recycling programs?

	<b>Not at all motivated</b>	<b>Slightly motivated</b>	<b>Somewhat motivated</b>	<b>Very motivated</b>
To reduce greenhouse gas emissions (GHGs) and protect the environment				
To reduce waste overall, litter and dumping in my neighborhood				
To improve public health and safety				
To do the right thing				
To make the world better for future generations				
To make the world better for future generations				
To avoid penalties from mandatory sorting requirements				
To earn extra income or save money (CRV deposit refunds, metal recycling, refill discounts, etc.)				

17. Do you feel your community has enough access to:

	<b>Yes</b>	<b>Somewhat</b>	<b>No</b>	<b>Unsure</b>
Waste disposal services				
Recycling services				
Composting services				
Clean and safe parks and outdoor spaces				
Reliable environmental health information				

Community programs about health risks and pollution				
---	--	--	--	--

18. Do you feel environmental problems disproportionately affect certain groups in your area (e.g. low-income residents, minorities, people of color, youth)?

- a. Yes
- b. No
- c. Unsure

Please share any additional thoughts or feedback.

#### 4.G Environmental Impacts

The goal of recycling and composting programs is to have a positive impact on the environment, but CalRecycle wants to know if you have experienced environmental impacts from the methods used to collect and process recyclable and compostable materials.

19. How concerned are you about the potential **impacts** caused by collection trucks?

	Unsure or unaware of impacts	Somewhat concerned	Concerned	Very concerned
Environmental impacts				
Greenhouse gas (GHG) emissions				
Neighborhood cleanliness issues				
Litter or spillover from trucks				
Increased waste filling the nearest landfill				

20. Do you feel that the collection and processing of recyclable and compostable materials have any of the following **negative environmental impacts**? Please select all that apply.

- a. Greenhouse gases (GHGs) produced by collection vehicles
- b. Increased energy consumption by processing facilities
- c. Litter caused by materials falling out of containers and trucks
- d. Water pollution by chemicals from material processing
- e. None [*Because you selected "None" no other responses to this question will be recorded.*]
- f. Other [If you selected "Other" please explain.]

21. What do you feel are the most **positive environmental benefits** of recycling and composting? Please select all that apply.

- a. Reduced greenhouse gas (GHG) emissions by diverting recyclable materials/compostable materials from landfills (helps address climate change)
- b. Composting produces nutrient-rich compost, which enhances soil quality, improves water retention, and reduces the need for chemical fertilizers
- c. Recycling materials consumes less energy and resources than producing new materials, leading to lower carbon footprint and protection of natural resources
- d. Collecting and recycling plastic waste helps reduce the amount of plastic that ends up in the environment as litter
- e. Recycling programs help raise awareness about environmental conservation, fostering a culture of environmental responsibility in communities
- f. None [*Because you selected "None" no other responses to this question will be recorded.*]
- g. Other [IF you selected "Other" please explain.]

#### 4.H Public Health Impacts

Composting, reducing, reusing, and recycling can provide many public health benefits; however, the methods used to collect and process materials for recycling and composting could have impacts that CalRecycle wants to take into consideration.

22. How concerned are you about the potential **health** impacts caused by collection trucks?

	Unsure or unaware of impacts	Somewhat concerned	Concerned	Very concerned
Health impacts				
Noise impacts				
Neighborhood safety impacts				
Traffic				
Odors				

23. Do you live near a recycling or composting facility?

a. Yes

i. Do you feel that the facility impacts your health and the local environment?

1. Has a positive impact
2. Has no impact/neutral
3. Has a negative impact
4. Unsure

ii. Do you feel that you've had opportunities to express your feelings about the facility with your local community leaders, elected officials or facility staff?

1. Yes
2. No

b. No

c. Unsure

24. What do you feel are the most **positive neighborhood and community benefits** of recycling collection? Select your top two responses.

a. Recycling and composting programs create green jobs that can provide employment in local communities

- b. Collection of materials can reduce the number of materials that end up as litter and pollution, which helps create cleaner neighborhoods
  - c. Fosters a culture of environmental responsibility among community members
  - d. If a California Redemption Value (CRV) collection facility is present, it can provide supplementary income for local residents
  - e. None [*Because you selected "None" no other responses to this question will be recorded.*]
  - f. Other [If you selected "Other" please explain.]
25. Do you feel that the collection and processing of recyclable and compostable materials has any of the following negative neighborhood and community impacts? Please select any impacts you feel are present and significant.
- a. Noise pollution
  - b. Traffic congestion or accidents
  - c. Reduced space for driving, parking and biking in the streets on collection day due to containers in the way
  - d. Reduced space for walking, wheelchairs and strollers in the sidewalks and streets on collection day due to containers being in the way
  - e. Pedestrian safety
  - f. Collection worker safety
  - g. Litter
  - h. None [*Because you selected "None" no other responses to this question will be recorded.*]
  - i. Other [If you selected "Other" please explain.]
26. Which strategies would you feel would be the most effective in reducing the potential negative impacts if recycling and compostable materials collection were to be expanded in your area? Please select all that apply.
- a. Use of electric collection vehicles to reduce emissions and noise
  - b. More efficient collection routes
  - c. Increased public education on how to use recycling and composting programs to benefit public health, communities and the environment
  - d. Limiting operating hours to avoid traffic congestion and improve pedestrian safety
  - e. Improved bike lanes and sidewalks

- f. None [*Because you selected "None" no other responses to this question will be recorded.*]
- g. Other [If you selected "Other" please explain.]

#### 4.I Sorting and Contamination

Contamination occurs when waste is not sorted into the right containers for trash/landfill, recycling, or composting. When an item is placed into the wrong container and is not recyclable or compostable by your local service provider, the contents of the whole container could be labeled “contaminated” and sent to the landfill, because many collection facilities do not have the capacity to sort through contaminated contents.

27. Have you received education from your city or recycling service provider on how to sort waste and prevent contamination?

a. Yes

i. What types of information materials have you received? Please select all that apply.

1. Newsletter
2. Postcard
3. Sorting signage on collection bins
4. Container tag / warning notice
5. Contamination fee
6. Social media posts
7. In-person technical assistance / site visits
8. Other [If you selected “Other” please explain.]

b. No

c. Unsure

28. Which materials do you feel most confident about placing into your recyclable materials container? Please select all that apply.

- a. Not applicable – no separate recycling container provided in my area or I don’t subscribe for this service [*Because you selected “Not applicable” no other responses to this question will be recorded.*]
- b. Paper
- c. Cardboard
- d. CA Redemption Value (CRV) beverage containers
- e. Metal cans and tins (Other than CRV beverage containers)
- f. Plastic containers and tubs
- g. Glass jars

29. Which materials are the most confusing for you to sort for recycling or disposal? Please select all that apply.
- a. Paper
  - b. Cardboard
  - c. Metals
  - d. Plastics
  - e. Glass
  - f. Items with multiple material types (e.g., paper lined with plastic)
  - g. Electronic waste
  - h. Hazardous chemicals and cleaning supplies
  - i. Medications
  - j. Sharps/needles
  - k. Other [If you selected "Other" please explain.]
30. Which scenarios are the most confusing to you when sorting materials? Please select all that apply.
- a. Not applicable – no separate recycling container or I don't subscribe for this service. [*Because you selected "Not applicable" no other responses to this question will be recorded.*]
  - b. When items are recyclable but have not been cleaned or might be too dirty
  - c. When packaging is made of mixed materials (e.g. plastic yogurt cup with aluminum foil lid, clear plastic shell glued to cardboard backing)
  - d. When plastics do not have a recycling number on them (such as ♻)
  - e. When parts of a package need to be separated for recycling
  - f. When plastic pieces are very small (such as bottle caps)
  - g. When plastic packaging or plastic bags say "recyclable in certain areas" or similar
  - h. When food scraps contain ingredients that seem like they might not be compostable (such as meat and bones)
  - i. When single-use food containers and utensils appear recyclable or compostable
  - j. Where to sort common items like coffee cups, wine corks, waxed paper, etc.
  - k. Other [If you selected "Other" please explain.]

31. How do you decide whether to put plastic items in the trash or recycling container (if available)? Please select all that apply.
- a. Not applicable – no separate recycling container provided in my area or I don't subscribe for this service. [*Because you selected "Not applicable" no other responses to this question will be recorded.*]
  - b. Put all plastic items in the trash
  - c. Put all plastic items in the recycling container
  - d. Separate plastic items between trash, recycling, and containers based on personal knowledge and experience
  - e. Look for the recycling symbol (♻) on the item to decide whether to put items in the recycling containers
  - f. Look at the number in the recycling symbol (♻) labeled on the item to decide whether to put it in the recycling container
  - g. Other [If you selected "Other" please explain.]
32. What are some of the ways you prepare your recyclables before placing them in the recycling container? Please select all that apply.
- a. Not applicable – no separate recycling container provided in my area or I don't subscribe for this service. [*Because you selected "Not applicable" no other responses to this question will be recorded.*]
  - b. Rinse and dry recyclables
  - c. Rinse recyclables without drying
  - d. Scrape out food and/or other substances
  - e. Remove pieces that seem non-recyclable (e.g., film, tape, adhesive labels, envelope windows, etc.)
  - f. No preparation before placing recyclables in container [*Because you selected "Not applicable" or "No preparation" no other responses to this question will be recorded.*]
  - g. Other [If you selected "Other" please explain.]
33. Which materials are the most confusing to sort into your composting container? Please select all that apply.
- a. Not applicable – no separate composting container provided in my area or I don't subscribe for this service. [*Because you selected "Not applicable" no other responses to this question will be recorded.*]
  - b. Food scraps (raw and cooked)
  - c. Packaged and processed foods

- d. Garden and plant materials (e.g. yard waste, potting soil)
  - e. Compostable plastic food containers
  - f. Compostable paper food containers (e.g. some types of paper takeout boxes or coffee cups)
  - g. Compostable food service ware (straws and utensils marked “compostable”)
  - h. Soiled paper
  - i. Other [If you selected “Other” please explain.]
34. Which scenarios have you faced that might lead to contamination and improper sorting? Please select all that apply.
- a. Confusion over how to sort
  - b. Other people placing items in your containers
  - c. Difficult to access recycling and composting containers
  - d. More convenient to place all items in one container
  - e. Too messy or unsanitary to prepare and sort materials
  - f. Lack of trust in the recycling system (e.g., feeling like materials are not actually recycled)
  - g. Other [If you selected “Other” please explain.]
35. What are the impacts of contamination that you are aware of? Please select all that apply.
- a. I can be charged fees from my collection service provider for contamination
  - b. My collection services can be temporarily or permanently discontinued due to repeated contamination
  - c. Improperly sorted material can be processed as trash
  - d. Other [If you selected “Other” please explain.]

#### 4.J Information and Education

Being motivated to recycle and compost is the first step, but if you and your community can't easily find information on how to participate in local programs, sorting your waste into the right containers can quickly turn into a guessing game. CalRecycle wants to know about the information and education that have been available to you, which will help us understand how to provide the resources you need to feel confident about recycling and composting.

36. How do you currently receive and/or would prefer to receive information about recycling programs? Please select all that apply.

	<b>I currently receive information through this method</b>	<b>I made changes in how I recycle after I received information through this method</b>	<b>I prefer to receive information through this method</b>	<b>Does not apply</b>
Mail				
Email				
Phone				
Social media				
TV or radio advertisements				
Billboard/outdoor advertisements				
Infographic on recycling programs				
Educational materials from schools				
Label on product				
Website				
Other				

If you selected "Other" please explain.

37. Recently, have you made any changes to your recycling behavior?

	Yes	No
Increased effort to sort recycling		
Gained knowledge about recycling		
Looked into local options for recycling		
Coordinated with family and/or neighbors about recycling		
Participated in CRV redemption programs		
Purchased recyclable, bulk packaged, or packaging-free products		
Other		

If you selected "Other" please explain.

38. What are some of the challenges or barriers you face in participating in CURBSIDE recycling and composting programs and how significant are these barriers? Please select all that apply.

	<b>Not at all a barrier</b>	<b>Somewhat a barrier</b>	<b>Significant barrier</b>
Lack of availability/services			
Cost of service			
Lack of awareness of available programs			
Unclear product labels			
Inconvenience			
Lower priority compared to other needs and concerns			
Lack of trust in the recycling system			
Not enough space for recycling and composting containers			
Information not available in your primary language			
Difficulty requesting service or information from local collection services provider			
Difficulty requesting service or information from local collection services provider			
Difficulty coordinating with property managers, landlords, homeowners associations, city services, etc.			
Misinformation received about recycling			

Please share any additional thoughts or feedback.

39. What information and educational materials would you like to be provided about recyclable and compostable materials collection? Please select all that apply.

- a. Which items to place in recycling containers

- b. Which items to place in compost containers
- c. Recycling and/or compost collection services that are available locally
- d. Why properly sorting and cleaning recyclables before disposal is good for recycling
- e. The environmental benefits of recycling and composting
- f. Tips to minimize the challenges of recycling and compost management
- g. None [*Because you selected "None" no other responses to this question will be recorded.*]
- h. Other [If you selected "Other" please explain.]

## **[End of Survey]**

Thank you for completing the CalRecycle SB 54 Needs Assessment Survey. Your responses will be used to inform the newly created Extended Producer Responsibility (ERP) Program in California that seeks to shift the burden of reducing single-use packaging and plastic waste back to producers and distributors.

Please consider submitting a comment to CalRecycle regarding your experience with the SB 54 Statewide Needs Assessment project. Public comments received via this portal will be considered as they relate to the statewide needs assessment and will not receive a direct response.

### **What if I have questions about the survey?**

Visit the [CalRecycle website](#) or email questions to [EPRNeedsAssessment@hdrinc.com](mailto:EPRNeedsAssessment@hdrinc.com). Please include “CalRecycle SB54 Needs Assessment Survey” in the subject line of your email.

Learn more about the [Plastic Pollution Prevention and Packaging Producer Responsibility Act](#) (SB 54) on CalRecycle’s webpage.

# Bibliography

---

- “2021 Disposal Facility-based Characterization of Solid Waste in California.” CalRecycle. June 2024. <https://calrecycle.ca.gov/wcs/dbstudy/>. Accessed September 30, 2025.
- “ACS Demographic and Housing Estimates (DP05).” American Community Survey Data, 2020, <https://data.census.gov/table?q=DP05>. Accessed September 25, 2025.
- “Alameda – Curbside Service Information,” *Stop Waste*, <https://resource.stopwaste.org/curbside/alameda> (September 9, 2025)
- “All Salaries,” *Transparent California*, < <https://transparentcalifornia.com/>> (September 25, 2025)
- Bednarz, Alexia, Goodwill RFI Response – CA 54, Received by Colleen Foster, 08/10/2025, “Email”
- “California’s Central Valley, Regional Characteristics,” United States Geological Survey, <<https://ca.water.usgs.gov/projects/central-valley/about-central-valley.html>> (September 3, 2025)
- CalRecycle, “2022 State of Disposal and Recycling Report,” *CalRecycle*, February 20, 2024, <<https://www2.calrecycle.ca.gov/Publications/Details/1732.>>
- CalRecycle, California Landfills: Measuring Single Use Packaging and Plastic Food Service Ware Disposed, Preliminary Findings, 2025
- CalRecycle, Community Service Programs/Dropoff or Collection Program Details, 2025, [www2.calrecycle.ca.gov/BevContainer/CertifiedPrograms/OtherPrograms](http://www2.calrecycle.ca.gov/BevContainer/CertifiedPrograms/OtherPrograms), (09/22/2025)
- CalRecycle – Haulers, 2025, [calrecycle.ca.gov/organics/slcp/haulers](http://calrecycle.ca.gov/organics/slcp/haulers), (09/22/2025)
- CalRecycle, Plastic Pollution and Packaging Producer Responsibility Act – SB 54 List of Covered Materials Categories, 2025, [calrecycle.ca.gov/packaging/packaging-epr/cmclist](http://calrecycle.ca.gov/packaging/packaging-epr/cmclist), (09/27/2025)
- CalRecycle, Recycling Programs Defined – Dropoff or Collection Program (CP)., 2025, [calrecycle.ca.gov/bevcontainer/certoperator/recycleprograms](http://calrecycle.ca.gov/bevcontainer/certoperator/recycleprograms), 09/22/2025
- CalRecycle, “SB 343 Material Characterization Study Preliminary Findings,” *CalRecycle*, December 28, 2023, <https://www2.calrecycle.ca.gov/Publications/Details/1729>.
- CalRecycle, “Publication Summary: SB 343 Final Findings Report (DRRR-2025-1750),” *CalRecycle*, 4 Apr. 2025, [www2.calrecycle.ca.gov/Docs/Publications/Details/1751](http://www2.calrecycle.ca.gov/Docs/Publications/Details/1751).
- “Contamination Fee Database.” “HF&H Consultants Intranet,” HF&H Consultants, LLC. Accessed September 4, 2025.

- Corning Recycles: Corning Customer Recycling Program, 2025, [www.corning.com/worldwide/en/products/life-sciences/resources/life-sciences-sustainability/package-recycle-program.html](http://www.corning.com/worldwide/en/products/life-sciences/resources/life-sciences-sustainability/package-recycle-program.html), 8/29/2025
- Crider, Johnna, “Reverse Vending Machine That Pays Cash For Plastic — Clean Technica Interview”, [www.cleantechnica.com/2021/07/30/reverse-vending-machine-that-pays-cash-for-plastic-cleantechnica-interview](http://www.cleantechnica.com/2021/07/30/reverse-vending-machine-that-pays-cash-for-plastic-cleantechnica-interview), (07/30/2021)
- “Department-Approved Waivers for Reporting Entities.” CalRecycle, <https://calrecycle.ca.gov/organics/slcp/waivers/approved/>. Accessed September 1, 2025.
- “E-5 Population and Housing Estimates for Cities, Counties, and the State, January 2021-2025, with 2020 Benchmark.” State of California, Department of Finance, <https://dof.ca.gov/forecasting/demographics/estimates/e-5-population-and-housing-estimates-for-cities-counties-and-the-state-2020-2025/>. Accessed June 12, 2025.
- Cascadia Consulting Group, “2024 San Francisco Waste Characterization Study,” December 2024.
- “Glossary.” United States Census Bureau, <https://www.census.gov/programs-surveys/geography/about/glossary.html>. Accessed September 23, 2025.
- Golden, Ali, TerraCycle RFI Response – CA 54, Received by Colleen Foster, 08/05/2025, “Email”
- “Franchise Profiles Database.” “HF&H Consultants Intranet”, HF&H Consultants, LLC. Accessed August 15, 2025.
- Golden, Ali, TerraCycle RFI Response – CA 54, Received by Colleen Foster, 08/05/2025, “Email”
- HF&H Consultants, “San Francisco Refuse Rate Board, Capital Planning,” *City and County of San Francisco*, February 21, 2025, [https://media.api.sf.gov/documents/HFH\\_SF\\_Capital\\_Plan\\_Recs\\_021825.pdf](https://media.api.sf.gov/documents/HFH_SF_Capital_Plan_Recs_021825.pdf), PowerPoint Presentation.
- International Paper, “Cardboard Recycling Challenge for Fast Growing Healthy Foods Supermarket”, 11/25/2024, [www.internationalpaper.com/resources/customerstories/cardboard-recycling-challenge-fast-growing-healthy-foods-supermarket](http://www.internationalpaper.com/resources/customerstories/cardboard-recycling-challenge-fast-growing-healthy-foods-supermarket), (09/10/2025)
- “Jurisdiction Electronic Annual Data Reports.” CalRecycle, 2023, <https://calrecycle.ca.gov/lqcentral/datatools/reports/ear/>. Accessed May 19, 2025.
- Laird, Karen, “New reverse vending Cube platform gamifies recycling”, [www.sustainableplastics.com/news/new-reverse-vending-cube-platform-gamifies-recycling](http://www.sustainableplastics.com/news/new-reverse-vending-cube-platform-gamifies-recycling), (08/22/2023)
- Kessler, CRRA, SWANA, Zero Waste Principles and Practices Manual/Instructor Guide, 2017, Chapter 4 Collection, Accessed on September 24, 2025

Mikala Kass, “First-of-its-kind plastics recycling microfactory to transform waste, create new jobs, Circular Plastics Microfactory result of partnership between ASU, City of Phoenix, Goodwill, Hustle PHX”, [news.asu.edu/20240207-environment-and-sustainability-firstofitskind-plastics-recycling-microfactory-transform](https://news.asu.edu/20240207-environment-and-sustainability-firstofitskind-plastics-recycling-microfactory-transform), (02/07/2024)

“Minutes of the Planning Committee and Alameda County Recycling Board.”  
*StopWaste*, Thursday, July 9, 2020,  
<https://www.stopwaste.org/sites/default/files/PC%26RB%2007-09-20%20pkt.pdf>.

National Academies of Sciences, Engineering, and Medicine, 2025, *Municipal Solid Waste Recycling in the United States: Analysis of Current and Alternative Approaches*. Washington, DC: The National Academies Press.  
 Doi.org/10.17226/27978, Assessed September 22, 2025

Newcomer, Emily, Ridwell Response to RFI – CA 54, 08/06/2025, “Email”

New-Indy Containerboard, 2025, [newindycontainerboard.com/what-we-do](https://newindycontainerboard.com/what-we-do), 09/22/2025

Nespresso “Choose to Recycle, 2025,  
[www.nespresso.com/us/en/recycling?msocid=397e2e471552628234073a7f14a963c4](https://www.nespresso.com/us/en/recycling?msocid=397e2e471552628234073a7f14a963c4), (09/22/2025)

Olyns “Rethinking Recycling,” 2025, [www.olyns.com](https://www.olyns.com), 09/22/2025

PineCone Press Newsletter, Clean Mountain Sites Drop-Off Locations for Trash and Recyclables, 2022, [www.burrtec.com/wp-content/uploads/2022/04/SBC-Mountain-Summer-2022-M3d-proof.pdf](https://www.burrtec.com/wp-content/uploads/2022/04/SBC-Mountain-Summer-2022-M3d-proof.pdf), (08/29/2025)

Recology, “Refuse Rate Board Hearing,” *City and County of San Francisco*, September 30, 2024, [https://www.sf.gov/sites/default/files/2024-09/2024-09-30%20Rate%20Board%20Hearing%20Agenda%20%235%20Presentation\\_Recology.pdf](https://www.sf.gov/sites/default/files/2024-09/2024-09-30%20Rate%20Board%20Hearing%20Agenda%20%235%20Presentation_Recology.pdf), PowerPoint Presentation.

Recology, “Rate Change Request, Refuse Rate Board Hearing #1,” *City and County of San Francisco*, February 21, 2025,  
[https://media.api.sf.gov/documents/Refuse\\_Rate\\_Board\\_Hearing\\_1\\_Recology\\_Presentation\\_-\\_2.21.2025.pdf](https://media.api.sf.gov/documents/Refuse_Rate_Board_Hearing_1_Recology_Presentation_-_2.21.2025.pdf), PowerPoint Presentation.

Recreate Waste Collaborative, “Residential Recycling Contamination Pilot Project Report of Findings,” January 31, 2022.

“*Recycling and Disposal Reporting: Report List*,” *CalRecycle*, 2025, <  
<https://www2.calrecycle.ca.gov/RecyclingDisposalReporting/Reports.>>

Recycling Center Near Me, 2025, [www.recyclingcenternear.me/plastic-bag-recycling/](https://www.recyclingcenternear.me/plastic-bag-recycling/), (8/29/2025)

Recycling Drop Off Center – Mojave Desert and Mountain Recycling Authority, 2025,  
[urecycle.org/residential-recycling](https://urecycle.org/residential-recycling), (08/29/2025)

Republic Services. “Otay Mesa Facility Tour,” April 15, 2025, Chula Vista, CA.

Rethink Waste, South Bayside Waste Management Authority, About Shoreway, 2025, [rethinkwaste.org/shoreway-environmental-center/about/](https://rethinkwaste.org/shoreway-environmental-center/about/), (08/29/2025).

Ridwell, 2025, [express.ridwell.com](https://express.ridwell.com/), (08/29/2025)

San Francisco Environment Department, "SB 1383 Enforcement Ordinance Success Story," San Francisco Environment Department, <https://www.sfenvironment.org/media/14493>, (September 9, 2025)

"Selected Economic Characteristics (DP03)." American Community Survey Data, 2020, <https://data.census.gov/table?q=DP03>. Accessed September 25, 2025.

Sephora + Pact, 2025, [www.pactcollective.org/pact-x-sephora](https://www.pactcollective.org/pact-x-sephora), 08/30/2025

Smalley, Megan, "Olyns, Mars partner to recycle rigid plastic candy containers," [www.recyclingtoday.com/news/olyns-mars-partner-reverse-vending-machine-challenge](https://www.recyclingtoday.com/news/olyns-mars-partner-reverse-vending-machine-challenge), (10/25/2022)

Starkey, Meghan, "*Final Report: Grant Report on Compost Contamination Reduction Pilot*," StopWaste, June 11, 2020, <https://www.stopwaste.org/sites/default/files/PC%26RB%2007-09-20%20pkt.pdf>.>StopWaste – Alameda County Waste Management Authority, Alameda County 2023-2024 Waste Characterization Study, 2025, assessed on September 27, 2025

Target, 2025, Waste Elimination and Reduction, [corporate.target.com/sustainability-governance/circularity/waste-elimination-reduction](https://corporate.target.com/sustainability-governance/circularity/waste-elimination-reduction), 8/29/2025c

The Recycling Partnership, "West Coast Contamination Initiative Research Report," April 2020.

"Summary: Diesel Particulate Matter Health Impacts," California Air Resources Board, 2025, <<https://ww2.arb.ca.gov/resources/summary-diesel-particulate-matter-health-impacts#:~:text=Several%20factors%20exacerbate%20the%20health,damage%20DNA%20and%20cause%20cancer>> (September 3, 2025).

"Waived Tracts." CalRecycle. Accessed September 9, 2025.

Waste360 Staff, "*StopWaste Chooses Compology's Dumpster Monitoring Technology*," Waste 360, November 7, 2018, <https://www.waste360.com/fleet-technology/stopwaste-chooses-compology-s-dumpster-monitoring-technology>.

Waste Today Staff, "Kroger to Process Foodwaste for Energy," 05/17/2013, [www.wastetodaymagazine.com/news/kroger-food-waste-energy-anaerobic-digestion](https://www.wastetodaymagazine.com/news/kroger-food-waste-energy-anaerobic-digestion), (09/10/2025)