



SB 343 Material Characterization Study Preliminary Findings



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Executive Summary

Lawmakers enacted Senate Bill 343 (SB 343) [Allen, Chapter 507, Statutes of 2021] prohibiting the use of the chasing arrows symbol or any other indicator of recyclability on products and packaging unless certain criteria are met. SB 343 requires CalRecycle to conduct and publish a characterization study of materials collected, sorted, sold, or transferred for recycling in California.

This report provides the preliminary findings from data CalRecycle collected to provide information to evaluate whether a product or package is recyclable in California. These preliminary findings include information from local jurisdictions on the materials accepted by their recycling programs, survey results detailing the recovery activities at California large volume transfer/processors (LVTPs) and the results of material characterization sampling of recyclable materials at LVTPs statewide.

Information provided in this report may be utilized to evaluate if materials meet criteria to be labeled or marketed as recyclable established in Public Resources Code (PRC) sections 42355.51(d)(A) and 42355.51(d)(2)(B)(i).

Background

Lawmakers enacted Senate Bill 343 (SB 343) [Allen, Chapter 507, Statutes of 2021], prohibiting the use of the chasing arrows symbol or any other indicator of recyclability on products and packaging unless certain criteria are met. CalRecycle is required to publish data about the material types and forms that are actually recycled. SB 343 directs CalRecycle to conduct and publish a characterization study of material types and forms that are collected, sorted, sold, or transferred by solid waste facilities (PRC 42355.51(d)(1)(B)(i)).

PRC 42355.51(d)(1)(B)(v) directs CalRecycle to publish the preliminary findings of the study and conduct a public meeting to present the preliminary findings and receive public comments. After receiving and considering public comments CalRecycle is directed to finalize and publish the findings of the study. This report presents the preliminary findings of the study required by PRC 42355.51(d)(1), and also includes information regarding jurisdiction recycling programs.

As outlined in PRC 42355.51(d)(2), a product or packaging may be considered recyclable in the state if, based on information published by CalRecycle, the product or packaging is of a Material Type and Form that is both:

1. Collected for recycling by jurisdiction recycling programs that collectively encompass at least 60 percent of the population of the state
2. Sorted into defined streams for recycling processes by large volume transfer/processing facilities, that collectively serve at least 60 percent of recycling programs statewide.

Public feedback

CalRecycle plans to hold a public meeting on February 13, 2024, from 1:00 pm to 4:00 pm in the Byron Sher Auditorium at 1001 I St. Sacramento, CA 95814 (date and time subject to change) to present on the preliminary findings included in this report and accept public comment.

All written feedback can be submitted to wastechar@calrecycle.ca.gov with the subject line: *SB 343 Preliminary Findings*. Written feedback can be provided prior to the workshop and after. CalRecycle requests all feedback specific to the SB 343 Preliminary Findings Report is submitted no later than **February 29, 2024**. Preferred formats include e-mail, Word document, or PDF.

Methods

CalRecycle conducted two primary data collection efforts to provide information on the two criteria outlined in PRC 42355.51(d)(2). First, data collection was conducted to gather information on material types and forms collected for recycling by jurisdiction recycling programs. Second, data collection was conducted to gather information on material types and forms that are recovered by large volume transfer/processors (LVTPs) in California.

The following methods are provided separately for each of the two data collection efforts, including assumptions and limitations for each.

Collection by Jurisdiction Recycling Programs

To identify which recyclable materials are being accepted by jurisdiction recycling programs across the state, local recycling information was collected for each jurisdiction in California. Using population data combined with information on materials accepted by jurisdiction curbside recycling programs, CalRecycle estimated the proportion of the statewide population that accepts a given Material Type and Form (see Appendix 4) for recycling collection.

List and Population of Jurisdictions in California

A list of jurisdictions and associated population estimates for 2022 was obtained from the State of California Department of Finance's (DOF) dataset entitled *E-1 Cities, Counties, and the State Population and Housing Estimates with Annual Percent Change – January 1, 2022, and 2023*. The 'Balance of County' included in the dataset encompasses the unincorporated areas of the California counties listed.

Materials Collected by Jurisdiction Recycling Program

To obtain detailed information on materials collected by jurisdiction recycling programs, CalRecycle staff conducted internet research on each of the jurisdictions listed in the DOF dataset. Staff searched for information provided to the public by jurisdictions or haulers on the materials that are collected for recycling in their residential curbside collection programs for all listed jurisdictions and unincorporated areas in California. The irecyclesmart.com website was used as a starting point to access recycling information for each jurisdiction. CalRecycle staff used the best available information online. Information collection for the survey ranged from June to September 2023.

Information was found for every jurisdiction except for Trinity County and Tulelake City. The population of the two excluded jurisdictions accounts for less than one percent of the statewide population. CalRecycle staff standardized the collected information into a spreadsheet for further analysis. Staff recorded which materials were accepted by, and explicitly not accepted by, each jurisdiction's recycling program. Jurisdiction guidance on materials accepted for recycling often utilized broad and easy-to-understand terms (e.g., plastic food and beverage containers). Material types reported by jurisdictions were standardized under general material types of glass, metal, fiber, plastics, and

miscellaneous. Each general material type was further separated into sub-categories, with a list of 89 total unique categories established for materials commonly accepted by and excluded from recycling collection. For example, within the metal material type, “food and beverage cans” and “foil” were established as sub-categories. Highly specific materials that were rarely identified by jurisdictions as recyclable, such as hangers or deodorant containers, were grouped into the Miscellaneous columns. These materials were then individually evaluated to determine the number of jurisdictions that specifically listed them in their recycling guides.

For jurisdictions with mixed waste collection (e.g., trash and recyclables are collected together in one bin), it was assumed that all materials were accepted for recycling collection unless the jurisdiction provided information to the public on which materials were specifically being collected for recycling.

Alignment with SB 343 Material Types & Forms

The standardized categories of materials accepted by jurisdiction recycling programs were then aligned to the list of SB 343 material types and forms (see Appendix 1). Vague and broad material descriptions by jurisdictions required assumptions on which specific material types and forms were accepted or excluded. The jurisdiction descriptions did not always align well with the SB 343 material types and forms list. For example, if a jurisdiction collected “glass bottles,” it was indicated that the jurisdiction collected four SB 343 material types and forms: (1) Clear/Flint Glass Containers; (2) Green/Emerald Glass Containers; (3) Brown/Amber Glass Containers; and (4) Glass Containers of Other Colors. With this alignment, a list was generated of which material types and forms each jurisdiction collected for recycling. CalRecycle staff then estimated the proportion of the statewide population with access to curbside recycling collection for each Material Type and Form by dividing the summed populations of the jurisdictions that accepted an item for recycling by the total population of California.

Materials Recovered by Large Volume Transfer/Processors (LVTPs)

Using a combination of surveys, facility visits, and material sorting at LVTPs, CalRecycle estimated the proportions of (1) the state’s recycling programs and (2) the statewide population, that are served by LVTPs sorting material types and forms into defined streams for recycling processing.

Large Volume Transfer Processor Surveys & Facility Visits

Using information from CalRecycle’s [Solid Waste Information System \(SWIS\)](#) and outflow data from CalRecycle’s [Recycling and Disposal Reporting System \(RDRS\)](#), CalRecycle generated a list of 50 facilities that were permitted LVTPs with average quarterly potential reuse (AQPR) outflows of over 4,000 tons. In line with statute and to understand outcomes for the majority of materials collected and sorted for recycling statewide, this data collection prioritized the highest volume facilities among LVTPs statewide. The candidate facility list was developed from self-reported data in RDRS. If

data was missing or mis-reported in RDRS, some high-volume LVTP facilities may be excluded from this candidate list.

CalRecycle developed phone and on-site surveys to collect information from LVTPs sorting recyclable materials. Questions covered topics including basic facility information, facility capacity, inflows and material origins, outflows and types of material aggregated for sale, and technologies deployed at the facility (see Appendix 2 for a list of survey questions). CalRecycle performed phone surveys with 37 LVTPs. Eight of the surveyed facilities did not perform material sorting activities on-site and were removed as facilities of interest. The surveyed facilities which do perform material sorting activities onsite serve counties that make up 88.5% of the population of the state.

CalRecycle staff conducted more in-depth in-person surveys with 24 of the 37 facilities, which included tours of the sorting activities and discussions on topics such as contamination, bale destinations and origins of processed material. For each facility, information was gathered on the types of materials that were processed and aggregated for sale by LVTPs.

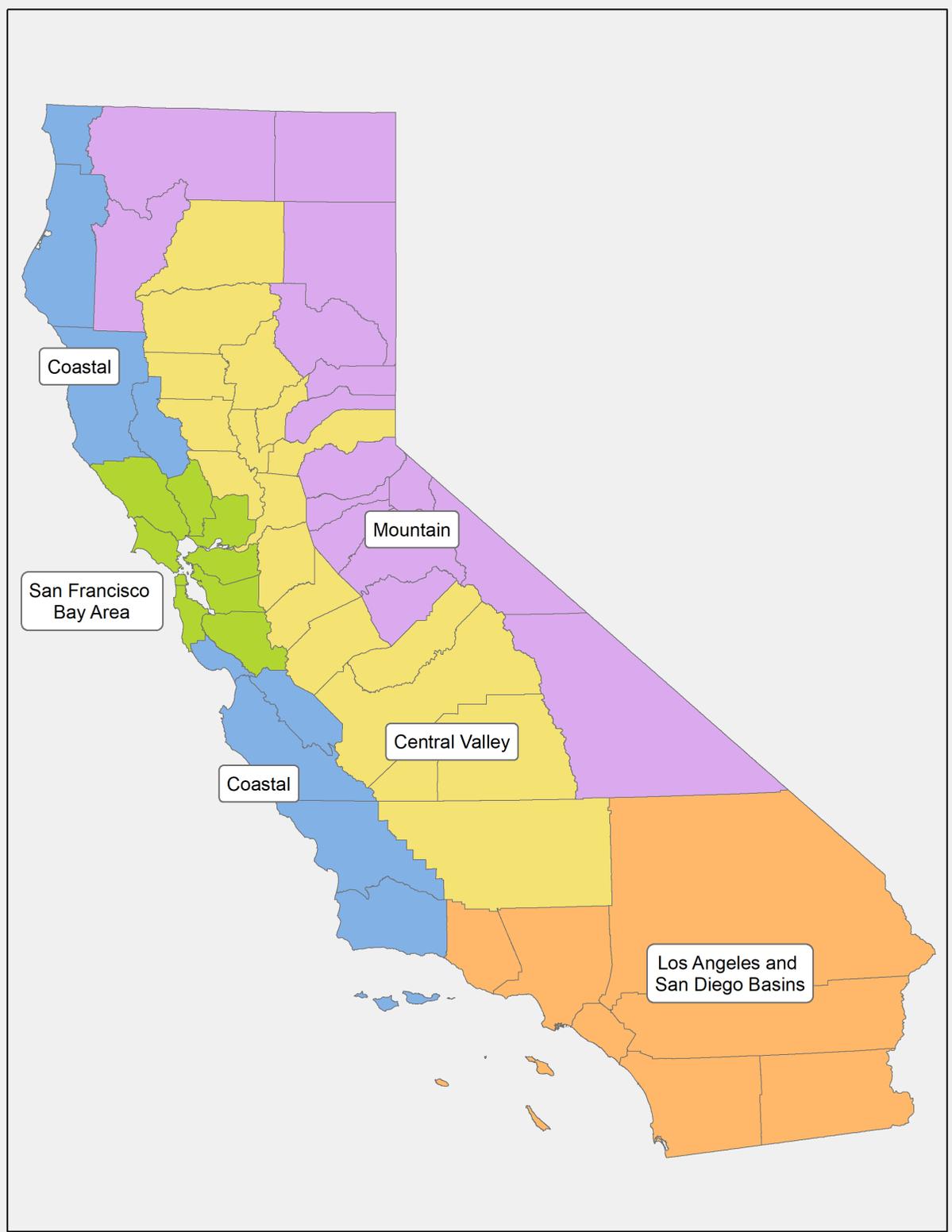
Large Volume Transfer Processor Material Characterization Study

From the 37 surveyed facilities, 10 facilities were selected for sampling and sorting in August 2023. Facilities were classified by five regions (Central Valley, Coastal, Los Angeles and San Diego Basins, Mountain and San Francisco Bay Area) see Figure 1 and Appendix 3 for representative sampling of focal regions. Facilities were selected to maximize representative sampling by geography and population density.

The 10 facilities were distributed as follows among the regions of California:

- 1.) Mountain – 1 facility
- 2.) Central Valley – 3 facilities
- 3.) San Francisco Bay Area – 3 facilities
- 4.) Coastal – 1 facility
- 5.) Los Angeles and San Diego Basins – 2 facilities

Figure 1. Map of Regions of California



A contractor, with oversight from CalRecycle staff, conducted sampling and sorting at the 10 facilities. Samples were collected from post-sort outflows, meaning that material

would not undergo further processing at that facility. Sampled outflows were materials aggregated for sale or for further processing at another facility. Residual outflow destined for disposal was also sampled. Samples from these outflows were used to determine material sorting into defined streams, described below. The contractor ensured that sampled material was representative of the outflows of that facility, with sample weights ranging from 15 to 200 pounds. The weight of the sample was determined by material type and outflow, such that samples of highly homogenous or high-density outflows were allocated lower sample weight.

Samples were sorted into 91 material categories based on Material Type and Form (see Appendix 4 for more information on material categories). Samples were spread out on a sorting table with a grate, allowing for materials smaller than two inches to fall through. Materials greater than two inches were sorted into 91 material categories based on Material Type and Form (see Appendix 4 for more information on material categories). Weight (in pounds) was obtained for the unsorted sample and for each sorted category.

About twenty hand sorted samples were characterized per facility, generally 10 outflow types with 2 samples each (see Appendix 5 for a list of outflows sampled). Samples taken for hand sorting prioritized outflows likely to contain heterogenous mixes of target items according to the defined Material Types & Forms. Where appropriate to the content of the outflow, CalRecycle staff conducted visual characterizations of additional outflows of baled or piled post-sort material.

In total, 196 hand-sorted samples and 70 visually characterized samples were taken from 10 of facilities in August 2023. All sampling occurred in August 2023.

A list of jurisdictions and associated population estimates for 2022 was obtained from the State of California Department of Finance's (DOF) dataset entitled *E-1 Cities, Counties, and the State Population and Housing Estimates with Annual Percent Change – January 1, 2022, and 2023*.

Material Characterization Study at LVTPs

CalRecycle used field study sorting data to identify the average makeup of 18 outflows across 10 LVTPs. This includes hand-sorted and visually characterized samples across 3 fiber outflows, 4 glass outflows, 3 metal outflows, and 8 plastic outflows.

Results of the Material Characterization Study are presented in Table 3.

Additional outflow volume was composed of many material types and forms at low volumes (each Material Type and Form made up under 1% of total composition of each outflow). In total there were 267 occurrences of rare material types and forms across the 18 outflows (see Appendix 8 for list).

Estimating Proportions of Material Types and Forms Sorted into Defined Streams by LVTPs

CalRecycle estimated the percentage of the state being served by LVTPs sorting each Material Type and Form into defined streams for recycling processing. Using survey and sorting data, CalRecycle staff estimated the percentages in terms of (1) the proportion

of state's recycling programs (at the county level) and (2) the proportion of the statewide population, served by those LVTPs.

Data from the sampling and sorting was used to determine whether material types and forms were predominantly ending up in defined streams, meaning the materials were consistently sorted into outflows destined for sale or further processing. Facilities often describe outflows with terminology unique to their operations. Inclusive alignment of cross-facility outflow information may miss nuance in variation in outflow contents (e.g., PET Container vs. PET Bottle and Container vs. PET; Mixed Rigid Plastic vs. Rigid Opaque Composite Plastic). Hand sort data as well as visual characterization data was used to: (1) identify which outflows each Material Type and Form was found in; and (2) estimate the proportion of that Material Type and Form that ends up aggregated for sale/processing compared to disposed.

To estimate the information above, criteria were established to identify when the presence of a Material Type and Form in an outflow is acceptable or likely to be a contaminant. For example, plastic items were commonly found in defined streams for metal and paper. The plastic items are likely a contaminant and not a target material for those defined streams. To avoid counting a contaminant as material sorted into a defined stream, the following criteria were developed: (1) High-level material category (Paper/Fiber, Glass, Metal, Plastic, Other/ Mixed) for the Material Type and Form must match the material category of the defined stream; (2) Where applicable, Material Type and Form material subcategory (e.g., resin type for plastic, or type of metal) must match the material subcategory of the defined stream; (3) The proportion of the Material Type and Form in defined stream must exceed the proportion of Material Type and Form proportion in the disposed residual; and (4) The Material Type and Form must be present in that defined stream for at least two facilities within the study.

If any of these criteria were not met, the presence of that Material Type and Form in the defined stream was not considered.

Survey data indicated which of 27 survey facilities had each defined stream present, as well as which jurisdictions each survey facility serves. This produced the list of counties served by facilities with defined streams available for each Material Type and Form.

DOF population data (see Collection for Jurisdiction Recycling Programs above) were used to calculate the population served by one or more facilities with one or more defined streams available for each Material Type and Form.

Summary of Findings

The following findings are provided separately for each of the two data collection efforts: (1) Collection by Jurisdiction Recycling Programs; and (2) Materials Recovered by LVTPs.

Collection by Jurisdiction Recycling Programs

The table below displays the proportion of the statewide population that accepts a given SB 343 Material Type and Form for residential curbside recycling collection. The first column of the table includes the Material Category Name (Glass, Metal, Mixed, Paper/Fiber, Plastic, Special Waste, and Textiles), the second column contains the SB 343 Material Type and Form description, and the third column shows the estimated percentage of the population that accepts an SB 343 material for recycling.

Table 1. Proportion of statewide population that accepts SB 343 Material Types and Forms.

Category name	Material Type and Form (MT&F)	Percentage of the California population that accepts a given category for recycling
Glass	Glass Containers – Clear/ Flint – non-CRV	95%
	Glass Containers – Green/ Emerald – non-CRV	95%
	Glass Containers – Brown/ Amber – non-CRV	95%
	Glass Containers – Other Colors – non-CRV	95%
	Remainder/ Composite Glass	7%
Metal	Aluminum Cans and Lids – non-CRV	95%
	Aluminum Bottles – non-CRV	51%
	Aluminum Foil (<3 mm), Sheets	70%
	Aluminum Foil (>3 mm), Molded Containers	70%
	Tin/Steel Cans, Lids – non-CRV	95%
	Tin/Steel Aerosol Containers	91%
	Metal Hazardous Waste: Used Oil Filters, Gas Cylinders	0%
	Other Ferrous Metal	24%

Category name	Material Type and Form (MT&F)	Percentage of the California population that accepts a given category for recycling
	Other Nonferrous Metal	24%
	Remainder/ Composite Metal	24%
Mixed	Gable-top Cartons – non-CRV	55%
	Aseptic Containers – non-CRV	53%
	Mailing Pouches & Shipping Envelopes	0.30%
	Other Multi-Material Laminate Single-Use	0%
	Single-Use Ceramic Packaging	0.80%
	Plant Material Food Service Ware	0%
	Treated Wood	0%
	Green Material, Clean Wood, and Food Scraps	0%
	Mixed Material Single-Use	10%
	Remainder/ Composite Mixed Material Multi-Use	12%
	Fines and Residuals	0%
Paper/fiber	Uncoated Corrugated Cardboard/ Old Corrugated Containers (OCC)	96%
	White Office-Type Paper and Mail	93%
	Newspapers/ Newspaper Inserts	96%
	Magazines and Catalogs	95%
	Paper Bags and Kraft Paper	63%
	Folded Paper Containers and Other Paperboard Packaging	86%
	Other Mixed Paper	95%
	Clean Molded Paper Fiber	47%
	Uncoated Fiber-Based Food Service Ware	44%

Category name	Material Type and Form (MT&F)	Percentage of the California population that accepts a given category for recycling
	Composite Food Service Paper & Packaging	17%
	Uncoated Soiled Fiber Products	0%
	Remainder/ Composite Fiber	52%
Plastic	PET Clear Bottles - non-CRV	94%
	PET Pigmented Bottles - non-CRV	94%
	PET Thermoformed Clamshells and Containers	84%
	Other PET Clear Single-Use Rigids	92%
	Other PET Pigmented Single-Use Rigids	92%
	PET Multi-Use Rigids	81%
	HDPE Clear Beverage Bottles - non-CRV	94%
	HDPE Buckets: Food	83%
	HDPE Buckets: non-Food	78%
	Other HDPE Clear Single-Use Rigids	94%
	HDPE Pigmented Single-Use Rigids	94%
	Other HDPE Multi-Use Rigids	79%
	PVC Single-Use Rigids	94%
	PVC Multi-Use	66%
	LDPE Clear Beverage Bottles	94%
	LDPE Clear Single-Use Rigids	94%
	LDPE Pigmented Single-Use Rigids	94%
	LDPE Multi-Use	66%
	PP Clear Single-Use Rigids	86%
	PP Pigmented Single-Use Rigids	86%

Category name	Material Type and Form (MT&F)	Percentage of the California population that accepts a given category for recycling
	PP Multi-Use	73%
	PS Thermoformed Clamshells and Containers	80%
	PS Densified: Single-Use Food Service Ware	72%
	PS Expanded - Packaging	7%
	PS Expanded - Food Service Ware	74%
	PS Densified: Multi-Use	90%
	Other (7) Single-Use Rigids	91%
	Films - Plastic Bags - Compostable	11%
	Films - Plastic Bags - Designed for Reuse	30%
	Films - Plastic Non-Bags - Agricultural and Commercial	25%
	Films - Plastic Non-Bags - Other Film	25%
	Films - Plastic Bags - Designed for Disposal	30%
	Unknown Plastic Type or Mixture of Multiple Plastic Resins (Single-Use)	71%
	Mixed Plastic Multi-Use	94%
	Remainder/ Composite Plastic	10%
Special waste	Bulky Items	10%
Textiles	Textiles and Clothing	0.50%

Materials Recovered by Large Volume Transfer Processors

The table below displays the proportion of the population served by at least one of the surveyed MRF facilities with sorting of each Material Type and Form. The first column of the table includes the Material Category Name (Glass, Metal, Mixed, Paper/Fiber, Plastic, Special Waste, and Textiles), the second column contains the SB 343 Material Type and Form description, the third and fourth columns show the number and percentage of counties served by surveyed LVTPs that sort that Material Type and Form into defined streams, and the fifth and sixth columns show the population and percentage of the population served by the surveyed LVTPs that sort that Material Type and Form into a defined stream.

Surveyed facilities serve 30 out of 58 counties statewide, and the populations of those counties make up 88.53% of the statewide population. Assuming no additional sorting for recycling in the counties not represented by the survey, conservative statewide results are summarized in Appendix 7.

Table 2. Recovery of Material Types and Forms, by counties and population served by surveyed LVTPs

Material Class	Material Type & Form	Counties Sorting Material	Percent of Surveyed Counties Sorting	Population of Counties with Access	Percent of Surveyed Population with Access to Sorting
Fiber	Clean Molded Paper Fiber	30	100%	34,474,562	100%
	Uncoated Corrugated Cardboard/ Old Corrugated Containers (OCC)	30	100%	34,474,562	100%
	White Office-Type Paper and Mail	30	100%	34,474,562	100%
	Folded Paper Containers and Other Paperboard Packaging	27	90%	32,136,542	93%
	Magazines and Catalogs	27	90%	32,136,542	93%
	Newspapers/ Newspaper Inserts	27	90%	32,136,542	93%
	Other Mixed Paper	27	90%	32,136,542	93%
	Paper Bags and Kraft Paper	27	90%	32,136,542	93%
	Uncoated Fiber-Based Food Service Ware	27	90%	32,136,542	93%
Glass	Glass Containers - Brown/ Amber - non-CRV	30	100%	34,474,562	100%
	Glass Containers - Clear/ Flint - non-CRV	30	100%	34,474,562	100%

Material Class	Material Type & Form	Counties Sorting Material	Percent of Surveyed Counties Sorting	Population of Counties with Access	Percent of Surveyed Population with Access to Sorting
	Glass Containers - Green/ Emerald - non-CRV	30	100%	34,474,562	100%
	Glass Containers - Other Colors - non-CRV	30	100%	34,474,562	100%
Metal	Aluminum Beverage Cans - CRV	26	87%	33,439,502	97%
	Aluminum Bottles - non-CRV	26	87%	33,439,502	97%
	Aluminum Bottles for Beverages - CRV	22	73%	31,438,097	91%
	Aluminum Cans and Lids - non-CRV	22	73%	31,438,097	91%
	Aluminum Foil (<3 mm), Sheets	22	73%	31,438,097	91%
	Aluminum Foil (>3 mm), Molded Containers	22	73%	31,438,097	91%
	Other Nonferrous Metal	14	47%	28,487,522	83%
	Other Ferrous Metal	10	33%	22,369,789	65%
	Tin/Steel Aerosol Containers	10	33%	22,369,789	65%
	Tin/Steel Beverage Containers - CRV	10	33%	22,369,789	65%

Material Class	Material Type & Form	Counties Sorting Material	Percent of Surveyed Counties Sorting	Population of Counties with Access	Percent of Surveyed Population with Access to Sorting
	Tin/Steel Cans, Lids - non-CRV	10	33%	22,369,789	65%
Mixed	Aseptic Containers - non-CRV	8	27%	18,965,888	55%
	Gable-top Cartons - non-CRV	8	27%	18,965,888	55%
Plastic	HDPE Clear Beverage Bottles - non-CRV	30	100%	34,474,562	100%
	HDPE Pigmented Single-Use Rigids	30	100%	34,474,562	100%
	Other HDPE Clear Single-Use Rigids	30	100%	34,474,562	100%
	Other PET Clear Single-Use Rigids	30	100%	34,474,562	100%
	Other PET Pigmented Single-Use Rigids	30	100%	34,474,562	100%
	PET Clear Beverage Bottles - CRV	30	100%	34,474,562	100%
	PET Clear Bottles - non-CRV	30	100%	34,474,562	100%
	PET Pigmented Beverage Bottles - CRV	30	100%	34,474,562	100%
	PET Pigmented Bottles - non-CRV	30	100%	34,474,562	100%

Material Class	Material Type & Form	Counties Sorting Material	Percent of Surveyed Counties Sorting	Population of Counties with Access	Percent of Surveyed Population with Access to Sorting
	PET Thermoformed Clamshells and Containers	30	100%	34,474,562	100%
	PP Clear Single-Use Rigids	24	80%	30,711,578	89%
	PP Pigmented Single-Use Rigids	24	80%	30,711,578	89%
	PP Multi-Use	23	77%	30,271,021	88%
	HDPE Buckets: non-Food	21	70%	29,441,621	85%
	Mixed Plastic Multi-Use	21	70%	29,441,621	85%
	Other HDPE Multi-Use Rigids	21	70%	29,441,621	85%
	Films - Plastic Bags - Designed for Disposal	11	37%	20,781,183	60%
	Other (7) Single-Use Rigids	8	27%	16,464,103	48%
	Unknown Plastic Type or Mixture of Multiple Plastic Resins (Single-Use)	8	27%	16,464,103	48%

Material Characterization Study at Large Volume Transfer Processors

The tables below display the makeup of each characterized fiber, glass, metal, or plastic outflow by Material Type and Form (MT&F). Tables are split by outflow material category (Fiber, Glass, Metal, Plastic) for ease of reading. The first column of each table indicates the outflow material category, and the second column indicates the name of each outflow. Column three indicates the total number of samples (hand sort and visual characterization) of each outflow. Columns four through five describe the Material Type and Form. Column six indicates the mean percent composition of the outflow made up by each Material Type and Form, and column seven indicates the standard deviation (SD). All rows with “NA” in column seven indicate that the Material Type and Form occurred in only one sample of the relevant outflow. A related table of low-abundance Material Types and Forms in each outflow (<1% composition) is provided in Appendix 8.

Table 3A. Fiber Material Class – SB 343 Material Characterization

Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)	Percent of MT&F in Outflow (SD)
Aseptic/ Carton	8	Fiber	Gable-top Cartons - non-CRV	X02	77%	66%
		Fiber	Aseptic Containers - non-CRV	X03	20%	22%
		Other	Other (rare items <1% each)	NA	3%	NA
Corrugated Cardboard	15	Fiber	Uncoated Corrugated Cardboard/ Old Corrugated Containers (OCC)	F01	86%	5%
		Fiber	Folded Paper Containers and Other Paperboard Packaging	F06	2%	1%
		Metal	Other Nonferrous Metal	M13	1%	NA
		Fiber	Remainder/ Composite Fiber	F12	1%	1%
		Other	Mixed Material Single-Use	X11	1%	1%

Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)	Percent of MT&F in Outflow (SD)
		Fiber	Magazines and Catalogs	F04	1%	1%
		Other	Textiles and Clothing	T01	1%	0%
		Fiber	Other Mixed Paper	F07	1%	1%
		Fiber	White Office-Type Paper and Mail	F02	1%	1%
		Other	Other (rare items <1% each)	NA	6%	NA
Mixed Paper	18	Fiber	Other Mixed Paper	F07	22%	11%
		Fiber	Uncoated Corrugated Cardboard/ Old Corrugated Containers (OCC)	F01	17%	14%
		Fiber	Newspapers/ Newspaper Inserts	F03	13%	9%
		Fiber	Magazines and Catalogs	F04	12%	8%
		Fiber	White Office-Type Paper and Mail	F02	10%	11%
		Fiber	Folded Paper Containers and Other Paperboard Packaging	F06	8%	5%
		Fiber	Paper Bags and Kraft Paper	F05	3%	4%
		Other	Mixed Material Single-Use	X11	2%	1%

Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)	Percent of MT&F in Outflow (SD)
		Other	Remainder/ Composite Mixed Material Multi-Use	X12	2%	1%
		Fiber	Uncoated Fiber-Based Food Service Ware	F09	1%	2%
		Fiber	Composite Food Service Paper & Packaging	F10	1%	0%
Mixed Paper	18	Plastic	Films - Plastic Bags - Designed for Disposal	PL36	1%	1%
		Fiber	Remainder/ Composite Fiber	F12	1%	1%
		Other	Fines and Residuals	X13	1%	1%
		Plastic	PP Multi-Use	PL24	1%	1%
		Other	Other (rare items <1% each)	NA	7%	NA
ONP and Mixed Paper	6	Fiber	Other Mixed Paper	F07	30%	19%
		Fiber	White Office-Type Paper and Mail	F02	28%	4%
		Fiber	Uncoated Corrugated Cardboard/ Old Corrugated Containers (OCC)	F01	14%	4%

Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)	Percent of MT&F in Outflow (SD)
		Fiber	Newspapers/ Newspaper Inserts	F03	13%	2%
		Fiber	Folded Paper Containers and Other Paperboard Packaging	F06	9%	2%
		Fiber	Gable-top Cartons - non-CRV	X02	3%	NA
ONP and Mixed Paper	6	Plastic	Films - Plastic Bags - Designed for Disposal	PL36	2%	1%
		Plastic	PS Expanded - Packaging	PL27	2%	NA
Shredded Paper	1	Fiber	White Office-Type Paper and Mail	F02	100%	NA
White Office Paper	4	Fiber	White Office-Type Paper and Mail	F02	100%	NA

Table 3B. Glass Material Class – SB 343 Material Characterization

Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)	Percent of MT&F in Outflow (SD)
Glass - Brown/Amber	2	Glass	Glass Beverage Containers - Brown/Amber - CRV	G06	58%	12%
		Glass	Glass Containers - Brown/Amber - non-CRV	G05	22%	16%
		Glass	Glass Containers - Clear/ Flint - non-CRV	G01	9%	NA
		Glass	Remainder/ Composite Glass	G09	4%	NA
		Plastic	PP Pigmented Single-Use Rigids	PL23	1%	1%
		Fiber	Other Mixed Paper	F07	1%	NA
		Fiber	Remainder/ Composite Fiber	F12	1%	0%
		Plastic	Remainder/ Composite Plastic	PL39	1%	NA
		Metal	Tin/Steel Cans, Lids - non-CRV	M07	1%	0%
		Plastic	Films - Plastic Bags - Designed for Disposal	PL36	1%	0%

Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)	Percent of MT&F in Outflow (SD)
Glass - Clear/Flint	2	Glass	Glass Beverage Containers - Clear/Flint - CRV	G02	65%	5%
		Glass	Remainder/ Composite Glass	G09	15%	7%
		Glass	Glass Containers - Clear/ Flint - non-CRV	G01	7%	3%
		Glass	Glass Containers - Green/ Emerald - non-CRV	G03	3%	NA
		Metal	Tin/Steel Cans, Lids - non-CRV	M07	2%	2%
		Plastic	PET Clear Beverage Bottles - CRV	PL02	2%	NA
		Plastic	Films - Plastic Bags - Designed for Disposal	PL36	2%	NA
		Fiber	Uncoated Fiber-Based Food Service Ware	F09	1%	NA
		Plastic	HDPE Clear Beverage Bottles - CRV	PL10	1%	NA
		Plastic	Films - Plastic Non-Bags - Other Film	PL35	1%	NA
		Other	Green Material, Clean Wood, and Food Scraps	X10	1%	0%
		Other	Mixed Material Single-Use	X11	1%	0%
		Other	Other (rare items <1% each)	NA	1%	NA

Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)	Percent of MT&F in Outflow (SD)
Glass - Green/Emerald	2	Glass	Glass Beverage Containers - Green/Emerald - CRV	G04	31%	8%
		Glass	Glass Containers - Green/Emerald - non-CRV	G03	27%	12%
		Glass	Glass Beverage Containers - Brown/Amber - CRV	G06	17%	6%
		Glass	Glass Containers - Brown/Amber - non-CRV	G05	8%	NA
		Glass	Glass Containers - Clear/ Flint - non-CRV	G01	5%	NA
		Glass	Glass Beverage Containers - Clear/Flint - CRV	G02	4%	0%
		Glass	Remainder/ Composite Glass	G09	3%	0%
		Fiber	Remainder/ Composite Fiber	F12	1%	1%
		Plastic	Films - Plastic Bags - Designed for Disposal	PL36	1%	NA
		Metal	Tin/Steel Cans, Lids - non-CRV	M07	1%	1%
		Glass Fines	2	Glass	Remainder/ Composite Glass	G09
Mixed Glass	16	Glass	Glass Containers - Green/Emerald - non-CRV	G03	30%	50%
		Glass	Remainder/ Composite Glass	G09	21%	13%

Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)	Percent of MT&F in Outflow (SD)
		Glass	Glass Containers - Clear/ Flint - non-CRV	G01	19%	22%
		Glass	Glass Containers - Brown/ Amber - non-CRV	G05	5%	5%
		Glass	Glass Beverage Containers - Green/Emerald - CRV	G04	5%	4%
		Glass	Glass Beverage Containers - Clear/Flint - CRV	G02	5%	4%
		Other	Green Material, Clean Wood, and Food Scraps	X10	3%	2%
		Fiber	Other Mixed Paper	F07	3%	3%
		Other	Fines and Residuals	X13	2%	2%
		Glass	Glass Containers - Other Colors - non-CRV	G07	2%	1%
		Glass	Glass Beverage Containers - Brown/Amber - CRV	G06	2%	1%
		Other	Mixed Material Single-Use	X11	1%	1%
		Metal	Other Ferrous Metal	M12	1%	NA
		Other	Other (rare items <1% each)	NA	3%	NA

Table 3C. Metal Material Class – SB 343 Material Characterization

Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)	Percent of MT&F in Outflow (SD)
Aluminum - UBC	22	Metal	Aluminum Beverage Cans - CRV	M02	99%	1%
		Other	Mixed Material Single-Use	X11	1%	1%
Copper	2	Metal	Other Nonferrous Metal	M13	100%	NA
Ferrous Metal	2	Metal	Tin/Steel Beverage Containers - CRV	M08	100%	NA
Metal Scrap	3	Metal	Other Ferrous Metal	M12	50%	NA
		Metal	Remainder/ Composite Metal	M14	47%	NA
		Metal	Tin/Steel Cans, Lids - non-CRV	M07	3%	NA
Mixed Metal - Non-Ferrous	2	Metal	Other Nonferrous Metal	M13	71%	6%
		Metal	Remainder/ Composite Metal	M14	8%	1%
		Other	Remainder/ Composite Mixed Material Multi-Use	X12	7%	NA
		Other	Household Hazardous Waste	H01	5%	5%
		Metal	Metal Hazardous Waste: Used Oil Filters, Gas Cylinders	M11	4%	NA
		Metal	Other Ferrous Metal	M12	4%	4%
Mixed Metal - Small Ferrous	6	Metal	Other Ferrous Metal	M12	45%	100%

Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)	Percent of MT&F in Outflow (SD)
		Metal	Other Nonferrous Metal	M13	20%	NA
		Metal	Tin/Steel Cans, Lids - non-CRV	M07	20%	31%
		Metal	Tin/Steel Aerosol Containers	M10	13%	28%
		Other	Remainder/ Composite Mixed Material Multi-Use	X12	1%	NA
		Other	Other (rare items <1% each)	NA	2%	NA
Other Aluminum	11	Metal	Aluminum Foil (>3 mm), Molded Containers	M06	30%	24%
		Metal	Aluminum Cans and Lids - non-CRV	M01	25%	15%
		Metal	Tin/Steel Aerosol Containers	M10	13%	4%
		Metal	Other Nonferrous Metal	M13	7%	7%
		Metal	Aluminum Foil (<3 mm), Sheets	M05	5%	4%
		Metal	Tin/Steel Cans, Lids - non-CRV	M07	4%	3%
		Metal	Aluminum Bottles for Beverages - CRV	M04	3%	3%
		Metal	Aluminum Beverage Cans - CRV	M02	3%	3%
		Metal	Remainder/ Composite Metal	M14	2%	2%

Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)	Percent of MT&F in Outflow (SD)
		Other	Household Hazardous Waste	H01	2%	0%
		Other	Fines and Residuals	X13	1%	2%
		Other	Green Material, Clean Wood, and Food Scraps	X10	1%	0%
		Plastic	PP Clear Single-Use Rigids	PL22	1%	0%
		Plastic	Other (7) Single-Use Rigids	PL30	1%	NA
		Fiber	Uncoated Fiber-Based Food Service Ware	F09	1%	NA
		Other	Other (rare items <1% each)	NA	2%	NA
Steel Cans	11	Metal	Tin/Steel Cans, Lids - non-CRV	M07	73%	30%
		Metal	Tin/Steel Aerosol Containers	M10	7%	3%
		Metal	Other Ferrous Metal	M12	6%	4%
		Other	Green Material, Clean Wood, and Food Scraps	X10	3%	0%
		Metal	Aluminum Cans and Lids - non-CRV	M01	2%	NA
		Metal	Remainder/ Composite Metal	M14	2%	1%
		Other	Mixed Material Single-Use	X11	1%	2%
		Metal	Tin/Steel Beverage Containers - CRV	M08	1%	1%
		Other	Fines and Residuals	X13	1%	1%
		Fiber	Remainder/ Composite Fiber	F12	1%	1%
		Metal	Aluminum Bottles for Beverages - CRV	M04	1%	1%

Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)	Percent of MT&F in Outflow (SD)
		Metal	Other (rare items <1% each)	NA	1%	NA

Table 3D. Plastic Material Class – SB 343 Material Characterization

Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)	Percent of MT&F in Outflow (SD)
HDPE Mix	2	Plastic	HDPE Clear Beverage Bottles - non-CRV	PL09	42%	0%
		Plastic	HDPE Pigmented Single-Use Rigid	PL14	42%	2%
		Plastic	HDPE Buckets: non-Food	PL12	4%	NA
		Other	Mixed Material Single-Use	X11	2%	1%
		Plastic	Other PET Pigmented Single-Use Rigid	PL07	2%	NA
		Plastic	PP Clear Single-Use Rigid	PL22	1%	1%
		Plastic	PP Pigmented Single-Use Rigid	PL23	1%	0%
		Other	Fines and Residuals	X13	1%	NA
		Metal	Tin/Steel Aerosol Containers	M10	1%	NA
		Fiber	Other Mixed Paper	F07	1%	NA
		Plastic	Other PET Clear Single-Use Rigid	PL06	1%	NA
		Other	Other (rare items <1% each)	NA	3%	NA

Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)	Percent of MT&F in Outflow (SD)
HDPE Natural Bottle & Container	12	Plastic	HDPE Clear Beverage Bottles - non-CRV	PL09	57%	11%
		Plastic	Other HDPE Clear Single-Use Rigids	PL13	23%	8%
		Plastic	HDPE Clear Beverage Bottles - CRV	PL10	6%	5%
		Plastic	PP Pigmented Single-Use Rigids	PL23	3%	2%
		Other	Green Material, Clean Wood, and Food Scraps	X10	2%	NA
		Plastic	HDPE Pigmented Single-Use Rigids	PL14	2%	3%
		Plastic	Remainder/ Composite Plastic	PL39	1%	NA
		Other	Household Hazardous Waste	H01	1%	NA
		Plastic	Other (7) Single-Use Rigids	PL30	1%	0%
		Plastic	PET Pigmented Bottles - non-CRV	PL03	1%	NA
		Plastic	PP Clear Single-Use Rigids	PL22	1%	0%
		Plastic	PET Clear Bottles - non-CRV	PL01	1%	1%
		Other	Other (rare items <1% each)	NA	1%	NA

Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)	Percent of MT&F in Outflow (SD)
HDPE Pigmented Bottle & Container	15	Plastic	HDPE Pigmented Single-Use Rigid	PL14	72%	15%
		Plastic	Other HDPE Clear Single-Use Rigid	PL13	4%	3%
		Plastic	PET Pigmented Bottles - non-CRV	PL03	3%	1%
		Plastic	Other PET Pigmented Single-Use Rigid	PL07	2%	2%
		Other	Household Hazardous Waste	H01	2%	NA
		Plastic	Remainder/ Composite Plastic	PL39	2%	NA
		Other	Mixed Material Single-Use	X11	2%	2%
		Plastic	HDPE Clear Beverage Bottles - non-CRV	PL09	1%	1%
		Plastic	PP Pigmented Single-Use Rigid	PL23	1%	2%
		Plastic	PP Clear Single-Use Rigid	PL22	1%	1%
		Plastic	Other (7) Single-Use Rigid	PL30	1%	1%
		Plastic	Other PET Clear Single-Use Rigid	PL06	1%	1%
		Plastic	HDPE Buckets: non-Food	PL12	1%	NA

Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)	Percent of MT&F in Outflow (SD)
		Other	Remainder/ Composite Mixed Material Multi-Use	X12	1%	NA
		Other	Green Material, Clean Wood, and Food Scraps	X10	1%	0%
		Plastic	PET Clear Bottles - non-CRV	PL01	1%	0%
		Other	Other (rare items <1% each)	NA	3%	NA
Mixed Rigid Plastic	7	Plastic	PP Multi-Use	PL24	22%	9%
		Plastic	HDPE Buckets: Food	PL11	19%	10%
		Plastic	Other HDPE Multi-Use Rigids	PL15	11%	14%
		Plastic	HDPE Buckets: non-Food	PL12	7%	8%
		Plastic	PET Multi-Use Rigids	PL08	7%	NA
		Plastic	HDPE Pigmented Single-Use Rigids	PL14	7%	3%
		Plastic	PP Pigmented Single-Use Rigids	PL23	6%	6%
		Other	Bulky Items	SP02	5%	NA
		Plastic	PVC Multi-Use	PL17	5%	NA
		Other	Remainder/ Composite Mixed Material Multi-Use	X12	4%	0%
		Plastic	Mixed Plastic Multi-Use	PL38	3%	4%
		Other	Mixed Material Single-Use	X11	2%	NA

Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)	Percent of MT&F in Outflow (SD)
		Metal	Other Nonferrous Metal	M13	2%	NA
		Plastic	PS Densified: Multi-Use	PL29	1%	NA
		Other	Other (rare items <1% each)	NA	1%	NA
PET Bottle	12	Plastic	PET Clear Beverage Bottles - CRV	PL02	45%	8%
		Plastic	PET Clear Bottles - non-CRV	PL01	17%	6%
		Plastic	PET Thermoformed Clamshells and Containers	PL05	10%	6%
		Plastic	Other PET Clear Single-Use Rigids	PL06	5%	4%
		Plastic	Remainder/ Composite Plastic	PL39	4%	6%
		Plastic	PS Thermoformed Clamshells and Containers	PL25	3%	NA
		Plastic	PET Pigmented Beverage Bottles - CRV	PL04	2%	1%
		Plastic	PP Clear Single-Use Rigids	PL22	2%	1%
		Plastic	Mixed Plastic Multi-Use	PL38	1%	NA
		Plastic	PET Pigmented Bottles - non-CRV	PL03	1%	1%
		Plastic	Other PET Pigmented Single-Use Rigids	PL07	1%	0%
		Fiber	Other Mixed Paper	F07	1%	1%
Plastic	PP Multi-Use	PL24	1%	NA		
Plastic	Other HDPE Clear Single-Use Rigids	PL13	1%	0%		

Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)	Percent of MT&F in Outflow (SD)
		Other	Green Material, Clean Wood, and Food Scraps	X10	1%	0%
		Plastic	Other (7) Single-Use Rigids	PL30	1%	0%
		Other	Other (rare items <1% each)	NA	5%	NA
PET Bottle & Container	11	Plastic	PET Clear Beverage Bottles - CRV	PL02	26%	17%
		Plastic	PET Thermoformed Clamshells and Containers	PL05	19%	16%
		Plastic	Other PET Clear Single-Use Rigids	PL06	12%	8%
		Plastic	PET Clear Bottles - non-CRV	PL01	11%	5%
		Plastic	HDPE Clear Beverage Bottles - non-CRV	PL09	11%	NA
		Plastic	Remainder/ Composite Plastic	PL39	7%	3%
		Other	Green Material, Clean Wood, and Food Scraps	X10	1%	1%
		Plastic	PET Pigmented Bottles - non-CRV	PL03	1%	1%
		Plastic	PET Pigmented Beverage Bottles - CRV	PL04	1%	1%
		Plastic	PP Clear Single-Use Rigids	PL22	1%	1%
		Other	Mixed Material Single-Use	X11	1%	1%

Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)	Percent of MT&F in Outflow (SD)
		Plastic	HDPE Pigmented Single-Use Rigid	PL14	1%	1%
		Other	Remainder/ Composite Mixed Material Multi-Use	X12	1%	NA
		Plastic	Other PET Pigmented Single-Use Rigid	PL07	1%	1%
		Plastic	Other (7) Single-Use Rigid	PL30	1%	1%
		Metal	Tin/Steel Aerosol Containers	M10	1%	NA
		Other	Other (rare items <1% each)	NA	5%	NA
Plastic #3-#7	6	Plastic	PP Clear Single-Use Rigid	PL22	25%	7%
		Plastic	PP Pigmented Single-Use Rigid	PL23	20%	7%
		Plastic	Other HDPE Multi-Use Rigid	PL15	10%	13%
		Plastic	PP Multi-Use	PL24	4%	2%
		Plastic	HDPE Pigmented Single-Use Rigid	PL14	3%	1%
		Plastic	Other PET Clear Single-Use Rigid	PL06	3%	2%
		Plastic	PS Expanded - Packaging	PL27	3%	5%
		Plastic	PET Thermoformed Clamshells and Containers	PL05	3%	2%
		Other	Mixed Material Single-Use	X11	2%	2%

Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)	Percent of MT&F in Outflow (SD)
		Other	Green Material, Clean Wood, and Food Scraps	X10	2%	2%
		Plastic	PET Clear Bottles - non-CRV	PL01	2%	2%
		Fiber	Other Mixed Paper	F07	2%	1%
		Plastic	PS Densified: Single-Use Food Service Ware	PL26	1%	1%
		Fiber	Gable-top Cartons - non-CRV	X02	1%	0%
		Plastic	Other (7) Single-Use Rigid	PL30	1%	1%
		Fiber	Folded Paper Containers and Other Paperboard Packaging	F06	1%	0%
		Metal	Aluminum Foil (>3 mm), Molded Containers	M06	1%	NA
		Metal	Tin/Steel Cans, Lids - non-CRV	M07	1%	0%
		Plastic	PET Clear Beverage Bottles - CRV	PL02	1%	1%
		Other	Fines and Residuals	X13	1%	0%
		Plastic	Other PET Pigmented Single-Use Rigid	PL07	1%	1%
		Plastic	LDPE Multi-Use	PL21	1%	NA
		Metal	Other Ferrous Metal	M12	1%	0%
		Fiber	Composite Food Service Paper & Packaging	F10	1%	0%
		Metal	Aluminum Beverage Cans - CRV	M02	1%	0%
		Glass	Remainder/ Composite Glass	G09	1%	NA
		Plastic	LDPE Clear Single-Use Rigid	PL19	1%	NA

Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)	Percent of MT&F in Outflow (SD)
		Fiber	Aseptic Containers - non-CRV	X03	1%	0%
		Other	Remainder/ Composite Mixed Material Multi-Use	X12	1%	NA
		Plastic	HDPE Clear Beverage Bottles - non-CRV	PL09	1%	NA
		Glass	Glass Containers - Brown/ Amber - non-CRV	G05	1%	NA
		Other	Other (rare items <1% each)	NA	4%	NA
Plastic Film	5	Plastic	Films - Plastic Bags - Designed for Disposal	PL36	100%	NA
Plastic Film - Agricultural and Commercial	1	Plastic	Films - Plastic Non-Bags - Agricultural and Commercial	PL34	100%	NA
Polypropylene	15	Plastic	PP Clear Single-Use Rigids	PL22	36%	32%
		Plastic	PP Pigmented Single-Use Rigids	PL23	31%	24%
		Plastic	HDPE Pigmented Single-Use Rigids	PL14	6%	6%
		Fiber	Composite Food Service Paper & Packaging	F10	5%	0%
		Plastic	PP Multi-Use	PL24	5%	3%
		Plastic	HDPE Buckets: non-Food	PL12	2%	NA
		Plastic	LDPE Pigmented Single-Use Rigids	PL20	2%	0%

Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)	Percent of MT&F in Outflow (SD)
		Plastic	Other PET Clear Single-Use Rigid	PL06	2%	1%
		Plastic	Other PET Pigmented Single-Use Rigid	PL07	1%	1%
		Plastic	LDPE Clear Beverage Bottles	PL18	1%	NA
		Plastic	Other (7) Single-Use Rigid	PL30	1%	1%
		Fiber	Other Mixed Paper	F07	1%	1%
		Fiber	Folded Paper Containers and Other Paperboard Packaging	F06	1%	0%
		Other	Mixed Material Single-Use	X11	1%	1%
		Fiber	Uncoated Corrugated Cardboard/ Old Corrugated Containers (OCC)	F01	1%	NA
		Plastic	PET Thermoformed Clamshells and Containers	PL05	1%	1%
		Plastic	Other HDPE Clear Single-Use Rigid	PL13	1%	0%
		Metal	Aluminum Foil (>3 mm), Molded Containers	M06	1%	NA
		Other	Other (rare items <1% each)	NA	4%	NA

Appendices

Appendix 1. Jurisdiction Collection Categories Aligned with SB 343 Material Types & Forms

Table A1. Glass Material Class – SB 343 Material Type and Form Alignment with Jurisdiction Collection Categories

Material Type and Form (MT&F)	Associated jurisdiction collection material categories
Glass Containers - Clear/ Flint - non-CRV	Glass Bottles, Glass Jars, Glass Food and Beverage Containers
Glass Containers - Green/ Emerald - non-CRV	Glass Bottles, Glass Jars, Glass Food and Beverage Containers
Glass Containers - Brown/ Amber - non-CRV	Glass Bottles, Glass Jars, Glass Food and Beverage Containers
Glass Containers - Other Colors - non-CRV	Glass Bottles, Glass Jars, Glass Food and Beverage Containers
Remainder/ Composite Glass	Miscellaneous: Ceramics, Mirrors, Window Glass, Auto Glass, Safety Glass, Pyrex, Broken Glass/Bottles

Table A2. Metal Material Class – SB 343 Material Type and Form Alignment with Jurisdiction Collection Categories

Material Type and Form (MT&F)	Associated jurisdiction collection material categories
Aluminum Cans and Lids - non-CRV	Aerosol Cans, Food and Beverage Cans, Aluminum Cans, Pet Food Cans, Metal Jar/Bottle Lids/Caps
Aluminum Beverage Cans - CRV	Food and Beverage Cans, Aluminum Cans
Aluminum Bottles - non-CRV	Food and Beverage Cans
Aluminum Bottles for Beverages - CRV	Food and Beverage Cans
Aluminum Foil (<3 mm), Sheets	Foil, Aluminum Trays, Aluminum Pans
Aluminum Foil (>3 mm), Molded Containers	Foil, Aluminum Trays, Aluminum Pans
Tin/Steel Cans, Lids - non-CRV	Food and Beverage Cans, Bimetal/Steel/Tin Metal Cans, Pet Food Cans, Metal Jar/Bottle Lids/Caps

Material Type and Form (MT&F)	Associated jurisdiction collection material categories
Tin/Steel Beverage Containers - CRV	Food and Beverage Cans, Bimetal/Steel/Tin Metal Cans
Tin/Steel Paint Cans	Paint Cans and Buckets (Empty and Dry)
Tin/Steel Aerosol Containers	Aerosol Cans, Bimetal/Steel/Tin Metal Cans
Metal Hazardous Waste: Used Oil Filters, Gas Cylinders	NA – Not accepted by jurisdictions for curbside recycling collection
Other Ferrous Metal	Oven Trays/Sheets, Pots and Pans, Scrap Pieces, Buckets
Other Nonferrous Metal	Oven Trays/Sheets, Pots and Pans, Scrap Pieces, Buckets
Remainder/ Composite Metal	Oven Trays/Sheets, Pots and Pans, Scrap Pieces

Table A3. Mixed Material Class – SB 343 Material Type and Form Alignment with Jurisdiction Collection Categories

Material Type and Form (MT&F)	Associated jurisdiction collection material categories
Gable-top Cartons - non-CRV	Paper (Food/Beverage) Cartons/Containers, Dairy Cartons, Non To-Go Food Containers (i.e., margarine, yogurt tubs, etc.), Plastic-Coated Paper, Mixed Plastic Products (e.g., Plastic product lined with metallic foil)
Aseptic Containers - non-CRV	Aseptic Boxes/Cartons/Packs, Paper (Food/Beverage) Cartons/Containers, Non To-Go Food Containers, Plastic-Coated Paper, Mixed Plastic Products
Mailing Pouches & Shipping Envelopes	Padded Envelopes, Plastic-Coated Paper, Mixed Plastic Products
Other Multi-Material Laminate Single-Use	Mixed Plastic Products
Single-Use Ceramic Packaging	Ceramics
Plant Material Food Service Ware	NA – Not accepted by jurisdictions for curbside recycling collection
Treated Wood	NA – Not accepted by jurisdictions for curbside recycling collection

Material Type and Form (MT&F)	Associated jurisdiction collection material categories
Green Material, Clean Wood, and Food Scraps	NA – Not accepted by jurisdictions for curbside recycling collection
Mixed Material Single-Use	Toys & Games (Plastic Parts), Mixed Plastic Products
Remainder/ Composite Mixed Material Multi-Use	Hard Cover Books, Mixed Plastic Products
Fines and Residuals	NA – Not accepted by jurisdictions for curbside recycling collection

Table A4. Fiber Material Class – SB 343 Material Type and Form Alignment with Jurisdiction Collection Categories

Material Type and Form (MT&F)	Associated jurisdiction collection material categories
Uncoated Corrugated Cardboard/ Old Corrugated Containers (OCC)	Cardboard
White Office-Type Paper and Mail	Junk/Unsolicited Mail, Clean Paper/Mixed Paper/Office Paper, White/Computer/Copy Paper, Envelopes
Newspapers/ Newspaper Inserts	Catalogs, Magazines, and Phone Books, Soft Cover/Paperback Books, Newspaper, Clean Paper/Mixed Paper/Office Paper, Coupons
Magazines and Catalogs	Catalogs, Magazines, and Phone Books, Soft Cover/Paperback Books, Clean Paper/Mixed Paper/Office Paper, Glossy paper, Brochures
Paper Bags and Kraft Paper	Manila Folders, File Folders, Envelopes, Paper Bags, Packing Paper, Kraft Paper
Folded Paper Containers and Other Paperboard Packaging	Box Board, Frozen Food Boxes, Paper (Food/Beverage) Cartons/Containers, Towel/Toilet Paper Tubes, Paper Boxes/Paperboard, Dry Food Boxes, Gift Boxes, Cereal Boxes, Shoe Boxes, Detergent Boxes, Wine Boxes, Chipboard
Other Mixed Paper	Soft Cover/Paperback Books, Hard Cover Books, Junk/Unsolicited Mail, Shredded Paper, Clean Paper/Mixed

Material Type and Form (MT&F)	Associated jurisdiction collection material categories
	Paper/Office Paper, Colored/Construction Paper, Glossy Paper, Notebooks, Paper Bags, Gift Bags, Greeting Cards, Ream Wrappers, Chipboard
Clean Molded Paper Fiber	Egg Cartons (Fiber)
Uncoated Fiber-Based Food Service Ware	Egg Cartons (Fiber), Clean Pizza Boxes, Napkins, Towels, Tissues, Toilet Paper, Paper Plates, Paper Cups, To-Go/Take-Out Containers,
Composite Food Service Paper & Packaging	Frozen Food Boxes, Plastic-Coated Paper, Waxed/Wax-Coated Paper, Paper Plates, Paper Cups, To-Go/Take-Out Containers
Uncoated Soiled Fiber Products	Soiled Pizza Boxes, Soiled Paper Products (e.g., Soiled Napkins, Towels, To-Go Containers, etc.)
Remainder/ Composite Fiber	Dry Food Boxes, Gift Boxes, Cereal Boxes, Shoe Boxes, Detergent Boxes, Wine Boxes, Chipboard, Carbonless Paper, Photograph Paper, Poster Paper, Plastic-Coated Paper, Waxed/Wax-Coated Paper, Foil-Backed/Metallic Paper, Shredded Paper, Glossy Paper, Post-It Notes/Adhesive Paper, File Folders, Gift Bags, Wrapping/Tissue (Gift) Paper

Table A5. Plastic Material Class – SB 343 Material Type and Form Alignment with Jurisdiction Collection Categories

Material Type and Form (MT&F)	Associated jurisdiction collection material categories
PET Clear Bottles - non-CRV	Bottles & Jars (1-7), Rigid Plastic Containers, Plastic Bottles, Non To-Go Food Containers, Plastic Containers (1-7), Detergent Containers, 'Only Plastics #1, 2, and 5', 'Only Plastics #1 and 2'
PET Pigmented Bottles - non-CRV	Bottles & Jars (1-7), Rigid Plastic Containers, Plastic Bottles, Non To-Go Food Containers, Plastic Containers (1-7), Detergent Containers, 'Only Plastics #1, 2, and 5', 'Only Plastics #1 and 2'
PET Thermoformed Clamshells and Containers	Tubs & Trays (1-7), Rigid Plastic Containers, Non To-Go Food Containers, Food Service Ware (To-Go Containers/Trays)/Food Containers, Clamshell Containers, Plastic Containers (1-7), Egg Cartons, 'Only Plastics #1, 2, and 5', 'Only Plastics #1 and 2'
Other PET Clear Single-Use Rigids	Bottles & Jars (1-7), Tubs & Trays (1-7), Rigid Plastic Containers, Plastic Bottles, Non To-Go Food Containers, Food Service Ware, Plastic Cups, Plastic Containers (1-7), Plastic Jugs, Pill Bottles, Detergent Containers/Other Household/Body Care Bottles, 'Only Plastics #1, 2, and 5', 'Only Plastics #1 and 2', Plastic Plates
Other PET Pigmented Single-Use Rigids	Bottles & Jars (1-7), Tubs & Trays (1-7), Rigid Plastic Containers, Plastic Bottles, Non To-Go Food Containers, Food Service Ware, Plastic Cups, Plastic Containers (1-7), Plastic Jugs, Pill Bottles, Detergent Containers/Other Household/Body Care Bottles, 'Only Plastics #1, 2, and 5', 'Only Plastics #1 and 2', Plastic Plates
PET Multi-Use Rigids	Tubs & Trays (1-7), Rigid Plastic Containers, Buckets, Plastic Containers (1-7), Toys & Games (Plastic Parts),

Material Type and Form (MT&F)	Associated jurisdiction collection material categories
	'Only Plastics #1, 2, and 5', 'Only Plastics #1 and 2'
HDPE Clear Beverage Bottles - non-CRV	Bottles & Jars (1-7), Rigid Plastic Containers, Plastic Bottles, Plastic Containers (1-7), Plastic Dairy Containers, Plastic Jugs, 'Only Plastics #1, 2, and 5', 'Only Plastics #1 and 2'
HDPE Buckets: Food	Tubs & Trays (1-7), Rigid Plastic Containers, Non To-Go Food Containers, Buckets, Plastic Containers (1-7), 'Only Plastics #1, 2, and 5', 'Only Plastics #1 and 2'
HDPE Buckets: non-Food	Tubs & Trays (1-7), Rigid Plastic Containers, Non To-Go Food Containers, Buckets, Plastic Containers (1-7), 'Only Plastics #1, 2, and 5', 'Only Plastics #1 and 2'
Other HDPE Clear Single-Use Rigids	Bottles & Jars (1-7), Tubs & Trays (1-7), Rigid Plastic Containers, Plastic Bottles, Non To-Go Food Containers, Plastic Containers (1-7), Plastic Jugs, Detergent Containers/Other Household/Body Care Bottles, 'Only Plastics #1, 2, and 5', 'Only Plastics #1 and 2'
HDPE Pigmented Single-Use Rigids	Bottles & Jars (1-7), Tubs & Trays (1-7), Rigid Plastic Containers, Plastic Bottles, Non To-Go Food Containers, Plastic Jugs, Detergent Containers/Other Household/Body Care Bottles, Plastic Containers (1-7), Plastic Dairy Tubs, Plastic Dairy Containers, Pill Bottles, 'Only Plastics #1, 2, and 5', 'Only Plastics #1 and 2'
Other HDPE Multi-Use Rigids	Tubs and Trays (1-7), Rigid Plastic Containers, Buckets, Plastic Containers (1-7), Toys & Games (Plastic Parts), 'Only Plastics #1, 2, and 5', 'Only Plastics #1 and 2', Planter/Flower Pots
PVC Single-Use Rigids	Bottles & Jars (1-7), Rigid Plastic Containers, Plastic Bottles, Non To-Go

Material Type and Form (MT&F)	Associated jurisdiction collection material categories
	Food Containers, Plastic Containers (1-7)
PVC Multi-Use	Tubs & Trays (1-7), Rigid Plastic Containers, Buckets, Plastic Containers (1-7), Toys & Games (Plastic Parts)
LDPE Clear Beverage Bottles	Bottles & Jars (1-7), Rigid Plastic Containers, Plastic Bottles, Plastic Containers (1-7)
LDPE Clear Single-Use Rigids	Bottles & Jars (1-7), Tubs & Trays (1-7), Rigid Plastic Containers, Plastic Bottles, Non To-Go Food Containers, Food Service Ware (To-Go Containers/Trays)/Food Containers, Plastic Containers (1-7)
LDPE Pigmented Single-Use Rigids	Bottles & Jars (1-7), Tubs & Trays (1-7), Rigid Plastic Containers, Plastic Bottles, Non To-Go Food Containers, Plastic Containers (1-7)
LDPE Multi-Use	Tubs & Trays (1-7), Rigid Plastic Containers, Buckets, Plastic Containers (1-7), Toy & Games (Plastic Parts)
PP Clear Single-Use Rigids	Bottles & Jars (1-7), Tubs & Trays (1-7), Rigid Plastic Containers, Plastic Bottles, Plastic Dairy Tubs, Non To-Go Food Containers, Food Service Ware (To-Go Containers/Trays)/Food Containers, Clamshell Containers, Plastic Cups, Plastic Containers (1-7), Plastic Jugs, Pill Bottles, 'Only Plastics #1, 2, and 5', Plates, Single-Use Foodware, Straws, Utensils
PP Pigmented Single-Use Rigids	Bottles & Jars (1-7), Tubs & Trays (1-7), Rigid Plastic Containers, Plastic Bottles, Plastic Dairy Tubs, Non To-Go Food Containers, Food Service Ware (To-Go Containers/Trays)/Food Containers, Clamshell Containers, Plastic Cups, Plastic Containers (1-7), Plastic Jugs, Pill Bottles, 'Only Plastics #1, 2, and 5',

Material Type and Form (MT&F)	Associated jurisdiction collection material categories
	Plates, Single-Use Foodware, Straws, Utensils
PP Multi-Use	Tubs & Trays (1-7), Rigid Plastic Containers, Buckets, Plastic Containers (1-7), 'Only Plastics #1, 2, and 5', Planter/Flower Pots
PS Thermoformed Clamshells and Containers	Tubs & Trays (1-7), Rigid Plastic Containers, Non To-Go Food Containers, Food Service Ware (To-Go Containers/Trays)/Food Containers, Clamshell Containers, Plastic Containers (1-7)
PS Densified: Single-Use Food Service Ware	Tubs & Trays (1-7), Rigid Plastic Containers, Food Service Ware (To-Go Containers/Trays)/Food Containers, Plastic Cups, Plastic Containers (1-7), Single-Use Foodware, Straws, Utensils
PS Expanded - Packaging	Styrofoam (Polystyrene)
PS Expanded - Food Service Ware	Rigid Plastic Containers, Food Service Ware (To-Go Containers/Trays)/Food Containers, Clamshell Containers, Plastic Cups, Plastic Containers (1-7), Styrofoam (Polystyrene), Plastic Plates
PS Densified: Multi-Use	Tubs & Trays (1-7), Rigid Plastic Containers, Buckets, Plastic Containers (1-7), Toys & Games (Plastic Parts), Planter/Flower Pots, Plastic Plates, Bottles & Jars (1-7), Plastic Bottles
Other (7) Single-Use Rigid	Bottles & Jars (1-7), Tubs & Trays (1-7), Rigid Plastic Containers, Plastic Bottles, Non To-Go Food Containers, Food Service Ware (To-Go Containers/Trays)/Food Containers, Plastic Cups, Plastic Containers (1-7), Pill Bottles, Compostable Plastics
Films - Plastic Bags - Compostable	Plastic Film, Plastic Bags, Compostable Plastics
Films - Plastic Bags - Designed for Reuse	Plastic Film, Plastic Bags, 'Only Plastics #1, 2, and 5', 'Only Plastics #1 and 2'

Material Type and Form (MT&F)	Associated jurisdiction collection material categories
Films - Plastic Non-Bags - Agricultural and Commercial	Plastic Film, 'Only Plastics #1, 2, and 5', 'Only Plastics #1 and 2'
Films - Plastic Non-Bags - Other Film	Plastic Film, 'Only Plastics #1, 2, and 5', 'Only Plastics #1 and 2'
Films - Plastic Bags - Designed for Disposal	Plastic Film, 'Only Plastics #1, 2, and 5', 'Only Plastics #1 and 2'
Unknown Plastic Type or Mixture of Multiple Plastic Resins (Single-Use)	Tubs & Trays (1-7), Rigid Plastic Containers, Food Service Ware (To-Go Containers/Trays)/Food Containers, Plastic Containers (1-7), Single-Use Foodware, Straws, Utensils
Mixed Plastic Multi-Use	Bottles & Jars (1-7), Tubs & Trays (1-7), Rigid Plastic Containers, Plastic Bottles, Buckets, Plastic Containers (1-7), Toys & Games (Plastic Parts)
Remainder/ Composite Plastic	Toys & Games (Plastic Parts), Mixed Plastic Products

Table A6. Special Waste Material Class – SB 343 Material Type and Form Alignment with Jurisdiction Collection Categories

Material Type and Form (MT&F)	Associated jurisdiction collection material categories
Bulky Items	Car/Automobile Parts, Furniture, Plumbing Parts, Pipes, Doors, Screens, Sporting Goods, Motors, Appliances, Gardening Tools, License Plates, Chains

Table A7. Textile Material Class – SB 343 Material Type and Form Alignment with Jurisdiction Collection Categories

Material Type and Form (MT&F)	Associated jurisdiction collection material categories
Textiles and Clothing	Household Textiles (Sheets, Towels, etc.) and Clothing

Appendix 2. Large Volume Transfer Processor Survey Questions

Questions from SB 343 Facility Survey – Phone Survey

1. Basic facility information
 - a. What is the name of the facility?
 - b. Which facility staff have joined the call?
 - i. What are the staff's roles and contact details?
 - c. What is the location (street address of MRF activities)?
 - d. Who is the facility operator?
2. MRF operations
 - a. Is there a material flow diagram available to share?
 - b. What is the facility's permitted capacity?
 - i. What is the available capacity for potentially recyclable material processing at this facility?
 - ii. What is the actual hourly, daily, or weekly throughput of potentially recyclable material processing at this facility?
 - c. Does the total volume of recyclable material processed per day change over the course of a week?
 - i. Which days of the week does this facility process more recyclable materials?
 - ii. What factors impact how much material is processed per day?
3. MRF Inflows
 - a. Does this facility receive materials from residential curbside programs?
 - i. Is this material mixed waste, commingled, source separated single stream recyclables, source separated dual stream recyclables, or other?
 - ii. From which jurisdictions does this facility receive residential curbside material?
 - iii. Which days of the week does this facility receive residential curbside material?
 - b. Does this facility receive materials from commercial collection, including multi-family residential?
 - i. Is this material mixed waste, commingled, source separated single stream recyclables, source separated dual stream recyclables, or other?
 - ii. From what jurisdictions does this facility receive commercial material?
 - iii. Which days of the week does this facility receive commercial material?
 - c. Does this facility receive any material directly from commercial or other entities that is not processed for recycling, but that is aggregated for sale?
 - i. What types of material are received in this fashion?

- d. Does this facility receive material from self-haul?
 - i. Is this material mixed waste, commingled, source separated single stream recyclables, source separated dual stream recyclables, or other?
 - ii. Which days of the week does this facility receive self-haul material?
 - e. Does this facility receive recyclable materials from redemption centers?
 - f. Does this facility perform secondary processing (receive material for further processing that have already been processed at another facility)?
 - i. Which facility pre-processes this material?
 - ii. What specs or grades of this material does this facility receive?
 - g. Does this facility receive materials from any other sources?
 - i. What kinds of materials, and from which sources?
 - h. What proportion of material inflow comes from each source sector?
4. MRF material processing for recycling
- a. Which technologies and equipment are used for sorting recyclable materials at this facility?
5. MRF outflows
- a. Does this facility regularly aggregate glass for sale or transfer?
 - i. Which specific aggregates of glass are sent for recycling? Is all glass transferred as mixed MRF glass, or are there color-separated streams?
 - b. Does this facility regularly aggregate metal for sale or transfer?
 - i. Which specific bales or aggregates of metal are sent for recycling? What specifications and grades are sent?
 - c. Does this facility regularly aggregate fiber (paper or OCC) for sale?
 - i. Which specific bales or aggregates of fiber are sent for recycling? What specifications and grades are sent?
 - d. Does this facility regularly aggregate plastic for sale?
 - i. Which specific bales of plastic are sent for recycling? What specifications and grades are sent?
 - e. Are there other material types this facility regularly aggregates for sale?
 - f. Does this facility send materials to another facility for secondary processing?
 - i. Which materials are sent for secondary processing?
6. Site visit logistics
- a. What are the facility's weekly operating hours?
 - i. When is the best time for visits from the field team?
 - b. When would be a good day and time to perform a site visit and in-person survey?
 - c. Could sorting personnel access material immediately prior to baling at this facility?
 - d. Are there anticipated shutdown periods during the study season?
 - e. Who is the best point of contact for survey follow-up?

Questions from SB 343 Facility Survey – In-Person Survey

1. MRF processing
 - a. Does this facility have any pre-sorting or screening steps, such as floor sorts?
 - b. What types of contamination does this facility encounter in incoming material processed for recycling?
 - i. Contaminant is defined here as anything that causes a safety hazard or that can't be sold in a bale or sorted aggregate
 - ii. How does this facility remove the various contaminants?
 - c. How does this facility manage rejects and residuals?
 - d. What path do potentially-recyclable materials take through this facility?
 - i. How is material sorted out?
 - ii. How are sorting technologies integrated through this sorting process?
 - iii. Is the sorting path material-dependent?
 - e. What are the primary functions of each technology used in sorting?
 - i. Who are the providers of each technology used?
 - ii. Which materials are sorted using each technology?
2. Material Inflows
 - a. What proportion of material inflow comes from each residential jurisdiction over the course of a year?
 - i. Rounded to the nearest 10%
 - b. How do this facility's commercial jurisdiction inflow proportions differ from residential inflow?
3. Material Outflows
 - a. What are the destinations for outflows at this facility?
 - i. Including: Material sent to a recycler or broker, or otherwise sold for recycling; recycling lines sent to other parts of facility; secondary processor for additional sorting; landfill; other
 - b. Which aggregates or bales are prepared for sale or transfer after MRF processing?
 - i. Including: MRF glass, aluminum cans, other non-ferrous metal, ferrous metal, OCC (cardboard), mixed paper, mixed HDPE, mixed PET, mixed rigid plastics, #52 carton (aseptic cartons and gabletop)
 - ii. Are any of these aggregates sorted and transferred at a more granular level than described above?
 - iii. What are the estimated tons of each outflow sold for recycling?
 - iv. For each of these aggregates, what is the most common destination of these materials, YTD 2023?
 1. Facility name in CA or country if outside CA
 - c. Does this facility ever stockpile processed material until a suitable market is available?
 - i. What types of material are stockpiled?

Appendix 3. List of Regions for the Large Volume Transfer Processor Material Characterization Study

This table includes a list of each county in California and its assignment to the five regions described in the material characterization study.

Table C1. List of California Counties within Each Region

Region	Counties
Central Valley	Butte, Colusa, Fresno, Glenn, Kern, Kings, Madera, Merced, Placer, Sacramento, San Joaquin, Shasta, Stanislaus, Sutter, Tehama, Tulare, Yolo, Yuba
Coastal	Del Norte, Humboldt, Lake, Mendocino, Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz
Los Angeles and San Diego Basins	Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego, Ventura
Mountain	Alpine, Amador, Calaveras, El Dorado, Inyo, Lassen, Mariposa, Modoc, Mono, Nevada, Plumas, Sierra, Siskiyou, Trinity, Tuolumne
San Francisco Bay Area	Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma

Appendix 4. SB 343 Material Types and Forms List

This table describes all Material Types and Forms considered in the material characterization study, which is then connected to the jurisdiction survey accepted materials list (Appendix 1). The first column is material category name (Glass, Metal, Fiber, Household Hazardous Waste, Mixed, Plastic, Special Waste, Textiles). The second column gives each Material Type and Form a unique code, and column 3 is the Material Type and Form name. This list is intended to capture all common and identifiable items processed by Material Recovery Facilities, with greater precision for traditional recyclables. Each category also includes remainder/ composite Material Type and Form for objects not readily identifiable to the level of form. Column 4 defines the meaning of each Material Type and Form, with a description of the identifiable features of these items. Column 5 provides examples of expected items within each Material Type and Form category and clarifies excluded items.

Table D1. List of Material Characterization Sorting Categories based on Material Type and Form

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Glass	G01	Glass Containers - Clear/ Flint - non-CRV	Glass Containers - Clear/ Flint - non-CRV means clear glass containers other than CRV beverage bottles. Includes containers for food, beverages, or cleaning products. May include the code 70 or GL associated with chasing arrows. Includes whole and broken objects larger than 2 inches that are identifiable as containers but not identifiable as CRV.	Examples include whole or broken clear milk bottles, bottles for drink mixers, other beverage bottles, mayonnaise jars, jam jars, nut butter jars, honey jars, jars of preserved produce, olive oil bottles, salad dressing bottles, hot sauce bottles, clear glass containers for cleaning products. EXCLUDES clear durable glass or specialty glass items such as Pyrex dishes or drinking glasses.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Glass	G02	Glass Beverage Containers - Clear/Flint - CRV	Glass Beverage Containers - Clear/Flint - CRV means clear glass containers that display the California Refund Value (CRV) notification. May include the code 70 or GL associated with chasing arrows. Includes only whole bottles clearly identifiable as CRV.	Examples include whole clear soda bottles, wine bottles, liquor bottles, wine cooler bottles, water bottles, kombucha bottles.
Glass	G03	Glass Containers - Green/ Emerald - non-CRV	Glass Containers - Green/ Emerald - non-CRV means green glass containers other than CRV beverage bottles. Includes containers for food, beverages, or cleaning products. May include the code 70 or GL associated with chasing arrows. Includes whole and broken objects larger than 2 inches that are identifiable as containers but not identifiable as CRV.	Examples include whole or broken beverage bottles, dressing bottles, olive oil bottles, and jars for preserved produce. EXCLUDES durable glass or specialty glass items such as drinking glasses.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Glass	G04	Glass Beverage Containers - Green/Emerald - CRV	Glass Beverage Containers - Green/Emerald - CRV means green glass containers that display the CRV notification. May include the code 71 or GL associated with chasing arrows. Includes only whole bottles clearly identifiable as CRV.	Examples include whole green soda bottles, wine bottles, liquor bottles, beer bottles.
Glass	G05	Glass Containers - Brown/ Amber - non-CRV	Glass Containers - Brown/ Amber - non-CRV means brown glass containers other than CRV beverage bottles. Includes containers for food, beverages, or cleaning products. May include the code 70 or GL associated with chasing arrows. Includes whole and broken objects larger than 2 inches that are identifiable as containers but not identifiable as CRV.	Examples include whole or broken beverage bottles, dressing bottles, olive oil bottles, and jars for preserved produce. EXCLUDES durable glass or specialty glass items such as drinking glasses.
Glass	G06	Glass Beverage Containers - Brown/Amber - CRV	Glass Beverage Containers - Brown/Amber - CRV means brown glass containers that display the CRV notification. May include the code 72 or GL associated with chasing arrows. Includes only whole bottles clearly identifiable as CRV.	Examples include whole brown beer bottles, wine bottles, liquor bottles, soda bottles, kombucha bottles.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Glass	G07	Glass Containers - Other Colors - non-CRV	Glass Containers - Other Colors - non-CRV means glass containers of colors other than clear, green, or brown, other than CRV beverage bottles. Includes containers for food, beverages, or cleaning products. May include the code 72 or GL associated with chasing arrows. Includes whole and broken objects larger than 2 inches that are identifiable as containers but not identifiable as CRV.	Examples include whole or broken beverage bottles, dressing bottles, olive oil bottles, and jars for preserved produce. EXCLUDES durable glass or specialty glass items such as drinking glasses.
Glass	G08	Glass Beverage Containers - Other Colors - CRV	Glass Beverage Containers - Other Colors - CRV means glass containers of other colors that display the CRV notification. May include the codes 73-79 or GL associated with chasing arrows. Includes only whole bottles clearly identifiable as CRV.	Examples include whole soda bottles, beer bottles, wine bottles, liquor bottles, kombucha bottles, water bottles that are not clear/flint, green/emerald, or brown/amber.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Glass	G09	Remainder/ Composite Glass	Remainder/ Composite Glass means glass that does not fit in any other category, including flat and curved glass, specialty glass, and items made mostly of glass but combined with other materials. May include glass contaminated with stones, dirt, or food waste. Includes whole or broken items. Includes mixed glass cullet, durable glass items, tempered glass, and heat-resistant glass. Includes all broken glass that is not an identifiable container type. May include glass fragments smaller than 2 inches if easily identifiable as glass.	Examples include window panes, doors and table tops, automotive glass, laminated glass, safety glass, Pyrex and kitchen glass, crystal and glass tableware, drinking glasses, mirrors, non-fluorescent light bulbs, laminated glass, mixed glass cullet, broken bottles, windshield fragments, broken glass tableware.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Household Hazardous Waste	H01	Household Hazardous Waste	Household Hazardous Waste means household hazardous material that cannot be put in any other type. This type also includes household hazardous material that is mixed. Examples include household hazardous waste that, if improperly put in the solid waste stream, may present handling problems or other hazards. Includes battery embedded products.	Examples include paint, used oil, lead-acid (automotive) batteries, other batteries, pharmaceuticals, pesticides and caustic cleaners, sharps, lamps, fluorescent lighting, thermostats and thermometers, electronics with hazardous components including CRT tube TVs, LCD monitors and screens, OLED monitors and screens, computers, printers, cellphones, radios, battery-powered vaping devices, other electronics including batteries, battery-embedded products including battery-embedded greeting cards.
Metal	M01	Aluminum Cans and Lids - non-CRV	Aluminum Cans and Lids - non-CRV means any can that is made mainly of aluminum, with or without lids attached, other than clearly identifiable CRV cans. May include the number 41 or the code alu within chasing arrows. This subtype does not include bimetal containers with steel sides and aluminum ends. Includes cans that are not clearly identifiable as CRV.	Examples include canned nutritional supplements, protein shakes, pet food cans, meat cans.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Metal	M02	Aluminum Beverage Cans - CRV	Aluminum Beverage Cans - CRV means any beverage container that is made mainly of aluminum, with the CRV notification. May include the number 41 or the code alu within chasing arrows. This subtype does not include bimetal containers with steel sides and aluminum ends.	Examples include soda cans, beer cans, wine cans, cocktail beverage cans, alcoholic seltzer cans.
Metal	M02	Aluminum Bottles - non-CRV	Aluminum Bottles - non-CRV means any narrow-necked container (or bottle) that is used to package beverages, food, or items such as personal care products, without the CRV notification. May include the number 41 or the code alu within chasing arrows. Any durable containers designed for refill or reuse should be categorized with Other Nonferrous Metals. Includes aluminum bottles that are not clearly identifiable as CRV.	Examples include olive oil bottles, lotion bottles, shampoo bottles, personal care product bottles, cleaning solution bottles.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Metal	M04	Aluminum Bottles for Beverages - CRV	Aluminum Bottles for Beverages - CRV means any narrow-necked container (or bottle) that is used to package beverage items, with the CRV notification. May include the number 41 or the code alu within chasing arrows. This category does not include durable containers that are designed to be refilled or reused, such as reusable water bottles.	Examples include water bottles, beer bottles, wine bottles. EXCLUDES durable and reusable metal water bottles.
Metal	M05	Aluminum Foil (<3 mm), Sheets	Aluminum Foil (<3 mm), Sheets means aluminum foil, thickness less than 3 mm, that is generally in the form of a sheet or wrap. This does not include insulated foil wrap or other items that are a mixture of foil and another material type (e.g., fiber).	Examples include new and post-consumer foil sheets that are relatively free of food and other contamination. EXCLUDES insulated foil wrap that is a combination of foil and moisture-absorbing paper.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Metal	M06	Aluminum Foil (>3 mm), Molded Containers	Aluminum Foil (>3 mm), Molded Containers means flexible molded container composed of aluminum foil, thickness is over 3 mm, can be wrinkled or wrinkle-free, usually composed of 8011 aluminum alloy or 3003 aluminum alloy.	Examples include molded trays that are relatively free of food and other contamination, including takeout containers, food trays, pie plates.
Metal	M07	Tin/Steel Cans, Lids - non-CRV	Tin/Steel Cans, Lids - non-CRV means rigid containers made mostly of steel. These items will stick to a magnet and may be tin-coated. May include the number 40 and the code FE associated with chasing arrows, indicating steel. Includes items not clearly identifiable as CRV.	Examples include soup cans, coffee cans, bimetal containers with steel sides and aluminum ends, lids. EXCLUDES single-use or durable beverage containers.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Metal	M08	Tin/Steel Beverage Containers - CRV	Tin/Steel Beverage Containers - CRV means rigid containers made mostly of steel, with the CRV notification. These items will stick to a magnet and may be tin-coated. May include the number 40 and the code FE associated with chasing arrows, indicating steel. Any durable containers designed for refill or reuse should be categorized with Other Ferrous Metals.	Examples include beverage cans, single-use beverage bottles. EXCLUDES durable and reusable metal water bottles.
Metal	M09	Tin/Steel Paint Cans	Tin/Steel Paint Cans means rigid cans with or without lids, made mostly of steel. Will stick to a magnet. May include the number 40 and the code FE associated with chasing arrows, indicating steel. May contain dried paint.	Examples include empty paint cans.
Metal	M10	Tin/Steel Aerosol Containers	Tin/Steel Aerosol Containers means rigid cans with aerosol spray top, made mostly of steel. Will stick to a magnet. May include the number 40 and the code FE associated with chasing arrows, indicating steel.	Examples include empty spray paint containers, empty aerosol personal care products, empty aerosol food products.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Metal	M11	Metal Hazardous Waste: Used Oil Filters, Gas Cylinders	Metal Hazardous Waste: Used Oil Filters, Gas Cylinders means oil filters containing small amounts of contaminated waste oil. Fully drained oil filters may be in crushed form. Also includes disposable propane (or other fuel) gas cylinders.	Examples include mostly or fully empty automotive, diesel, or internal combustion engine oil filters, whole or crushed. Also includes one-pound or less propane (or other fuel) gas cylinders. Includes larger fuel cylinders if present.
Metal	M12	Other Ferrous Metal	Other Ferrous Metal means any iron or steel that is magnetic or any stainless-steel item. This type does not include single-use tin/steel cans or single-use beverage containers.	Examples include structural steel beams, metal clothes hangers, metal pipes, security bars, scrap ferrous items, reusable stainless steel water bottles, stainless steel utensils and cookware, cast iron cookware.
Metal	M13	Other Nonferrous Metal	Other Nonferrous Metal means any metal item, other than single-use food or beverage cans or aluminum foil, that is not stainless steel and that is not magnetic. These items may be made of aluminum, copper, brass, bronze, lead, zinc, or other metals.	Examples include aluminum window frames, aluminum siding, copper wire, shell casings, brass pipes, license plates, copper or aluminum utensils and cookware.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Metal	M14	Remainder/ Composite Metal	Remainder/ Composite Metal means metal that cannot be put in any other type. This type includes items made mostly of metal but combined with other materials and items made of both ferrous metal and non-ferrous metals combined. Includes products whose weight is derived significantly from the metal portion of its construction. Includes food-contaminated metals. Includes metal fragments smaller than two inches if easily identifiable as metal.	Examples include metal appliances, motors, insulated wire, food-soiled metals (such as cookware, cans, and aluminum foil)

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Mixed	X01	Gable-top Cartons/ Aseptics - CRV	Gable-top Cartons/ Aseptics - CRV means plastic-coated paper-based cartons with a triangular top used for refrigerated and non-refrigerated items with the CRV notification. Aseptic Containers means bleached polycoated paperboard containers or paper containers with a foil liner of various sizes and shapes that contain shelf-stable food products. For either form, containers may include a plastic pour spout as part of the container. May include the code 84 or C/PAP or PapAI associated with chasing arrows.	Examples include cartons or containers used for wine and spirits.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Mixed	X02	Gable-top Cartons - non-CRV	Gable-top Cartons - non-CRV means plastic-coated paper-based cartons with a triangular top used for refrigerated and non-refrigerated items, other than those clearly identifiable as CRV. Containers may include a plastic pour spout as part of the container. May include the code 84 or C/PAP or PapAI associated with chasing arrows. Includes any gable-top cartons not identifiable as CRV.	Examples include cartons used for milk, cream, egg substitutes, medical food, and juice, gable-top containers used for snacks and cereals.
Mixed	X03	Aseptic Containers - non-CRV	Aseptic Containers - non-CRV means bleached polycoated paperboard containers or paper containers with a foil liner of various sizes and shapes that contain shelf-stable food products, without the CRV notification. Containers may include a plastic pour spout as part of the container. May include the code 84 or C/PAP or PapAI associated with chasing arrows. Includes any aseptic containers not identifiable as CRV.	Examples include containers for fruit juice, soup, medical food, infant formula, soy/rice/almond/oat milk.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Mixed	X04	Mailing Pouches & Shipping Envelopes	Mailing Pouches & Shipping Envelopes means multilayer pouches and envelopes with different materials for cushioning such as bubble wrap or foam; including paper and plastic layers. Does not include pouches or shipping envelopes that are paper only and do not contain a plastic component.	Examples include shipping envelopes or mailing pouches; Amazon mailers, FedEx mailers, UPS mailers, USPS mailers. EXCLUDES shipping envelopes and pouches made exclusively of paper/fiber.
Mixed	X05	Other Multi-Material Laminate Single-Use	Other Multi-Material Laminate Single-Use means any multi-material laminate used for food storage, retail display, or other uses. Does not include aseptics, gabletop containers, fiber-based food service ware, or mailing pouches and shipping envelopes. Includes multi-material laminates not identifiable by primary usage.	Examples include retail display boxes, caulking tubes with laminate layers, small multi-laminate pouches for toys, snacks, condiments, beverages, or seafood. EXCLUDES shipping and mailing pouches, fiber-based food service ware, aseptics, gabletop containers.
Mixed	X06	Single-Use Ceramic Packaging	Single-Use Ceramic Packaging means packaging primarily composed of ceramics or clay. Does not include durable ceramic items.	Examples include yogurt cups, sake bottles, tequila bottles. May or may not indicate CRV.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Mixed	X08	Plant Material Food Service Ware	Plant Material Food Service Ware means bamboo or other plant-based food service ware with the exception of plastics or paper from trees. May indicate compostability in its labeling.	Examples include bamboo stakes, bamboo single-use bowls, bamboo single-use cups.
Mixed	X09	Treated Wood	Treated Wood means any wood with chemical additives or layers, such as treated, stained, or painted wood. Clean wood is not included.	Examples include wood from construction, furniture, or other uses with pressure treatment, stain, or paint. EXCLUDES clean, untreated wood.
Mixed	X10	Green Material, Clean Wood, and Food Scraps	Green Material, Clean Wood, and Food Scraps means green material generally originating from gardens and landscaping, clean wood, natural cork, manures, animal carcasses, and food material. Treated, stained, or painted wood is not included.	Examples include branches, lawn clippings, leaves, clean wood, natural cork, manure, animal carcasses and food. EXCLUDES treated, stained, or painted wood.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Mixed	X11	Mixed Material Single-Use	Mixed Material Single-Use means single-use items that do not belong in any other category that include significant amounts of multiple material categories, such as plastic with metal, or paper with plastic and metal. Includes only material clearly identifiable as single-use.	Examples include plastic bottles with metal caps or ends, plastic tubs with aluminized layers attached as lids, cardboard juice tubes with plastic and metal ends, cardboard snack containers with plastic and metal linings and caps, packaging made from a combination of textiles and plastic, paper packaging with metal bottoms, mixed-material toys, grocery box liner insulation, single-use gel ice packs, masks (including surgical masks, respirators, N95 masks, KN95 masks, etc.). EXCLUDES mailing pouches and shipping envelopes, food service ware, or multilayer laminate items.
Mixed	X12	Remainder/ Composite Mixed Material Multi-Use	Remainder/ Composite Mixed Material Multi-Use means any mixed material items intended for more than one use, that are unidentifiable by more specific categories. Includes material that cannot be clearly identified as single-use vs. multi-use.	Examples include knives, treated/painted/stained wood, small non-hazardous electronics, incandescent lightbulbs, LED lighting, pots and pans, ceramic items including dishes, mixed-material items including wood or cork, hardcover books with paper and fabric layers, garden hoses, office supplies including binders, paper notebooks with plastic covers, multi-use ice packs. EXCLUDES bulky items, items which are mostly paper or multi-material laminates.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Mixed	X13	Fines and Residuals	Fines and Residuals means unidentifiable/ mixed material items less than 2 inches. If material is easily sorted and identifiable (e.g., glass cullet), then it should be placed in the composite category for the appropriate material type (e.g., glass).	Examples include fines, small unidentifiable material, dirt.
Fiber	F01	Uncoated Corrugated Cardboard/ Old Corrugated Containers (OCC)	Uncoated Corrugated Cardboard/ Old Corrugated Containers (OCC) means a paper laminate usually composed of three layers. The center wavy layer is sandwiched between the two outer layers. It can be uncoated or have a (glossy) coating on the inside or outside. May include the code 20 or PAP associated with chasing arrows. If coated with waxes or plastics, categorize as Remainder/ Composite Paper.	Examples include cardboard packaging and containers, shipping and moving boxes, computer packaging cartons, sheets and pieces used as dividers in boxes, boxes used for primary packaging of various consumer goods, may include clean molded fiber. EXCLUDES waxed cardboard and paperboard boxes such as cereal or tissue boxes.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Fiber	F02	White Office-Type Paper and Mail	White Office-Type Paper and Mail means white paper used in offices and mail. May or may not have ink on it. Does not include envelopes lined with plastic or bubble wrap. May include the code 22 or PAP associated with chasing arrows. If coated with waxes or plastics, categorize as Remainder/ Composite Paper.	Examples include bond paper, rag paper, stationary grade paper, photocopy paper, white laser print paper, computer printer paper, letter paper, ruled binder paper, bills/ business forms, white envelopes with or without clear windows, white cardstock.
Fiber	F03	Newspapers/ Newspaper Inserts	Newspapers/ Newspaper Inserts means paper used in newspapers and all items made from newsprint. May include the code 22 or PAP associated with chasing arrows.	Examples include newspapers, free advertising guides, election guides, plain news packing paper, telephone books, directories, real-estate listings, non-glossy mail-order catalogs.
Fiber	F04	Magazines and Catalogs	Magazines and Catalogs means multi-page bound items (glued or stapled) made of glossy coated paper. This paper is usually slick, smooth to the touch, and reflects light. May include the code 22 or PAP associated with chasing arrows.	Examples include glossy magazines, catalogs, brochures, pamphlets, glossy inserts found in newspapers.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Fiber	F05	Paper Bags and Kraft Paper	Paper Bags and Kraft Paper means paper bags means bags made from Kraft paper, including grocery bags, and sheets of Kraft paper. The paper may be brown (unbleached) or white (bleached). The paper may also be single layer or multi-layer (multiwall). May include the code 22 or PAP associated with chasing arrows. If coated with waxes or plastics, categorize as Remainder/ Composite Paper.	Examples include paper grocery bags, single-layer paper bags such as lunch bags, multiwall paper bags that do not have a plastic layer incorporated into the bags, heavyweight sheets of Kraft packing paper, manila folders or envelopes.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Fiber	F06	Folded Paper Containers and Other Paperboard Packaging	Folded Paper Containers and Other Paperboard Packaging means paperboard boxes, other than corrugated, which fold and are primarily made of paper with few other materials (e.g., boxes with plastic windows are excluded). These cartons and packaging are typically used as the primary packaging for various products such as breakfast cereals, snack foods, jewelry, tobacco, pharmaceuticals and cosmetics. This also includes non-box paperboard such as paper tubes for toilet paper. May include the code 21 or PAP associated with chasing arrows. If coated with waxes or plastics, categorize as Remainder/ Composite Paper.	Examples include paperboard boxes such as boxes for breakfast cereals, snack foods, jewelry, tobacco, pharmaceuticals and cosmetics tissue boxes, shoe boxes, detergent boxes, boxes for wine and other beverages with plastic liner removed, paper-based tubes and cores including paper towel tubes and toilet paper tubes.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Fiber	F07	Other Mixed Paper	<p>Other Mixed Paper means items made of paper that do not fit into any of the other paper types, but that are generally recyclable or not generally composted. Paper may be bundled and tied. Any bags or bundles of paper should be separated for characterization. Paper may be combined with minor amounts of other materials such as tape, staples, cloth or string binding, glues, or waxes. Includes shredded paper and paper fragments smaller than two inches when easily identifiable as paper. May include the code 22 or PAP associated with chasing arrows. Does not include items with embedded batteries. If fully coated, categorize as Remainder/ Composite Paper. Includes any uncoated paper that cannot be categorized as another fiber type.</p>	<p>Examples include pigmented paper, pigmented stationery grade paper, cardstock, index cards, non-tearing paper envelopes, lined or pigmented notebook paper, carbonless forms, thermal fax paper, chipboard, hardcover books with covers removed, paperback books, bagged or bundled shredded paper, greeting cards, paper clothing tags, coupons, paper-only shipping envelopes, school construction paper/ butcher paper, pigmented envelopes for greeting cards, paper gift bags, non-metallic gift wrap, tissue paper for gift wrapping, paper notebooks with paper covers, scrap paper. EXCLUDES items with embedded batteries, including greeting cards with batteries.</p>

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Fiber	F08	Clean Molded Paper Fiber	Clean Molded Paper Fiber means clean molded paper fiber packaging for shipping or other non-food uses. If coated, categorize as Remainder/ Composite Paper.	Examples include molded paper fiber shipping inserts, unused pulp paper plant pots.
Fiber	F09	Uncoated Fiber-Based Food Service Ware	Uncoated Fiber-Based Food Service Ware means uncoated fiber-based or paper packaging for food service. Includes molded paper fiber for food service. Does not include a plastic, wax, or other coating. If paper coating is ambiguous, categorize as Composite Food Service Paper & Packaging.	Examples include uncoated paper to-go containers and trays such as for hot cups and meals, uncoated paper plates or cups, pulp paper egg cartons, uncoated pizza boxes, paper towels, napkins, tissues, coffee filters, clay-coated paperboard to-go containers from the CalRecycle List of Approved Food Service Packaging, bakery bags. May include mild food or organics soiling.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Fiber	F10	Composite Food Service Paper & Packaging	Composite Food Service Paper & Packaging means food service paper items and packaging that are coated with waxes, plastics, or otherwise lined or combined with additional materials including metals or plastics. May include the code 81 (PapPet) or 84 (C/PAP) associated with chasing arrows. Does not include gabletop cartons or aseptic packaging.	Examples include wax or plastic-coated paper to-go boxes and serving trays, plastic-coated paper frozen food boxes, paper hot cups, paper cold cups, paper straws, coated paper plates including plastic-lined paper microwavable plates, plastic-coated paper food service ware, waxed paper wrappings, ice cream cartons. May include mild food or organics soiling. EXCLUDES gable-top cartons and aseptic paperboard containers.
Fiber	F11	Uncoated Soiled Fiber Products	Uncoated Food-Soiled Fiber Products means uncoated items made mostly of paper/fiber that have been significantly contaminated with food or moisture. These items may belong in another material category if they are clean or lightly soiled. If lined with plastics or wax coated, categorize with Remainder/Composite Paper.	Examples include any of the following that are heavily food soiled - fast food wrappers, used coffee filters, pizza boxes, napkins, tissues, paper towels. Items soiled with other organics may include napkins, tissues, paper towels, molded fiber plant pots. Includes any fiber heavily contaminated with moisture.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Fiber	F12	Remainder/ Composite Fiber	Remainder/ Composite Fiber means items made mostly of paper but combined with large amounts of other materials such as wax, plastic, glues, foil that do not fit into any other material category. Any bags or bundles of paper should be separated for characterization. May include the code 81 (PapPet), 82, 83, 84 (C/PAP), or 85 associated with chasing arrows. Does not include multilayer laminates.	Examples include blueprints, sepia, carbon paper, photographs, sheets of paper stick-on labels, self-adhesive notes, lined butcher paper, receipts or receipt paper, lotto tickets, lotto scratchers, fluorescent colored paper, aluminized paper, plastic-coated paper, PE-coated paper, PLA-coated paper, waxed corrugated cardboard, waxed paper, metallic or plastic-coated gift wrapping paper, hanging file folders, posters and maps, loose shredded paper. EXCLUDES gabletop cartons, aseptic containers, composite food service paper, paper mailing pouches, shipping envelopes, multi-laminate packaging and food service ware, uncoated paper heavily soiled by food or other organic materials.
Plastic	PL01	PET Clear Bottles - non-CRV	PET Clear Bottles - non-CRV means clear screw-top bottles that are marked with PET or PETE (1), without the CRV symbol. Includes bottles that cannot be identified as CRV.	Examples include clear PET bottles for household products such as shampoo, cleaning products, mouthwash, ketchup, and salad dressing, cooking oil.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Plastic	PL02	PET Clear Beverage Bottles - CRV	PET Clear Beverage Bottles - CRV means clear bottles for beverages that are marked with PET or PETE (1) and have the CRV symbol.	Examples include clear PET bottles for soda, water, liquor, and juice.
Plastic	PL03	PET Pigmented Bottles - non-CRV	PET Pigmented Bottles - non-CRV means narrow-necked containers such as screw-top bottles, other than clear bottles, that are marked with PET or PETE (1), without the CRV symbol. Includes bottles that cannot be identified as CRV.	Examples include pigmented PET bottles for household products such as shampoo, cleaning products, mouthwash, ketchup, and salad dressing.
Plastic	PL04	PET Pigmented Beverage Bottles - CRV	PET Pigmented Beverage Bottles - CRV means bottles for beverages, other than clear bottles, that are marked with PET or PETE (1) and have the CRV symbol.	Examples include bottles for soda, water, liquor.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Plastic	PL05	PET Thermoformed Clamshells and Containers	PET Thermoformed Clamshells and Containers means a PET thermoform plastic container that is a clamshell, hinged container (i.e., clamshell-like), or a lidded tub/box, generally used to package food items or other products or used as food service ware. Resin can be of any color, pigmented or clear. These are marked with PET or PETE (1).	Examples include PET clamshell to-go containers, berry containers, plastic tubs used for lettuce, plastic egg cartons, plastic packaging for cupcakes, clamshell packaging for hardware, fasteners, or office supplies.
Plastic	PL06	Other PET Clear Single-Use Rigids	Other PET Clear Single-Use Rigids means clear single-use rigid containers and other single-use items that do not fit in any other category that are marked with PET or PETE (1). Includes only material clearly identifiable as single-use.	Examples include jars and containers for food, non-bottle containers for household products (e.g., shampoo, cleaning products), single-use plastic cold cups, trays, disposable cup lids, pharmaceutical containers (pill vials), toy packaging, custom rigid packaging for small non-food items. EXCLUDES bottles, clamshells, berry containers, plastic egg cartons, other hinged thermoformed containers, thermoformed tubs/boxes, and durable items.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Plastic	PL07	Other PET Pigmented Single-Use Rigids	Other PET Pigmented Single-Use Rigids means single-use rigid containers and other single-use items, other than clear resin and other than bottles, that are marked with PET or PETE (1). Includes only material clearly identifiable as single-use.	Examples include jars and containers for food, containers for household products, single-use plastic cold cups, trays, disposable cup lids, black frozen food trays. EXCLUDES bottles, clamshells, berry containers, plastic egg cartons, other hinged thermoformed containers, thermoformed tubs/boxes, and durable items.
Plastic	PL08	PET Multi-Use Rigids	PET Multi-Use Rigids means durable plastic items that are marked with PET or PETE (1). Does not include durable items that are mixture of plastic and another material. Includes material that cannot be clearly identified as single-use vs. multi-use.	Examples include crates, totes, buckets, tubs, plastic garbage cans, flowerpots, lawn furniture, plastic toys and sporting goods, plastic housewares, building materials, engineering moldings.
Plastic	PL09	HDPE Clear Beverage Bottles - non-CRV	HDPE Clear Beverage Bottles - non-CRV means containers for beverages that are marked with HDPE (2), without the CRV symbol. The plastic is cloudy white, allowing light to pass through it. Includes bottles that cannot be identified as CRV.	Examples include beverage containers for milk, medical food, infant formula, or juice, including bottles and jugs for beverages that are not part of the CRV program.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Plastic	PL10	HDPE Clear Beverage Bottles - CRV	HDPE Clear Beverage Bottles - CRV means bottles and jugs for beverages that are marked with HDPE (2), and the CRV symbol. The plastic is cloudy white, allowing light to pass through it.	Examples include beverage containers for water, soda, juice, including bottles and jugs.
Plastic	PL11	HDPE Buckets: Food	HDPE Buckets: Food means over 1-gallon buckets (including 5-gallon buckets) that are marked with HDPE (2), and which previously contained consumable food items.	Examples include buckets over 1 gallon used for bulk sale and storage of food items. EXCLUDES buckets which previously contained non-food items.
Plastic	PL12	HDPE Buckets: non-Food	HDPE Buckets: non-Food means buckets over 1-gallon (including 5-gallon buckets) that are marked with HDPE (2). Includes buckets for which previous contents cannot be clearly defined as food or non-food.	Examples include buckets over 1 gallon used for non-food items. EXCLUDES buckets which clearly previously contained consumable food items.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Plastic	PL13	Other HDPE Clear Single-Use Rigids	Other HDPE Clear Single-Use Rigids means clear plastic jars and other rigid containers that are marked HDPE (2). Does not include durable containers or beverage bottles. The plastic is cloudy white, allowing light to pass through it. Includes only material clearly identifiable as single-use.	Examples include jugs, jars, and other containers for food, or for household products (e.g., shampoo and hair care, cleaning products, cosmetics, detergents, bleach) EXCLUDES beverage bottles and durable items.
Plastic	PL14	HDPE Pigmented Single-Use Rigids	HDPE Pigmented Single-Use Rigids means pigmented plastic bottles, jars, and other rigid containers that are marked HDPE (2). Does not include durable containers. The plastic is a solid color, preventing light from passing through it. Includes only material clearly identifiable as single-use.	Examples include pigmented bottles, jugs, jars, and other containers for food, coffee creamer, margarine, cottage cheese, yogurt tubs, tubes for frozen juice, 4- or 6-carriers for aluminum beverage cans, empty medicine bottles, or containers for household products (e.g., shampoo and hair care, cleaning products, cosmetics, detergents, empty motor oil, empty antifreeze, empty vehicle and equipment fluid bottles) EXCLUDES beverage bottles and durable items.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Plastic	PL15	Other HDPE Multi-Use Rigid	Other HDPE Multi-Use Rigid means durable items that are marked with HDPE (2). Does not include durable items that are mixture of plastic and another material. Includes material that cannot be clearly identified as single-use vs. multi-use.	Examples include crates, totes, tubs, plastic garbage cans, flower pots, lawn furniture, plastic toys and sporting goods, plastic housewares, building materials, reusable shipping crates, plastic wood, wire and cable covering EXCLUDES HDPE buckets, HDPE clearly identifiable as single-use.
Plastic	PL16	PVC Single-Use Rigid	PVC Single-Use Rigid means single-use plastic containers of any color that are marked with PVC (3). Does not include durable items such as PVC pipes. Includes only material clearly identifiable as single-use.	Examples include bottles, blister packs, clear plastic gift boxes, and plastic tube packaging. EXCLUDES PVC multi-use.
Plastic	PL17	PVC Multi-Use	PVC Multi-Use means durable plastic items that are marked with PVC (3). Does not include durable items that are mixture of plastic and another material. Includes material that cannot be clearly identified as single-use vs. multi-use.	Examples include crates, totes, buckets, tubs, plastic garbage cans, flowerpots, lawn furniture, plastic toys and sporting goods, plastic housewares, building materials including pipes, siding, fencing, decking, plastic cutting boards. EXCLUDES single-use items.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Plastic	PL18	LDPE Clear Beverage Bottles	LDPE Clear Beverage Bottles means clear bottles for beverages that are marked with LDPE (4).	Examples include novelty drink bottles, squeezable bottles.
Plastic	PL19	LDPE Clear Single-Use Rigids	LDPE Clear Single-Use Rigids means clear plastic jars and other rigid containers that are marked LDPE (4). Does not include durable containers or beverage bottles. Includes only material clearly identifiable as single-use.	Examples include squeezable bottles, container lids, takeout containers. EXCLUDES durable items.
Plastic	PL20	LDPE Pigmented Single-Use Rigids	LDPE Pigmented Single-Use Rigids means pigmented plastic jars and other rigid containers that are marked LDPE (4). Does not include clear or durable containers. Includes only material clearly identifiable as single-use.	Examples include novelty drink bottles, squeezable bottles, container lids. EXCLUDES durable items.
Plastic	PL21	LDPE Multi-Use	LDPE Multi-Use means durable plastic items that are marked with LDPE (4). Does not include durable items that are mixture of plastic and another material. Includes material that cannot be clearly identified as single-use vs. multi-use.	Examples include crates, totes, buckets, tubs, plastic garbage cans, flowerpots, lawn furniture, plastic toys and sporting goods, plastic housewares, building materials. EXCLUDES LDPE clearly identifiable as single-use.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Plastic	PL22	PP Clear Single-Use Rigids	PP Clear Single-Use Rigids means clear plastic bottles, jars and other rigid containers and lids that are marked PP (5). Does not include durable containers. Includes only material clearly identifiable as single-use.	Examples include containers for deli and takeout, cold beverage cups, containers for margarine, medicine bottles, bottles for catsup and syrup, yogurt cups, preserved fruit, vegetable, or snack cups, lids, thin single-use plastic containers for food storage such as Tupperware. EXCLUDES durable items.
Plastic	PL23	PP Pigmented Single-Use Rigids	PP Pigmented Single-Use Rigids means pigmented plastic bottles, jars and other rigid containers and lids that are marked PP (5). Does not include durable containers. Includes only material clearly identifiable as single-use.	Examples include containers for deli and takeout, containers for margarine, berry baskets, empty medicine bottles, empty prescription bottles, bottles for catsup and syrup, yogurt cups, lids, microwavable trays. EXCLUDES durable items.
Plastic	PL24	PP Multi-Use	PP Multi-Use means durable plastic items that are marked with PP (5). Does not include durable items that are mixture of plastic and another material. Includes material that cannot be clearly identified as single-use vs. multi-use.	Examples include plastic automotive components, plastic luggage, reusable plastic food containers such as Tupperware. EXCLUDES PP clearly identifiable as single-use.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Plastic	PL25	PS Thermoformed Clamshells and Containers	PS Thermoformed Clamshells and Containers means a PS thermoform plastic container that is a clamshell or hinged container (i.e., clamshell-like) or a lidded tub/box, generally used to package food items or other products or used as food service ware. Resin can be of any color, pigmented or clear. These are marked with PS (6). Does not include expanded polystyrene (EPS) containers.	Examples include PS clamshell to-go containers.
Plastic	PL26	PS Densified: Single-Use Food Service Ware	PS Densified: Single-Use Food Service Ware means Non-expanded polystyrene food service ware marked with PS (6) that do not fit in any other category. Includes only material clearly identifiable as single-use.	Examples include spoons, forks, knives, drink lids, microwavable trays, red pint cups. EXCLUDES PS clamshells, other thermoformed containers, and durable items.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Plastic	PL27	PS Expanded - Packaging	PS Expanded - Packaging means any low-density or expanded polystyrene items, which may be marked with PS (6). Includes cushioning. Includes PS Expanded items that cannot be identified as food service ware.	Examples include packaging materials such as void fill, cushioning, and packing peanuts. EXCLUDES items identifiable as food service ware.
Plastic	PL28	PS Expanded - Food Service Ware	PS Expanded - Food Service Ware means any low-density or expanded polystyrene food service items, which may be marked with PS (6).	Examples include takeout containers such as clamshells, cold cups, single-use bowls and plates.
Plastic	PL29	PS Densified: Multi-Use	PS Densified: Multi-Use means non-expanded durable plastic items that are marked with PS (6). Does not include durable items that are mixture of plastic and another material, or expanded polystyrene items. Includes material that cannot be clearly identified as single-use vs. multi-use.	Examples include plates, trays, crates, totes, buckets, tubs, pails, garbage cans, laundry baskets, flowerpots, lawn furniture, plastic toys and sporting goods, plastic housewares, building materials. EXCLUDES items clearly identifiable as single-use.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Plastic	PL30	Other (7) Single-Use Rigid	Other (7) Single-Use Rigid means single-use plastic items marked with Other (7). Includes items made with biodegradable resins (PLA, PHA, or any item indicating design for compostability). Includes only material clearly identifiable as single-use.	Examples include juice and catsup bottles, cups, empty prescription bottles or vials. EXCLUDES durable items.
Plastic	PL31	Plastic Wine Bladders	Plastic Wine Bladders means empty plastic bladders used for wine. If filled or unidentifiable, categorize as Remainder/ Composite Plastic.	Examples include empty plastic bladders used for wine.
Plastic	PL32	Films - Plastic Bags - Compostable	Films - Plastic Bags - Compostable means all bags made from thin plastic film, regardless of resin types. Bags must include indications of compostability or biodegradability, and may or may not include recycling symbols. Often milky green in color. Any mixed bags or bundles of bags should be separated for characterization.	Examples include plastic bags intended for holding trash, compostable waste, pet waste, or vegetables. EXCLUDES plastic bags not identifiable as compostable.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Plastic	PL33	Films - Plastic Bags - Designed for Reuse	Films - Plastic Bags - Designed for Reuse means all bags made from thin plastic film, regardless of resin types. These bags are often of thicker film than other plastic bags, at least 2.25 mm thick. These bags include a printed statement that the bag is made partly or wholly from postconsumer recycled material and may state the postconsumer recycled material content percentage. Bags may or may not include recycling symbols. Any mixed bags or bundles of bags should be separated for characterization. Does not include totes or other reusable bags made of a textile material.	Examples include plastic shopping bags or plastic merchandise bags. EXCLUDES totes and other reusable bags made of a textile material, and any plastic bags not identifiable as designed for recycling or reuse.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Plastic	PL34	Films - Plastic Non-Bags - Agricultural and Commercial	Films - Plastic Non-Bags - Agricultural and Commercial means heavy plastic films, regardless of resin types or pigmentation. Film plastic used for large-scale packaging or transport packaging. Any mixed bags or bundles of films should be separated for characterization.	Examples include films for silage, mulch, or greenhouses, wraps for hay bales, commercial films, mattress bags, furniture wrap, film bubble wrap, drop cloth plastic sheeting, building wrap, fumigation film, pallet wrap.
Plastic	PL35	Films - Plastic Non-Bags - Other Film	Films - Plastic Non-Bags - Other Film means thin films for food service and other packaging use, regardless of resin types or pigmentation. Includes films that cannot be identified as any other film or bag type.	Examples include plastic wrap, other plastic packaging films, baby wipe packets, cleaning wipe packets, ovenable film, shrink wrap, deli wrap, stretch film, candy bar wrappers, plastic food wrappers, bubble wrap, small plastic single-serving packets, X-ray film, metallized film for wine and balloons. EXCLUDES films for agricultural and commercial use.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Plastic	PL36	Films - Plastic Bags - Designed for Disposal	Films - Plastic Bags - Designed for Disposal means all bags made from thin plastic film under 2.25 mm thick, regardless of resin types. Bags may or may not include recycling symbols. Any mixed bags or bundles of bags should be separated for characterization. Includes bags that are not identifiable as reusable or compostable.	Examples include plastic shopping bags, plastic merchandise bags, zip-top plastic bags, cereal box liners, bags for bedding and medical, newspaper bags, food bags including for bread, household garbage bags, trash bags, dry cleaning bags, tee-shirt bags, plastic produce bags. EXCLUDES plastic bags that are identifiable as reusable or compostable.
Plastic	PL37	Unknown Plastic Type or Mixture of Multiple Plastic Resins (Single-Use)	Unknown Plastic Type or Mixture of Multiple Plastic Resins (Single-Use) means single-use plastic items with no discernable resin or resin labeling. Does not include durables/ multi-use.	Examples include food service ware, packaging, plastic drinking straws, plastic stirrers, foam trays, plastic lids, plastic soda carriers, single-use gloves (rubber, nitrile, latex), bladders for soaps or detergents, produce baskets.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Plastic	PL38	Mixed Plastic Multi-Use	Mixed Plastic Multi-Use means plastic items other than containers that are made to last for more than one use. These items may bear any resin type in the triangular recycling symbol or otherwise are unidentifiable by resin. Does not include durables that include metal, paper, or other material types. Includes plastic items that cannot be identified as single-use.	Examples include reusable water bottles, lids for plastic reusable containers such as Tupperware, crates, totes, large buckets for paint or food, multi-gallon barrels/ tanks, tubs, pails, garbage cans, laundry baskets, plastic luggage, plastic cards (credit, debit, and gift cards), flower pots, plastic planters, lawn furniture, plastic toys and sporting goods, plastic snow discs, plastic housewares, multi-use plastic gloves such as kitchen and work gloves, plastic hangers, CDs, DVDs, VHS, building materials including house siding and molding, window sashes and frames, electronics housing, impact-resistant cases, plastic pipes and fittings, sprinkler pipe.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Plastic	PL39	Remainder/ Composite Plastic	Remainder/ Composite Plastic means plastic that cannot be put into any other type. This may include items made mostly of plastic but combined with other materials. May include the code 90 (C/LDPE), 91 (C/LDPE) or 92 associated with chasing arrows. Includes plastic fragments smaller than two inches if easily identifiable as plastic.	Examples include small plastic fragments of any pigment or resin, plastic twine, auto parts, toys, or electronic components with plastic attached to metal.
Special Waste	SP01	Tires	Tires means vehicle tires, including automotive and bicycle. Tires may be pneumatic or solid.	Examples include tires from trucks, automobiles, motorcycles, heavy equipment, lawn mowers, and bicycles.
Special Waste	SP02	Bulky Items	Bulky Items means large, hard-to-handle items that are not defined elsewhere in the material types list. Any object beyond the approximate 2-gallon volume that cannot be accepted by recycling machinery.	Examples include furniture, appliances, wheelbarrows, large non-hazardous electronics. EXCLUDES electronics with hazardous components, mattresses and foundations, tires, items made entirely of plastic.

Category Name	MT&F Code	Material Type & Form	Material Definition	Examples
Special Waste	SP03	Mattresses and Foundations	Mattresses and Foundations means a resilient material or combination of materials that is enclosed by a ticking, is used alone or in combination with other products, and is intended for or promoted for sleeping upon. Includes foundations, which means a ticking-covered structure used to support a mattress or sleep surface. The structure may include constructed frames, foam, box springs, or other materials, used alone or in combination.	Examples include mattresses, mattress frames, box springs. EXCLUDES mattress toppers, items for use on top of mattresses, beds for juveniles, water furniture, fold out beds.
Textiles	T01	Textiles and Clothing	Textiles and Clothing means all fabric and clothing items, other textile items made of organic, synthetic, unknown, and mixed fibers, and clothing accessories whether made of leather, rubber, other materials, or a combination thereof. Textiles with zippers and buttons are included. May include the codes 60-69 and the code TEX associated with chasing arrows.	Examples include cloth and rags, clothing, blankets, linens, towels, sheets, rope, shoes, boots, sandals, purses, belts, upholstery, tote bags, carpet, packaging made from textiles, including ribbons.

Appendix 5. List of Outflows Sampled in Large Volume Transfer Processor Material Characterization Study

This table indicates all outflows sampled in the material characterization study. Outflows are sorted by outflow category (Fiber, Glass, Metal, Mixed, Plastic) in the first two columns. Column 3 indicates how many facilities within the 10-facility field study received sampling of each outflow. Column 4 indicates whether each outflow received hand sort sampling or visual characterization sampling.

Table E1. Outflows Sampled by Outflow Category

Outflow Category	Outflow	Number of Facilities with Sampled Outflow	Sample Type
Fiber	Corrugated Cardboard	10	Hand Sort
	Mixed Paper	10	Hand Sort
	ONP and Mixed Paper	3	Visual Characterization
	White Office Paper	2	Visual Characterization
	Shredded Paper	1	Visual Characterization
Glass	Mixed Glass	10	Hand Sort
	Glass - Brown/Amber	1	Visual Characterization
	Glass - Clear/Flint	1	Visual Characterization
	Glass - Green/Emerald	1	Visual Characterization
	Glass Fines	1	Visual Characterization
Metal	Aluminum - UBC	10	Visual Characterization
	Steel Cans	7	Hand Sort
	Other Aluminum	6	Hand Sort
	Mixed Metal - Large	3	Hand Sort
	Mixed Metal - Small Ferrous	3	Hand Sort

Outflow Category	Outflow	Number of Facilities with Sampled Outflow	Sample Type
	Copper	2	Visual Characterization
	Metal Scrap	2	Visual Characterization
	Mixed Metal - Small	2	Hand Sort
	Mixed Metal - Non-Ferrous	1	Hand Sort
Mixed	Residuals	10	Hand Sort
	Aseptic/ Carton	4	Hand Sort
Plastic	PET Bottle & Container	10	Hand Sort
	HDPE Pigmented Bottle & Container	9	Hand Sort
	HDPE Natural Bottle & Container	8	Hand Sort
	Bulk Rigid Plastic	7	Hand Sort
	Mixed Rigid Plastic	3	Hand Sort
	Plastic #3-#7	3	Hand Sort
	Polypropylene	3	Visual Characterization
	Plastic Film	2	Visual Characterization
	HDPE Mix	1	Hand Sort
	Plastic Film - Agricultural and Commercial	1	Visual Characterization

Appendix 6. List of Material Types and Forms not Classifiable as Sorted for Recycling within Large Volume Transfer Processor Material Characterization Study

This table displays all Material Types and Forms from the SB 343 Material Types and Forms List (Appendix 4) which were not classified as sorted for recycling in the analysis of the material characterization study. Material Types and Forms are sorted by Material Category in the first two columns. Column 3 to column 6 indicate reasons each Material Type and Form could not be classified as sorted for recycling. Rare Material (Rarely Observed in Study) means that in total fewer than 10 pounds of this material were observed across all samples in the study, including defined streams and residual destined for disposal. Low Recovery Rate (Rare Outside Residual) means that this material was more common in residual destined for disposal than in any defined stream. Non-Recyclable Material (Organics and Hazardous Waste) means that the primary material is not intended for traditional recycling, but rather would optimally be destined for organics recycling or hazardous waste disposal.

Table F1. Material Types and Forms not Classified as Sorted for Recycling

Material Category	Material Type & Form	Rare Material (Rarely Observed in Study)	Low Recovery Rate (Rare Outside Residual)	Non-Recyclable Material (Organics and Hazardous Materials)
Fiber	Remainder/ Composite Fiber		Yes	
Glass	Fines and Residuals		Yes	
	Glass Beverage Containers - Brown/Amber - CRV	Yes	Yes	
	Glass Beverage Containers - Clear/Flint - CRV		Yes	
	Glass Beverage Containers - Green/Emerald - CRV	Yes	Yes	
Metal	Remainder/ Composite Metal		Yes	
Mixed	Bulky Items	Yes	Yes	
	Composite Food Service Paper & Packaging		Yes	Yes
	Green Material, Clean Wood, and Food Scraps		Yes	Yes
	Household Hazardous Waste		Yes	Yes
	Mailing Pouches & Shipping Envelopes	Yes	Yes	
	Metal Hazardous Waste: Used Oil Filters, Gas Cylinders		Yes	Yes

Material Category	Material Type & Form	Rare Material (Rarely Observed in Study)	Low Recovery Rate (Rare Outside Residual)	Non-Recyclable Material (Organics and Hazardous Materials)
	Mixed Material Single-Use		Yes	
	Other Multi-Material Laminate Single-Use	Yes	Yes	
	Plant Material Food Service Ware	Yes		Yes
	Remainder/ Composite Mixed Material Multi-Use		Yes	Yes
	Textiles and Clothing		Yes	Yes
	Treated Wood		Yes	Yes
	Uncoated Soiled Fiber Products		Yes	Yes
Plastic	Films - Plastic Bags - Compostable	Yes	Yes	
	Films - Plastic Bags - Designed for Reuse	Yes	Yes	
	Films - Plastic Non-Bags - Agricultural and Commercial	Yes	Yes	
	Films - Plastic Non-Bags - Other Film	Yes	Yes	
	HDPE Buckets: Food		Yes	
	HDPE Clear Beverage Bottles - CRV		Yes	
	LDPE Clear Beverage Bottles	Yes	Yes	
	LDPE Clear Single-Use Rigids	Yes	Yes	
	LDPE Multi-Use	Yes	Yes	
	LDPE Pigmented Single-Use Rigids	Yes	Yes	
	PET Multi-Use Rigids		Yes	
	Plastic Wine Bladders	Yes	Yes	
	PS Densified: Multi-Use	Yes	Yes	
	PS Densified: Single-Use Food Service Ware	Yes	Yes	
	PS Expanded - Food Service Ware	Yes	Yes	
	PS Expanded - Packaging		Yes	

Material Category	Material Type & Form	Rare Material (Rarely Observed in Study)	Low Recovery Rate (Rare Outside Residual)	Non-Recyclable Material (Organics and Hazardous Materials)
	PS Thermoformed Clamshells and Containers	Yes	Yes	
	PVC Multi-Use		Yes	
	PVC Single-Use Rigids	Yes	Yes	
	Remainder/ Composite Plastic		Yes	

Appendix 7. Statewide Results of Large Volume Transfer Processor Material Characterization Study

This table displays the proportion of the population served by at least one of the surveyed MRF facilities with sorting of each Material Type and Form. The first column of the table includes the Material Category Name (Glass, Metal, Mixed, Paper/Fiber, Plastic, Special Waste, and Textiles), the second column contains the SB 343 Material Type and Form description, the third and fourth columns show the number and percentage of counties statewide served by surveyed LVTPs that sort that Material Type and Form into defined streams, and the fifth and sixth columns show the population and percentage of the population statewide served by the surveyed LVTPs that sort that Material Type and Form into a defined stream.

Surveyed facilities serve 30 out of 58 counties statewide, and the populations of those counties make up 88.53% of the statewide population. This table provides statewide results with the assumption that no additional sorting for recycling takes place in the counties not represented by the survey. Results focused on only proportion of surveyed population are presented in Table 2.

Table G1. Proportion of Population Served by at Least One Surveyed MRF Facility Sorting Material Type and Form

Material Class	Material Type & Form	Counties Sorting Material	Percent of Statewide Counties Sorting	Percent of Statewide Population with Access to Sorting
Fiber	Clean Molded Paper Fiber	30	52%	89%
	Uncoated Corrugated Cardboard/ Old Corrugated Containers (OCC)	30	52%	89%
	White Office-Type Paper and Mail	30	52%	89%
	Folded Paper Containers and Other Paperboard Packaging	27	47%	83%
	Magazines and Catalogs	27	47%	83%
	Newspapers/ Newspaper Inserts	27	47%	83%
	Other Mixed Paper	27	47%	83%
	Paper Bags and Kraft Paper	27	47%	83%

Material Class	Material Type & Form	Counties Sorting Material	Percent of Statewide Counties Sorting	Percent of Statewide Population with Access to Sorting
	Uncoated Fiber-Based Food Service Ware	27	47%	83%
Glass	Glass Containers - Brown/ Amber - non-CRV	30	52%	89%
	Glass Containers - Clear/ Flint - non-CRV	30	52%	89%
	Glass Containers - Green/ Emerald - non-CRV	30	52%	89%
	Glass Containers - Other Colors - non-CRV	30	52%	89%
Metal	Aluminum Beverage Cans - CRV	26	45%	86%
	Aluminum Bottles - non-CRV	26	45%	86%
	Aluminum Bottles for Beverages - CRV	22	38%	81%
	Aluminum Cans and Lids - non-CRV	22	38%	81%
	Aluminum Foil (<3 mm), Sheets	22	38%	81%
	Aluminum Foil (>3 mm), Molded Containers	22	38%	81%
	Other Nonferrous Metal	14	24%	73%
	Other Ferrous Metal	10	17%	57%
	Tin/Steel Aerosol Containers	10	17%	57%
	Tin/Steel Beverage Containers - CRV	10	17%	57%
	Tin/Steel Cans, Lids - non-CRV	10	17%	57%
Mixed	Aseptic Containers - non-CRV	8	14%	49%
	Gable-top Cartons - non-CRV	8	14%	49%
Plastic	HDPE Clear Beverage Bottles - non-CRV	30	52%	89%
	HDPE Pigmented Single-Use Rigids	30	52%	89%

Material Class	Material Type & Form	Counties Sorting Material	Percent of Statewide Counties Sorting	Percent of Statewide Population with Access to Sorting
	Other HDPE Clear Single-Use Rigids	30	52%	89%
	Other PET Clear Single-Use Rigids	30	52%	89%
	Other PET Pigmented Single-Use Rigids	30	52%	89%
	PET Clear Beverage Bottles - CRV	30	52%	89%
	PET Clear Bottles - non-CRV	30	52%	89%
	PET Pigmented Beverage Bottles - CRV	30	52%	89%
	PET Pigmented Bottles - non-CRV	30	52%	89%
	PET Thermoformed Clamshells and Containers	30	52%	89%
	PP Clear Single-Use Rigids	24	42%	79%
	PP Pigmented Single-Use Rigids	24	42%	79%
	PP Multi-Use	23	40%	78%
	HDPE Buckets: non-Food	21	36%	76%
	Mixed Plastic Multi-Use	21	36%	76%
	Other HDPE Multi-Use Rigids	21	36%	76%
	Films - Plastic Bags - Designed for Disposal	11	19%	53%
	Other (7) Single-Use Rigids	8	14%	42%
	Unknown Plastic Type or Mixture of Multiple Plastic Resins (Single-Use)	8	14%	42%

Appendix 8. Rare Materials in Material Characterization Study

The table below displays the material types and forms present in each outflow at low volumes (each Material Type and Form makes up under 1% of the total composition of the outflow). This is an extension of the more common Material Types and Forms in outflows described in Table 3. The table below displays the rare contents of each characterized fiber,

glass, metal, or plastic outflow by Material Type and Form (MT&F). The first column indicates the outflow material category, the second column indicates the name of each outflow. Column three indicates the total number of samples (hand sort and visual characterization) of each outflow. Columns four through six describe the Material Type and Form. Column six indicates the mean percent composition of the outflow made up by each Material Type and Form.

Table H1. Material Types and Forms Rarely Found in Material Characterization Study

Outflow Category	Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)
Fiber	Aseptic/ Carton	8	Fiber	Composite Food Service Paper & Packaging	F10	<1%
Fiber	Aseptic/ Carton	8	Fiber	Folded Paper Containers and Other Paperboard Packaging	F06	<1%
Fiber	Aseptic/ Carton	8	Fiber	Other Mixed Paper	F07	<1%
Fiber	Aseptic/ Carton	8	Fiber	Uncoated Corrugated Cardboard/ Old Corrugated Containers (OCC)	F01	<1%
Fiber	Aseptic/ Carton	8	Fiber	Uncoated Soiled Fiber Products	F11	<1%
Fiber	Aseptic/ Carton	8	Fiber	White Office-Type Paper and Mail	F02	<1%
Fiber	Aseptic/ Carton	8	Metal	Aluminum Beverage Cans - CRV	M02	<1%
Fiber	Aseptic/ Carton	8	Metal	Aluminum Cans and Lids - non-CRV	M01	<1%
Fiber	Aseptic/ Carton	8	Metal	Aluminum Foil (<3 mm), Sheets	M05	<1%

Outflow Category	Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)
Fiber	Aseptic/ Carton	8	Metal	Aluminum Foil (>3 mm), Molded Containers	M06	<1%
Fiber	Aseptic/ Carton	8	Metal	Tin/Steel Cans, Lids - non-CRV	M07	<1%
Fiber	Aseptic/ Carton	8	Other	Fines and Residuals	X13	<1%
Fiber	Aseptic/ Carton	8	Other	Mixed Material Single-Use	X11	<1%
Fiber	Aseptic/ Carton	8	Other	Other Multi-Material Laminant Single-Use	X05	<1%
Fiber	Aseptic/ Carton	8	Plastic	Films - Plastic Bags - Designed for Disposal	PL36	<1%
Fiber	Aseptic/ Carton	8	Plastic	Other HDPE Clear Single-Use Rigids	PL13	<1%
Fiber	Aseptic/ Carton	8	Plastic	Other HDPE Multi-Use Rigids	PL15	<1%
Fiber	Aseptic/ Carton	8	Plastic	Other PET Clear Single-Use Rigids	PL06	<1%
Fiber	Aseptic/ Carton	8	Plastic	PET Clear Beverage Bottles - CRV	PL02	<1%
Fiber	Aseptic/ Carton	8	Plastic	PET Pigmented Bottles - non-CRV	PL03	<1%
Fiber	Aseptic/ Carton	8	Plastic	PP Clear Single-Use Rigids	PL22	<1%
Fiber	Aseptic/ Carton	8	Plastic	PP Pigmented Single-Use Rigids	PL23	<1%

Outflow Category	Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)
Fiber	Aseptic/ Carton	8	Plastic	PS Expanded - Packaging	PL27	<1%
Fiber	Aseptic/ Carton	8	Plastic	Unknown Plastic Type or Mixture of Multiple Plastic Resins (Single-Use)	PL37	<1%
Fiber	Corrugated Cardboard	15	Fiber	Aseptic Containers - non-CRV	X03	<1%
Fiber	Corrugated Cardboard	15	Fiber	Clean Molded Paper Fiber	F08	<1%
Fiber	Corrugated Cardboard	15	Fiber	Composite Food Service Paper & Packaging	F10	<1%
Fiber	Corrugated Cardboard	15	Fiber	Newspapers/ Newspaper Inserts	F03	<1%
Fiber	Corrugated Cardboard	15	Fiber	Paper Bags and Kraft Paper	F05	<1%
Fiber	Corrugated Cardboard	15	Fiber	Uncoated Fiber- Based Food Service Ware	F09	<1%
Fiber	Corrugated Cardboard	15	Fiber	Uncoated Soiled Fiber Products	F11	<1%
Fiber	Corrugated Cardboard	15	Glass	Glass Containers - Other Colors - non- CRV	G07	<1%
Fiber	Corrugated Cardboard	15	Metal	Aluminum Beverage Cans - CRV	M02	<1%

Outflow Category	Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)
Fiber	Corrugated Cardboard	15	Metal	Aluminum Cans and Lids - non-CRV	M01	<1%
Fiber	Corrugated Cardboard	15	Metal	Other Ferrous Metal	M12	<1%
Fiber	Corrugated Cardboard	15	Other	Fines and Residuals	X13	<1%
Fiber	Corrugated Cardboard	15	Other	Green Material, Clean Wood, and Food Scraps	X10	<1%
Fiber	Corrugated Cardboard	15	Other	Mailing Pouches & Shipping Envelopes	X04	<1%
Fiber	Corrugated Cardboard	15	Other	Remainder/ Composite Mixed Material Multi-Use	X12	<1%
Fiber	Corrugated Cardboard	15	Other	Treated Wood	X09	<1%
Fiber	Corrugated Cardboard	15	Plastic	Films - Plastic Bags - Designed for Disposal	PL36	<1%
Fiber	Corrugated Cardboard	15	Plastic	Films - Plastic Non-Bags - Agricultural and Commercial	PL34	<1%
Fiber	Corrugated Cardboard	15	Plastic	Films - Plastic Non-Bags - Other Film	PL35	<1%
Fiber	Corrugated Cardboard	15	Plastic	HDPE Pigmented Single-Use Rigids	PL14	<1%
Fiber	Corrugated Cardboard	15	Plastic	Other HDPE Clear Single-Use Rigids	PL13	<1%

Outflow Category	Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)
Fiber	Corrugated Cardboard	15	Plastic	Other HDPE Multi-Use Rigids	PL15	<1%
Fiber	Corrugated Cardboard	15	Plastic	Other PET Clear Single-Use Rigids	PL06	<1%
Fiber	Corrugated Cardboard	15	Plastic	Other PET Pigmented Single-Use Rigids	PL07	<1%
Fiber	Corrugated Cardboard	15	Plastic	PET Clear Beverage Bottles - CRV	PL02	<1%
Fiber	Corrugated Cardboard	15	Plastic	PET Clear Bottles - non-CRV	PL01	<1%
Fiber	Corrugated Cardboard	15	Plastic	Plastic Wine Bladders	PL31	<1%
Fiber	Corrugated Cardboard	15	Plastic	PP Clear Single-Use Rigids	PL22	<1%
Fiber	Corrugated Cardboard	15	Plastic	PP Multi-Use	PL24	<1%
Fiber	Corrugated Cardboard	15	Plastic	PP Pigmented Single-Use Rigids	PL23	<1%
Fiber	Corrugated Cardboard	15	Plastic	PS Densified: Multi-Use	PL29	<1%
Fiber	Corrugated Cardboard	15	Plastic	PS Expanded - Packaging	PL27	<1%
Fiber	Corrugated Cardboard	15	Plastic	PVC Multi-Use	PL17	<1%

Outflow Category	Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)
Fiber	Corrugated Cardboard	15	Plastic	Unknown Plastic Type or Mixture of Multiple Plastic Resins (Single-Use)	PL37	<1%
Fiber	Mixed Paper	18	Fiber	Aseptic Containers - non-CRV	X03	<1%
Fiber	Mixed Paper	18	Fiber	Clean Molded Paper Fiber	F08	<1%
Fiber	Mixed Paper	18	Fiber	Gable-top Cartons - non-CRV	X02	<1%
Fiber	Mixed Paper	18	Fiber	Uncoated Soiled Fiber Products	F11	<1%
Fiber	Mixed Paper	18	Glass	Glass Containers - Brown/ Amber - non-CRV	G05	<1%
Fiber	Mixed Paper	18	Glass	Glass Containers - Green/ Emerald - non-CRV	G03	<1%
Fiber	Mixed Paper	18	Glass	Remainder/ Composite Glass	G09	<1%
Fiber	Mixed Paper	18	Metal	Aluminum Beverage Cans - CRV	M02	<1%
Fiber	Mixed Paper	18	Metal	Aluminum Bottles for Beverages - CRV	M04	<1%
Fiber	Mixed Paper	18	Metal	Aluminum Cans and Lids - non-CRV	M01	<1%
Fiber	Mixed Paper	18	Metal	Aluminum Foil (<3 mm), Sheets	M05	<1%

Outflow Category	Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)
Fiber	Mixed Paper	18	Metal	Aluminum Foil (>3 mm), Molded Containers	M06	<1%
Fiber	Mixed Paper	18	Metal	Other Ferrous Metal	M12	<1%
Fiber	Mixed Paper	18	Metal	Other Nonferrous Metal	M13	<1%
Fiber	Mixed Paper	18	Metal	Remainder/ Composite Metal	M14	<1%
Fiber	Mixed Paper	18	Metal	Tin/Steel Aerosol Containers	M10	<1%
Fiber	Mixed Paper	18	Metal	Tin/Steel Cans, Lids - non-CRV	M07	<1%
Fiber	Mixed Paper	18	Other	Green Material, Clean Wood, and Food Scraps	X10	<1%
Fiber	Mixed Paper	18	Other	Mailing Pouches & Shipping Envelopes	X04	<1%
Fiber	Mixed Paper	18	Other	Other Multi-Material Laminant Single-Use	X05	<1%
Fiber	Mixed Paper	18	Other	Textiles and Clothing	T01	<1%
Fiber	Mixed Paper	18	Other	Treated Wood	X09	<1%
Fiber	Mixed Paper	18	Plastic	Films - Plastic Non-Bags - Other Film	PL35	<1%
Fiber	Mixed Paper	18	Plastic	HDPE Clear Beverage Bottles - non-CRV	PL09	<1%
Fiber	Mixed Paper	18	Plastic	HDPE Pigmented Single-Use Rigids	PL14	<1%

Outflow Category	Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)
Fiber	Mixed Paper	18	Plastic	Other HDPE Clear Single-Use Rigid	PL13	<1%
Fiber	Mixed Paper	18	Plastic	Other HDPE Multi-Use Rigid	PL15	<1%
Fiber	Mixed Paper	18	Plastic	Other PET Clear Single-Use Rigid	PL06	<1%
Fiber	Mixed Paper	18	Plastic	Other PET Pigmented Single-Use Rigid	PL07	<1%
Fiber	Mixed Paper	18	Plastic	PET Clear Beverage Bottles - CRV	PL02	<1%
Fiber	Mixed Paper	18	Plastic	PET Clear Bottles - non-CRV	PL01	<1%
Fiber	Mixed Paper	18	Plastic	PET Pigmented Beverage Bottles - CRV	PL04	<1%
Fiber	Mixed Paper	18	Plastic	PET Thermoformed Clamshells and Containers	PL05	<1%
Fiber	Mixed Paper	18	Plastic	PP Clear Single-Use Rigid	PL22	<1%
Fiber	Mixed Paper	18	Plastic	PP Pigmented Single-Use Rigid	PL23	<1%
Fiber	Mixed Paper	18	Plastic	PS Densified: Single-Use Food Service Ware	PL26	<1%
Fiber	Mixed Paper	18	Plastic	PS Expanded - Food Service Ware	PL28	<1%

Outflow Category	Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)
Fiber	Mixed Paper	18	Plastic	PS Expanded - Packaging	PL27	<1%
Fiber	Mixed Paper	18	Plastic	PVC Multi-Use	PL17	<1%
Fiber	Mixed Paper	18	Plastic	Remainder/ Composite Plastic	PL39	<1%
Fiber	Mixed Paper	18	Plastic	Unknown Plastic Type or Mixture of Multiple Plastic Resins (Single-Use)	PL37	<1%
Glass	Glass - Brown/Amber	2	Plastic	PP Clear Single-Use Rigids	PL22	<1%
Glass	Glass - Clear/Flint	2	Metal	Tin/Steel Beverage Containers - CRV	M08	<1%
Glass	Glass - Clear/Flint	2	Other	Fines and Residuals	X13	<1%
Glass	Glass - Green/Emerald	2	Other	Fines and Residuals	X13	<1%
Glass	Mixed Glass	16	Fiber	Folded Paper Containers and Other Paperboard Packaging	F06	<1%
Glass	Mixed Glass	16	Fiber	Newspapers/ Newspaper Inserts	F03	<1%
Glass	Mixed Glass	16	Fiber	Uncoated Soiled Fiber Products	F11	<1%
Glass	Mixed Glass	16	Metal	Aluminum Beverage Cans - CRV	M02	<1%

Outflow Category	Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)
Glass	Mixed Glass	16	Metal	Aluminum Cans and Lids - non-CRV	M01	<1%
Glass	Mixed Glass	16	Metal	Aluminum Foil (<3 mm), Sheets	M05	<1%
Glass	Mixed Glass	16	Metal	Tin/Steel Cans, Lids - non-CRV	M07	<1%
Glass	Mixed Glass	16	Other	Textiles and Clothing	T01	<1%
Glass	Mixed Glass	16	Other	Treated Wood	X09	<1%
Glass	Mixed Glass	16	Plastic	Films - Plastic Bags - Designed for Disposal	PL36	<1%
Glass	Mixed Glass	16	Plastic	HDPE Pigmented Single-Use Rigids	PL14	<1%
Glass	Mixed Glass	16	Plastic	Other HDPE Multi-Use Rigids	PL15	<1%
Glass	Mixed Glass	16	Plastic	Other PET Clear Single-Use Rigids	PL06	<1%
Glass	Mixed Glass	16	Plastic	PET Clear Beverage Bottles - CRV	PL02	<1%
Glass	Mixed Glass	16	Plastic	PP Clear Single-Use Rigids	PL22	<1%
Glass	Mixed Glass	16	Plastic	PP Multi-Use	PL24	<1%
Glass	Mixed Glass	16	Plastic	PP Pigmented Single-Use Rigids	PL23	<1%
Glass	Mixed Glass	16	Plastic	PVC Multi-Use	PL17	<1%
Glass	Mixed Glass	16	Plastic	Unknown Plastic Type or Mixture of	PL37	<1%

Outflow Category	Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)
				Multiple Plastic Resins (Single-Use)		
Metal	Mixed Metal - Small Ferrous	6	Fiber	Other Mixed Paper	F07	<1%
Metal	Mixed Metal - Small Ferrous	6	Metal	Aluminum Beverage Cans - CRV	M02	<1%
Metal	Mixed Metal - Small Ferrous	6	Metal	Aluminum Cans and Lids - non-CRV	M01	<1%
Metal	Mixed Metal - Small Ferrous	6	Metal	Remainder/ Composite Metal	M14	<1%
Metal	Mixed Metal - Small Ferrous	6	Metal	Tin/Steel Beverage Containers - CRV	M08	<1%
Metal	Mixed Metal - Small Ferrous	6	Other	Fines and Residuals	X13	<1%
Metal	Mixed Metal - Small Ferrous	6	Other	Green Material, Clean Wood, and Food Scraps	X10	<1%
Metal	Mixed Metal - Small Ferrous	6	Other	Mixed Material Single-Use	X11	<1%
Metal	Mixed Metal - Small Ferrous	6	Other	Textiles and Clothing	T01	<1%
Metal	Mixed Metal - Small Ferrous	6	Plastic	Films - Plastic Bags - Designed for Disposal	PL36	<1%
Metal	Mixed Metal - Small Ferrous	6	Plastic	HDPE Clear Beverage Bottles - non-CRV	PL09	<1%

Outflow Category	Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)
Metal	Mixed Metal - Small Ferrous	6	Plastic	Other HDPE Clear Single-Use Rigids	PL13	<1%
Metal	Mixed Metal - Small Ferrous	6	Plastic	PET Clear Beverage Bottles - CRV	PL02	<1%
Metal	Mixed Metal - Small Ferrous	6	Plastic	PET Clear Bottles - non-CRV	PL01	<1%
Metal	Mixed Metal - Small Ferrous	6	Plastic	PP Multi-Use	PL24	<1%
Metal	Mixed Metal - Small Ferrous	6	Plastic	PP Pigmented Single-Use Rigids	PL23	<1%
Metal	Mixed Metal - Small Ferrous	6	Plastic	PS Expanded - Packaging	PL27	<1%
Metal	Mixed Metal - Small Ferrous	6	Plastic	PS Thermoformed Clamshells and Containers	PL25	<1%
Metal	Other Aluminum	11	Fiber	Aseptic Containers - non-CRV	X03	<1%
Metal	Other Aluminum	11	Fiber	Other Mixed Paper	F07	<1%
Metal	Other Aluminum	11	Plastic	Films - Plastic Bags - Designed for Disposal	PL36	<1%
Metal	Other Aluminum	11	Plastic	Films - Plastic Non-Bags - Other Film	PL35	<1%
Metal	Other Aluminum	11	Plastic	HDPE Pigmented Single-Use Rigids	PL14	<1%
Metal	Other Aluminum	11	Plastic	Other PET Clear Single-Use Rigids	PL06	<1%

Outflow Category	Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)
Metal	Other Aluminum	11	Plastic	Other PET Pigmented Single-Use Rigids	PL07	<1%
Metal	Other Aluminum	11	Plastic	PET Clear Beverage Bottles - CRV	PL02	<1%
Metal	Other Aluminum	11	Plastic	PET Thermoformed Clamshells and Containers	PL05	<1%
Metal	Other Aluminum	11	Plastic	PP Pigmented Single-Use Rigids	PL23	<1%
Metal	Other Aluminum	11	Plastic	PS Densified: Single-Use Food Service Ware	PL26	<1%
Metal	Steel Cans	11	Fiber	Composite Food Service Paper & Packaging	F10	<1%
Metal	Steel Cans	11	Fiber	Other Mixed Paper	F07	<1%
Metal	Steel Cans	11	Metal	Aluminum Beverage Cans - CRV	M02	<1%
Metal	Steel Cans	11	Plastic	Films - Plastic Non-Bags - Other Film	PL35	<1%
Metal	Steel Cans	11	Plastic	PET Clear Beverage Bottles - CRV	PL02	<1%
Plastic	HDPE Mix	2	Fiber	Aseptic Containers - non-CRV	X03	<1%
Plastic	HDPE Mix	2	Metal	Aluminum Beverage Cans - CRV	M02	<1%

Outflow Category	Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)
Plastic	HDPE Mix	2	Metal	Aluminum Bottles for Beverages - CRV	M04	<1%
Plastic	HDPE Mix	2	Metal	Tin/Steel Cans, Lids - non-CRV	M07	<1%
Plastic	HDPE Mix	2	Plastic	Films - Plastic Bags - Designed for Disposal	PL36	<1%
Plastic	HDPE Mix	2	Plastic	HDPE Clear Beverage Bottles - CRV	PL10	<1%
Plastic	HDPE Mix	2	Plastic	LDPE Clear Single-Use Rigids	PL19	<1%
Plastic	HDPE Mix	2	Plastic	PET Clear Beverage Bottles - CRV	PL02	<1%
Plastic	HDPE Mix	2	Plastic	PET Clear Bottles - non-CRV	PL01	<1%
Plastic	HDPE Mix	2	Plastic	PP Multi-Use	PL24	<1%
Plastic	HDPE Mix	2	Plastic	Unknown Plastic Type or Mixture of Multiple Plastic Resins (Single-Use)	PL37	<1%
Plastic	HDPE Natural Bottle & Container	12	Fiber	Other Mixed Paper	F07	<1%
Plastic	HDPE Natural Bottle & Container	12	Fiber	Uncoated Corrugated Cardboard/ Old Corrugated Containers (OCC)	F01	<1%

Outflow Category	Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)
Plastic	HDPE Natural Bottle & Container	12	Metal	Aluminum Beverage Cans - CRV	M02	<1%
Plastic	HDPE Natural Bottle & Container	12	Other	Fines and Residuals	X13	<1%
Plastic	HDPE Natural Bottle & Container	12	Other	Mixed Material Single-Use	X11	<1%
Plastic	HDPE Natural Bottle & Container	12	Plastic	Films - Plastic Bags - Designed for Disposal	PL36	<1%
Plastic	HDPE Natural Bottle & Container	12	Plastic	PET Clear Beverage Bottles - CRV	PL02	<1%
Plastic	HDPE Natural Bottle & Container	12	Plastic	PS Expanded - Packaging	PL27	<1%
Plastic	HDPE Pigmented Bottle & Container	15	Fiber	Aseptic Containers - non-CRV	X03	<1%
Plastic	HDPE Pigmented Bottle & Container	15	Fiber	Folded Paper Containers and Other Paperboard Packaging	F06	<1%

Outflow Category	Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)
Plastic	HDPE Pigmented Bottle & Container	15	Fiber	Other Mixed Paper	F07	<1%
Plastic	HDPE Pigmented Bottle & Container	15	Fiber	White Office-Type Paper and Mail	F02	<1%
Plastic	HDPE Pigmented Bottle & Container	15	Metal	Aluminum Beverage Cans - CRV	M02	<1%
Plastic	HDPE Pigmented Bottle & Container	15	Metal	Aluminum Cans and Lids - non-CRV	M01	<1%
Plastic	HDPE Pigmented Bottle & Container	15	Metal	Aluminum Foil (<3 mm), Sheets	M05	<1%
Plastic	HDPE Pigmented Bottle & Container	15	Metal	Other Ferrous Metal	M12	<1%
Plastic	HDPE Pigmented Bottle & Container	15	Metal	Tin/Steel Aerosol Containers	M10	<1%

Outflow Category	Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)
Plastic	HDPE Pigmented Bottle & Container	15	Metal	Tin/Steel Cans, Lids - non-CRV	M07	<1%
Plastic	HDPE Pigmented Bottle & Container	15	Other	Fines and Residuals	X13	<1%
Plastic	HDPE Pigmented Bottle & Container	15	Other	Treated Wood	X09	<1%
Plastic	HDPE Pigmented Bottle & Container	15	Plastic	Films - Plastic Bags - Designed for Disposal	PL36	<1%
Plastic	HDPE Pigmented Bottle & Container	15	Plastic	PET Clear Beverage Bottles - CRV	PL02	<1%
Plastic	HDPE Pigmented Bottle & Container	15	Plastic	PS Expanded - Packaging	PL27	<1%
Plastic	Mixed Rigid Plastic	7	Fiber	Folded Paper Containers and Other Paperboard Packaging	F06	<1%
Plastic	Mixed Rigid Plastic	7	Fiber	Other Mixed Paper	F07	<1%

Outflow Category	Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)
Plastic	Mixed Rigid Plastic	7	Fiber	Uncoated Corrugated Cardboard/ Old Corrugated Containers (OCC)	F01	<1%
Plastic	Mixed Rigid Plastic	7	Fiber	White Office-Type Paper and Mail	F02	<1%
Plastic	Mixed Rigid Plastic	7	Metal	Aluminum Cans and Lids - non-CRV	M01	<1%
Plastic	Mixed Rigid Plastic	7	Plastic	Films - Plastic Bags - Designed for Disposal	PL36	<1%
Plastic	Mixed Rigid Plastic	7	Plastic	PET Clear Bottles - non-CRV	PL01	<1%
Plastic	PET Bottle	12	Fiber	Folded Paper Containers and Other Paperboard Packaging	F06	<1%
Plastic	PET Bottle	12	Fiber	Uncoated Corrugated Cardboard/ Old Corrugated Containers (OCC)	F01	<1%
Plastic	PET Bottle	12	Metal	Aluminum Beverage Cans - CRV	M02	<1%
Plastic	PET Bottle	12	Metal	Aluminum Bottles for Beverages - CRV	M04	<1%
Plastic	PET Bottle	12	Metal	Aluminum Cans and Lids - non-CRV	M01	<1%
Plastic	PET Bottle	12	Metal	Other Ferrous Metal	M12	<1%

Outflow Category	Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)
Plastic	PET Bottle	12	Metal	Tin/Steel Aerosol Containers	M10	<1%
Plastic	PET Bottle	12	Other	Fines and Residuals	X13	<1%
Plastic	PET Bottle	12	Other	Mixed Material Single-Use	X11	<1%
Plastic	PET Bottle	12	Other	Textiles and Clothing	T01	<1%
Plastic	PET Bottle	12	Plastic	Films - Plastic Bags - Designed for Disposal	PL36	<1%
Plastic	PET Bottle	12	Plastic	Films - Plastic Non-Bags - Other Film	PL35	<1%
Plastic	PET Bottle	12	Plastic	HDPE Clear Beverage Bottles - non-CRV	PL09	<1%
Plastic	PET Bottle	12	Plastic	HDPE Pigmented Single-Use Rigids	PL14	<1%
Plastic	PET Bottle	12	Plastic	Other HDPE Multi-Use Rigids	PL15	<1%
Plastic	PET Bottle	12	Plastic	PP Pigmented Single-Use Rigids	PL23	<1%
Plastic	PET Bottle	12	Plastic	PS Densified: Single-Use Food Service Ware	PL26	<1%
Plastic	PET Bottle	12	Plastic	PS Expanded - Food Service Ware	PL28	<1%
Plastic	PET Bottle	12	Plastic	PS Expanded - Packaging	PL27	<1%

Outflow Category	Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)
Plastic	PET Bottle	12	Plastic	Unknown Plastic Type or Mixture of Multiple Plastic Resins (Single-Use)	PL37	<1%
Plastic	PET Bottle & Container	11	Fiber	Aseptic Containers - non-CRV	X03	<1%
Plastic	PET Bottle & Container	11	Fiber	Composite Food Service Paper & Packaging	F10	<1%
Plastic	PET Bottle & Container	11	Fiber	Folded Paper Containers and Other Paperboard Packaging	F06	<1%
Plastic	PET Bottle & Container	11	Fiber	Gable-top Cartons - non-CRV	X02	<1%
Plastic	PET Bottle & Container	11	Fiber	Other Mixed Paper	F07	<1%
Plastic	PET Bottle & Container	11	Fiber	Remainder/ Composite Fiber	F12	<1%
Plastic	PET Bottle & Container	11	Fiber	Uncoated Corrugated Cardboard/ Old Corrugated Containers (OCC)	F01	<1%
Plastic	PET Bottle & Container	11	Fiber	Uncoated Soiled Fiber Products	F11	<1%
Plastic	PET Bottle & Container	11	Fiber	White Office-Type Paper and Mail	F02	<1%

Outflow Category	Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)
Plastic	PET Bottle & Container	11	Glass	Glass Containers - Brown/ Amber - non-CRV	G05	<1%
Plastic	PET Bottle & Container	11	Metal	Aluminum Beverage Cans - CRV	M02	<1%
Plastic	PET Bottle & Container	11	Metal	Aluminum Cans and Lids - non-CRV	M01	<1%
Plastic	PET Bottle & Container	11	Metal	Other Nonferrous Metal	M13	<1%
Plastic	PET Bottle & Container	11	Metal	Tin/Steel Cans, Lids - non-CRV	M07	<1%
Plastic	PET Bottle & Container	11	Other	Fines and Residuals	X13	<1%
Plastic	PET Bottle & Container	11	Other	Textiles and Clothing	T01	<1%
Plastic	PET Bottle & Container	11	Plastic	Films - Plastic Bags - Designed for Disposal	PL36	<1%
Plastic	PET Bottle & Container	11	Plastic	LDPE Clear Single-Use Rigids	PL19	<1%
Plastic	PET Bottle & Container	11	Plastic	Other HDPE Clear Single-Use Rigids	PL13	<1%
Plastic	PET Bottle & Container	11	Plastic	PP Pigmented Single-Use Rigids	PL23	<1%
Plastic	PET Bottle & Container	11	Plastic	PS Densified: Single-Use Food Service Ware	PL26	<1%

Outflow Category	Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)
Plastic	PET Bottle & Container	11	Plastic	PS Expanded - Packaging	PL27	<1%
Plastic	PET Bottle & Container	11	Plastic	Unknown Plastic Type or Mixture of Multiple Plastic Resins (Single-Use)	PL37	<1%
Plastic	Plastic #3-#7	6	Fiber	Uncoated Corrugated Cardboard/ Old Corrugated Containers (OCC)	F01	<1%
Plastic	Plastic #3-#7	6	Fiber	Uncoated Soiled Fiber Products	F11	<1%
Plastic	Plastic #3-#7	6	Metal	Aluminum Bottles for Beverages - CRV	M04	<1%
Plastic	Plastic #3-#7	6	Metal	Aluminum Cans and Lids - non-CRV	M01	<1%
Plastic	Plastic #3-#7	6	Metal	Aluminum Foil (<3 mm), Sheets	M05	<1%
Plastic	Plastic #3-#7	6	Metal	Tin/Steel Aerosol Containers	M10	<1%
Plastic	Plastic #3-#7	6	Metal	Tin/Steel Beverage Containers - CRV	M08	<1%
Plastic	Plastic #3-#7	6	Other	Plant Material Food Service Ware	X08	<1%
Plastic	Plastic #3-#7	6	Other	Textiles and Clothing	T01	<1%
Plastic	Plastic #3-#7	6	Plastic	Films - Plastic Bags - Designed for Disposal	PL36	<1%

Outflow Category	Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)
Plastic	Plastic #3-#7	6	Plastic	Other HDPE Clear Single-Use Rigid	PL13	<1%
Plastic	Plastic #3-#7	6	Plastic	PET Pigmented Beverage Bottles - CRV	PL04	<1%
Plastic	Plastic #3-#7	6	Plastic	PET Pigmented Bottles - non-CRV	PL03	<1%
Plastic	Plastic #3-#7	6	Plastic	Unknown Plastic Type or Mixture of Multiple Plastic Resins (Single-Use)	PL37	<1%
Plastic	Polypropylene	15	Fiber	Uncoated Fiber-Based Food Service Ware	F09	<1%
Plastic	Polypropylene	15	Fiber	Uncoated Soiled Fiber Products	F11	<1%
Plastic	Polypropylene	15	Glass	Glass Containers - Green/ Emerald - non-CRV	G03	<1%
Plastic	Polypropylene	15	Metal	Aluminum Beverage Cans - CRV	M02	<1%
Plastic	Polypropylene	15	Other	Fines and Residuals	X13	<1%
Plastic	Polypropylene	15	Other	Plant Material Food Service Ware	X08	<1%
Plastic	Polypropylene	15	Plastic	Films - Plastic Bags - Designed for Disposal	PL36	<1%
Plastic	Polypropylene	15	Plastic	Films - Plastic Non-Bags - Other Film	PL35	<1%

Outflow Category	Outflow Name	Samples of Outflow	MT&F Category	Material Type & Form	MT&F Code	Percent of MT&F in Outflow (Mean)
Plastic	Polypropylene	15	Plastic	HDPE Clear Beverage Bottles - non-CRV	PL09	<1%
Plastic	Polypropylene	15	Plastic	PET Clear Beverage Bottles - CRV	PL02	<1%
Plastic	Polypropylene	15	Plastic	PS Densified: Single-Use Food Service Ware	PL26	<1%
Plastic	Polypropylene	15	Plastic	PS Expanded - Food Service Ware	PL28	<1%
Plastic	Polypropylene	15	Plastic	PS Expanded - Packaging	PL27	<1%

Abbreviations and Acronyms

AQPR: Average Quarterly Potential Reuse

CalRecycle: California Department of Resources Recycling and Recovery

LVTP: Large Volume Transfer/Processor

PRC: Public Resources Code

RDRS: Recycling and Disposal Reporting System

SB 343: Senate Bill 343 (Allen, Chapter 507, Statutes of 2021)

SWIS: Solid Waste Information System

Glossary of Terms

Average Quarterly Potential Reuse: Based on self-reported data in the Recycling and Disposal Reporting System (RDRS), the average of outflow tons sent per quarter in all of year 2022. Relevant entities included all reporting Transfer/Processors and Recycler/Composters in California. Relevant material streams included End Use and Recycling/Composting. Relevant outflow tons included Glass (all), Metal (all), Mixed (Mixed Recyclables), Mixed Residuals (Other: cardboard, Other: Metal, Processing Residuals), Other (Other Approved Material Type: Carton #52 (~ milk cartons, 5 end markets in USA), Paper (all), Plastic (all).

Jurisdiction: The same definition of jurisdiction was used as that used by California Department of Finance (DOF) in their dataset entitled *E-1 Cities, Counties, and the State Population and Housing Estimates with Annual Percent Change – January 1, 2022 and 2023*. The 'Balance of County' included in the dataset encompasses the unincorporated areas of the California counties listed, which were also considered jurisdictions.

Large Volume Transfer/Processor: From PRC Section 40200, a Transfer or processing station includes those facilities utilized to receive solid wastes, temporarily store, separate, convert, or otherwise process the materials in the solid wastes, or to transfer the solid wastes directly from smaller to larger vehicles for transport, and those facilities utilized for transformation. A Large Volume Transfer/Processor transfers or processes greater than 100 tons per day (TPD) of material.

Bibliography

“E-1 Cities, Counties, and the State Population and Housing Estimates with Annual Percent Change – January 1, 2022 and 2023,” State of California Department of Finance (DOF), 2023, <[E-1 2023 InternetVersion.xlsx \(live.com\)](#)> (October 18, 2023).

“Local Recycling Information,” CalRecycle, ND(?), <[Find Your Local Recycling Information - I Recycle Smart](#)> (September 27, 2023).