



IOWA DEPARTMENT OF NATURAL RESOURCES

Leading Iowans in Caring For Our Natural Resources

2022 Recovery Rate Report For Deposit Beverage Containers

Container Recycling Institute

May 29, 2024



Container Recycling Institute

2022 Recovery Rate Report May 29, 2024

Agenda

1. Welcome & introductions
2. Iowa's Beverage Container Deposit Law
3. The 10 Deposit Container States
4. Calculating Iowa's Deposit Container Recycling Rate
5. Limitations
6. Covid-19 Disruptions
7. Changes in the Law



CRI'S MISSION STATEMENT

CRI's mission is to make North America a global model for the collection *and* quality recycling of packaging materials. We do this by:

- Producing authoritative research and reporting and education on policies and practices that empower communities to reduce waste and increase recovery of packaging materials
- Creating and maintaining a database of information on container and packaging generation, disposal, recovery and recycling in the United States.
- Studying container and packaging reuse and recycling options and legislation
- Educating on recycling options
- Creating and sponsoring national networks

IOWA BEVERAGE CONTAINERS CONTROL LAW

- Established 1979
- 5-cent refund
- 3-cent handling fee

Included on Deposit	Not Included on Deposit
Beer Carbonated soft drinks Soda Water Mineral Water (carbonated and noncarbonated) Wine coolers Wine & Liquor Containers sold in sealed glass, plastic or metal bottles/cans.	Non-Mineral water Juice Tea Energy Drinks Sports Drinks / Electrolyte Drinks Milk & Dairy

REDEMPTION AND RECOVERY RATE DATA COLLECTION METHODOLOGIES FOR ALL 10 U.S. DEPOSIT STATES

Iowa	Beverage distributors are NOT required to report to the state and as such the recovery rate is calculated by using a material characterization study to back into a recovery rate.
California	Beverage distributors are required to report the number of beverage containers sold to CalRecycle monthly.
Connecticut	Beverage distributors are required to report the number of beverage containers sold and redeemed to the Connecticut Department of Revenue Services.
Hawaii	Beverage distributors are required to report the number of beverage containers sold in the state to the Hawaii Department of Health.
Maine	Beverage distributors are required to report the number of beverage containers sold and redeemed to the Maine Department of Environmental Protection.
Massachusetts	Beverage distributors are required to report the number of beverage containers sold and redeemed to the Massachusetts Department of Revenue.
Michigan	Beverage distributors are required to report the number of beverage containers sold and redeemed to the Michigan Department of Treasury.
New York	Beverage distributors are required to report the number of beverage containers sold and redeemed to the New York Department of Taxation and Finance.
Oregon	Beverage distributors report their figures to the Oregon Beverage Recycling Cooperative (OBRC) if they are member. Distributors that are not a member of OBRC must report to the Oregon Liquor Control Commission (OLCC), which totals all non-member data and compiles it with OBRC data.
Vermont	Beverage distributors of non-alcoholic beverages are required to report the number of beverage containers sold and redeemed to the Commissioner of Taxes. Alcoholic beverages sales data are maintained by the Department of Liquor Control.

CALCULATING RECYCLING RATES (I)

I. **Derived tons of deposit beverage containers landfilled statewide**

- Percent by material Type * total landfill tonnage = tonnage of deposit containers (material-specific)
 - PET bottles - .249% of total MSW
 - Aluminum Cans - .525% of total MSW
 - Glass bottles - .774% of total MSW
- Total tonnage: 2,538,762 tons

CALCULATING RECYCLING RATES (2)

2. Scaled statewide beverage container tons landfilled for seasonality

- This sampling period was May to July, which is the highest season for beverage consumption
- Using monthly beer volume data from the Beer Institute, we calculated and scaled the deposit beverage container tonnage downward by **6%**.

**TABLE I. DEPOSIT BEVERAGE CONTAINERS
DISPOSED IN IOWA, TONS, 2022**

Type of Deposit Container	% of Total MSW by Type (Deposit Only)	Total Tons MSW Landfilled, 2022	Deposit container tons landfilled statewide	Deposit container tons landfilled statewide, scaled for seasonality
PET plastic bottles	0.249%	2,538,762	6,322	5,961
Aluminum cans	0.525%	2,538,762	13,328	12,569
Glass bottles	0.774%	2,538,762	19,650	18,530
TOTAL			39,300	37,059

CALCULATING RECYCLING RATES (3)

3. **Converted seasonally scaled beverage container tons landfilled into units**

- Used conversion factors specific to both container type and beverage type to calculate conversion factors that are specific to Iowa's deposit beverage container program.
 - PET bottles - 12.89 units per pound
 - Aluminum Cans – 31.62 units per pound
 - Glass bottles - 1.38 units per pound

CALCULATING RECYCLING RATE (4)

4. Using CRI beverage container sales data for 2022

- Through CRI's Beverage Market Data Analysis we estimated the beverage container sales for the state of Iowa.

5. Derived proportion unrecovered by dividing units landfilled by units sold for each material type

6. Derived material-specific recycling rates by subtracting unrecovered percentages from 100%

**TABLE 2. DERIVATION OF DEPOSIT BEVERAGE
CONTAINER RECOVERY RATE IN IOWA 2022**

Type of Deposit Container	Container conversion factors (units per pound)	Units landfilled (using previous column conversion factors)	Deposit Units Sold in Iowa, 2022 (from CRI BMDA)	Proportion unrecovered (units landfilled ÷ unit sold)	Deposit Recovery rate (= 100% - proportion unrecovered)
PET plastic bottles	12.89	153,694,433	351,699,170	44%	56%
Aluminum cans	31.62	794,767,055	1,378,003,332	58%	42%
Glass bottles	1.38	51,212,047	214,553,608	24%	76%
TOTAL		999,673,535	1,944,256,109	51%	49%

LIMITATIONS & UNCERTAINTIES

- **Percentages** used for each deposit beverage type come from a material characterization study.
- **Seasonality** of when the material characterization study was done between the months of May to July.
- **Sales** are derived using 2021 data from CRI and scaled up to 2022 sales units.
- **Variability of container types and sizes** create uncertainty in the container mix as specificity is regional and not state by state.

THE IMPACT OF COVID-19

- Covid-19 had major repercussions on nearly every bottle bill system within the US.
- Nearly all systems' recycling rates declined.
- The drop was caused by suspensions in the requirement that retailers accept back containers, the closure of some redemption centers and consumers adherence to shelter in place orders.
- Since 2021 the trend has seen redemption rates trend upward but redemption rates have yet to recover to pre-pandemic levels.

Redemption Rates						
State	2018	2019	2020	2021	2022	Change from Pre-to-Post Pandemic
	Pre-Pandemic		Post Pandemic			
California	66%	67%	60%	58%	59%	-8%
Connecticut	52%	50%	44%	46%	45%	-6%
Hawaii	68%	64%	64%	58%	59%	-5%
Maine	2017: 84%		76%	75%	78%	-6%
Massachusetts	52%	50%	43%	38%	38%	-12%
Michigan	89%	89%	73%	75%	76%	-13%
New York	64%	64%	64%	70%	70%	5%
Oregon	81%	86%	77%	81%	86%	0%
Vermont	2013: 76%		78%	78%	72%	-4%

Source (for citation purposes): "Redemption Rates and Other Features of 10 U.S. State Deposit Programs," Container Recycling Institute, 2024.

© Container Recycling Institute, 2024. All rights reserved.



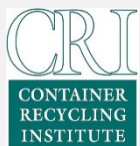
CHANGES IN IOWA'S LAW DURING STUDY – SF 2378

- Signed by the Governor on June 17, 2022
- Key provision effective in 2022
 - Option for retail stores to discontinue redemption of beverage containers if any of the following applied
 - The dealer has entered an agreement with a mobile redemption system
 - If the dealer designates another point of redemption (including mobile redemption systems) within 10 miles if the county's population is more than 30,000 or within 15 miles if the county's population is 30,000 or less.
- Provision effective on January 1, 2023
 - Retailers that have on-site, government-regulated controlled food preparation can refuse to redeem beverage containers.

CHANGES IN IOWA'S LAW DURING STUDY – SF 2378

- Prior to SF 2378, most retail stores were legally required to take back beverage containers, or could enter an agreement with nearby redemption centers to opt out.
- Immediately after the law was signed, retailers became eligible to opt out of the take-back provision of the law.
 - We do not know what affect, if any, this change in the law had on the number of deposit beverage containers that were found in the MSW disposal stream during the sampling period.

Q&A



Container Recycling Institute © 2018

THANK YOU!

Learn

Main Website www.container-recycling.org

Bottle Bill Website www.bottlebill.org

Connect

Facebook www.facebook.com/container.recycling

Twitter @CRI_recycle

LinkedIn www.linkedin.com/company/container-recycling-institute

Contact

Tel (310) 559-7451

Email scollins@container-recycling.org



Resources

- **Bottle Deposit Law webpage**

<https://www.iowadnr.gov/Environmental-Protection/Land-Quality/Waste-Planning-Recycling/Bottle-Deposit-Law>

- **2022 Recovery Rate Report for Deposit Beverage Containers**

https://www.iowadnr.gov/Portals/idnr/uploads/waste/bb_recoverratereport.pdf