Hazardous Waste Management Report and Plan

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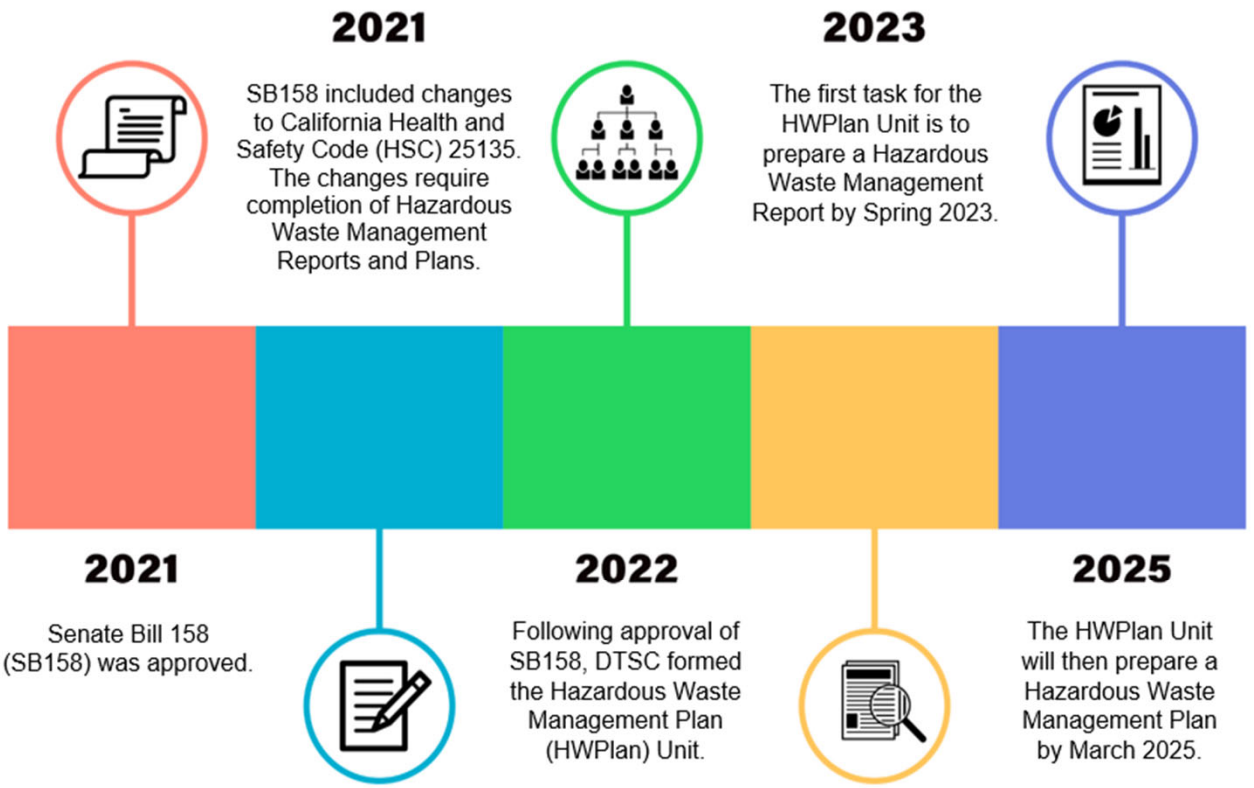
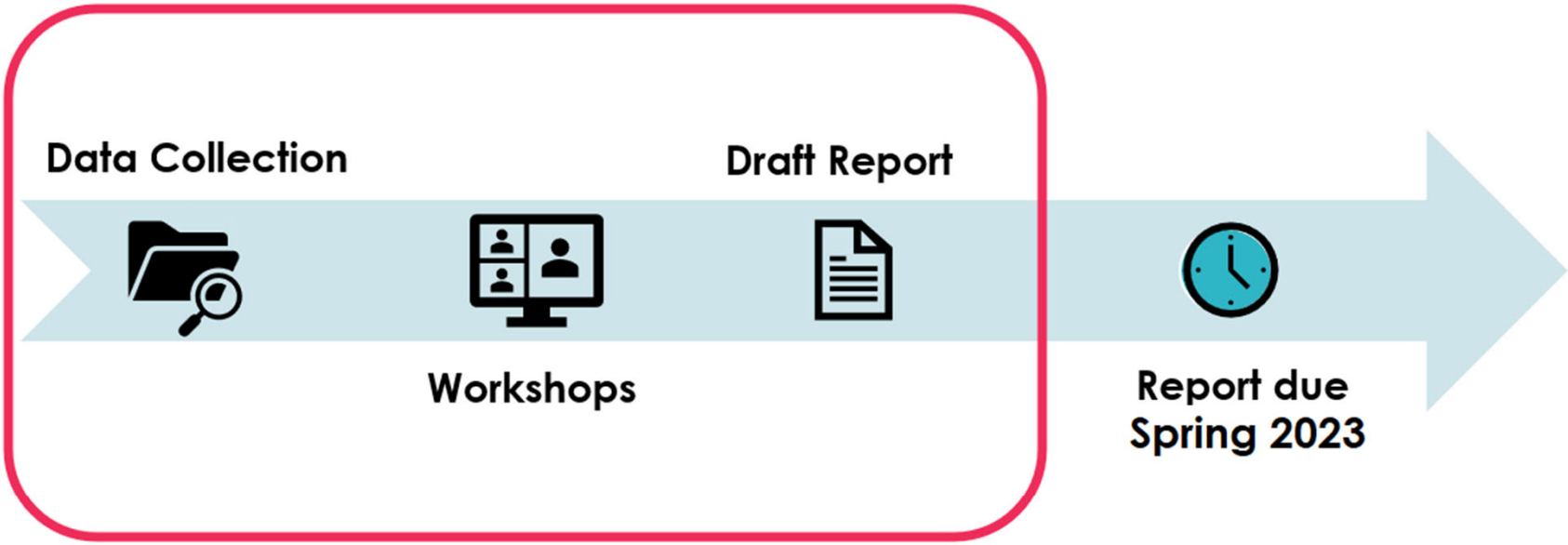
25th California Unified Program Annual Training Conference
March 20 – 23, 2023

The Hazardous Waste Management Plan



Where we are in the process:



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Hazardous Waste Management Report Organization

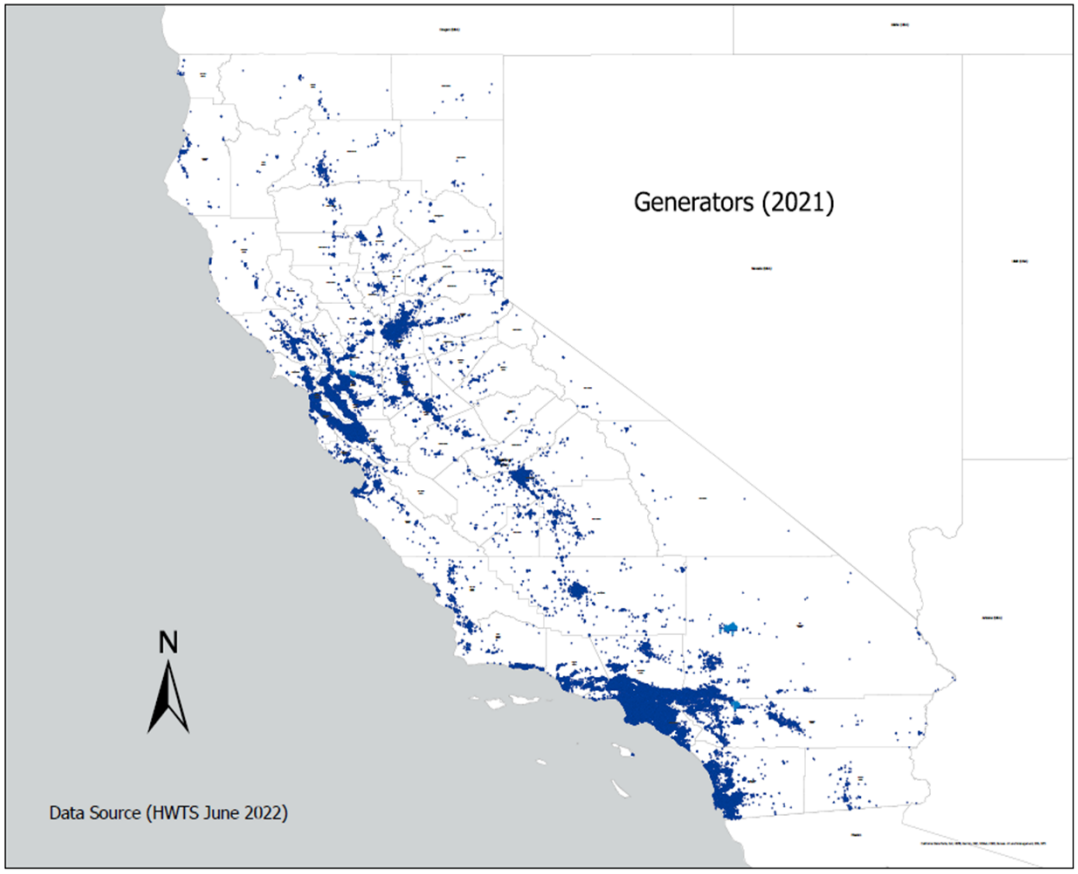
- Introduction/Background
- Generation
- Destinations
- Areas Surrounding Destinations
- Transportation
- Pollution Prevention
- Use of Fees to Reduce Waste
- Hazardous Waste Criteria
- Conclusion and Future Work

Section 1 – Introduction

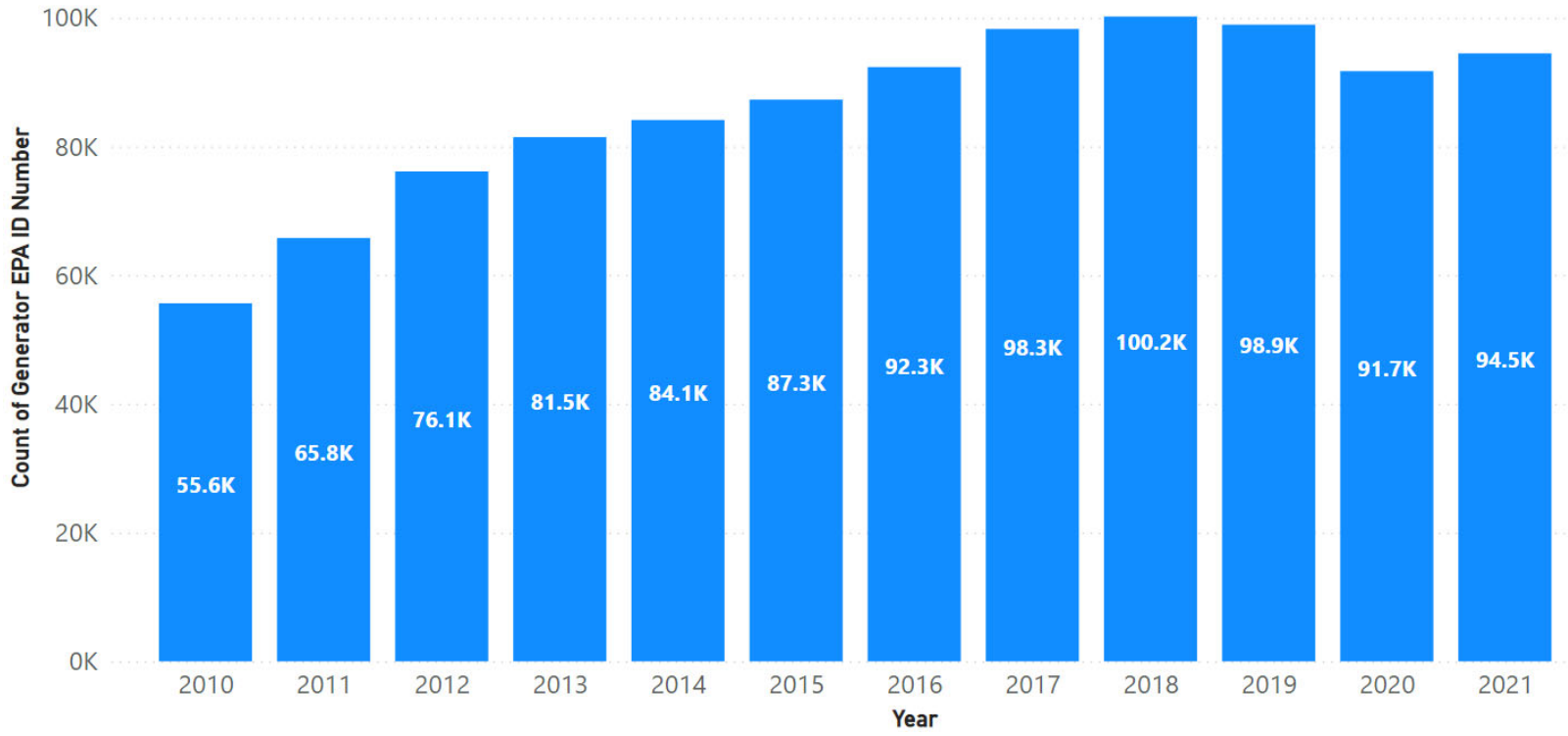
- Resource Conservation and Recovery Act (RCRA)
- California is an Authorized state
- More “stringent and broader in scope” than RCRA
- Hazardous Waste Management Capacity

Section 2 – Manifested Hazardous Waste Generation

Section 2 - Generators



Section 2 - Generators



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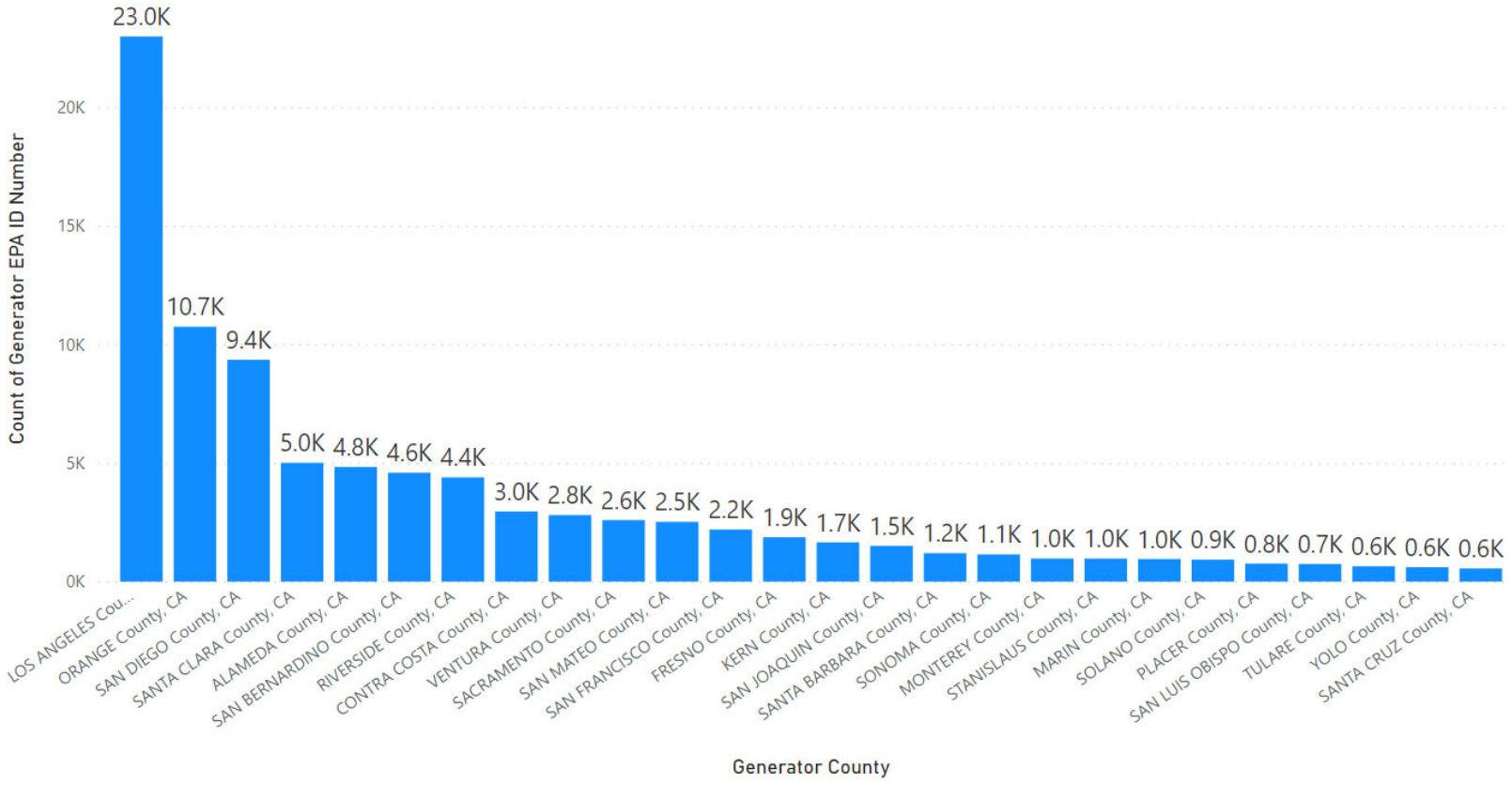
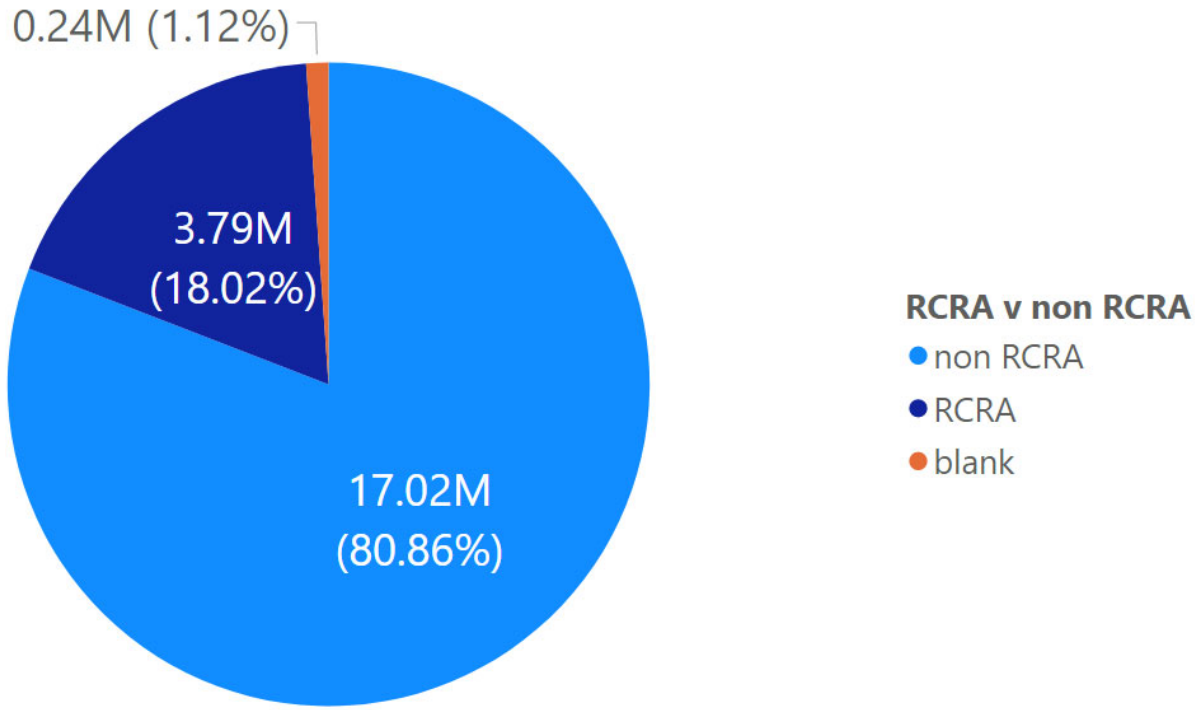


Section 2 – Manifested Hazardous Waste Generation

- California's hazardous waste management program is more stringent and broader in scope than the federal program.



Section 2 – Manifested Hazardous Waste Generation

RCRA

Non-RCRA

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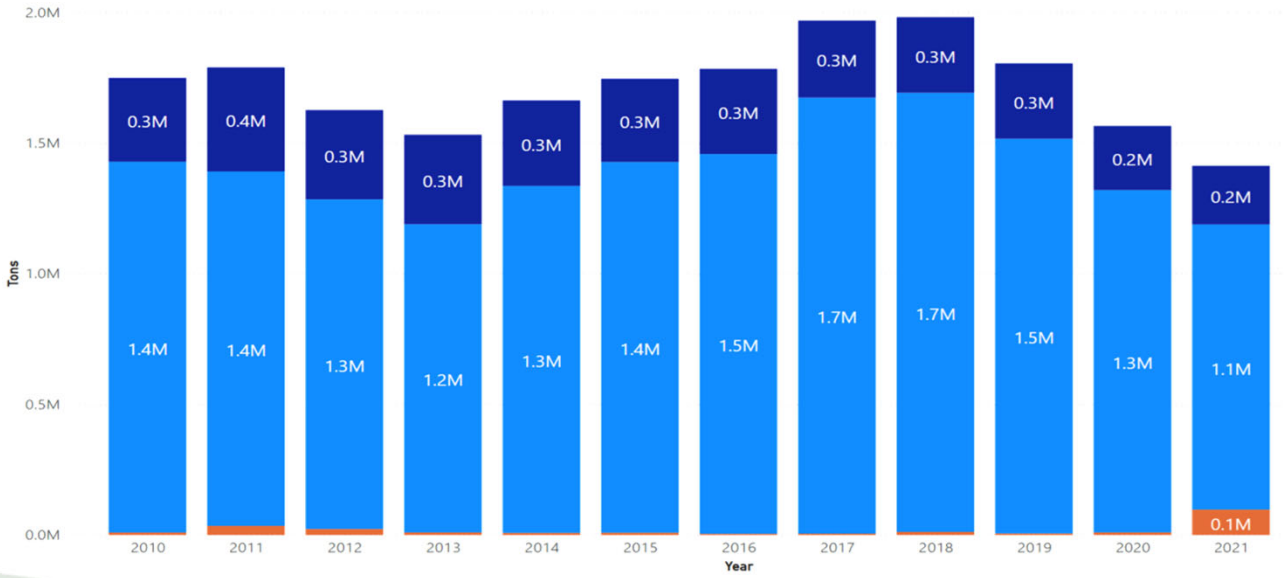

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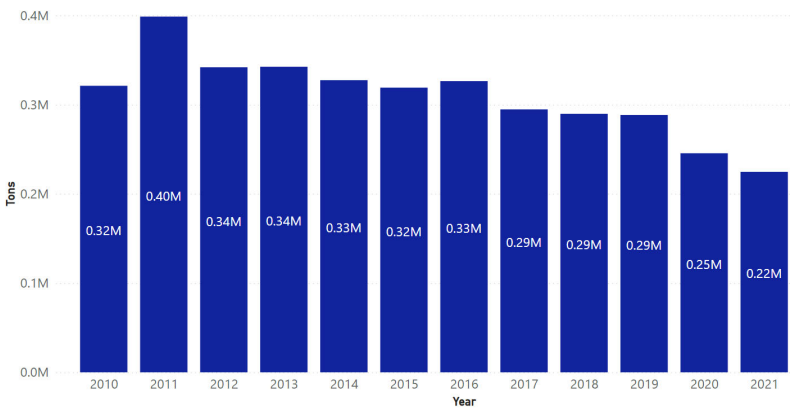
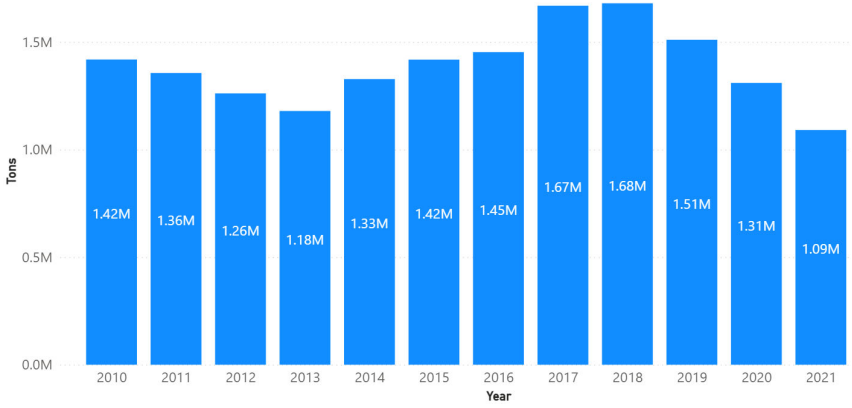
Section 2 – Manifested Hazardous Waste Generation

- Amount of RCRA hazardous waste has decreased
- Amount of non-RCRA hazardous waste fluctuates



RCRA



Non-RCRA

Section 2 – Manifested Hazardous Waste Generation

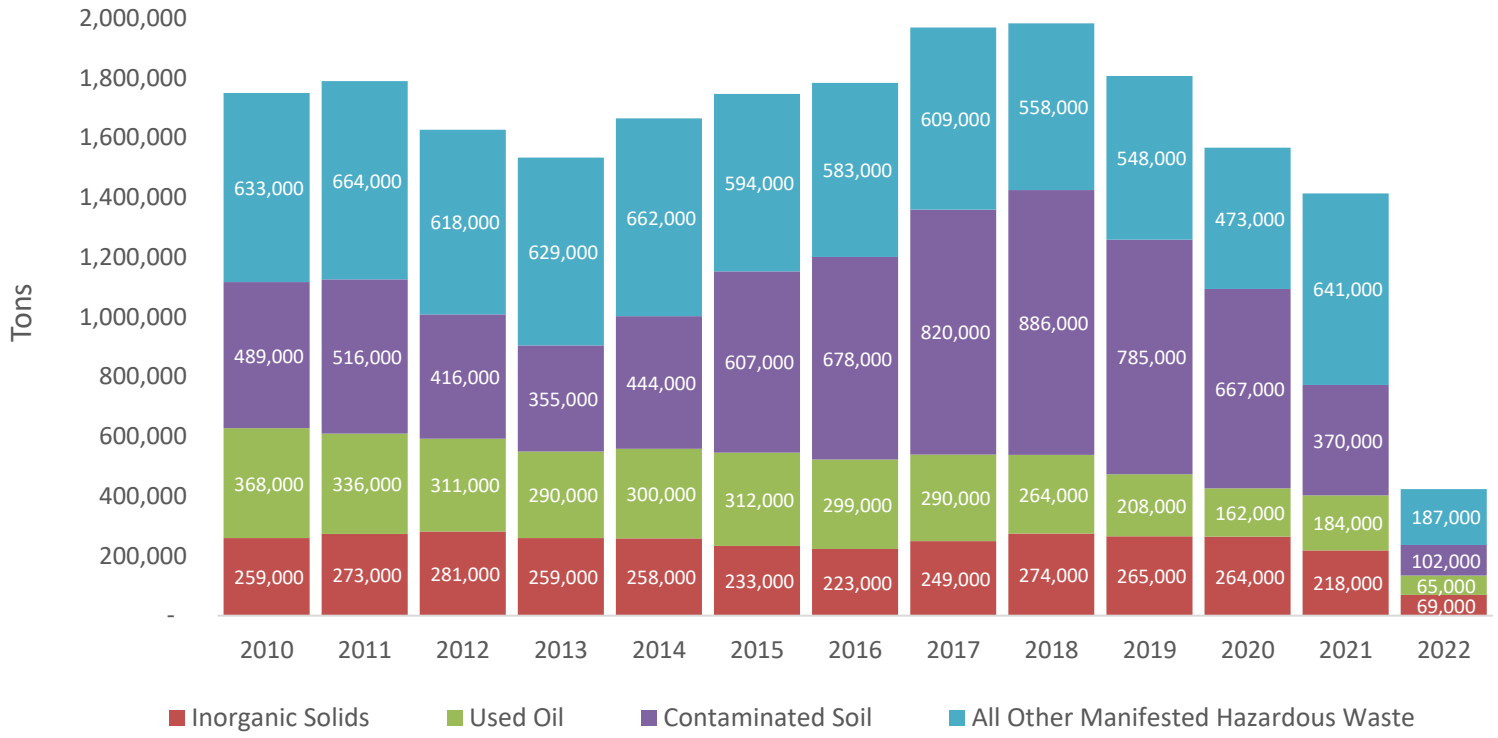
- Three Manifested Hazardous Waste Streams account for ~65% annual generation

Contaminated Soil
(State Waste Code 611)

Waste Oil and Mixed Oil
(State Waste Code 221)

Other Inorganic Solid Waste
(State Waste Code 181)

Section 2 – Manifested Hazardous Waste Generation



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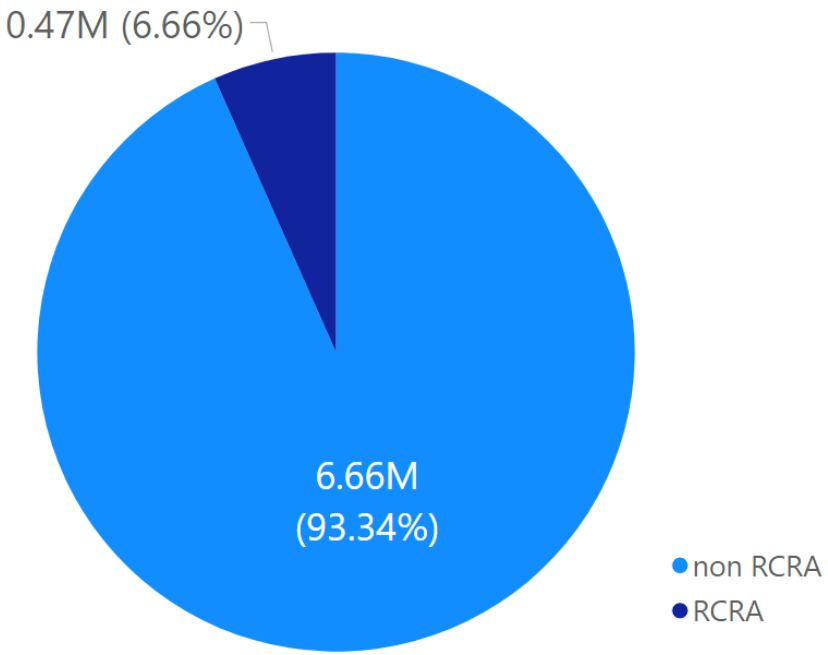


Quantity of RCRA and Non-RCRA Contaminated Soil Generated in California

Data range January 1, 2010, through May 5, 2022

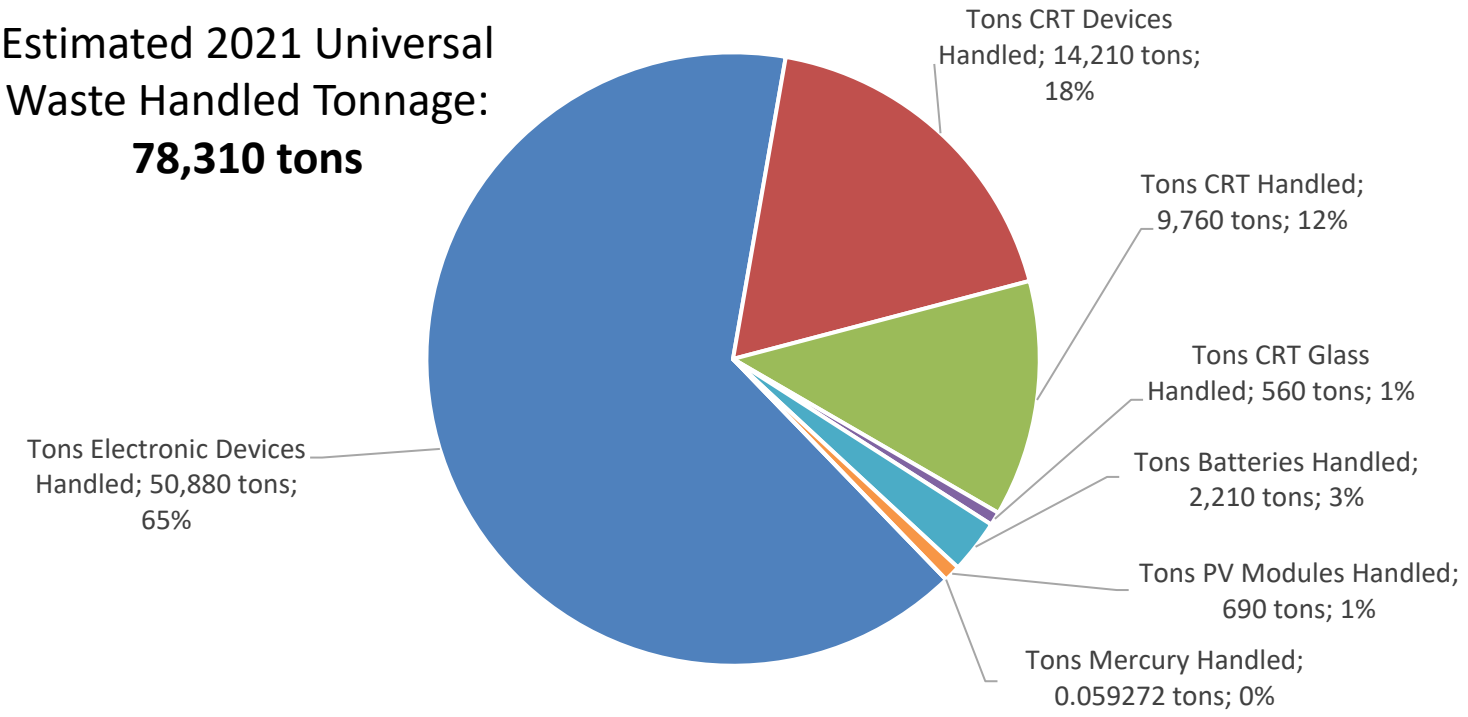
Section 2 – Unmanifested Hazardous Waste Generation

Section 2 – Unmanifested Hazardous Waste Generation

Universal Waste Type	Data Source Used
Electronic Devices, including CRT Devices	DTSC Universal Waste Electronic Device (UWED) Annual Report
CRTs	DTSC UWED Annual Report
CRT Glass	DTSC UWED Annual Report
Batteries	DTSC Rechargeable Battery Survey
Lamps	Not Currently Tracked
Mercury-containing Equipment	Thermostat Recycling Corp. Report
Non-Empty Aerosol Cans	Not Currently Tracked
PV Modules	DTSC PV Module Annual Report

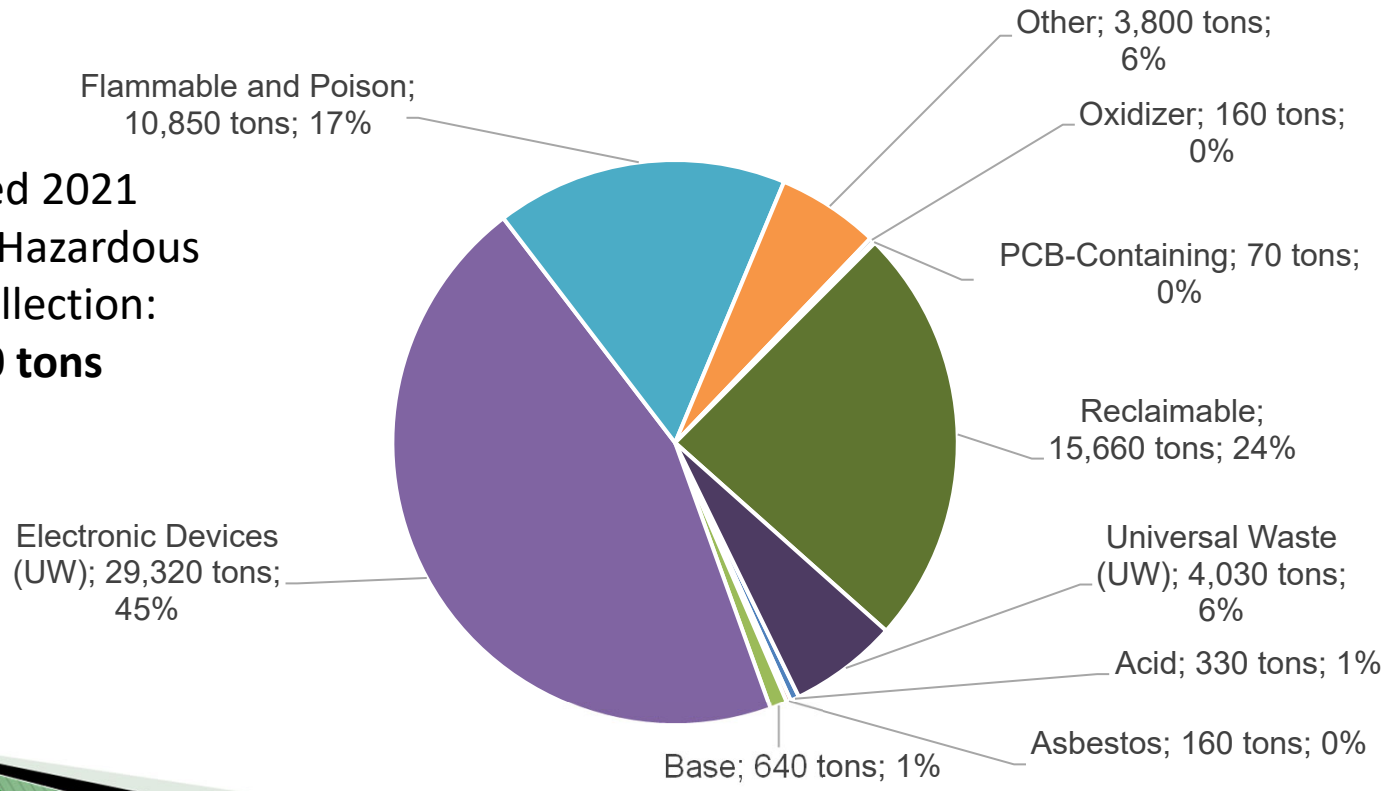
Section 2 – Unmanifested Hazardous Waste Generation

Estimated 2021 Universal Waste Handled Tonnage:
78,310 tons

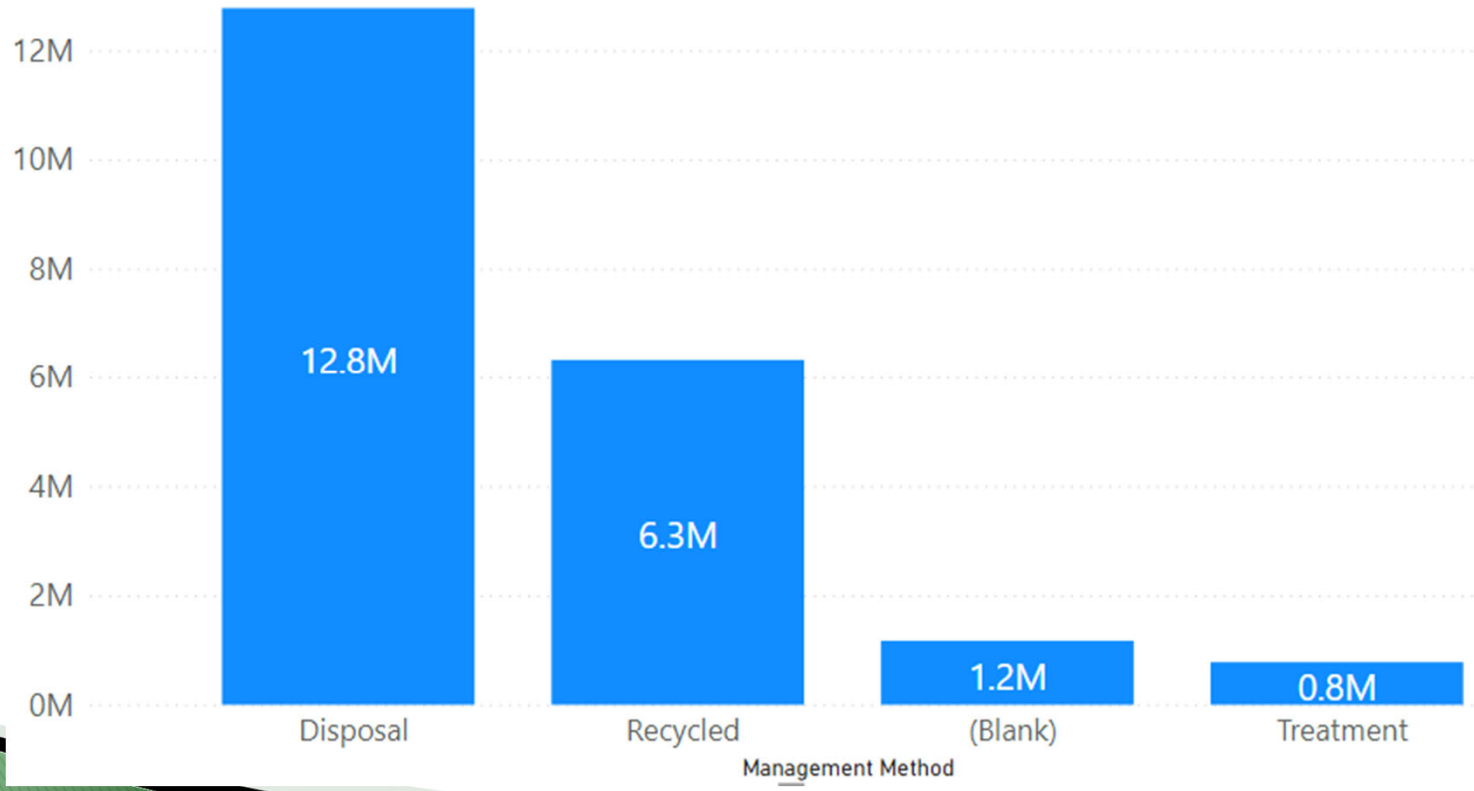


Section 2 – Unmanifested Hazardous Waste Generation

Estimated 2021 Household Hazardous Waste Collection:
65,020 tons



Section 3 – Destinations of Manifested Hazardous Waste



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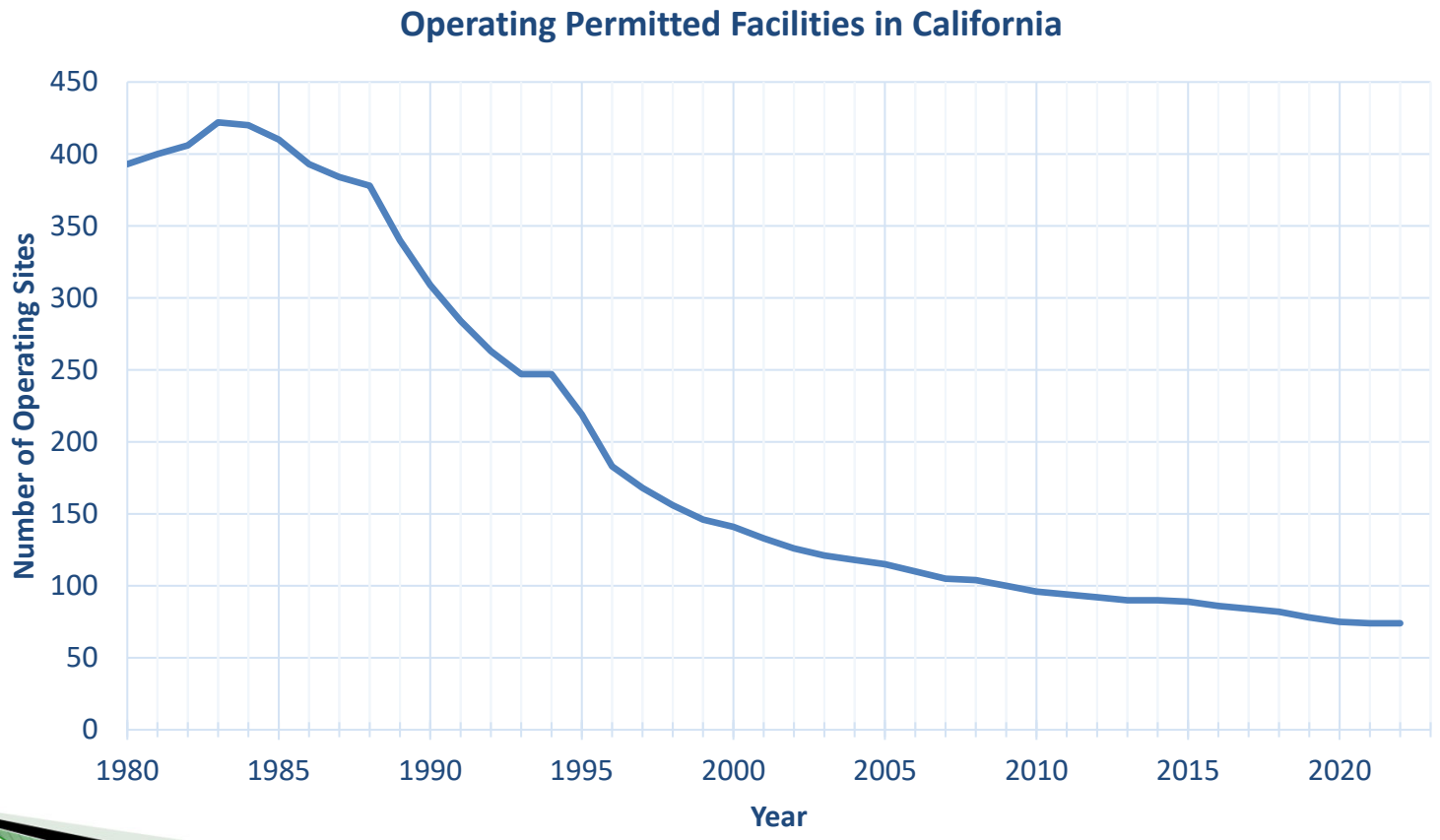
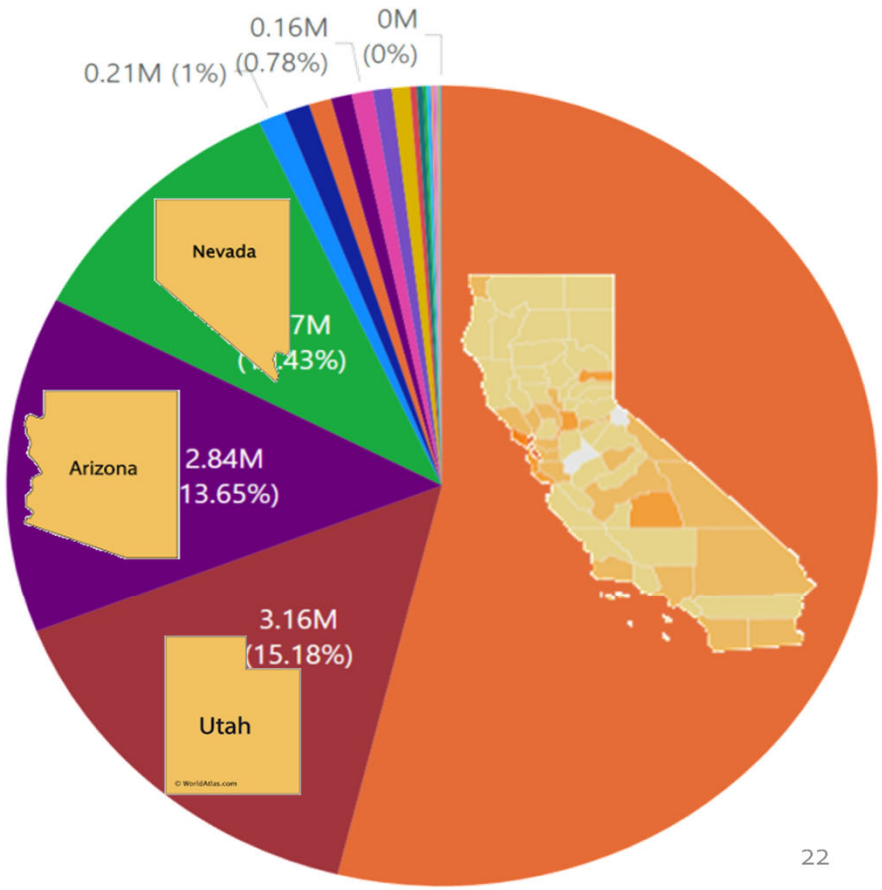


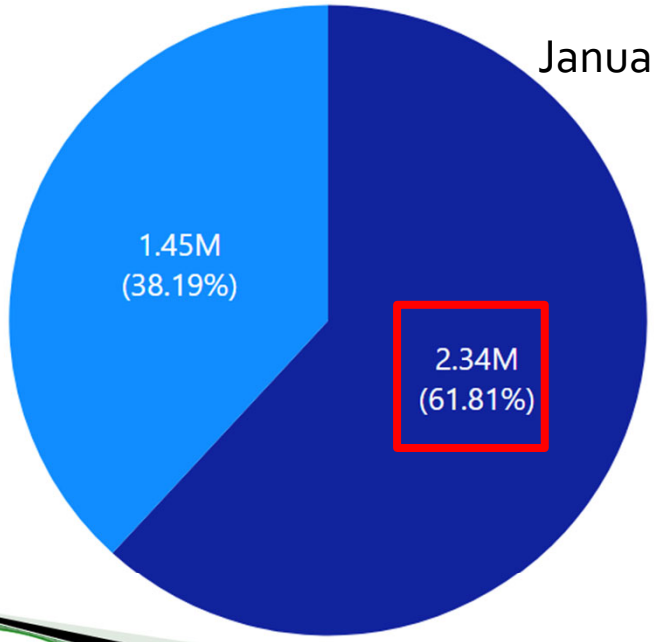
Section 3 – Destinations of Manifested Hazardous Waste

- About half (53 percent) of the hazardous waste generated in California was managed in California since 2010
- Over 36% of CA manifested hazardous waste was shipped to Utah, Arizona, and Nevada.

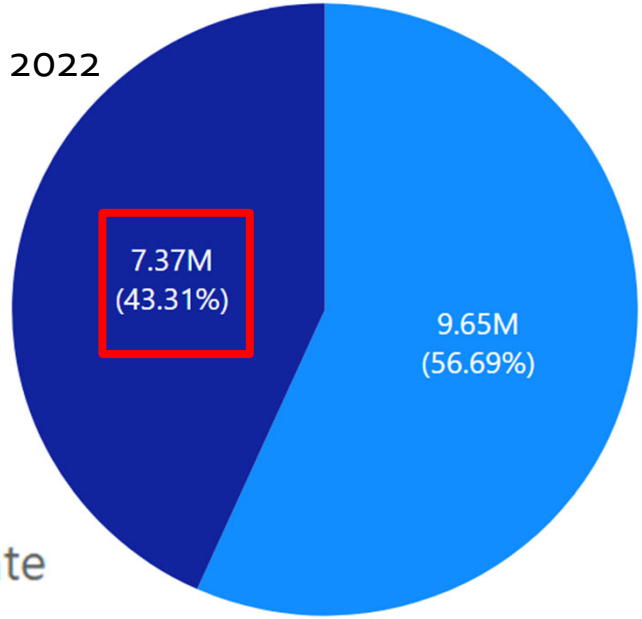


Section 3 – Destinations of Manifested Hazardous Waste

Quantity of RCRA Hazardous Waste Managed In State vs Out of State (Tons)



Quantity of non-RCRA Hazardous Waste Managed In State vs Out of State (Tons)



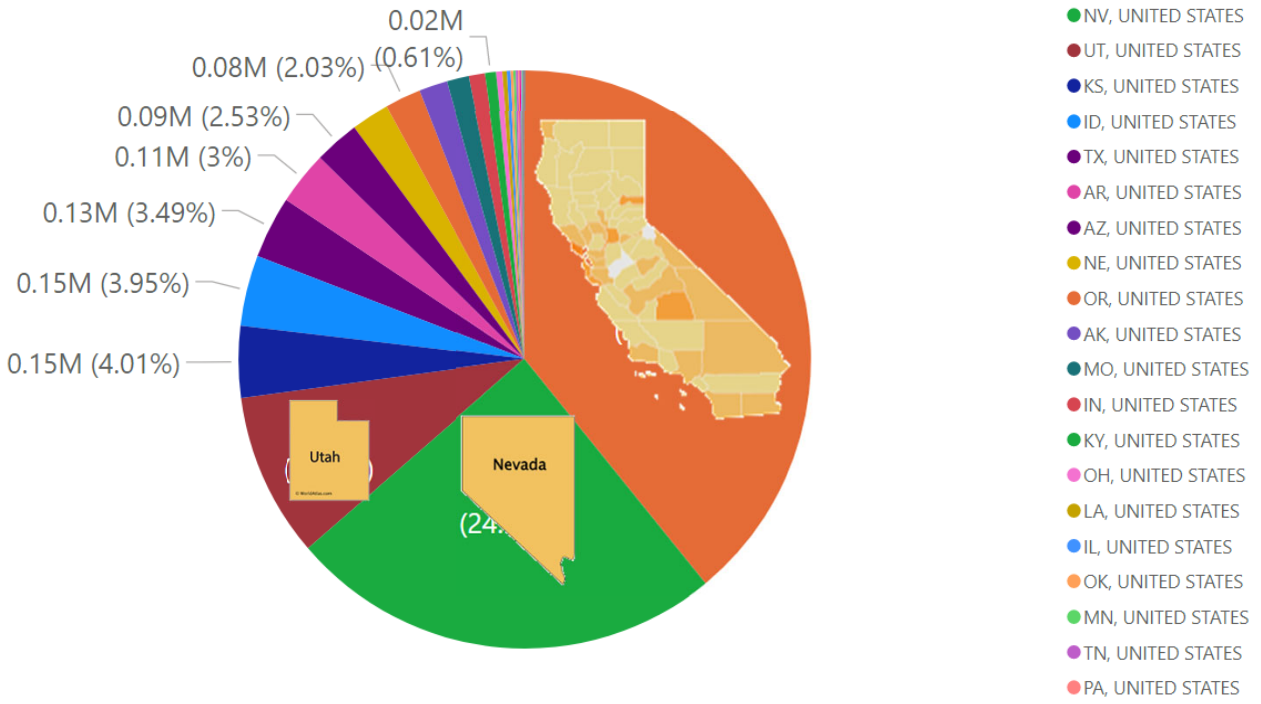
January 2010 to May 2022

Out of State

In State

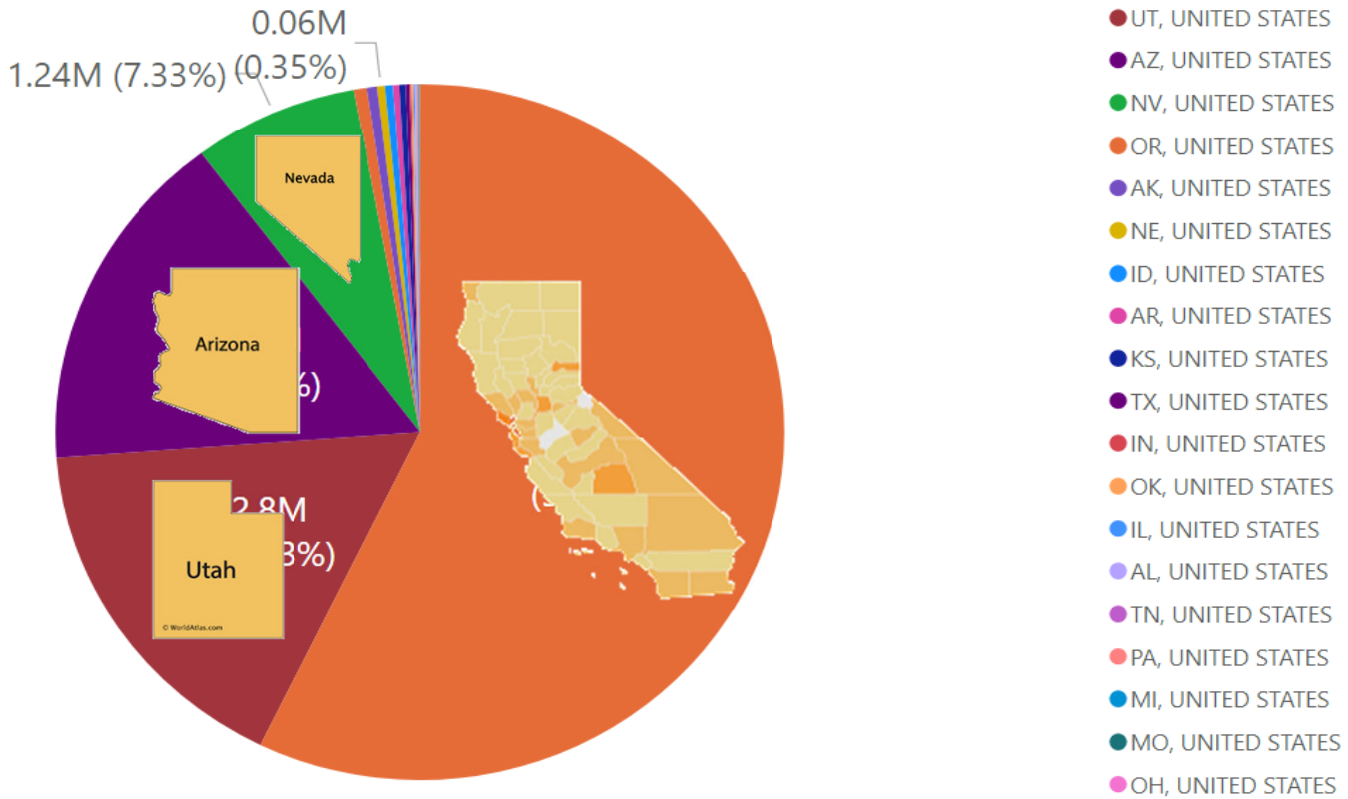
Section 3 – Destinations of Manifested Hazardous Waste

Quantity of RCRA Hazardous Waste Shipped to Each State (Tons)



Section 3 – Destinations of Manifested Hazardous Waste

Quantity of non-RCRA Hazardous Waste Shipped to Each State (Tons)



Section 3 – Treated Onsite and Recycled Onsite

- Treated Onsite and Recycled Onsite data available in CERS
- Currently compiling available information from CERS
- CERS NextGen project: 2025

Section 3 - Universal Waste Destinations

- Handlers, destinations, or listed as both
- Recyclers
- Destination information not available for:
  - Batteries
  - Fluorescent lamps
  - Non-empty aerosol cans
- Difficult to track because unmanifested; estimates

Section 3 - Universal Waste Destinations 2021

Destination State	Count Electronic Devices	Tons Electronic Devices	Tons CRT Devices	Tons CRT	Tons CRT Glass	Tons Unspecified Universal Waste	Count PV Modules	Tons PV Modules	Tons Mercury	State Total Tons
United States Total	27,790	29,040	1,820	3,590	1,850	930	1,330	660	0.059263	37,890
California	27,790	19,540	1,800	90	0	460	340	30	0	21,920

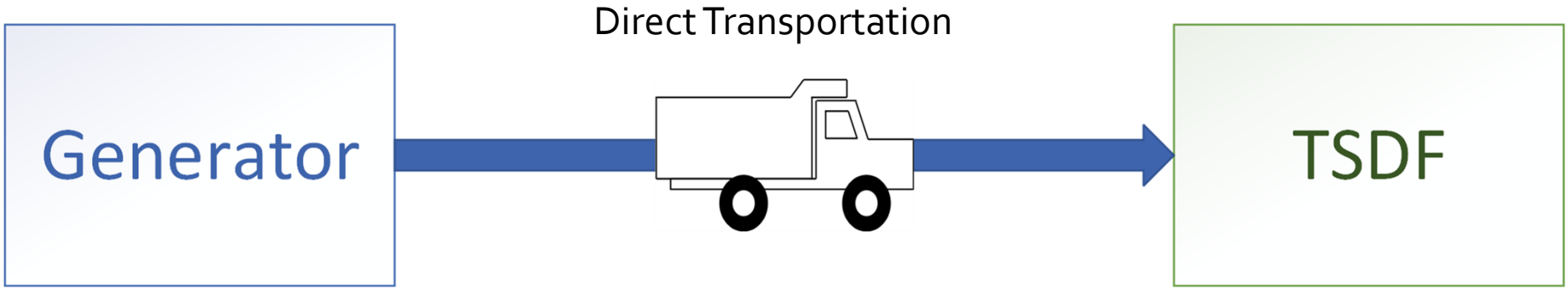
Section 3 - Universal Waste Destinations 2021

Destination Country	Count Electronic Devices	Tons Electronic Devices	Tons CRT Devices	Tons CRT	Tons CRT Glass	Tons Unspecified Universal Waste	Count PV Modules	Tons PV Modules	Country Total Tons
Japan	0	180	0	0	0	0	0	0	180
Republic of Korea	0	310	0	0	870	0	0	0	1,180
United States	27,790	29,040	1,820	3,590	1,850	930	1,330	660	37,890
Mexico	0	2,670	990	8,940	560	0	0	0	13,150
Hong Kong	0	570	0	0	0	0	0	0	570
Indonesia	0	5,670	0	0	0	0	0	0	5,670
Philippines	0	2,130	0	0	0	0	0	0	2,130
Malaysia	0	1,030	0	0	0	0	0	0	1,030

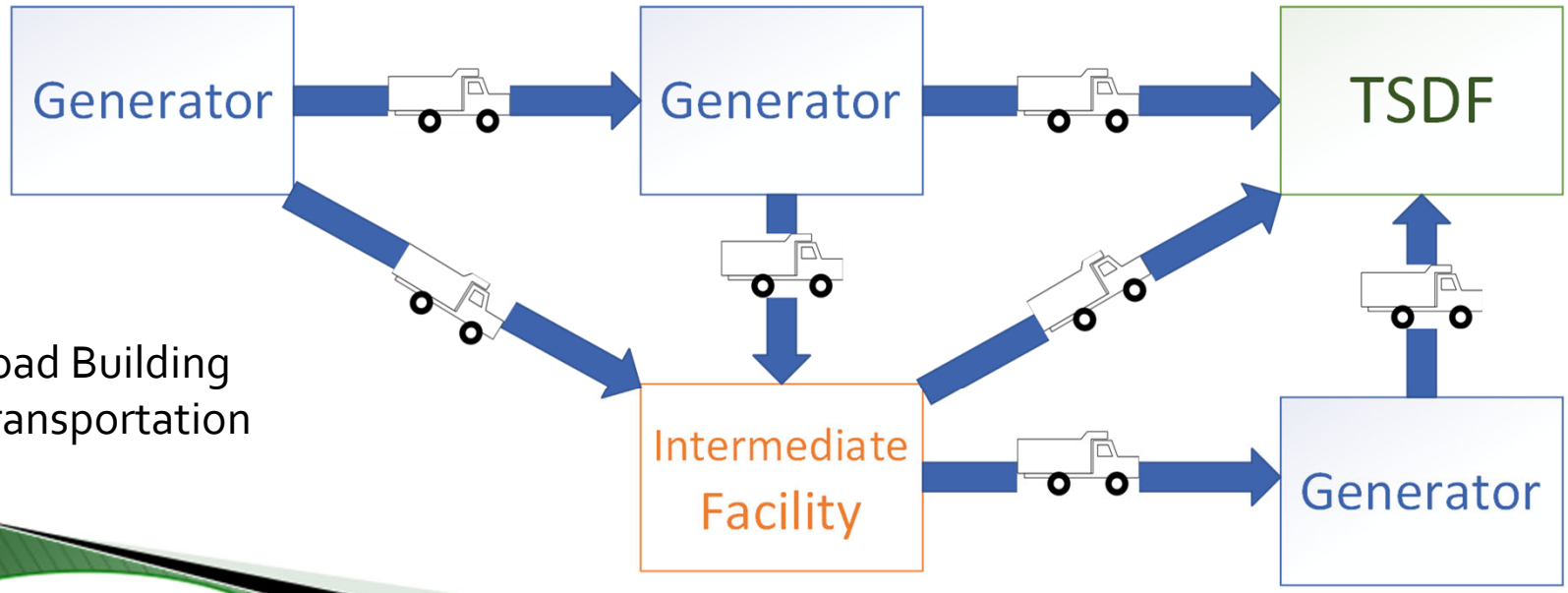
Section 4 - Destination Analysis

- Zoning
- CalEnviroScreen 4.0 percentiles and scores
- EJScreen scores
- Out-of-country analysis not available
- Disadvantaged communities, SB 535
- Sensitive receptor proximity

Section 5: Hazardous Waste Transportation



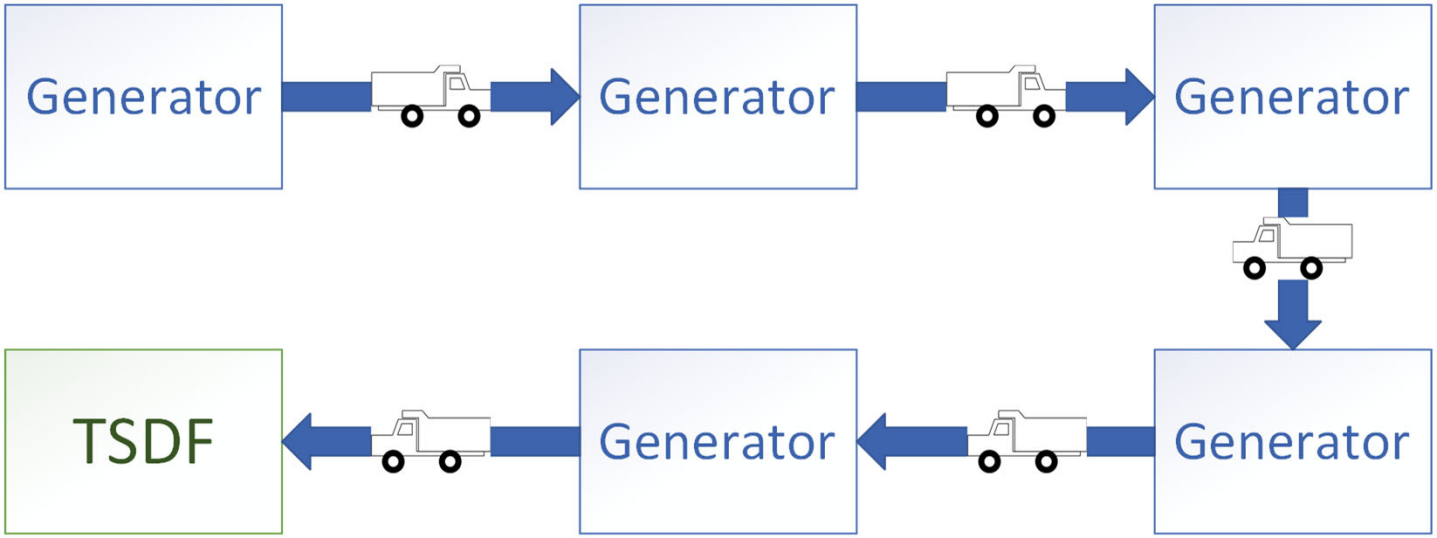
Section 5: Hazardous Waste Transportation



Load Building
Transportation

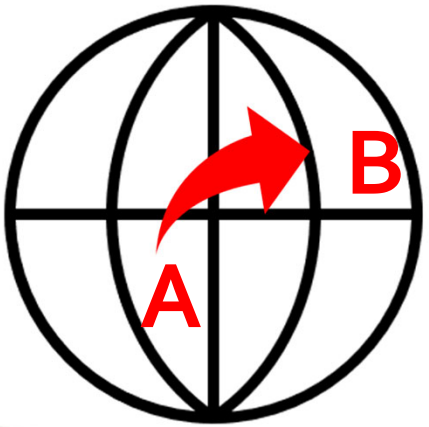
Section 5: Hazardous Waste Transportation

Consolidated Manifesting



Section 5: Hazardous Waste Transportation

- Average distance travelled between generators and destination facilities: 500 miles
- Median distance travelled between generators and destination facilities: 240 miles



Section 5: Hazardous Waste Transportation

Examples of factors affecting transportation cost:

- Type of hazardous waste
- Fuel prices
- Driver availability
- Urgency of load
- Transportation company model

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Section 6: Pollution Prevention

- **Pollution prevention (P2):** The reduction of chemical sources that have adverse impacts on public health and the environment, including, but not limited to, source reduction

Section 6 – Pollution Prevention (P2)

US Environmental Protection Agency

Pollution Prevention Resource Center

pprc

Pollution Prevention Roundtable

UN Environment Programme

UNEP

Pollution Prevention Assistance

Department of Ecology State of Washington

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Section 6 – Pollution Prevention (P2)

- P2 programs work best when targeted
- Not all wastes are good candidates for P2

vs

Section 7 – Use of Fees to Reduce Waste

- Challenging to find systemic historical data
- Additional research needed for fee impacts
- Flat rate fee vs. tiered rate fee
- Recent change in California fee structure

Section 8 – Hazardous Waste Criteria

- Evaluate additional safeguards
- Determine if program is consistent with current science, technology, and analytical methods
- Identify potential future waste streams and evaluate current

Section 9 – Future Work

Waste Reduction

Waste Criteria

Capacity Assurance

Environmental Justice

Additional Information

- Website - https://dtsc.ca.gov/hazardous-waste-management-plan/
- Email – DTSC_HWPlan@dtsc.ca.gov

Any Questions?

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Session M-J3