Indian Environmental

General Assistance Program

American Indian Environmental Office

GAP Academy
August 2024

Demonstrating Results of Waste Management with GAP

Tribal Lands and Environment Forum
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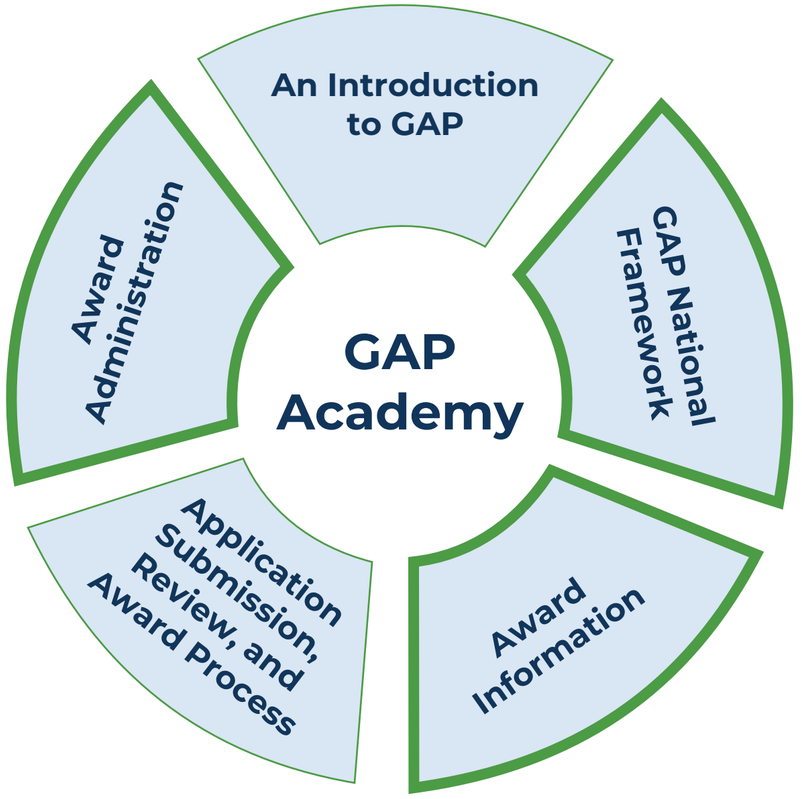

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This Session

1. What kinds of information do GAP recipients need to put in their GAP solid waste management progress reports? Why does EPA want this information?

2. What kinds of data do GAP recipients need to collect? How can they collect these data with their existing resources?

3. How should GAP recipients report the data?

What kinds of information do GAP recipients need to put in GAP solid waste management progress reports?

Why does EPA want GAP recipients to report this information?

What to Report

Material Waste Type

What type of material or waste was collected, transported or managed?

Origination

Who generated the waste material?

Amount

How much waste or material was managed?

Disposition

How were the waste or materials ultimately managed?

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Why Report This?

Building Capacity

Decision-making

Leveraging

More Funding

What kinds of data do GAP recipients need to collect?

How can they collect these data with their existing resources?

Collecting Data

Material Waste Type

What type of material or waste was collected, transported or managed?

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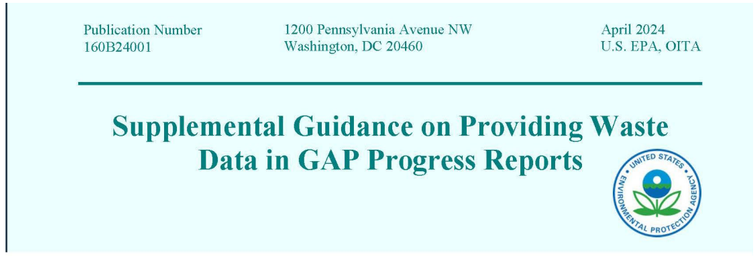
Supplemental Guidance on Providing Waste Data in GAP Progress Reports

https://www.epa.gov/general-assistance-program-gap/supplemental-guidance-providing-waste-data-gap-progress-reports



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Waste Type vs. Waste Stream Assessment/Waste Audit

Waste Type

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Waste Stream Assessment/ Waste Audit

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Waste Types

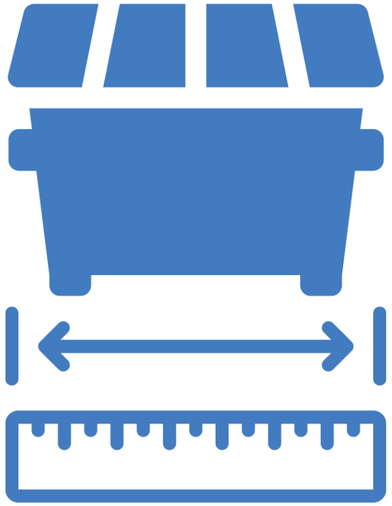
What types of waste were collected, transported, backhauled, or disposed during this reporting period?

- Appliances & electronics
- Construction & demolition debris
- Household hazardous waste
- Compostable material
- Mixed recyclables
- Unsorted trash
- Used oil
- Automotive
- Tires

Origination: Who Generated the Waste?

- Commercial
- Household/residential
- Industrial
- Institutional/government
- Unauthorized dumping
- Unknown

Amount: How Much Material or Waste Did You Manage?



Measuring

Estimating

Amount: Sources of Measurements

Landfill scale receipts or tipping fees

Collection invoices or receipts

Transport manifests and invoices

Large platform scale

Handheld luggage scale

Estimating

With Calculation
(full or partial data)

Without Waste Collection
Data

Estimating: Calculation with Data from Containers

Full Containers (volume in cubic yards (CY))

(Volume (length in feet × width in feet × height in feet) × # of times emptied) / 27

Partly Full Containers (volume in CY)

(Volume (length in feet × width in feet × height in feet) × # of times emptied) × percentage full) / 27

Estimating: Calculation Example for Full Container

Data

Container volume: 20 cubic yards

Number of times emptied per year: 52 (weekly)

How full usually: Full

Calculation

(Volume (length in feet × width in feet × height in feet) × # of times emptied) / 27 = volume in cubic yards

11 ft x 6 ft x 8ft = 528 ft x 6 = 3,168 / 27 = 117 CY

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Estimating: Calculation Example for Partly Full Container

Data

Container volume: 20 cubic yards (11 x 6 x 8 ft)

Number of times emptied per year: 52 (weekly)

How full usually: Half full (50%)

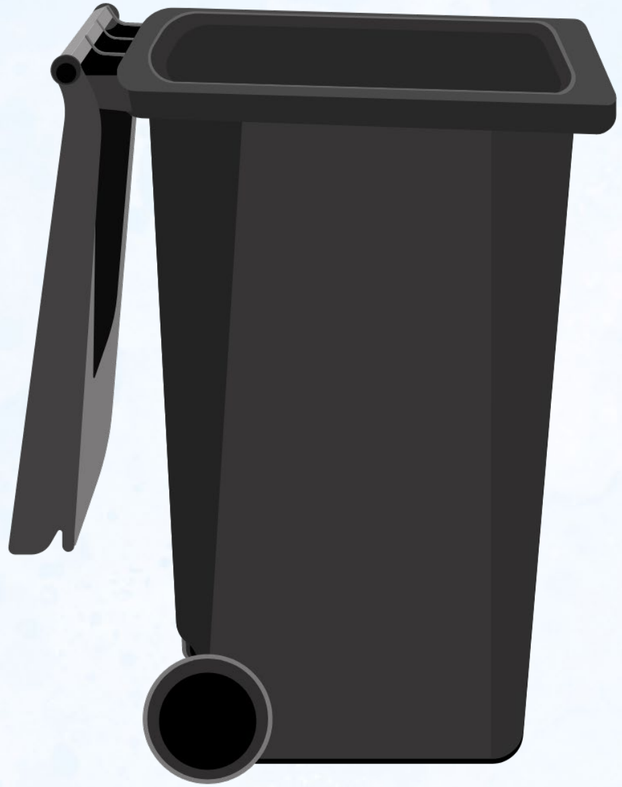
Calculation

(Volume (length in feet × width in feet × height in feet) × # of times emptied) x percentage full) / 27 = volume in cubic yards

11 ft x 6 ft x 8 ft = 528 ft x .5 x 6 = 1584/27 = 59 CY

Estimating: Household Trash or Recycling Calculation

(Volume of can in gallons x total number of cans of each volume) / 202 gallons per cubic yard = volume in cubic yards



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Estimating: Calculation Example for Household Trash or Recycling

Data

Volume of a household can: 65 gallons

Number of cans collected per year: 456

Calculation

(Volume of can in gallons x total number of cans of each volume) / 202 gallons per cubic yard = volume in cubic yards

65 x 456 / 202 = 147 cubic yards per year

Estimating: Without Waste Collection Data

Your Past Data

Data from Similar Communities

National Average Generation Rate

Amount: Calculation Practice – Case 1

Case 1: Dumpster

Dumpster dimensions: 11 ft × 6 ft × 8 ft

How often picked up: 12 times in the reporting period

How full: one-quarter full (25%)

Which formula would you use?

1. **Full Containers:** (Volume (length in feet × width in feet × height in feet) × # of times emptied) / 27 = volume in cubic yards
2. **Partly Full Containers:** (Volume (length in feet × width in feet × height in feet) × # of times emptied) x percentage full) / 27 = volume in cubic yards
3. **Recycling/ Household Trash:** (Volume of can in gallons x total number of cans of each volume) / 202 gallons per cubic yard = volume in cubic yards
4. **National Average:** (Weight (4.9 pounds × # of people × # of days) = weight in pounds

Amount: Calculation Practice – Case 2

Case 2: Residential Recycling

Size of Cans: 50 gallons

Number of Homes: 150

How often picked up: Weekly

Which formula would you use?

1. **Full Containers:** (Volume (length in feet × width in feet × height in feet) × # of times emptied) / 27 = volume in cubic yards
2. **Partly Full Containers:** (Volume (length in feet × width in feet × height in feet) × # of times emptied) x percentage full) / 27 = volume in cubic yards
3. **Recycling/Household Trash:** (Volume of can in gallons x total number of cans of each volume) / 202 gallons per cubic yard = volume in cubic yards
4. **National Average:** (Weight (4.9 pounds × # of people × # of days) = weight in pounds

Amount: Calculation Practice – Case 3

Case 3: Household Trash/Mixed

Dimensions: unknown

How full?: dropped off, scattered

Which formula would you use?

1. **Full Containers:** (Volume (length in feet × width in feet × height in feet) × # of times emptied) / 27 = volume in cubic yards
2. **Partly Full Containers:** (Volume (length in feet × width in feet × height in feet) × # of times emptied) x percentage full) / 27 = volume in cubic yards
3. **Recycling/Household Trash:** (Volume of can in gallons x total number of cans of each volume) / 202 gallons per cubic yard = volume in cubic yards
4. **National Average:** (Weight (4.9 pounds × # of people × # of days) = weight in pounds

Final Disposition: How Were the Materials or Waste Ultimately Managed?

Composted

Backhauled

Recycled

Landfilled

Burned/Incinerated

Sent to hazardous waste facility

How should GAP recipients report the data?

Progress Report Example

Work Plan Commitment: The solid waste technician and operator will collect trash weekly in the community.

Data you collected:

- **Material/waste type:** trash
- **Origination:** 80% household/residential, 10% institutional/government, 10% commercial
- **Amount: collected:** 342 tons October to September
- **Final Disposition:** landfilled

Progress report:

We collected **trash** from 100 homes, the Tribal office, the school, and the local store. We estimated that about **80 percent** of the trash was collected **from homes**, **10 percent from government**, and the **remaining from commercial sources**. Collected trash was hauled to the **landfill**. From disposal charge invoices from the city, which operates the landfill, we landfilled **342 tons from October to September**.

Recap: Collecting and Reporting 4 Categories of Data

Material Waste Type

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Recap: Collecting and Reporting Solid Waste Data

1. What kinds of information do GAP recipients need to put in their GAP solid waste management progress reports? Why does EPA want this information?

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Tribal Voices:
How do you manage waste? What assistance is helpful?

What are some other ways that Tribes are managing their data?

What type of training/technical assistance can EPA provide to help develop data management processes?

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