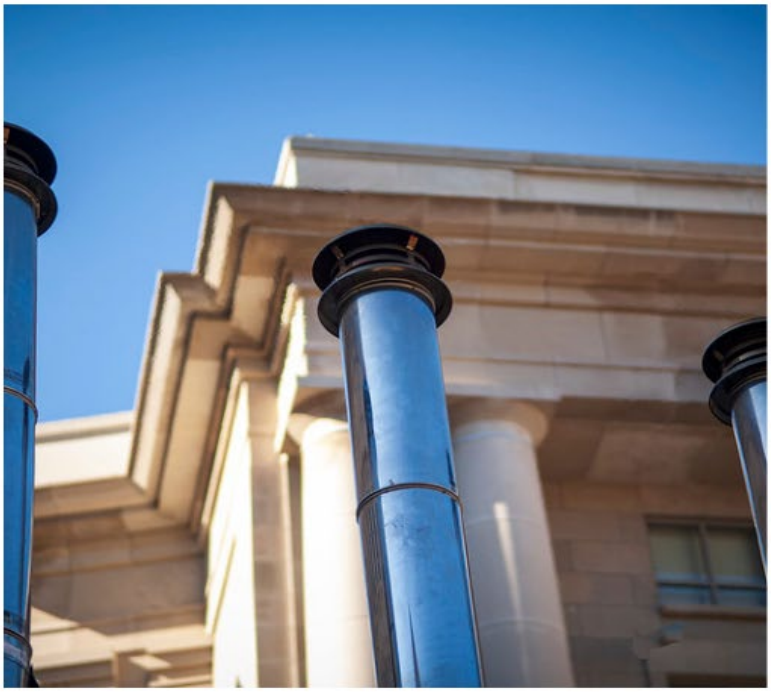
Publication Number
160B24001

1200 Pennsylvania Avenue NW
Washington, DC 20460

April 2024
U.S. EPA, OITA

Supplemental Guidance on Providing Waste Data in GAP Progress Reports



The Environmental Protection Agency (EPA) would like to acknowledge the EPA staff and Tribal partners who provided the photos used in this Guidance:

Photo Credit Front Cover:

Bad Lands located on the Pine Ridge Reservation (upper left)

Trash Dumping Prohibited sign located on the Navajo Reservation taken by Julia Keane (upper right)

Buffalos located on the Prairie Band Potawatomi Nation (lower left)

Environmental Protection Agency (lower right)

This Supplemental Guidance identifies EPA policies and recommended procedures for coordinating activities related to assistance agreements awarded under the Indian Environmental General Assistance Program (GAP). The statutory provisions, EPA regulations, and other legally binding documents described in this Supplemental Guidance contain legally binding requirements that govern the use and management of GAP resources. This Supplemental Guidance does not substitute for other binding requirements, and does not expressly or implicitly create, expand, or limit any legal rights, obligations, responsibilities, expectations, or benefits to any person. In the event of a conflict between the discussion in this Supplemental Guidance and any legally binding requirement, this Supplemental Guidance document would not be controlling. EPA retains discretion to use or deviate from this document as appropriate. EPA may also make administrative changes to this Supplemental Guidance, such as updating web links, with notification to users.

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Supplemental Guidance on Providing Waste Data in Indian Environmental General Assistance Program (GAP) Progress Reports

March 2024

Introduction

The Environmental Protection Agency (EPA) 2022 Indian Environmental General Assistance Program (GAP) Guidance on Financial Assistance Agreements (GAP Guidance) includes the collection, transportation, backhaul and disposal of solid waste and recovered materials, referred to as service delivery activities, as allowable solid and hazardous waste implementation activities. The GAP Guidance specifies that progress reports for work plans that have solid or hazardous waste implementation and service delivery activities, including recovered material programs (reuse, recycling, and composting), and work plans with approved cleanup and closure of unauthorized dumping sites, should include information on the amount of waste managed, the types of waste handled, origination, and the final disposition of the waste. This information may be useful to Tribes in managing their waste implementation programs and will help demonstrate the environmental results of GAP-supported waste management activities on Tribal lands. In addition, the information may provide insights into unmet needs and areas where additional support is needed, assist with establishing national priorities, identify success stories, and inform budgetary requests to Congress.

Service delivery refers to the collection, transportation, backhaul, and disposal of solid waste and/or recovered resources.

Purpose

The EPA American Indian Environmental Office (AIEO) is providing this supplemental guidance on the types of service delivery information grantees should include in GAP progress reports. This document is a reference for grantees using GAP funds to support waste implementation and service delivery activities and for EPA GAP Project Officers when reporting in GAP Hub, EPA's national performance management application for GAP[1]. GAP Project Officers will enter information from progress reports into the GAP Hub at least annually. More information about GAP Hub is located on the GAP website: https://www.epa.gov/general-assistance-program-gap/gap-hub-fact-sheet.

This supplemental guidance clarifies the types of data elements GAP progress reports should include when waste implementation activities (service delivery activities and/or cleanup/closure of unauthorized dumping sites) are funded. Consistent with the 2022 GAP Guidance, this supplemental information applies to Tribal governments and intertribal consortia (grantees) with stand-alone GAP grants and to Performance Partnership Grants (PPGs) where GAP funds contribute to solid waste implementation activities.

[1] AIEO will provide a separate instructional guide for Project Officers entering waste data in GAP Hub.

Overview of Reporting Elements

The GAP Guidance identifies four data elements that should be included in progress reports on recovered materials and solid and hazardous waste implementation, service delivery, and unauthorized dumping cleanup and closure activities: waste type, origination, amount, and final disposition of materials (GAP Guidance p. 11-12). Appendix I includes descriptions of common waste management terms that may be beneficial for using this supplemental guidance.

1. Waste Type: What type of waste that was collected, transported, backhauled, or disposed?

What general type(s) of waste were managed using GAP funds? Examples of some common waste types are below; however, grantees are not limited to reporting on the items listed here.

- appliances & electronics
- construction and demolition (C&D) debris (See https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/construction-and-demolition-debris-material)
- household hazardous waste (See https://www.epa.gov/hw/household-hazardous-waste-hhw)
- compostable material
- mixed recyclables (e.g., packaging materials)
- unsorted trash
- used oil
- automotive (e.g., vehicles)
- tires

Appendix II illustrates how AIEO characterizes common material and waste types in GAP Hub. This crosswalk may be helpful to GAP Project Officers when entering data provided in progress reports into the system.

2. Origination: Who generated the waste/material?

Origination generally refers to where the waste came from. Origination, such as the waste source or the waste generator, can be categorized broadly as shown in Table 1.

Table 1 – Broad Categories of Origination

Origination Source	Description
Commercial	From stores, offices, restaurants, warehouses, casinos, gas stations, smoke shops, and other similar establishments
Household/residential	From single and multi-family homes, including temporary living locations
Industrial	From manufacturing, industrial, and research and development processes
Institutional/government	From Tribal administration offices and departments, schools, daycare and elder facilities, libraries, cultural centers/museums, hospitals, parks, prisons, and similar facilities

Unauthorized dumping	From cleanup and closure of sites where waste is disposed in an unpermitted area, such as along a stream bank, alley, public right-of-way, backyard, etc. Also referred to as open dumps.
Unknown	While reporting specific origination is preferred, sometimes it may be necessary to report a mix of materials from unknown originating sources. For example, if households, the store, the school, and Tribal offices drop off their cardboard at the transfer station or designated area for recycling when an operator is not present, the origination can be categorized as unknown. This would also be the case if the Tribe collects the waste community-wide without keeping track of what came from where.

3. Amount: How much material or waste was managed?

EPA recognizes that grantees may have varying levels of access to waste management data and that this access may impact the grantee's ability to report the amount of material or waste managed. Grantees should report available information, including measured values (weight, volume, counts, etc.) and data-informed estimates, and work towards progressively improving data quality over time. Maintaining consistent units of measurement is essential for supporting the comparison of data over time. Activities to improve waste management capacities, such as purchasing a scale, participating in training, developing chain-of-custody processes, etc., are eligible activities for GAP funding.

Amount is a count of units or products (example: 12 appliances), weights (example: pounds, tons), or volumes (example: gallons, cubic yards)

Submitting measured quantities of materials, versus estimates, in progress reporting is preferred since it provides the most accurate data. Some examples of ways to determine measured weight values include:

- Scale receipts or tipping fees from transfer stations or landfills with drive-across scales,
- Using a large platform scale to measure amounts of materials and waste collected,
- Using a handheld luggage scale for measuring the weight of materials collected in smaller containers like buckets (example: food scraps to be composted),
- Invoices/receipts from commercial waste collection services, and
- Manifests and invoices from transportation companies (ocean and river barges, air carriers, trucking companies) providing backhaul/recycling services.

When measured quantity data is not available, grantees should provide data-informed estimates in progress reports. Grantees are encouraged to talk with their GAP Project Officer and Regional Tribal Waste Management Coordinator (See https://www.epa.gov/tribal-lands/forms/contact-us-about-tribal-waste-management to locate your point of contact) for assistance with methods for estimating amounts of materials/waste.

There are many reasons why measured quantity data may not be available. Lack of access to this information may be temporary, such as due to weather, natural disaster impacts, and/or temporary staff

shortages, or may be longer-term. Availability of funding, longevity of the waste management program, and geographic barriers, among other considerations, may influence a grantee's access to measured quantity data. For example, there are many small and extremely remote Tribal communities, primarily in Alaska, located off the road system, with geographic, climate, economic, and logistical challenges. Such communities may not have access to infrastructure, equipment (such as scales), personnel, funding, or technical assistance to provide measured quantities of data.

The following are a few examples of common waste estimation approaches, but *grantees are not limited to using these methods*.

❖ Take the volume or size of a container and multiply that by the number of times it is emptied for collection. Then take that volume value and multiply it by an applicable volume-to-weight conversion factor. The conversion factor may be a self-measured value or from a different source like EPA's 2016 compilation of Volume to Weight Conversion Factors for Solid Waste which can be accessed at https://www.epa.gov/smm/volume-weight-conversion-factors-solid-waste.

- ✓ Example: A six cubic yard cardboard collection container at the community drop-off area is emptied weekly. It is consistently full. A volume to weight conversion factor of 106 lbs/cubic yard is used. Six cubic yards x 106 lbs/cubic yard x 52 weeks (or number times emptied in the year) = 33,072 lbs/year.

If the container is not full, use a percent full factor (25 percent, 50 percent, 75 percent, or 100 percent).

- ✓ Example: A six cubic yard cardboard collection container at the community drop-off area is emptied weekly. It is only half full. A volume to weight conversion factor of 106 lbs/cubic yard is used. Three cubic yards (half of the six cubic yard collection container capacity) x 106 lbs/cubic yard x 52 weeks (or number times emptied in the year) = 16,536 lbs/year.

❖ To estimate the amount of household trash collected, count the number of houses with bins and note their size.

- ✓ Example: 50 trash cans x 96 gallons x 52 weeks = 249,600 gallons/year. Then apply a volume to weight conversion factor of 0.8 lbs/gallon = 199,680 lbs per a year, which is approximately 100 tons.

❖ Use the grantee's waste generation or characterization data done previously (ideally within the past 10 years) or from a similar community, like a neighboring city, county, or another Tribal community and scale it to the grantee's community.

- ✓ Example: A nearby county conducted a waste characterization study and found that annually residents landfilled 1,800 pounds of trash per person. A GAP grantee used similar data as a proxy, estimating that their 100 residents discarded the same amount of trash at their transfer station, calculating an estimated 180,000 pounds annually.

Additionally, EPA's ENERGY STAR Portfolio Manager is a free, secure online tool that grantees can use to track their waste and materials management activities. For many material and waste types, Portfolio Manager automatically converts volumes to weight and provides summary metrics (https://www.energystar.gov/buildings/tools-and-resources/how_track_waste_and_materials_management_portfolio_manager).

Waste Estimation in Using National Average

If using measured quantities or estimation methods is not possible, GAP grantees may utilize the National average generation rate of 4.9 pounds per person per day to calculate amounts in progress reports until other information is available. This rate was determined by taking the average of the EPA collected date from 2018 (See https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/national-overview-facts-and-figures-materials).

- ✓ Example: A Tribe has 100 residents in their community. Using the National average generation rate of 4.9 lbs/person/day, they estimate that their 100 residents discarded 178,850 pounds annually. (4.9 lbs/person/day x 365 days = 1,788.5 lbs/person annually x 100 people = 178,850 lbs annually)

4. Final Disposition of Waste: How were the materials or waste ultimately managed?

Describe how the material or waste was managed and its end destination. Common recovered material and waste management methods include composted, recycled, incinerated, backhauled, and landfilled. In Alaska, another common management method is burning waste in an enclosed burn unit to reduce the volume of material landfilled. For hazardous waste, a frequent management method is sending it to a hazardous waste facility.

Figure 1, below, shows progress report examples for waste service delivery commitments in GAP work plans and the associated information reported. Note that geographic locations (city, state, facility name, etc) is not an anticipated reporting element, but may be included if desired.

Figure 1 – Types of information to include when reporting waste collection in GAP progress reports

Progress Reporting Examples for Waste Related Service Delivery Commitments:

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

Material/waste type: trash
Origination: household/residential, institutional/government, commercial
Amount: household/residential = 274 tons, institutional/government = 34 tons, commercial = 34 tons
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. (***NOTE**: If the collected estimates were not available if the waste was collected community-wide, the reported origination could be reported as "unknown," with a total amount of 342 tons*.)

Work Plan Commitment: The environmental specialist will collect recyclables from homes and arrange for the pickup of appliances and scrap metal collected at the local drop-off site.

Material/waste type: mixed recyclables, scrap metal, appliances
Origination: household/residential
Amount: 13,000 lbs of mixed recyclables, 4.8 tons scrap metal, and 13 appliances
Final Disposition: recycled

Progress report: We picked up recyclables from 36 homes, recycling a total of an estimated 13,000 pounds. One week the recyclables we collected weighed 250 pounds. That week seemed to be typical for the amounts we get. Recyclables were taken to the recycling facility in Green City. Scrap-Metals-R-US took the scrap-metals bin for recycling, 4.8 tons, and we properly removed the Freon from 13 refrigerators before taking them to the transfer station for recycling.

Work Plan Commitment: Collect food scraps from the HeadStart and the Senior Center kitchens to compost at the community garden.

Progress report: After getting five-gallon buckets and training kitchen staff on what types of food scraps can go into the buckets for composting, we started collecting three days a week in April to the end of September. We used a luggage scale to weigh each bucket and recorded the weights. We diverted 786 pounds of food waste from the landfill, composting it at our community garden to be used as a soil amendment.

Material/waste type: compostable waste
Origination: institutional/govt
Amount: 786 pounds
Final Disposition: composted

Appendix I: Description of Common Waste Terms

Backhaul refers to recyclables and waste transported out of the state or locality where they originated. The term originated in Alaska, where 80 percent of Tribal communities are located off the road system. They receive goods and materials by aircraft or by ocean or river barges, which often return empty to their starting points. Tribes began negotiating with transporters for low cost or sometimes free shipping of recyclable materials out of communities on otherwise empty vessels and planes.

Collection means the act of removing solid waste (or materials which have been separated for the purpose of recycling) from a central storage point. (Refer to 40 CFR § 243.101)

Compostable waste refers to organic material, such as food scraps without animal fat or proteins, yard trimmings, and wood chips, that are free of non-compostable contaminants.

Composted refers to the process of controlled, aerobic (oxygen-required) decomposition of organic materials (see compostable waste) by microorganisms resulting in a nutrient-rich soil amendment.

Construction and demolition (C&D) waste refers to waste building materials, packaging, and rubble resulting from construction, remodeling, repair, and demolition operations on pavements, houses, commercial buildings, and other structures.

Disposal means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground waters (Solid Waste Disposal Act, Section 1004). While there are many possible ways to dispose of waste, the most common seen in Tribal waste management programs are donation/reuse, composting, incinerating, backhauling, landfilled, and enclosed burning in Alaska.

Landfilled means sending waste to an area of land or an excavated site that is specifically designed and built to receive waste. They are also designed to protect the environment from contaminants, which may be present in the waste stream.

Recovered materials is a term used in GAP's congressional authorization for service delivery activities (Public Law No: 115-141) and refers to the management of products and materials that have been separated and diverted from the waste stream through donation/reuse, recycling, and/or composting.

Recyclables/packaging materials refers to commonly recycled materials, including ferrous and nonferrous metal cans and foil, paper, cardboard/boxboard, glass containers (e.g., bottles and jars), and plastic containers used to package both solid and liquid products (including plastics #1 and #2).

Recycling means the process by which recovered materials are transformed into new products. (Refer to 40 CFR § 246.101)

Reused is the recovery or reapplication of salvaged, usable materials or products in a manner that maintains their original form.

Service delivery is a term used in GAP to refer to the collection, transportation, backhaul, and disposal of solid waste and/or recovered resources. It includes service support activities, such as equipment, facility operation and maintenance costs (including fuel), and the construction, repair, upgrade, and replacement of municipal solid waste supplies, equipment, and facilities.

Solid and Hazardous Waste implementation activities is a term used in GAP to refer to hands-on solid and hazardous waste activities, including those described as service delivery, as well as the purchase, repair, upgrade, and replacement/construction of recycling and municipal solid waste supplies, equipment, and facilities. The terms "waste" or "solid waste" in this supplemental guidance includes hazardous and non-hazardous waste unless otherwise noted. A broader discussion on the types of allowable solid and hazardous waste activities funded with GAP are in Section 2.1.1 of the GAP Guidance and Part 2 of the GAP Technical Assistance Handbook, available on the GAP website at https://www.epa.gov/general-assistance-program-gap/gap-technical-assistance-handbook.

Solid waste burn unit (only allowed in Alaska Class III landfills) is an enclosed burn unit, burn cage, or locally constructed metal unit used to burn trash to reduce its volume; the resulting ash is landfilled.

Transportation of waste is the movement of waste over a specific area by aircraft, trains, trucks, barges, or other vehicles to a recycling or disposal facility. This includes backhaul (see backhaul definition above).

Appendix II: Categorizing Materials and Waste Types (examples)

Materials	Waste Types
Appliances	Refrigerators and freezers, washing machines and dryers, water heaters, ovens/stoves, air conditioners, dishwashers. Sometimes referred to as "white goods"
Electronics	Display devices - monitors, flat screens, TV's, VCRs/DVD players, stereo systems, audio equipment, laptops, desktops, computer equipment, printers, faxes, scanners, hard copy devices, video game systems, hand-held devices, cell phones, telephones, video cameras, and radios
Construction & Demolition (C&D) debris	Asphalt, asphalt shingles, concrete, lumber/wood products, piping, steel girders and rods, wiring, drywall/gypsum plaster, carpet, window glass, bricks, and clay tile
Household Hazardous Waste	Household hazardous waste, corrosives, universal waste, oxidizers, lamps/bulbs (mercury containing, fluorescent, neon, metal halide, etc), inks/printer toner cartridges, mercury containing equipment (ex. mercury switch thermostats), pool chemicals, fungicides, herbicides, fireworks, batteries, cleaners (bleach, drain cleaners, ammonia-based cleaners, abrasive powders), auto engine oils (motor oil, hydraulic oil, transmission oil, gear oil), pressurized gas containers, (oxygen cylinders, helium tanks, propane tanks/cylinders), brake fluid, aerosol sprays, acids, paint (oil-based, latex) and stains/finishes, and paint thinners
Compostable Material	Grass, yard trimmings, branches, wood debris, untreated wood/lumber, food, food scraps, food soiled/wet cardboard, and shredded paper
Mixed Recyclables	Cardboard, glass bottles/jars, aluminum cans, scrap metal, corrugated metal, steel/tin cans, paper (newspaper, mail, office, and mixed paper), plastic bottles/packaging (PET, HDPE, PP, LDPE/ LLDPE)
Unsorted Trash	Garbage, nonhazardous solid waste, municipal solid waste, refuse, bulky waste (mattresses, furniture, etc.)
Used Oil	Automobile engine oil, and oil filters (metal and paper)
Automotive	Motorized vehicles, cars, bikes, and RV/trailers
Tires	Rubber tires