

US EPA ARCHIVE DOCUMENT

Developing a Tribal Integrated Waste Management Plan (IWMP)

Overview of Developing a Tribal IWMP

SERIES AT A GLANCE

Overview- Developing a Tribal IWMP

Step 1- Collect Background Data

Step 2- Map Out the Tribal IWMP Framework

Step 3- Write and Implement the Tribal IWMP

DEVELOPING AN IWMP MAY LOWER TOTAL OPERATING COSTS, INCREASE EFFICIENCY, REDUCE THE USE OF OPEN DUMPS, AND INCREASE ENVIRONMENTAL AWARENESS AMONG COMMUNITY MEMBERS.

Purpose

This Overview Fact Sheet is the first in a series of four that will provide the basic framework for a tribal solid waste and environmental manager to develop a successful integrated waste management plan. The purpose of developing a tribal Integrated Waste Management Plan (IWMP) is to identify existing solid waste systems, assess needs, and set forth ways to design, implement, and monitor a more effective and sustainable solid waste management program. The final IWMP put forth to your governing body for approval will outline various aspects of waste management such as the collection, storage, and disposal of waste; source reduction; recycling; composting; facility management; and budgeting and financing. Developing a useful IWMP may lower total operating costs, increase efficiency, reduce the use of open dumps, and increase environmental awareness among tribal community members and leaders.

Framework

The framework for developing an IWMP is broken down into the following three steps:

- ✓ Step 1 – Collect Background Data
- ✓ Step 2 – Map Out the Tribal IWMP Framework
- ✓ Step 3 – Write & Implement the Tribal IWMP

These three steps will include the following actions:

- ✓ Determining the community service area
- ✓ Conducting waste characterization and assessment
- ✓ Describing current and future waste management practices
- ✓ Identifying waste management challenges
- ✓ Investigating waste management options
- ✓ Determining program costs and performing a cost/benefit analysis
- ✓ Selecting a final option
- ✓ Developing goals and objectives
- ✓ Determining milestones
- ✓ Writing the IWMP
- ✓ Adopting the plan
- ✓ Reviewing, adapting, evaluating and updating the plan



The Importance of Public Involvement

Public involvement is essential throughout the development of an IWMP. Public involvement should start with outreach to the surrounding community to gain interest, cultivate awareness, and garner support. The next step is information exchange, which progresses to providing recommendations and agreements. Throughout the public involvement process, stakeholders can become empowered to take action, participate in, and/or help support the decision making process.

Each aspect of public involvement is pertinent to developing and implementing a successful IWMP. Tribal community members are more likely to support and participate in new waste management programs when they are involved in the planning process from the very beginning. EPA's Public Involvement Web site, www.epa.gov/publicinvolvement/intro.htm, provides an overview on how EPA conducts public involvement activities that may be beneficial to your tribe.

Suggested On-line Resources for Developing a Tribal IWMP

EPA Waste Website

www.epa.gov/waste

General information on a variety of topics concerning the types and amounts of waste generated in the U.S.; fundamentals of reduce, reuse, and recycling concepts; tips on handling hazardous waste; and how to reduce, manage, and dispose of municipal solid waste or non-hazardous waste.

Publications by Topic – Municipal Solid Waste Website

www.epa.gov/waste/inforesources/pubs/municipal_sw.htm

This EPA Website provides a directory of EPA publications that focus on solid waste.

Respect Our Resources: Prevent Illegal Dumping

www.epa.gov/waste/wyl/tribal/pdf/twj-1.pdf

Published in May 2002, this edition of the Tribal Waste Journal provides information on community support and outreach activities.



Solid Waste Management: A Local Challenge with Global Impacts

www.epa.gov/osw/nonhaz/municipal/pubs/ghg/f02026.pdf

This 2002 fact sheet discusses how to establish recycling and composting programs; components of waste collection, transport, and various options for waste disposal.



Tribal Decision-Maker's Guide to Solid Waste Management

www.epa.gov/waste/wyl/tribal/tribalguide.htm

This comprehensive document provides resources, tips, tools, and examples on how tribal waste managers can reduce waste; collect fees; and fund, develop, implement, and enforce waste management in their community. Also, included in the document is a section on how to develop an effective outreach and education plan.



What is an Integrated Waste Management Plan (IWMP)?

www.epa.gov/wastes/wyl/tribal/pdf/twj-7.pdf

Published in September 2009, this edition of the Tribal Waste Journal provides several articles that range from a general overview on why you should develop an IWMP to specific tribal case studies and examples. Nine types of funding opportunities are profiled in the issue along with tips on how to fund your IWMP. Also included is additional information about tools and programs available to help reduce waste and develop an IWMP.



Developing a Tribal Integrated Waste Management Plan (IWMP)

Step 1 – Collect Background Data

OVERVIEW OF STEP 1

- Determine the Community Service Area
- Conduct Waste Characterization and Assessment
- Describe Current and Future Waste Management Practices
- Identify Waste Management Challenges

AS EVERY TRIBE IS UNIQUE, GATHERING BACKGROUND INFORMATION SPECIFIC TO YOUR COMMUNITY IS ESSENTIAL IN DEVELOPING AN IWMP THAT IS GEARED TOWARDS THE NEEDS OF YOUR TRIBE.

Determine the Community Service Area

Prior to developing an IWMP, you must first determine the area that will be serviced by the plan – that is, the area that the plan will be focused on. To gain a broad overview of your community service area (CSA) and to determine what waste collection, storage, transfer, and disposal options are best, collect the following pieces of information:

- ✓ **Jurisdictional Boundaries.** Clearly define the reservation boundaries and identify the tribes that live within and just outside the jurisdictional boundaries.
- ✓ **Population and Demographic Data.** Collect past and present population and household information. Consider the age of the population throughout the entire community. Project where and how the population may grow or change over the next 5, 10, 20, and 50 years.
- ✓ **Climate.** Report on the average amount of rainfall, average high and low temperatures, and other climatic features.
- ✓ **Natural Resources, Geological and Geographical Features.** Include the soil type and drainage properties, distance to ground water, and drinking water access.
- ✓ **Economic Data.** Report on the current and potential revenue sources for the tribe; types of commercial, industrial, and other types of employers existing within the reservation; and the community's assets and resources.

To get started, visit the U.S. Census Bureau's website, www.census.gov, for statistical information on populations and households for communities throughout the U.S. More detailed information is provided on 539 tribes based on 2000 data located in the American Indian and Alaska Native Summary File (AIANSF). Also, your tribal housing office or local Housing and Urban Development office may have specific information on your CSA.

Conduct Waste Characterization and Assessment

Collecting information on your CSA's waste streams will help you determine the current waste composition and provide a baseline for further analysis. First, examine existing solid waste records, perform a walk-through of current waste management operations, and/or sort through the current waste stream to determine the composition of waste generated. Keep in mind the following:

- ✓ What is the current amount of waste generated from all of the different sectors within your CSA? The different sectors may include tribal government operations, commercial businesses, household waste, waste generated from schools on the reservation, etc.
- ✓ What types of waste streams does each of these sectors produce? For example, recyclable materials (e.g., paper, glass, plastic); compostable materials (e.g., food scraps, organic debris); household hazardous waste (e.g., paint, batteries); construction and demolition debris; abandoned vehicles; used tires; white goods (e.g., refrigerators); and electronic waste (e.g., computers).

For more information on conducting waste assessments, visit EPA's Waste Assessment Approaches website, www.epa.gov/osw/partnerships/wastewise/approach.htm. This website provides information on how to conduct a waste assessment including records examinations, facility walk-throughs, and waste sorts.

Describe Current and Future Waste Management Practices

Consider how each waste stream is managed based on the waste characterization and assessment of your CSA. Collect the following information on current waste management practices:

- ✓ Waste collection, transfer, and disposal
- ✓ Waste reduction practices
- ✓ Waste disposal facility description

- ✓ Regional waste infrastructure
- ✓ Current partnerships
- ✓ Compliance and enforcement issues

Consider the strengths and weaknesses of your existing waste management program and collect the following information needed to develop a comprehensive, forward-thinking, IWMP:

- ✓ Equipment and facility needs
- ✓ Funding limitations
- ✓ Projected population changes and changes in waste characterization
- ✓ Proposed partnerships
- ✓ Research on alternative waste management options

The second chapter of the Tribal Decision-Maker's Guide provides an example of how to estimate future waste generation based on population growth and current waste generation rate. Issue 7 of the Tribal Waste Journal provides information on how to handle household and commercial waste, as well as special waste streams such as batteries and medical waste. To obtain these resources and others, go to the Publications link on EPA's Waste Management in Indian Country website at www.epa.gov/waste/wyl/tribal/index.htm.

Identify Waste Management Challenges

After addressing current and future waste management practices, determine what challenges exist (e.g., missing infrastructure, location, cost, etc.). Once you understand the existing waste management challenges for your CSA, you will be able to address these issues as you move forward with the development of the IWMP in Step 2.

Developing a Tribal Integrated Waste Management Plan (IWMP)

Step 2 – Map Out the Tribal IWMP Framework

OVERVIEW OF STEP 2

Investigate Alternative Waste Management Options

Determine Program Costs & Perform a Cost Analysis

Select a Final Option

IN STEP 2 OF DEVELOPING AN IWMP, YOU CAN BEGIN TO MAP OUT THE FRAMEWORK, WHILE KEEPING IN MIND THE BACKGROUND DATA IDENTIFIED IN STEP 1.

Investigate Waste Management Options

Using the data obtained in Step 1, investigate which waste management options would work best for your tribe. In considering waste management options, also consider long-term goals for your tribe, such as encouraging reuse and recycling. These are different from the goals of a specific waste management option as will be discussed in Step 3 of this IWMP. Long-term goals also provide the priorities for your tribe and the criteria to compare waste management options. They include:

- ✓ Environmental impacts
- ✓ Relative cost
- ✓ Potential to create jobs in the tribe
- ✓ Operation and maintenance challenges
- ✓ Regulatory requirements
- ✓ Degree of tribal control
- ✓ Cost of closure, post-closure care, and financial assurance for municipal landfills

In light of your tribe's goals and priorities, start developing relevant waste management options. However, it is important not to exclude options too quickly. Consider creating partnerships with states, surrounding local





governments, and/or other tribes, to increase waste management options. Some common waste management options include:

- ✓ Source reduction, such as the Pay-As-You-Throw Program, encourages participants to generate less trash through a monetary incentive program. For more information on Pay-As-You-Throw, visit www.epa.gov/waste/conserve/tools/payt
- ✓ Reusing goods or donating goods such as lightly used clothing and furniture to a community organization for reuse
- ✓ Recycling products such as aluminum, paper, and plastic
- ✓ Composting organic material, including yard debris and food scraps. The compost that is produced can be used as a soil amendment

For more information on developing partnerships, check out EPA's Partnerships in Solid Waste Management document at: www.epa.gov/waste/wyl/tribal/pdftxt/partner.pdf. This document provides information on the benefits, potential obstacles, and an overview on how to develop a partnership agreement. Consider partnering with other inter-tribal departments, neighboring tribes and local communities,

the county and state governments, businesses, non-profit organizations, and/or educational centers in and around your community.

Determine Program Costs & Perform a Cost Analysis

Conduct a preliminary cost analysis of waste management, including the capital and operational cost estimates. Estimate how much time is required to implement the different options such as developing, building, and designing a new facility or developing a curbside pickup program. Determine the potential costs of the new waste management program.

Examples of waste management costs include:

- ✓ Facility design and construction
- ✓ Equipment purchases
- ✓ Cleanup
- ✓ Operation and maintenance
- ✓ Personnel training and administration
- ✓ Landfill closure and post-closure care
- ✓ Supplies

For more information on developing a cost estimate, review Chapter 2 of the Tribal Decision-Maker's Guide, available by going to the Publications link on EPA's Waste Management in Indian Country Web site at www.epa.gov/tribalmsw. The Tribal Solid Waste Program Costing Tool, available from EPA Region 9 at www.epa.gov/region9/waste/tribal/pdf/Tribal-Solid-Waste-Program-Costing-Tool.pdf provides an easy-to-use work book for determining the feasibility of tribally-operated collection services, transfer stations, and landfills.

Select a Final Option

Once you have gathered and assessed your waste management alternatives, select a final option to be put forth in the final IWMP, created in Step 3.

Developing a Tribal Integrated Waste Management Plan (IWMP)

Step 3 – Write and Implement the Tribal IWMP

OVERVIEW OF STEP 3

Develop Goals and Objectives

- Determine Milestones

- Write the Tribal IWMP

- Adopt the IWMP

- Plan Review, Adaption, Evaluation, & Updates

STEP 3 INCORPORATES THE INFORMATION OBTAINED IN STEPS 1 AND 2, AND PULLS EVERYTHING TOGETHER INTO ONE COMPREHENSIVE DOCUMENT. THIS IWMP DOCUMENT IS NOW READY TO BE PUT FORTH TO THE APPROPRIATE GOVERNING BODY FOR APPROVAL AND IMPLEMENTATION.

Develop Goals and Objectives

Based on the final option selected in Step 2, develop a goal statement for each issue and/or proposed improvement. A goal statement is a specific description of what needs to be done. Develop actions to accomplish this goal. Actions may be over a pre-determined time frame (i.e., 5, 10, 15 years, etc.).

To find out more information on developing goals and objectives, look at Issue 7 of the Tribal Waste Journal. This issue provides information on how to develop goals for your IWMP, funding opportunities, an IWMP template, examples, and various other educational tools. Issues of the Tribal Waste Journal may be found by going to the Publications link on EPA's Waste Management in Indian Country website at www.epa.gov/tribalmw.

Determine Milestones

Milestones enable you to assess your accomplishments and to focus on what you consider a priority in dealing with waste management challenges. Determining milestones will provide the framework essential in implementing the plan once it has been approved. Identify the following:

- ✓ Major tasks and sub-tasks
- ✓ Target dates for completion of specific tasks
- ✓ Anticipated costs and potential funding sources
- ✓ Potential partners for implementing the plan





Write the Tribal IWMP

Take the information collected in Steps 1, 2, and 3 and incorporate it within a single document. Your IWMP should include the following key elements:

- ✓ Description of the community service area
- ✓ Description of the tribe's waste management program structure and administration
- ✓ Description of the tribe's current and proposed waste management practices
- ✓ Description of the funding, sustainability, milestones and long-term goals of the tribe's waste management program
- ✓ Documentation of the IWMP being approved by the appropriate governing body

Issue 7 of the Tribal Waste Journal provides examples of templates used when writing an IWMP. Past issues of the Tribal Waste Journal may be found under the Publications link on EPA's Waste Management in Indian Country website at www.epa.gov/tribalmw. Case studies on successful solid waste management programs may be found under the Case Studies link under the same website.

Adopt the IWMP

The plan should be put forth to the appropriate governing body once it has been drafted, edited, and fully reviewed by all appropriate parties. Once the IWMP has been adopted, begin to implement the plan by aiming to reach the goals and milestones laid out at the beginning of Step 3.

Plan Review, Adaption, Evaluation, & Updates

As you begin to implement your new IWMP, assess the goals, objectives, and milestones over time to ensure that they are feasible. Solicit feedback from residents and other stakeholders to determine if the new IWMP and waste management alternatives adopted are the best fit for your tribe. Evaluate the IWMP as needed, at a minimum of every 5 years, or as population shifts or different waste streams are generated.