



PACIFIC COUNTY SOLID WASTE AND MODERATE RISK WASTE MANAGEMENT PLAN



Preliminary Draft
July 2022

PACIFIC COUNTY SOLID WASTE AND MODERATE RISK WASTE MANAGEMENT PLAN

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ACKNOWLEDGMENTS

This Pacific County Solid Waste and Moderate Risk Waste Management Plan incorporates the modifications put into practice since the previous solid waste plan was adopted, while looking forward to the future needs of Pacific County. The Pacific County Department of Community Development would like to thank the following organizations and those individuals who participated for their assistance in the development of this Plan:

- The cities and towns of Pacific County.
- The Pacific County Solid Waste Advisory Committee.
- Washington Department of Ecology staff.

Several Pacific County residents and businesses also contributed to this document through comments provided during public meetings and through various other channels. Their input is gratefully acknowledged.

Cover photos, clockwise from upper left:

- 1) Bay Center recycling drop box and oil collection tank, photo taken May 26, 2021.
- 2) Garbage collection truck backing into tipping area at Royal Heights Transfer Station, photo taken May 26, 2021.
- 3) Vehicle used for mobile hazardous waste collection events, photo taken May 27, 2021.
- 4) Self-haul vehicle unloading at Pacific Solid Waste Transfer Station, photo taken May 27, 2021.

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EXECUTIVE SUMMARY

PACIFIC COUNTY SOLID WASTE AND MODERATE RISK WASTE MANAGEMENT PLAN

INTRODUCTION

This Pacific County Solid Waste and Moderate Risk Waste Management Plan (this “Plan”) is intended to provide guidance for the solid waste system in Pacific County. The solid waste system includes:

- garbage collection and disposal,
- programs for waste reduction, recycling and organics,
- compliance and enforcement,
- proper management of moderate risk waste, and
- administration, enforcement and public education for these programs.

This Plan provides guidance on program development and implementation for these activities for the next 6 years, while also attempting to anticipate the needs of the solid waste system for up to 20 years from now. This document was developed in response to the Solid Waste Management Act, Chapter 70A.205 of the Revised Code of Washington (RCW), which states:

“Each county within the State, in cooperation with the various cities located within such county, shall prepare a coordinated, comprehensive solid waste management plan” (RCW 70A.205.040).

The Solid Waste Management Act also specifies that this Plan must “be maintained in a current condition” through periodic review and revisions (RCW 70A.205.075).

GOALS OF THIS PLAN

In addition to adopting nine general goals related to the Plan and its development (see Section 1.9), this Plan also adopts specific goals for recycling (to achieve a 30% recycling rate) and moderate risk waste (as resources allow, increase capacity, continue to provide quality services and conduct more promotion for MRW programs).

OVERVIEW OF PLAN CONTENTS

Most of the chapters of this Plan address specific elements of the solid waste system, and the first two chapters provide basic information about Pacific County and the wastes generated. This Plan consists of the following chapters:

Introduction (Chapter 1): Chapter 1 of this Plan provides background information on the reasons for this Plan and the process for its development.

Background of the Planning Area (Chapter 2): Chapter 2 provides basic information on the demographics of Pacific County and on the amount and composition of the solid wastes produced by the residents and businesses in the county.

Waste Reduction (Chapter 3): Waste reduction includes methods that prevent waste from being created, while recycling and composting programs handle materials after those have been created as a waste. This Plan proposes continuing several waste reduction activities, including preventing wasted food, increased food donations, promoting reuse, considering volume based rates and more education on waste reduction practices and encouraging more backyard composting.

Recycling (Chapter 4): The markets for recyclable materials are currently experiencing significant challenges. Because of these problems, this Plan recommends not expanding recycling programs until a later date, and for now addressing contamination issues, continuing to make changes in programs as necessary, and encouraging markets by using recycled products. This chapter also recommends additional recycling education and continuation of the appliance recycling events.

Organics (Chapter 5): Some brush and wood waste is accepted at the transfer stations and sent out of the county for composting, conversion to a fuel, or landfilling. Grass clippings and food waste are not accepted anywhere in the County for composting, but are handled as solid waste. This chapter recommends considering implementing drop-off sites for yard waste if a facility or system can be identified for handling it. This Plan also recommends that the County evaluate the feasibility of a commercial composting.

Solid Waste Collection (Chapter 6): Garbage collection is a fundamental service, and Pacific County and the cities and towns are well served by an appropriate mix of waste collection programs. A few refinements would be helpful, such as working with the collection contractors to provide clear and accessible rate information on their websites and providing more incentive for waste reduction and recycling in the garbage rates.

Transfer and Disposal (Chapter 7): There are two privately-owned transfer stations permitted for municipal solid waste in Pacific County, which are the Pacific Solid Waste Transfer Station and the Royal Heights Transfer Station. These transfer stations serve their respective areas of the county and also serve the licensed commercial haulers within the county. The Plan recommends that the transfer station hours should be expanded if the increased number of self-haul customers creates long wait times on a regular basis. The Plan also proposes that the post-closure plan for Rainbow Valley Landfill be updated.

Moderate Risk Wastes (Chapter 8): Moderate risk waste (MRW) refers to waste materials that pose the same risks as hazardous wastes, but are generated in small quantities by individual households and businesses. These wastes are flammable, corrosive, toxic, and/or reactive. The handling of MRW is largely regulated by federal and state rules and this Plan recommends supporting future legislation that is consistent with Pacific County programs. The Plan also

recommends the continued efforts to restore grants and programs that support proper MRW management.

Miscellaneous Waste (Chapter 9): This chapter of the Plan addresses specific wastes that merit special attention, including animal carcasses, asbestos, abandoned automobiles and RVs, construction and demolition waste, derelict vessels, sharps and tires. Recommendations are provided for five of these wastes.

Administration and Enforcement (Chapter 10): Local agencies involved in solid waste management in Pacific County include the Pacific County Department of Community Development and various departments of the cities. Each entity has a particular area of operations, providing specific services to the residents within their area and enforcing specific rules and regulations. This chapter recommends that all entities should provide more information on rates and services on their websites, that current enforcement activities should be continued, and that alternative funding sources for county activities should be researched.

Implementation (Chapter 11): This chapter lists all of the recommendations of this Plan and provides additional details for their implementation, including the lead agencies, schedule and costs. This chapter also describes how amendments to this Plan can be conducted.

RECOMMENDATIONS AND IMPLEMENTATION DETAILS

Table ES-1 shows the implementation responsibilities, schedule and costs for the recommendations shown in Chapters 2 through 10. Specific costs for some recommendations have not been calculated at this time and will instead be determined through annual budgets and work plans. The funding source for almost all of the recommendations are the tipping fee surcharges and grants from Ecology.

The recommendations have been abbreviated to fit into Table ES-1, and additional details about the meaning and intent of the recommendations can be found in the appropriate chapter of this Plan.

Table ES-1. Implementation Summary for Recommendations				
Recommendation	Lead Agency	Schedule	Annual Cost	
Background Information				
B1) Conduct a local waste stream analysis if grants are available for it.	County	TBD	NA	
Waste Reduction				
WR1) Expand waste reduction education by working with WSU Extension.	County	2023	\$10,000	
WR2) Encourage reuse of materials.	County	Ongoing	Existing	
WR3) Continue to improve food donations and work with local food banks.	County	Ongoing	Existing	
WR4) Promote volume-based waste collection fees.	All	Ongoing	Existing	
WR5) Promote composting education and training.	County	2023	Existing	
WR6) Continue in-house waste reduction measures and assist other public facilities and private organizations to follow the county's program.	County	Ongoing	Existing	
WR7) Pacific County should continue to encourage procurement policies.	County	Ongoing	Existing	
Recycling				
R1) Analyze avenues to expand recycling education and outreach.	County	Ongoing	\$5,000	
R2) Coordinate with haulers to provide commercial recycling services.	County	Ongoing	Existing	
R3) Evaluate waste characterization data to assess recycling potential.	County	Ongoing	Existing	
R4) Continue the free County-sponsored appliance collection events.	County	Ongoing	Existing	
R5) Consider implementing additional curbside recycling program.	County, haulers	2022 or later	TBD	
Organics				
O1) Consider implementing drop-off sites for yard waste.	County and TS	Ongoing	Existing	
O2) Evaluate the feasibility of siting a commercial composting facility.	County	Ongoing	Existing	
O3) Evaluate whether curbside collection of yard and food waste is feasible.	County, haulers	Ongoing	Existing	
O4) Encourage neighborhood composting sites.	County	2022 or later	Existing	
O5) Pacific County supports Ecology's goal of reducing food waste.	County	Ongoing	Existing	
Waste Collection				
WC1) Continue to promote voluntary subscription to garbage collection.	All	Ongoing	Existing	
WC2) Harbor Disposal should clarify their UTC tariff.	Waste Conn.	By 2024	Existing	
WC3) Clear and accessible information needs to be provided for rates.	All	ASAP	Existing	
WC4) The rates in Raymond and South Bend should be revised to provide more incentive for waste reduction and recycling.	Raymond and South Bend	By 2025	Existing	
WC5) Bear-resistant containers should be offered in more areas.	Waste Conn.	By 2025	Existing	

Notes: County = the appropriate department of Pacific County (generally Community Development); TBD = to be determined; NA = not applicable; All = County, cities and Waste Connections; Existing = activity to be incorporated into existing budgets and staffing; TS = transfer station operators; ASAP = as soon as possible.
Recommendations have been abbreviated to fit into this table.

Table ES-1. Implementation Summary for Recommendations, continued

Recommendation	Lead Agency	Schedule	Annual Cost
Transfer and Disposal			
T&D1) The transfer station hours should be expanded if necessary.	TS	TBD	NA
T&D2) Additional signs should be posted at the two transfer stations.	TS	ASAP	\$5 to \$10k
T&D3) The plans and permits for Rainbow Valley Landfill should be updated.	County	By 2023	Existing
Moderate Risk Wastes			
MRW1) Continue operation of the HHW Facility and satellite collection sites.	County	Ongoing	Existing
MRW2) Continue the motor oil recycling bins and expand if possible.	County	Ongoing	Existing
MRW3) Continue offering SQG disposal services to local businesses.	County	Ongoing	Existing
MRW4) Continue current education program and expand if possible.	County	Ongoing	Existing
MRW5) Continue the waste exchange program at the County HHW Facility.	County	Ongoing	Existing
MRW6) Support legislation for new product stewardship laws as appropriate.	County	Ongoing	Existing
MRW7) Explore a regional arrangement with Grays Harbor County for MRW.	County	Ongoing	Existing
Miscellaneous Wastes			
MW1) Monitor aquaculture industries for waste management issues.	County	Ongoing	Existing
MW2) Communicate with veterinarians and others about animal carcasses.	County	Ongoing	Existing
MW3) Review the solid waste system's role in emergency animal disposal.	County	By 2023	Existing
MW4) Research increased enforcement of abandoned auto hulks and RVs.	County, cities	By 2024	Existing
MW5) Encourage residents to report abandoned auto hulks and RVs.	County	By 2024	\$10,000
MW6) Look for additional funding for the enforcement programs.	County, cities	Ongoing	Existing
MW7) The abandoned RV program should be revised.	WA State	By 2024	Existing
MW8) Promote recycling of construction and demolition wastes.	County	Ongoing	Existing
MW9) Explore regional solutions for construction and demolition materials.	County	Ongoing	Existing
MW10) Support product stewardship legislation for sharps.	County	Ongoing	Existing
MW11) Provide more promotion of proper disposal methods for sharps.	All	Ongoing	Existing
MW12) Continue to apply for Ecology funding for management of tires.	County	Ongoing	Existing
MW13) Continue to conduct tire collection events.	County	Ongoing	Existing
Administration and Enforcement			
A&E1) More information should be provided on websites.	All	By 2023	Existing
A&E2) Continue solid waste enforcement to decrease illegal dumping.	County, cities	Ongoing	Existing
A&E3) Research alternative funding sources.	County	Ongoing	Existing

Notes: TS = transfer station operators; TBD = to be determined; NA = not applicable; ASAP = as soon as possible; k = \$1,000; County = the appropriate department of Pacific County (generally Community Development); Existing = activity to be incorporated into existing budgets and staffing.

Recommendations have been abbreviated to fit into this table.

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CHAPTER 1

INTRODUCTION

1.1. ROLE AND PURPOSE

This Solid Waste and Moderate Risk Waste Management Plan ("this Plan") is intended to provide guidance for solid waste and moderate risk waste programs in Pacific County. This document was developed in response to the Solid Waste Management Act, Chapter 70A.205 of the Revised Code of Washington (RCW), which states:

"Each county within the State, in cooperation with the various cities located within such county, shall prepare a coordinated, comprehensive solid waste management plan" (RCW 70A.205.040).

The Solid Waste Management Act also specifies that these plans must "be maintained in a current condition" through periodic review and revisions (RCW 70A.205.075).

1.2. MATERIALS ADDRESSED BY THIS PLAN

This Plan addresses three categories of waste:

- Municipal solid waste (MSW), which includes typical garbage and recyclables generated by households, businesses, and institutions in Pacific County. This is the largest category and most of this plan is directed at this type of waste.
- Moderate risk wastes (MRW), which are potentially hazardous wastes generated in small quantities by households and commercial sources and that require special handling due to toxicity, flammability, and other hazardous characteristics. If generated in large quantities, these materials are regulated as hazardous wastes, which are managed separately from solid wastes and are not included in this Plan.
- Other wastes that are managed separately from MSW due to special characteristics, such as biomedical wastes.

1.3. PARTICIPATING JURISDICTIONS

Chapter 70A.205 RCW delegates the authority and responsibility for the development of solid waste management plans to the counties. State law allows cities to fulfill their solid waste management planning responsibilities in one of three ways:

- By preparing their own plan for integration into the county's plan.
- By participating with the county in preparing a joint plan.
- By authorizing the county to prepare a plan that includes the city.

In this case, the four cities have agreed to participate in the planning process through interlocal agreements (see Appendix A). These agreements authorize Pacific County to prepare a countywide solid waste plan that includes the four cities. Representatives of the cities were also invited to participate in the Solid Waste Advisory Committee (SWAC) meetings where this Plan was developed and reviewed.

Other governing bodies (such as Tribes and Federal agencies) may participate in a county's planning process at their option. There is one federally-recognized Tribe in Pacific County, the Shoalwater Bay Tribe. A representative of the Shoalwater Tribe is a member of the SWAC. A second Tribe, the Chinook Nation, is currently seeking federal recognition. Information and recommendations affecting solid waste management on tribal lands is threaded throughout this Plan, but it is important to note that the State of Washington, Pacific County, and its municipalities do not have jurisdiction over Tribal lands. Instead, Tribal participation in the solid waste system and in this Plan is voluntary.

The largest federal facilities in Pacific County are the Cape Disappointment Coast Guard Station and the Willapa National Wildlife Refuge. Smaller facilities include various post offices and other federal offices. In general, these federal agencies participate in the existing solid waste management system.

1.4. REQUIRED MINIMUM CONTENTS OF PLAN

Solid Waste Planning Requirements

The minimum contents of this Plan are specified by State law (RCW 70A.205.045) and further described in the Guidelines for Development of Local Comprehensive Solid Waste Management Plans and Plan Revisions issued by the Washington Department of Ecology in February 2010. To summarize, solid waste management plans must contain:

- An inventory of existing solid waste handling facilities, including an assessment of any deficiencies in meeting current waste handling needs.
- The estimated future needs for solid waste handling facilities for a period of twenty years.
- A program for the development of solid waste facilities that is consistent with this Plan and that meets the Minimum Functional Standards, and also takes into account land use plans, provides a six-year construction and capital acquisition plan; and provides a financing plan.
- A program for surveillance and control.
- An inventory of solid waste collection needs and operations, including information on collection certificates (franchises), municipal operations, population densities, and projected solid waste collection needs for a period of six years.
- A comprehensive waste reduction and recycling element that provides programs for the reduction of waste quantities, provides incentives and mechanisms for source separation, and provides opportunities for recycling source-separated materials.
- Waste reduction and recycling strategies, including residential collection programs in urban areas, drop-off or buy-back centers at every solid waste handling facility that serves rural

areas, monitoring methods for programs that collect source-separated materials from nonresidential sources, collection programs for yard debris and food waste, and education programs for waste reduction and recycling.

- An assessment of the impact that implementation of the recommendations will have on solid waste collection costs.
- A review of potential sites for solid waste disposal facilities.

Moderate Risk Waste Planning Requirements

Because this is a combined solid and moderate risk waste management plan, Washington State law pertaining to local hazardous waste plans (RCW 70A.300.350) is also applicable. Specific components that are required for local hazardous waste plans include:

- A program to manage moderate risk wastes from households and businesses.
- An ongoing public education program that includes information on potential hazards from MRW and the proper handling of these wastes.
- An inventory of existing hazardous waste generators and facilities to manage hazardous waste (based on data provided by Ecology).
- A description of the public involvement process used in developing the plan.
- A used oil recycling element (per RCW 70A.300.360).
- A description of the eligible zones designated in accordance with RCW 70A.300.370.
- Other elements deemed appropriate by local government.

These components are addressed in Chapter 8 of this Plan.

1.5. RELATIONSHIP TO OTHER PLANS

This Plan must function within a framework created by other plans and programs, including policy documents and studies that deal with related matters. Two of the more important of these documents are the Solid Waste, Litter, Dumping Ordinance (Board of Health Ordinance No. 2, as amended by Ordinances 2A through 2C) and the Pacific County Comprehensive Plan (see Chapter 10 for more details). Other pertinent plans and programs related to solid waste management in Pacific County include:

- Zoning Ordinance (Ordinance 184)
- Comprehensive plans for the cities
- Shoreline Master Program (Ordinance 183)
- Critical Areas and Resource Land Ordinance (Ordinance 180)
- Voluntary Stewardship Program
- County Sanitary Conditions Ordinance (Board of County Commissioners Ordinance No. 2)
- Hazardous Chemicals Ordinance (Board of County Commissioners Ordinance No. 114)
- Outdoor Burning Ordinance (Board of County Commissioners Ordinance No. 126B)

1.6. PREVIOUS SOLID WASTE PLANS

The original solid waste management plan for Pacific County was adopted in January 1973. In response to changing conditions, the plan was amended in 1976, 1990, 1994, 2000, and 2007. The plan was updated in 2016, but never officially adopted.

Table 1-1 shows the recommendations from the 2016 update and the status of those recommendations as of April 2021. The 2016 update also contained two goals:

- Goal 1: To divert approximately six tons of HHW per year from the waste stream and significantly reduce the amount of hazardous waste being disposed of improperly and/or entering the solid waste stream.
- Goal 2: To facilitate awareness activities that will educate the public and businesses to reduce, reuse, and/or recycle waste, and to utilize other recycling facilities in Pacific County in order to increase the recycling rate to 25%.

These goals are discussed in more detail in Chapter 8 (the MRW Plan update) and Chapter 4 (Recycling), respectively.

1.7. SOLID WASTE ADVISORY COMMITTEE

The formation, membership makeup, and role of a solid waste advisory committee (SWAC) are specified by State law (RCW 70A.205.110 (3)):

“Each county shall establish a local solid waste advisory committee to assist in the development of programs and policies concerning solid waste handling and disposal and to review and comment upon proposed rules, policies, or ordinances prior to their adoption. Such committees shall consist of a minimum of nine members and shall represent a balance of interests including, but not limited to, citizens, public interest groups, business, the waste management industry, agriculture, and local elected public officials. The members shall be appointed by the county legislative authority.”

The Pacific County SWAC members provided valuable assistance during the development and preparation of this Plan. Regular meetings were used to discuss issues and concerns and to review information and material incorporated in the Plan. The SWAC operated according to bylaws that were prepared and adopted initially in May 1987, and amended in 1989, 1996, 2006, and 2009 (see Appendix B for the current bylaws).

1.8. PROCESS FOR UPDATING THIS PLAN

The process of updating and adopting this Plan consists of the following steps:

- An initial meeting was held with Pacific County staff and the SWAC to discuss goals.

Table 1-1. Status of Recommendations from the 2016 Plan	
Recommendation	Status*
Waste Reduction	
Promote composting education and training as desired.	Ongoing
Continue in-house waste reduction measures in all county facilities, and assist others to follow the county's model program.	Ongoing
Continue the County procurement program to favor durable, reusable, repairable, efficient, recyclable, and recycled content goods.	Ongoing
Implement a program that can offer reduced rate backyard composting bins.	Pending
Support a Master Composter educational program.	Pending
Recycling	
If necessary, make mixed waste paper and cardboard collection available.	Pending
Continue the free County sponsored appliance collection events.	Ongoing
Pursue a pilot curbside recycling program.	Pending
Review the results of the pilot recycling program and evaluate the expansion of this program into the unincorporated areas of the County.	Pending
Continue to implement the County-wide recycling education.	Ongoing
Continuously evaluate the feasibility of curbside and drop-off collection of lower priority materials such as mixed waste paper and cardboard.	Ongoing
Complete another waste stream survey.	Pending
Organics	
Encourage neighborhood yard waste composting co-ops or areas.	Pending
Evaluate the feasibility of a commercial composting facility in Pacific County.	Pending
Develop a pilot commercial composting facility if feasible.	Pending
Evaluate the need for a yard and food waste program.	Pending
Waste Collection	
Perform a feasibility study for universal solid waste collection.	Pending
Transfer and Disposal	
No recommendations were made previously for this element.	NA
Moderate Risk Wastes	
Continue the local waste exchange program at the MRW facility.	Ongoing
Continue operation of HHW Facility and satellite HHW collections.	Ongoing
Continue operating motor oil recycling bins and expand as resources allow.	Ongoing
Continue offering SQG disposal services to local businesses. Re-evaluate program to consider roadblocks to participation and how to expand.	Ongoing
Continue current education program and expand as resources allow.	Ongoing
Special Wastes	
Locate and permit all construction, demolition, inert, and wood waste storage and disposal facilities. Identify alternatives for disposal of these items.	Pending
Administration and Regulation	
Analyze and consider the implementation of a solid waste disposal district.	Pending
Continue the County's solid waste enforcement activities.	Ongoing
Develop a quarterly newspaper article on solid waste.	Pending
Expand the K-12 educational efforts.	Pending

Notes: Many of the above recommendations have been abbreviated due to space constraints.

* Status shown is as of April 2021.

Pending = recommendation may still be relevant but has not been conducted yet.

NA = Not Applicable.

- Draft chapters were developed and reviewed with Pacific County staff and the SWAC.
- After all of the chapters were reviewed by the SWAC, a complete draft was compiled for review and comment by SWAC members and County staff. After this review and the subsequent revisions, the draft plan became the “Preliminary Draft.”
- A SEPA checklist was prepared for the Preliminary Draft Plan.
- A Cost Assessment Questionnaire was prepared for review by the Washington Utilities and Transportation Commission (UTC).
- The Preliminary Draft Plan, SEPA checklist and Cost Assessment Questionnaire were released for review by the public, Ecology, Department of Agriculture and UTC. The release of the Plan was publicized using a newspaper ad and postings to the County’s website, and a public hearing was held during the review period to further solicit public comments.
- Comments received on the Preliminary Draft from the public, municipalities, UTC, Ecology and other interested parties were reviewed with the SWAC and then incorporated into the plan to produce the Final Draft Plan.
- The Final Draft Plan was offered for adoption by the cities and Pacific County.
- After local adoption, the Final Plan was submitted with resolutions of adoption to Ecology for final approval.
- After final approval by Ecology, the process of updating the Plan is finished and the implementation period for the new Plan begins.

Public participation was encouraged throughout this process. Among other activities, the following steps were taken to encourage public input during the planning process:

- Public comments were solicited at each of the SWAC meetings,
- Information about the Plan and process was posted on Pacific County’s website, along with periodic updates, and
- As noted in the above list of process-related steps, additional steps were taken when the preliminary draft plan was released for public review and comment.

1.9. POLICY GUIDANCE FOR THE PLAN

Goals for this Update of the Plan

The overall goal of the planning process is to develop and maintain a solid waste management system that protects public health and the environment in a cost-effective manner. Specific goals have also been adopted for the recycling rate and the MRW program (see Chapters 4 and 8, respectively, for more details). Additional goals for this solid and moderate risk waste management plan are to:

- Review current solid waste regulations and policies giving particular attention to waste stream reduction, recycling, food waste and future disposal needs.
- Extend the planning period to 2040.
- Review existing facilities and solid waste handling practices, and seek community input to

identify additional needs.

- Assess alternatives and develop recommendations for future action, incorporating the most recent reviews of studies, statistics, and drivers of solid waste issues in Pacific County with a regional perspective.
- Coordinate with counties, cities and the private sector to identify capital cost estimates and implementation schedules for recommended improvements with emphasis on those improvements recommended within a six-year period.
- Provide guidelines for an equitable balance between convenience, expense, climate impact, environmental quality, and public health and welfare.
- Incorporate flexibility to anticipate future needs.
- Continue cooperative and coordinated efforts among government agencies, private companies and the public to achieve effective management of solid waste.
- Outline funding mechanisms.

These goals are used to evaluate the alternatives for the new or revised programs that are discussed in this Plan.

Policy Guidance from Ecology

A relevant source of guidance on policies and goals is the State solid and hazardous waste plan, Moving Washington Beyond Waste and Toxics. Commonly referred to as the “Beyond Waste” plan, this plan has adopted a vision that states:

We can transition to a society where waste is viewed as inefficient, and where most wastes and toxic substances have been eliminated. This will contribute to economic, social and environmental vitality.

This transition is expected to take 20-30 years or more. The Beyond Waste plan was most recently updated in 2015. The plan previously focused on actions that could be taken in five areas (industrial waste, small volume hazardous waste, organic materials, green building, and measuring progress). The updated Beyond Waste plan is divided into five sections:

Managing Hazardous Waste and Materials
Managing Solid Waste and Materials
Reducing Impacts of Materials and Products
Measuring Progress
Providing Outreach and Information

Each of these sections presents goals and actions that can be taken over the next five years. The updated plan also incorporates the concept of sustainable materials management, which has been adapted from recent work by the U.S. Environmental Protection Agency (EPA). Sustainable materials management looks at the full life cycle of materials, from the design and manufacturing phase, to the use phase, and then to the end-of-life phase when the material is either disposed or recycled. Materials management still focuses on recycling and disposal issues, but in looking at production methods and the use of materials, this approach can help

identify more sustainable ways to design products that use less energy, water and toxics. This is important because the adverse environmental impacts of extraction, production and use can be far greater than those associated with disposal when the product becomes a waste. According to the EPA, a materials management approach is essential to conserving natural resources to meet both today's needs and those of future generations.

The Beyond Waste plan is referenced in later chapters of this Plan as appropriate to the topics in each chapter. Copies of the Beyond Waste plan and additional information can also be downloaded from the Ecology's web site (www.ecy.wa.gov/beyondwaste/index.html).

1.10. ORGANIZATION OF THE PLAN

This Plan is organized into the following chapters:

- Executive Summary
- Chapter 1: Introduction
- Chapter 2: Background
- Chapter 3: Waste Reduction
- Chapter 4: Recycling
- Chapter 5: Organics
- Chapter 6: Solid Waste Collection
- Chapter 7: Transfer and Disposal
- Chapter 8: Moderate Risk Wastes
- Chapter 9: Miscellaneous Wastes
- Chapter 10: Administration, Regulation and Public Education
- Chapter 11: Implementation Chapter
- Glossary
- Appendices

Chapter 1 (this chapter) is intended to address the reasons and requirements for this Plan, and also addresses important aspects of the planning process. Chapter 2 provides basic information about demographics, waste quantities and other factors common to the remaining chapters. Chapters 3 through 10 address particular elements of Pacific County's solid waste management system in order to:

- Review existing programs, activities and policies in Pacific County and the cities for each element of the solid waste system.
- Identify any outstanding issues (i.e., needs, problems, or opportunities) that are not addressed by existing activities and programs.
- Identify alternatives to address the issues.
- Recommend future programs or actions as appropriate to the needs and abilities of the County's and Cities' residents, businesses and service-providers.

Chapter 11 lists all of the recommendations from each chapter and provides information about the schedule and responsibilities for implementing the recommendations. The appendices to this plan contain information relevant to the planning process, including the Interlocal Agreements, description of siting factors, UTC Cost Assessment Questionnaire, SEPA Checklist, and resolutions of adoption.

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CHAPTER 2

BACKGROUND OF THE PLANNING AREA

2.1. INTRODUCTION

This chapter provides basic information on demographics and on the amount and composition of solid waste (garbage) in Pacific County. This information is required by Ecology's guidelines and is used in several of the following chapters of this Pacific County Solid Waste and Moderate Risk Waste Management Plan (this "Plan"). Additional information about the physical and environmental characteristics of the County, including information relevant to the siting of solid waste facilities, is provided in Appendix C.

2.2. DEMOGRAPHICS

Current Population and Demographics

Population data for the cities and areas in Pacific County is shown in Table 2-1. The figures for 2010 are from the U.S. Census and figures for 2020 are estimates provided by the Washington State Office of Financial Management (OFM). As shown in Table 2-1, Pacific County had an estimated population of 21,840 people in 2020. The four cities in Pacific County had 7,070 residents in 2020, or 32.4% of the total population of the county. In other words, only about one-third of the residents of Pacific County live in incorporated areas.

Table 2-1. Pacific County Population by Area				
Area	2010 Population	2010 Percentage	2020 Estimated Population	2020 Percentage
Incorporated Areas	6,847	32.7%	7,070	32.4%
Ilwaco	936	4.5%	965	4.4%
Long Beach	1,392	6.7%	1,550	7.1%
Raymond	2,882	13.8%	2,910	13.3%
South Bend	1,637	7.8%	1,645	7.5%
Unincorporated Areas	14,073	67.3%	14,770	67.6%
Total Population	20,920		21,840	

Sources: Data is from the Office of Financial Management (OFM), April 1, 2020 Population of Cities, Towns and Counties.

The population figures shown in Table 2-1 are the currently-available official estimates for 2020 (as of late 2021 when this draft plan was prepared), but the preliminary results from the 2020 Census show a large increase in population for Pacific County. This increase is not reflected in

the figures for 2020 shown in Table 2-1, or in the projected population figures shown in Table 2-2. Updated population projections will not be available from the OFM until late 2022 at the soonest, so for now it should be understood that the projected waste quantities shown later in this chapter, which are based on the projected population figures, are possibly lower than what will actually happen. On the other hand, future waste quantities will also be affected by waste diversion programs such as recycling, economic factors, and other waste generation factors, hence the projected figures could turn out to be too low or too high for a variety of reasons.

Past and Future Population

Evaluating growth trends in an area's population is useful in determining future trends in solid waste generation. Table 2-2 shows historical and projected population figures for Pacific County. As shown in Table 2-2, the population of Pacific County is expected to increase by 2040. The projected 2040 population of Pacific County (24,517 people) represents a 9.2% increase over the current (2020) estimated population. The figures shown in Table 2-2 for 2020 and beyond are from the OFM and are based on the "high series" projections.

Table 2-2. Pacific County Population Trends		
Year	Total Population	Annual Increase
Historical:		
1960	14,674	---
1970	15,796	0.8%
1980	17,237	0.9%
1990	18,882	1.0%
2000	20,984	1.1%
2005	20,675	-0.3%
2010	20,920	0.2%
2015	21,210	0.3%
Projected:		
2020	22,450	1.2%
2025	23,146	0.6%
2030	23,609	0.4%
2035	24,062	0.4%
2040	24,517	0.4%

Notes: Data is from Projections of the Total Resident Population for Growth Management, 2017 GMA Projections, High Series, by the Washington State Office of Financial Management.

2.3. QUANTITY AND COMPOSITION OF SOLID WASTE

An analysis of the current and future quantities of solid waste in Pacific County is necessary to provide the basis for determining solid waste handling needs for the next twenty years. Composition data is also helpful for this, and for evaluating existing waste diversion programs as well as designing new programs.

This Plan focuses primarily on “municipal solid waste” (MSW), which are those wastes generated by residents and businesses and that are handled through the solid waste disposal system. The total waste stream for Pacific County consists of many types of wastes, almost all of which are classified as MSW and are transferred to large regional landfills in other counties. Some wastes generated by industrial and agricultural sources are handled separately from the solid waste disposal system. Various other wastes (such as hazardous wastes and biomedical wastes) are also handled through separate collection and disposal systems. Large quantities of hazardous wastes are handled separately, and are also not classified as solid waste and so are not addressed in this Plan, but hazardous wastes generated by households and in small quantities by non-residential sources (known as moderate risk wastes, or MRW) are addressed in Chapter 8. More details on the amounts and types of other wastes that merit special attention can be found in Chapter 9.

Past and Present Solid Waste Quantities

Pacific County’s waste quantities have fluctuated over the past two decades. Table 2-3 shows the annual waste quantities for the past 21 years and the amount of change from the previous year. These figures do not include wastes that are handled separately from the municipal solid

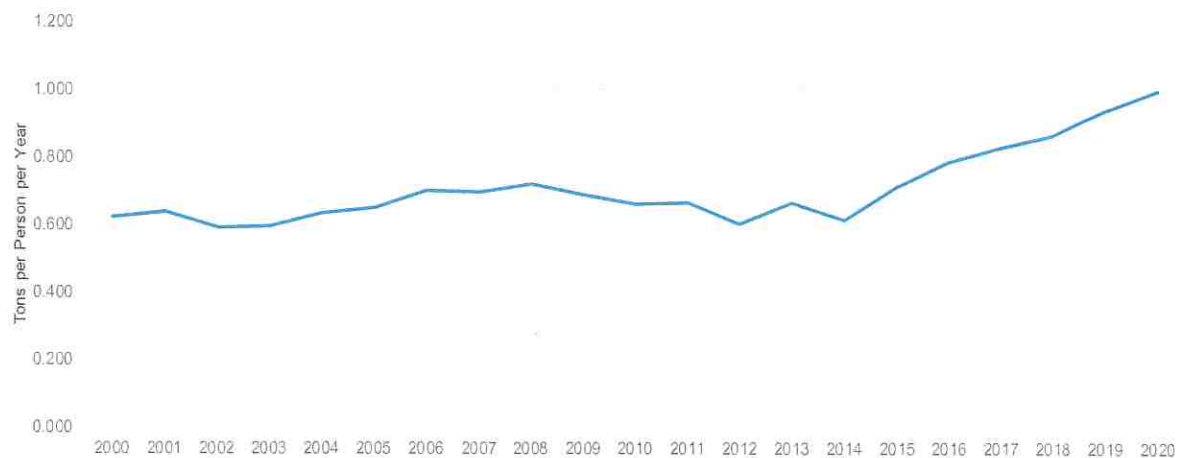
Table 2-3. Annual Waste Tonnages		
Year	Total Waste, TPY	Percent Change
2000	12,982	
2001	13,304	2.5%
2002	12,276	-7.7%
2003	12,313	0.3%
2004	13,088	6.3%
2005	13,390	2.3%
2006	14,498	8.3%
2007	14,437	-0.4%
2008	14,921	3.3%
2009	14,351	-3.8%
2010	13,794	-3.9%
2011	13,903	0.8%
2012	12,629	-9.2%
2013	13,969	10.6%
2014	12,974	-7.1%
2015	15,035	15.9%
2016	16,669	10.9%
2017	17,571	5.4%
2018	18,339	4.4%
2019	19,953	8.8%
2020	21,237	6.4%

Source: Pacific County records for wastes received at the Royal Heights and Pacific Solid Waste Disposal transfer stations.

waste stream (such as biomedical wastes) or wastes that are taken to out-of-county facilities. For instance, Ecology records show that in 2017 (the most recent year for which these records are available) there were 107 tons of construction and demolition debris delivered to two out-of-county facilities (primarily the Stafford Creek Landfill) and 1,291 tons of petroleum-contaminated soils that were delivered to the Cowlitz County Headquarters Landfill and another site.

As can be seen in Table 2-3, there have been significant fluctuations in the amount of wastes in some years. These fluctuations can be seen in Figure 2-1, which shows the per capita disposal rates since the year 2000. Figure 2-1 shows that the per capita rate has risen steadily for the past five years.

Figure 2-1. Per Capita Disposal Rates



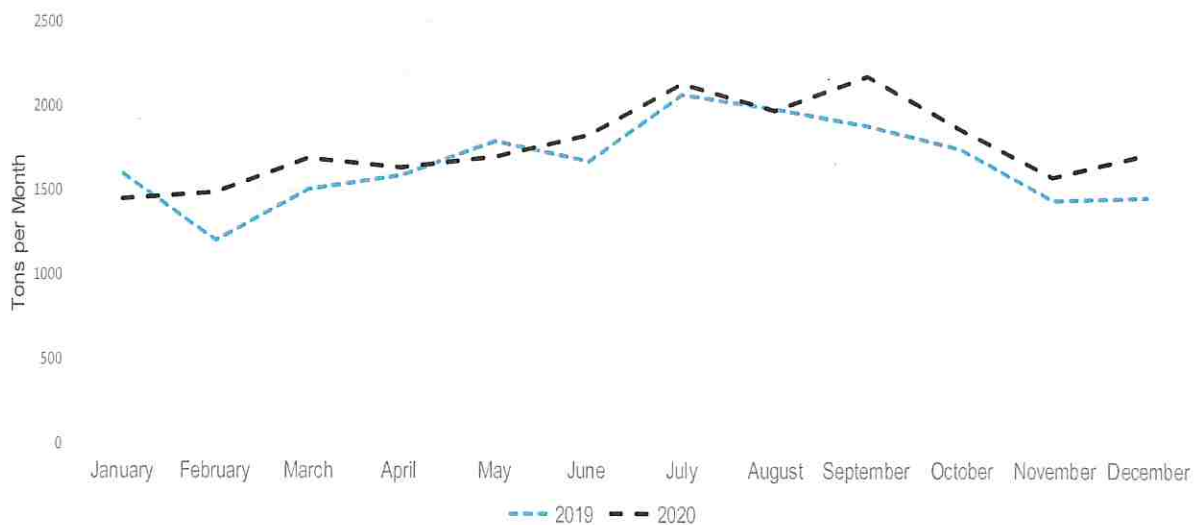
No distinction is made between commercial or residential waste disposal amounts at the two transfer stations, so it is unknown whether the per capita rate increase is due to increases in residential wastes, commercial wastes, or both. The disposal amounts and per capita rates do not include illegal disposal of solid waste.

The rate at which solid waste is generated varies throughout the year due to seasonal differences in residential and commercial activities. Data from Pacific County records shows that the amount of solid waste disposed in any one month in 2020 varied from a low of 1,448 tons in January to a high of 2,183 tons in September (see Table 2-4 and Figure 2-2). This differs somewhat from 2019, when the lowest amount occurred in November and the highest amount in July. The pattern for 2019 is more typical of areas in the Pacific Northwest, with the lowest amounts of wastes being disposed in the winter months and then higher amounts in the summer (especially in areas with a significant amount of tourism). The data for 2020 may be impacted somewhat due to the Covid-19 pandemic, which likely altered travel plans for many people.

Table 2-4. Monthly Waste Tonnages		
Year	2019	2020
January	1,595	1,448
February	1,200	1,486
March	1,504	1,691
April	1,593	1,639
May	1,795	1,698
June	1,674	1,825
July	2,066	2,136
August	1,988	1,974
September	1,887	2,183
October	1,750	1,866
November	1,445	1,576
December	1,456	1,715
Total	19,953	21,237

Source: Pacific County records.

Figure 2-2. Solid Waste, Tons per Month (2019 and 2020)



Based on Pacific County records for 2019 and 2020.

The composition of the waste also varies seasonally. Based on observations by Pacific Solid Waste Disposal staff, the composition of waste includes more commercial food service and construction and demolition (C&D) wastes during the summer months. Though seasonal fluctuations are reflected in overall volume figures, it is important to recognize that there are

variations in both composition and volume, particularly in regard to meeting waste reduction and recycling goals.

Current Recycling Levels

The most recent recycling data available from Ecology shows that 4,158 tons of materials were recycled in 2017 from Pacific County residences and businesses. Table 2-5 shows the tonnages of materials recycled for the most recent three years that are available (2015-2017), and the average of those three years. These figures should be viewed with some caution, as the data is based on a survey that depends on voluntary self-reporting by the collectors and processors. The amount of cooperation and the quality of responses for this survey varies from year to year and from company to company.

The bottom section of Table 2-5 shows “diverted materials,” which are not defined as “recycling” and so are not included in the calculation of the County’s recycling rate. These diverted materials include materials burned for energy recovery and a small amount of food processing waste that is land-applied. Although these materials are being used beneficially, these do not meet the State’s definition of recycling.

Ecology’s annual recycling survey also collects data on reuse activities, such as clothing reuse and tire retreading, but there is not much data available for Pacific County on these activities.

The recycled and diverted figures shown in Table 2-5 include an allocated portion of the “unknown tonnages” measured by Ecology’s survey. In some cases, the data reported by private companies for the annual recycling survey is not identified by source and so cannot be allocated to a specific county. Ferrous and non-ferrous metals make up the largest amount of the unallocated tonnages. The recommended approach for dealing with the unallocated tonnages is to assign those tonnages to individual counties based on population, which is what has been done here based on Pacific County’s 0.3% share of the State’s population. These “unknown tonnages” added significant amounts to the annual recycling tonnages for Pacific County for all three years.

The data in Table 2-5 can be combined with disposal data to calculate the recycling rate for Pacific County (see Table 2-6). Based on the three-year averages of 5,074 tons of materials recycled and 16,425 tons of waste disposed, the average recycling rate for Pacific County in this three-year period was 23.6%. This figure is generally called a “recycling rate,” although it also includes organics that are composted or handled through other means.

The data shown in Table 2-5 can also be used to calculate a “recovery rate,” which includes the diverted materials that are not counted as recycling. In this case, other types of waste that are not defined as MSW must also be included in the calculation (see “Other Wastes Disposed” in Table 2-6). The recovery rate for 2017 is higher than the recycling rate (26.9% for the recovery rate versus 19.1% for the recycling rate), because there are more tons of diverted materials (2,336 tons) and not much other waste disposed (only 107 tons in 2017).

Table 2-5. Recycled and Diverted Quantities by Material				
Material	Annual Tons			Three-Year Average
	2015	2016	2017	
Construction and Demolition (C&D)				
Wood	695	403	485	528
Glass Containers	225	193	189	202
Metals				
Aluminum Cans	38	30	9	26
Appliances/White Goods	126	129	19	91
Other Ferrous	3,087	3,320	2,376	2,928
Other Non-Ferrous	318	213	98	210
Moderate Risk Wastes				
Antifreeze	2	2	3	2
Batteries, Auto Lead Acid	11	13	4	9
Batteries, Household and Other	0.08	0.13	0	0.07
Electronics	91	69	34	64
Light Bulbs	0.4	0.8	0.4	0.5
Oil Filters	0.0001	0.4	2.0	0.8
Used Oil	80	87	109	92
Organics				
Agricultural Organics	0	20	0	7
Meats, Fats, and Oils	63	58	55	58
Paper				
Cardboard	585	550	460	532
High Grade	0	0	18	6
Mixed Paper	161	0	0	54
Newspaper	140	167	171	159
Plastic				
Mixed Plastics	0	0	30	10
LDPE	3	1	0	1
Other Plastics	39	33	39	37
Tires	58	56	58	58
Total Recycled Materials	5,722	5,343	4,158	5,074
Diverted Materials				
Food Processing Waste Land-Applied	0	0	26	9
Tires Burned for Energy	2	12	20	11
Used Oil Burned for Energy	4	0	0	1.3
Wood Burned for Energy	1,266	1,167	2,290	1,574
Total Diverted Materials	1,272	1,179	2,336	1,596

Note: All data is from the annual recycling survey conducted by Ecology. These figures should be viewed with caution, as the data is based on a voluntary survey and the quality of responses for this survey varies from year to year and from company to company.

Table 2-6. Recycling and Diversion Rates				
Material	Annual Tons			Three-Year Average
	2015	2016	2017	
MSW:				
Recycled Materials	5,722	5,343	4,158	5,074
MSW Disposed	<u>15,035</u>	<u>16,669</u>	<u>17,571</u>	<u>16,425</u>
Waste Generation (Recycled Amount + MSW Disposed)	20,757	22,012	21,729	21,500
Recycling Rate	27.6%	24.3%	19.1%	23.6%
All Wastes:				
Recycled Materials	5,722	5,343	4,158	5,074
Diverted Materials	<u>1,272</u>	<u>1,179</u>	<u>2,336</u>	<u>1,596</u>
All Recovered Materials	6,994	6,522	6,494	6,670
MSW Disposed	15,035	16,669	17,571	16,425
Other Wastes Disposed	<u>230</u>	<u>0</u>	<u>107</u>	<u>112</u>
Total Wastes Disposed	15,265	16,669	17,678	16,538
Recovery Rate	31.4%	28.1%	26.9%	28.7%
Pounds per Capita (MSW only):				
Population	21,210	21,180	21,250	21,213
Recycled, pounds/person/yr	540	505	391	478
Disposed, pounds/person/yr	<u>1,418</u>	<u>1,574</u>	<u>1,654</u>	<u>1,549</u>
Generated, pounds/person/yr	1,957	2,079	2,045	2,027

Note: All data is from annual surveys conducted by Ecology, except the population and resulting per capita figures.

Solid Waste Composition

Data on the composition of the wastes being disposed is useful for designing solid waste handling and disposal programs. A waste characterization study was conducted in 1998 by the Pacific County Department of Community Development. That study found that about 46% of the commercial waste stream and 42% of the residential waste stream consisted of recyclable and compostable materials.

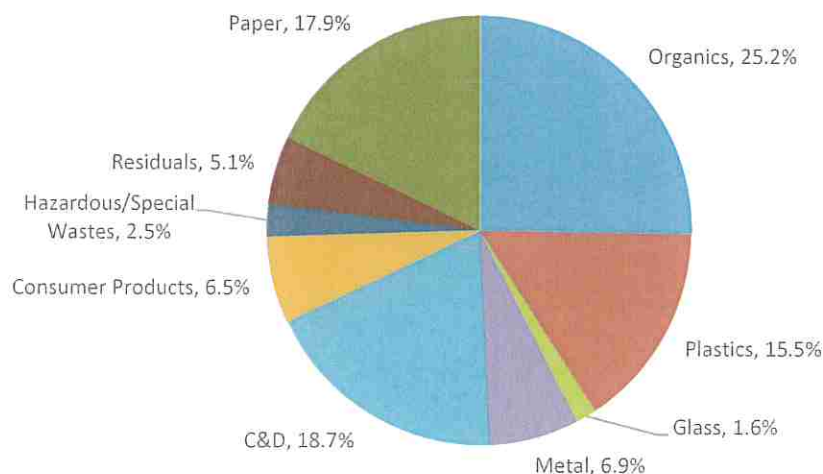
Ecology has conducted several statewide waste composition studies over the past few decades, and the most recent of these was conducted in 2021. That study divided the State into several waste generation areas and conducted sampling and testing of wastes at facilities in each area. Pacific County falls within the West Waste Generation Area, along with Grays Harbor, Mason, Clallam and Jefferson Counties. Table 2-7 and Figure 2-3 show the data from that study for this generation areas. The findings show that organics (food waste, yard debris and animal manure) make up the largest category of disposed waste (25.2%), followed by wood and other construction and demolition wastes (18.7%), and paper (17.9%). This data is helpful, but locally-collected data would likely define Pacific County's waste stream more accurately.

Table 2-7. Composition of Disposed Wastes			
Type of Material	Residential Wastes	Commercial Wastes	Overall Waste Stream
Recyclable Paper	8.6	11.3	9.9
Compostable Paper	10.6	8.5	6.7
Non-Recyclable Paper	1.1	1.7	1.3
Plastic Bottles	1.6	1.1	1.2
Plastic Bags and Film	5.0	6.3	4.8
Other Plastics	10.0	10.2	9.5
Metals	5.7	6.5	6.9
Recyclable Glass	1.8	1.1	1.2
Other Glass	0.7	0.2	0.4
Food Waste	21.4	18.8	16.5
Yard Debris	4.7	6.0	4.4
Disposable Diapers	6.8	3.7	4.1
Clothing and Shoes	5.9	2.3	4.0
Furniture and Mattresses	0	0.4	1.6
Wood Waste	1.8	10.9	13.2
Construction and Demolition	0.6	2.4	5.5
Animal Excrement/Manures	10.2	1.8	4.1
Hazardous/Special Wastes	0.8	4.6	2.5
Other Materials	2.7	2.2	2.2
Totals	100.0	100.0	100.0

Notes: All figures are percentages by weight.

Sources: 2020-2021 Washington Statewide Waste Characterization Study, data is for the West Waste Generation Area (including Pacific, Grays Harbor, Mason, Clallam and Jefferson Counties).

Figure 2-3. Waste Composition for West WGA



Source: 2020 - 2021 Washington Statewide Waste Characterization Study, Ecology.

Waste composition can be expected to change in the future due to changes in consumption patterns, packaging methods, disposal habits, tourism, the economy, and other factors, and the impact of these changes is impossible to predict. Furthermore, it is hoped that implementation of this Plan will affect waste composition in Pacific County by changing consumption and disposal habits.

Future Solid Waste Quantities

In Table 2-8, waste quantities have been projected using the average per capita recycling and disposal rates (see Table 2-6) multiplied by population forecasts for the County. The amounts of diverted materials (such as food waste that is land-applied, as well as wood and other materials that are burned for energy) and non-MSW types of solid waste (such as petroleum-contaminated soil taken to out-of-county sites) are not included in these figures because these materials are typically handled outside of the County solid waste system, so there will not be a need to build future system capacity to manage them. As noted previously in this chapter, the results of the 2020 Census show a significant increase in population for Pacific County, above what is reflected in the population figures shown in this table. This could lead to increased amounts of wastes in the future, but other factors will also affect this.

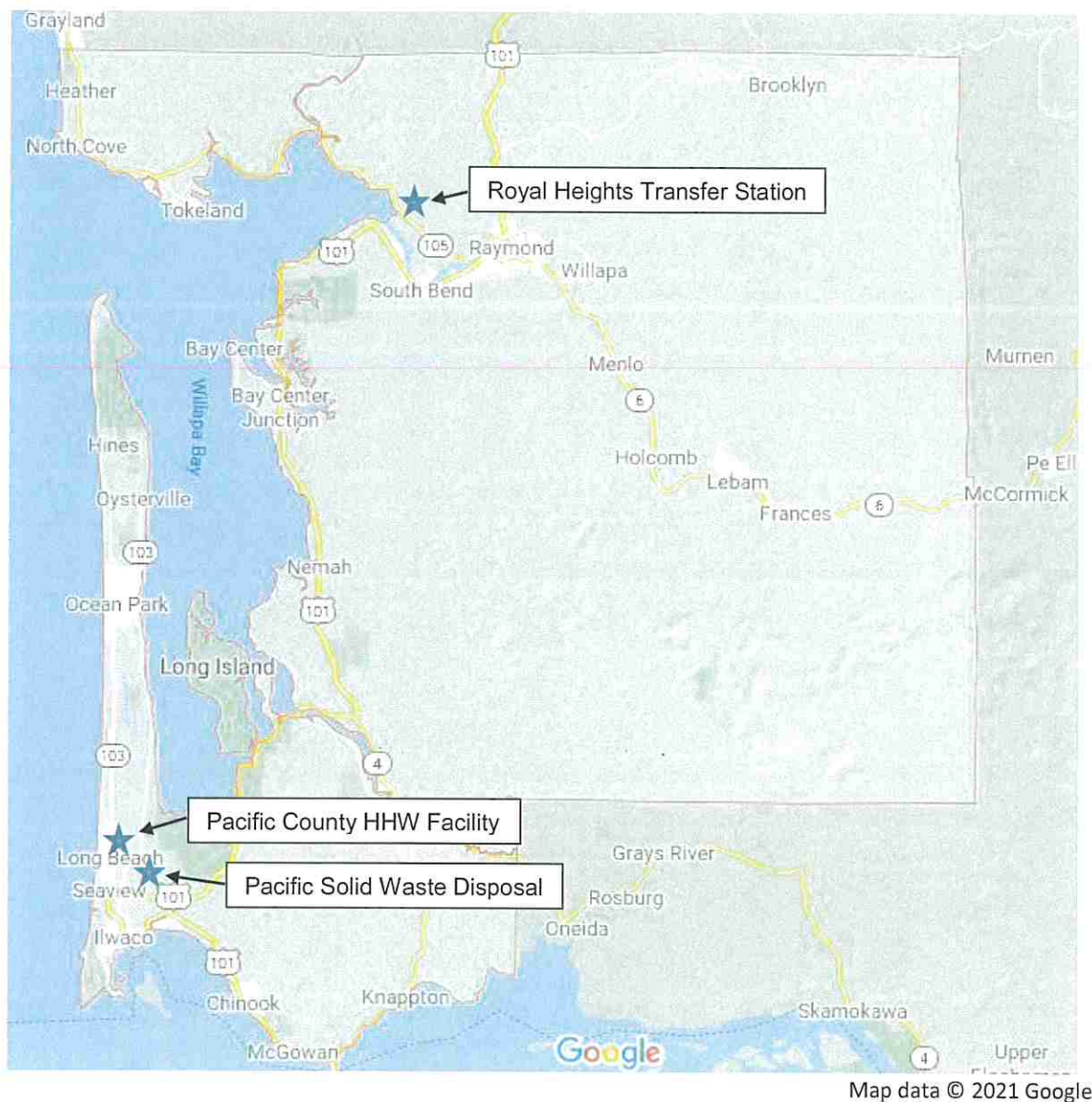
Table 2-8. Projected Solid Waste and Recycling Quantities for Pacific County				
	2025	2030	2035	2040
Population	21,532	21,670	21,758	21,857
At Average per Capita Rates				
Recycled Amounts, 0.237 tons/person/year	5,103	5,136	5,157	5,180
Disposed Amounts, 0.775 tons/person/year	<u>16,687</u>	<u>16,794</u>	<u>16,862</u>	<u>16,939</u>
Total Waste Generated, tons/year	21,790	21,930	22,019	22,119

Source: Based on the three-year average per capita figures shown in Table 2-6 and the population figures shown in Table 2-2.

2.4. EXISTING SOLID WASTE FACILITIES

The primary solid waste and recycling facilities in Pacific County are the two privately-owned transfer stations (Pacific Solid Waste Disposal and Royal Heights Transfer Station) and the Household Hazardous Waste (HHW) Facility operated by Pacific County. The locations of these facilities are shown in Figure 2-3. There are no known deficiencies with these facilities in meeting current or future waste handling needs.

**Figure 2-4
Pacific County Solid Waste Facilities**



2.5. CONCLUSIONS AND RECOMMENDATIONS

The primary solid waste facilities in Pacific County are transfer operations that consolidate and ship wastes to other sites outside of the county. As such, the capacities of these facilities are not limited to a fixed amount, but can be affected by open hours and other operational factors. In reviewing the projected solid waste tonnages anticipated to be generated in Pacific County over the next 20 years (see Table 2-8), these facilities appear to be adequate to handle these

amounts. Increased recycling or composting of specific materials may require additional or expanded recycling or composting facilities in the future.

The following recommendation is being made for background data:

- B1) Pacific County should conduct a local waste composition study if grants or other funds are available for this.

More details on the implementation of this and other recommendations are shown in Chapter 11.

CHAPTER 3

WASTE REDUCTION**3.1. BACKGROUND FOR WASTE REDUCTION****Introduction**

This chapter and the following two chapters on recycling and organics describe existing programs and future plans for activities that reduce the amount of solid waste being generated or disposed in Pacific County. This chapter discusses waste reduction methods that reduce the amount of waste being generated, while the next two chapters discuss methods that reduce the amounts being disposed. In other words, waste reduction methods prevent wastes from being created, while recycling and composting handle materials after those have been created as a waste. Waste reduction is the highest priority for solid waste management according to RCW 70A.205, and is preferred over recycling and composting because the social, environmental and economic costs are typically lower for waste reduction. All three methods avoid the cost of disposing of the diverted materials as garbage, but recycling and composting require additional expenses for collection and processing. Those additional expenses are avoided in the case of waste reduction.

As used in this Pacific County Solid Waste and Moderate Risk Waste Management Plan (this “Plan”), waste reduction includes a broad range of activities that prevent materials from becoming wastes. Specific activities that help to achieve waste reduction include reuse of household goods, repair of consumer products to extend their useful life and avoiding wasted food, to name a few examples. Backyard composting is generally included in this category because the yard debris or other materials being composted do not leave the site where those were generated. Waste reduction is also defined by State rules (RCW 70A.205.015) to include methods that reduce the toxicity of wastes. To some extent, reducing the toxicity of consumer products and the resulting wastes would require changes to manufacturing processes that are generally beyond the reach of local government, although this goal can also be achieved by encouraging consumers to utilize less-toxic substitutes. Public education is, in fact, a critical step for all of the waste reduction methods.

Regulations Concerning Waste Reduction

State requirements are shown in various sections of the Revised Code of Washington (RCW) and the Washington Administrative Code (WAC). One of the more relevant provisions is the 2010 amendment to RCW 70A.205.040 that states “when updating a solid waste management plan developed under this chapter, after June 10, 2010, each local comprehensive plan must, at a minimum, consider methods that will be used to address waste reduction strategies.” The 2010 amendment also adopted new requirements concerning recycling and organics (see Chapters 4 and 5). Additional guidance is provided by Ecology’s solid waste planning guidelines and the State Solid Waste Plan. Chapters 3, 4 and 5 of this Plan provide an update of the County’s waste diversion methods and comply with State requirements regarding waste reduction and recycling opportunities and programs.

Goals for Waste Reduction

A number of the goals adopted for this Plan are applicable to waste reduction:

- Review current solid waste regulations and policies giving particular attention to waste stream reduction, recycling, food waste and future disposal needs.
- Review existing facilities and solid waste handling practices, and seek community input to identify additional needs.
- Assess alternatives and develop recommendations for future action, incorporating the most recent reviews of studies, statistics, and drivers of solid waste issues in Pacific County with a regional perspective.
- Provide guidelines for an equitable balance between convenience, expense, climate impact, environmental quality, and public health and welfare.
- Continue cooperative and coordinated efforts among government agencies, private companies and the public to achieve effective management of solid waste.

The State Solid and Hazardous Waste Plan

A relevant source of guidance on policies and goals is the State solid and hazardous waste plan, Moving Washington Beyond Waste and Toxics. This plan has adopted a vision that states:

We can transition to a society where waste is viewed as inefficient, and where most wastes and toxic substances have been eliminated. This will contribute to economic, social and environmental vitality.

This transition is expected to take 20-30 years or more. Since 2004, this plan has been called the Beyond Waste Plan and it is updated every five years. The Beyond Waste plan was updated most recently in 2015. The plan previously focused on actions that could be taken in five areas (industrial waste, small volume hazardous waste, organic materials, green building, and measuring progress). The updated Beyond Waste plan is divided into five sections:

Managing Hazardous Waste and Materials
Managing Solid Waste and Materials
Reducing Impacts of Materials and Products
Measuring Progress
Providing Outreach and Information

Each of these sections presents goals and actions that can be taken over the next five years. The updated plan also incorporates the concept of sustainable materials management, which has been adapted from recent work by the U.S. Environmental Protection Agency (EPA). Sustainable materials management looks at the full life cycle of materials, from the design and manufacturing phase, to the use phase, and then to the end-of-life phase when the material is either disposed or recycled. Materials management still focuses on recycling and disposal issues, but in looking at production methods and the use of materials, this approach can help identify more sustainable ways to design products that use less energy, water and toxics. This is important because the adverse environmental impacts of extraction, production and use can be far greater than those associated with disposal when the product becomes a waste.

The Beyond Waste plan is referenced in later chapters of this Plan as appropriate to the topics in each chapter. Copies of the Beyond Waste plan and additional information can also be downloaded from the Ecology's web site (www.ecy.wa.gov/beyondwaste/index.html).

3.2. EXISTING WASTE REDUCTION PROGRAMS

Existing waste reduction elements of the solid waste program include diverting reusable items from disposal, education, unit-based garbage fees, backyard composting, and disposal subsidies for reuse organizations. These program elements are discussed below.

Reusable and Re-Sellable Items

More than ten thrift stores and consignment shops operate throughout Pacific County. His Supper Table has clothing collection and distribution and offer medical equipment such as crutches, walkers, shower chairs or other equipment.

Food Recovery

Several activities and programs in Pacific County serve to prevent wasted food by arranging for surplus food to be delivered to people in need. For instance, a few food banks collect un-sold produce from farmers markets at the end of the day. Feeding America provides a nationwide network of food banks and partner food pantries and soup kitchens, distributing four billion meals a year. Twenty food banks collect and distribute food in Pacific County. His Supper Table is a thrift store as well as a food bank and soup kitchen and they provide 21,000 meals through surplus food distribution. The Coastal Community Action program has a senior nutrition center as well as a food bank.

As with most forms of waste reduction, the amounts of materials diverted through such efforts are difficult to quantify but these are still excellent examples of how waste reduction efforts can provide direct and meaningful benefits to the local economy and quality of life.

Education Programs

Pacific County delivers waste reduction educational information through social media, by answering phone calls and through the County's website. The County website provides information on backyard composting methods.

The WSU Extension Master Gardeners offers back yard composting education to the community. They also conduct composting classes such as an event with 4H kids through their Master Gardeners and WSU Extension offers technical assistance to consumers initiating backyard composting projects. Services include three compost demonstration sites and response to individual requests for information. They also conduct workshops and deliver classroom programs on vermiculture and backyard composting.

The County also promotes waste reduction and recycling activities with articles and ads in the Chinook Observer and the Daily Astorian.

Unit-Based Garbage Fees

Unit-based garbage collection fees can encourage waste reduction by making it clear to subscribers that more garbage costs more money, and conversely by rewarding people who minimize their garbage amounts with lower fees. The private solid waste collection service provider in Pacific County offers unit-based fees for residential and commercial solid waste collection. Harbor Disposal provides a “mini-can” rate in their service area and also a once-monthly service for residential customers who generate only small amounts of garbage (although strictly speaking these rates are for Grays Harbor County and Harbor Disposal does not currently have UTC-approved rates for Pacific County). Peninsula Sanitation Service provides a once-monthly collection rate and also a per-bag fee for residential customers.

The City of Raymond’s residential fees are volume-based in the sense that more cans cost more money, but the cost for the second, third and fourth cans are only about \$10 for each additional can, while the first can costs about \$21 per month. The rates in South Bend include monthly service for each of the three container sizes (35-, 65-, and 95-gallon cans), although the rate for 95-gallon service is lower than the rate for a 65-gallon cart.

Commercial rates in all areas are generally volume-based due to the fact that businesses subscribe to larger containers that are emptied on a frequency that varies with the needs of the business. More information on these rates can be found in Chapter 6 (Solid Waste Collection).

Backyard Composting

The WSU Extension Master Gardeners program offers backyard composting education to the community. They conduct composting classes such as an event with 4H kids and provide technical assistance to consumers initiating backyard composting projects.

Habitat for Humanity

Reusable products and goods are collected and sold by Habitat for Humanity stores in South Bend and Raymond. Habitat for Humanity handles reusable furniture, mattresses, appliances and construction materials.

Household Hazardous Waste Reuse

The Household Hazardous Waste (HHW) Facility operated by Pacific County sets aside reusable products that are offered free to the public. More information about the HHW Facility is provided in Chapter 8.

3.3. PLANNING ISSUES FOR WASTE REDUCTION

This section discusses management issues and service gaps associated with waste reduction. Waste reduction is the highest priority waste management strategy because it conserves resources, reduces waste management costs, minimizes pollution and promotes conservation. Unfortunately, waste reduction can also be difficult to implement and even more difficult to measure. There are, however, several waste reduction activities that can be implemented or

promoted that have concrete benefits for the local economy because these activities also help reduce costs for households and businesses.

Education on Waste Reduction

Beyond the array of food banks and reuse stores in Pacific, limited education is available to citizens on where these services and donation spots are located. It is difficult for the County to provide more education with limited staff. The County website shows backyard composting methods on their website though doesn't show further waste reduction practices. WSU Extension's waste reduction education is limited to backyard composting information.

Disposal of Consumer Products and Other Materials

A significant amount of consumer products are disposed of while still useful, or could be avoided altogether by purchasing used goods or renting items that are not used much. It is not possible to quantify the amount of products and materials that could be included in this category, but one only needs to spend a short time at a disposal facility to see numerous examples of products and materials that are potentially still useful when disposed.

Unfortunately, services to repair appliances and other products are not available or are hard to locate. A related concern is the disposal of still-usable materials, especially construction materials in commercial loads, and some of these of these materials are rendered non-usable after having been mixed with other garbage.

Priorities based on Waste Disposal Quantities

Examining data on the composition of disposed wastes is useful for identifying opportunities to reduce waste quantities. The data that is available from other areas (see Table 2-7) indicates that targeting the following materials could have significant waste reduction impact:

- Wood and other construction/demolition wastes, which make up an estimated 13.2% and 5.5% of Pacific County's waste.
- Food waste, which makes up an estimated 16.5% of Pacific County's waste.
- Yard debris, which makes up an estimated 4.4% of Pacific County's waste.
- Clothing (textiles), which makes up an estimated 4.0% of Pacific County's waste.

Preventing Wasted Food

Pacific County has 20 locations for food banks yet food waste is still one of the largest components of the waste stream (see Table 2-7) and is estimated to be 16.5% of the Pacific County waste stream. Hence, its potential for waste reduction deserves attention. A study for Thurston County (the 2014 [Thurston County Waste Composition Study](#)) showed that almost half (about 40%) of the total food waste in the Thurston County waste stream could have been eaten but either spoiled first or was still edible when disposed. This waste has significant environmental, social, and financial impacts. Reducing the amount of wasted food would save Pacific County residents and businesses a significant amount of money in wasted purchases and disposal fees. Less waste also equals less energy, water, and other resources needed to grow the food. Enhancing the food donation infrastructure and working with business to donate

edible but unsellable foods could provide substantial social benefits on top of the environmental and financial benefits.

On-Site Organics Management

Organic materials (food waste and yard debris) are a substantial portion of the disposed waste stream, representing an estimated 20.9% of Pacific County's waste stream (see Table 2-7). There are no collection programs in Pacific County for these materials, but most of the organics could be safely handled on-site through composting or other methods. One on-site method is to leave grass clippings on the lawn rather than collecting them ("grasscycling"). The clippings provide nutrients and reduce the need for fertilizer. If done correctly, grasscycling can reduce the need for watering the lawn.

Backyard composting is another method for handling organics on-site. Backyard composting can be used to compost yard debris, garden wastes and some types of food waste. Some types of food waste can be handled through the use of worm bins ("vermicomposting"). This approach enables residents to turn food wastes into a nutrient-rich soil amendment.

Clothing Reuse

Despite the presence of a number of organizations addressing clothing reuse in Pacific County and other areas, the results of the statewide waste composition study (see Table 2-7) show that about 4.0% of the County's waste stream consists of clothing and shoes. Not all of this amount would be reusable, but virtually all of this could be either reused or recycled (converted to rags or other products).

Construction Materials

Construction activities often generate a small percentage of materials that are still usable but that are not needed at the construction site. This material commonly goes to waste even though much of it is usable for other construction jobs or homeowners.

Volume-Based Garbage Rates

Volume-based rates can provide a strong incentive for residents and businesses to reduce their garbage. Existing volume-based garbage rates could be promoted more to help people make this connection. In general, every possible opportunity should be used to promote the ability to save money on disposal fees by treating certain materials as a resource instead of a waste and taking other steps to avoid waste. Many of the garbage collection rates in Pacific County could provide a stronger incentive for people to reduce their waste volumes. These issues are discussed more thoroughly in Chapter 6 (Solid Waste Collection).

Measuring and Evaluating Waste Reduction Activities

Measuring waste reduction is difficult because the amount of waste generated in a specific area fluctuates with many variables, including economic conditions, seasonal changes and local weather. Hence, it can be difficult to demonstrate the cost-effectiveness or productivity of specific waste reduction techniques. Measurements for waste reduction are more relevant when they reflect specific products or operations.

3.4. ALTERNATIVE STRATEGIES FOR WASTE REDUCTION

Seven alternative waste reduction strategies are discussed below. The listing of an alternative in this section does not mean that it is considered feasible, nor that it is recommended (see Section 3.5 for waste reduction recommendations). In addition, the alternatives are not listed in order of priority.

Alternative A – Promoting Waste Reduction for Consumer Products

There is always more that could be done by residents and businesses to avoid creating wastes. An important method to increase waste reduction is to promote new and existing programs or methods by creating awareness of options for materials and products that could otherwise become wastes. Specific programs and activities that could be promoted for reducing the amount of consumer products (and associated packaging) that is disposed include:

- Smart shopping, such as buying in bulk or buying concentrated products, avoiding over-packaged items, purchasing durable and repairable products, and using reusable shopping bags.
- Buying or selling secondhand items.
- Borrowing or renting when possible.
- Repairing products where possible.
- Avoiding single-use or “disposable” products.
- Shared ownership of large items with a neighbor or friend.

These activities could provide benefits to personal finances as well providing benefits to the local economy (to the extent that local businesses can provide repair and rental services).

Alternative B – Encouraging Safer Substitutes for Toxic Products

As discussed earlier in this chapter, reducing the toxicity of disposed products is defined as a waste reduction method. There are several ways to accomplish this, some of which are already being done in Pacific County:

- Avoiding products containing hazardous ingredients (thus reducing the potential for leftover products to become wastes).
- Encouraging the use of safer substitutes for hazardous products, such as weed killer, insecticides, and cleaner, including the use of natural products.
- Encouraging consumers to use up all of a product or to only buy as much as needed.

Additional publicity could be conducted to encourage the above activities. This publicity could emphasize the environmental benefits as well as cost savings and other benefits.

Alternative C – Focus on Wasted Food

A substantial amount of edible food waste is unnecessarily discarded. A public education campaign could be used to inform residents of the meaning of expiration dates, opportunities to donate food, and other steps that could be taken to reduce food waste. Much of the

materials for this campaign could be provided by other programs, such as EPA's "Too Good To Waste" program.

Alternative D – Food Donations

This alternative involves identifying sources that may have significant amounts of surplus food and arranging for that food to be delivered to a food bank or other organization that can distribute it to families in need. Surplus food is often generated by grocery stores as well as institutions and large commercial establishments that provide meals, including schools, casinos, and some workplace kitchens. If surplus food from sources such as these can be properly packaged and refrigerated, and delivered to a food bank with cold storage, then the food could be distributed safely instead of being thrown out.

Alternative E – More Promotion of Volume-Based Collection Fees

Information on volume-based rates could be more easily accessible and this approach could be more widely promoted as a way to save money by recycling and reducing wastes. The success of this approach could be monitored by the number of people who sign up for lower service levels.

Alternative F – Promote More Clothing Reuse and Recycling

Educational materials could encourage people to bring reusable or recyclable clothing to charities and other collection programs. Specific educational materials could be designed for clothing, but it would probably be more cost-effective to include this topic in existing materials and websites. Clothing reuse and recycling could also be a special focus of a newspaper ad, fair booth and other educational opportunity. Additional recycling options could be explored or promoted, although this idea should be approached carefully so as not to undermine existing efforts that are collecting reusable clothing for charitable purposes.

Alternative G – Construction Material Reuse

Construction activities often generate a small percentage of materials that are still usable but that are not needed at the construction site. While the amount is small, these materials have value. Some materials are kept and used on other projects by the various companies involved in the construction process, or by the homeowner in the case of do-it-yourself remodeling projects, but a portion is thrown into disposal containers. There are better options for these materials:

- Offer materials for free or at a reduced price using an on-line service such as Craigslist.
- Place materials by the street with a free sign (although this may not be possible or easily done in all areas).
- Arrange for a collection service.

These options could be promoted through a flyer sent out with building permits.

3.5 WASTE REDUCTION RECOMMENDATIONS

The following recommendations are being made for waste reduction programs (see also Chapter 6, Solid Waste Collection):

- WR1) Expand waste reduction education and training by working with WSU Extension.
- WR2) Encourage reuse of materials with a focus on clothing, household goods and construction materials.
- WR3) Continue to improve food donations from businesses, restaurants and the public and work with local food banks to consider expanding infrastructure such as cold storage, warehouse space and transportation.
- WR4) Promote volume-based waste collection fees.
- WR5) Promote composting education and training.
- WR6) Continue in-house waste reduction measures in all county facilities. Assist other public facilities and private organizations to follow the county's model program.
- WR7) Pacific County should continue to encourage procurement policies that favor durable, reusable, repairable, efficient, recyclable, and recycled content goods.

More details on the implementation of these and other recommendations are shown in Chapter 11.

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RECYCLING

4.1. BACKGROUND FOR RECYCLING

Definition of Recycling

“Recycling” refers to the act of processing used products and packaging to convert them into a usable commodity. Recycling does not include materials burned for energy recovery or destroyed through pyrolysis and other high-temperature processes, although materials burned for energy recovery can still be considered “waste diversion.” The State’s definition for recycling is “transforming or remanufacturing waste materials into usable or marketable materials for use other than landfill disposal or incineration. Recycling includes processing waste materials to produce tangible commodities” (Chapter 173-350 WAC). As indicated in the definition, the common use of the term “recycling” to refer to the act of placing materials in a special cart or other container to be collected separately from garbage is incorrect in the sense that recycling does not actually occur until the materials are processed and then used to create new products. On the other hand, keeping recyclable materials separate from garbage is typically an important first step in ensuring that the materials are recycled.

Regulations Concerning Recycling

State Regulations: State requirements concerning recycling are shown in various sections of the Revised Code of Washington (RCW) and the Washington Administrative Code (WAC). Additional guidance is also provided by Ecology’s solid waste planning guidelines and the State solid and hazardous waste plan, [Moving Washington Beyond Waste and Toxics](#).

In 2010, the State Legislature amended RCW 70A.205.040 to require that solid waste management plans address source separation and collection of recyclable materials, and the handling and proper preparation of materials for reuse or recycling. Solid waste management plans are also required to address “construction and demolition waste for recycling or reuse; recoverable paper products for recycling; metals, glass, and plastics for recycling; and waste reduction strategies.” The Legislature’s stated intent for making this amendment was “increasing available residential curbside service for solid waste, recyclable, and compostable materials provide enumerable public benefits for all of Washington. Not only will increased service provide better system-wide efficiency, but it will also result in job creation, pollution reduction, and energy conservation, all of which serve to improve the quality of life in Washington communities. It is therefore the intent of the legislature that Washington strives to significantly increase current residential recycling rates by 2020.”

Local Regulations: Pacific County Board of Health Ordinance No. 2C addresses the conditions that allows recycling facilities to be exempt from some permitting requirements.

Urban-Rural Designation

State planning guidelines require that counties develop clear criteria for designating areas as urban or rural for the purpose of providing solid waste and recycling services. The urban-rural designations are important because these are the basis for determining the level of service that should be provided for recycling and other solid waste programs. For example, State law (RCW 70A.205.045(7)(b)(i)) requires that recyclables be collected from homes and apartments in urban areas (although exceptions to this requirement can be granted if based on viable alternatives and other criteria), whereas drop-off centers can be used in rural areas.

Solely for the purposes of solid waste services, all of Pacific County is being designated as rural. This is based on the criteria shown in State law and Ecology's planning guidelines, including the low population and population density throughout the county, distance from markets for recyclables, the relatively small volumes of recyclables that could potentially be collected in Pacific County, and limited future growth in both population and commercial activities. This designation should be reviewed at the time of the next update of this Pacific County Solid Waste and Moderate Risk Waste Management Plan (this "Plan"). It should also be noted that this designation is not intended to prevent or discourage a city or town in Pacific County from pursuing curbside recycling or other urban-level services.

Goals for Recycling

Almost all of the goals for this Plan are applicable to recycling:

- Review current solid waste regulations and policies giving particular attention to waste stream reduction, recycling, food waste and future disposal needs.
- Coordinate with counties, cities and the private sector to identify capital cost estimates and implementation schedules for recommended improvements with emphasis on those improvements recommended within a six-year period.
- Provide guidelines for an equitable balance between convenience, expense, climate impact, environmental quality, and public health and welfare.
- Incorporate flexibility to anticipate future needs.
- Continue cooperative and coordinated efforts among government agencies, private companies and the public to achieve effective management of solid waste.
- Outline funding mechanisms.

The State's goal is to reach 50% recycling and composting (RCW 70A.205.005(9)), and this goal was achieved in 2011 when the recovery rate rose to 56.6%. The statewide recovery rate has decreased since that year, with the most recent data (for 2017) showing it at 48.5%.

RCW 70A.205.005 does not require that each county achieve 50% recycling and composting, since it is recognized that less-populated areas have greater barriers to cost-effective collection and marketing of recyclable materials. Each community is expected to set a goal that suits its situation, provided that the goal is based on justified and sound reasoning. In Pacific County, the current (2017) recycling rate is 19.1% (see Table 2.6) according to the State's definition of recycling and composting, and the broader measure for recovery rate is 26.9%.

The goal adopted by the previous Pacific County plan (the 2016 update) was:

To facilitate awareness activities that will educate the public and businesses to reduce, reuse, and/or recycle waste, and to utilize other recycling facilities in Pacific County in order to increase the recycling rate to 25%.

After discussion by the Pacific County Solid Waste Advisory Committee of the existing programs and the current challenges facing recycling programs, this Plan is adopting a recycling goal of 30% for Pacific County. The County's progress towards meeting this goal should be monitored primarily through the annual recycling survey conducted by Ecology, supplemented with local data as available and appropriate.

4.2. EXISTING RECYCLING PROGRAMS

Existing collection services for recyclable materials include drop-off and buy-back centers, curbside recycling in one city, and commercial collection services. These services are discussed below.

Drop-Off and Buy-Back Services

Pacific County presently owns seven recycling drop boxes with a capacity of thirty cubic yards. The drop boxes are located around the population centers of the County, and are maintained by Peninsula Sanitation Service. In 2020, these boxes collected a combined total of 384 tons of recyclable materials. Table 4-1 shows the county-sponsored drop box locations and Table 4-2 shows the materials collected in 2020. The materials collected at the drop boxes and drop-off centers are shown in Table 4-3.

Long Beach Recycling, a subsidiary of Pacific Solid Waste Disposal Inc., operates a recycling center at the transfer station in Long Beach. A limited buy-back service is offered to the public, with payment provided for aluminum cans and cardboard. Royal Heights Transfer & Recycling Center operates a recycling center at the transfer stations outside of Raymond. They pay for aluminum cans but are currently charging to accept cardboard because of poor markets for it.

Table 4-1. County Drop Box Locations	
Facility	Location
Bay Center	United Methodist Church
Chinook	Port of Chinook
Long Beach	318 N. 2nd Street
Menlo	Willapa Valley High School Parking Lot
Naselle	Corner of SR4 and SR401 (sign near the hwy.)
Ocean Park	NE corner of Bay and Sandridge Rd.
South Bend	Intersection of Highway 101 and Summit Street

Table 4-2. Quantities Collected by Drop Boxes (2020)					
Material	Quarter				Annual Total
	1st	2nd	3rd	4th	
Cardboard	60,600	56,460	76,400	58,780	252,240
Aluminum	1,554	2,126	2,298	1,457	7,435
Paper	33,404	48,693	34,347	42,881	159,325
Glass	47,966	61,935	73,009	86,201	269,111
Plastic	5,605	6,060	6,840	0	18,505
Motor Oil ¹	16,812	15,600	11,480	17,320	61,212
Total	165,941	190,874	204,374	206,639	767,828

Notes: All figures are in pounds.

1. The motor oil recycling program is discussed in more detail in Chapter 8.

Table 4-3. Materials Collected at Drop-Off Locations			
Materials	Long Beach Recycling Center	Royal Heights Transfer Station	County Drop Boxes
Cardboard	X	X	X
Mixed paper	X		X
Newspaper	X		X
Plastic #1 and #2	X		X
Glass bottles and jars	X		X
Aluminum cans	X	X	X
Scrap metal		X	
Other metals	X	X	
E Waste	X	X	

Note: Information is current as of May 2021. Participants should confirm current guidelines before preparing materials for recycling.

Cape Disappointment State Park has recycling receptacles at their campground. They collect glass bottles and cans. Peninsula Sanitation picks up their garbage and recyclables. Surfside Homeowners Association has their own recycling drop box (separate than the county drop boxes) where they collect newspaper, glass bottles, aluminum and tin cans. The homeowners pay a fee for garbage and recycling. They have a compactor for garbage, and Peninsula Sanitation picks up their garbage and recyclables.

Special Collection Events

Appliance collection events are held twice a year, in the spring and fall, at the Royal Heights and Pacific Solid Waste Transfer Stations. The appliances are accepted at no cost. In addition, the County plans to conduct tire amnesty events in 2021.

There are numerous other drop-off opportunities in and near Pacific County for a wide variety of materials. A few examples include:

- Unpainted and untreated wood, scrap metal, concrete and fill dirt and tires can be brought to the Pacific Solid Waste Transfer Station in Long Beach.
- Various types of construction and demolition wastes are accepted at Swanson Bark and Wood Products in Longview.
- Auto bodies and metals can be brought to Ron's Recycling in Ilwaco.
- Recycling of E-Cycle items covered by the law (TVs, desktop and laptop computers, and monitors) is available at the Royal Heights and Pacific Solid Waste Transfer Stations at no cost to households, small businesses, charities, school districts, and small governments.
- Fluorescent lights can be recycled at the HHW facility in Long Beach.
- Other materials are recycled in Pacific County by private companies, either as a special collection service or through drop-off centers in and near the County. Current information on these services is available at Ecology's website (<http://1800recycle.wa.gov/>).

Curbside Recycling Services

In January 2019, Waste Connections (dba Harold LeMay Enterprises, Inc.) started providing garbage and curbside recycling services in South Bend. Recycling sign-ups were a little slow in taking off, with only 20 residential recycling subscriptions in 2019. In 2019 there was an additional charge for curbside recycling of \$10 per month for every-other-week service. The tonnage for recycling in 2019 was not measured due to the limited participation. In 2020 there was an increase in participation, and by the end of 2020 there were 32 residential customers and two commercial customers signed up for recycling services. Again, due to low participation LeMay Enterprises did not track the recycling tonnage until June of 2020. From June through December 2020, there was 4.33 tons of recyclables collected. The recycling participation has increased again in 2021, bringing the participation rate up to 45 residential and two commercial customers as of early 2021. There are 526 residential garbage customers in South Bend, so this represents a participation rate of 9%. The 2021 rate for curbside recycling is \$12.24 a month for every-other-week collections.

Waste Connections (dba Harbor Disposal) also provides curbside recycling services in their service area in the north end of the County.

Commercial Collection Programs

Businesses in Pacific County can bring a variety of recyclables to the Royal Heights and the Pacific Solid Waste Transfer Stations. South Bend businesses can subscribe to commingled recycling service provided by LeMay Enterprises. Only two businesses have done this in 2021, representing a participation rate of 3%.

Monitoring Commercial Recycling Programs

Chapter 70A.205 RCW requires monitoring programs for the collection of source-separated materials from non-residential sources where there is sufficient density to economically sustain a commercial collection program. Pacific County achieves this by working cooperatively with

Ecology and utilizing the data that they collect through the annual recycling survey. Pacific County could also continue to monitor the number of commercial businesses that have signed up for recycling service in South Bend.

Public Education and Promotion

Pacific County delivers educational information through a variety of methods including signage, social media (Facebook), phone and the County's website.

As of mid-2021, information available on the County's website includes:

- Education on recycling materials and how to prepare them for recycling
- Locations for recycling
- A recycling brochure
- Oil recycling drop-off information
- Solid Waste Advisory Committee information
- Public Event Recycling information
- Solid Waste Management Plan
- General facility information.

The County promotes recycling activities and events with articles and ads in the Chinook Observer and the Daily Astorian. In addition, WSU Extension staff respond to residents who call in with questions on how to recycle and provide public education regarding waste related issues. LeMay Enterprises and Harbor Disposal send out welcome packets to new customers that includes recycling information.

4.3. MARKET CONDITIONS AND DESIGNATION OF RECYCLABLE MATERIALS

Solid waste management plans are required to include a recycling market analysis and an identification (designation) of the materials considered to be recyclable. The two are inter-related because the materials that can be considered recyclable are highly dependent on which materials can be marketed for conversion into new products.

Recycling Markets

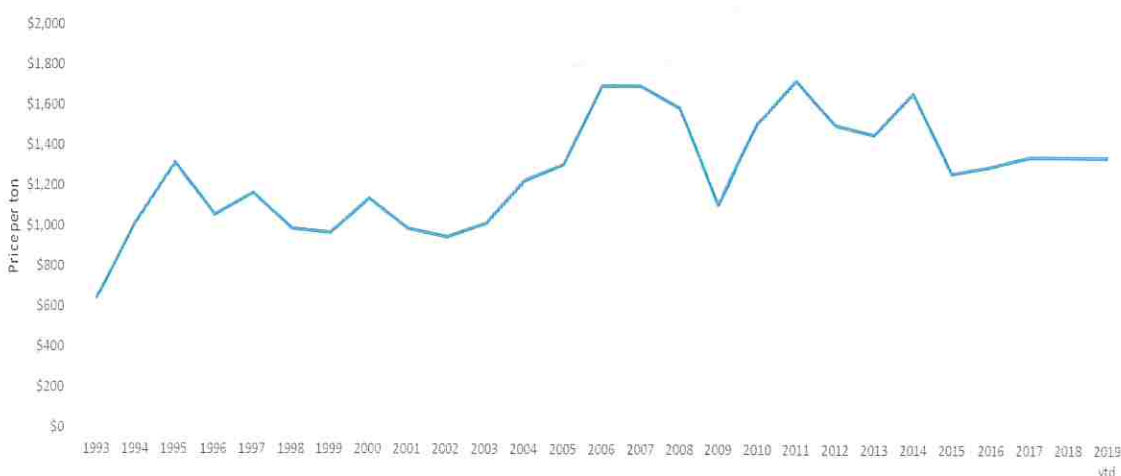
State regulations (RCW 70A.205.045(c)) require "a description of markets for recyclables," hence a description of the markets for recyclable materials collected in Pacific County is provided below. This is intended to be only a brief report of current conditions, and it should be noted that market conditions for recyclables can undergo substantial changes in a short amount of time.

The markets for many recyclables took a serious blow in 2018 due to a decision by the Chinese government to ban the import of most types of recyclables. This decision has seriously and negatively impacted the markets for most types of plastics and paper, and to a lesser degree

metals and other materials. Much of the recyclable materials collected in Washington and other parts of the West Coast were being sold to Chinese companies, so this situation left many in this area seeking alternative markets. This situation also highlighted issues with the difficulties of recycling some types of materials and the high degree of contamination that is occurring in some collection systems. Both of these factors underscore the need to narrow the list of products and packaging that can be included in recycling programs, at least for the short term. Recently, markets have begun to recover, and more improvement is anticipated as paper mills and other markets in the U.S. are in the process of adding capacity.

In the long term, it is anticipated that recycling markets will improve due to investments in new paper mills and other markets. It is worthwhile to note that market demand and prices for recyclables have often fluctuated significantly throughout the years, just as prices for all commodities fluctuate with demand and other factors. Some recyclable materials have seasonal cycles in supply and demand, but all materials exhibit long-term trends with the possibility of sudden price spikes or dips. Figures 4-1 and 4-2 show how the prices for aluminum cans and a few other materials collected from residential sources in the Pacific Northwest have fluctuated over the past 20 years. As can be seen in Figures 4-1 and 4-2, market prices dipped for most materials in 2008 and 2009 due to the slump in demand caused by the recession. Prices have risen or fallen at other times depending on several factors. It should also be noted that the prices shown in Figures 4-1 and 4-2 may not be representative of prices received for Pacific County materials, and are not adjusted for collection, processing and transportation costs.

Figure 4-1
Price Paid for Baled Aluminum Cans (annual averages)

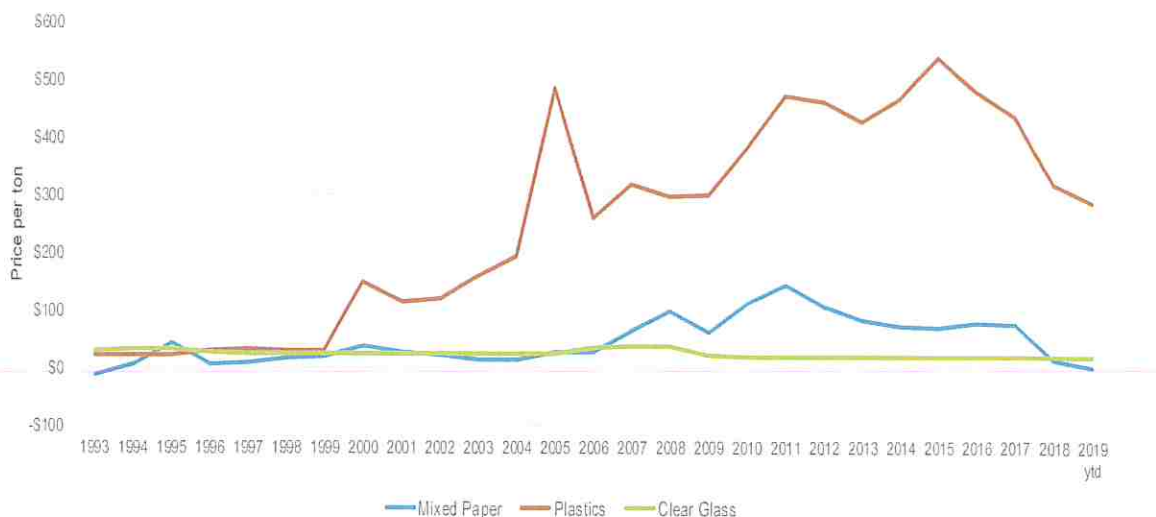


Notes: Prices shown may not be representative of prices received Pacific County materials, and are not adjusted for collection, processing and transportation costs.

2019 ytd = year-to-date, includes data through June 2019.

Source: Seattle Public Utilities website (original data source: American Metal Markets).

Figure 4-2
Prices Paid for Select Recyclable Materials (annual averages)



Note: Prices shown may not be representative of prices received for Pacific County materials, and are not adjusted for collection, processing and transportation costs.
2019 ytd = year-to-date, includes data through June 2019.

Source: Seattle Public Utilities website (original data sources are Mill Trade Journal's Recycling Markets, Pulp and Paper Week, Recycling Times, and Waste News).

Other important factors for marketing of recyclable materials collected in Pacific County include transportation costs and volumes of materials. The cost of transporting recyclable materials from Pacific County is higher than for other areas that are closer to the I-5 corridor or closer to processing facilities and markets in more urban areas. The low market value of many recyclable materials limits the number of materials that can be cost-effectively moved to market. The relatively low volumes that could be collected in Pacific County are also a severe disadvantage for the cost-effective collection of recyclable materials.

Designated Recyclable Materials

The designation of recyclable materials took on more importance with the adoption of Chapter 173-350 WAC, which defines recyclable materials as being those materials "that are identified as recyclable material pursuant to a local comprehensive solid waste plan." Since market conditions for recyclables can change drastically in a short amount of time, the list of designated materials should also be accompanied by a description of the process for revising that list.

Table 4-4 shows the list of designated recyclable materials in Pacific County. This list is not intended to create a requirement that every recycling program in Pacific County collect every designated material. Instead, the intent is that through a combination of programs, residents and businesses should have at least one opportunity to recycle the designated materials. It

Table 4-4. List of Designated Recyclable Materials

Materials that should be collected at drop-off locations or through other collection services.	<p>Glass bottles and jars</p> <p>Aluminum cans</p> <p>Steel (tin) cans</p> <p>Cardboard</p> <p>Newspaper</p> <p>Mixed Paper</p> <p>Plastic #1 and #2</p> <p>Scrap metal, including appliances</p> <p>Edible food (donated)</p> <p>Electronics (e-waste)</p> <p>Mercury-containing light bulbs</p> <p>Clothing and textiles</p> <p>Motor oil</p> <p>Wood</p>
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Materials to be recycled should be clean and dry.

should also be noted that this list is considered the minimum set of materials to be recycled, and that it is not intended to discourage the recycling of additional types of materials if there is an opportunity or program for other materials.

The list of “designated recyclable materials” shown in Table 4-4 is based on existing conditions (collection programs and markets), and future markets and technologies may warrant changes in this list. The following conditions are grounds for additions or deletions to the list of designated materials:

- The market price for an existing material becomes so low that it is no longer feasible to collect, process and/or ship it to markets.
- Local markets and/or brokers expand their list of acceptable items based on new uses for materials or technologies that increase demand.
- New local or regional processing or demand for a particular material develops.
- No market can be found for an existing recyclable material, causing the material to be stockpiled with no apparent solution in the near future.
- The potential for increased or decreased amounts of diversion.
- Legislative mandate.
- Other conditions not anticipated at this time.

The Solid Waste Advisory Committee (SWAC) will review the list of designated recyclable materials on an as-needed basis and changes in the list can be made by the Pacific County Community Development Director without going through a formal amendment process. Any

changes in the list proposed by others should be submitted to the SWAC for their discussion. Minor changes should be able to be addressed in about 60 to 75 days at most, depending on the schedule of SWAC meetings at the time of the proposed change. Should the SWAC conclude that the proposed change is a “major change” (what constitutes a “major change” is expected to be self-evident at the time, although criteria such as the length of the discussion and/or inability to achieve consensus could also be used as indicators), then an amendment to the plan may be necessary.

4.4. PLANNING ISSUES FOR RECYCLING

This section discusses management issues and service gaps associated with recycling programs in Pacific County

Education and Outreach

Additional recycling education and outreach conducted in Pacific County could create greater awareness of the recycling programs and create a higher recycling participation. Funding has limited school, residential and commercial education and technical assistance. WSU Extension offers composting education though offers limited information on recycling.

Monitoring Drop Boxes

Pacific County provides several drop boxes throughout the County. They are not staffed and illegal dumping occurs periodically. Funding is limited and the budget does not allow for providing staff at these locations.

Commercial Recycling

The business sector has limited access to recycling opportunities, except in the City of South Bend where they can sign up for commingled collection service. While some drop off collections are available, commercial recycling is not convenient for much of the commercial sector. Businesses that generate high-value materials, such as aluminum cans and cardboard, could be served with a collection service at a low or no cost.

Residential Recycling

South Bend offers curbside commingled recycling to their residents, and residents in Harbor Disposal’s service area can also subscribe to curbside recycling. Other than that, curbside recycling is not available throughout the County. While some of the County residents would like to recycle curbside, recycling services are not offered. There is anecdotal evidence of increasing interest in curbside recycling in Pacific County, possibly due in part to the influx of new residents.

Waste Characterization

Pacific County has not taken a look at the composition of their garbage for some time. While it is helpful to distinguish what types of recyclables end up in the garbage, the cost for conducting a waste composition study is expensive. Reviewing the State and other counties

composition study results may help guide the County in their programs, though the results from other areas may or may not reflect the composition of Pacific County's garbage.

Contamination Issues

Contamination reduces the market value of recovered materials and causes the entire system to be more difficult and expensive to operate. In the County drop boxes, users place recyclables in separate compartments of the box based on the type of material. This reduces the contamination rate. In contrast, commingled recycling programs shows a high contamination rate. Ongoing education about what's accepted in the recycling programs is needed to minimize the levels of contamination.

Market Issues for Recyclables

As noted earlier in this chapter (see Section 4.3), the markets for many of the recyclable materials suffered serious setbacks beginning in 2018. More recently, however, the markets for most materials have improved as various industries have added capacity to use the recyclable materials. It should now be possible to once again plan for new or expanded recycling programs, although this should be done cautiously. Among other factors, any plans for new or expanded recycling programs should restrict the list of acceptable materials to include only those materials that can be marketed, and also be very clear about needing to reduce contamination by non-recyclable materials.

4.5. ALTERNATIVE STRATEGIES FOR RECYCLING

The following alternatives were considered for recycling programs in Pacific County. The listing of an alternative in this section does not mean that it is considered feasible, nor that it is recommended (see Section 4.6 for recycling recommendations). In addition, the alternatives are not listed in order of priority.

Alternative A – Implement Curbside Recycling Services

Alternative A considers the establishment of curbside recycling programs in additional areas, such as Long Beach, Ilwaco and Raymond. The clear downside to this alternative is the current problems with markets for recyclable materials, especially for paper and plastics. This would be a difficult time to begin new recycling programs given the problems with marketing recyclable materials.

Alternative B – Increase Commercial Recycling Services

This alternative addresses the possibilities for increasing recycling by businesses, institutions and other non-residential entities. Businesses often generate significant amounts of relatively clean recyclables, but resist recycling programs for a variety of reasons. Additional recycling could be encouraged through voluntary methods, including more outreach and technical assistance to businesses. As with residential recycling, one of the major barriers to increasing commercial recycling at this point in time is the poor markets for recyclables.

Alternative C – Increase Education and Outreach

Currently the County has limited funds to implement further education and outreach. The County could consider using some of the grant funding for outreach. The WSU extension could extend their education program to include recycling. They are partially funded by the college and contracting with them may cost less than hiring County staff to deliver outreach and education to residents and schools.

Haulers of curbside recycling materials are required by state law to send an annual recycling flyer to customers showing the materials recycled and how to prepare materials for recycling. LeMay Enterprises, which collects in South Bend for a voluntary program, currently sends garbage and recycling information to new customers. They could extend this program to send this recycling flyer to all South Bend residents on an annual basis. As the County works with Peninsula Sanitation for drop box recycling, the County could consider working with the hauler to send out an annual flyer.

4.6 RECYCLING RECOMMENDATIONS

The following recommendations are being made for recycling:

- R1) Analyze avenues to expand recycling education and outreach. Coordinate with WSU in promoting recycling for residents.
- R2) Coordinate with haulers to provide recycling collection services for businesses.
- R3) Evaluate waste characterization data from other sources to assess Pacific County's recycling potential.
- R4) Continue the free County-sponsored appliance collection events.
- R5) Consider implementing additional curbside recycling programs when the markets improve, and at that time implement a rate structure in association with the curbside recycling program.

More details on the implementation of these and other recommendations are shown in Chapter 11.

ORGANICS

5.1. BACKGROUND FOR ORGANICS

Definitions for Organic Materials

In this Pacific County Solid Waste and Moderate Risk Waste Management Plan (this “Plan”), the term “organics” is intended to include compostable materials such as yard debris and food waste. Other types of organic materials, such as clean wood and compostable paper, could also be included depending on the program being considered.

Yard debris is defined to include materials such as lawn clippings, leaves, weeds, vegetable garden debris, branches and brush. Because branches and brush are included in the definition of yard debris, programs discussed in this chapter and figures for “composting” include chipping and other processing methods for brush, Christmas trees and similar materials. Backyard composting means a small-scale activity performed by homeowners or others on their own property, using yard debris that they have generated on that property. Some types of food waste, primarily fruit and vegetable scraps, can be managed through backyard composting or by using worm bins (“vermicomposting”). Backyard composting and vermicomposting are considered to be a form of waste reduction and so are addressed in Chapter 3 of this Plan.

Food waste can be defined in several ways but is generally intended to refer to the food waste that is potentially handled by various programs (i.e., edible food for food recovery programs, compostable food for other programs, etc.). The term “wasted food” is used to refer to food that was edible but that spoiled before it could be eaten or that was still edible when disposed.

Composting can be defined as the controlled biological decomposition of organic materials to produce a beneficial product (compost). Compost has several applications, but as a soil amendment it provides organic matter and nutrients, loosens soils, and helps retain moisture.

Regulations for Organics

State Regulations: In 2010, the State Legislature amended RCW 70A.205.040 to require that solid waste management plans address source separation and collection of organic materials. Plans updated after June 10, 2010 are required to address “organic material including yard debris, food waste, and food contaminated paper products for composting or anaerobic digestion.” Solid waste plans are also required to “consider and plan for ... source separation of ... organic materials” and “handling and proper preparation of organic materials for composting or anaerobic digestion.”

State law (RCW 70A.205.045 (7)(b)(iii)) also requires that solid waste management plans include a waste reduction and recycling element that addresses yard waste collection programs where “there are adequate markets or capacity for composted yard waste within or near the service

area to consume the majority of the materials collected.” The law implies when cost-effective, source-separated yard waste should be processed into compost. The type of program(s) needed to satisfy this provision is not clearly stated.

A new law adopted in 2019, (ESHB 1114, now codified as RCW 70A.205.715) established a statewide goal of reducing the amount of food waste by 50% by 2030 (relative to 2015 amounts). Included in this goal is a reduction of the amount of edible food wasted. Ecology has prepared a report, the [Use Food Well Washington Plan](#), to address these goals.

A new law adopted in 2020, the Compost Procurement and Use bill (ESHB 2713) amended Chapter 43.19A RCW to add three new sections. Among other provisions, these sections:

- Recognize the benefits of organics diversion and compost usage.
- Requires State agencies and local governments to consider the use of compost in government-funded projects, and to use compost if it is reasonably priced and available, and if the compost meets existing procurement, health and other standards.
- Encourage State agencies and local governments to give priority to locally-produced compost.
- Encourages local governments that provide “residential composting service” to buy back at least 50% of the compost produced from the collected organics.

Pacific County: Pacific County Board of Health Ordinance No. 2C, effective May 1, 2007, addresses the conditions that allow composting operations to be exempt from some permitting requirements. This ordinance incorporates State law (Chapter 173-350 WAC) by reference, so the exemptions and permitting requirements are the same for Pacific County as in State law.

Goals for Organics

Planning Goals: Almost all of the goals for this Plan are applicable to organics:

- Review current solid waste regulations and policies giving particular attention to waste stream reduction, recycling, food waste and future disposal needs.
- Review existing facilities and solid waste handling practices, and seek community input to identify additional needs.
- Assess alternatives and develop recommendations for future action, incorporating the most recent reviews of studies, statistics, and drivers of solid waste issues in Pacific County with a regional perspective.
- Provide guidelines for an equitable balance between convenience, expense, climate impact, environmental quality, and public health and welfare.
- Incorporate flexibility to anticipate future needs.
- Continue cooperative and coordinated efforts among government agencies, private companies and the public to achieve effective management of solid waste.
- Outline funding mechanisms.

Organic materials collected for composting are intended to count towards Pacific County’s recycling goal of 30% (see Section 4.1).

State Solid and Hazardous Waste Plan: The Washington State Solid and Hazardous Waste Plan, “[Moving Washington Beyond Waste and Toxics](#),” has adopted a vision that society can transition to a point where waste is viewed as inefficient and most wastes have been eliminated. This transition is expected to take 20 to 30 years or more. In the short term, the 2015 update to the State plan establishes several goals for better managing and increasing the diversion of organic materials. These include goals to reduce wasted food; to increase the use of compost and other soil amendments from recycled organics to reduce water consumption and the need for fertilizers, pesticides and herbicides; and to diversify the state’s organics processing infrastructure and the end-use markets for recycled organic products.

Waste Management Hierarchy: Washington State law (RCW 70A.205.005 (8)) provides direction on the preferred management methods for yard debris (and for recycling and other solid wastes in general). In addition, recent work by the U.S. EPA provides a hierarchy specifically for food waste. The hierarchy for food waste differs somewhat from other organics because a portion of the food waste can be recovered to feed people and animals. Otherwise, both are similar in that each begins with waste prevention as the most desirable management method and ends with landfilling as the least preferred option. Table 5-1 shows specific options for managing yard waste and other organics and options for food waste, in order of preference from waste prevention to disposal methods. This chapter primarily addresses the collection and processing of organics into compost and other products. Waste prevention methods are addressed in Chapter 3 and landfilling is addressed in Chapter 7.

Table 5-1. Hierarchy of Preferred Management Methods		
Management Method (in order of highest to lowest preference) ¹	Yard Debris, Wood, Compostable Paper, Other Compostables	Food Waste ²
Waste Prevention	Product Substitution ³ On-Site Composting GrassCycling	Source Reduction Feed Hungry People Feed Animals
Composting and Recycling	Collection and Processing into Mulch (for wood waste) Collection and Processing into Compost	Collection and Processing into Compost and Other Products Rendering
Energy Recovery	Anaerobic Digestion Fuel (wood waste)	Anaerobic Digestion Biodiesel (grease)
Landfilling and Incineration without Energy Recovery	Disposal (waste export)	Disposal (waste export)

- Notes:
1. The management methods shown in the first column are based on Washington State law.
 2. The hierarchy shown above for food waste is based on EPA’s “Food Recovery Hierarchy,” but with energy recovery methods downgraded below composting.
 3. Product substitution in this case includes the use of durable products (ceramic plates, cloth napkins, etc.) in place of disposable products (such as paper plates and napkins).

5.2. EXISTING ORGANICS PROGRAMS

Existing programs for organics in Pacific County include a variety of activities, as described below.

On-Site Management of Organics

Yard debris and some types of food waste can be handled on-site through backyard composting and worm bins. These activities are defined as a form of waste reduction and so are discussed in greater detail in Chapter 3 of this Plan.

Some farms are composting their own organic materials (such as horse manure and bedding materials) on-site.

The Long Beach Parks Department composts the yard debris they generate from trimmings in the parks. This amounts to about 30 cubic yards of material per year, which results in less than 25 cubic yards of material present at the composting site at any point in time and thus falls below the threshold for permitting.

The City of Long Beach operates a wastewater treatment plant. They compost their biosolids with clean sawdust and wood chips that come from trees that are trimmed by the Pacific County Public Utilities Department and from other sources, such as limited amounts of brush and logs from residents.

Drop-Off Sites

Brush and clean wood (untreated and unpainted) are accepted at the Pacific Solid Waste Transfer Station in Long Beach. These materials can be dropped at the transfer station at a much lower cost than garbage (for about half of the rate for solid waste). Trails End Recovery (Warrenton, Oregon) periodically comes to the transfer station to grind and remove these materials, which are then composted or sold as hog fuel. Compost from Trails End Recovery is sold at the Pacific Solid Waste Transfer Station.

The Royal Heights Transfer Station accepts separate loads of yard waste, wood waste and clean dirt at a reduced rate, but these materials are currently being landfilled at the Stafford Wood Waste Landfill. Grass clippings and food waste are not accepted anywhere in the County for composting, but are handled as solid waste.

Seafood Wastes

Department of Ecology records show that Jessie's Ilwaco Fish Company and the Dungeness Development Association have land application permits for their fish and seafood waste. Jessie's Ilwaco Fish Company was recently purchased by Safe Coast Seafoods, and they are no longer land applying fish waste but are sending their shells and other seafood waste to Pacific Gro in Raymond. Pacific Gro handles the seafood waste from a number of processors in the area, converting it to a fertilizer that is certified as organic. Some of the seafood waste from local processors is also used to make pet food.

Other Collection Programs

Collection of fats, oils and other materials for rendering and biodiesel production is conducted by private companies. For instance, some of the restaurants in Long Beach recycle their used cooking oil with SeQuential (Portland, Oregon), which manufactures biodiesel from it.

Public Education for Organics Programs

The WSU Extension Master Gardeners offers backyard composting education to the community (see Section 3.2 for more details). Further information on public education activities is discussed in Chapter 4 (see Section 4.2).

Processing and Market Capacity

Most of the organics collected in Pacific County are processed by Trails End Recovery in Warrenton, Oregon. Trails End Recovery was established in 2001 as a Department of Environmental Quality Certified Materials Recovery and Recycling Facility. Trails End operates on an 8.5 acre site in Warrenton. They are a full-service yard which accepts yard trimmings and several types of construction and demolition materials. All these materials are recycled or made into usable products for local consumption. Trails End Recovery goes to the Pacific Solid Waste Transfer Station site and processes brush and clean wood collected from the public there. They haul away the processed material and sell it as hog fuel. The hog fuel market is currently being satisfied by a surplus of material from several recent wild fires and also from storm debris. The market is expected to increase again once the mills process those materials and return to paying for hog fuel.

Other than the limited materials accepted at the Pacific Solid Waste Transfer Station, there are no public opportunities to divert yard waste and other organics. The market for finished compost also appears to be very limited and is currently being satisfied by compost sold at the Pacific Solid Waste Transfer Station and bagged materials sold through retail outlets. More compost could likely be absorbed by the agricultural lands in Pacific County, but this type of application generally requires large amounts of inexpensive and clean organics. In other words, agricultural applications are generally a poor fit for organics derived from residential or urban sources. The processing and marketing of commercial and industrial organics is currently being satisfied by companies such as Pacific Gro and SeQuential (see discussion above).

Wasted Food

There are twenty food banks throughout Pacific County that recover and distribute edible food (see also Section 3.2 for additional information). The community takes a lot of ownership by contributing funds and food to serve the hungry in their area. All these food banks are non-profits that work independently. One of these, the Ocean Park Food Bank, provides a larger range of services. This food bank operates Tuesday through Friday and attracts people from the entire peninsula. They receive food from the Oregon Food Bank, private donors and gardeners. They also hold a "Green Bag Day" where residents can bring canned goods. This food bank currently helps to feed about 300 families per day. Most of the patrons are repeats, though they get a small number of new people each month. They have been operating over 15 years and are now equipped with 17 commercial refrigerators and freezers. They ask that

patrons use the service two times per month, but will welcome them more frequently so that no one goes hungry.

5.3. PLANNING ISSUES FOR ORGANICS

This section discusses management issues associated with organics.

Diversion Potential

Organic materials (food waste and yard debris) are a substantial portion of the disposed waste stream, representing an estimated 20.9% of Pacific County's waste stream (see Table 2-7). There are a variety of methods that could be used to address these materials, beginning with avoiding the wasting of edible food and then composting other food waste and yard debris. These activities have a broad range of economic and environmental benefits.

Access to Organics Diversion Options

Access to yard waste diversion options is limited in Pacific County. Grass clippings are not collected anywhere in the County for composting. Yard and food waste is not collected curbside for residents or businesses, but there is anecdotal evidence of increasing interest and demand for this service. Most of Pacific County is highly rural, however, and so likely much of the yard waste generated in the county is being handled through on-site methods. Organic materials collected separately in the north end of the county are currently being landfilled or burned, and could instead be composted if an option was available for that.

Apple Maggot Quarantine Issues

Concerns have been raised recently by the Washington State Department of Agriculture (WSDA) about transporting garbage and mixed organics (yard waste and food waste) to eastern Washington and the potential for these practices to introduce apple maggots from quarantine areas to apple-growing areas. Restrictions have been put in place that generally prevent the shipping of mixed organics into a non-quarantine area. Fortunately, this is not an issue for Pacific County, but could be a factor in the future if an out-of-county commercial composting facility is being considered.

Hog Fuel Markets and Wood Diversion Potential

Woody materials that are ground to a smaller size and used as a fuel, generally at paper mills or other large industrial facilities, are referred to as "hog fuel." Hog fuel has been the primary market for wood waste from construction, demolition and land clearing wastes, but the market for hog fuel is currently weak and suppliers are paying increasing fees to ship this material to existing markets. There is a concern that the current users of hog fuel will eventually switch to natural gas or other sources of fuel, causing further setbacks to an already weak market. While the use of wood waste for hog fuel is not defined as recycling, it still represents a form of waste diversion and is a more beneficial use than simply landfilling the wood waste.

Illegal Dumping of Yard Waste

Yard waste is one of the materials that is frequently dumped illegally, especially in the northern parts of Pacific County. Providing additional options for the proper disposal of these materials could help prevent illegal dumping.

5.4. ALTERNATIVE STRATEGIES FOR ORGANICS

The following alternatives were considered for organics programs in Pacific County. The listing of an alternative in this section does not mean that it is considered feasible, nor that it is recommended (see Section 5.5 for organics recommendations). In addition, the alternatives are not listed in order of priority. See also Chapter 3 for alternatives addressing waste reduction of organics.

Alternative A – Develop a Composting Facility

Alternative A considers the establishment of a compost site in Pacific County. The cost to build and operate this type of facility would be significant, including site preparation (grading to create a level or slightly-sloped composting pad, installation of water and electricity); installation of an impervious surface, aeration capabilities and a run-off containment pond; equipment such as a compost turner and other heavy equipment; staffing; and engineering and permits. The site could be operated by Pacific County or by a private company through a contract. All regulations concerning a commercial composting facility fall under the WAC 173-350-220. This section of the Solid Waste Handling Standards details the location standards, design, operating standards, groundwater monitoring, closure requirements, financial assurance, and permit application process. The feasibility of a composting facility in Pacific County would also depend on having an adequate supply of organics for the facility to process, and a larger market for the finished compost than there appears to be at this time.

Alternatively, organics could be transferred to an existing compost site outside of the county. While this approach would avoid the significant capital expense of building a new facility, there would instead be significant costs for transporting organics to an out-of-county site. This approach could be used as a transition to an in-county facility, allowing the supply of organics and possibly also market demand for finished compost to be increased sufficiently to justify an in-county facility.

Alternative B – Consider Curbside Collection of Yard Waste

Implementing an organics collection program in Pacific County would first require the availability of a compost facility to accept this material, at which time a curbside collection program could be considered for the more densely-populated areas of the county. The County would have to review the capital budget, user fees, collection services, and community interest when considering this option, and also work with the private haulers and cities to implement this approach.

Alternative C – Expand Drop-Off Collection of Yard Waste and Grass Clippings

Pacific County residents and businesses can deliver some types of yard waste and wood to the Pacific Solid Waste Transfer Station in Long Beach. This transfer station could also separately collect grass clippings and other types of organics if these materials could be shipped on a regular basis to a composting facility and if this could be done cost-effectively. Something similar could also be done at the Royal Heights Transfer Station, or drop-off sites in South Bend or Raymond could also be considered. These drop-off sites could send materials to a central composting facility (see Alternative A) or possibly two smaller facilities that would provide convenient locations for the northern and southern areas of the county.

Alternative D – Promotion of the Organics Collection Program

If the County proceeds with curbside recycling and organics collection, promotion could be conducted for the organics collection to encourage residents and businesses to sign up for this service and to inform them of the materials that are acceptable for it. Most households generate yard waste and virtually all generate food waste, so potentially all households could benefit from this service. Facility capacity should be confirmed before embarking on programs that could substantially increase the amounts of organics being collected.

Alternative E – Encourage Markets for Compost

Pacific County and the cities could take steps to encourage markets for locally-produced compost by complying with the requirements of the Compost Procurement and Use bill. Planning departments could be encouraged to recommend compost in landscaping and erosion control project. Outreach and building codes could be used to encourage private companies to use compost. These activities would be more important if additional amounts of organics will be diverted through increased curbside collections or other programs.

5.5. RECOMMENDATIONS FOR ORGANICS

The following recommendations are being made for organics (see also Chapter 3 and Chapter 9):

- O1) Consider implementing drop-off sites for yard waste if a facility or system can be identified for handling it.
- O2) Evaluate the feasibility of siting a commercial composting facility in Pacific County.
- O3) Evaluate whether curbside collection of yard and food waste is feasible.
- O4) Pacific County, with help from other partners, should encourage neighborhood composting sites.
- O5) Pacific County supports Ecology's goal of reducing the amount of food waste that is disposed with solid waste.

More details on the implementation of these and other recommendations are shown in Chapter 11.

CHAPTER 6

SOLID WASTE COLLECTION

6.1. BACKGROUND FOR WASTE COLLECTION

Introduction

This chapter of the Pacific County Solid Waste and Moderate Risk Waste Management Plan (the “Plan”) addresses the solid waste collection system in Pacific County. There is one municipal and one private solid waste collection operation in Pacific County. The municipal operation is the City of Raymond, and the private company is Waste Connections, operating as Harold LeMay Enterprises, Inc. for the South Bend contract or as Peninsula Sanitation Service and Harbor Disposal, Inc. of Aberdeen in other parts of Pacific County.

State Regulations Concerning Waste Collection

The Washington State authorities that govern collection activities are Ecology and the Washington Utilities and Transportation Commission (“UTC”). RCW 70A.205.010 also assigns responsibilities to local government for the management of solid waste handling while encouraging the use of private industry. The various laws that may apply to solid waste collection companies include:

- **Chapter 81.77 RCW, Solid Waste Collection Companies:** This law establishes the state regulatory authority for solid waste collection companies and the procedures and standards with which they must comply.
- **Chapter 35.21 RCW, Cities and Towns:** This law establishes the authority of towns and cities in regard to solid waste and the procedures and standards with which they must comply. Per RCW 35.21.120, “A city or town may by ordinance provide for the establishment of a system or systems of solid waste handling for the entire city or town or for portions thereof. A city or town may provide for solid waste handling by or under the direction of officials and employees of the city or town or may award contracts for any service related to solid waste handling.”
- **Chapter 36.58 RCW, Solid Waste Disposal, and 36.58A RCW, Solid Waste Collection Districts:** Chapter 36.58A RCW allows a county to form a collection district that would enable the adoption of mandatory waste collection. Chapter 36.58 RCW primarily addresses disposal activities, including the ability to form a solid waste disposal district, but one section (RCW 36.58.045) authorizes counties to “impose a fee upon ... a solid waste collection company” to fund compliance with a solid waste management plan.
- **Chapter 480-70 WAC, Rules for Solid Waste and/or Refuse Collection Companies:** This chapter establishes standards for public safety, fair practices, reasonable charges, nondiscriminatory application of rates, adequate and dependable service, consumer protection, and compliance for solid waste collection companies.

The Washington Utilities and Transportation Commission

In 1961, State law established exclusive territories for solid waste collection in order to ensure that everyone has access to garbage collection service and to limit the number of garbage trucks operating in each area. Solid waste collection companies must be issued a “certificate” that allows them to collect specific types of waste in specific areas. The UTC is responsible for issuing these certificates and further supervises and regulates waste collection companies by:

- Fixing and altering rates, charges, classifications, rules and regulations.
- Regulating the accounts, service, and safety of operations.
- Requiring the filing of annual and other reports and data.
- Supervising and regulating such persons or companies in all other matters affecting the relationship between them and the public which they serve.
- Requiring compliance with local solid waste management plans and related implementation ordinances.
- Requiring certificate holders to use rate structures and billing systems consistent with the solid waste management priorities and the minimum levels of solid waste collection and recycling services pursuant to local comprehensive solid waste management plans.

The UTC also regulates energy companies (electrical and natural gas utilities), private water companies, telecommunications, and other transportation companies (such as commercial ferries, pipelines, and railroads). More information can be found at UTC’s website at www.utc.wa.gov/.

Waste Collection Options for Cities

Four types of collection services are allowed by State law in the cities and towns:

- **Municipal:** This approach utilizes municipal employees and equipment to collect waste. The City of Raymond uses this approach.
- **Contracted:** Incorporated cities and towns may elect to contract with private companies for waste and recycling collection. Services provided by the contractor and regulated by the jurisdiction need to comply with Chapter 70A.205 RCW (Solid Waste Management). The City of South Bend uses this approach and has a contract with Waste Connections (dba Harold LeMay Enterprises, Inc.).
- **Certificated:** With this collection method, cities are not actively involved in garbage collection. Instead, the cities allow the UTC-certificated hauler to provide service under UTC regulation (and at rates approved by the UTC). The Cities of Long Beach and Ilwaco, and also the unincorporated towns in Pacific County, use this approach by allowing the hauler certificated for their area (either Peninsula Sanitation Service or Harbor Disposal) to collect residential and commercial solid waste within their municipal limits.
- **Licensed collection:** This method applies to municipalities that require private collectors to have both a city-issued license as well as a UTC certificate. This approach gives the municipality limited control over collection services, and allows cities to require that important services be provided. For instance, some cities in other areas have used this

method to require collection companies to pick up Christmas trees, provide a semiannual residential cleanup, or provide free service to public buildings and facilities.

Local Regulations Concerning Waste Collection

Pacific County: The primary County ordinance affecting solid waste collection is the Pacific County Board of Health Ordinance No. 2, which addresses littering, illegal dumping and the need for proper handling of garbage. This ordinance was initially adopted in 1996 and most recently amended in 2007. This ordinance replaced the Board of County Commissioners Ordinance No. 2, adopted in 1954, and provides the Board of Health authority over incorporated areas (which the previous ordinance did not provide).

City Codes: All four of the cities in Pacific County have codes that address waste collection, littering and other aspects of proper waste management:

- The City of Ilwaco Municipal Code 8.08 addresses requirements for the removal of “junk” from properties, and Code 8.12 addresses junk vehicles. Code 8.16 addresses litter and the need for receptacles. Code 8.25 addresses outdoor burning.
- The City of Long Beach Title 5, Chapter 2 restricts accumulation or burning of solid waste and also addresses the need to properly manage various types of wastes that could cause odors or other problems (such as large appliances, dead animals, manures, and the accumulation of yard wastes in excess of one cubic yard). Junk vehicles are also addressed in this code but are more fully addressed in Title 5, Article A. Title 5, Chapter 3 adopts by reference the Waste Reduction, Recycling and Model Litter Control Act (Chapter 70A.200 RCW).
- The City of Raymond Municipal Code 8.12 makes garbage collection in the city “compulsory and universal” and further describes the requirements for proper solid waste handling. This code also provides for a discount for low-income elderly households. Raymond Municipal Code 8.56 regulates outdoor burning of storm debris.
- The City of South Bend Municipal Code 8.20 provides for a contract with a private garbage collection company and makes that service mandatory for everyone who owns or manages a structure within the city. South Bend Municipal Code 8.25 regulates outdoor burning of storm debris.

Local Utility Tax: Cities and towns are allowed to assess a utility tax on waste collection services within their boundaries. The City of Ilwaco assesses a 6% tax on the gross revenues of solid waste companies operating in their jurisdiction, and the City of Long Beach assesses a 9% tax on garbage collection services conducting in their city limits. South Bend previously assessed an 11% tax on garbage customers when they had a municipal collection system, but this no longer applies to the private service provided now.

Goals for Waste Collection

Four of the goals for this Plan are applicable to waste collection:

- Review existing facilities and solid waste handling practices, and seek community input to identify additional needs.

- Coordinate with counties, cities and the private sector to identify capital cost estimates and implementation schedules for recommended improvements with emphasis on those improvements recommended within a six-year period.
- Provide guidelines for an equitable balance between convenience, expense, climate impact, environmental quality, and public health and welfare.
- Continue cooperative and coordinated efforts among government agencies, private companies and the public to achieve effective management of solid waste.

6.2. EXISTING WASTE COLLECTION ACTIVITIES

Existing Waste Haulers

There is one municipal and one private solid waste collection operation in Pacific County. The collection service providers, their mailing addresses and the current population density for each service area are shown in Table 6-1.

The City of South Bend previously had a municipal collection system but this was privatized on January 1, 2019 through a contract with Waste Connections (dba Harold LeMay Enterprises, Inc.). That contract also provides curbside recycling in the city. In addition, Peninsula Sanitation was previously a separate private company but was purchased by Waste Connections in November 2021.

Service Provider	Address	Population Served (2020) ¹	Land Area, square miles ²	Density (people per square mile) ³
City of Raymond	230 2 nd Street, Raymond, WA, 98577	2,910	4.69	620
Harbor Disposal	4201 Olympic Highway, Aberdeen, WA, 98520	NA	NA	17.9
Peninsula Sanitation	PO Box A, Ilwaco, WA, 98624	NA	NA	17.9
Totals		21,840	1,223	17.9

- Notes: 1. Population figures are from Table 2-1. Figures for the population of the areas served by Harbor Disposal and Peninsula Sanitation are unavailable.
2. Figures for the land area served by Harbor Disposal and Peninsula Sanitation are unavailable.
3. Density figures are calculated from the population and land area figures. The density figures for Harbor Disposal and Peninsula Sanitation are assumed to be same as the county total.

More information about each of the three collection operations in Pacific County is shown below and a summary of the rates in each area is shown in Table 6-2. Rates for temporary containers may differ from the rates shown in Table 6-2. Also not shown are rates for larger

containers (roll-offs and stationary compactors), which are hauled individually to transfer stations. Charges for the larger containers are based on monthly rental fees for the container plus the disposal fee for the actual amount (by weight) of garbage in the container each time it is emptied.

Table 6-2. Garbage Collection Fees for 2021

Service Provider	City of Raymond	Harbor Disposal, Inc ¹	South Bend (LeMay Sanitation)	Peninsula Sanitation ²
Residential				
Weekly Collection				
Mini-can (20 gallons)	n/a	13.71	n/a	n/a
One can (35 gallons)	21.28	18.92	22.41	n/a
Two cans (or 60/65-gallon cart)	31.92	28.01	37.56	26.19
Three cans (or 90/95-gallon cart)	42.55	37.41	50.51	32.94
Four cans	53.19	46.42	n/a	n/a
Extra can	6.00	n/a	5.16	n/a
Per-bag fee (30/35-gallon)	n/a	n/a	n/a	8.00
Every-Other-Week Collection				
65-gallon cart	n/a	14.00	27.51	n/a
95-gallon cart	n/a	n/a	32.33	n/a
Monthly Collection				
One 35-gallon cart	n/a	8.58	11.97	n/a
One 60/65-gallon cart	n/a	n/a	18.06	15.16
One 95-gallon cart	n/a	n/a	16.04	n/a
Recycling every other week	n/a	10.46 ³	12.24	n/a
Non-Residential				
60-gallon cart monthly	n/a	n/a	n/a	19.48
60-gallon cart once/week	n/a	29.70	38.21	38.75
90-gallon cart once/week	n/a	42.78	51.92	44.64
300-gallon cart once/month	n/a	n/a	n/a	136.96
300-gallon cart every other week	n/a	n/a	n/a	85.85
1 cubic yard	85.11	34.83	91.05	n/a
1.5 cubic yards	127.65	49.17	136.59	n/a
2 cubic yards	170.21	60.00	182.12	n/a
3 cubic yards	n/a	81.13	262.22	n/a
4 cubic yards	n/a	100.78	340.10	n/a
6 cubic yards	n/a	154.48	528.50	n/a

Notes: n/a = not applicable, service level is not provided.

All figures are dollars per month and are for once-weekly service unless specified otherwise.

1. Rates shown for Harbor Disposal are the rate without the hauler-provided cart.

2. Bear-resistant carts are also available from Peninsula Sanitation for an additional fee of \$6.84 per month for a 65-gallon cart or \$7.10 per month for a 95-gallon cart.

3. The residential garbage fee for Harbor Disposal is reduced by \$2.00 when customers sign up for recycling.

Each collection operation is responsible for the proper disposal of the solid waste they collect. Raymond brings their solid waste to Royal Heights Transfer Station. Large (over 2 yard) containers from Raymond are picked up by Peninsula Sanitation Service. Peninsula Sanitation Service utilizes both transfer stations for disposal. They deliver compactors and large containers from north County areas to Royal Heights Transfer Station for disposal. The remaining solid waste is taken to the Pacific Solid Waste Disposal Transfer Station. Harbor Disposal takes South Bend garbage to the Royal Heights Transfer Station, and the waste that they collect in the unincorporated areas in north County is taken to their transfer station in Aberdeen (Grays Harbor County). Recyclable materials collected in South Bend and the unincorporated areas is brought to the transfer station in Aberdeen.

City of Raymond: The City of Raymond provides collection services that include weekly residential and commercial services. Residents provide their own 32-gallon garbage cans, which must have handles, a lid, and weigh less than 50 pounds of solid waste. The residential garbage service is mandatory. A resident can also arrange for a special temporary dumpster service and is charged a per-dump fee for that. The City provides 1-yard, 1 ½-yard and 2-yard dumpsters for weekly commercial service. They take their solid waste to the Royal Heights Transfer Station.

City of South Bend: The City of South Bend has mandatory residential garbage collection and contracts with Waste Connections (dba Harold LeMay Enterprises, Inc.) for garbage collection and recycling. LeMay Enterprises picks up monthly, every other week and weekly and offers 35, 65 and 90-gallon containers. Residents can sign up for curbside recycling on a voluntary basis. LeMay Enterprises handles the billing for South Bend customers.

Harbor Disposal: Harbor Disposal, Inc. (a division of Waste Connections) is based in Grays Harbor County and has a UTC-issued certificate to collect waste in the unincorporated area of North Cove/Tokeland. They offer rates for mini-cans (20-gallons) and offer weekly, every-other-week and monthly garbage service. They currently lack an officially-approved tariff that establishes the rates and services for the North Cove/Tokeland area and are using rates that apply to Grays Harbor County for that area.

Peninsula Sanitation: Peninsula Sanitation Service, Inc. (now a division of Waste Connections) has a UTC-issued certificate that covers the majority of Pacific County excluding the incorporated cities of Raymond and South Bend and the North Cove/Tokeland area. They provide 60- and 90-gallon containers for residential service and 60-, 90- and 300-gallon containers for commercial service. They recently began providing bear-resistant containers for a small extra fee. These containers also help keep garbage from spilling when the wind blows the container over.

6.3. WASTE COLLECTION PLANNING ISSUES

This section discusses management issues associated with collection of municipal solid waste.

Accessibility of Information on Garbage and Recycling Services and Rates

Information on garbage collection and recycling services and rates is not very accessible in many cases. The websites for Long Beach and Ilwaco do not have any of this information or even links to the haulers. The Sound Bend utility webpage has a direct link for trash collection which opens to the Waste Connection website. Their website FAQ addresses many questions regarding their garbage and recycling service but lacks information on rates and a complete description of services. Customers must get this information by contacting Waste Connections by phone or by emailing their questions to the e-mail on the website. Peninsula Sanitation's website has a clear listing and description of their solid waste services and rates. The City of Raymond also provides a complete listing of their service options and rates.

Bear-Resistant Containers

Bears do not present a significant problem in some areas of the County, such as in Raymond, but other areas have problems with bears and raccoons damaging or tipping over waste containers. Peninsula Sanitation has bear-resistant garbage cans available for residents. Harbor Disposal serves areas where they see bear damage and they are currently developing a plan to consider bear-resistant containers.

Utilities and Transportation Commission Tariff

The tariff filed with the UTC for Harbor Disposal and Eastern Grays Harbor Disposal does not specifically address rates and services in Pacific County.

Volume-Based Rates

When residents have an option to pay less for a smaller garbage can and must pay more for a larger can, they have more incentive to generate less waste. In other words, volume-based rates help encourage waste reduction. Harbor Disposal and Peninsula Sanitation have good options for volume-based rates, by providing options for mini-cans, per-bag fees, and every-other-week or monthly levels of service. The rates in South Bend could do more to encourage waste reduction, as currently the rate for monthly 95-gallon service is lower than for monthly 65-gallon service. This encourages residents to have a 95-gallon can if they choose the monthly option, and thus promotes the idea that it is okay to generate more waste. The City of Raymond picks up an additional can at a lower cost than the first can, and linear rates (where each additional can costs the same as the first can) would provide more incentive for waste reduction. It would also be helpful if Raymond provided mini-can and/or monthly services.

Current and Future Capacity

The current system does a good job of collecting and removing solid wastes generated by the residents and businesses in Pacific County. Future waste quantities have been estimated (see Table 2-8), and the existing collection system is anticipated to be able to handle the projected increase. It should be noted that the population for Pacific County may increase significantly more than the current projections indicate, due to changes brought about by the Covid-19 pandemic, but the waste collection, transfer and disposal system in Pacific County should still be able to handle the increased amounts. It should also be noted that this population growth could consist of a relatively high number of people from urban areas and/or senior citizens

(retirees) who may expect or need additional services.

Waste Diversion Programs

Some service gaps associated with the current collection system have been noted for recycling and organics, and these are discussed in Chapters 4 and 5, respectively.

Mandatory versus Optional Garbage Service

South Bend and Raymond have mandatory garbage service, but for other areas of Pacific County it is optional to subscribe to waste collection services. These residents can deliver their solid waste directly to the transfer station. Mandatory garbage collection throughout the County (also known as universal collection service) would decrease the amount of illegal dumping.

6.4. ALTERNATIVE WASTE COLLECTION STRATEGIES

The following alternatives were considered for new or expanded waste collection activities. The listing of an alternative in this section does not mean that it is considered feasible or desirable, nor that it is recommended (see Section 6.5 for waste collection recommendations). In addition, the alternatives are not listed in order of priority.

Alternative A – Universal Collection Services in Unincorporated Areas

Alternative A considers the establishment of universal solid waste collection in the unincorporated areas. This could be accomplished through a solid waste collection district. State law (Ch. 36.58A RCW) enables a county to establish such a district.

Most of the households reside in rural areas where mandatory collection services are not required. Mandatory collection programs throughout Pacific County would provide some benefits, but not without possible drawbacks. Potential benefits include a reduction in illegal dumping; a reduced need for enforcement of illegal dumping, littering and other laws; and greater ability to provide curbside recycling programs (assuming a combination of recycling and garbage services). Mandatory collection, however, can act as a disincentive for those who are already actively trying to reduce wastes. Residents who are recycling and reducing their wastes to the maximum extent possible may not be generating enough waste to need the minimum service level (one can picked up once per month). Other residents may have legitimate concerns about placing garbage at the curb for collection, such as long driveways and animal issues in their area, and so would object to being required to do this.

Alternative B – Promotion of Voluntary Garbage Collection Services

Alternative B consists of promoting voluntary subscription service for routine garbage collection. The promotional efforts would focus on the cost savings and convenience for curbside collection. For example, delivering four cans per month to the Pacific Solid Waste Transfer Station costs about the same as subscribing to waste collection services for one can per week in nearby areas, but with greater convenience and savings in time by not having to haul it to the transfer station.

Alternative C – Revisions to Volume-Based Collection Fees

The volume-based rates in two areas could be revised to provide more incentive for waste reduction. In the City of Raymond, the rates for each additional can after the first can could be increased so that the cost for each additional is the same or at least closer to the cost for the first can. In addition, a mini-can option and/or every-other-week or monthly service could be provided. If the rates are changed, it would be best to do this with a public education campaign to stress the importance and availability of options for waste reduction and recycling.

In the City of South Bend, the rate for monthly service of a 95-gallon cart is lower than for a 65-gallon cart, which provides incentive to use (and potentially fill) the larger cart. The rates could be adjusted to increase the cost for the monthly 95-gallon container and thus provide more incentive for people to use a smaller cart and generate less garbage.

Alternative D – Website Information for Solid Waste Services

The public cannot easily access the wide variety of solid waste services that the haulers and cities provide. If this information was posted on websites, residents and businesses could be better informed about their options and costs. Three of the cities (Ilwaco, Long Beach and South Bend) and Waste Connections could update their websites to provide clear information on garbage and recycling services and rates.

Alternative E – Utilities and Transportation Commission Tariff

The tariff filed with the UTC for Harbor Disposal and Eastern Grays Harbor Disposal needs to be revised to specifically address rates and services in Pacific County. This could be done the next time that this tariff is updated, since it doesn't appear to be creating an immediate problem.

6.5 WASTE COLLECTION RECOMMENDATIONS

The following recommendations are being made for waste collection programs:

- WC1) Continue to promote voluntary subscription to garbage collection services.
- WC2) Harbor Disposal should clarify their UTC tariff the next time it is updated to clearly show rates and services for unincorporated Pacific County.
- WC3) Clear and accessible information needs to be provided for rates in Ilwaco, Long Beach and South Bend, and for the unincorporated areas on the north end of the County.
- WC4) The rates in Raymond and South Bend should be revised to provide more incentive for waste reduction and recycling.
- WC5) Bear-resistant containers should be offered in more areas of the County.

More details on the implementation of these and other recommendations are shown in Chapter 11.

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TRANSFER AND DISPOSAL

7.1. BACKGROUND FOR TRANSFER AND DISPOSAL

Introduction

This chapter of the Pacific County Solid Waste and Moderate Risk Waste Management Plan (the “Plan”) discusses the various components and options for the transfer and disposal system in Pacific County. The key elements of the transfer system are the two transfer stations that operate in Pacific County. A transfer station is defined as a facility that accepts waste from smaller vehicles (cars, pick-up trucks, garbage trucks and other vehicles) and places the waste into larger containers to be shipped to a landfill. Pacific County has no active landfills currently, so all waste is shipped to out-of-county landfills for disposal. There is one old landfill, however, that still requires maintenance, primarily to collect and treat the “leachate” from that landfill. Leachate is defined as water that has flowed through wastes buried in a landfill and liquids that have been generated from the decomposition of that waste, which may be contaminated by pollutants from that waste.

State Regulations Concerning Transfer and Disposal

State laws and regulations concerning waste transfer can be found in the Revised Code of Washington (RCW) and the Washington Administrative Code (WAC). The RCW contains the laws adopted by the State Legislature, while the WAC consists of the regulations adopted by State agencies to implement the laws contained in the RCW. Local regulations can be found in the Pacific County Code. Specific laws and rules that relate to transfer and disposal activities in Pacific County include:

- **Chapter 36.58 RCW, Solid Waste Disposal**, authorizes counties to contract for disposal services, designate disposal sites, and to form disposal districts. RCW 36.58.050 states that transfer stations included in a solid waste plan are exempt from regulation by UTC and the requirement to use certificated haulers to transport wastes from the transfer station
- **Chapter 173-350 WAC, Solid Waste Handling Standards**, provides minimum functional performance standards for the proper handling of solid wastes. Chapter 173-350 WAC contains rules for transfer stations, piles, surface impoundments, limited purpose landfills and other types of facilities, as well as providing rules for beneficial use permits, groundwater monitoring, financial assurance and other important activities.
- **WAC 173-304-407** required all landfills closing prior to 2003 to maintain the landfill for a 20-year post-closure period or until the site is determined to have stabilized, meaning little or no leachate generation or gas production and no settling. Current solid waste landfills are regulated under Chapter 173-351 WAC, Criteria for Municipal Solid Waste Landfills.
- **Pacific County Board of Health Ordinance No. 2C**: The primary local regulations addressing transfer stations and other solid waste facilities are included in the Pacific County’s Board of Health Ordinance No. 2C. The purpose of this ordinance is to “control litter and

unauthorized dumping of solid waste in Pacific County, and to establish procedures and standards for permitting of solid waste management facilities.”

- A landfill operates under the rules of the county in which it is located, as enforced by the local health district, as well as State and Federal rules. The Cowlitz County Landfill, where Peninsula Sanitation currently disposes of solid waste from the Pacific Solid Waste Transfer Station, is regulated and permitted by the Environmental Health Unit of the Cowlitz County Health & Human Services Department. The landfill is regulated under Chapters 173-359, 173-351, and 173-304 WAC, as well as Cowlitz County Code 15.30. The Royal Heights Transfer Station sends solid waste to the Wasco County Landfill in The Dalles, Oregon, which is permitted by the Oregon Department of Environmental Quality (DEQ). The waste collected in the North Cove and Tokeland areas first goes to the Central Transfer Station in Montesano and then it is also sent to the Wasco County Landfill.

Goals for Transfer and Disposal

The following goals for this Plan are applicable to waste transfer and disposal:

- Extend the planning period to 2040.
- Review existing facilities and solid waste handling practices, and seek community input to identify additional needs.
- Assess alternatives and develop recommendations for future action, incorporating the most recent reviews of studies, statistics, and drivers of solid waste issues in Pacific County with a regional perspective.
- Provide guidelines for an equitable balance between convenience, expense, climate impact, environmental quality, and public health and welfare.
- Continue cooperative and coordinated efforts among government agencies, private companies and the public to achieve effective management of solid waste.

7.2. EXISTING TRANSFER AND DISPOSAL ACTIVITIES

Existing Transfer and Disposal System

There are two privately owned transfer stations permitted for municipal solid waste in Pacific County, which are the Pacific Solid Waste Transfer Station and the Royal Heights Transfer Station. These transfer stations serve their respective areas of the county and also serve the licensed commercial haulers within the county. The current fees charged at these facilities are shown in Table 7-1. A third transfer station, the Central Transfer Station in Montesano (Grays Harbor County), also takes waste from Pacific County. These facilities are shown in Figure 7-1.

The specific activities being conducted in the current transfer and disposal system include:

- Peninsula Sanitation collects waste in most of the unincorporated areas of Pacific County and in some of the cities, and then delivers it to the Pacific Solid Waste Transfer Station. This waste is then transferred to the Cowlitz County Landfill for disposal.

Table 7-1. Current Solid Waste Fees (2021)		
Type of Waste	Pacific Solid Waste Transfer Station	Royal Heights Transfer Station
Solid waste, municipal or private hauler	\$120/ton	\$128.49/ton
Solid waste, self-hauled	\$145/ton	\$157.72/ton
Minimum charge	\$25 (up to 320 lbs)	\$7.90 (up to 100 lbs)
Appliances	\$10	\$7
Refrigerators	\$30	\$30
Scrap iron metal	\$38 per ton (minimum 1,000 lbs - \$20)	\$0.05 /lb

Notes: n/a = not applicable.

Rates are effective as of August 2021, and may rise in the future due to increased transportation costs or other factors.

Figure 7-1
Transfer Stations serving Pacific County



Map data © 2021 Google

- Waste Connections (dba Harbor Disposal) has a UTC certificate to collect solid waste from the Tokeland and North Cove area. This waste is taken to the Central Transfer Station in Montesano and then it is transferred to the Wasco County Landfill in Oregon for disposal.
- Waste Connections (dba Harold LeMay Enterprises, Inc.) also has a contract with South Bend to collect that city's solid waste, and they transfer that waste to the Royal Heights Transfer Station.
- The Royal Heights Transfer Station sends solid waste to the Wasco County Landfill in The Dalles for disposal.
- The Royal Heights Transfer Station sends wood, yard waste and clean dirt to the Stafford Creek Limited Purpose Landfill for disposal.

Pacific Solid Waste Transfer Station: The Pacific Solid Waste Transfer Station is located at 4404 East 67th Place in Long Beach. The station is open Monday through Friday from 8:30 a.m. until 4:30 p.m., and from 10:00 a.m. until 2:00 p.m. on Saturday. The station consists of 16.6 acres and has a 5,000 square foot tipping area, a 3,200 square foot recycling area, a scale house with employee facilities, and a covered wash facility. Equipment at the transfer station includes two backhoes, two forklifts, a dozer, tractors, trailers, balers, and twelve containers for recyclables. This transfer station is owned and operated by Waste Connections.

Royal Heights Transfer Station: The Royal Heights Transfer Station is located at 876 WA-105 near Raymond. The station is open from 10:00 a.m. until 2:00 p.m. Monday through Saturday. The transfer station is on 5 acres and includes a scale, office, transfer building and a recycling drop-off area. They have various pieces of equipment, including 20-yard and 40-yard drop boxes, backhoes, and other equipment. This transfer station is owned and operated by a private corporation.

Grays Harbor Central Transfer Station: Harbor Disposal transfers some of the County's waste to this transfer station in Grays Harbor County. The Central Transfer Station is located at 29 Gavett Lane North in Montesano, Washington. The station is open 8:00 a.m. to 5:00 p.m. on Monday through Friday and on Saturday from 8 a.m. to 4:00 p.m. This transfer station is owned and operated by Waste Connections.

Increased Use of Transfer Facilities

The COVID-19 pandemic appears to have caused an increase in the number of self-haul customers at the transfer stations. The Pacific Solid Waste Transfer Station reported a doubling of these customers in 2020. This could have resulted from the many people who stayed at home, cleaned out their houses and garages, and then delivered more waste to the transfer stations. It could also be due to an influx of people moving to Pacific County from populous areas like Seattle and Portland. Many people learned, after being forced to work at home because of the COVID pandemic, that they can continue to work from home. They are moving into areas with less population such as Pacific County. The County is receiving a significant number of building permit applications as more people are seeing Pacific County as a comfortable spot to work remotely.

Closed Landfills

In 1973, there were five authorized landfills in Pacific County. The two largest sites, the Baleville landfill and Pacific Solid Waste Disposal's landfill, were privately owned and operated while three smaller landfills located in Brooklyn, Naselle, and North Cove were owned and operated by the County. There are no ongoing issues or needs identified for these landfills.

The County's first solid waste management plan, originally adopted in January 1973 and then amended in 1976, called for the construction of a single landfill at a new site. Immediately following the opening of the new site, all other landfills and disposal sites were to be closed. The siting process was initiated in 1973, with consideration of sites in both north and south county. Both private and public ownership options were considered. A new landfill was never sited, however, which delayed the closure of the open dumps.

The Solid Waste Interlocal Governing Body (SWIGB) Agreement was originally signed in 1976. This was a contract between Pacific County and all incorporated areas to bring about solutions to the solid waste problem. In 1977, the SWIGB hired a consulting engineer and supervised work on several potential sites, including a preferred landfill site at Range Point. In 1978, an Engineering Report and an Environmental Impact Statement were prepared for the site. The SWIGB and County Board of Commissioners later rejected that site due in part to conflicting land uses and local opposition. In November 1978, the SWIGB supported the development of private landfills in the County. A north county site, the Rainbow Valley Landfill (RVL), was finally established by a private party in 1980.

Post-Closure Care of the Rainbow Valley Landfill

The Rainbow Valley Landfill (RVL) is a closed landfill located five miles outside of Raymond. RVL operated for ten years, and was the primary disposal site for Pacific County's solid waste during that time. RVL's close proximity to Willapa Bay caused concern among County Health Department staff and County residents, particularly those involved with the oyster industry. Hydrogeologic reports and extensive groundwater monitoring at the landfill showed no evidence that the waters of Willapa Bay were impacted by leachate or surface water runoff from the RVL. Even with these reports, some people believed that the threat to Willapa Bay from the RVL was sufficient to justify its closure. The Rainbow Valley Landfill was closed on July 31, 1991.

Prior to 2003, WAC 173-304-407 required post-closure monitoring for landfills for 20 years or until the site is determined to have stabilized, meaning little or no leachate generation or gas production and no settling. During this period, each landfill owner or operator must monitor for groundwater and surface water contamination, methane gas generation, provide for leachate collection and disposal, and other post-closure requirements as dictated by the jurisdictional health authority. Prior to the closure of the RVL, a closure/post-closure trust fund was established and maintained.

By late 1993, Pacific County recognized that the volume of leachate being generated at the landfill was significantly greater than had been predicted prior to the closure. It was also clear that the post-closure fund was inadequate to meet the expenses of hauling and treating the

leachate for the projected duration of the landfill's post-closure phase. In 1996, the County installed enhancements to the landfill closure with the goal of reducing the excessive leachate volumes. Funding for this work consisted of a \$500,000 grant from Ecology, with a 25% match contributed by Pacific County from the landfill post-closure fund. The agreement between Ecology and Pacific County also established a commitment from Pacific County to develop a mechanism to replenish the post-closure fund. To fulfill this commitment, Pacific County instituted a surtax on tipping fees at the two transfer stations in Pacific County.

In 2015, SCS Engineers conducted a site investigation of RVL and reviewed the available data on groundwater quality and other conditions at RVL. The main goal of that study was to determine whether post-closure activities at RVL could be ceased. That study concluded that "additional information is needed to demonstrate that termination of post-closure activities is warranted." Their conclusions included:

- The landfill cover system is visually in good shape with the exception of some small trees and deep rooted bushes, and some stormwater ditches that have flattened or filled in.
- The ongoing settlement rate of the landfill cover cannot be determined because an elevation survey has not been performed since 1996.
- Landfill gas generation is likely to be very low and should not pose a risk to human health or the environment.
- Groundwater quality data are generally in compliance with the groundwater protection criteria of WAC 173-200. However, the full suite of parameters listed in WAC 173-304-490 has not been analyzed for some time.
- Surface water quality data are generally in compliance with surface water standards. However, additional review is needed to determine if the monitoring program should be modified and what compliance standards should be applied.
- Leachate generation continues to exceed predicted volumes. The quantity and quality of the leachate suggest that surface water infiltration through the landfill cover and/or groundwater seepage from the sides of the landfill contribute as much as 80 percent of the total volume. Areas of rapid surface water infiltration likely occurs where storm water runoff is concentrated in ditches that are unlined and/or poorly performing.

The SCS study also included the following recommendations:

- Small trees and deep-rooted bushes observed on the landfill cover should be removed and the cover should be mowed such that a closer inspection of the cover integrity can be performed.
- Stormwater ditches that have flattened or filled in should be cleared or re-graded.
- Two benchmark surveys with 10 to 15 markers installed at key locations on the landfill cover should be performed approximately twelve months apart to demonstrate that landfill settlement has stabilized. The benchmark surveys should be performed during late summer or early fall months during dry weather to ensure that a hard-dry surface is surveyed.
- The three gas probes should be located and inspected to see if they can be used to collect soil gas measurements. A minimum of four rounds of soil gas measurements at least 30

days apart should be collected from the gas probes and the two gas vents. An effort should be made to collect the soil gas and LFG vent readings during periods of falling barometric pressure.

- Flow meters should be installed at each of the three leachate pump stations. Meter readings should be collected at a minimum rate of once per month for at least one year and daily readings should be collected during one or more multi-day storm events.
- Leachate quality data should be collected from each of the three pump stations during each quarterly monitoring event for a period of one year. The samples should be analyzed for field parameters and the constituents listed in WAC 173-304-490. The results of this sampling effort will document the differences in leachate strength from the three sources as well as seasonal variations. Prior to sample collection, the system should be managed to isolate each leachate source.
- A tracer study should be considered to further evaluate areas where rapid surface water infiltration may be occurring. The study would involve adding a tracer dye to the storm water runoff in suspect areas and then testing the leachate for the tracer.
- The groundwater monitoring program should include the complete suite of analytes listed in WAC 173-304-490(2)(d). This list of analytes should be included with the quarterly monitoring program for a period of two years in order to evaluate environmental conditions and potential data trends. After a period of two years, the groundwater monitoring program should be re-evaluated and revised as appropriate.
- Depth to water measurements should be collected each quarter.
- An assessment of the linkage between the ongoing need to maintain the wastewater discharge permit and termination of the solid waste post-closure permit should be explored with the permitting agencies.

At this time, RVL continues to generate a significant amount of leachate. In 2020, there were 1,890,000 gallons of leachate pumped from the collection trenches at the landfill. This leachate was transported to the City of Raymond wastewater treatment plant and treated there at a cost of \$34,341.30.

7.3. TRANSFER AND DISPOSAL PLANNING ISSUES

Facility Capacity

With the increased number of self-haul customers at the transfer stations, the stations may need to make changes to handle the additional customers. If the increased number of self-haul customers continues, the facilities may need to extend their hours and/or add staff. Other than this concern, the facilities have the capacity and are capable of handling the disposal of waste from Pacific County for the foreseeable future.

Signage at the Transfer Stations

Better signage into and at the transfer stations is needed. This is especially needed for new and infrequent customers. With the increase in self-haul customers at the transfer stations, clear

directions are needed on how to enter the site and where to drop off specific materials. Both of the transfer stations need better directional signs into the facility. The Pacific Solid Waste Transfer Station is rather large and spread out and could also benefit from signage on where to drop off materials and what materials are acceptable at the various locations in the facility.

Post-Closure Maintenance of Rainbow Valley Landfill

The County must maintain the Rainbow Valley Landfill until the site is determined to have stabilized. The County must provide for groundwater monitoring, surface water monitoring, methane gas monitoring, leachate collection and disposal, and other post-closure requirements as dictated by the jurisdictional health authority. The County pays for these post-closure costs with a surtax on tip fees at the two transfer stations in Pacific County. A plan or schedule is needed for when the post-closure activities can cease being conducted.

7.4. ALTERNATIVE TRANSFER AND DISPOSAL STRATEGIES

The following alternatives were considered for new or expanded transfer and disposal activities. The listing of an alternative in this section does not mean that it is considered feasible or desirable, nor that is recommended (see Section 7.5 for the transfer and disposal recommendations). In addition, the alternatives are not mutually exclusive and are not listed in order of priority.

Alternative A – Expand Operational Hours at the Transfer Stations

If transfer station capacity or service levels become an issue due to the increased number of self-haul customers or for other reasons, expanding the hours of operation could be considered. This would allow more time for loads to be delivered, and thus reduce waiting times by spreading traffic volumes over more hours.

Alternative B – Investigate “Off-Ramp” Strategies for Post-Closure Monitoring

Pacific County can continue the maintenance of the closed Rainbow Valley Landfill as required, while also investigating the options for “off-ramp” strategies that would allow the monitoring to be scaled back and eventually ceased altogether. This could include a reduction in the monitoring schedules and reduction in the test parameters in all or in specific wells. Before that can occur, however, it would be good to review the current conditions at the landfill and to follow up on some or all of the previous recommendations made by Ecology and SCS Engineers. The post-closure plan for the landfill could be updated and a permit issued for those activities.

7.5 TRANSFER AND DISPOSAL RECOMMENDATIONS

The following recommendations are being made for waste transfer and disposal programs:

- T&D1) The transfer station hours should be expanded if the increased number of self-haul customers creates long wait times on a regular basis.

- T&D2) Additional signs should be posted at the entrances to the two transfer stations and within the facilities, where needed.
- T&D3) The post-closure plan for Rainbow Valley Landfill should be updated, a permit issued for it, and a plan put in place to eventually demonstrate that the post-closure activities are no longer needed.

More details on the implementation of these and other recommendations are shown in Chapter 11.

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MODERATE RISK WASTES

8.1. BACKGROUND FOR MRW

Introduction

This chapter is intended to serve as an update of Pacific County's moderate risk waste (MRW) plan. As part of the Pacific County Solid Waste and Moderate Risk Waste Management Plan (the "Plan"), some of the basic requirements for an MRW plan are fulfilled by the other chapters of this Plan, including information on the background of the planning area, the identification and approvals by participating jurisdictions, the public participation process, and compliance with the State Environmental Policy Act (SEPA). This chapter is intended to address the remaining required elements of an MRW plan (see Section 1.4 for more details).

Definition of Moderate Risk Waste

Moderate risk waste (MRW) refers to waste materials that have the characteristics of, and pose the same risks as, hazardous wastes, but are generated in relatively small quantities by individual households and in small quantities by businesses. In other words, these wastes are flammable, corrosive, toxic, and/or reactive. Federal law does not currently regulate small quantities of these wastes as hazardous, but states can adopt stricter regulations for hazardous waste from households and small quantity generators. Washington State has chosen to regulate these materials. Ecology created a waste classification called MRW that includes household hazardous waste and small quantity generator waste (see below for a further definition of these wastes). A State law adopted in 1991 also added used oil to the list of materials to be addressed by MRW programs.

Household Hazardous Waste (HHW): Products that are generated in a residence and that are flammable, corrosive, toxic or reactive become household hazardous wastes when they are discarded.

Small Quantity Generator (SQG) Waste: Many different types of businesses and institutions produce small quantities of hazardous wastes and hence qualify as a small quantity generator. SQGs may produce hazardous waste at rates less than 220 pounds per month or per batch (or 2.2 pounds per month or per batch of extremely hazardous waste) and accumulate less than 2,200 pounds of hazardous waste on-site (or 2.2 pounds of extremely hazardous waste). Extremely hazardous wastes include specific pesticides and other poisons that are more toxic than other hazardous wastes. At amounts above these limits, a business becomes a medium or large quantity generator and must comply with the reporting and other requirements for hazardous waste management and disposal. SQGs are conditionally exempt from State and Federal regulation, meaning that they are exempt only as long as they generate less waste than the threshold amounts and also properly manage and dispose of that waste.

Regulations Concerning MRW

A review of the federal, state and local regulatory framework for managing hazardous waste is provided below.

Federal Regulations: The primary federal laws relating to hazardous waste are the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Other federal legislation such as the Universal Waste Rule and the Mercury-Containing and Rechargeable Battery Management Act establish rules for specific types of hazardous waste.

- **Resource Conservation and Recovery Act (42 U.S.C. s/s 6901 et seq.):** The Resource Conservation and Recovery Act (RCRA) establishes responsibility and authority for managing hazardous waste. Subtitle C of the law establishes requirements for generators, transporters, and operators of hazardous waste treatment, storage and disposal facilities. Hazardous wastes must be tracked from the time they are generated until the time they are disposed using a manifest system. Subtitle D of RCRA establishes minimum requirements for construction and operation of solid waste disposal facilities. It seeks to ensure that landfills receiving household hazardous waste and small quantity generator waste meet minimum design and construction standards. Ecology has been delegated the authority to enforce the provisions of RCRA in Washington.
- **Comprehensive Environmental Response, Compensation and Liability Act (42 U.S.C. s/s 9601 et seq.):** CERCLA, also known as the Superfund Act, provides the Environmental Protection Agency (EPA) with the authority to clean up disposal sites contaminated with hazardous waste. The legislation enables the EPA to identify responsible parties and assess liability for cleaning up individual sites. The Superfund Amendments and Reauthorization Act established requirements related to emergency response planning and community notification of chemical releases.
- **Enhancing Hazardous Materials Transportation Security (HM-232):** HM-232, which went into effect March 25, 2003, amended transportation rules to require that persons who transport, or offer for transportation, certain types of hazardous materials must develop and implement a security plan. The intent of the security plan is to prevent theft of flammable or explosive materials that could be used in acts of terrorism. This rule applies to many MRW facilities due to the types and quantities of wastes collected and shipped, and requires that employees be provided with security awareness training.

State Regulations: A number of State laws address hazardous waste management. One of the most important of these is the Hazardous Waste Management Act. Rules implementing the Hazardous Waste Management Act are codified in the Dangerous Waste Regulations (Chapter 173-303 WAC). This regulation defines dangerous waste materials and establishes minimum handling requirements. State rules specifically exclude HHW and SQG wastes from the dangerous waste regulation. The Dangerous Waste Regulations have been amended several times over the years, most recently in 2020.

- **Hazardous Waste Management Act (Chapter 70A.300 RCW):** The Hazardous Waste Management Act establishes requirements for state and local hazardous waste

management plans, rules for hazardous waste generation and handling, criteria for siting hazardous waste management facilities, and local zoning designations that permit hazardous waste management facilities. The Hazardous Waste Management Act also establishes waste management priorities for hazardous wastes. The waste hierarchy is a key element in determining compliance of this Plan with State requirements for an MRW plan. In order of decreasing priority, the management priorities are:

- waste reduction
 - waste recycling
 - physical, chemical, and biological treatment
 - incineration
 - solidification/stabilization/treatment
 - landfill
-
- **Model Toxics Control Act (Chapter 70A.305 RCW and Chapter 173-340 WAC):** The Model Toxics Control Act (MTCA) authorizes funding for a broad range of cleanup, management, and prevention activities at state and local levels. MTCA is funded by the Hazardous Substance Tax (HST), which is imposed on the first possession of over 8,000 substances in our state (although most of the revenues come from the products of the two refineries in Skagit County). Revenues from the HST are deposited into three accounts: State Toxics Control Account, Local Toxics Control Account, and Environmental Legacy Stewardship Account. The State Toxics Control Account funds Ecology's solid and hazardous waste management planning activities, enforcement, technical assistance, remedial actions, public education and emergency response training. The Local Toxics Control Account provides grants to local governments for solid and hazardous waste programs including remedial actions. MTCA also requires Ecology to set aside at least 1% of the funds for public participation grants (PPG).
 - **Used Oil Recycling Act (Chapter 70A.224 RCW):** The Used Oil Recycling Act requires local hazardous waste management plans to include plans for collecting used motor oil, adopting sign and container ordinances, and conducting public education. Local governments are also required to submit annual reports identifying used motor oil collection sites and the quantity of used motor oil collected from households.
 - **Solid Waste Management Act (Chapter 70A.205 RCW):** Chapter 70A.205 RCW prohibits the disposal of automobile batteries and requires retailers to accept batteries for recycling.
 - **Solid Waste Handling Standards (Chapter 173-350 WAC):** The Solid Waste Handling Standards provide guidance on the design and operation of MRW facilities, as well as a variety of other solid waste facilities.

Local Regulations: Pacific County Board of Health Ordinance No. 2C adopts the State rules shown in Chapter 173-350 WAC, which includes the requirements for moderate risk waste handling (WAC 173-350-360).

Goals for MRW

All of the goals for this Plan are applicable to MRW programs (see Section 1.9).

The goal adopted for MRW programs by this Plan is:

As resources allow, increase capacity, continue to provide quality services and conduct more promotion for MRW programs.

It should also be noted that it is Pacific County's policy to follow the waste hierarchy established in Chapter 70A.300 RCW whenever possible. As noted above, the hierarchy is, in descending order of priority: waste reduction; recycling; physical, chemical, and biological treatment; incineration; solidification/stabilization treatment; and landfilling.

The State Solid and Hazardous Waste Plan

Additional policy guidance for MRW programs is provided by the State solid and hazardous waste plan, Moving Washington Beyond Waste and Toxics. Commonly referred to as the "Beyond Waste" plan, this plan addresses both solid and hazardous wastes. One of the five sections of this plan is "Managing Hazardous Waste and Materials." The Beyond Waste Plan adopted the following goals for managing hazardous wastes and materials, and each of these goals is accompanied by two to five objectives ("actions"):

- HWM 1: Hazardous waste generators will significantly reduce chemical use, waste, emissions, and costs by successfully implementing effective pollution prevention plans and other actions.
- HWM 2: Pollution prevention planning facilities and other industries will use cleaner, more sustainable manufacturing processes and produce less toxic and more sustainable products.
- HWM 3: LQGs and MQGs will comply with the dangerous waste rules and remain in compliance.
- HWM 4: Communication about compliance issues will improve, so it will be easier for facilities to make corrections.
- HWM 5: The Local Source Control Partnership, and other small business dangerous waste and stormwater pollution technical assistance programs, will be expanded. Fewer environmental issues will be found at facilities visited by staff.
- HWM 6: All treatment, storage, and disposal facilities (TSDs) will comply with regulations and operate safely.
- HWM 7: By 2020, 95 percent of corrective action sites permitted by Ecology will safely manage environmental contamination.
- HWM 8: In the next five years, Ecology will issue permits for all sites and facilities that reflect current operations and ensure facilities comply with permit conditions.
- HWM 9: Parties interested in permitted facilities and corrective action sites will know where to find current information.
- HWM 10: Dangerous waste facilities and used oil processors will offer safe recycling.
- HWM 11: Until toxic substances are phased out of products, and use of hazardous materials declines, MRW collection will be maximized.
- HWM 12: MRW locations and programs will provide increased services for residents, businesses, and underserved communities.

- HWM 13: Facilities that collect MRW will be properly permitted (if required) and in compliance with applicable laws and rules.

The Beyond Waste plan also incorporates the concept of sustainable materials management, which has been adapted from recent work by the EPA. Sustainable materials management looks at the full life cycle of materials, from the design and manufacturing phase, to the use phase, and then to the end-of-life phase when the material is either disposed or recycled. Materials management still focuses on recycling and disposal issues, but in looking at production methods and the use of materials, this approach can help identify more sustainable ways to design products that use less energy, water and toxics. This is important because the adverse environmental impacts of extraction, production and use can be far greater than those associated with disposal when the product becomes a waste. According to the EPA, a materials management approach is essential to conserving natural resources to meet both today's needs and those of future generations.

8.2. EXISTING MRW PROGRAMS

Introduction

This section describes existing conditions and programs, including an inventory of facilities and generators. The information provided in this section is largely guided by the requirements for an MRW plan. Those requirements (from RCW 70A.300.350) include an assessment of the quantities, types, generators and the fate of MRW in each jurisdiction, and information about potential MRW generators, dangerous waste generators (i.e., large quantity generators), contaminated sites, transporters and processing facilities, and locations where hazardous waste facilities are allowed to be sited ("zone designations"). In addition, Ecology's guidelines (Guidelines for Developing and Updating Local Hazardous Waste Plans, February 2010) state that MRW plans should address services in six areas:

1. Household hazardous waste collection
2. Household and public education
3. Small business technical assistance
4. Small business collection assistance
5. Enforcement
6. Used oil education and assistance

MRW Generation Projections

Waste composition studies in other areas demonstrate that residents and businesses continue to dispose of MRW in the solid waste system despite the availability of more appropriate handling systems for those materials. Waste composition studies in Snohomish County in 2009 and Thurston County in 2014, for instance, show 0.09% and 0.10% hazardous wastes, respectively, in the solid waste streams of those two counties. Applying the 0.10% figure to Pacific County's 2020 waste quantity (21,237 tons) leads to an estimate of 21 tons of MRW that is being co-disposed with solid waste. Based on the 32 tons of MRW collected in 2020, this

means that about 60% of the MRW generated in Pacific County was collected and properly disposed. Table 8-1 shows projected future quantities of MRW based on these figures and the projected population growth for Pacific County (see Table 2-2).

Table 8-1. Projected MRW Quantities for Pacific County					
	2020	2025	2030	2035	2040
MRW Disposed, tons/year	21	22	22	23	23
MRW Collected, tons/year	<u>32</u>	<u>33</u>	<u>34</u>	<u>34</u>	<u>35</u>
Total MRW Generated, tons/year	53	55	56	57	58

Source: Based on 2020 collection and disposal figures, and on projected population growth (Table 2-2).

The figures shown in Table 8-1 assume that the current per capita generation and disposal rates for MRW will continue at the same levels as in 2020. The recent trend for MRW in other areas, however, indicates that there may be decreasing amounts of MRW being generated, and so the figures for future years may be lower. On the other hand, the population figures shown in Table 2-2 may be lower than what will actually occur in Pacific County (based on a recent influx of new residents due in part to the Covid-19 pandemic), and so the amounts of MRW collected and disposed may be higher than shown in Table 8-1. The figures in Table 8-1 use disposal and MRW collection figures from 2020, which could have also been affected by the pandemic. Finally, it should also be noted that the amount of MRW collected in 2020 includes small amounts (0.77 tons) of household batteries and latex paint, which are not actually classified as MRW. The amount of paint collected at the HHW Facility will likely increase significantly in future years because that facility started collecting paint for the PaintCare program in April 2021.

Moderate Risk Waste Composition

Table 8-2 shows the quantities of materials collected through the County's MRW collection system. As can be seen in that table, 91% of the MRW collected in 2020 was used motor oil. As noted above, a small amount of the materials collected are actually not classified as hazardous (household batteries and latex paint). The total amount of hazardous materials collected (64,160 pounds) is the source of the collection figure (32 tons) used in the above analysis.

Current Collection Programs

Pacific County operates a hazardous waste collection facility where the public can dispose of their household hazardous waste. In addition to the HHW Facility, the County also has a mobile trailer and holds collection events in different locations throughout the County. This service is provided free of charge to residents.

Table 8-2. MRW Quantities Collected in 2020 (pounds)		
Type of Material	Pounds	Percent of Total
Hazardous Materials		
Used Oil and Fuels	58,349	90.9%
Paint Related Materials	750	1.3%
Antifreeze	350	0.55%
Mercury Thermometers	5	0.01%
Pesticide/Poison Liquids	2,000	3.10%
Pesticide/Poison Solids	96	0.15%
Corrosive Bases	500	0.78%
Corrosive Acids	250	0.39%
Flammable Liquids	180	0.28%
Flammable Liquid Poisons (aerosols)	150	0.23%
Subtotal, Hazardous Materials	62,630	97.64%
Non-Hazardous Materials		
Alkaline Batteries	230	0.36%
Latex Paint	1,300	2.0%
Subtotal, Non-Hazardous Materials	<u>1,530</u>	<u>2.36%</u>
Total	64,160	100.0%

Source: Pacific County records. Includes 96 pounds of liquid pesticides collected from SQGs and motor oil collected through drop-off stations located throughout the county.

Household Hazardous Waste Collection Facility: Pacific County operates a hazardous waste collection facility where the public can dispose of their household hazardous waste. The HHW Facility is located at 318 N 2nd Street, Long Beach, WA, 98561. It was originally designed in accordance with the Ecology Publication 92-13, "Moderate Risk Waste Fixed Facility Guidelines", and the Uniform Fire Code. Since then, a new regulation (WAC 173-350-360) was developed and includes the current design and operational requirements. The HHW Facility is operated in accordance with all applicable local, state, and federal regulations. For safety reasons, the facility is staffed by a minimum of two workers at all times whenever waste is being processed, one of which must be certified and meets the minimum training requirements to handle hazardous waste.

The HHW Facility is operated from May through September of each calendar year. During these months, the facility is open to the public for household hazardous waste collection on the first and third Fridays from 9:00 am – 12:00 pm. Businesses can call to schedule an appointment and to receive an estimate of disposal costs. Large loads are also handled on a prearranged basis.

Mobile MRW Collection Events: Pacific County uses an enclosed trailer for HHW collections to service other parts of the County further away from the Long Beach area. This trailer is used as

a mobile “facility” to collect and transport household hazardous waste to the fixed facility in Long Beach. This service is provided free of charge. In 2021, the County held summer collection events in Raymond and Naselle.

Oil Collection: Pacific County provides five collection tanks for oil accepted from do-it-yourself (DIY) customers. In addition, Seaview NAPA Auto Parts accepts used oil. The County-operated collection sites are located in:

- South Bend, at the City of South Bend Department of Public Works
- Naselle, near the recycle bins
- Bay Center, near the recycle bins
- Long Beach, near the recycle bins
- Raymond, at the V&N/NAPA Auto Parts Store

Signage on the tanks alert DIY customers to the importance of not adding gasoline, antifreeze, cooking oil and other contaminants. Education about waste oil and other aspects of the MRW program is accomplished through the County’s website and newspaper ads.

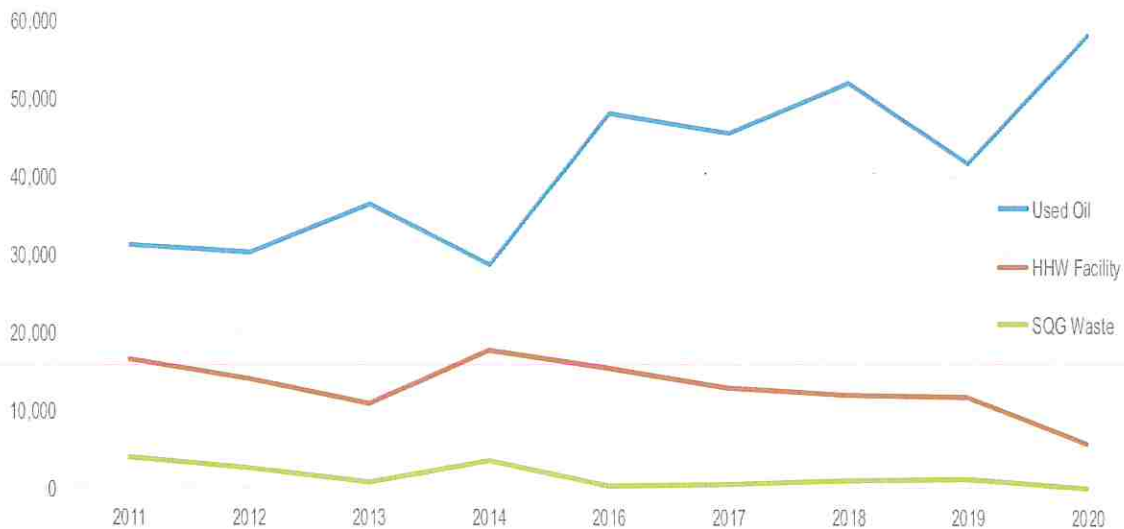
The number of pounds collected at the County HHW facility and mobile events has declined since 2014. The annual amount of oil collected has generally increased over this same time period. As can be seen in Table 8-3 and Figure 8-1, oil collection increased in 2020 but the amounts collected at the HHW Facility and from the SQG customers dropped significantly due to the COVID-19 pandemic. Because of the pandemic, the HHW facility was closed for most of the year, fewer mobile events were conducted (two in 2020 versus five in 2019), and the decrease in SQG wastes is likely due to the HHW Facility being open less and also due to the businesses being closed.

Table 8-3. Total MRW Pounds Collected (pounds per year)				
Year	Oil	HHW Facility and Mobile Events	SQG	Total
2011	31,265	16,500	3,854	51,619
2012	30,337	13,975	2,477	46,789
2013	36,556	10,830	729	48,115
2014	28,800	17,790	3,510	50,100
2015	n/a	17,150	n/a	17,150
2016	48,248	15,540	358	64,146
2017	45,684	12,878	621	46,318
2018	52,133	12,020	1,032	65,185
2019	41,884	11,650	1,275	54,809
2020	58,349	5,715	96	64,160

n/a = data not available.

Source: Pacific County records.

Figure 8-1
Annual Amounts of MRW Collected (pounds per year)



Notes: The year 2015 is not shown above due to data that is missing for that year.

Waste Exchange Program

Material meeting the following criteria may be placed on the waste exchange shelves and made available to the general public for reuse:

- The container is not leaking, rusted or in disrepair.
- The entire label is readable.
- The material is not recalled, canceled or suspended.
- A liability release is signed.

Enforcement Activities

Problems with MRW management are primarily identified through complaints. Responses may include gathering information through phone consultations or onsite visits, and referring the complaint to the appropriate federal, state or local agencies having jurisdiction. Enforcement or compliance actions may be taken or referred to appropriate agencies, if significant threats to public health, the environment, or worker safety exist.

Product Stewardship Programs

Product stewardship is a product-centered approach to environmental protection. Also known as extended product responsibility (EPR), product stewardship calls on those in the product life cycle (manufacturers, retailers, consumers, and disposers) to share responsibility for reducing the environmental impacts of products. Product stewardship recognizes that manufacturers must take on new responsibilities to reduce the environmental footprint of their products. For

the three items below, collection and recycling are paid by the manufacturer. The state has initiated these collection programs and works with private industry to manage the programs.

Electronic Wastes: The two Pacific County transfer stations accept certain types of electronics (“e-waste”). A statewide program (E-Cycle Washington) is funded by electronics manufacturers and allows designated sites to accept certain electronics for free, including televisions, computers, monitors, laptops, tablets, e-readers and portable DVD players. Since this program began in 2009, it has collected 216,529 tons of electronics (as of July 2021) statewide. E-Cycle Washington sites in Pacific County collected 44 tons of e-waste in 2020.

Fluorescent Bulbs: Another statewide program exists for fluorescent bulbs and other mercury-containing light bulbs. The LightRecycle Washington program is funded by an “environmental handling charge” on the sale of new mercury-containing light bulbs. Collection sites in Pacific County for these light bulbs includes the two Pacific County transfer stations and Jack’s Country Store in Ocean Park. This program will probably “sunset” on July 1, 2026.

Paint: In 2019, the Washington State legislature adopted rules for a paint stewardship program. This law (Chapter 70A.515 RCW) requires all producers of paint sold in Washington to participate in an approved plan through membership in and funding of a stewardship organization. The stewardship organization that was selected by the State is PaintCare and the collection site in Pacific County is at the HHW Facility in Long Beach. This program is funded through a fee on sales of architectural paint, and is designed to recycle the following items:

- Interior and exterior architectural paints: latex, acrylic, water-based, alkyd, oil-based, enamel (including textured coatings)
- Deck coatings, floor paints (including elastomeric coatings)
- Primers, sealers, undercoaters
- Stains, shellacs, lacquers, varnishes, urethanes (single component)
- Waterproofing concrete/masonry/wood sealers and repellents (not tar or bitumen-based)
- Metal coatings, rust preventatives
- Field and lawn paints

Transport and Disposal

From the HHW Facility, MRW is transported to licensed hazardous waste treatment, storage and/or disposal facilities. At these facilities, MRW is recycled, treated, interred in a permitted hazardous waste landfill, or destroyed through high-temperature incineration.

Household Hazardous Waste Education

Household hazardous waste management information is available on the Pacific County Solid Waste website and is posted on the Pacific County Community Development Facebook page. The current MRW education program also includes dissemination of printed information through local newspapers and oral responses to telephone inquiries. The WSU Extension Waste Wise Program assists with providing responses for the public who call about where to take their hazardous waste.

Small Quantity Generator Education and Technical Assistance

Outreach and education for SQGs is an ongoing activity. Technical and disposal assistance is provided on an as-requested basis. Compliance issues are handled by Pacific County Environmental Health (a division of the Department of Community Development), who responds to complaints and other problems as these are identified. Environmental Health receives grant funds specifically for this purpose.

Inventory of Generators and Facilities

The following information addresses dangerous waste generators, contaminated sites, transporters and processing facilities, and locations where hazardous waste facilities are allowed to be sited ("zone designations").

Dangerous Waste Generators: Ecology's records show that the following businesses and institutions in Pacific County are registered as hazardous waste generators as of June 2021:

- 1 small quantity generator, which is the Weyerhaeuser lumber mill in Raymond. This company reported no waste generated in 2020.
- 11 other potential generators, all of which reported no waste generated in 2020 or that did not submit reports for 2020.

The above list includes only the businesses and institutions that have chosen to get an EPA identification number. This is not required for small quantity generators, and the actual number of SQGs in Pacific County may be higher.

Remedial Action Sites: Ecology's list of confirmed and suspected contaminated sites in Pacific County can be found at <https://fortress.wa.gov/ecy/gsp/SiteSearchPage.aspx>. The sites can be summarized in three categories (the data shown below is current as of April 2021):

- **Sites awaiting cleanup** – 18 sites. These are sites with an identified need but where cleanup activities have not yet started.
- **Contaminated sites** – 30 sites. Clean-up activities have been initiated at these sites but not yet completed.
- **"No Further Action" sites** – 36 sites. Sites previously on the Confirmed and Suspected Contaminated Site list but that have received a No Further Action decision. These sites may have deed restrictions or environmental covenants.

Hazardous Waste Services (Transporters and Facilities): The only facility known to be managing hazardous wastes in Pacific County is the County's HHW Facility in Long Beach. There are numerous companies that are registered in Washington as hazardous waste transporters that could also be providing collection and transportation services in Pacific County.

Zone Designations: As part of the development of the original MRW plans, local jurisdictions were required by State law (Chapter 70A.300 RCW) to designate zones within their borders where hazardous waste facilities would be permitted to operate and to notify Ecology of those designations. In Pacific County, this would have occurred about 30 years ago. Currently, the

four incorporated cities in Pacific County address solid and hazardous waste facilities in various ways through their zoning ordinances:

- Ilwaco does not specifically address hazardous waste handling facilities; however, it does allow for solid waste handling facilities in Light Industrial (M-1) zones. Any other use would require a conditional use permit.
- Long Beach does not specify hazardous waste handling facilities or solid waste handling facilities in their zoning ordinance.
- Raymond does not specify hazardous waste handling facilities; however, it does allow for solid waste handling activities in Light Industrial (M-1) and Heavy Industrial (M-2) with a conditional use permit.
- South Bend does not specify hazardous waste handling facilities, but it may potentially be allowed in the Industrial Use District (I-1) with a conditional use permit.

8.3. PLANNING ISSUES FOR MRW

This section discusses management issues associated with MRW.

Funding for MRW Collection Programs

The County does not charge fees for household hazardous waste services. Household hazardous waste costs are covered through a surcharge on solid waste tipping fees and grant funds from Ecology. Ecology's Local Solid Waste Finance Assistance (LSWFA) program provides the funding for part of the MRW collection costs. After a decrease in the state grant funds for the 2019 -2021 cycle, solid waste managers across the state collaborated with other counties and agencies to address the funding shortfalls for MTCA programs and LSWFA grants. The state legislature responded with a funding increase to \$24 million in the 2021-2023 cycle, up from \$10 million in the 2019-2021 cycle. Though this funding level is an increase, it is still lower than funds available in previous years. Funding for the LSWFA program was \$28 million for the 2013-2015 grant cycle. It then decreased to \$15 million for the 2015-2017 cycle, and then to \$10 million for the 2017-2019 cycle. Many of the counties in Washington use these funds for the MRW programs, as does Pacific County, and so these cutbacks have increased the financial burden associated with MRW programs for the counties.

Staffing the HHW Facility

It is difficult to certify and maintain staff for the MRW Facility. Certified staff must work the first and third Fridays for the months that the facility is open. Current staff are overloaded with managing several other projects and staffing the facility at the scheduled times is challenging.

HHW Education

While Pacific County provides HHW information on their website, social media and newspapers, more could be done to elevate the awareness and use of HHW collection opportunities. The WSU Extension Waste Wise Program assists with providing responses for the public who call about where to take their hazardous waste though they are not contracted with the County to

promote HHW information.

Collection of Paint

PaintCare contracts with Pacific County to have the HHW Facility serve as a paint collection site for the Paint Product Stewardship program. The County has collected an overwhelming amount of paint since the program began in April 2021. In many other counties in Washington, the paint is collected at a retailer that sells paint. It would be helpful if PaintCare could find a retailer in the County that could serve as an additional paint collection site.

LightRecycle Program

The LightRecycle Program will possibly sunset on July 1, 2026. If this occurs, the three collection sites in Pacific County that are currently accepting fluorescent bulbs may cease doing that and the County's HHW Facility might need to start collecting these instead. This would create an additional cost for Pacific County.

HHW Mobile Events

The County program of collecting HHW at mobile events is very popular. Some of the community finds this program more accessible than driving to the HHW facility. As more people move into the County, the demand for this service may increase.

Regional Opportunities

It is possible that County residents could be served better through a collaborative arrangement with a neighboring county. Pacific County residents on the north end could be directed to use the Grays Harbor facility in Montesano, for instance.

8.4. ALTERNATIVE STRATEGIES FOR MRW

The following alternatives were considered for new or expanded MRW programs. The listing of an alternative in this section does not mean that it is considered feasible or desirable, nor that it is recommended (see Section 8.5 for MRW recommendations). In addition, the alternatives are not listed in order of priority.

Alternative A – Support for Product Stewardship Programs

Product stewardship programs generally rely on financial support and possibly other involvement by manufacturers of specific products that pose handling and disposal problems. The system used in Washington for some types of electronics is an example of a product stewardship program and this program has been successful in diverting many tons of old electronics from being disposed in landfills. Some types of materials and products could be addressed through local programs, but these programs are generally more effective when enacted on a statewide basis. Pacific County could evaluate future product stewardship proposals and support those that are consistent with County programs.

Alternative B – Education and Technical Assistance for Small Quantity Generators

Alternative B would continue or increase the outreach and technical assistance activities for small quantity generators. This outreach program could attempt to identify new local small quantity waste generators, confirm that they understand their management responsibilities for moderate risk waste, and promote the higher-priority management strategies. These efforts could be evaluated in a few years to determine if more needs to be done.

Alternative C – Establish User Fees for Household Hazardous Waste Services

There are no fees currently assessed for household hazardous waste services, although small quantity generators are charged for disposal costs and supplies used to package their wastes. Instead, household hazardous waste costs are covered through a surcharge on solid waste tipping fees and grant funds from Ecology. This alternative would establish a nominal user fee for household hazardous waste services (such as \$10 for each participant). The fee would acknowledge that there are costs associated with managing hazardous waste and perhaps encourage waste reduction. On the other hand, a fee could discourage proper handling of HHW.

Alternative D – Continue Providing County HHW Collection Service

MRW and used oil collection services continue to be a popular public service. An option for safe disposal of these unwanted items is vital to avoid contamination of the environment and harm to public health.

Alternative E – Continue HHW Education Efforts

Current HHW education activities could be continued and expanded as resources allow. If funding is available, the County could coordinate with WSU Extension to provide more HHW information to the public.

Alternative F – Regional Collaboration

Regional Collaboration with a neighboring county could provide improved services to Pacific County residents for MRW. Residents in the North Cove/Tokeland area, for instance, could drive to the MRW facility in Montesano in about half of the time it takes to drive to Long Beach. Directing residents to this facility would require an interlocal agreement with Grays Harbor County, who operates the MRW facility in Montesano, and possibly a financial arrangement to reimburse Grays Harbor County for the cost of waste disposal for those residents.

8.5 MRW RECOMMENDATIONS

The following recommendations are being made for MRW programs:

- MRW1) Continue operation of the HHW Facility and satellite HHW collection during the summer months and consider opening occasionally during the winter as resources and demand allow.
- MRW2) Continue operating motor oil recycling bins and expand as resources allow.

- MRW3) Continue offering SQG disposal services to local businesses. Re-evaluate the program, as resources allow, to consider current roadblocks to participation and how to expand the program.
 - MRW4) Continue current education program and expand as resources allow. This includes K-12 programs, the County fair and other events.
 - MRW5) Continue the local waste exchange program at the County HHW Facility or provide other waste exchange programs.
 - MRW6) Support legislation for new product stewardship laws if consistent with Pacific County programs.
 - MRW7) Explore a regional arrangement with Grays Harbor County for MRW disposal services for Pacific County residents.
-

More details on the implementation of these and other recommendations are shown in Chapter 11.

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MISCELLANEOUS WASTES

9.1. BACKGROUND FOR MISCELLANEOUS WASTES

Introduction

This chapter of the Pacific County Solid Waste and Moderate Risk Waste Management Plan (the Plan) reviews the generation, handling and disposal methods for several types of wastes that merit special attention. These wastes require special handling and disposal methods due to regulatory requirements or for reasons such as toxicity or other special handling problems.

The following wastes are discussed in this chapter:

- 9.2 Animal carcasses
- 9.3 Asbestos
- 9.4 Auto hulks and RVs
- 9.5 Construction and demolition wastes
- 9.6 Derelict vessels
- 9.7 Sharps (syringes)
- 9.8 Tires

The existing programs and facilities in Pacific County for each of these wastes are described in this chapter. Each waste is also examined for needs and opportunities (planning issues), and alternatives are proposed based on those needs if necessary. Recommendations are provided for some of the wastes, although the existing practices were found to be adequate for some of the materials and so no recommendations are made for those.

During the plan development process, other materials were also considered for this chapter but were rejected for a variety of reasons. These materials are shown in Table 1, along with the reason for not including the material in this chapter.

Table 9-1. Other Materials Considered for this Chapter	
Material	Reason for Not Including the Material
Agricultural wastes	No known issues (besides animal carcasses)
Appliances	Addressed in the Recycling Chapter (see Section 4.2)
Biomedical wastes	No known issues (besides sharps, see Section 9.7)
Biosolids (sewage sludge)	Defined in State law as not being a solid waste
Contaminated soils	No known issues
Disaster debris	Better addressed through a plan specifically for disasters
Electronics	Currently being managed by the State E-Cycle program
Pharmaceuticals	Now being managed by a new medicine return program
Seafood wastes	Addressed in the Organics Chapter (see Section 5.2)

Goals for Miscellaneous Wastes

A number of the goals adopted for this Plan are applicable to these wastes:

- Review existing facilities and solid waste handling practices, and seek community input to identify additional needs.
- Assess alternatives and develop recommendations for future action, incorporating the most recent reviews of studies, statistics, and drivers of solid waste issues in Pacific County with a regional perspective.
- Provide guidelines for an equitable balance between convenience, expense, climate impact, environmental quality, and public health and welfare.
- Continue cooperative and coordinated efforts among government agencies, private companies and the public to achieve effective management of solid waste.

9.2. ANIMAL CARCASSES

Regulations for Animal Carcasses

WAC 246-203-121 is the state code that regulates the proper disposal of dead animals. This law requires that animals be properly handled “within 72 hours after death or discovery” and provides a number of options for that. Additional requirements are applied if the animal died with a communicable disease. WAC 16-25-025 states that the approved methods of disposal for dead livestock are burial, composting, incineration, landfilling, natural decomposition, and rendering, and describes the requirements for these methods.

Section 6 of Substitute Senate Bill 5602 (SSB 5602), passed during the 2005 Washington Legislative session, includes a requirement that the Department of Ecology, in conjunction with the Department of Health and Department of Agriculture, develop guidelines for on-farm composting of routine mortalities of bovine and equine animals at livestock animal feeding operations (AFOs). It also broadened existing agricultural exemptions in state solid waste regulations for composting bovine and equine mortalities by eliminating testing for metals and solid waste permit requirements. The bill placed restrictions on use of the compost and mandates that recipients of the material be notified of the nutrient value, pathogen levels, stability, use restrictions and origins of the compost.

Pacific County Local Board of Health Ordinance No. 9 addresses animal carcasses as a public nuisance. This ordinance states that it is unlawful for a person to directly or indirectly cause, permit, or allow a public nuisance by permitting or allowing the carcass of an animal to be deposited or to remain in public view.

Existing Management Practices for Animal Carcasses

Fish Waste: Aquaculture industries produce dead fish and other wastes that must be managed. Safe Coast Food are sending their shells and other seafood waste to Pacific Gro in Raymond. Pacific Gro handles the seafood waste from a number of processors in the area, converting it to

a fertilizer that is certified as organic. Some of the seafood waste from local processors is also used to make pet food.

Animal Farms: All farmers know that properly disposing of a dead animal carcass can be a challenge. With rendering services becoming scarce and more costly, other options for disposal are becoming necessary. The closest rendering service is Johnson's Rendering in Vancouver, Washington. Quiet Animal Removal (QAR) in Graham, Washington is also far for Pacific County farmers. They handle large and small animals, and can receive animals from farmers who deliver animals to their location most any time. Due to the distance, the cost for either company to serve Pacific County farms is extremely high.

The Washington State Department of Agriculture has published a brochure which explains the proper methods for the safe and legal disposal of dead livestock in Washington. Approved disposal methods include burial, composting, natural decomposition and incineration. The Washington State University extension office has published a guide, "On-farm composting of large animal mortalities." With proper management and materials, on-farm composting is an economical and environmentally-sound method of routine or catastrophic mortality disposal. Composting allows for immediate, year-round disposal with minimal costs and equipment. Composting also protects surface and ground water, reduces pathogens, and keeps valuable nutrients on the farm.

According to the most recent Census of Agriculture, there were 346 farms in Pacific County in 2017, and these farms occupied 52,365 acres. Almost one-third (121 farms) of these had beef cows (96 farms), milk cows (11 farms), or other cattle and calves. Few farms in Pacific County raised hogs and pigs (22), sheep (6), and poultry (39). There were 66 farms occupying 1,297 acres that were raising cranberries.

Roadkill: In 2016, Washington State authorized private parties to utilize roadkill (predominately deer) for personal use. At least 20 other states also allow this practice. The Pacific County Roads Department occasionally picks up roadkill from the side of County roads and they do not have an official process on where the carcasses are buried.

Veterinarians: A large number of the animal carcasses are handled by local veterinarians. Veterinarians generally use an off-site crematorium, such as Petland in Aberdeen or Clatsop Humane in Clatsop County, or they allow owners to take the pet home for burial or use a rendering service (for larger animals only). Pet owners that take a deceased animal home may bury it on their own property. The Humane Society works with Oceanside Animal Clinic to handle diseased animals.

Marine Animals and Bird Carcasses: Marine animals and bird carcasses occasionally wash ashore on the ocean beaches within the state's Seashore Conservation Areas and are the responsibility of the Washington State Parks and Recreation Commission. The state may choose to bury the carcass to decompose naturally. It is illegal for the public to harvest all or any part of the decomposing marine mammal carcasses.

Planning Issues for Animal Carcasses

Some farms, dairies and ranches may not have the heavy equipment necessary to bury horses and cattle on-site. Rendering services are becoming scarce and more costly. The rendering service may find it difficult to access animals in some cases (such as an animal located in a stall or enclosed area).

New aquaculture industries need to be monitored for waste management issues. Large fish kills occurring in these industries may overwhelm current management procedures and require alternative measures.

Current methods used for disposal of animal carcasses in Pacific County are challenging but generally adequate. This situation could change, however, if an animal epidemic occurs (such as the discovery of a herd being infected with mad cow disease or a flock that develops a bird flu problem). Should an animal epidemic occur in Pacific County, the solid waste system may be called upon to assist with the disposal of large amounts of animal carcasses and possibly also infected bedding, manure and other materials. The final authority for determining disposal options will rest with local, state and federal emergency response agencies, but the solid waste system may need to address questions about services that can be provided while protecting worker safety. Any involvement by the solid waste system will need to be determined on a case-by-case basis if this type of problem should occur in the future, but solid waste representatives should be consulted at an early stage in emergency planning if there is any expectation of using the solid waste system for disposal of infected animals.

Management Alternatives for Animal Carcasses

One alternative that Pacific County could pursue would be to consider additional or different policies regarding the management of animal carcasses from the aquaculture industry in Pacific County.

A second alternative is for Pacific County to look into securing an animal carcass rendering service which is within or close to the county.

A third alternative is for staff to review the solid waste system role in emergency disposal of infected animals and to develop preliminary protocols or procedures for responding to a large amount of animal carcasses.

Recommendations for Animal Carcasses

The following recommendations are made for animal carcasses in Pacific County:

- MW1) Monitor aquaculture industries for waste management issues.
- MW2) Continue communications with veterinarians and those disposing of animal carcasses.
- MW3) Review the solid waste system's role in emergency animal disposal.

9.3. ASBESTOS

Asbestos waste is defined as any material containing more than one percent asbestos by weight. Asbestos is a naturally-occurring fibrous mineral with resistance to heat, chemicals, and electricity. Before it was banned in the 1980s as a cause of respiratory diseases and cancers, asbestos was widely used in a variety of building materials such as siding, insulation, fireproofing, ductwork, and piping. Although asbestos is still used in some products, today it is most often encountered during the demolition of old buildings or removal of old piping, ductwork, boilers and furnaces during building renovations. Airborne asbestos particles are the primary health concern, as these particles become lodged in the lungs when breathed in and then cause long-term health problems.

Regulations for Asbestos

The disposal of asbestos is regulated by federal, state and county regulations. This extensive enforcement is largely due to health concerns for those who handle asbestos removal and disposal. On a federal level, asbestos was one of the first hazardous air pollutants regulated under Section 112 of the Clean Air Act of 1970, and many applications were forbidden by the Toxic Substances Control Act (TSCA). On a local level, asbestos handling must follow Olympic Region Clean Air Agency (ORCAA) regulations and local permitting requirements. ORCAA is the primary government agency responsible for enforcing federal, state and local air quality regulations in Pacific County. Asbestos removal and disposal is addressed in Rule 6.3 of ORCAA's regulations.

Existing Management Practices for Asbestos

If a resident or business is planning a remodeling or demolition project that includes or could include asbestos removal, they must first notify ORCAA in writing before they start. They may be required to hire an inspector who is specially trained and certified to do asbestos surveys. ORCAA handling requirements state that asbestos must be properly bagged in a special plastic lined bag and a manifest must be completed on where the asbestos was collected and by whom. Asbestos-containing wastes can be brought to the Waste Connections transfer station in Montesano. Contractors may also take asbestos out of the county for disposal. The asbestos generated in Pacific County is typically from demolition activities and pipeline replacement projects.

Planning Issues for Asbestos

Current handling of asbestos appears to be adequate to meet the needs of Pacific County. The amount of asbestos collected is diminishing and less asbestos waste is expected to be generated in the future as the existing stocks of this material are gradually removed and disposed.

Management Alternatives for Asbestos

No alternatives or recommendations are proposed for asbestos-containing wastes at this time.

9.4. AUTOMOBILE HULKS AND ABANDONED RVS

The presence of an excessive number of automobile hulks can threaten the character and safety of neighborhoods. They may cause deterioration of neighborhoods partly due to visual blight, which affects property values. These junked vehicles can create attractive nuisances for children, and provide harborages for rodents, insects and other pests. Pacific County has approached this problem through the adoption of a junk vehicle nuisance ordinance. When RVs are abandoned on public property and roads, and if the owner can't be located or are unable to pay, local governments are typically left with the disposal costs. These entities have managed costs through agreements with local salvagers that sometimes take the recyclable parts of the RV at no cost.

The Washington State Legislature recently enacted a new law for an abandoned RV program run by the Department of Licensing. Costs accrued after May 2019 by licensed businesses for towing, salvaging, storage, and disposal expenses of abandoned RVs can be reimbursed, with amounts varying by RV type and length. There is no cost to make use of this program; however, the entity being reimbursed must be a private business with a registered Statewide Vendor number and not a government entity. Registration instructions and an application form per WAC 308-61-215(2)(d) can be found at www.dol.wa.gov/business/vehicletransport/vtabandonedrv.htm.

Regulations for Automobile Hulks and Abandoned RVs

Chapter 46.55 RCW is the law that outlines the requirement involved with the towing and impoundment of abandoned vehicles. It outlines the requirements for records, inspections and enforcement. RCW 46.55.240 grants specific authority for cities, towns, and counties to adopt an ordinance establishing procedures for the abatement and removal, as public nuisances, of junk vehicles or vehicle parts from private property. RCW 46.55.230 addresses the junk vehicle removal process and RCW 46.55.400 focuses on the transport of abandoned recreational vehicles. Chapter 308-61 WAC is the state code that address the handling of abandoned vehicles.

A "junk vehicle" is defined in RCW 46.55.010(5) as meeting at least three of the following four requirements:

- 1) Is three years old or older;
- 2) Is extensively damaged, including but not limited to a broken window or windshield, or missing wheels, tires, motor, or transmission;
- 3) Is apparently inoperable;
- 4) Has an approximate fair market value equal only to the approximate value of the scrap in it.

After notice has been given and a hearing, if requested, has been held, the municipality may remove and dispose of a junk vehicle. Costs of the removal may be assessed against the last registered owner of the vehicle, or the costs may be assessed against the owner of the property on which the vehicle is being stored.

Ilwaco and South Bend address abandoned vehicles in their city codes.

Existing Management Practices for Automobile Hulks and Abandoned RVs

Abandoned recreational vehicles (RVs), such as motorhomes, travel trailers and campers, have become a visibly increasing problem in Pacific County. Automobile hulks that accumulate on private property also create an environmental hazard.

In Pacific County, there is one company, Ron's Recycling, designated for the reuse of parts and the recycling of scrap metal from abandoned vehicles. Most hulks are taken from these wrecking yards directly to an out of county recycling facility for final reuse and disposal.

Both transfer stations in the county (Pacific Solid Waste and Royal Heights) can accept RVs, boats and trailers, which are typically brought in by the legal owners, for disposal or dismantling and recycling.

The Pacific County Code Enforcement Officer investigates and resolves solid waste violations, such as vehicle abatement. Pacific County Department of Community Development has a process to handle junk vehicles. The first step is to complete a Junk Vehicle Affidavit (JVA) request form to report an abandoned vehicle. The form guides residents on how to notify the legal owner. The form also contains a section for cases where the legal owner can't be found. There is no cost associated with the JVA process as this program is funded by a Local Solid Waste Financial Assistance Grant through the Washington State Department of Ecology. The county does not remove the vehicle from properties.

Planning Issues for Automobile Hulks and Abandoned RVs

Despite efforts to remove auto hulks and RVs through private efforts and government enforcement, abandoned autos and RVs are common throughout Pacific County. While voluntary compliance has been an effective method of addressing these, further gains in auto hulk and abandoned RV management may require stronger enforcement of abatement ordinances.

The Washington State Legislature recently passed an abandoned RV program run by the Washington State Department of Licensing. Costs accrued after May 2019 can be reimbursed for towing, salvaging, storage, and dismantling or disposal expenses of abandoned RVs, including campers, motorhomes and travel trailers. There is no cost to make use of this program; however, the entity being reimbursed must be a private business with a registered Statewide Vendor number and not a government entity. There are also several other requirements, including that:

- The RV must be impounded from public property and abandoned, and
- It received no bids at an auction, and
- It was abandoned by the owner or the registered owner is unknown after a reasonable effort, or it was declared as an abandoned junk vehicle by a law enforcement officer.

Registration instructions and application forms per WAC 308-61-215(2)(d) can be found at www.dol.wa.gov/business/vehicletransport/vtabandonedrv.html. Currently no business in Pacific County is taking advantage of this program because the process is viewed as being too onerous.

Alternatives for Automobile Hulks and Abandoned RVs

One alternative is stronger enforcement in addressing auto hulks and abandoned RVs in Pacific County. This would require more staff time and resources from the cities and county.

Another alternative is to assess the feasibility of special collection events for junk vehicles every few years. This collection event would require one or more central locations where old vehicles could be temporarily stored until a mobile crusher or other equipment was brought in to process the vehicles and take them away. The processing location may require an impermeable surface to facilitate collection and containment of automotive fluids. This alternative would require a significant amount of staff time to organize and publicize the event.

Recommendations for Automobile Hulks and Abandoned RVs

The following recommendations are made for auto hulks and abandoned RVs:

- MW4) The County and cities could research and consider increased enforcement of abandoned auto hulks and RVs.
- MW5) The County could create a marketing tool which would encourage residents to report abandoned auto hulks and RVs.
- MW6) The County should work with other county and city departments to look for additional funding for the enforcement programs.
- MW7) The Washington State Department of Licensing or the State legislature should revise the abandoned RV program to make it easier for towing companies to participate.

9.5. CONSTRUCTION AND DEMOLITION WASTES

Construction and demolition (C&D) wastes are defined as the wastes that are generated from construction and demolition activities. These wastes include materials such as new and used building products and materials such as wood, concrete, roofing and sheetrock. These wastes are generated at a rate that is proportional to construction activity and so annual amounts vary depending on population growth and the economic climate. C&D wastes can also be associated with large natural disasters (wind storms, floods, earthquakes, etc.). A single large construction project can also have a significant impact on annual amounts.

In the past, "land-clearing waste" has sometimes been combined with C&D wastes. Strictly defined, land-clearing waste is largely vegetative (stumps, trees and brush), with possibly some soil and rocks. Any soil and rocks that need to be removed from a site do not need to be treated as a waste (unless these are contaminated in some way, which would put them into a separate category altogether). The vegetative fraction of land-clearing waste can be considered

either wood waste or yard waste, and both of these are addressed in a previous chapter (see Chapter 5, Organics).

C&D wastes are also discussed to varying degrees in the other chapters of this Plan, but are addressed in this section to highlight the specific issues and options associated with these wastes.

Regulations for C&D Wastes

In 2010, RCW 70A.205.040 was amended to include “when updating a solid waste management plan developed under this chapter, after June 10, 2010, each local comprehensive plan must, at a minimum, consider methods that will be used to address construction and demolition waste for recycling or reuse”. Washington State regulations (WAC 173-345-040) require a separate collection container be provided for waste at jobsites that conduct recycling.

Wood waste is defined in WAC 173-350-100 as wood pieces or particles determined to be solid waste generated from construction, demolition, handling and storage of raw materials, trees, stumps, and manufacturing of wood products. This may include, but is not limited to, sawdust, chips, shavings, bark, pulp, and log sort yard waste, but does not include wood pieces or particles containing paint, laminates, bonding agents, or chemical preservatives such as creosote, pentachlorophenol, or copper-chrome-arsenate.

Existing Management Practices for C&D Wastes

Wastes from construction and demolition activities typically represent a significant portion of the waste stream. A recent statewide study shows that 13.2% of the waste stream in the five-county region that includes Pacific County is wood waste and another 5.5% is other types of construction and demolition wastes (see Table 2-7), for a total of 18.7% of the solid waste. These wastes contain a substantial amount of recyclable materials (wood, cardboard, metals, etc.), although some C&D materials are already being recycled from Pacific County (see Tables 2-5). Based on Ecology’s annual recycling survey for the three most recent years that data is available (2015-2017), the three-year average for the amounts of C&D materials recycled includes 528 tons of wood that is recycled and another 1,574 tons of wood diverted to energy generation. An unknown portion of the ferrous and nonferrous metals recycled from Pacific County could also be from C&D wastes, plus an unknown number of tons of cardboard and other materials recycled from jobsites.

The Pacific Solid Waste Transfer Station accepts clean unpainted and untreated wood and land clearing debris that Trails End Recovery processes into “hog fuel.” Painted or treated wood, and other construction and demolition waste, is treated as solid waste and shipped to a landfill. Trails End Recovery, in Warrenton, Oregon was established in 2001 as a Department of Environmental Quality (DEQ) Certified Materials Recovery and Recycling Facility. All of the materials are processed on their 8.5-acre site in Warrenton. They provide a full-service yard where the public can bring C&D wastes, other clean wood, and concrete and asphalt.

Royal Heights Transfer Station collects wood, yard waste and clean soils, which is sent to the Stafford Creek Wood Waste Landfill in Cowlitz County.

Reusable construction and demolition materials are being diverted from the solid waste system by Habitat for Humanity, websites such as 2Good2Toss, and other programs. There is a Habitat for Humanity located in Hoquiam (Grays Harbor County).

Small amounts of C&D waste are usually mixed with regular household and commercial garbage for disposal purposes, but larger quantities could be handled separately because large quantities are generated at specific construction or demolition sites.

Planning Issues for C&D Wastes

Many C&D materials that get disposed from Pacific County are recyclable or reusable. Diverting more waste materials through reuse or recycling would be the environmentally preferable option.

No recycling facilities exist in Pacific County for C&D wastes. Diverting C&D wastes to a sorting facility using a simple picking line or other approach could increase the amounts of wood, metal and cardboard recovered from C&D wastes.

Management Alternatives for C&D Wastes

One alternative for C&D wastes is to promote existing waste diversion opportunities, including recycling of cardboard and metals from construction and demolition sites, diversion of clean wood at the Pacific Solid Waste Transfer Station, and reuse of specific materials and products. This approach could be implemented by a variety of actions that range from encouraging construction companies to divert materials by increasing awareness of existing opportunities for recycling and the potential cost savings associated with reducing the amount of garbage, perhaps through a brochure distributed with building permits, to requiring recycling containers at jobsites.

Another option is to explore a regional approach that would make more use of recycling opportunities in neighboring areas, including working with Habitat for Humanity to divert materials to the Hoquiam location or to set up a remote collection/storage yard in the Long Beach area.

A third option would be to explore options for a processing facility in Pacific County for C&D wastes, or for transfer of C&D wastes to processing facilities in neighboring areas. It is unlikely that Pacific County has sufficient volumes of C&D to make a processing facility for mixed C&D cost-effective, nor is it likely to be cost-effective to transfer C&D wastes to a processing facility in another area (the closest such facilities would be in the Portland area). However, it might be possible to have a facility in Pacific County for processing wood, concrete or other parts of the C&D waste stream. This is an option that would likely depend on the interest and initiative of a private company to propose and construct, so at most the County might watch for such proposals.

Recommendations for C&D Wastes

The following recommendations are made for C&D wastes in Pacific County:

- MW8) Promote existing opportunities for recycling of construction and demolition wastes as part of the public education efforts conducted for waste reduction and recycling.
- MW9) Explore regional solutions for specific construction and demolition materials.

9.6. DERELICT VESSELS

Regulations for Derelict Vessels

Chapter 79.100 RCW was adopted in 2002 to address derelict vessels. At that time, the legislature stated that there had been an increase in the number of derelict and abandoned vessels that were either grounded or anchored on publicly or privately owned submerged lands. These vessels are considered to be public nuisances and safety hazards as they often pose hazards to navigation, detract from the aesthetics of Washington's waterways, and threaten the environment with the potential release of hazardous materials. The legislature further found that the costs associated with the disposal of derelict and abandoned vessels are substantial, and that in many cases there is no way to track down the current vessel owners in order to seek compensation. As a result, the costs associated with the removal of derelict vessels becomes a burden on public entities and the taxpaying public.

Chapter 79.100 RCW provides public funds to remove derelict vessels, including a voluntary turn-in program that was added in 2014 to allow boat owners to receive financial aid for the proper disposal of old boats.

Existing Management Practices for Derelict Vessels

The Washington Department of Natural Resources (DNR) is the agency responsible for managing the Derelict Vessel Removal Program. DNR's Derelict Vessel Removal Program is the state's key mechanism for addressing the problem of derelict or abandoned vessels in Washington's waters, and has been cited as a model for other jurisdictions seeking to deal with the problem of sunken or neglected watercraft. Derelict or abandoned vessels put public safety and the health of our marine and fresh waters at risk. Since the program was instituted in 2002, more than 900 abandoned or neglected vessels have been removed from Washington waterways. In 2014, DNR also instituted a new program to help owners of boats in disrepair voluntarily dispose of their boats before they become problems in the water. The Vessel Turn-in Program allows owners of vessels less than 45 feet long to get rid of their boats, if they cannot afford to dispose of it themselves.

Derelict vessels continue to pollute state waters and cost taxpayers, but recent improvements to the program have made it more efficient and effective. The 2020 Washington Legislature adopted SB 6528, which gives the Washington State Department of Natural Resources (DNR) more prevention and enforcement tools that will reduce environmental damage, minimize navigation hazards and hold down costs. This legislation included new tools for more resources for the Vessel Turn-In Program.

The DNR recently worked with the Port of Ilwaco to construct a vessel deconstruction facility. Through the Rural Communities Partnership Initiative, the Port of Ilwaco received \$950,000 in funding from the State Legislature to build a new vessel deconstruction facility at the Port. Facility investments included \$600,000 to build an enclosed building for deconstruction work, \$250,000 to replace the storm water system and protect water quality, and \$100,000 for paving and regrading work to protect water quality. By having this facility, the Port has the capability to provide vessel owners with a proactive alternative to destroying their boat before it becomes derelict or sinks. The Port finished building the vessel maintenance and recycling facility in 2020. They are currently using the facility for maintenance and plan to start recycling some of the materials once more funding is available. Boat owners can apply for funding through the DNR and they receive 90% of the cost to properly dispose of their vessel if their application is approved. The Port pays the other 10%. Boat owners can also contract for the deconstruction and recycling of their individual boats. The parts that can be recycled include engines, steel and clean wood.

Smaller boats are often taken to one of the two transfer stations in Pacific County and crushed for disposal or recycled if the boat is made of metal.

Planning Issues for Derelict Vessels

Current handling of derelict vessels, usually by an authorized public entity such as the Port of Ilwaco or another marina, appears to be sufficient in addressing derelict vessels. With continued cooperation from DNR, these programs can be maintained and improved. There are no additional management alternatives or recommendations for derelict vessels being proposed at this time.

9.7. SHARPS

Many people in Washington use syringes (“sharps”) for a variety of medical and non-medical reasons. Sharps can be generated in homes, farms, medical facilities, laboratories, dental offices and veterinary clinics. To prevent accidental needle stick injuries, it is important to follow local laws about proper syringe disposal. Syringe disposal programs play a critical role in supporting people who inject drugs with correct syringe disposal. Improper management of discarded needles and other sharps can pose a health risk to the public and waste workers. For example, discarded needles may expose waste workers to potential needle stick injuries and potential infection when containers break open inside garbage trucks or needles are mistakenly sent to recycling facilities. Janitors and housekeepers also risk injury if loose sharps poke through plastic garbage bags. Used needles can transmit many serious diseases, such as human immunodeficiency virus (HIV) and hepatitis B and C.

Regulations for Sharps

RCW 70A.228.010 defines sharps as a biomedical waste. This category of waste includes all hypodermic needles, syringes, IV tubing with needles attached, scalpel blades, and lancets that have been removed from the original sterile package. RCW 70A.228.040 states that a person shall not intentionally place unprotected sharps or a sharps waste container into: (a) recycling

containers provided by a city, county, or solid waste collection company, or any other recycling collection site unless that site is specifically designated by a local health department as a drop-off site for sharps waste containers; or (b) cans, carts, drop boxes, or other containers in which refuse, trash, or solid waste has been placed for collection if a source separated collection service is provided for residential sharps waste.

In addition to the state medical waste environmental regulations there are Occupational Safety and Health Commission (OSHA) rules that also apply to medical/infectious waste. Washington is one of 21 states operating an approved occupational safety and health program. This program is operated by the Department of Labor and Industries. OSHA rules (Occupational Exposure to Bloodborne Pathogens Standards) impact various aspects of medical/infectious waste, including management of sharps, requirements for containers that hold or store medical/infectious waste, labeling of medical/infectious waste bags/containers, and employee training.

WAC 296-823-14060 addresses the safe and proper regulations for sharps disposal. Sharps containers must be closable, puncture resistant, leakproof, labeled, and located as close as feasible to the immediate area where sharps are used or areas sharps can be reasonably anticipated to be found.

Existing Management Practices for Sharps

County residents may place used sharps in a strong, plastic container such as a laundry detergent or bleach bottle, then seal container with duct tape and label "Do Not Recycle." This container can be placed in the trash.

Willapa Behavior Health in Grays Harbor is the closest facility that offers a Syringe Exchange Program to intravenous drug users. For each used syringe brought in, a sterile syringe is given back to the client. The Syringe Exchange Program allows an opportunity to conduct a health intervention for drug users and to provide additional services. The County also assists with education about how to dispose of sharps used in a home setting for medical conditions or syringes found in public settings.

Planning Issues for Sharps

There may be sharps from smaller generators that are currently not being handled properly. As home-based health care increases (due to an aging population), this situation should be monitored to ensure that home-based patients and caregivers understand the need for proper disposal of these materials.

Containers of sharps are occasionally improperly placed in the recycling system, where they pose a safety risk to the staff at the facilities that handle the recyclables.

Needle exchanges have been shown to be effective in reducing improper disposal of sharps. There is not an existing needle exchange program operating in Pacific County.

Alternatives for Sharps

One alternative to the current management of sharps would be to provide a syringe exchange location in the county. A needle exchange provides a safe method for disposing of sharps and could be considered in Pacific County. The State Legislature considered a product stewardship bill for syringes in the 2020 legislative session, and although it didn't pass hopefully this bill will be re-introduced and may eventually be enacted into law. If that does happen, likely it would allow a few years before any new collection programs would become operational.

More education could be conducted to promote safe handling and disposal of sharps. Residential sources could be targeted with the assistance of home healthcare agencies and pharmacies. Another form of education could be site visits to train staff at targeted facilities. More brochures could be made available at public locations and businesses, and as inserts mailed with garbage or other utility bills. Haulers could also inform their commercial customers (those that are potential generators of sharps) about safe disposal practices.

Recommendations for Sharps

The following recommendations are made for sharps wastes in Pacific County:

MW10) Support product stewardship legislation for sharps.

MW11) Provide more promotion of proper disposal methods for sharps.

9.8. TIRES

Tires can be difficult to dispose of properly, and thus may accumulate on personal property or be illegally dumped. Left in the environment, tires are unsightly and can provide habitat for mosquitoes and other pests. Large piles of tires can catch fire and are difficult to extinguish, creating serious air and water pollution problems in the process.

Regulations for Tires

There are several state regulations that address tires, and the most significant of these are described below.

RCW 70A.205.440: defines "waste tires" as "tires that are no longer suitable for their original intended purpose because of wear, damage or defect." This RCW also defines "storage" or "storing of tires" as "the placing of more than 800 waste tires in a manner that does not constitute final disposal of the waste tires." It defines "transportation" or "transporting" as "picking up or transporting waste tires for the purpose of storage or final disposal."

RCW 70.95.500 through RCW 70.95.565: describes tire storage and tire carrier requirements.

RCW 70.94.775: the Washington Clean Air Act prohibits the outdoor burning of fires containing garbage, petroleum products, plastics, etc.

WAC 173-425: this rule details the prohibition of burning tires.

WAC 173-350-355: this rule regulates waste tire transportation except for any person transporting five tires or less or any person transporting used tires back to a retail outlet for repair or exchange.

Existing Management Practices for Tires

The Royal Heights Transfer Station accepts tires for a fee of \$5.00 per tire plus the weight charge. Pacific Solid Waste Transfer Station also accepts car and truck tires. Car tires are taken for a fee of \$4, car tires with rims are \$5 and truck tires are \$6 or \$18 with rims. Most auto-related businesses manage tire recycling or disposal through their own systems. Illegally dumped tires are picked up by the litter crew or the County and are taken to the transfer stations.

Pacific County Community Development periodically offers Waste Tire Amnesty Events. These are a one-day drop-off event typically held at the Pacific County Shop in Long Beach or the Pacific County Fairgrounds in Menlo. This is a free event for the residents that is sponsored by the Washington Department of Ecology and Pacific County Community Development. Only Pacific County residents can participate and no tires from commercial business are accepted. Motorcycle, passenger vehicle and light truck tires are accepted, as well as tires with rims. No tractor, farm, or large truck tires are accepted. Participants with more than 15 tires are encouraged to contact the County Code Enforcement Officer for pre-approval.

Even with the collection programs that are available, a significant amount of tires are still illegally discarded on public or private property in Pacific County. Pacific County assists with waste tire cleanups in partnership with the Department of Ecology, which provides some funding for hauling and disposal. In 2005, the Legislature created the Waste Tire Removal Account to help clean up illegally discarded tires. Ecology manages this account by collecting fees on the sale of new tires. The account has an annual budget of \$500,000, funded by a \$1 fee charged for each new vehicle tire sold in Washington. With these funds, Ecology provides resources to communities and landowners who discover unauthorized waste tire piles. They also oversee businesses that handle new and used tires. The waste tire program:

- Provides funding to public entities to clean up illegally discarded tires through the Waste Tire Removal Account.
- Assists local governments in waste tire pile prevention and education.
- Manages the fees collected from the sales of new tires.
- Licenses businesses that haul, store, or dispose of used tires.

The qualifying criteria and procedures for waste tire cleanups are:

- Local or tribal governments or other agencies must investigate each potential project to determine how the tires came to be abandoned at the location and to ensure that the tires are not the result of a currently active tire-related business before the agency or private party requests cleanup support from Ecology.
- Cleanups can be done in instances where tires were abandoned as the result of a business that is no longer in existence and no liable persons can be held accountable; tires are on

public or private property and were illegally dumped there; or a dairy/cattle farmer wishes to dispose of tires that have been used for silage weights but are no longer needed.

- If the tires are the result of a currently active tire related business, then the business needs to be held accountable and/or appropriately penalized per RCW 70A.205.400, RCW 70A.205.450 and/or other applicable local code(s).
- A property is only cleaned up once, with only a few exceptions. One of the exceptions would be a case where more tires were found that were unknown and existing on site during the previous cleanup. This scenario is most common where tires were previously buried in dirt or covered in dense vegetation.
- Before a cleanup, the property owner must sign an access agreement. One of the conditions of this agreement is for the landowner to take proper actions to prevent waste tires from accumulating on the property in the future. The site must be prepared by the property owner according to Ecology's request.
- Any tires that accumulate on private property after an Ecology-sponsored cleanup are the responsibility of the land owner.

Planning Issues for Tires

Proper disposal of waste tires is an ongoing need and issue.

Management Alternatives for Tires

One alternative is to continue to hold tire collection events sponsored by the County using Ecology grants. These collection events could continue to have limits on the size and number of tires that can be brought in by participants.

Another alternative would be to explore the development of local processing and markets for tires. Tires can be converted into various other products, such as being ground up and used for mulch. A company in Burlington, Washington, compacts and bales tires, which allows the bales to be used as fill or encased in concrete to produce a lighter version of "ecology blocks." Various other products and applications are also possible for tires.

Recommendation for Tires

The following recommendations are made for tires in Pacific County:

MW12) Continue to apply for Ecology funding for the proper management of tires.

MW13) Continue to conduct tire collection events.

ADMINISTRATION AND ENFORCEMENT

10.1. BACKGROUND FOR ADMINISTRATION AND ENFORCEMENT

Introduction

This chapter of the Pacific County Solid Waste and Moderate Risk Waste Management Plan (the “Plan”) addresses activities and programs undertaken to administer the solid and moderate risk waste system in Pacific County, including regulatory programs and general public education activities.

Regulations Concerning Administration and Enforcement

At the federal and state levels, the primary regulatory authorities for solid waste management are the Environmental Protection Agency (EPA) and Ecology, respectively. Pacific County is in the jurisdiction of the southwest regional office of Ecology, located in Lacey, Washington. Pacific County Environmental Health (PCEH), a division of the Department of Community Development, is the responsible local health jurisdiction (per RCW 70A.205.100) for issuing permits for solid waste facilities. The minimum regulatory requirements of both the state and federal programs must also be satisfied before a permit can be issued by the local health jurisdiction.

Federal Level: The Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984 (42 U.S.C. 6901-6987), is the primary body of legislation dealing with solid waste. Subtitle D of RCRA deals with non-hazardous solid waste disposal and requires the development of a statewide comprehensive solid waste management program that outlines the authorities of local, state and regional agencies. Subtitle D requires that the state program must prohibit “open dumps” and provide disposal of all solid waste in an environmentally-sound manner. A provision of RCRA requires that federal facilities must comply with state and local (and Tribal in some cases) solid and hazardous waste requirements, including “statutes, regulations, permits, reporting requirements, and administrative and judicial orders and injunctions,” and so military installations and federal agencies must operate in a manner consistent with local solid waste management plans and policies.

State Level: The Solid Waste Management Act (Chapter 70A.205 RCW), adopted in 1969, provides for a comprehensive, statewide solid waste management program. It assigns primary responsibility for solid waste handling to local governments, giving each county, in cooperation with its cities, the task of setting up a coordinated county solid waste management plan which places an emphasis on waste reduction and recycling programs. Cities may also choose to develop their own solid waste management plans, but this approach is usually too expensive and impractical for them. Hence, the municipalities in Pacific County have entered into an agreement with the County to adopt and amend the SWMP (see Appendix A). Enforcement and regulatory responsibilities are assigned to counties, cities, or jurisdictional health departments depending on the activity.

In 1985, Ecology promulgated the Minimum Functional Standards for Solid Waste Handling (Chapter 173-304 WAC) under the authority granted by Chapter 70A.205 RCW. The Minimum Functional Standards reflected the State's solid waste management priorities at that time and the desire to protect the environment from adverse impacts from solid waste disposal facilities. In 2003, Ecology issued Chapter 173-350 WAC, Solid Waste Handling Standards, which replaced the Minimum Functional Standards. A separate section, Criteria for Municipal Solid Waste Landfills (Chapter 173-351 WAC), which was issued in 1993, contains the current location, design, and operational criteria for municipal solid waste landfills.

Chapter 36.58 RCW, Solid Waste Disposal, delineates the counties' rights and responsibilities regarding solid waste management, including the authority to establish solid waste disposal districts (RCW 36.58.100 through 36.58.150) as well as providing special authorization for contracting procedures for solid waste handling facilities (RCW 36.58.090). The authority to establish waste collection districts is provided in Chapter 36.58A RCW. Solid waste disposal districts can be set up to provide and fund solid waste processing, disposal and/or collection services in the unincorporated parts of the county, and in incorporated areas with the cities' consent.

The Model Litter Control and Recycling Act (Chapter 70A.200 RCW) and associated state regulations (Chapter 173-310 WAC) generally prohibit the deposit of garbage or refuse on any property not properly designated as a disposal site. A "litter fund" was created through a tax levied on wholesale and retail businesses, and the monies from this fund are used for education, increased litter clean-up efforts by the State, and grants to counties for litter and illegal dump clean-up activities. Chapter 173-310 WAC provides minimum standards for litter receptacles and prescribes the use and distribution of litter receptacles throughout the state.

The Washington Utilities and Transportation Commission (UTC) regulates private garbage collection companies. The UTC oversees waste collection certificates (franchises) and approves rates for both garbage and residential recycling collection services in unincorporated areas (see Chapter 3, Solid Waste Collection, for more details).

Local Regulations: Regulations for administration and enforcement activities for the solid waste system have been adopted by Pacific County and the cities. The primary Pacific County regulation for administration and enforcement activities is the Board of Health Ordinance No. 2C, which addresses facility permitting, littering, illegal dumping and the need for proper handling of garbage. This ordinance was initially adopted in 1996 and most recently amended in 2007. All four of the cities have also adopted ordinances that address waste collection, littering and other aspects of proper waste management (see Chapter 6 for more details).

Other local regulations which pertain to solid waste planning include the land use plans and zoning codes delineated in the County and Cities' Municipal Codes. Zoning codes describe zoning designations and restrictions, including industrial uses such as solid waste facilities. The Pacific County Zoning Code can be found in Ordinance 184. More details on the cities' zoning codes can be found in the zone designations sections section in Chapter 8 (see the information provided at the end of Section 8.2).

Goals for Administration and Enforcement

Four of the goals for this Plan are applicable to this chapter:

- Assess alternatives and develop recommendations for future action, incorporating the most recent reviews of studies, statistics, and drivers of solid waste issues in Pacific County with a regional perspective.
- Provide guidelines for an equitable balance between convenience, expense, climate impact, environmental quality, and public health and welfare.
- Continue cooperative and coordinated efforts among government agencies, private companies and the public to achieve effective management of solid waste.
- Outline funding mechanisms.

10.2. EXISTING ADMINISTRATION AND ENFORCEMENT PROGRAMS

Local agencies involved in solid waste management in Pacific County include the Pacific County Department of Community Development and various departments of the cities. Each entity has a particular area of operations, providing specific services to the residents within that area and enforcing specific rules and regulations.

Pacific County

Chapter 70A.205 RCW assigns to the Pacific County Board of Health (BOH) the responsibility to adopt regulations or ordinances governing solid waste handling for implementation of the solid waste management plan. The purpose of these regulations or ordinances is to ensure that solid waste storage and disposal facilities are located, maintained, and operated in a manner that will protect the public health, prevent air and water pollution, and avoid the creation of nuisances. In addition, the Pacific County Department of Community Development (DCD) is responsible for reviewing and issuing permits for solid waste disposal sites or facilities. Ecology reviews such permits for consistency with this Plan, state laws and regulations.

Pacific County Budget and Funding Sources: County solid waste activities, including waste reduction and recycling education and solid waste enforcement, are funded by a combination of grants and revenues from tipping fee surcharges. Grant funds are provided by Ecology to support solid and moderate risk waste management programs in Pacific County, primarily through Local Solid Waste Financial Assistance (LSWFA) grants (what was previously called Coordinated Prevention Grants, or CPG). These funds have been used by Pacific County to offset part of the costs for the MRW program, for enforcement and litter cleanup, and for other activities.

Funding for County activities also comes from three surcharges that have been established for the tipping fees at the transfer stations. These surcharges are set at a specific amount of the per ton tipping fee for solid wastes accepted at the transfer stations. Out of the per ton fee, the transfer stations retain \$0.10 for administrative purposes with the remainder placed into county-managed funds to be used for the implementation of the solid waste program. The transfer station operators retain the remainder of the tipping fees to cover operating and other

expenses. The three surcharges were established for specific purposes:

- the Post Closure Fee helps to fund post-closure activities at the Rainbow Valley Landfill and the amount of this fee was \$5.89 per ton in August 2021.
- the MRW Tipping Fee supports the MRW program and the amount of this surcharge was \$2.30 per ton in 2021.
- the Solid Waste Implementation Fee supports other solid waste programs and the amount of this surcharge was \$4.84 per ton in August 2021.

These surcharges are implemented through a contract between the County and the Royal Heights Transfer Station and through permit conditions attached to the transfer station permit for the Pacific Solid Waste Transfer Station. The surcharge amounts are updated annually in August for the Royal Heights Transfer Station and in January for the Pacific Solid Waste Transfer Station. The post-closure surcharge is adjusted annually at a rate of 85% of the change in the Consumer Price Index (CPI) plus an additional fuel surcharge, while the implementation surcharge is adjusted annually at a rate of 85% of the change in the CPI. One surcharge, for the MRW program, is currently frozen at the same rate.

Table 10-1 shows the details for solid waste revenues and expenditures for the past three years. It is anticipated that Pacific County will continue to use the grants and surcharges to pay for operational expenses and capital costs for the foreseeable future. Any surplus funds that occur each year are used for administrative expenses (which are not shown in Table 10-1) or

Table 10-1. Pacific County Solid Waste Budget			
	2018	2019	2020
Revenues			
Tipping Fee Surcharges;			
SWMP Implementation Fee	77,616	83,248	99,674
MRW Tipping Fee	40,770	42,728	51,148
Post-Closure Fee	76,465	87,389	93,722
Grants;			
Community Litter Cleanup Program	28,300	27,388	0
Solid Waste Enforcement Grant	63,294	41,561	32,651
Implementation Grant	68,151	58,689	59,696
Small Quantity Generator Fees	401	608	51
Total Revenues	354,996	341,612	336,942
Expenses			
Landfill Closure/Post-Closure	49,064	68,229	77,715
HHW Facility	41,874	45,902	60,952
Recycling Service	40,287	50,525	45,172
Used Oil	6,717	7,727	11,580
Solid Waste Enforcement	46,115	41,796	56,915
Litter	21,293	32,659	34,538
Total Expenses	205,350	246,838	286,871

Notes: All figures are in dollars and are actual (not budgeted) amounts.

are placed in reserve funds for grant matches, program expansion, major projects and future capital expenses.

Illegal Solid Waste Disposal: Illegal solid waste disposal is a significant problem in Pacific County. Illegal dumping can contribute to ground and surface water contamination, create habitat for pests (mosquitoes, rodents, etc.), and create unsightly aesthetic impacts. County staff indicates that individuals commonly associated with illegal dumping activities often lack the financial resources to afford disposal fees or find that the large amount of forest land provides ample opportunity to illegally dispose of their waste material. The County solid waste enforcement program costs are partly covered with Ecology grants. Pacific County DCD staff investigates illegal and improper solid waste disposal activities reported to the department. During the grant cycle for 2019 to 2021, the DCD received 362 new solid waste complaints and 604 current and existing complaints were resolved. In the previous cycle, 2017 to 2019, the DCD received 561 solid waste complaints.

Roadside Litter Program: Since 2005, Pacific County has applied for and received Community Litter Clean-up Program (CLCP) grants from Ecology to collect and properly dispose of roadside litter and illegal solid waste piles. Since that time, ~~each summer~~, DCD has employed local high school students during the summer break as a youth litter crew to pick up litter on the roads of Pacific County. The crew was unable to operate in 2020 due to COVID 19, otherwise this approach has been working well.

Between 2019 and 2021, the Summer Youth Litter Crew cleaned a total of 245 miles of state and local roads, collecting 11,070 pounds of litter. Of this, they recycled 139 pounds of aluminum. Pacific County staff has removed mattresses, tires, and cleaned up several dumpsites on County right-of ways.

The County has placed “no dumping” signs in some areas that help prevent dumping. Four signs were placed on public property to keep the public from dumping their household garbage. In 2019, three civil infractions were written to people whose names were retrieved from illegal dumping.

Other Groups Assisting the County: Pacific County is assisted by the Solid Waste Advisory Committee and by WSU. The Solid Waste Advisory Committee (SWAC) assists with solid waste administration and regulation by serving in an important advisory capacity and by providing a vehicle for public input (see also Section 1.7 for more details about the SWAC). The SWAC participated in the development of this Plan, assists in the development of policies and programs for solid waste management, and comments on proposed resolutions and ordinances prior to their adoption.

The WSU Extension Waste Wise Program Master Gardeners offers back yard composting education to the community. They also conduct composting classes such as an event with 4H kids through their Master Gardeners and offers technical assistance to residents initiating backyard composting projects. WSU Extension staff respond to residents who call in with questions on how to recycle and provide public education regarding waste related issues.

General Public Education Activities: Pacific County delivers educational information through a variety of methods including signage, social media (Facebook), phone and the County’s website. As of mid-2021, information available on the County’s website includes:

- Education on recycling materials and how to prepare them for recycling
- Locations for recycling
- A recycling brochure
- Oil recycling drop-off information
- Solid Waste Advisory Committee information
- Public Event Recycling information
- The Solid Waste Management Plan
- General facility information.

Municipalities

The four municipalities currently participate in the solid waste program through an interlocal agreement (see Appendix A). The ILA designates Pacific County as the “exclusive agent” for maintaining the solid waste plan and the SWAC, and provides the County with “full authority to implement solid waste programs and services” for the municipalities and their residents (excluding the collection and transfer of solid waste within the cities). Specific details about additional activities by the cities are described below.

The City of Raymond provides a city-owned and -operated collection service that offers weekly residential pickup along with commercial pickup. The City provides a recycling guide on their website that addresses the importance of recycling, collection and drop off options, and the proper disposal of hazardous materials.

The City of South Bend has mandatory residential garbage collection and contracts with Waste Connections (dba Harold LeMay Enterprises, Inc.) for garbage collection and recycling. Residents can also sign up for curbside recycling on a voluntary basis. Waste Connections handles the billing for South Bend customers. The City of South Bend website posts a link to Waste Connections’ website for further information.

The websites for Long Beach and Ilwaco do not have any garbage collection information or links to the haulers.

Regional Agencies

The Olympic Region Clean Air Agency (ORCAA) monitors and regulates outdoor air pollution in Pacific County. ORCAA is one of seven regional air pollution control agencies in Washington State. Established in 1968 after the passage of the Washington Clean Air Act (Chapter 70A.15 RCW), ORCAA is responsible for enforcing federal, state and local air pollution standards and governing air pollutant emissions from new and existing sources. The Board of Directors establishes the policies and oversees the operations of the agency. The Board includes a representative from each of the seven counties in ORCAA’s jurisdiction, plus representatives of the three largest cities in the territory; Lacey, Olympia and Port Angeles.

ORCCA conducts public outreach and enforcement in Pacific County for specific activities that are within their jurisdiction, which generally includes activities that may affect air quality (such as open burning). ORCCA provides public information on their website for Pacific County residents and businesses such as:

- Providing information on outdoor burning and health.
- Providing information on handling asbestos.
- Publishing comment opportunities for upcoming air pollution regulations and activities.

ORCCA conducts enforcement activities for open burning and for regulated facilities largely through permitting, inspections of permitted facilities, and by responding to complaints.

Tribes

There is one federally-recognized Tribe in Pacific County, the Shoalwater Bay Tribe. A second Tribe, the Chinook Nation, is currently seeking federal recognition. The Shoalwater Bay Tribe exercises solid waste management authority within their jurisdiction, which consists of the 355 acre Shoalwater Bay Indian Reservation created in 1866. Local and state governments have no jurisdictional authority over the reservation or their residents in terms of solid waste planning, implementation or taxation. The Tribes must abide by regulations imposed by the Federal Government and outlined in RCRA. The Tribe is governed by a General Council, which is comprised of all enrolled tribal members at least eighteen years of age. An elected five person Tribal Council conducts the day-to-day business operation of the Tribe. Administrative duties are overseen by a Tribal Administrator who works for the Tribal Council. The administrator manages departments with the help of department directors. The Tribe requires permits for a variety of activities on Tribal lands, including demolition, construction, grading and filling, burning, spraying, hunting, fishing, and gathering other resources (berries, mushrooms, firewood, etc.).

State Agencies

The primary state agencies involved in administration, enforcement and public education for solid waste are the Department of Ecology and the Utilities and Transportation Commission. Their activities are already discussed in other parts of this Plan, but it could be noted here that Ecology provides outreach and education for a number of statewide programs and regulations, as well as providing a central source for information gathered from other sources. More information can be found at <https://app.box.com/s/t2zc3bi8w68ljuxnm8qhdeqrj0wwou0r>.

Private Companies

The two garbage haulers in Pacific County operate under a certificate issued by the UTC or under contracts. There are many requirements associated with the certificates (see Chapter 6 for more details), including that garbage haulers are required by State law to distribute public education materials annually (WAC 480-70-361(7)). At a minimum, these notices must be distributed to current customers (for garbage and/or recycling) in the certificate (franchise) areas and must describe all of the services and options available for waste collection and recycling. If a brochure is distributed by a local government directly to the public instead, then the hauler does not need to distribute a brochure if the minimum information described above

is included. If a local government provides a brochure to the hauler, then the hauler must distribute those, and in this case the brochure may also address commercial recycling and waste reduction options offered by other companies and agencies. Brochures prepared by haulers are not required to provide information on recycling and waste reduction programs offered by others.

Harbor Disposal: Harbor Disposal, Inc. (a division of Waste Connections) is based in Grays Harbor and collects waste in the North Cove/Tokeland area. They offer mini-20-gallon cans and offer weekly, every other week and monthly garbage service. Customers are encouraged to go to the Harbor Disposal website for schedule and information. They do not send out a brochure.

Harbor Disposal's rates are not on their website, but customers can find out the rates and service by contacting them by phone or email. Welcome packets are sent out when service is set up and customers do receive a mailer 30 days prior to any rate change identifying the rate change.

Peninsula Sanitation: Peninsula Sanitation Service, Inc. has a certificate that covers the majority of Pacific County excluding the incorporated cities of Raymond and South Bend and the North Cove/Tokeland area. They provide 65 and 90-gallon containers. Peninsula Sanitation's website has a clear listing and description of their solid waste services and rates. They do not send out any brochures to their customers.

10.3. PLANNING ISSUES FOR ADMINISTRATION AND ENFORCEMENT

This section discusses management issues associated with administration, enforcement and public education activities and programs in Pacific County.

Financial Stability

The financial outlook of the solid waste system is dependent on several factors including tipping fees, changes in the amounts of garbage and recyclables, contracts for various services required (both public and private), and grant revenues. Waste reduction remains a top priority at the state level, yet tipping fees based on tonnage are the main source of revenue for many counties. The County could face financial challenges due to its reliance on solid waste tipping fees for about half of its funding. Waste quantities could decrease due to many factors, and so the funding generated through tipping fees could also decrease. There is a need for a long term strategy that addresses this funding challenge.

Illegal Dumping

Illegal dumping continues to be a problem throughout the County. Pacific County relies on state funding for cleanup of illegal dump sites and roadside litter. These types of activities should also be considered in long term funding alternatives due to the variability in state grant funds. A related problem is private residences that fail to satisfactorily manage garbage accumulated on their property, creating nuisance problems in some areas.

Public Education Needs

Pacific County maintains a thorough description of the County's solid waste and recycling programs on their website. Some recycling and waste reduction outreach is performed by the WSU Extension. The two haulers provide services to county residents, though they do not send out any calendars or annual brochures. The cities, except for the City of Raymond, have no solid waste and recycling information on their websites and do not send any materials out. Pacific County needs a better system of public outreach for the existing services, and for addressing any future changes in the recycling system and other programs. Additional outreach is needed to successfully create behavior change. Increasingly, web-based resources such as websites provide a vital method of outreach. Active participation by all partners (County, cities, WSU, and the haulers) in the system to provide quality outreach can increase the efficiency of public outreach efforts.

The two haulers serving the UTC area and South Bend do not send out annual information as required by state law, "garbage haulers are required by State law to distribute public education materials annually" (WAC 480-70-361(7)). Pacific Sanitation and Harbor Disposal need to distribute annual public education materials to their customers.

Regional Opportunities

There may be opportunities for regional efforts involving the neighboring counties (primarily Lewis and Grays Harbor Counties). Many of these opportunities are in transfer and disposal systems but opportunities may exist for other activities as well.

10.4. ALTERNATIVES FOR ADMINISTRATION AND ENFORCEMENT

The following alternatives were considered for administration, enforcement and public education in Pacific County. The listing of an alternative in this section does not mean that it is considered feasible, nor that it is recommended (see Section 10.5 for the recommendations). In addition, the alternatives are not listed in order of priority.

Alternative A – Solid Waste Disposal or Collection District

Chapters 36.58 and 36.58A RCW allow the establishment of waste disposal districts and waste collection districts, respectively, within a county. A solid waste disposal district is a quasi-municipal corporation with taxing authority set up to provide and fund solid waste disposal services. A disposal district has the usual powers of a corporation for public purposes, but it does not have the power of eminent domain. The county legislative authority is the governing body of the solid waste district.

The formation of a solid waste collection district could help discourage illegal dumping by lowering the apparent cost of proper disposal. The assessment by the collection district would be paid regardless of where the resident or business dumped the waste, or whether it was self-hauled or transported by a commercial hauler.

RCW 36.58.100 authorizes the legislative authority of any county to establish one or more solid

waste disposal districts within the county to provide a funding mechanism for solid waste disposal services. Once formed, this district has the capability to levy taxes to fund disposal activities and issue general obligation bonds for capital purposes. RCW 36.58.140 states that a disposal district "may levy and collect an excise tax on the privilege of living in or operating a business in the solid waste disposal taxing district, provided that any property which is producing commercial garbage shall be exempt if the owner is providing regular collection and disposal." The district has a powerful taxing authority, since it may attach a lien to each parcel of property in the district for delinquent taxes and penalties, and these liens are superior to all other liens and encumbrances except property taxes.

The funds obtained by a levy may be used "for all aspects of disposing of solid wastes ... exclusively for district purposes" (RCW 36.58.130). Potential uses include:

- Solid waste planning.
- Cleanup of roadside litter and solid wastes illegally disposed of on unoccupied properties within the district.
- Public information and education about waste reduction and recycling.
- Subsidized waste reduction/recycling activities such as composting, or increasing the types of recyclables received at transfer stations
- Subsidized household hazardous waste collection events to minimize the amount of these wastes entering the waste stream.
- Closure and post-closure costs for landfills and other solid waste facilities.

The formation of either a collection or a disposal district can be politically and technically challenging, and few counties in Washington State have successfully pursued these options.

Alternative B – Explore Alternative Funding Sources

Financing for capital and operational costs could come from two primary sources of available revenue: locally generated sources and non-local sources. The locally generated sources include general government taxes, revenue or general obligation bonds, developer financing and county funding. Non-local sources of revenue would come from Federal, State and other public program funds.

The following sources of funding could be considered and developed as appropriate to implement the recommendations appearing in this Plan:

- Creation of a County-wide solid waste disposal district with the power to make appropriate assessments (see Alternative A).
- Procure solid waste disposal tipping fees.
- Procure bond issuance.
- Procure grants from state, federal, and foundation sources.

While the issuance of bonds is not anticipated, there are bonds available for capital purposes. General obligation bonds pledge the credit of the County that debt service payments on the

bond will be made. With this method of financing, Pacific County's solid waste fund would actually pay the debt service; however, in the case of default, the County would be responsible. The State of Washington limits the maximum amount of general obligation debt that counties and municipalities may accrue at any one time.

Alternative C – Increased Public Education Efforts

The County could work with all partners (Cities, WSU, and the haulers) in the system to provide quality public outreach information to residents and businesses. The County could also work with the haulers and UTC to ensure annual public information is sent to solid waste customers.

Alternative D – Continue Enforcement for Illegal Dumping

The County could continue current solid waste enforcement activities to reduce the amount of illegal dumping. If funding was available, these efforts could also be increased.

10.5 ADMINISTRATION AND ENFORCEMENT RECOMMENDATIONS

The following recommendations are being made for administration and enforcement programs:

- A&E1) Cities, towns and solid waste contractors should provide more information on their websites for recycling and garbage collection services in Pacific County.
- A&E2) Pacific County and the Cities should continue current solid waste enforcement activities to decrease illegal dumping.
- A&E3) Pacific County should research the benefits of alternative funding sources such as implementing a solid waste disposal district.

More details on the implementation of these and other recommendations are shown in Chapter 11.

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IMPLEMENTATION CHAPTER

11.1. INTRODUCTION

This chapter of the Pacific County Solid Waste and Moderate Risk Waste Management Plan (the “Plan”) lists all of the recommendations from previous chapters and presents a plan to implement the recommendations. These recommendations are intended to guide decision-making activities for Pacific County for the next six years, while also providing direction for the next 20 years. Implementation of individual program elements will be accomplished through annual budgets, work plans and contracts.

11.2. BACKGROUND

The following recommendation is being made for background data (see Chapter 2 for more details):

- B1) Pacific County should conduct a local waste composition study if grants or other funds are available for this.

11.3. WASTE REDUCTION RECOMMENDATIONS

The following recommendations are being made for waste reduction programs (see Chapter 3 for more details):

- WR1) Expand waste reduction education and training by working with WSU Extension.
- WR2) Encourage reuse of materials with a focus on clothing, household goods and construction materials.
- WR3) Continue to improve food donations from businesses, restaurants and the public and work with local food banks to consider expanding infrastructure such as cold storage, warehouse space and transportation.
- WR4) Promote volume-based waste collection fees.
- WR5) Promote composting education and training.
- WR6) Continue in-house waste reduction measures in all county facilities. Assist other public facilities and private organizations to follow the county’s model program.
- WR7) Pacific County should continue to encourage procurement policies that favor durable, reusable, repairable, efficient, recyclable, and recycled content goods.

11.4. RECYCLING RECOMMENDATIONS

The following recommendations are being made for recycling programs (see Chapter 4 for more details):

- R1) Analyze avenues to expand recycling education and outreach. Coordinate with WSU in promoting recycling for residents.
- R2) Coordinate with haulers to provide recycling collection services for businesses.
- R3) Evaluate waste characterization data from other sources to assess Pacific County's recycling potential.
- R4) Continue the free County-sponsored appliance collection events.
- R5) Consider implementing additional curbside recycling programs when the markets improve, and at that time implement a rate structure in association with the curbside recycling program.

11.5. ORGANICS RECOMMENDATIONS

The following recommendations are being made for organics programs (see Chapter 5 for more details):

- O1) Consider implementing drop-off sites for yard waste if a facility or system can be identified for handling it.
- O2) Evaluate the feasibility of siting a commercial composting facility in Pacific County.
- O3) Evaluate whether curbside collection of yard and food waste is feasible.
- O4) Pacific County, with help from other partners, should encourage neighborhood composting sites.
- O5) Pacific County supports Ecology's goal of reducing the amount of food waste that is disposed with solid waste.

11.6. SOLID WASTE COLLECTION RECOMMENDATIONS

The following recommendation is being made for solid waste collection programs (see Chapter 6 for more details):

- WC1) Continue to promote voluntary subscription to garbage collection services.
- WC2) Harbor Disposal should clarify their UTC tariff the next time it is updated to clearly show rates and services for unincorporated Pacific County.
- WC3) Clear and accessible information needs to be provided for rates in Ilwaco, Long Beach and South Bend, and for the unincorporated areas on the north end of the County.
- WC4) The rates in Raymond and South Bend should be revised to provide more incentive for waste reduction and recycling.
- WC5) Bear-resistant containers should be offered in more areas of the County.

11.7. TRANSFER AND DISPOSAL RECOMMENDATIONS

The following recommendations are being made for transfer and disposal programs (see Chapter 7 for more details):

- T&D1) The transfer station hours should be expanded if the increased number of self-haul customers creates long wait times on a regular basis.
- T&D2) Additional signs should be posted at the entrances to the two transfer stations and within the facilities, where needed.
- T&D3) The post-closure plan for Rainbow Valley Landfill should be updated, a permit issued for it, and a plan put in place to eventually demonstrate that the post-closure activities are no longer needed.

11.8. MODERATE RISK WASTE RECOMMENDATIONS

The following recommendations are being made for moderate risk wastes (see Chapter 8 for more details):

- MRW1) Continue operation of the HHW Facility and satellite HHW collection during the summer months and consider opening occasionally during the winter as resources and demand allow.
- MRW2) Continue operating motor oil recycling bins and expand as resources allow.
- MRW3) Continue offering SQG disposal services to local businesses. Re-evaluate the program, as resources allow, to consider current roadblocks to participation and how to expand the program.
- MRW4) Continue current education program and expand as resources allow. This includes K-12 programs, the County fair and other events.
- MRW5) Continue the local waste exchange program at the County HHW Facility or provide other waste exchange programs.
- MRW6) Support legislation for new product stewardship laws if consistent with Pacific County programs.
- MRW7) Explore a regional arrangement with Grays Harbor County for MRW disposal services for Pacific County residents.

11.9. MISCELLANEOUS WASTE RECOMMENDATIONS

The following recommendations are being made for miscellaneous wastes (see Chapter 9 for more details):

Recommendations for Animal Carcasses

- MW1) Monitor aquaculture industries for waste management issues.
- MW2) Continue communications with veterinarians and those disposing of animal carcasses.
- MW3) Review the solid waste system's role in emergency animal disposal.

Recommendations for Automobile Hulks and Abandoned RVs

- MW4) The County and cities could research and consider increased enforcement of abandoned auto hulks and RVs.
- MW5) The County could create a marketing tool which would encourage residents to report abandoned auto hulks and RVs.
- MW6) The County should work with other county and city departments to look for additional funding for the enforcement programs.
- MW7) The Washington State Department of Licensing or the State legislature should revise the abandoned RV program to make it easier for towing companies to participate.

Recommendations for C&D Wastes

- MW8) Promote existing opportunities for recycling of construction and demolition wastes as part of the public education efforts conducted for waste reduction and recycling.
- MW9) Explore regional solutions for specific construction and demolition materials.

Recommendations for Sharps (Syringes)

- MW10) Support product stewardship legislation for sharps.
- MW11) Provide more promotion of proper disposal methods for sharps.

Recommendation for Tires

- MW12) Continue to apply for Ecology funding for the proper management of tires.
- MW13) Continue to conduct tire collection events.

11.10. ADMINISTRATION AND ENFORCEMENT RECOMMENDATIONS

The following recommendations are being made for administration, enforcement and public education programs (see Chapter 10 for more details):

- A&E1) Cities, towns and solid waste contractors should provide more information on their websites for recycling and garbage collection services in Pacific County.
- A&E2) Pacific County and the Cities should continue current solid waste enforcement activities to decrease illegal dumping.
- A&E3) Pacific County should research the benefits of alternative funding sources such as implementing a solid waste disposal district.

11.11. IMPLEMENTATION DETAILS

Table 11-1 provides a summary of the proposed recommendations, including responsible parties, schedule, costs, and funding sources. It should be noted that the recommendations have been abbreviated to fit better into this table, and that only new or additional expenses are shown.

Table 11-1. Implementation Summary for Recommendations

Recommendation	Lead Agency	Schedule	Annual Cost
Background Information			
B1) Conduct a local waste stream analysis if grants are available for it.	County	TBD	NA
Waste Reduction			
WR1) Expand waste reduction education by working with WSU Extension.	County	2023	\$10,000
WR2) Encourage reuse of materials.	County	Ongoing	Existing
WR3) Continue to improve food donations and work with local food banks.	County	Ongoing	Existing
WR4) Promote volume-based waste collection fees.	All	Ongoing	Existing
WR5) Promote composting education and training.	County	2023	Existing
WR6) Continue in-house waste reduction measures and assist other public facilities and private organizations to follow the county's program.	County	Ongoing	Existing
WR7) Pacific County should continue to encourage procurement policies.	County	Ongoing	Existing
Recycling			
R1) Analyze avenues to expand recycling education and outreach.	County	Ongoing	\$5,000
R2) Coordinate with haulers to provide commercial recycling services.	County	Ongoing	Existing
R3) Evaluate waste characterization data to assess recycling potential.	County	Ongoing	Existing
R4) Continue the free County-sponsored appliance collection events.	County	Ongoing	Existing
R5) Consider implementing additional curbside recycling program.	County, haulers	2022 or later	TBD
Organics			
O1) Consider implementing drop-off sites for yard waste.	County and TS	Ongoing	Existing
O2) Evaluate the feasibility of siting a commercial composting facility.	County	Ongoing	Existing
O3) Evaluate whether curbside collection of yard and food waste is feasible.	County, haulers	Ongoing	Existing
O4) Encourage neighborhood composting sites.	County	2022 or later	Existing
O5) Pacific County supports Ecology's goal of reducing food waste.	County	Ongoing	Existing
Waste Collection			
WC1) Continue to promote voluntary subscription to garbage collection.	All	Ongoing	Existing
WC2) Harbor Disposal should clarify their UTC tariff.	Waste Conn.	By 2024	Existing
WC3) Clear and accessible information needs to be provided for rates.	All	ASAP	Existing
WC4) The rates in Raymond and South Bend should be revised to provide more incentive for waste reduction and recycling.	Raymond and South Bend	By 2025	Existing
WC5) Bear-resistant containers should be offered in more areas.	Waste Conn.	By 2025	Existing

Notes: County = the appropriate department of Pacific County (generally Community Development); TBD = to be determined; NA = not applicable; All = County, cities and Waste Connections; Existing = activity to be incorporated into existing budgets and staffing; TS = transfer station operators; ASAP = as soon as possible.

Recommendations have been abbreviated to fit into this table.

Table 11-1. Implementation Summary for Recommendations, continued

Recommendation	Lead Agency	Schedule	Annual Cost
Transfer and Disposal			
T&D1) The transfer station hours should be expanded if necessary.	TS	TBD	NA
T&D2) Additional signs should be posted at the two transfer stations.	TS	ASAP	\$5 to \$10k
T&D3) The plans and permits for Rainbow Valley Landfill should be updated.	County	By 2023	Existing
Moderate Risk Wastes			
MRW1) Continue operation of the HHW Facility and satellite collection sites.	County	Ongoing	Existing
MRW2) Continue the motor oil recycling bins and expand if possible.	County	Ongoing	Existing
MRW3) Continue offering SQG disposal services to local businesses.	County	Ongoing	Existing
MRW4) Continue current education program and expand if possible.	County	Ongoing	Existing
MRW5) Continue the waste exchange program at the County HHW Facility.	County	Ongoing	Existing
MRW6) Support legislation for new product stewardship laws as appropriate.	County	Ongoing	Existing
MRW7) Explore a regional arrangement with Grays Harbor County for MRW.	County	Ongoing	Existing
Miscellaneous Wastes			
MW1) Monitor aquaculture industries for waste management issues.	County	Ongoing	Existing
MW2) Communicate with veterinarians and others about animal carcasses.	County	Ongoing	Existing
MW3) Review the solid waste system's role in emergency animal disposal.	County	By 2023	Existing
MW4) Research increased enforcement of abandoned auto hulks and RVs.	County, cities	By 2024	Existing
MW5) Encourage residents to report abandoned auto hulks and RVs.	County	By 2024	\$10,000
MW6) Look for additional funding for the enforcement programs.	County, cities	Ongoing	Existing
MW7) The abandoned RV program should be revised.	WA State	By 2024	Existing
MW8) Promote recycling of construction and demolition wastes.	County	Ongoing	Existing
MW9) Explore regional solutions for construction and demolition materials.	County	Ongoing	Existing
MW10) Support product stewardship legislation for sharps.	County	Ongoing	Existing
MW11) Provide more promotion of proper disposal methods for sharps.	All	Ongoing	Existing
MW12) Continue to apply for Ecology funding for management of tires.	County	Ongoing	Existing
MW13) Continue to conduct tire collection events.	County	Ongoing	Existing
Administration and Enforcement			
A&E1) More information should be provided on websites.	All	By 2023	Existing
A&E2) Continue solid waste enforcement to decrease illegal dumping.	County, cities	Ongoing	Existing
A&E3) Research alternative funding sources.	County	Ongoing	Existing

Notes: TS = transfer station operators; TBD = to be determined; NA = not applicable; ASAP = as soon as possible; k = \$1,000; County = the appropriate department of Pacific County (generally Community Development); Existing = activity to be incorporated into existing budgets and staffing.

Recommendations have been abbreviated to fit into this table.

11.12. FUNDING STRATEGY

It is anticipated that Pacific County will continue to use grants and tipping fee surcharges to pay for operational expenses and capital costs for the foreseeable future. The Local Solid Waste Financial Assistance (LSWFA) program will be used primarily for the MRW and solid waste enforcement programs, with additional funds contributed from tipping fees. Non-County programs will be funded through garbage rates, tipping fees, other user fees and State grants. A summary of the funding sources for the recommended programs is shown in Table 11-2.

Table 11-2. Funding Strategies for Existing and Recommended Programs					
Program or Activity	Garbage Rates	Tipping Fees (inc. Surcharges)	Special User Fees	Grants	Other Funding as Available
Waste Reduction		X		X	X
Recycling and Organics	X	X	X	X	X
Solid Waste Collection	X				
Transfer and Disposal		X			
Moderate Risk Wastes		X	X	X	X
Miscellaneous Wastes		X	X	X	X
Administration and Enforcement		X		X	

11.13. SIX-YEAR CONSTRUCTION AND CAPITAL ACQUISITION PLAN

State law (RCW 70A.205.075) requires that solid waste plans include a construction and capital acquisition program for six years into the future. This requirement is generally interpreted to apply only to public facilities, since a solid waste plan cannot dictate construction schedules and capital acquisitions by private companies (except in limited cases pursuant to contracts and other agreements).

No significant construction or capital acquisition expenses are required for this plan, although Pacific County may have capital expenses in the future for the HHW Facility, for the repair and replacement of recycling containers, or for the closed landfill. Since no construction or capital acquisition expenses are being proposed or required for this plan, no construction and capital acquisition program can be included in this plan.

11.14. TWENTY-YEAR IMPLEMENTATION SCHEDULE

It is anticipated that the programs and facilities in Pacific County will generally be able to stay on the course established by this Plan for the next twenty years. The waste stream for the County is not expected to increase by so much (see Table 2-8) as to create capacity issues for the collection and disposal system. Hence, the twenty-year implementation strategy is much the same as the implementation details shown in this chapter. Changes will continue to occur, however, in the local, statewide, and national solid waste arena, and should any of these changes require an amendment or revision to this Plan, then the steps described in the next section can be taken to address those.

11.15. PROCEDURES FOR AMENDING THE PLAN

The Solid Waste Management-Reduction and Recycling Act (Chapter 70A.205 RCW) requires local governments to maintain solid waste plans in a “current condition.” Plans must be reviewed every five years and revised if necessary. Assuming a timely adoption process for this Plan, with the process completed in 2022, this Plan should be reviewed for necessary updates in 2027.

Minor changes that may occur in the solid waste management system, whether due to internal decisions or external factors, can be adopted without the need to go through a formal amendment process. If a question should exist as to whether or not a change is “minor,” then it should be discussed by the SWAC and a decision made based on a vote of that committee.

At any point in time, however, it may be necessary to update this Plan due to one or more specific changes, and if this should occur then the changes could be either addressed through an amendment or through a revision to the plan, depending on the magnitude of the change(s). An amendment is a simpler process that can be used to keep the Plan current for minor changes. Amendments can be used when there are minor changes in programs, financing or operations, and these changes are still within the original scope and goals of the Plan. For more significant changes, such as a change in the underlying vision of the plan or other changes that impact all or most of the elements of the solid waste system, a plan revision will be necessary. Other examples of changes that would require a plan revision include unanticipated changes (changes not addressed in this Plan) such as a change in the disposal method, the development of a new transfer station or disposal facility, and other significant changes in service levels. The process for adopting a revision to the Plan would be similar to the process for creating the Plan in the first place, but amendments can be adopted through a simpler process.

Individuals or organizations wishing to propose plan amendments before the scheduled review must petition the Director of the Pacific County Department of Community Development in writing. The petition should describe the proposed amendment, its specific objectives, and should explain why action is needed prior to the next scheduled review. The Director may develop reasonable rules for submitting and processing proposed plan amendments, and may

establish reasonable fees to investigate and process such petitions. All administrative rulings of the Director may be appealed to the Pacific County Board of Commissioners.

If the Director decides that the petition warrants further consideration, the petition will be referred to the SWAC for review and comment. The Director will draft the proposed amendment together with the SWAC. This process will also be used if County staff decide to amend the plan. The proposed amendment must be submitted to the legislative bodies of all participating jurisdictions for review and comment. The proposed amendment should also be concurrently reviewed by Ecology and the Washington State Department of Agriculture. As an amendment, an updated Washington State Utilities and Transportation Commission (UTC) Cost Assessment Questionnaire or State Environmental Policy Act (SEPA) Checklist will likely not be required, but the appropriate agencies (the UTC and the Pacific County Department of Community Development) should be asked to confirm this. The comments received will be reviewed with the SWAC to solicit their input before submitting the amended plan for local adoption. Adoption of the proposed amendment will require the concurrence of all affected jurisdictions, with a final review and approval by Ecology after that.

Implicit in the development and adoption of this plan is the understanding that emergency actions may need to be taken by the County in the future for various reasons, and that these actions can be undertaken without needing to amend this plan beforehand. In this case, Pacific County staff will endeavor to inform the SWAC and other key stakeholders as soon as is feasible, but not necessarily before new actions are implemented. If the emergency results in permanent and significant changes to the Pacific County solid waste system, an amendment to this plan will be prepared. If, however, the emergency actions are only undertaken on a temporary or short-term basis, an amendment will not be considered necessary.

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GLOSSARY

The following definitions are provided for terms used in this Plan:

Anaerobic digestion: the process of treating organic material(s) through microbial decomposition under anaerobic (low oxygen) conditions.

Agricultural wastes: wastes from farms resulting from the raising or growing of plants and animals including, but not limited to, crop residue, livestock manure, animal bedding, and carcasses of dead animals.

Beneficial use: according to Chapter 173-350 WAC, includes the use of solid waste as an effective substitute for natural or commercial products, or as a soil amendment, in a manner that does not pose a threat to human health or the environment and when approved in accordance with Chapters 173-350-200 or 173-350-230 WAC. The use of solid waste as fill, or avoidance of processing or disposal cost alone, does not constitute beneficial use.

Biomedical waste: infectious and injurious waste originating from a medical, veterinary or intermediate care facility, or from home use.

Biosolids: includes sludge from the treatment of sewage at a wastewater treatment plant and semisolid waste pumped from a septic system ("septage") that have been treated to meet standards for beneficial use (see Chapter 173-308 WAC for more details).

Buy-back recycling center: a facility that pays people for recyclable materials.

C&D: construction, demolition, and land-clearing waste.

Commercial solid waste: solid waste generated by non-industrial businesses. This includes waste from business activities such as construction; transportation, communications and utilities; wholesale trades; retail trades; finance, insurance and real estate; other services; and government.

Commingled: recyclable materials that have been separated from garbage by the generator, but the recyclable materials have been mixed together in the same container.

Composting: the controlled biological decomposition of organic wastes to produce a humus-like final product that can be used as a soil amendment. In this plan, backyard composting means a small-scale activity performed by homeowners on their own property using yard debris that they generate.

Curbside recycling: the act of collecting recyclable materials from residential generators, usually after the materials have been placed in a cart at the curb.

Dangerous wastes: solid wastes designated as dangerous by Ecology under the dangerous waste regulations (Chapter 17-303 WAC).

Diverted materials: materials diverted from disposal to a broad range of other uses, including recycling, composting, energy recovery and reuse.

Ecology: the Washington Department of Ecology.

E-waste: electronic waste. As defined under Chapter 173-900 WAC, e-waste includes computers, monitors, laptops, tablet computers, televisions, portable DVD players and e-readers (these are sometimes collectively referred to as “covered units”).

EPA: the United States Environmental Protection Agency; the federal agency responsible for promulgation and enforcement of federal environmental regulations.

Food waste: waste from fruits, vegetables, meats, dairy products, fish, shellfish, nuts, seeds, grains, and similar materials that results from the storage, preparation, cooking, handling, selling, or serving of food for human consumption. Includes, but is not limited to, excess, spoiled, or unusable food and includes inedible parts commonly associated with food preparation such as pits, shells, bones, and peels. Does not include dead animals not intended for human consumption or animal excrement (from RCW 70A.205.715).

Garbage: an alternative term for solid waste.

Grasscycling: leaving grass clippings on the lawn rather than collecting them to provide nutrients and reduce the need for fertilizer.

Greenwashing: a form of marketing spin which is deceptively used to persuade the public that an organization's products, aims and policies are environmentally friendly and therefore ‘better’ (from Wikipedia).

Groundwater: water present in subsurface geological deposits (aquifers).

HHW: household hazardous wastes.

Hog fuel: woody materials that have been ground to a smaller size for use as a fuel, generally at paper mills or other large industrial facilities.

Household hazardous waste HHW: wastes that would be classified as hazardous due to their nature or characteristics, except that the amount is generated by households and so is exempt. Includes aerosol cans, solvents, some paints, cleaners, pesticides, herbicides, compressed gases, oil, other petroleum products, car batteries and other materials.

ILA: interlocal agreement, a formal agreement between two or more public agencies to work cooperatively (see also RCW 70A.205.040 and RCW 39.34.030).

Incineration: means a process of reducing the volume of solid wastes operating under federal and state environmental laws and regulations by use of an enclosed device using controlled flame combustion.

Industrial waste: solid waste generated by manufacturing companies. Does not include hazardous wastes generated by these industries.

LSWFA: Local Solid Waste Financial Assistance, a program administered by the Washington State Department of Ecology to provide financial assistance to counties and others for solid and hazardous waste planning, implementation and enforcement.

LFG: landfill gas.

Miscellaneous wastes: wastes that have particular characteristics such that they present special handling and/or disposal problems.

Mixed paper (or mixed waste paper): other types of recyclable paper not including newspaper and cardboard. Includes materials such as “junk mail,” magazines, books, paperboard (non-corrugated cardboard), and colored printing and writing papers.

Moderate risk wastes (MRW): household hazardous waste (see definition, above) and wastes produced by businesses that potentially meet the definition of a hazardous waste except the amount of waste produced falls below regulatory limits.

MRW: moderate risk wastes.

MSW: municipal solid wastes.

MTCA: the Model Toxics Control Act.

Mulch: yard debris, compost, wood chips or other materials placed on the ground in gardens or yards to discourage weeds and retain moisture.

Municipal solid waste (MSW): includes typical garbage and recyclables generated by households, businesses, and institutions. According to State rules (Chapter 173-350 WAC), MSW does not include dangerous wastes (see Chapter 173-303 WAC), contaminated soils and other debris resulting from a cleanup conducted under federal rules, and source-separated recyclable materials.

Non-ferrous metals: materials predominantly made of copper, lead, brass, tin, aluminum, and other metals except iron.

OFM: the Washington State Office of Financial Management.

ORCAA: the Olympic Region Clean Air Agency.

Organics: used in this plan to refer to potentially compostable materials such as yard waste and food waste. Also used in a few instances, primarily for references to the statewide waste characterization study, in a broader sense to include animal manure.

Post-closure: refers to those actions taken by an owner of a landfill, or the period of time for those actions, after the closure of that landfill and until the landfill is determined to be functionally stable.

Public education: a broad effort to present and distribute public information materials.

Pyrolysis: the process of breaking waste down thermally in the absence of air, producing oil and synthetic gas that can be burned in gas turbines or gas engines to generate electricity.

RCRA: Resource Conservation and Recovery Act.

RCW: Revised Code of Washington.

Recycling: the act of transforming or remanufacturing wastes into usable or marketable materials for use other than landfilling or incineration.

Recycling rate: the percentage of materials that are recycled and composted, as a percent of all wastes (recycled, recovered, and disposed).

Recovery: a broader term that includes recycling of both MSW and non-MSW materials, as well as composting and other types of organics processing.

Recovery rate: the percentage of materials that are recovered, as a percent of all wastes (recycled, recovered, and disposed).

Refuse: an alternative term for solid waste.

Rendering: the process of converting meat and other animal wastes into usable materials, such as purified fats (lard or tallow), proteins and bone meal.

Self-haul waste: waste that is brought to a landfill or transfer station by the person (residential self-haul) or the company (non-residential or commercial self-haul) that generated the waste.

SEPA: State Environmental Policy Act.

Sharps: in this plan, refers to used needles (syringes) and similar items.

Small-quantity generator (SQG): a non-residential generator of small quantities of hazardous wastes that is exempt from the full regulations for hazardous wastes as long as the wastes are handled properly.

Solid waste: includes “all putrescible and nonputrescible solid and semisolid wastes, including but not limited to, garbage, rubbish, ashes, industrial wastes, swill, demolition and construction wastes, abandoned vehicles or parts thereof, and discarded commodities” (from Pacific County Board of Health Ordinance No. 2C).

Solid Waste Advisory Committee (SWAC): a group assisting Pacific County with the development of this solid and moderate risk waste management plan, composed of representatives from the general public, private industry, and the cities.

Source-separated: recyclable materials that have been kept separate from garbage or other forms of solid waste by the waste generator.

SQG: see small quantity generator.

SWAC: see Solid Waste Advisory Committee.

Tipping fee: the rate charged by transfer and disposal facilities.

Transfer station: an intermediate solid waste disposal facility at which solid waste is temporarily deposited to await transportation to a final disposal site.

UTC: Washington Utilities and Transportation Commission, which is a State agency responsible for oversight of private utility and transportation services, including electric, natural gas, telecommunications, and water utilities; household movers, solid waste carriers, private ferries, and inter-city busses; and safety issues affecting charter buses, railroads, limousines, and nonprofit senior/handicapped transportation services.

Vermicomposting: the controlled and managed process by which live worms convert organic residues into a fertile and granular material.

WAC: Washington Administrative Code.

Waste: see solid waste.

Waste diversion: includes waste reduction, recycling and diversion of organics through composting and other means.

Waste prevention: reducing the amount or type of solid waste that is generated.

Waste reduction: reducing the amount or type of solid waste that is generated. Also defined by state rules to include reducing the toxicity of wastes. Waste reduction is the highest priority waste management approach due to the economic and environmental benefits associated with it.

Wasted food: refers to the edible portion of food waste (from RCW 70A.205.715).

White goods: term used to refer to large appliances, such as refrigerators, stoves, dishwashers, water heaters and similar consumer products.

WSU: Washington State University.

Yard waste: includes leaves, grass clippings, brush and branches.

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APPENDIX A

INTERLOCAL AGREEMENTS

INTRODUCTION

The current interlocal agreements between Pacific County and the four cities are shown in the following pages.

DISCUSSION

These interlocal agreements contain a number of important provisions:

- Makes the county responsible for updating and implementing the solid waste management plan.
- Makes the county responsible for maintaining a solid waste fund to pay for solid waste programs.
- The solid waste plan and updates are considered to be adopted when approved by governing bodies that represent at least 75% of the county population.
- The term of the agreement continues unless a governing body withdraws, which can be done with 12 months' notice, and then a city or town would be responsible for preparing their own solid waste plan.

Insert ILAs (Pacific/Data/Signed Intergovernmental Agreements.pdf)

APPENDIX B

SWAC BYLAWS

INTRODUCTION

The Solid Waste Advisory Committee (SWAC) provided invaluable assistance in for the development of this Plan. Through regular members of the SWAC reviewed documents and provided input as to exiting conditions, program needs and recommendations of this Plan. The SWAC operated through a set of bylaws, which is attached.

Insert SWAC bylaws

APPENDIX C

DISPOSAL FACILITY SITING FACTORS

INTRODUCTION

This Pacific County Solid Waste and Moderate Risk Waste Management Plan (this “Plan”) is required to contain the following information to provide guidance for siting new solid waste disposal facilities (per RCW 70A.205.045 (9) and RCW 70A.205.110). This requirement refers specifically to disposal facilities (landfills and incinerators). There are no facilities of this type that are anticipated to be constructed in Pacific County for the foreseeable future, but this requirement still applies to all solid waste plans.

As shown in RCW 70A.205.110, this Plan must address these criteria:

- (a) Geology;
- (b) Groundwater;
- (c) Soil;
- (d) Flooding;
- (e) Surface water;
- (f) Slope;
- (g) Cover material;
- (h) Capacity;
- (i) Climatic factors;
- (j) Land use;
- (k) Toxic air emissions; and
- (l) Other factors as determined by the department.

DESCRIPTION OF THE PLANNING AREA

The section describes criteria that must be considered for siting landfill and other disposal facilities. There may be other issues that affect other types of solid waste facilities, but these are not listed below for simplicity purposes. Siting for other waste handling facilities must meet requirements in WAC 173-350 as well as any other local and federal regulatory requirements.

Geology

The area included within the South Bend and Raymond quadrangle maps was introduced and uplifted by volcanic activity in the Eocene and Miocene ages. This uplift and consequent erosion and stream cutting have resulted in the present topography of the Willapa Hills. The elevation of the area is generally from sea level to 1,500 feet with many steep slopes over 25 percent.

There are several areas or outcrops of bedrock. The majority of the outcrops are the Crescent formation, which indicates that the entire area is underlain by this formation. The geologic description of this formation according to U.S. department of Interior is: "Predominantly fine-grained pillow and blocky-jointed basalt. Amygdaloidal, augite-rich basalt and zeolite-cemented lapillic tuff and foraminiferal siltstone in the upper part. This formation is believed to be at least 5,000 feet thick."

Several small outcrops of intrusive igneous rocks are also noted. These outcrops are fine to coarse grained intrusives in the form of dikes and sills and are mostly dense basaltic rock. They are of late Eocene age.

This bedrock is generally impermeable and yields little to no groundwater. The area south of South Bend is relatively free of faults. However, some surrounding areas may be highly faulted with approximately three major sets of joints or faults in the area. It is highly suspect that the whole area is also well faulted but is overlain with Quaternary deposits which make them impossible to locate and map. Groundwater flow (including leachate) would probably be primarily along these joint lines. Thus, there is a potential danger of general groundwater contamination in these areas. The principle overburden of the area is mostly terrace deposits of the Quaternary age.

Groundwater

Distance to groundwater, measured in feet or in terms of the time that surface water takes to travel through the soil to the groundwater, is an important criterion for the siting of solid waste disposal facilities. Shallow layers of groundwater and/or short travel times are a problem due to the risks associated with spills and contaminated runoff from waste facilities. Other factors such as existing and potential beneficial uses of the groundwater, are also significant considerations, especially if the groundwater is, or could be, used for drinking water.

Groundwater supplies in Pacific County are obtained from alluvium in the lower parts of the stream valleys, from beach deposits and dune sands adjacent to the Pacific Ocean, and from marine terrace deposits bordering Willapa Bay and the lower Willapa Valley. Underlying the entire area and cropping out east of Willapa Bay and in the uplands are consolidated Tertiary sedimentary and igneous rocks which generally are not capable of yielding significant quantities of water to wells.

Alluvium of Holocene age is found mainly in the bottoms of major valleys and at the base of cliffs consisting of terrace deposits. The deposits consist predominantly of sand and gravel with lesser amounts of peat, clay, and silt. The thickness of this unit varies from a few feet to several hundred feet. The major occurrence of alluvium is in the flood plains of the major rivers in the area. Porosity and permeability are not excessively high and yields to wells in the area are generally low except in the flood plain of the Columbia River where yields are quite large.

The beach and associated marine deposits are found along the coast of the area. The deposits consist of beach sand with lesser amounts of silt, clay, gravel, and peat and obtain a maximum thickness in excess of 1,400 feet in the area at the north end of the North Beach Peninsula. This

unit thins to the south and wedges out along the east side of Willapa Bay. Water levels in wells tapping these deposits range from four feet above to about 20 feet below mean sea level and generally are less than 20 feet below the land surface.

Most of the wells tapping the beach sand are shallow (about 25 feet deep), small diameter sandpoints that produce only enough water for house and yard use. Most of the groundwater withdrawal is on North Beach Peninsula and along the coast north of Willapa Bay, where large-diameter irrigation wells and infiltration trenches in the beach deposits yield as much as 2,000 gpm.

Terrace deposits of Pliocene-Pleistocene age consist of unconsolidated to semi-consolidated fluvial and glaciofluvial fine-grained sand with lesser amounts of silt and clay. The deposits overlie the bedrock in the northwest part of the area and are more than 800 feet thick north of Willapa Bay and near South Bend. These deposits locally yield more than 200 gpm to wells, but most of their thickness that extends above sea level along the coast and on valley sides is unsaturated. The terrace deposits apparently extend westward beneath North Beach Peninsula and the Tokeland Peninsula. The combined thickness of the terrace and beach deposits exceeds 1,000 feet at the north end of North Beach Peninsula but progressively becomes less toward the south. Deep artesian aquifers occur in places. Some flowing wells on the Tokeland Peninsula tap an artesian aquifer that lies about 150 to 300 feet below the surface.

The older sedimentary and igneous rock of Tertiary age are composed of shales, sandstones, conglomerates, and volcanic flows and breccias. The thickness of this unit is large and may exceed several thousand feet. The rocks of the unit are generally low in porosity and permeability and yield little water to wells.

Recharge to the groundwater occurs mostly during the rainy seasons of winter and spring. The parts of the area underlain by highly permeable beach deposits receive much more recharge from precipitation than do the higher altitude parts underlain by dense bedrock, even though less precipitation falls at the lower altitudes. The lands underlain by alluvium and terrace deposits generally receive intermediate amounts of recharge from precipitation; some of the runoff from the uplands enters the alluvium of the valley floors during the flood stages of the streams.

Groundwater discharges as seepage to the stream channels, the bay, and the ocean. In areas where the water table is shallow, evapotranspiration also is a major form of groundwater discharge. To date, pumpage is only minor in comparison to natural discharge of the groundwater.

One substantial theory relating groundwater to the sea water that surrounds the Long Beach peninsula comes from two turn-of-the-century scientists, Gyben and Herzberg. As explained by J. S. Brown (*A Study of Coastal Groundwater*, U.S. Geological Survey Water Supply Paper 537, pp 16-17, 1925) and applied to groundwater existing under an island, "on small pervious islands above mean sea level. Salt water surrounding the island does not penetrate the sand to mean sea level but such islands are found to contain a dome-shaped lens of fresh groundwater

floating upon a concave surface of salty water. The fresh groundwater floats on the salt groundwater because its density is lower.”

Because major use is made of groundwater on the Long Beach Peninsula and beach areas of the north county, the prevention of groundwater contamination is imperative. For this reason it is the recommendation of this Plan to not locate a land disposal operation within areas characterized by Eolian Deposits of the Quaternary age.

Soil

The soils and underlying geology are important considerations for solid waste facilities. Geology, groundwater, and the availability of appropriate soils are critical factors. The appropriate type of soil varies somewhat depending on the type of solid waste handling facility, but any structure, such as a transfer station or recycling center, must be built upon a stable foundation. A variety of soils are required for the construction and operation of a landfill. Silts, clay or claylike soils are used for landfill liners and final cover (caps) because these fine-grained soils tend to retard the movement of precipitation, gas, and leachate. Porous soils, such as sands and gravels, are undesirable because these may permit rainfall to enter the landfill (increasing leachate and gas production) and allow the uncontrolled migration of landfill leachate and methane gas. Thus, sand or gravel is not suitable for landfill cover or liners; however, gravel is often used for intermediate cover because it provides better traction for landfill machinery in wet weather. Coarse-grained materials such as sand and gravel, can also be used for gas venting and leachate collection systems. Detailed soils studies would be necessary for evaluating potential sites for landfills and other facilities.

There are six types of soils within the County that are interpreted as having moderate to slight limitations when used for sanitary landfill operations. These soils are as follows: Arta silt loam, 0 to 6 percent slopes; Cam silt loam, 0 to 3 percent slopes; Dune Lane; Netarts fine sand, 3 to 13 percent slopes; Newskah silt loam, 3 to 15 percent slopes; and Westport sand, 3 to 10 percent slopes. All the foregoing are interpreted as having moderate limitations for usage as a sanitary landfill except the Newskah soils which are interpreted as having slight limitations for landfill operations. The foregoing soil types are few in number and small in areas where utilization of desirable soil features for land disposal is practical. Such soils serve no usable purpose if they are not accessible.

Westport sands, Netarts sand, and Dune Lands are found exclusively along the Columbia River and Pacific Ocean coastline. These soil associations occur in narrow bands that parallel the coastline. These soils generally characterize a fragile dune environment which contains an extensive underlying groundwater resource. Additionally, competing use demand for recreation and residential land use make this land expensive to acquire. It is for these reasons that Westport sands, Netarts sands, and Dune Lands should not be considered as a factor for siting a sanitary landfill. Soil Conservation Service scientists have interpreted the Arta silt loam of 0 to 6 percent slopes as presenting moderate limitations to the operation of a sanitary landfill. The Arta silt loam is moderately well drained and fine textured with a seasonal high water table of two feet and a bedrock of weathered shale or siltstone at 48 inches. Because the soil type is characterized by high water table, it does not conform to the adopted Minimum

Functional Standards which require four feet between the lower limits of a sanitary landfill and groundwater.

Flooding

Areas known to experience flooding are not good sites for solid waste facilities. Solid waste facilities often entail risks such as the potential to create contaminated runoff. Additionally, solid waste facilities must remain operational during and after natural disasters to handle the large amount of debris that may be created.

The hydrology of Pacific County is dominated by the Willapa Estuary and to a lesser degree by the Columbia Estuary. Tributary streams are characteristically short and drain directly into the estuaries. The Willapa River Basin is the largest watershed in the County while the Naselle River is an important basin in the south portion of the County. Flooding within the river basins above the level of tidal influence is caused by intensive rainfall.

The Willapa Estuary was created by the well-developed barrier spit which formed behind North Head. Analysis has shown the peninsula sand was formed by Columbia River sediment. Floods within the estuary are caused by intensive precipitation from winter storms, above normal tides and tidal build-up from westerly and southwesterly winds. A combination of these three factors can lead to severe flooding around the Bay and on the major streams near the Bay.

Surface Water

The waters of the Willapa Bay are particularly favored by strong natural forces causing good circulation in most areas. These forces include tides, runoff from land, and mixing by winds. The California current and the Davidson counter current, coupled with tidal action, have an effect on the exchange of Pacific Ocean water with Bay water.

The basic direction of circulation of water in Willapa Bay and other estuaries of the Pacific Coast is controlled by "Coriolis Acceleration" produced by the rotation of the earth. From the Bureau of Governmental Research and Service, *Preliminary Land Use Plan for the Yaquina Bay Area*, Eugene, Oregon, 1969, because of the earth's rotation, moving water north of the equator "always tends to flow toward the right side of the direction of flow. That is, water flowing toward the south tends to be pushed westward; water flowing toward the west tends to be pushed northward, etc. Incoming water with the rising tide tends to flow along the south (and west) shores of the bay, outflow is higher along the north shore." Therefore, a counter-clockwise circulation pattern develops.

Good water circulation transports food to natural communities, removes natural wastes, renews mineral nutrients, maintains high levels of dissolved oxygen and aids dispersal of eggs and larvae of aquatic organisms. In general, this estuarine system is well mixed from May through October, while it alternates between well mixed and partly mixed from November through April. However, during periods of heavy runoff, a layer of fresh water can be found in the upper estuary near tributary systems.

Slope

One of the primary influences on the design of a sanitary landfill site is topography. Because slopes of over 25 percent are common in the county, significant problems must be allowed for within design criteria. Erosion problems on steep slopes are compounded by easily eroded soils in areas lacking vegetative cover.

Land forms of the County consist of ridges, low-lying hills, ocean beaches, bay front beaches, and tidelands. The hills rise from sea level to elevations of 1,500 feet on the Bear River Ridge in the southwest portion of the county. The Willapa Hills in the eastern portion of the County rise to elevations over 2,000 feet. The dominant geographic feature of the County is the Willapa Bay estuary which is separated from the Pacific Ocean by the long, narrow barrier spit of the Long Beach Peninsula.

Numerous streams with headwaters in the Willapa Hills flow into the Bay. The most important is the Willapa River which has formed a broad valley through the center of the county, creating an important agriculture-transportation corridor. Other major streams include the Bear, Naselle, Nemah, North, Palix, and Cedar Rivers. With the exception of the Willapa, most rivers are quite short and are located in steep slope areas with narrow valleys.

For the most part, Pacific County can be considered quite hilly and rugged. Slopes of over 25 percent are common in the hills while lower foothill and river basin slopes range from 5 to 25 percent, but generally do not exceed 15 percent. Slopes in excess of 10 percent are not generally well suited for urban development while slopes in excess of 25 percent are considered undevelopable for urban uses.

The topography of the Long Beach peninsula is comprised of lowland areas, soils are sandy and of high permeability, and the seasonal high water table is two to three feet below the surface on the average. The Criteria for Municipal Solid Waste Landfills, Chapter 173-351 WAC, states that ten feet of separation between the bottom of the lowest liner and the highest groundwater level shall be the minimum allowed without a hydraulic gradient control system. Based on the physical characteristics present in the peninsula area and the existing landfill requirements, it is believed that a landfill could not be sited in the Long Beach peninsula area.

Cover Material

Cover and liner materials are important because their presence at landfill sites reduces the cost of construction, operations, and maintenance. These materials include silt and clay for liners and caps; sand and gravel for gas venting, leachate collection, and road construction; and a variety of materials that can be used for intermediate cover. Clay is a scarce material in parts of Pacific County, in which case synthetic liners may be more cost-effective to use for landfilling operations.

Capacity

WAC Chapter 173-351 specifies various landfilling requirements based on size. For example, landfills that receive 100 tons per day or more of solid waste must meet more extensive requirements for landfill operations. If a new landfill were constructed to handle less than this

capacity, it could be designed to less stringent standards. Even with fewer controls, however, the cost of constructing and operating a landfill, on a per ton basis, increases rapidly as the size of the landfill decreases. On a per ton basis, it is likely that any savings incurred for less stringent design requirements would be more than offset by the lower economies of scale.

Climatic Factors

The most important climatic factor influencing the solid waste program in Pacific County is the high rainfall that predominates during the fall, winter and spring months. Leachate from a solid waste disposal site is directly related to the amount of water which percolates through a land disposal site. This water becomes contaminated with organic and inorganic materials which may eventually reach groundwater supplies. In the case of Pacific County, large amounts of annual rainfall generally produce larger quantities of landfill leachate.

The rainy season in Pacific County begins in the fall, reaches a peak in the winter, and declines in the spring. Fluctuations within short distances of 5 to 20 inches in annual precipitation are common along the Washington coast. Annual precipitation ranges from 65 to 75 inches near the shoreline, 80 to 90 inches in the foothills, and the Willapa Hills typically receive an estimated 100 inches per year. This is compared to 125 to 150 inches along the windward slopes of the Olympia range.

During the spring and summer months, a clockwise circulation of air around large high pressure areas covering most eastern north Pacific, brings a prevailing flow of air from a northwesterly direction into Washington. As the air moves upland from the ocean, its average temperature is 55 to 60 degrees Fahrenheit, becoming warmer and drier as it moves inland. This circulation results in a dry season beginning in spring and reaching a midsummer peak during July and August, at which time it is not unusual to have two to four weeks of warm to hot weather with a few light rain showers. Fog banks are common in the latter half of the summer and fall, forming offshore and moving inland at night followed by general clearing along the beaches by the following noon.

The second most important climate factor in relation to solid waste handling and disposal in Pacific County is temperature. A mid-latitude west coast, marine-type climate exists along the Washington coast with cool and comparatively dry summers, and mild, wet, and cloudy winters. The air is moist while the daily and annual temperature range is minor.

Decomposition of putrescible waste is dependent upon bacteria that are affected by extreme temperature fluctuations and moisture content. Because the average temperature range is small in Pacific County is minor, optimum decomposition rates should be attainable over a great percentage of the year. Fire hazard reaches extreme conditions only for certain periods during the summer months. Decomposition deep within the fill is not affected by the air temperature to any great degree, but near-surface and surface decomposition rate fluctuates as the temperature fluctuates. Problems with handling fill or cover material during freezing weather are not of great magnitude.

One of the principle factors influencing temperature in areas close to large bodies of water is water temperature. The ocean current along the Washington coast reverses direction between summer and winter. The California current moves south in the summer and the Davidson inshore current shifts north in the winter. The coastal water temperature varies from 48 degrees Fahrenheit in February, to 58 F in August. In short, the ocean acts as a moderating factor, keeping temperatures near the coast from fluctuating extremely in short periods. Average afternoon temperature along the coast range varies from 65 F to 68 F; in mid-summer, the hottest temperatures, 90 F or above, occur when hot-dry easterly winds crossing the Cascade Mountains reach the coast. High temperatures seldom continue from more than a few days before cooler moist air from over the ocean moves inland.

During the winter, average daily temperatures are in the 40's while average evening temperatures are in the 30's. The coldest weather occurs when dry, cold northeasterly or easterly winds from the east of the Cascades reach the coast. Additional heat is lost by radiation at night because of frequent clear skies. Temperature may drop to 20 F or lower while maximum temperatures may reach the mid-30s. Cold weather seldom lasts more than a few days before warmer, moist air moves inland from over the ocean. The last freezing temperature in the spring is in the middle of April while the first freeze in the fall is towards the end of October. Snowfall is light in the beach areas, usually with minimum accumulation. Snowfall increases inland and in the foothills.

In relation to solid waste handling, wind velocity causes only one problem of any significance, this being the disposal of waste paper at a land disposal site or transfer station. During the rainy season this problem is usually minimal because of the moisture content of paper, while in the summer it can be a nuisance.

In the fall and winter, the low pressure center near the Aleutian Islands intensifies and spreads southward, while the high pressure center becomes smaller and also moves south, resulting in a prevailing flow of warm, moist air from a southwesterly direction. During the winter, weather disturbances crossing the northern Pacific follow a more southerly course, resulting in an increased number of storms striking the Washington coast. Wind velocities of 50 to 70 mph are not uncommon as these storms move inland. The highest wind velocities usually occur at North Head (113 mph) and in the Willapa Hills (2,000 feet - 100 mph). In the spring the frequency of storms over the north Pacific decreases and the ocean becomes gradually calmer. The high pressure area moves northward while the prevailing wind direction gradually shifts from southwest in the winter to west in the spring, northwest by early summer, and back to west in the early fall.

Land Use

Existing land use in Pacific County ranges from the relatively dense residential and commercial development in Long Beach and other cities to undeveloped land in other areas. According to the Pacific County Comprehensive Plan, 2020 – 2040 (April 2021), about three-quarters of the land in the county (74.6%) is classified as forest or transitional forest, 23.1% is classified as rural lands of various types, only 1.0% is classified as incorporated, and the remainder is a mix of rural development areas and other classifications.

Toxic Air Emissions

Air quality regulations are directed at many segments of society. Examples include outdoor burning, use of woodstoves, and activities at small and large businesses. Siting and operating a new landfill or other solid waste facility could impact air quality. Dust, gases, particulates, odors, and vehicle emissions are all potentially increased by solid waste operations. In certain cases, however, the centralization of such emissions is often preferable to the historical diffuse burning of waste.

Summary of Siting Factors

The Willapa Bay estuary, which lies entirely within Pacific County, is a marine estuary that remains in a relatively unspoiled condition. It is known throughout the world for its production of high-quality oysters and other shellfish. These shellfish must be grown in a protected watershed in order to prevent their contamination. Both Pacific County and the State of Washington consider the Willapa Bay estuary to be a resource that should receive the highest degree of environmental protection. The Willapa Bay watershed should be excluded from consideration of siting new landfill facilities in the county in order to protect this resource.

Potential sites for a new landfill in Pacific County, outside of the Willapa Bay drainage area, are limited to a very few remote areas that are generally mountainous and heavily forested. The ability to site a new landfill in the County has become prohibitively difficult because of these limitations.

In conclusion, siting a new MSW landfill in Pacific County is not considered feasible. Siting of other solid waste facilities should be considered on a case-by-case basis.

EVALUATION OF POTENTIAL SITES FOR SOLID WASTE FACILITIES

Solid Waste Facility Siting Process

No new public facilities are proposed in this Plan. However, any new public or private facilities sited in the future will have to meet the state and local standards current at that time. State standards include the following:

- Criteria for Municipal Solid Waste Landfills (WAC 173-351), which address siting, design, and operation of municipal solid waste (MSW) landfills.
- Solid Waste Handling Standards (WAC 173-350), which address siting, design and operation of other solid waste handling facilities, such as transfer stations, compost facilities, and limited purpose facilities.

Local standards include ordinances designated in the Pacific County ordinances and the Pacific County Comprehensive Plan. Local land use plans may apply depending on whether the proposed site(s) are in a city's jurisdiction. The siting process for a new solid waste facility would usually include the following steps below. These steps typically apply to solid waste landfills, but could generally apply to other facilities (e.g. composting, recycling, etc.).

Step 1, Site Identification: For a public facility, the process of identifying sites may include soliciting nominations from citizens and interested parties, identifying major landholders and city/County properties, and other activities to initially identify as many sites as practical. For a private site, the site selection process may consist primarily of an inventory of sites currently available for purchase.

Step 2, Broad Site Screening: The second step typically involves evaluating potential sites for “fatal flaws”, such as unsuitable neighboring land use, distance from the point of waste generation, site size, or presence of slopes, floodplains, wetlands, surface water, or shorelines. For a public site, the goal should be to retain up to 12 sites after this step is completed. For a private facility or other cases where there may be only a few sites to begin with, one or two sites should survive this evaluation.

Step 3, Detailed Site Ranking: After sites with fatal flaws have been eliminated, the remaining sites should be evaluated using more detailed criteria such as the availability of utilities (water, sewer, and electricity), traffic impacts and road access, and other factors affecting the ability to develop and use the site. For a publicly owned site, no more than four sites should remain after this step is completed.

Step 4, Detailed Site Evaluation: The final step in evaluating sites involves assessing impacts in accordance with the State Environmental Policy Act. This step should result in the recommendation of a preferred site.

Step 5, Siting Decision: The decision to proceed with a recommended site should be based on environmental, engineering, cost, and political factors. At this point, more detailed plans and drawings can be developed, the permit process can begin, and other documents and approvals (such as an Environmental Impact Statement, if required) can be sought.

APPENDIX D

UTC COST ASSESSMENT QUESTIONNAIRE

INTRODUCTION

The purpose of the information shown in this appendix is to allow an assessment of the impact of proposed activities on current and future garbage collection and disposal rates. By State law (RCW 70A.205.045), solid waste management plans are required to include:

“an assessment of the plan’s impact on the costs of solid waste collection. The assessment shall be prepared in conformance with guidelines established by the Utilities and Transportation Commission. The Commission shall cooperate with the Washington state association of counties and the association of Washington cities in establishing such guidelines.”

The following cost assessment questionnaire has been prepared in accordance with the guidelines provided by the Utilities and Transportation Commission. The UTC needs this information to review the Plan’s impacts to the certificated waste haulers that it regulates. For these haulers, the UTC is responsible for setting collection rates and approving proposed rate changes. Hence, the UTC will review the following cost assessment, and then advise Pacific County as to the probable collection rate impacts of any new or expanded programs being recommended in this Plan. Consistent with this purpose, the cost assessment focuses primarily on those programs (implemented or recommended) with potential rate impacts.

APPENDIX D, COST ASSESSMENT QUESTIONNAIRE PACIFIC COUNTY SOLID WASTE AND MODERATE RISK WASTE MANAGEMENT PLAN

General Information

Plan prepared for the County of Pacific

Prepared by Green Solutions

Contact telephone 360-897-9533

Contact email rick@green-solutions.biz

Date December 10, 2021

Years

Throughout this document:

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
2022	2023	2024	2025	2026	2027

Each year shall refer to:

✓ Calendar year January 1 – December 31

1. Demographics

1.1. Population

1.1.1. Provide the total population of your County (excluding cities choosing to develop their own SWMP) for the base year and each of the following five years.

2022	2023	2024	2025	2026	2027
22,728	22,868	23,007	23,146	23,239	23,330

1.2. References and Assumptions

For Section 1.1.1, population projections are based on OFM data, high-growth series, 2017 GMA projections.

2. Waste Stream Generation

Provide the information below related to solid waste and recycling.

2.1. Tonnage of Solid Waste Disposed

2.1.1. Provide the total tonnage of solid waste disposed of in the base year and each of the following five years.

2022	2023	2024	2025	2026	2027
17,615	17,722	17,830	17,938	18,010	18,082

2.2. Tonnage of Recyclable Materials with a Market¹

2.2.1. Provide the tonnage of recyclable materials recycled in the base year and each of the following five years.

2022	2023	2024	2025	2026	2027
5,387	5,420	5,453	5,486	5,508	5,529

2.3. Tonnage of Recyclable Materials without a Market

2.3.1. Provide the tonnage of recyclable materials disposed of in the base year and each of the following five years.

2022	2023	2024	2025	2026	2027
0	0	0	0	0	0

2.4. References and Assumptions

For Sections 2.1.1 and 2.2.1, waste and recycling projections are based on population and the current per capita disposal and recycling rates (0.775 and 0.237 tons per person per year, respectively). The current rates are based on the three most recent years for which data is available (2015-2017). See Tables 2-2, 2-6 and 2-8 in the plan for more details.

For Sections 2.2.1 and 2.3.1, it is assumed that markets will improve by 2022 and subsequent years, and collection programs will be adjusted to avoid the collection of non-recyclable materials.

¹ RCW 70.95.090(7)(c)

3. Collection Programs

3.1. Regulated Solid Waste Collection Programs

Provide information for each UTC-regulated solid waste collection company operating in your jurisdiction for the base year and each of the following five years.

UTC-Regulated Hauler Name	Waste Connections, dba Harbor Disposal					
G-Certificate #	G-98					
	2022	2023	2024	2025	2026	2027
Residential						
# of customers	322	323	325	327	328	330
Tonnage collected	320	322	324	325	327	329
Commercial						
# of customers	33	33	34	34	34	34
Tonnage collected	76	76	77	77	77	78

UTC-Regulated Hauler Name	Waste Connections, dba Peninsula Sanitation					
G-Certificate #	G-011					
	2022	2023	2024	2025	2026	2027
Residential						
# of customers	5,447	5,476	5,504	5,533	5,561	5,590
Commercial						
# of customers	559	562	565	568	570	573
Combined Residential and Commercial Wastes						
Tonnage collected	8,662	8,707	8,753	8,798	8,844	8,890
Roll-Off Containers						
# of customers	23	23	23	24	24	24
Tonnage collected	3,337	3,355	3,372	3,390	3,407	3,425

3.2. Cost & Funding for Solid Waste Programs

Provide information for solid waste programs that have been implemented and/or proposed. Include costs and proposed funding mechanism. If these programs are discussed in the SWMP, provide the page number in the draft plan on which it is discussed.

Implemented			
Program	Cost	Funding	Page #
NA			
Proposed			
Program	Cost	Funding	Page #
Additional signs at transfer stations	\$5,000 to \$10,000	Tipping fees	7-8 to 7-9
Better information on websites	TBD	Service fees	10-9 to 10-11

3.3. References and Assumptions

For Section 3.1, the number of customers and tonnages collected are based on current figures (2021 for customers and 2020 for tonnages) and then projected based on population growth (0.52% annually). The figures shown exclude the area covered by contract (South Bend). For Peninsula Sanitation, separate figures for residential and commercial waste volumes are not available because most of the routes conducted in their area service both types of customers.

For Section 3.2, it is understood that the information requested here is intended to be for countywide programs such as special taxes or fees, and not for basic services such as the cost of waste collection services. The only proposed activities with cost implications to ratepayers are the two listed above.

4. Waste Reduction (Recycling and Organics)

4.1. Recycling

4.1.1. Regulated Recycling Collection Programs²

Provide information for each UTC-regulated recycling company operating in your jurisdiction for the base year and each of the following five years.

² RCW 70.95.090(7)(c)

UTC-Regulated Hauler Name		Waste Connections, dba Harbor Disposal				
G-Certificate #		G-98				
	2022	2023	2024	2025	2026	2027
Residential						
# of customers	324	325	327	329	330	332
Tonnage collected	38	39	39	39	39	39
Commercial						
# of customers	0	0	0	0	0	0
Tonnage collected	0	0	0	0	0	0

UTC-Regulated Hauler Name		Waste Connections, dba Peninsula Sanitation				
G-Certificate #		G-011				
	2022	2023	2024	2025	2026	2027
Residential						
# of customers	0	0	0	0	0	0
Tonnage collected	0	0	0	0	0	0
Commercial						
# of customers	0	0	0	0	0	0
Tonnage collected	0	0	0	0	0	0

4.1.2. Recyclable Materials

Provide a list of recyclable materials to be collected in accordance with the SWMP. For each item, indicate if there is an active market and if the revenues exceed the cost of processing.

Recyclable Material	Active Market	Revenues > Processing Costs
Newspaper	X Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes X No
Mixed Paper	X Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes X No
Cardboard	X Yes <input type="checkbox"/> No	X Yes <input type="checkbox"/> No
Aluminum Cans	X Yes <input type="checkbox"/> No	X Yes <input type="checkbox"/> No
Tin Cans	X Yes <input type="checkbox"/> No	X Yes <input type="checkbox"/> No
Plastic Bottles	X Yes <input type="checkbox"/> No	X Yes <input type="checkbox"/> No
Glass Bottles	X Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes X No
Scrap Metal	X Yes <input type="checkbox"/> No	X Yes <input type="checkbox"/> No
Clothing/Textiles	X Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes X No
Motor Oil	X Yes <input type="checkbox"/> No	X Yes <input type="checkbox"/> No
Wood	X Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes X No

4.1.3. Costs & Funding for Recycling

Provide information for recycling programs that have been implemented and/or proposed. Include costs and proposed funding mechanism. If these programs are discussed in the SWMP, provide the page number in the draft plan on which it is discussed.

Implemented			
Program	Cost	Funding	Page #
Curbside and Drop-Off	Not available	Service charges	4-3 through 4-6

Proposed			
Program	Cost	Funding	Page #
Increased education for recycling and waste reduction	\$15,000	Grants or tipping fee surcharges	Chapters 3 and 4

4.2. Other Waste Reduction Programs (Organics, such as Yard Waste and Food Waste)

4.2.1. Regulated Organics Collection Programs

Provide information for each UTC-regulated company collecting organics operating in your jurisdiction for the base year and each of the following five years.

4.2.2. Costs & Funding for Organics Collection Programs

Provide information for programs for collecting organics that have been implemented and/or proposed. Include costs and proposed funding mechanism. If these programs are discussed in the SWMP, provide the page number in the draft plan on which it is discussed.

Implemented			
Program	Cost	Funding	Page #
Not applicable, no organics collection programs are currently operating in Pacific County.			
Proposed			
Program	Cost	Funding	Page #
NA			

4.3. References and Assumptions

For Section 4.1.1, the number of customers and tonnages collected are based on current figures (2021 for customers and 2020 for tonnages) and then projected based on population growth. The figures shown are for the certificated areas only. Historically, Peninsula Sanitation has not provided curbside or commercial collection services, but that could change now that Waste Connections has purchased the company.

For Section 4.1.2, the materials listed are the designated recyclable materials as shown in Table 4-4 of the plan. The processing costs for these materials (except wood) is assumed to average \$60 to \$70/ton, and the revenues for each type of material are based on typical values recently published by RecyclingMarkets.net.

For Sections 4.1.3 and 4.2.2, it is understood that the information requested here is intended to be for countywide programs and not for basic services such as the cost of collection services. See Chapters 3, 4 and 5 for more details.

5. Disposal

5.1. Energy Recovery & Incineration (ER&I) Disposal Programs

Not applicable.

5.2. Land Disposal Program

Not applicable, there are no currently-active land disposal sites in Pacific County, although closure activities at Rainbow Landfill are ongoing.

6. Administration Program

6.1. Costs & Funding for Administration Programs

Provide information for administration programs that have been implemented and/or proposed. Include costs and proposed funding mechanism. If these programs are discussed in the SWMP, provide the page number in the draft plan on which it is discussed.

Program	Implemented Cost	Funding	Page #
County administration and education	\$286,871 (in 2020)	Ecology grants, tipping fees	10-3 to 10-5

Program	Proposed Cost	Funding	Page #
Increased education for recycling and waste reduction	\$15,000	Grants or tipping fee surcharges	Chapters 3 and 4

6.2. References and Assumptions

The cost shown above for proposed new programs are the same activities shown in Section 4.1.3.

7. Other Programs

7.1. Programs

For each program in effect or planned that does not readily fall into one of the previously described categories please fill in the following table.

Program	HHW Facility		
Page #	Chapter 8		
Owner/Operator	Pacific County		
UTC Regulations	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Anticipated Costs	\$61,000/year		

7.1.1. UTC Regulation Involvement

If UTC regulation is involved, please explain the extent of involvement.

NA

7.2. Costs & Assumptions of Other Programs

Provide information for other programs that have been implemented and/or proposed. Include costs and proposed funding mechanism. If these programs are discussed in the SWMP, provide the page number in the draft plan on which it is discussed.

Program	Implemented Cost	Funding	Page #
NA			

Program	Proposed Cost	Funding	Page #
NA			

7.3. References and Assumptions

NA

8. Funding Mechanisms

This section relates specifically to the funding mechanisms currently in use and the ones that will be implemented to incorporate the recommended programs in the draft plan. Because the way a program is funded directly relates to the costs a resident or commercial customer will have to pay, this section is crucial to the cost assessment process. Please fill in each of the following tables.

Pacific County Solid Waste and Moderate Risk Waste Management Plan

8.1. Facility Inventory

Facility Inventory						
Facility Name	Type of Facility	Tip Fee per Ton (2021)	Transfer Cost	Location	Final Disposal Location	Total Tons Disposed (2020) Total Revenue Generated (2019)
Pacific Solid Waste Transfer Station	Transfer station	\$120.00/ \$145.00 ¹	NA	Long Beach	Cowlitz County Landfill	16,595 NA
Royal Heights Transfer Station	Transfer station	\$128.49/ 157.72 ¹	NA	Near Raymond	Wasco County Landfill	4,642 NA
HHW Facility	MRW facility	NA	NA	Long Beach	Varies	2.9 NA

Notes: 1. Rates shown are for municipal and private haulers/self-haulers. See also Table 7-1.
NA = Not Applicable or Not Available. Transfer costs and revenues are unknown for the transfer stations because they are privately operated.

8.2. Tip Fee Component

Tip Fee Components				
Tip Fee by Facility	Base Rate	Surcharges	Refuse Tax	B&O Tax City Tax
Pacific Solid Waste Transfer Station	NA	\$13.03 per ton	NA	NA NA
Royal Heights Transfer Station	NA	\$13.03 per ton	NA	NA NA

Notes: NA = Not Available. Revenues are unknown for the transfer stations because they are privately operated.

8.3. Tip Fee Forecast

Tip Fee Forecast						
Tip Fee per Ton by Facility	2022	2023	2024	2025	2026	2027
Pacific Solid Waste Transfer Station	\$122.04 per ton	\$124.11	\$126.22	\$128.37	\$130.55	\$132.77
Royal Heights Transfer Station	\$130.67 per ton	\$132.90	\$135.16	\$137.45	\$139.79	\$142.17
MRW Facility	\$0	\$0	\$0	\$0	\$0	\$0

8.4. References and Assumptions

The projected tipping fees shown in Table 8.3 are based on the 2021 rates for municipal and private haulers (see Table 7-1 in the Plan) and are escalated at 85% of the Consumer Price Index, which is assumed to be 2% annually.

8.5. Surplus Funds

Provide information about any surplus or saved funds that may support your operations.

NA

APPENDIX E

SEPA CHECKLIST

INTRODUCTION

This appendix contains the environmental checklist required by the State Environmental Policy Act (SEPA). The purpose of the checklist is to provide information on the environmental impacts of the activities proposed by this Pacific County Solid Waste and Moderate Risk Waste Management Plan (this “Plan”). Much of this checklist addresses only the general concerns related to the County’s solid waste system, but specific actions proposed by this Plan are addressed as appropriate. One or more of the activities discussed in the Plan may require separate SEPA processes in the future when implementation plans for those activities are more fully developed.

ENVIRONMENTAL CHECKLIST

A. BACKGROUND

1. Name of proposed project, if applicable:

Pacific County Solid Waste and Moderate Risk Waste Management Plan (the Plan)

2. Name of applicant:

Pacific County

3. Address and phone number of applicant and contact person:

**Shawn Humphreys
Director, Pacific County Department of Community Development
PO Box 68
South Bend, WA 98586
Phone: 360-642-9382**

**Rick Hlavka
Consultant
Green Solutions
PO Box 680, South Prairie, WA 98385
Phone: 360-897-9533**

4. Date checklist prepared:

November 19, 2021

5. Agency requesting checklist:

Pacific County Department of Community Development

6. Proposed timing or schedule (including phasing, if applicable):

This checklist is for a non-project proposal intended to update Pacific County's long-range plans for solid and moderate risk waste management and disposal. The proposed Plan will undergo public review and comment. A final copy of the Plan is expected to be approved by Ecology in 2022.

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

Ecology's guidelines require solid waste management plans to be reviewed and, if necessary, updated periodically.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

Does not apply.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

No, this SEPA Checklist is intended to address only the programs and activities specifically recommended in the Plan, and it is assumed that any new private or public facilities will need to undergo their own SEPA review as appropriate.

10. List any government approvals or permits that will be needed for your proposal, if known.

State Law (RCW 70A.205) and guidelines issued by the Department of Ecology (Guidelines for Development of Local Comprehensive Solid Waste Management Plans and Plan Revisions) require a public review period for a minimum of 30 days, require that the Plan and a Cost Assessment Questionnaire be reviewed and approved by the Washington Utilities and Transportation Commission, and require Ecology and the Department of Agriculture to examine and comment on the draft plan. The Board of County Commissioners and the four cities must also adopt the final draft of the plan. After adoption by the County and cities, Ecology must approve the Plan before it becomes effective.

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

Pacific County is required by State law to maintain a “coordinated, comprehensive solid waste management plan” in a “current condition.” The existing plan, adopted 2005, is out of date in several areas. In addition to updating the discussion of current facilities and programs, the proposed solid waste management plan contains a number of recommendations. Most of these recommendations represent refinements to existing policies and programs, based on the goal of decreasing reliance on landfills (by increasing waste reduction, recycling and composting). The recommendations proposed in the solid waste management plan can be found in the Executive Summary of the Plan (see also Chapter 11 for more details).

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The Solid Waste and Moderate Risk Waste Management Plan addresses activities and programs that occur throughout Pacific County. A few facilities or activities outside of the county are also involved (such as the current use of landfills in other counties).

B. ENVIRONMENTAL ELEMENTS

1. Earth

- a. General description of the site (circle one): Flat, rolling, hilly, steep slopes, mountainous, other _____

The facilities and programs addressed by the Plan's recommendations are the occupied areas in the County, which are generally flat or rolling.

- b. What is the steepest slope on the site (approximate percent slope)?

Does not apply, there is no specific site being addressed by this plan.

- c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

Does not apply, there is no specific site being addressed by this plan.

- d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

Does not apply, there is no specific site being addressed by this plan.

- e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.

Does not apply, there is no specific site being addressed by this plan.

- f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Does not apply, there is no specific site being addressed by this plan.

- g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

Does not apply, there is no specific site being addressed by this plan.

- h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

Does not apply, there is no specific site being addressed by this plan.

2. Air

- a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

No significant amounts of emissions are anticipated as a result of the recommendations made by the Plan.

- b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

Does not apply, there is no specific site being addressed by this plan.

- c. Proposed measures to reduce or control emissions or other impacts to air, if any:

Does not apply, there is no specific site being addressed by this plan.

3. Water

a. Surface Water:

- 1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

Does not apply, there is no specific site being addressed by this plan.

- 2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

Does not apply, there is no specific site being addressed by this plan.

- 3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

Does not apply, there is no specific site being addressed by this plan.

- 4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

Does not apply, there is no specific site being addressed by this plan.

- 5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

Does not apply, there is no specific site being addressed by this plan.

- 6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

Does not apply, there is no specific site being addressed by this plan.

b. Ground Water:

- 1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.

Does not apply, there is no specific site being addressed by this plan.

- 2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

Does not apply, there is no specific site being addressed by this plan.

c. Water runoff (including stormwater):

- 1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Does not apply, there is no specific site being addressed by this plan.

- 2) Could waste materials enter ground or surface waters? If so, generally describe.

Does not apply, there is no specific site being addressed by this plan.

- 3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

Does not apply, there is no specific site being addressed by this plan.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

Does not apply, there is no specific site being addressed by this plan.

4. Plants

a. Check the types of vegetation found on the site:

- ☐ deciduous tree: alder, maple, aspen, other
- ☐ evergreen tree: fir, cedar, pine, other
- ☐ shrubs
- ☐ grass
- ☐ pasture
- ☐ crop or grain
- ☐ orchards, vineyards or other permanent crops.
- ☐ wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
- ☐ water plants: water lily, eelgrass, milfoil, other
- ☐ other types of vegetation

All of these types of vegetation can be found in Pacific County.

b. What kind and amount of vegetation will be removed or altered?

Does not apply, there is no specific site being addressed by this plan.

c. List threatened and endangered species known to be on or near the site.

Does not apply, there is no specific site being addressed by this plan.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Does not apply, there is no specific site being addressed by this plan.

e. List all noxious weeds and invasive species known to be on or near the site.

Does not apply, there is no specific site being addressed by this plan.

5. Animals

- a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site. Examples include:

birds: hawk, heron, eagle, songbirds, other:

mammals: deer, bear, elk, beaver, other:

fish: bass, salmon, trout, herring, shellfish, other _____

All of these types of animals can be found in Pacific County.

- b. List any threatened and endangered species known to be on or near the site.

Does not apply, there is no specific site being addressed by this plan.

- c. Is the site part of a migration route? If so, explain.

Does not apply, there is no specific site being addressed by this plan.

- d. Proposed measures to preserve or enhance wildlife, if any:

Does not apply, there is no specific site being addressed by this plan.

- e. List any invasive animal species known to be on or near the site.

Does not apply, there is no specific site being addressed by this plan.

6. Energy and natural resources

- a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Several of the activities recommended in the Plan will require small additional amounts of electrical power to support normal, everyday activities.

- b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

Does not apply, there is no specific site being addressed by this plan.

- c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

Does not apply, there is no specific site being addressed by this plan.

7. Environmental health

- a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

Does not apply, there is no specific site being addressed by this plan.

- 1) Describe any known or possible contamination at the site from present or past uses.

Does not apply, there is no specific site being addressed by this plan.

- 2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.

Does not apply, there is no specific site being addressed by this plan.

- 3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.

Does not apply, there is no specific site being addressed by this plan.

- 4) Describe special emergency services that might be required.

Does not apply, there is no specific site being addressed by this plan.

- 5) Proposed measures to reduce or control environmental health hazards, if any:

Does not apply, there is no specific site being addressed by this plan.

b. Noise

- 1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

Does not apply, there is no specific site being addressed by this plan.

- 2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)?
Indicate what hours noise would come from the site.

Does not apply, there is no specific site being addressed by this plan.

- 3) Proposed measures to reduce or control noise impacts, if any:

Does not apply, there is no specific site being addressed by this plan.

8. Land and shoreline use

- a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.

Does not apply, there is no specific site being addressed by this plan.

- b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?

Does not apply, there is no specific site being addressed by this plan.

- 1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:

Does not apply, there is no specific site being addressed by this plan.

- c. Describe any structures on the site.

Does not apply, there is no specific site being addressed by this plan.

- d. Will any structures be demolished? If so, what?

Does not apply, there is no specific site being addressed by this plan.

- e. What is the current zoning classification of the site?

Does not apply, there is no specific site being addressed by this plan.

- f. What is the current comprehensive plan designation of the site?

Does not apply, there is no specific site being addressed by this plan.

- g. If applicable, what is the current shoreline master program designation of the site?

Does not apply, there is no specific site being addressed by this plan.

- h. Has any part of the site been classified as a critical area by the city or county? If so, specify.

Does not apply, there is no specific site being addressed by this plan.

- i. Approximately how many people would reside or work in the completed project?

Does not apply, there is no specific site being addressed by this plan.

- j. Approximately how many people would the completed project displace?

Does not apply, there is no specific site being addressed by this plan.

- k. Proposed measures to avoid or reduce displacement impacts, if any:

Does not apply, there is no specific site being addressed by this plan.

- l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

Does not apply, there is no specific site being addressed by this plan.

- m. Proposed measures to ensure the proposal is compatible with nearby agricultural and forest lands of long-term commercial significance, if any:

Does not apply, there is no specific site being addressed by this plan.

9. Housing

- a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

Does not apply.

- b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

Does not apply.

- c. Proposed measures to reduce or control housing impacts, if any:

Does not apply.

10. Aesthetics

- a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

Does not apply.

- b. What views in the immediate vicinity would be altered or obstructed?

Does not apply.

- c. Proposed measures to reduce or control aesthetic impacts, if any:

Does not apply.

11. Light and glare

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

Does not apply, there is no specific site being addressed by this plan.

- b. Could light or glare from the finished project be a safety hazard or interfere with views?

Does not apply, there is no specific site being addressed by this plan.

- c. What existing off-site sources of light or glare may affect your proposal?

Does not apply, there is no specific site being addressed by this plan.

- d. Proposed measures to reduce or control light and glare impacts, if any:

Does not apply, there is no specific site being addressed by this plan.

12. Recreation

- a. What designated and informal recreational opportunities are in the immediate vicinity?

Does not apply, there is no specific site being addressed by this plan.

- b. Would the proposed project displace any existing recreational uses? If so, describe.

Does not apply, there is no specific site being addressed by this plan.

- c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

Does not apply, there is no specific site being addressed by this plan.

13. Historic and cultural preservation

- a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers located on or near the site? If so, specifically describe.

Does not apply, there is no specific site being addressed by this plan.

- b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.

Does not apply, there is no specific site being addressed by this plan.

- c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

Does not apply, there is no specific site being addressed by this plan.

- d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

Does not apply, there is no specific site being addressed by this plan.

14. Transportation

- a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.

Does not apply, there is no specific site being addressed by this plan.

- b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?

Does not apply, there is no specific site being addressed by this plan.

- c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?

Does not apply, there is no specific site being addressed by this plan.

- d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).

Does not apply, there is no specific site being addressed by this plan.

- e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

Does not apply, there is no specific site being addressed by this plan.

- f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?

Does not apply, there is no specific site being addressed by this plan.

- g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

Does not apply, there is no specific site being addressed by this plan.

- h. Proposed measures to reduce or control transportation impacts, if any:

Does not apply, there is no specific site being addressed by this plan.

15. Public services

- a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.

Does not apply.

- b. Proposed measures to reduce or control direct impacts on public services, if any.

Does not apply, there is no specific site being addressed by this plan.

16. Utilities

- a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other _____.

Does not apply, there is no specific site being addressed by this plan.

- b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

Does not apply, there is no specific site being addressed by this plan.

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: _____

Name of Signee _____

Position and Agency/Organization _____

Date Submitted: _____

D. SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS

1. How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?

By providing for secure disposal of solid wastes and increased recycling activities, the Plan is expected to decrease impacts and discharges to water and air, and to provide for more secure handling of toxic or hazardous substances that may be part of the solid waste stream. No substantial increases or decreases in noise levels are expected as a result of the Plan's recommendations.

Proposed measures to avoid or reduce such increases are:

Does not apply.

2. How would the proposal be likely to affect plants, animals, fish, or marine life?

No significant impacts to plant, animal, fish, or marine life are expected.

Proposed measures to protect or conserve plants, animals, fish, or marine life are:

Does not apply.

3. How would the proposal be likely to deplete energy or natural resources?

A small amount of energy and materials will be needed to implement the recommendations in the Plan, but this is expected to be more than offset by the energy and resources conserved as the result of increased waste prevention, recycling and composting recommended by the plan.

Proposed measures to protect or conserve energy and natural resources are:

Does not apply.

4. How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?

No substantial impacts, either positive or negative, to environmentally sensitive or other protected areas are expected to result from the recommendations in the Plan.

Proposed measures to protect such resources or to avoid or reduce impacts are:

Does not apply.

5. How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?

No substantial impacts, either positive or negative, to land and shoreline use are expected to result from the recommendations in the Plan.

Proposed measures to avoid or reduce shoreline and land use impacts are:

Does not apply.

6. How would the proposal be likely to increase demands on transportation or public services and utilities?

Minor changes are proposed for public services and to a few aspects of the waste collection and transfer system.

Proposed measures to reduce or respond to such demand(s) are:

None.

7. Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.

The Plan was prepared in response to a State requirement for the proper management of solid and moderate risk wastes, and it is intended to comply with all applicable local, state and federal laws and requirements regarding protection of the environment.

APPENDIX F

RESOLUTIONS OF ADOPTION

After the Pacific County Solid Waste and Moderate Risk Waste Management Plan has been adopted by Pacific County and the four cities, the resolutions of adoption will be shown in this appendix.