



Interim Solid Waste Management Plan Report

Background, Current Conditions, and System Assessment

Prepared for:
City and Borough of Sitka, Alaska



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SECTION 1 INTRODUCTION

1.1 Background

This solid waste system assessment is an interim report, representing Phase 1 of the solid waste management planning process for the City and Borough of Sitka, Alaska (CBS). The purpose of this interim report is to provide background information on waste quantities, current handling methods, and costs for use in subsequent identification and evaluation of solid waste management strategies.

A primary driver for development of the CBS Solid Waste Management Plan (SWMP, the Plan) is that two existing solid waste service contracts will expire in April 2015. Those contracts are as follows:

- A contract with Republic Services (Republic) for off-island waste disposal and materials recycling; as part of this contract there is a subcontract with Alaska Pacific Environmental Services (Alaska Pacific, formerly Stragier Sanitation) to operate the CBS transfer station and process recyclables from the Sitka Recycling Center.
- A contract with Alaska Pacific to collect solid waste from residential and commercial/institutional sources for delivery to the transfer station.

Other drivers for development of the Plan include community interest in recycling and composting options; interest in addressing bear concerns related to handling of solid waste; and developing a rate model to maintain the current system and evaluate new or expanded programs.

In authorizing formulation of the Plan, CBS administration and the Assembly wanted future contractual arrangements to be considered within the broader framework of solid waste management goals, directions, priorities, infrastructure needs, costs, rates, and financing mechanisms over an extended period of time.

The perspective of the CBS Public Works Department on the Plan was expressed in a memorandum dated June 19, 2013 from the Department's Director to the Municipal Administrator, Mayor, and Assembly urging its development:

Solid waste management plans can be very robust planning tools to promote change in the future that will lead to common goals and objectives. They...are intended to unite the community towards a common path to improving waste management. These elements are missing in our program which makes its slow to change, evolve, or be prepared for the future. Most things are being managed in a reactionary manner versus proactive.



1.2 Purpose

The broad purposes of the Plan include:

- Determine the goals and objectives of solid waste management in Sitka. In other words, define guiding principles, priorities, and direction.
- Based on the above, determine the core needs that should be addressed.
- Describe and assess existing services, facilities, and other infrastructure, as well as program administration and monitoring procedures.
- Develop program, policy, and service recommendations.
- Propose modifications, upgrades, or replacements for facilities and infrastructure based on those recommendations.
- Estimate costs for purposes of budgeting and setting an adequate rate structure that provides necessary funding. Costs include capital improvements to, and maintenance of, existing facilities/infrastructure, as well as development and operation of recommended new or modified programs/services.

The Public Works memorandum cited in Section 1.1 identifies some “common objectives to consider” in a Solid Waste Plan for CBS, most of which are activities to reduce disposed waste and increase recycling and other forms of diversion, including:

- A commingled or “single-stream” approach to collection of recyclables from the residential and commercial/institutional sectors.
- Composting of organics.
- A materials exchange and reuse area.
- Banning the disposal of designated materials.
- Promotion/education strategy to support waste diversion programs and policies.
- Participation in a regional approach to management of household hazardous waste (HHW).
- Technical and policy responses to deal with bear issues related to waste handling practices.

The memorandum specifically emphasizes commingled recycling as follows:

Currently the CBS does not offer curbside collection for recycling like many other communities...The additional service of curbside / roadside recycle collection ...comes with the additional cost of collection. However, it should produce a significant increase in



recycling due to the convenience. This would be an important focus of the management plan.

1.3 Methodology and Process

In analyzing a solid waste management system it is important to examine the relationship between the system’s goals and objectives, the system components, and the resources allocated to the system operations. Is there balance and consistency between these factors and do they logically support each other, or is there conflict and inconsistency? For example, is there an expectation or desire that the system will achieve a high level of waste reduction / recycling but the personnel resources, operational infrastructure, and supportive policies necessary to carry this out are inadequate?

The approach used in preparing the Plan will be to analyze solid waste management issues and alternatives from an integrated perspective. The various practices and operations that characterize how solid waste is handled in a given area are viewed as the related components of a solid waste management system. Consideration of individual elements is done within the framework of the whole program and involves examining how they are related and whether they support or conflict with each other. The diagram in Figure 1.1 portrays the basic structure and components of a solid waste management system.



FIGURE 1.1



The Plan will be developed in part by having discussions with public and private sector representatives about solid waste management conditions and needs. There has been ongoing cooperation and coordination with these representatives for purposes of gathering data and sharing ideas. The information used in compiling the Plan report will be the most accurate information available either through published reports, interviews with personnel, or from records kept by CBS and the Public Works Department. Additional data is also being provided by representatives from Alaska Pacific and Republic Services as the refuse collection and disposal service providers respectively.

1.3.1 Solid Waste Advisory Committee (SWAC)

A Solid Waste Advisory Committee (SWAC) has been formed to provide feedback to the CBS Assembly, administration, and Public Works Department on the contents of the Solid Waste Management Plan as it is being developed. The SWAC membership is intended to represent the major Sitka stakeholders interested in and/or impacted by CBS solid waste management practices. Stakeholders include representatives from the Assembly, the solid waste industry, environmental groups, businesses, community committees/work groups, tribal organizations, and the general public.

An initial meeting of the SWAC was held on March 12, 2014 to review the planning process and obtain preliminary stakeholder perspectives on solid waste management issues (meeting materials are attached in Appendix A). A second meeting of the SWAC was held on May 28, 2014 to review background information on the current solid waste system, review the preliminary results of the community survey (see Section 1.3.2 below) and to prioritize future options for consideration (meeting materials are again attached in Appendix A). At the second meeting, the SWAC reached consensus on a number of options:

- Continue to use off-island disposal.
- Investigate curbside recycling as a short-term priority.
- Continue to allow residents to drop off 200 pounds of waste monthly at the transfer station free of charge.
- Investigate cost neutral or cost reducing diversion or self-sustaining opportunities for organics.

1.3.2 Community Survey

A community survey was issued in April 2014 to secure input from the broader public regarding solid waste management issues and options. The survey was available for completion online, and copies of the survey were mailed to all utility customers. A total of 492 responses were received, of which 453 were responses from residents and 39 were responses from businesses. Based on the number of customers receiving solid waste collection service (refer to Section 4.2), this represents a 14 percent response rate from residents and a 17 percent response rate from businesses, and an overall response rate (residents and businesses combined) of 14 percent.

The survey consisted of 22 questions that addressed customer satisfaction and use of the current programs and facilities offered by CBS, as well as interest in future program



enhancements or new service offerings (e.g., curbside recycling, composting). A detailed compilation of the survey findings is provided in Appendix B. Key findings from the survey indicate the following:

- Overall satisfaction with current solid waste services. There is generally a high level of satisfaction with the current services provided by CBS and Alaska Pacific:
 - 92 percent of respondents indicated that they are satisfied (either “very satisfied” or “somewhat satisfied”) with the current garbage collection services provided by Alaska Pacific under contract to CBS. Five percent of respondents were dissatisfied (either “somewhat dissatisfied” or “very dissatisfied”), and 3 percent expressed no opinion.
 - 80 percent of respondents were satisfied with service at the transfer station, 6 percent were dissatisfied and 14 percent had no opinion (those expressing no opinion may stem from not using the transfer station).
 - 78 percent of respondents were satisfied with current access to recycling service, 11 percent were dissatisfied and 11 percent had no opinion.
 - Overall, 87 percent of respondents were satisfied with the current solid waste program (including garbage collection, recycling, cleanup events, etc.), 10 percent were dissatisfied and 3 percent had no opinion.

- Use of current programs and facilities. Respondents reported a generally high level of use of the Sitka Recycle Center and participation in the spring cleanup event and household hazardous waste collection events. Self-haul of waste to the transfer station or yard waste to the Granite Creek Waste Area was less common.
 - 67 percent of respondents indicated that use the Sitka Recycle Center on a weekly or monthly basis, 18 percent said they use the facility a few times per year, and 15 percent said they don’t use the facility.
 - 77 percent of respondents indicated they participate in the annual spring clean-up program, while 23 percent said they do not participate.
 - 75 percent of respondents indicated they participate in the household hazardous waste collection events, while 25 percent said they do not participate.
 - 7 percent of respondents indicated they use the transfer station on a weekly or monthly basis, 77 percent said they use the facility a few times per year, and 16 percent said they don’t use the facility.
 - Less than 1 percent of respondents indicated they deliver yard waste to the Granite Creek Waste Area on a monthly basis (no respondents indicated weekly use of the facility), 18 percent said they use the facility a few times per year, and 82 percent said they don’t use the facility.



- The survey also asked how residents and businesses currently manage their yard waste. The majority of respondents indicated that they manage yard waste on their property (either by leaving it on the lawn or composting). Only 17 percent of the respondents indicated that they currently dispose of yard waste with their trash.
- ❑ Interest in Future Programs. The survey also asked residents and businesses about their interest in curbside recycling and composting. There was generally a higher level of interest in curbside recycling than composting, and in both cases there was sensitivity to program costs.
 - 28 percent of respondents indicated they were interested in curbside recycling, even if there was an additional cost for that service. 42 percent said they were interested, but only if there was no additional cost. 31 percent of respondents indicated they were not interested in a curbside recycling program¹.
 - 11 percent of respondents indicated they were interested in a composting program, even if there was an additional cost for that service. 37 percent said they were interested, but only if there was no additional cost. 53 percent of respondents indicated they were not interested in a composting program.
 - The survey also asked respondents what was most important to them regarding solid waste services and programs. The top three responses included: 1) maintaining existing services/like the current program (37 percent); controlling monthly service costs (31 percent); and, 3) having additional recycling opportunities such as curbside recycling, even if costs increase (25 percent).
- ❑ Program Awareness. Respondents indicated a generally high level of awareness of current programs and service offerings, although relatively few have accessed the CBS website. This suggests that residents may obtain information through other means (e.g., word of mouth, other types of media).
 - 83 percent of respondents indicated they have adequate information about current solid waste and recycling services in the community, while 17 percent said they did not.
 - 20 percent of respondents indicated they have visited the CBS website to get information on solid waste services and programs, while 80 percent have not.
- ❑ Bear Issues. The survey also included two questions to obtain preliminary feedback on bear issues. Respondents were asked about their interest in using shared containers or bear-resistant containers as potential mechanisms to reduce bear incidents. Again, there was sensitivity to costs expressed in the survey responses.

¹ These responses total slightly more than 100 percent because a small number of respondents checked two boxes on the paper survey form.



- 47 percent of respondents indicated they were willing to place their trash in a centralized or shared container (either on or off their property), while 53 percent said they were not willing to share containers.
- 31 percent of respondents indicated they would support an increase in monthly costs to address bear concerns (such as using bear-resistant carts). while 69 percent said they would not support an increase in costs to address the bear issues.

1.3.3 Plan Development Sequence

The process for preparing the Solid Waste Management Plan consists of a series of logically connected technical steps and feedback interactions involving the consultant for CBS, CBS administration and staff, the SWAC, and the CBS Assembly. This interim report provides background information, describing current conditions and providing an initial evaluation of the current system. Future phases of the planning process would include evaluation of alternative programs and strategies, development of recommendations, identification of implementation steps, and finalization of the Solid Waste Management Plan report.

1.4 Previous Studies and Analyses

Sitka's current solid waste management system has developed and evolved over time. By understanding the development of the current system, consideration of programs and strategies during this planning process can be performed with some historical context. A summary of prior solid waste planning activities completed over the past 25 years is provided below.

1.4.1 Sitka Solid Waste Study Phase 1, R.W. Beck and Associates, November 1991

When the 1991 Solid Waste Study was prepared, Sitka managed the majority of its waste through a municipal incinerator, with incinerator ash and non-combustible wastes disposed in the Kimsham Street landfill. Recycling was conducted through drop-off centers.

A number of factors led to the preparation of the 1991 Solid Waste Study. These factors included public interest in advancing recycling and waste reduction; a resolution issued by the Municipal Assembly which directed the near-term removal and/or relocation of the incinerator from its location near the downtown area; and the understanding that Sitka's landfill had limited capacity, particularly if the incinerator ceased to operate.

The 1991 Solid Waste Study, prepared with the input of an appointed Solid Waste Management Committee, included the following principal recommendations:

1. Develop "an aggressive and comprehensive waste reduction and recycling program". After consideration of several approaches, the Committee recommended implementation of a commingled curbside collection program for recyclables to meet this objective.
2. Relocate the existing incinerator to a new location and continue to rely on the existing Kimsham Street landfill for disposal of ash and non-combustible wastes. When the existing landfill would reach capacity, the Committee recommended either expanding the landfill at the existing location or developing a new landfill at the Granite Creek site.



1.4.2 Solid Waste Management System Evaluation, R.W. Beck and Associates, April 29, 1999

Solid waste disposal conditions in Sitka were revisited in 1999 to address regulatory changes and infrastructure needs, including the following:

- The municipal incinerator was nearing the end of its useful life and was in need of significant repair or replacement.
- The Kimsham Landfill was nearing capacity.
- More stringent state regulations for both landfill and incinerator facility design and operation had been implemented, increasing the cost of developing and operating new landfills and incineration facilities.

The 1999 System Evaluation focused exclusively on disposal alternatives. The study recommended:

- Closure of the incinerator, once an alternative method of waste disposal was secured;
- The immediate siting and design of a transfer station to meet Sitka's waste handling needs in case of a shutdown of the incinerator; and
- Procurement and negotiation of off-island export contracts for disposal of incinerator ash (while the incinerator continued to operate) and waste, based on greater use of off-island disposal options by other regional communities at lower costs than Sitka had estimated in 1991.

1.4.3 Long Term Waste Management Strategies for Sitka: A Consensus Through Community Collaboration (Final Report), Sitka Municipal Waste Collaboration Subcommittee / Long Range Planning and Economic Development Commission, August 2001

Beginning in May 2000, a stakeholder group representing a range of interests in the community was formed to develop a long-range plan for the management of Sitka's waste. The plan was developed through a collaborative process and completed in 2001. The long-term strategy sought to minimize impacts associated with solid waste operations; achieve greater waste reduction and recycling; and reduce or minimize costs.

The stakeholders identified a number of options for consideration. Upon evaluation, the following recommendations were made:

- Develop and implement a number of strategies to reduce, reuse, and recycle prior to disposal. These strategies included providing public education, establishing drop-off centers, developing a curbside recycling program, establishing a centralized compost facility, and providing an area to sort and salvage construction and demolition debris.



- Dispose waste that is not reduced, reused, or recovered at a permitted disposal facility outside of Sitka. Options for local disposal at a landfill or incinerator were eliminated based on environmental impacts, cost, and public acceptability.

1.4.4 City and Borough of Sitka Comprehensive Plan Update, 2007

Sitka's Comprehensive Plan was updated in 2007 and included policies addressing waste and recycling. The 2007 Comprehensive Plan recommended:

- Prioritizing waste reduction efforts through encouraging participation in recycling programs, purchasing items with reduced packaging, securing bids for sanitation services that include recycling and waste reduction, and continuing to explore waste reduction and recycling options;
- Developing a local land clearing landfill;
- Continuing development of the Sawmill Cove recycling facility; and
- Developing local disposal options for construction and demolition debris, boats, and trailers to increase cost-effectiveness.

1.4.5 Recycling in Sitka: A Look Towards the Future, 2007

This analysis of recycling program options was prepared by Jonathan Kreiss-Tomkins in 2007. It should be emphasized that financial data, information and assumptions used by Kreiss-Tomkins are relevant to that year and not necessarily applicable to 2014. However, the analytic methodology and reasoning is useful for this Plan. Three scenarios were examined:

- Scenario 1: No Action; Status Quo
- Scenario 2: Expand the Current Program
- Scenario 3: Switch to a Curbside Single-Stream Program

The analysis concludes with a recommendation to implement Scenario 3 because it "...is the most environmentally friendly, most convenient to the consumer, and most financially beneficial to the City and to Sitkans."

This assessment contains a number of observations and points worth noting (direct quotes are presented as such; other comments are summarized):

- "Sitka's diversion rate - the percentage of recyclables diverted from the municipal solid waste (MSW) stream - has plateaued at 7 percent. The diversion rate is unlikely to break through a ceiling of 10 percent because of the recycling program's inherent inconveniences to the consumer: forcing residents to sort their recyclables and bring the recyclables to a centralized location. The low diversion rate consequently limits financial savings to the City."



- “The City’s baling facility is at capacity. Even if the City substantially increased its diversion rate (i.e., volume of recyclables), the baling facility would simply not be able to process the influx of recyclables. The facility is too small.”
- About 70 percent of the disposed refuse is picked up by Stragier Sanitation while 30 percent is delivered to the Transfer Station by citizens, businesses, and institutions.
- “Stragier’s automated garbage trucks would be the linchpin of a successful single-stream curbside program...Stragier would collect recyclables every other week and stagger and reduce collection of municipal solid waste to every other week. For higher frequency locations such as Lakeside, Sea Mart, SEARHC, the harbors, et al, a combination of more cans or greater capacity cans (depending on available space) and multiple weekly collections would be arranged.”
- “Stragier would deposit the recyclables at the Jarvis Street transfer station into AML container vans for shipment, just as if it were municipal solid waste. The container vans would be shipped to Seattle to a materials recovery facility (“MRF”) where the commingled recyclables would be separated...and ultimately baled and sold.”
- “A curbside, single-stream program dramatically improves convenience to the consumers, ergo increasing participation and raising the diversion rate.”
- “In high density areas, especially the central business district, doubling or increasing the number of refuse/recycling containers would be difficult or impossible. These locations would need to be handled on a case-by-case basis, a customized collection schedule crafted to balance the demand and volume of refuse and recyclables and the conservation of space.”
- Discussing the service providers in 2007 (Stragier and Republic Services) and the future possibility of a commingled recycling collection program for residential and commercial/institutional sources, Kreiss-Tomkins says “Contracts would have to be put out to bid, but these are the companies...that appear best suited for each role based on their past relationship with the City and their infrastructure and resources.”
- Perhaps the biggest capital expense for implementing such a program would be recycling containers.

1.4.6 Climate Action Plan, Sitka Climate Action Task Force, June 11, 2010

The CBS Climate Action Plan (June 11, 2010) was prepared by the Climate Action Task Force. Section 3.6 of the Climate Action Plan addresses solid waste management with both general commentary and specific initiatives. The introduction to Section 3.6 notes that presently Sitka’s municipal solid waste is transported (via barge, truck, and rail) to Roosevelt Regional Landfill operated by Republic Services in Klickitat County, WA. At the landfill,

...the vast majority of the methane produced by Sitka’s decomposing waste is captured and burned to produce electricity, the final result being that more carbon equivalent is buried and trapped in the landfill than is added to the atmosphere. The balance remains



negative even when emissions produced from shipping the waste from Sitka to Roosevelt are taken into account.

Section 3.6 then proposes several waste diversion efforts based on the following guiding policy:

Recycling leads to CO₂ reductions at the materials extraction and manufacturing levels, as well as methane reductions at the landfill. Similarly, composting leads to methane reductions and produces a product that can be used in place of manufactured chemical fertilizers. An emphasis on waste reduction also helps promote a culture of conservation and sustainability with broad environmental and economic benefits.

Specific waste diversion recommendations were made in the following areas:

- Curbside recycling
 - Collect mixed or commingled recyclables from residences, businesses, institutions at least every-other-week.
 - Re-negotiate contracts with Republic Services and Alaska Pacific Environmental Services to incorporate commingled recycling collection service.
 - Utilize existing trucks and personnel to the extent feasible.
- Materials reuse center
 - Set up reuse storage structure adjacent to transfer station.
 - Responsibility for removal of items shared by Alaska Pacific staff and customers.
 - Sell items back to public at attractively low prices.
- Municipal composting
 - Target organic elements of waste stream such as food waste (primarily from commercial and institutional sources), fish carcasses from sport fishing, and chipped wood waste from tree service firm(s); fish waste from fish processing operations not included.
 - Composting technology or method not identified.
 - It is assumed that a private contractor will pay for program implementation and operating costs.
- Ban yard waste from garbage pickup
 - This would be a policy directive presumably adopted by the Assembly to support recovery and mulching and/or composting of organic materials.
 - Proposes to place a container (or containers) for separated yard waste at the Recycling Center, and to undertake public outreach/education about not disposing of this material.
 - Yard waste would then be chipped and/or composted at the Overburden site or another location in the same general area.
- Compost school food waste
 - Proposed as a cost savings measure for the school district and also as a way to educate students about waste reduction.
 - Could involve students in actual program implementation.
 - However, "An outside contractor would be required to operate a commercial composting system and pick up the waste on a daily basis."



Appendix F of the Climate Action Plan (Section 10) is titled “Initiatives Not Included in CAP” and is a list of supplemental but undeveloped ideas. Two of these initiatives are directly related to solid waste management:

- Implement a green purchasing policy to promote the use of products made of recycled, reused, or compostable and toxic-free materials, use less packaging, and focus equipment/vehicle purchases on waste prevention.
- Expand recycling program to include all City facilities (for mixed paper, cardboard, and most plastics).



SECTION 2 LOCAL CONDITIONS

2.1 Introduction

This section presents an overview of local conditions in the City and Borough of Sitka, including demographics, the economy, and geographic setting. All of these variables can impact waste quantities and strategies to manage waste. For instance, greater population leads to higher overall waste quantities, and a stronger economy can result in higher waste quantities due to commercial activity and increased consumption.

As discussed in this section, population has been generally stable since 1990 and is expected to remain so in the future. Employment has generally grown but it subject to periods of decline such as the recent recession. Stability is a value of the community and is recognized in the goals of the Comprehensive Plan for CBS -- the first two goals listed in the Comprehensive Plan Update (2007)² are to facilitate and maintain: 1) a small town atmosphere; and, 2) economic growth that improves the quality of life, improves living standards, promotes housing, maintains an affordable cost of living for families and supports a *stable* population.

2.2 Population

The population of CBS has generally been stable historically, and is forecast to be stable in the future, with a modest decline between 2020 and 2040 (refer to Figure 2.1 and Table 2.1; note that the data in Figure 2.1 are indexed to show relative growth and do not represent absolute populations). The following points summarize historical and future projections of population in CBS:

- Population grew from 6,073 in 1970 to 8,588 in 1990, an increase of about 40 percent. The CBS Comprehensive Plan Update (2007) notes that a pulp mill began operating in 1960, and closed in 1993; the start-up of the pulp mill operations likely contributed to the increase in population between 1970 and 1990.
- After 1990, population growth moderated, increasing from 8,588 in 1990 to 8,881 in 2010, an increase of about 3 percent. The Comprehensive Plan noted that population was impacted by the closure of the pulp mill.
- According to forecasts prepared by the Alaska Department of Labor and Workforce Development (AKDOL), population is expected to increase from 8,881 in 2010 to 9,046 in 2020, an increase of 2 percent. Thereafter, AKDOL projects a modest decline in population of about 7 percent over the next 20 years, with a 2040 forecast population of 8,388.
- The population trend in CBS is generally similar to the Southeast Alaska Region. The region experienced strong growth between 1970 and 1990, and more moderate growth between 1990 and 2010. AKDOL projects a modest decline in population for the region, similar to CBS, beginning in 2020.

² City and Borough of Sitka, Comprehensive Plan Update, 2007, p. 9.



- Growth in the State of Alaska, by comparison, continued at a relatively faster rate following 1990, and is project to continue to grow through 2040. The majority of the growth (approximately 90 percent of the statewide increase) is projected to occur in the Anchorage and Fairbanks areas.

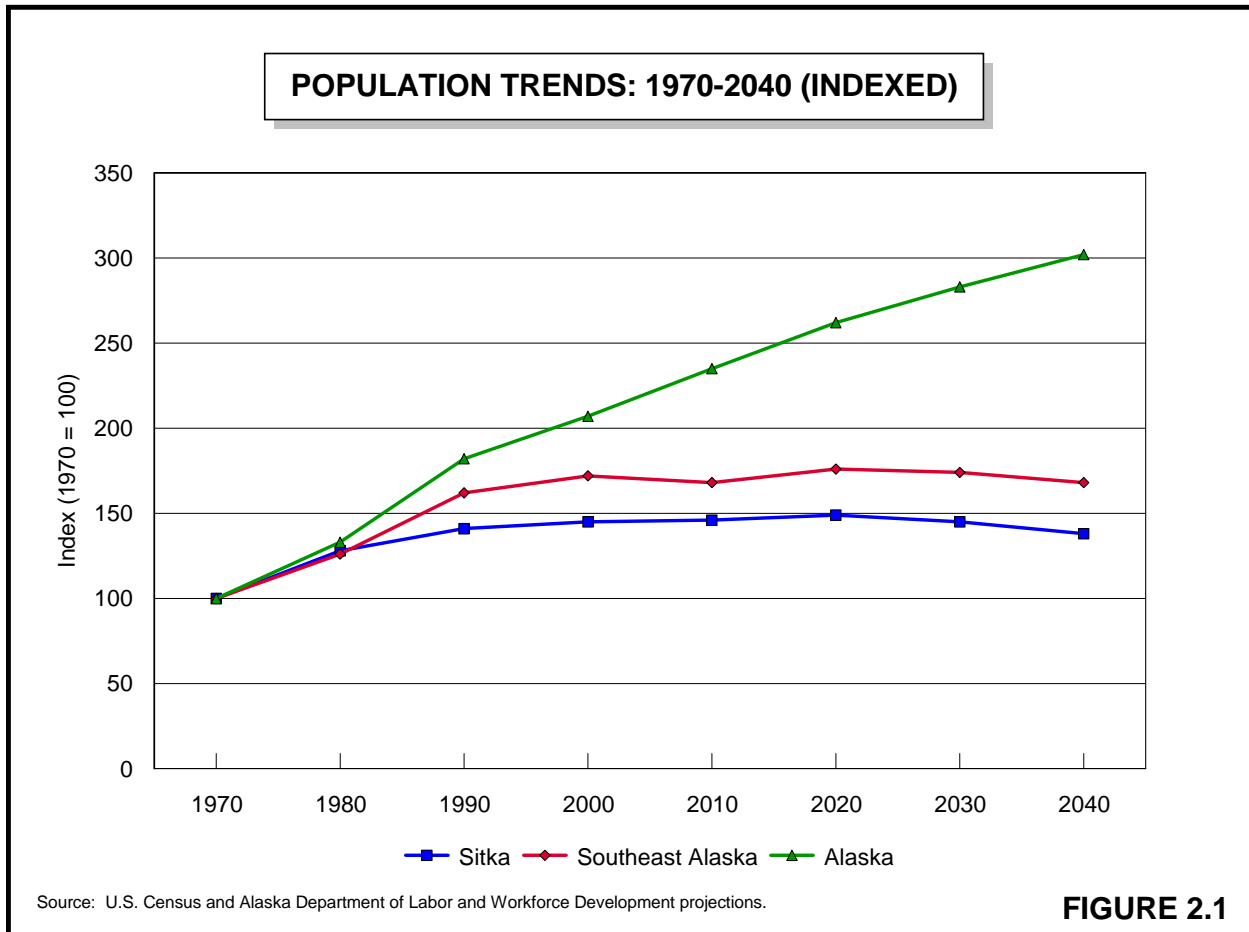




TABLE 2.1. POPULATION TRENDS			
Year	Sitka	Southeast Alaska	Alaska
1970	6,073	42,565	302,603
1980	7,803	53,794	401,851
1990	8,588	68,989	550,043
2000	8,835	73,082	626,932
2010	8,881	71,664	710,231
2020	9,046	74,855	792,054
2030	8,792	73,860	857,018
2040	8,388	71,670	913,839

Source:
 1. U.S. Census and Alaska Department of Labor and Workforce Development.

2.3 Housing

Based on the most recent data from the U.S. Census³, there are 4,094 housing units in CBS, of which 89 percent are occupied and 11 percent vacant. Of the occupied housing units, approximately 56 percent are owner-occupied and 44 percent are renter-occupied. The average size of owner-occupied units is 2.42 persons per household; renter-occupied households are somewhat smaller at 2.30 persons per household. The housing stock by type of unit is summarized in Table 2.2.

TABLE 2.2. CBS HOUSING STOCK	
Units in Structure	Number
1-Unit (attached or detached)	2,573
2 Units	504
3 or 4 Units	268
5 to 9 Units	164
10 to 19 Units	51
20+ Units	119
Mobile Home / Boat / RV	415
Total	4,094

Source:
 1. U.S. Census, 2008-2012 American Community Survey 5-Year Estimates.
 2. Includes occupied and vacant units.

³ U.S. Census Bureau, 2008-2012 American Community Survey 5-Year Estimates.



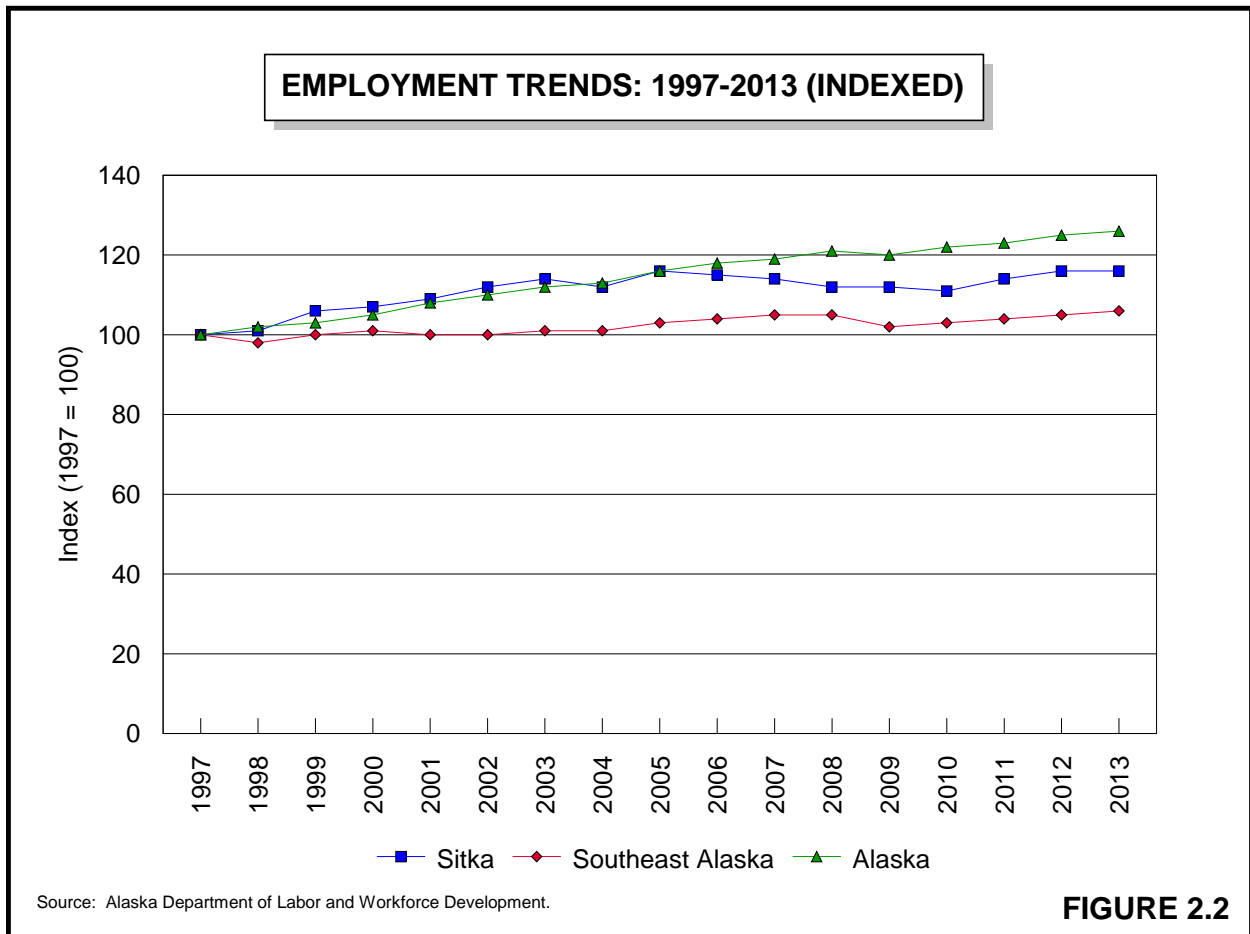
The median reported value of owner-occupied units, based on U.S. Census data, is \$319,500; this is generally consistent with the average 2011 sale price for a single-family home of \$326,877 reported by the Sitka Economic Development Association⁴.

2.4 Employment and Economy

Historical employment trends for the period 1997-2013 are shown in Figure 2.2; this time period corresponds to the availability of historical data from the Alaska Department of Labor. Future projections of employment were not available for CBS or the Southeast Alaska Region.

The following points summarize historical employment in CBS:

- Employment in CBS grew steadily from 1997 to 2005 (with a dip in 2004), rising from 3,825 to 4,418, an increase of 16 percent. A similar rate of growth occurred during the same time for the State of Alaska, but employment for the Southeast Alaska Region was flat.



⁴ Sitka Economic Development Association, Sitka Community Profile 2012-2013.



- Beginning in 2006 and continuing until 2010, employment in CBS decreased by about 4 percent. This corresponds generally with the period of the “Great Recession”, which lasted from December, 2007 until June, 2009. Statewide employment, however, continued to increase during this period.
- CBS employment returned to growth in 2011 and 2012, erasing the earlier loss and reaching a peak of 4,447 in 2013.

Employment data for CBS by sector are summarized in Table 2.3. Approximately 74 percent of total employment is in the private sector, and 26 percent in government. The largest employment sectors are health services, manufacturing (chiefly seafood production), leisure and hospitality services (primarily restaurants, bars and hotels) and retail. Both the leisure/hospitality and seafood production industries have significant seasonal monthly variations in employment.

TABLE 2.3. CBS EMPLOYMENT (2013)			
Category	Number of Establishments	Average Monthly Employees	% of Total Employment
Mining/Natural Resources	7	47	1.1%
Construction	55	296	6.7%
Manufacturing	12	507	11.4%
Wholesale Trade	7	27	0.6%
Retail Trade	55	446	10.0%
Transport/Warehouse	32	267	6.0%
Information	8	49	1.1%
Finance/Real Estate	21	125	2.8%
Professional/Business Services	35	171	3.8%
Health Services	35	711	16.0%
Leisure/Hospitality	50	455	10.2%
Other Services	46	165	3.7%
Unclassified	3	1	0.0%
Subtotal - Private	366	3,267	73.5%
Local Government	5	686	15.4%
State Government	26	363	8.2%
Federal Government	11	131	2.9%
Subtotal - Government	42	1,180	26.5%
Total	408	4,447	100.0%
Source: 1. Alaska Department of Labor and Workforce Development.			



2.5 Physical Characteristics and Climate

CBS is located on the west coast of Baranof Island and fronts the Pacific Ocean. CBS encompasses approximately 4,812 square miles, of which 2,874 square miles (60 percent) is land and 1,938 square miles (40 percent) is water.

The community is located 95 miles (by air) south of Juneau, Alaska and 860 miles northwest of Seattle, Washington. No roads connect CBS to the mainland or other communities, and access to CBS is via air or ship.

CBS is located within the Tongass National Forest, the largest temperate rainforest in the world. Located in the maritime climatic zone, temperatures are moderated by the Pacific Ocean. Average temperatures range from 39.9 to 49.6 degrees Fahrenheit. The area receives approximately 86 inches of annual rainfall and 39 inches of annual snowfall.

The Comprehensive Plan notes that land use development in CBS is challenged by steep terrain and wetlands. Steep terrain contributes to increased construction and utility costs, steep access drives, and water pressure issues. The presence of wetlands throughout much of CBS on more gentle terrain also leads to increased development costs and requires a potentially long and expensive permitting process.



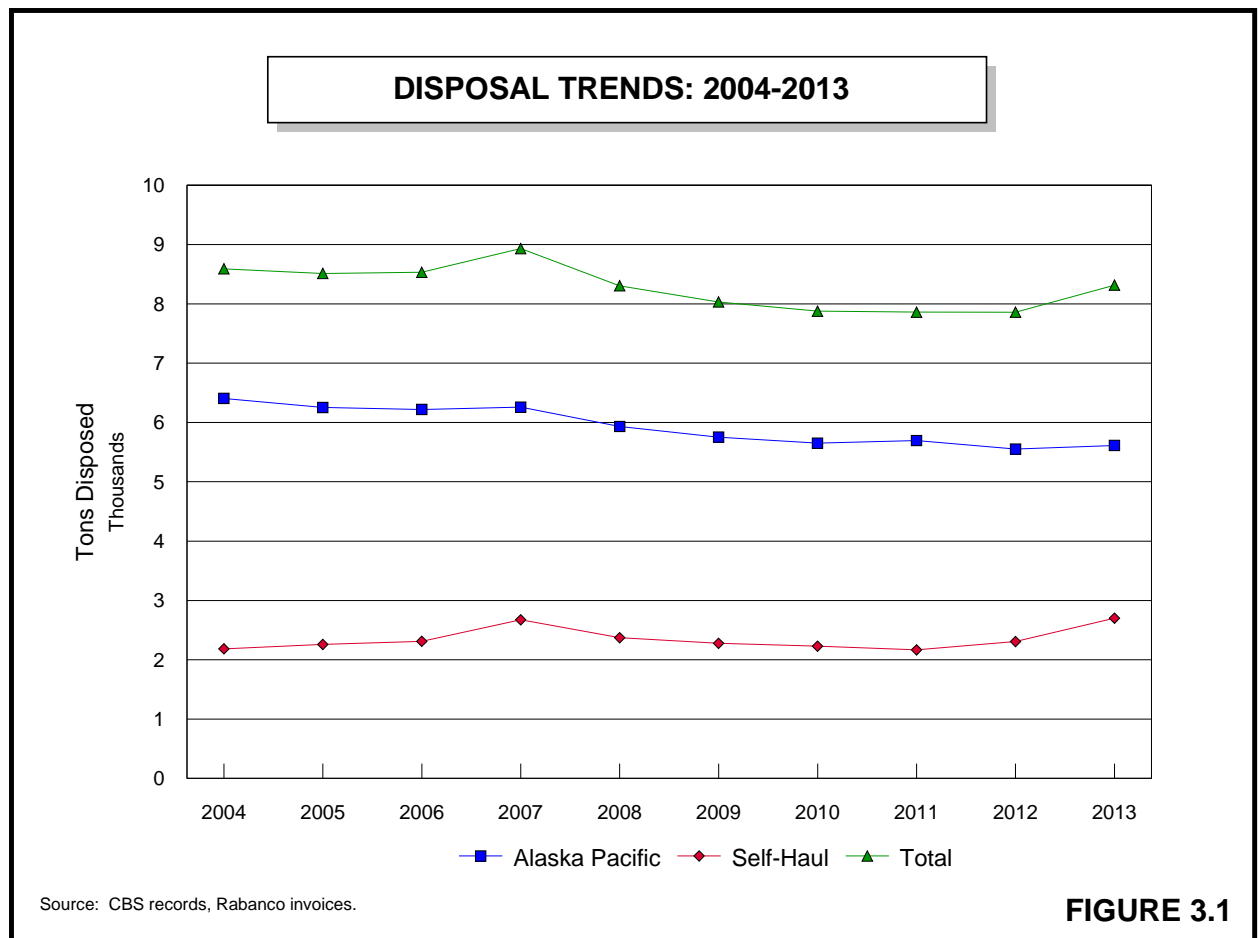
SECTION 3 WASTE STREAM QUANTITIES AND CHARACTERISTICS

3.1 Introduction

This section presents an overview of waste quantities generated and disposed or recycled by CBS. Information is provided on historical waste quantities that are disposed or recycled. Per capita waste disposal and recycling rates are calculated based on historical waste quantities, and are used to project future waste quantities based on population forecasts. Estimates of the material composition of the wastestream are also presented.

3.2 Disposed Wastes

Historical tonnages of waste handled at the CBS transfer station are shown in Figure 3.1 for the period 2004-2013. The waste processed at the transfer station is subsequently transported by barge to Seattle, Washington, and then via train to a landfill in south central Washington State. Data are shown for CBS's contract waste hauler, Alaska Pacific, and for waste that is self-hauled to the transfer station.





The following observations are made with respect to the historical disposal tonnages:

- Over the past 10 years, disposal tonnages have averaged 8,281 tons per year.
- The peak year for disposal was in 2007 and amounted to 8,931 tons, approximately 8 percent higher than the 10-year average.
- The lowest year for disposal was in 2012 and amounted to 7,859 tons, approximately 5 percent below the 10-year average.
- Waste tonnages delivered by Alaska Pacific decreased by about 12 percent between 2004 and 2013.
- Self-haul tonnages increased between 2004 and 2007, then decreased until 2011, and then increased again in 2012 and 2013. Self-haul tonnages increased 24 percent between 2004 and 2013.
- Overall, total disposal tonnages decreased by 3 percent from 2004 to 2013.
- The decrease in total disposal tonnages between 2007 and 2012 generally corresponds to the period of declining employment in CBS (refer to Figure 2.2), although lagged by 2 years. The decrease in disposal tonnage may therefore be related to the impacts of the recession and economic downturn. Disposal tonnages increased 6 percent from 2012 to 2013 and may reflect improving conditions in the overall economy.
- Disposal quantities decreased by approximately 12 percent from the peak in 2007 to 2012. This trend has been observed in other areas of the U.S. during roughly the same time period, but the trend has been more pronounced in other areas, with tonnage declines ranging from 15 to 30 percent depending on the State. Economic conditions in CBS may have been comparatively more stable than other areas of the U.S.
- Disposal quantities may also have been reduced by greater recycling efforts in CBS as discussed in section 3.3.
- The disposal data shown in Figure 3.1 represents municipal solid waste processed through the transfer station. CBS also disposes small amounts of demolition waste at the Sitka landfill, such as boats that are demolished, as well as non-municipal waste materials such as asbestos and contaminated soil. Tonnage data for these materials was not available, but solid waste staff indicated that the amounts were small relative to overall disposal quantities.
- The disposal data shown in Figure 3.1 does not include biosolids from the wastewater treatment plant, which are disposed in a designated area of the Sitka landfill. Biosolids amounted to 161 tons in 2011, 144 tons in 2012, and 134 tons in 2013, and therefore have been decreasing.



Monthly seasonal variations in disposal quantities are shown in Figure 3.2 based on average monthly tonnages for the period 2004 to 2013. Disposal quantities are lower during the winter months, which is typical for the solid waste industry. Disposal quantities are higher during the summer months, again typical for the solid waste industry, and may also reflect increased activity due to tourism. The April peak is due to the spring cleanup event provided by CBS.

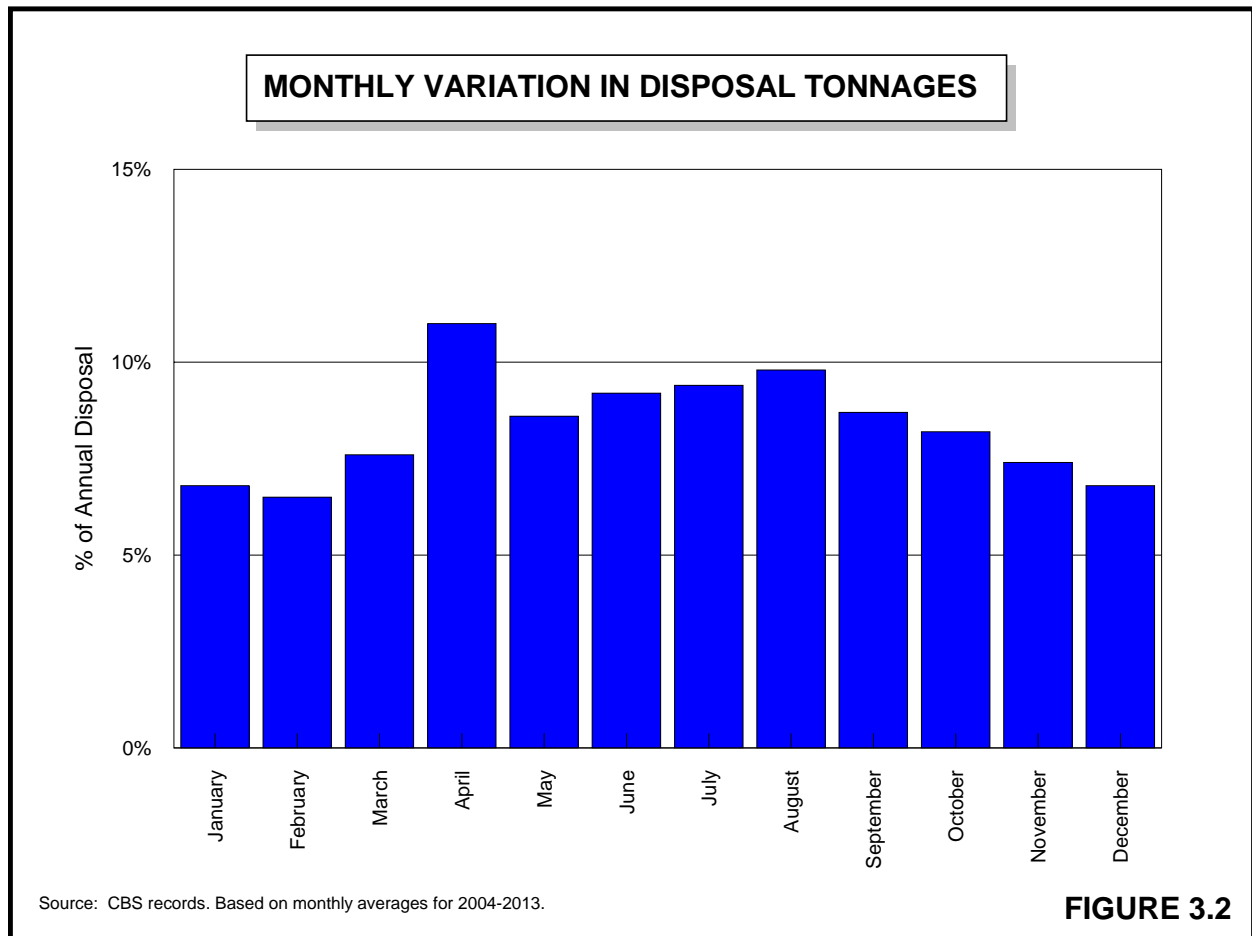
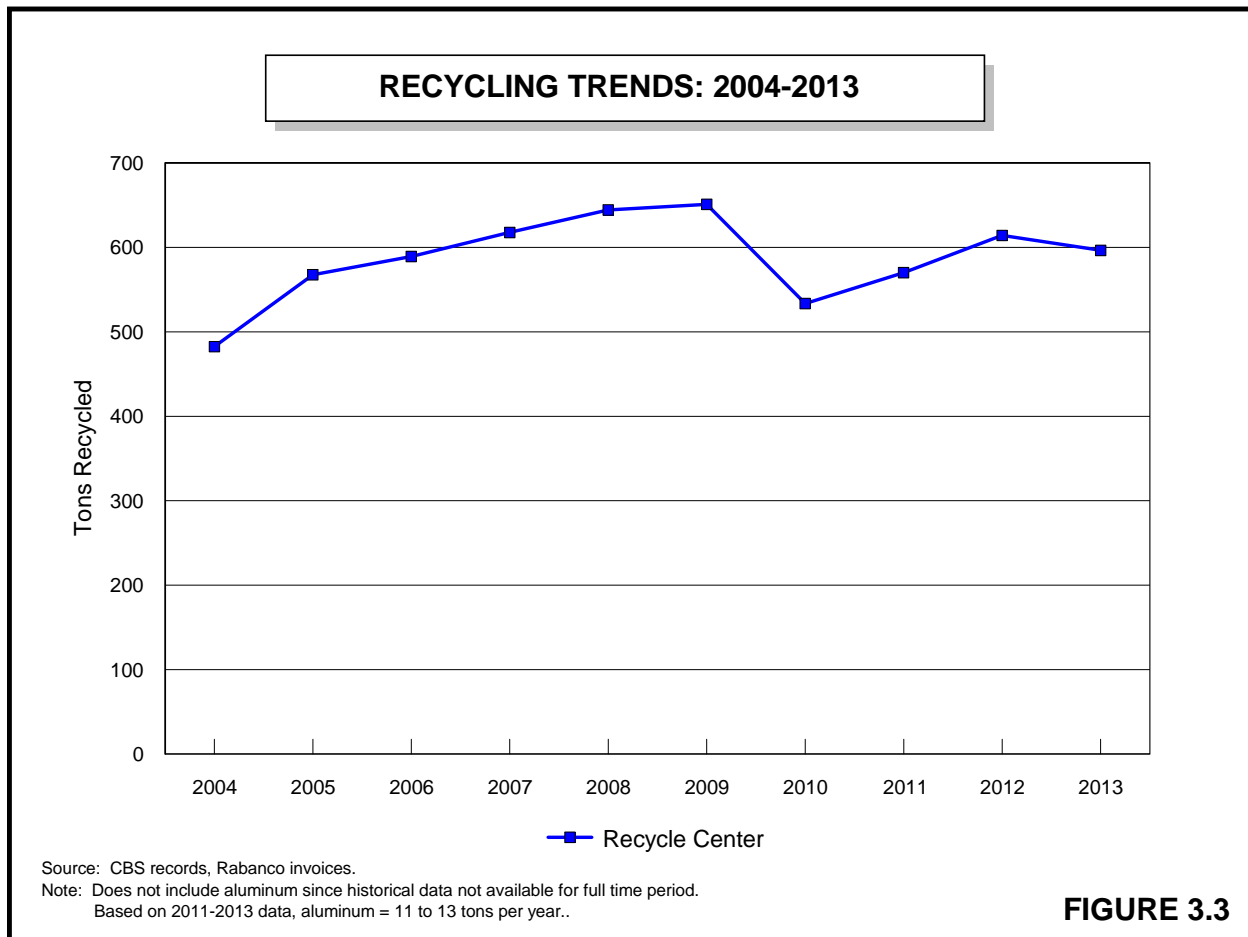


FIGURE 3.2

3.3 Recycled Materials

CBS has two principal programs to recycle waste materials: 1) the Sitka Recycle Center, a drop-off facility for residents and businesses; and, 2) a bulk metal program for junk vehicles and other large scrap metal materials. Materials recycled under these two programs are discussed in turn.

Historical quantities of recyclables handled at the Sitka Recycle Center for the period 2004-2013 are shown in Figure 3.3. Note that the data exclude aluminum cans because historical data was not available for the 10-year period. The tonnage data includes newspaper, corrugated cardboard, mixed paper, glass, tin cans, and PET and HDPE plastic containers. All of these commodities are shipped off-island for processing and marketing with the exception of glass, which is crushed and repurposed at the Sitka landfill.



The following observations are made with respect to the tonnages recycled through the drop-off program:

- Over the past 10 years, recycling tonnages averaged 587 tons per year.
- The peak year for recycling was in 2009 and amounted to 651 tons, approximately 11 percent higher than the 10-year average.
- The lowest year for recycling was in 2004 and amounted to 482 tons, approximately 18 percent below the 10-year average.
- Recycling tonnages increased from 2004 to 2009, had a pronounced drop in 2010, and then increased again in 2011 and 2012.
- Overall, drop-off recycling tonnages increased from 482 tons in 2004 to 596 tons in 2013, and increase of 114 tons or about 24 percent.
- The increase in recycling tonnage may account for some, but not all, of the observed decrease in waste disposal tonnages. The impact of the recession and economic downturn therefore also likely contributed to lower disposal quantities.



- Aluminum can tonnages were 13 tons in 2011, 11 tons in 2012, and 12 tons in 2013. Revenues from the marketing of aluminum cans are donated by CBS to the Barracuda Swim Club.

Based on the annual disposal and recycling tonnage data, diversion rates for the period 2004 to 2013 were calculated and are shown in Figure 3.4. To calculate the diversion rate (also sometimes referred to as the recovery or recycling rate) the following formulas are applied:

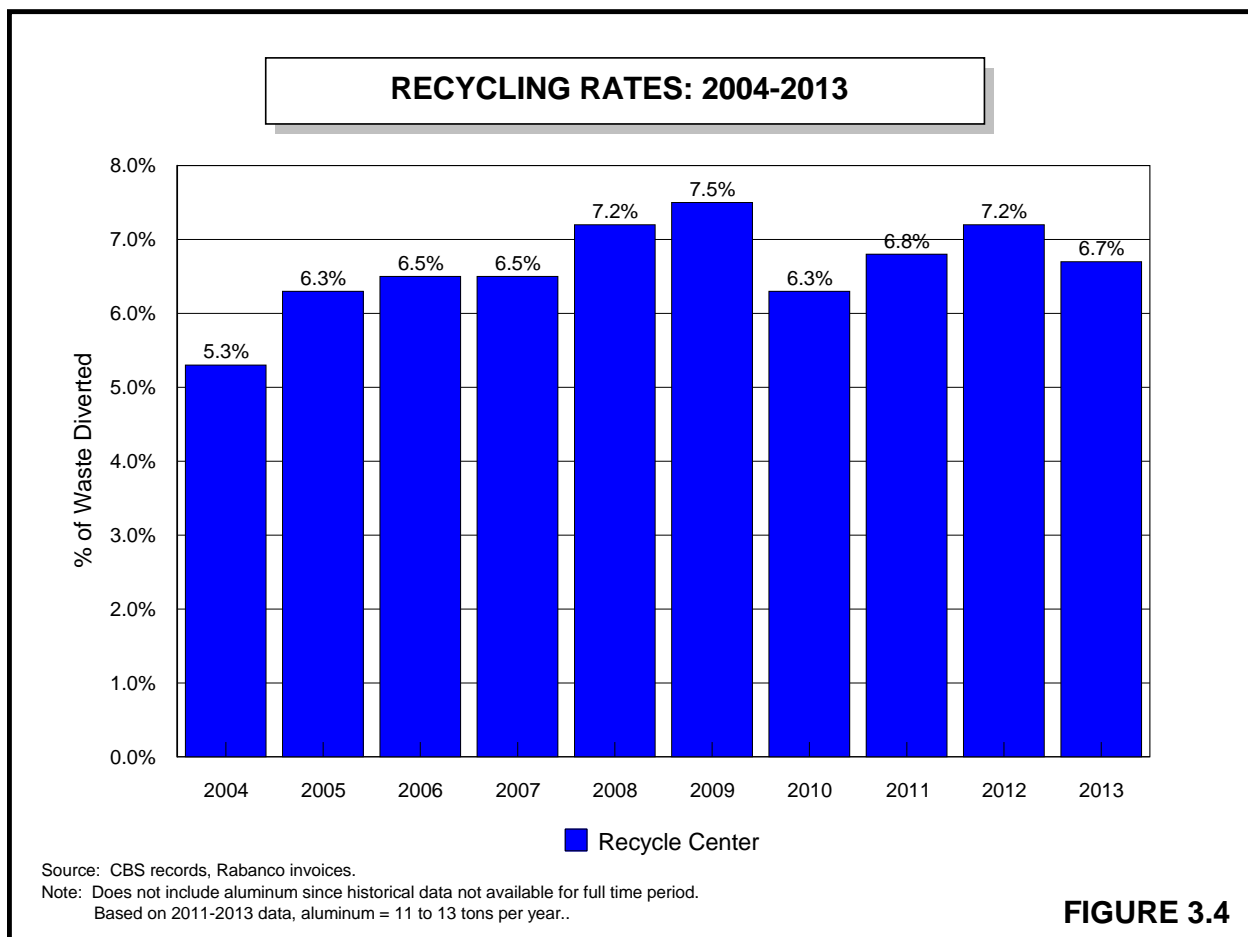
$$\text{Tons Disposed} + \text{Tons Diverted} = \text{Tons Generated}$$

$$\text{Tons Diverted} \div \text{Tons Generated} = \text{Diversion Rate}$$

Thus, using data for 2013 with the above formulas yields the following diversion rate calculation for 2013:

$$8,315 \text{ tons disposed} + 596 \text{ tons recycled} = 8,911 \text{ tons generated}$$

$$596 \text{ tons recycled} \div 8,911 \text{ tons generated} = 6.7 \% \text{ diversion rate}$$



Diversion rates over the past 10 years have generally ranged from 6 to 7 percent. Note again that the diversion rates do not include aluminum cans, because historical data was not available



for the entire period. However, inclusion of aluminum cans would not significantly change the diversion rate. For example, the diversion rate for 2013 including aluminum cans would be 6.8 percent.

The diversion rates above do not include bulky scrap metals and junked vehicles. The heavy weight of bulky metals and junked vehicles, if included in the above calculations, would distort the diversion rate as typically calculated by other jurisdictions. As well, these are specialty materials that are not part of the daily residential, commercial and institutional waste stream (also referred to as municipal solid waste or MSW), and are not considered part of MSW by the U.S. Environmental Protection Agency.

The bulky scrap metals and junked vehicles are, however, recycled. According to CBS data, bulky scrap metals shipped off-island for recycling amounted to 6,460 tons in 2011, 6,193 tons in 2012, and 7,499 tons in 2013.

3.4 Waste Projections

The tons of solid waste disposed and recycled within a region are basic metrics used to design facilities and programs for recycling and disposal of the waste. For instance, tonnage data is used to determine the size of a building required to handle the waste material, the necessary floor space, flow of traffic within a facility, and other operational logistics.

Projections of future disposal and recycling tonnages in CBS were prepared by calculating the average tonnage of waste disposed and recycled per person. These per capita disposal and recycling rates were then applied to the population projections discussed in Section 2.

Between 2010 and 2014, the average per capita disposal rate ranged from 0.88 to 0.92 tons per person per year. During the same time period, the average per capita recycling rate ranged from 0.06 to 0.07 tons per person per year. Projections of future disposal and recycling quantities are shown at 5-year intervals in Table 3.1. Note that these are baseline projections assuming that the solid waste system continues to operate in its current configuration. Changes in tonnage are therefore due to population trends alone. Because CBS is projected to have a modest decrease in population between 2015 and 2040, waste tonnages are projected to have a comparable decrease.

	2015	2020	2025	2030	2035	2040
Population	9,084	9,046	8,944	8,792	8,602	8,388
Disposal Tons	8,389	8,354	8,260	8,119	7,944	7,746
Recycling Tons	596	594	587	577	564	550
Generated Tons	8,985	8,948	8,847	8,696	8,508	8,296

Notes:
1. Tonnage projections based on disposal rate of 0.92 tons/person/year and recycling rate of 0.07 tons/person/year observed for 2013.



3.5 Waste Composition

Waste composition (i.e., the material components that make up the wastestream such as paper, plastic, metals, etc.) also provides useful information for the design of solid waste programs and facilities. Table 3.2 shows comparative waste composition data developed by two studies: 1) a limited waste sorting study (12 samples) prepared for Skagway, Alaska; and, 2) a national study prepared by the U.S. EPA. Note that these data apply to waste that is disposed (not recycled). Both studies were used to estimate the material composition of waste disposed by CBS (shown in the last two columns of the table).

TABLE 3.2. COMPARATIVE WASTE COMPOSITION DATA (DISPOSAL TONNAGE)						
Component	Skagway, Alaska			2012	Estimated CBS Tons	
	Residential	Commercial	Total	USEPA	Skagway	USEPA
Paper						
Newspaper	2.3%	0.9%	1.6%	1.5%	133	125
Cardboard	3.0%	6.3%	4.7%	1.6%	391	133
Other Paper	13.2%	10.0%	11.5%	7.7%	956	640
Paperboard	4.5%	3.7%	4.1%	3.9%	341	324
Subtotal	23.0%	20.9%	21.9%	14.7%	1,821	1,222
Plastic						
PETE #1	2.3%	1.7%	2.0%	1.2%	166	100
HDPE #2	0.7%	1.4%	1.0%	0.3%	83	25
Other Plastic Containers	4.3%	2.7%	3.5%	4.2%	291	349
Plastic Films	7.9%	9.0%	8.5%	2.7%	707	225
Subtotal	15.2%	14.8%	15.0%	8.4%	1,247	698
Metal						
Ferrous Cans	3.1%	2.7%	3.0%	0.4%	249	33
Aluminum Cans/Foil	1.2%	1.8%	1.5%	0.8%	125	67
Subtotal	4.3%	4.5%	4.5%	1.2%	374	100
Glass	3.5%	5.8%	4.6%	3.8%	382	316
Food Waste	26.1%	33.1%	29.5%	21.1%	2,453	1,754
Yard Waste	3.5%	0.0%	1.8%	8.7%	150	723
Wood	0.3%	1.6%	1.0%	4.4%	83	366
Electronics	0.4%	0.0%	0.2%	1.5%	17	125
Furniture	0.0%	0.0%	0.0%	7.0%	0	582
Carpet	0.0%	0.2%	0.1%	2.2%	8	183
Other	23.6%	19.0%	21.4%	27.0%	1,779	2,245
Total	99.9%	99.9%	100.0%	100.0%	8,314	8,315

Source:
 1. SCS Engineers, *Solid Waste and Recycling Management Plan, Municipality of Skagway, 2013.*
 2. U.S. EPA, *Municipal Solid Waste Generation, Recycling and Disposal in the United States for 2012, 2014.*



The Skagway study presents more local data, but is based on a limited number of samples. The U.S. EPA study is based on a “materials flow” methodology that considers the use of different materials in production processes in the U.S., and further is a national-level analysis. Because there is variation between the two studies in the material composition of waste (e.g., paper was a higher percentage in the Skagway study), the tonnage estimates for CBS should be viewed as approximate estimates.

The composition of materials recycled at the Sitka Recycle Center during the period 2010-2013 is shown in Table 3.3 (again, these data exclude aluminum cans because data was not available for 2010). The high proportion of cardboard suggests that the drop-off facility is being used by both residents and businesses. Note also that tonnages for each commodity can vary significantly from year to year.

TABLE 3.3. COMPOSITION OF RECYCLED MATERIALS						
Recycled Material	Tons					% of Total
	2010	2011	2012	2013	Average	
Newspaper	10.20	6.12	9.18	6.12	7.91	1.4%
Mixed Paper	178.96	233.76	198.74	231.92	210.85	36.4%
Cardboard	299.85	275.23	268.81	266.18	277.52	48.0%
Plastic PET	8.20	8.40	7.40	15.00	9.75	1.7%
Plastic HDPE	2.80	4.20	3.60	10.00	5.15	0.9%
Tin Cans	16.40	6.80	9.10	11.60	10.98	1.9%
Glass	17.20	35.46	117.31	55.59	56.39	9.7%
Total	533.61	569.97	614.14	596.41	578.53	100.0%
Source: 1. CBS records, Rabanco invoices. Note: 1. Aluminum cans were 13 tons in 2011, 11 tons in 2012 and 12 tons in 2013.						



SECTION 4

EXISTING SOLID WASTE MANAGEMENT SYSTEM

4.1 Introduction

This section provides information on the current solid waste system in CBS. The discussion is arranged generally by functional category (e.g., collection, transfer/disposal, recycling). Cost information is presented for each functional category, as well as a summary of overall system costs.

4.2 Collection System

Collection of solid waste is provided by CBS through a contract with Alaska Pacific Environmental Services (formerly Stragier Sanitation). Under Section 9.08.025 of the CBS Municipal Code, all residents and businesses served through an electric meter (except for vacant buildings) are required to use and pay for the collection services provided by CBS.

Alaska Pacific utilizes a fully automated system to collect waste from residential and commercial customers. Waste is stored and collected in roll carts and tubs that are compatible with the collection vehicles. Depending on the waste generated, customers can choose either a 32 or 90-gallon roll cart or a 350-gallon tub. All carts and tubs are owned by Alaska Pacific.

Residential customers are collected once a week whereas collection of commercial customers can vary from once a week to six times a week. Alaska Pacific runs collection routes six days a week; however, an additional route is added on Sunday during the summer tourist months. There are two regular collection routes that are run during weekdays and a half-day route on Saturday. All collected waste is delivered to the Sitka Transfer Station.

Alaska Pacific uses 3 collection trucks to perform waste collection; one of the vehicles serves a spare. Alaska Pacific has indicated that its vehicles are approaching the end of their useful operating life and will need to be replaced for the next contract term.

In 2013, Alaska Pacific reported a monthly average of 3,229 residents and 234 businesses that received service. The majority of residential customers (1,995 customers) opt for the 90-gallon cart; 835 customers use 32-carts, and 399 customers use a 300-gallon tub (on a shared basis).

In addition to residential and business customers, Alaska Pacific collects waste from 19 facilities owned and/or operated by CBS, and collects waste from 30 litter containers located in public areas.



TABLE 4.1. SUMMARY COLLECTION STATISTICS	
2013 Activity	Amount
Monthly Customers	3,463
Residential Waste Collected (tons)	3,784
Commercial Waste Collected (tons)	1,605
City Facilities Collected (tons)	219
Public Litter Containers Collected (tons)	4
Total Collected Waste (tons)	5,613
Source: 1. CBS records and Alaska Pacific invoices.	

Alaska Pacific invoices CBS monthly for the type of receptacles and number of pick-ups over the previous month. Residential customers and litter containers are invoiced a fixed amount, currently at \$12.43 and \$18.76 respectively, because the frequency of collection is fixed.

Commercial customers are invoiced based on a combination of the container volume and number of pick-ups per month. The amount invoiced by Alaska Pacific is a volume use method that is typically used by water utilities. The greater the amount of waste collected by Alaska Pacific, the lower the rate paid by CBS for collection. Under this rate approach, collected waste is converted into “units”. A “unit” is 35 gallons of waste.

Collection rates charged by Alaska Pacific for 2013 and 2014 are summarized in Table 4.2. (Note that these are not the monthly rates charged by CBS to residents and businesses, which include disposal and other costs.)

TABLE 4.2. WASTE COLLECTION RATES		
Unit Charge	2013	2014
Minimum Charge	\$12.25	\$12.43
First 20 units collected	\$4.51	\$4.58
Next 10 (30 units) collected	\$4.08	\$4.14
Next 10 (40 units) collected	\$3.67	\$3.73
Next 10 (50 units) collected	\$3.25	\$3.30
Next 10 (60 units) collected	\$2.95	\$2.99
Remaining units collected	\$2.52	\$2.56
Source: 1. Alaska Pacific contract and invoices. One “unit” corresponds to 35 gallons of waste.		



4.3 Transfer Station and Disposal

The Sitka transfer station was built in 2002 and consists of an approximately 3,200 square foot building (80 feet wide by 40 feet deep). The building has walls on the two shorter sides and is open on the two longer sides. Solid waste is deposited on the tipping floor, and an end-loader is used to push the waste into a trailer in the fully-recessed loading bay. The transfer station is open Monday through Saturday and serves both Alaska Pacific collection vehicles and self-haul customers.

Waste transfer, transport, and disposal is bundled under one contract between Republic Services and the CBS. Republic provides for the operation of the transfer station through a separate contact with Alaska Pacific.

Transfer and transport of the waste containers is completed under a contract between Republic Services and Alaska Marine Lines (AML). Transfer of the 48-foot open top intermodal containers between the Sitka Transfer Station and the harbor is completed by Arrowhead Transfer under a contract with AML. The waste containers are transported via AML barge from Sitka to Seattle. Containers are then transferred to a Burlington Northern Santa Fe Railroad (BNSF) intermodal yard. Transport of the containers from Seattle to the Roosevelt Regional Landfill in Klickitat County, Washington is completed by BNSF under a contract with Republic Services. Republic hauls the containers to the actual landfill site.

Transfer and disposal costs incurred by CBS over the last four years are summarized in Table 4.3.

Cost Component	2013	2012	2011	2010
Transport & Disposal (\$/ton)	\$113.77	\$111.18	\$108.68	\$108.47
Transfer Station Operations (\$/ton)	\$31.52	\$30.80	\$30.11	\$30.05
WA refuse Tax ⁵ (\$/ton)	\$1.87	\$1.80	\$1.55	\$1.72
Total Transfer/Disposal (\$/ton)	\$147.16	\$143.78	\$140.34	\$140.24
Source: 1. Republic contract and invoices.				

Costs are adjusted annually based on 85 percent of the Consumer Price Index (CPI) as well as any additional increases for taxes, fees, and fuel surcharges above the base fees.

⁵ WA Refuse tax is 3.6% paid on the disposal portion incurred within the State of Washington. In 2013, the disposal and transport costs was \$51.97 per ton x 3.6%.



4.4 Sitka Recycle Center

The Sitka Recycle Center is located on Sawmill Creek Road to the west of the transfer station. The facility serves as a drop-off location for residents and businesses to bring newspaper, cardboard, plastic containers (#1, #2 and #5), tin and aluminum containers and glass. Fluorescent light bulbs are also accepted for a charge. Users of the facility separate recyclable materials into roll-off containers.

Full containers of commodities are subsequently hauled to the Sawmill Cove Industrial Park Scrap Yard for initial processing. CBS staff haul metal and plastic containers to the Scrap Yard and then bale or cube the materials. CBS staff also haul glass containers, which are transported to the Sitka landfill where they are crushed with a tub grinder and used in landfill applications. Alaska Pacific, under contract to Republic, hauls paper materials to the Scrap Yard and bales the materials.

After baling, recyclable materials (excluding glass) are handled under the Republic contract and generally follow the same transport journey as municipal solid waste. However, once the containers reach the dock in Seattle they are trucked to Republic’s materials recovery facility (MRF) located a short distance away. The cost of the transport, processing, and brokering / marketing of the recyclable materials is impacted by the value of the materials, which is subject to market fluctuations.

Because some recycling activities are performed by CBS and others by Republic, the cost of the recycling program includes both external (Republic) and internal (CBS) costs as described below.

External costs (i.e., the fees paid to Republic) for the last four years are summarized in Table 4.4. Note that the tonnage of materials excludes glass, which is repurposed locally at the Sitka Landfill

Cost Component	2013	2012	2011	2010
Material Tons (excluding glass)	541	497	535	516
Baling Materials in CBS (\$/ton)	\$65.87	\$64.38	\$62.93	\$62.81
AML Transport (\$/ton)	\$63.12	\$61.69	\$60.30	\$60.18
Material Processing in WA (\$/ton)	\$52.70	\$51.50	\$50.34	\$50.25
Material Value (Average \$/ton)	\$(146.96)	\$(142.69)	\$(203.58)	\$(154.14)
Recycling Cost (\$/ton)	\$34.73	\$34.88	\$(30.01)	\$19.10
Source: 1. Republic contract and invoices.				



Internal costs (i.e., the cost of services provided by CBS staff) are summarized in Table 4.5

TABLE 4.5. RECYCLING COSTS - INTERNAL (2010-2013)				
Cost Component	2013	2012	2011	2010
Material Tons (excluding glass)	541	497	535	516
Recycling Coordinator	\$33,938	\$36,000	\$36,000	\$33,200
Recycling Expenses	\$3,872	\$1,634	\$1,171	\$1,090
Total CBS Internal Costs	\$37,810	\$37,634	\$37,171	\$34,290
CBS Internal Cost (\$/ton)	\$69.91	\$75.72	\$69.48	\$66.45
Source: 1. CBS records.				

Combining the external and internal recycling costs itemized above yields a recycling program cost per ton, as summarized in Table 4.6:

TABLE 4.6. RECYCLING COSTS - TOTAL (2010-2013)				
Cost Component	2013	2012	2011	2010
Internal Cost (\$/ton)	\$69.91	\$75.72	\$69.48	\$66.45
External Cost (\$/ton)	\$34.73	\$34.88	\$(30.01)	\$19.10
Total Cost (\$/ton)	\$104.64	\$110.60	\$39.47	\$85.55
Source: 1. Table 4.4 and Table 4.5.				

4.5 Junked Vehicles/Scrap Metal

Junked vehicles and scrap metal are processed by CBS staff at the Sawmill Cove Industrial Park Scrap Yard. The metals are handled and stored in a large above-ground holding tank that remains from the former pulp mill.

Baling of paper and plastic materials from the Sitka Recycling Center occurs in an enclosed building at the Scrap Yard. The building is small and includes a baler for paper and a small vertical baler for plastics. Observation of the operations within the baling building indicated that there is little room for maneuvering and that the facility is at capacity for handling the current amount of recyclables; this observation was also made by Alaska Pacific and identified as a barrier in the *Recycling in Sitka: A Look Towards the Future, 2007* report.

Cost data for recycling junked vehicles and scrap metals are provided in Table 4.7



Cost Component	2013	2012	2011	2010
CBS Labor (\$/ton)	\$173,337	\$176,558	\$167,352	\$181,352
Operations (\$/ton)	\$72,342	\$51,069	\$34,838	\$9,739
Transport (\$/ton)	\$151,158	\$77,562	\$90,528	\$93,530
Material Value (\$/ton)	\$(211,991)	\$(168,256)	\$(353,455)	\$(321,261)
Net Metal Cost / (Revenue)	\$184,846	\$136,934	\$(60,737)	\$(36,640)
Scrap Metal Tons	7,499	6,193	6,460	NA
Cost (Revenue) per Ton	\$24.65	\$22.11	\$(9.40)	NA
Source: 1. CBS records.				

4.6 Sitka Landfill

The Sitka landfill was permitted in 2006 as a Class III landfill that can accept inert waste materials and less than 5 tons per day of municipal waste on an annualized basis. At the time of permitting, it was indicated that volumes of inert waste would not exceed 5,000 cubic yards per year, and the design capacity for the inert waste fill area was estimated to be approximately 1.3 million cubic yards. Based on this, it was estimated that the landfill would provide 250 years of capacity for inert waste materials.

The landfill is open by appointment only and handles asbestos, contaminated soils, asphalt and concrete, and boats. Historical throughput information was not available from CBS; CBS staff indicated that only small volumes of material are handled at the facility.

The facility received a separate permit for disposal of land clearing debris in an adjacent area. The land clearing disposal area is also permitted for co-disposal of sewage solids in trenches. Based on the trench design provided in the application, it was calculated that the biosolids disposal area had an estimated life of 10 years. At the time of the permit application, it was anticipated that 1,560 cubic yards of biosolids would be disposed annually.

As was previously discussed, biosolids production at the wastewater treatment plant was 161 tons in 2011, 144 tons in 2012, and 134 tons in 2013, and has been decreasing. Assuming a density of 45 pounds per cubic foot, this corresponds to approximately 220 to 265 cubic yards per year, well below the estimate contained in the permit application. The remaining capacity of the biosolids disposal area, given the reduced volumes of material being accepted, needs to be verified..

4.7 Aggregate System Costs and Rates

In addition to the collection, transfer/disposal and recycling costs discussed previously, the solid waste system incurs other charges including depreciation of equipment and facilities, general and administrative costs, disposal of household hazardous waste, and other operational expenses.



Total solid waste system expenses for the period 2010-2013 are summarized by principal waste stream (i.e., municipal waste, scrap metal, recyclables) in Table 4.8. Note that the system expenses are expenditures and do not include revenues received for recyclable materials.

Wastestream	2013	2012	2011	2010
Solid Waste Collection	\$720,325	\$704,189	\$684,944	\$677,578
Solid Waste Disposal	\$1,229,390	\$1,125,822	\$1,116,207	\$1,093,884
Household Haz. Waste Disposal	\$56,004	\$20,877	\$42,762	\$41,977
Operations	\$306,428	\$253,357	\$161,853	\$252,861
General & Administrative	\$442,243	\$440,990	\$431,558	\$437,436
Depreciation	\$216,082	\$216,082	\$234,981	\$198,463
Total Solid Waste Expenditures	\$2,970,472	\$2,761,317	\$2,672,305	\$2,702,199
Scrap Metal Labor	\$173,337	\$176,558	\$167,352	\$181,352
Scrap Metal Operations	\$72,342	\$51,069	\$34,838	\$9,739
Scrap Metal Transport	\$151,158	\$77,562	\$90,528	\$93,530
Total Scrap Metal Expenditures	\$396,837	\$305,190	\$292,717	\$284,621
Recycling Coordinator	\$33,938	\$36,000	\$36,000	\$33,200
Recycling Operations	\$3,872	\$1,634	\$1,171	\$1,090
Rec. Trans./Proc./Marketing	\$102,131	\$99,230	\$84,987	\$101,702
Total Recycling Expenditures	\$139,941	\$136,864	\$122,158	\$135,992
Total Expenditures	\$3,507,250	\$3,203,371	\$3,087,180	\$3,122,813
Source: 1. CBS records.				

The primary service provided by the CBS is waste collection and disposal. Over the last four years, 71 percent of the total waste tons generated in Sitka were collected by Alaska Pacific and the balance was delivered to the transfer station by self-haul residents and businesses (refer to Table 4.9).

Waste Tons	2013	2012	2011	2010
Hauler Collected Solid Waste (tons)	5,613	5,552	5,695	5,651
Self-Haul Solid Waste (tons)	2,702	2,307	2,167	2,228
Total Solid Waste (tons)	8,315	7,859	7,862	7,878
Hauler Collected SW Tonnage (%)	67.5%	70.6%	72.4%	71.7%
Self-Haul SW Tonnage (%)	32.5%	29.4%	27.6%	28.3%
Source: 1. CBS records.				



Allocating the total solid waste expenditures by the delivery method provides a profile of costs between hauler-collected waste and self-haul waste, as portrayed in the Table 4.10 below (note that the data in Table 4.10 does not include recycling costs).

TABLE 4.10. COMPARISON OF SOLID WASTE COLLECTION AND DISPOSAL COSTS (HAULER COLLECTED VS. SELF-HAUL)				
Cost Component	2013	2012	2011	2010
Hauler Collected Waste				
Alaska Pacific Collection	\$720,325	\$704,189	\$684,944	\$677,578
Waste Disposal (Republic)	\$829,898	\$795,307	\$808,544	\$784,576
House Haz. Waste Disposal	\$56,004	\$20,877	\$42,762	\$41,977
City Operations	\$206,854	\$178,978	\$117,241	\$181,362
General & Administrative	\$298,535	\$311,525	\$312,606	\$313,746
Depreciation	\$145,866	\$152,646	\$170,213	\$142,345
Total Collection/Disposal Cost	\$2,257,482	\$2,163,522	\$2,136,309	\$2,141,586
Waste (tons)	5,613	5,552	5,695	5,651
Cost per Collected Ton	\$402	\$390	\$375	\$379
Self-Haul Waste				
Waste Disposal (Republic)	\$399,492	\$330,515	\$307,663	\$309,307
City Operations	\$99,574	\$74,380	\$44,612	\$71,499
General & Administrative	\$143,707	\$129,464	\$118,952	\$123,690
Depreciation	\$70,216	\$63,437	\$64,769	\$56,117
Total Collection/Disposal Cost	\$712,991	\$597,795	\$535,995	\$560,613
Waste (tons)	2,702	2,307	2,167	2,228
Cost per Self-Haul Ton	\$264	\$259	\$247	\$252
Source:				
1. CBS records and Alaska Pacific/Republic invoices. Does not include recycling costs.				

The other element of the solid waste system is the recycling program. Recycling costs are summarized again and presented in Table 4.11. The overall cost of recycling has increased over the last four years due to the escalating costs of transport and processing as well as the decreasing commodity value of the recycled materials.



TABLE 4.11. RECYCLING COSTS AND REVENUES (2010-2013)				
Cost Component	2013	2012	2011	2010
Recycling Coordinator	\$33,938	\$36,000	\$36,000	\$33,200
Recycling Operations	\$3,872	\$1,633	\$1,171	\$1,091
Rec Trans./Proc./Marketing	\$98,262	\$88,222	\$92,775	\$89,463
Revenue - Recycling	\$(79,481)	\$(70,892)	\$(108,815)	\$(79,598)
Total Recycling Costs	\$56,691	\$54,964	\$21,131	\$44,156
Recycle Tons (no glass)	541	497	535	516
Recycle Cost (\$/ton)	\$104.64	\$110.63	\$39.53	\$85.50
Cost per Customer per Month	\$1.36	\$1.32	\$0.51	\$1.06
Source:				
1. CBS records and Alaska Pacific/Republic invoices.				
Note:				
1. Monthly recycling cost based on 3,463 combined residential and commercial customers.				

4.8 Customer Rates

The CBS has a linear rate structure that assesses monthly costs to residents and businesses using a base rate multiplied by the collection frequency. Table 4.12 details the current monthly customer rates charged by CBS.

TABLE 4.12. CUSTOMER RATES						
Container volume	Weekly Pick-Ups					
	1	2	3	4	5	6
32 gal. cart	\$25	\$50	\$75	\$100	\$125	\$150
90 gal. cart	\$42	\$84	\$126	\$168	\$210	\$252
350 gal. tub	\$170	\$340	\$510	\$680	\$850	\$1,020
Source:						
1. CBS records.						

The monthly rates are the primary source of revenue funding solid waste program costs and must cover the following system costs: collection, disposal, CBS administration and recycling (net of material revenues). Collection costs are the contracted rates between the CBS and Alaska Pacific. Disposal costs are the total disposal cost for transfer, transport, and disposal. CBS administration includes the cost of household hazardous waste disposal, CBS operations, general and administrative costs, and depreciation. Recycling costs include both internal (CBS) and external (contracted) costs associated with the Sitka Recycling Center and subsequent processing of the recyclable commodities.



SECTION 5

ANALYSIS OF EXISTING WASTE MANAGEMENT PRACTICES

5.1 Introduction

This section presents an analysis of the existing CBS solid waste management system based on a review of prior planning reports, observations of the current facilities, and tonnage and cost data. The advantages and disadvantages of the current system are discussed first. Future challenges and opportunities are discussed next. Finally, guiding principles and goals for future solid waste management are discussed.

5.2 Advantages/Strengths

There are numerous past and current aspects of Sitka's solid waste management practices that are positive and advantageous:

- A drop-off recycling facility (Sitka Recycle Center) that is centrally located and accessible to for most citizens and businesses/institutions.
- Minimization of environmental impacts from waste disposal by using an off-island landfill that is located in a dry climate and meets the requirements of Subtitle D of the federal Resource Conservation and Recovery Act (RCRA). Electricity is generated at the landfill using landfill gas. Off-island shipment of waste also does not entail the high operations and capital expenses associated with a local landfill.
- Automated refuse collection that supports operational efficiency and worker safety.
- Use of a single, experienced vendor for processing and marketing recyclables, which relieves the CBS of the burden of having to sell small quantities of discrete materials to several companies located outside of Southeast Alaska.
- Reliable and highly regarded refuse collection service from Alaska Pacific.
- Local disposal of inert debris and biosolids at the Sitka Landfill, thus avoiding the cost of shipping these wastestreams off-island.
- Local disposal option for yard waste at the Granite Creek Waste area.
- Beneficial use of crushed glass at the biosolids disposal site.
- Annual Spring Cleanup and household hazardous waste (HHW) collection events.
- Scrap yard facility where scrap metals are accepted, baled, consolidated, and stored prior to removal.



- “Universal Service” policy in effect – all generators get billed for trash pickup per Sitka General Code / Chapter 15.06 / Section 15.06.025 / Solid Waste Treatment and Refuse Collection.
- Variable rates are in place for residential and commercial / institutional generators based on the container size, number, and collection frequency. This means the basic rate structure exists for encouraging waste diversion by adjusting the differential between rate levels.
- Long-standing community interest with efforts to divert materials from disposal.

5.3 Disadvantages/Weaknesses

- CBS has a diverse solid waste management infrastructure of facilities and equipment; however they are located at opposite ends of the downtown core and involve a variety of operators, as listed below:

Southeast of Downtown Sitka – Sawmill Creek Road

Sitka Recycling Center – operated by CBS Public Works Department.

Transfer Station – operated by Alaska Pacific.

Sawmill Cove Industrial Area – scrap metal processing / storage using large industrial baler; operated by Public Works personnel; takes ferrous and non-ferrous metals, white goods / appliances, vehicles.

Sawmill Cove Industrial Area – processing, storage of recyclables from Recycling Center using two smaller balers (one horizontal and one vertical) inside enclosed structure; operated by Alaska Pacific and CBS personnel.

Northwest of Downtown Sitka – Granite Creek Road

Granite Creek Waste Area – private operation for green / yard waste.

Sitka Landfill – operated by Public Works Department; for inert, non-putrescible materials such as asphalt, concrete, construction and demolition debris.

- While a local option for yard waste, the privately-operated yard waste facility in the Granite Creek Waste area is inconvenient and difficult to access, especially in rainy weather. This observation was supported by responses to the community survey. A drop-off container for yard waste has recently been provided at the transfer station; however, residents are unaware of its availability and the transfer station operator indicated that only small amounts of yard waste are being collected. The transfer station operator also indicated that hauling the container to the Granite Creek Waste area is time-consuming and adds to costs.



- There is a division of labor between CBS personnel and Alaska Pacific in handling and processing recyclables from the Sitka Recycling Center and scrap metals. These services could conceivably be performed by the private sector as part of one contract. Such a contract could also include operation of the Sitka Recycling Center.
- Handling and processing of recyclables from the Sitka Recycling Center is relatively inefficient. Containers of source separated material are hauled to the baling building, put through the baler, and then transported back to the AML dock for shipment to Republic Services. This is a labor-intensive and time-consuming approach to dealing with small quantities of material. In addition, the baling facility is operating at capacity and does not support increased recycling efforts.
- Sitka General Code Chapter 15.06 / Section 15.06.045 / Special Refuse and Treatment Charges, allows generators to dispose of 200 pounds per month at the transfer station free-of-charge. Although the SWAC has recommended to continue this program, it does have a cost which may not be accounted for in the current rate structure.
- There is no regular promotion and education regarding waste reduction and recycling. Although the majority of respondents to the community survey indicated they have adequate information about waste and recycling services in the community, regular education and promotion would be an important element of increasing recycling in the community.

5.4 Needs, Challenges and Opportunities

The range of solid waste management options that are pragmatically rather than theoretically available to CBS are constrained by the following factors:

- Remote location with limited access. Recyclable materials must be transported by barge to markets in the Seattle area. If not disposed locally, refuse must be barged and rail-hauled to landfills in Washington or Oregon.
- Population stability constrains the rate base. This in turn constrains the number and type of capital-intensive infrastructure, equipment, and program innovation investments that can be funded without leading to unacceptable financial impacts on rate payers.
- Suitable sites for alternative disposal operations – a new landfill, incinerator, or waste-to-energy facility – are limited because of the physical geography / topography of CBS. Space is at a premium and environmental protection is vital to CBS's economy.
- The baling facility at the scrap yard is operating at capacity.
- CBS Public Works Department has limited staff available for solid waste management for either operational or administrative purposes. The Public Works Department position assigned responsibility for solid waste management is also responsible for all other maintenance and operations functions in the Department.
- A key challenge for Sitka is how to simplify, consolidate, and centralize operations and services for both disposal and recycling.



5.5 Guiding Principles and Goals for Future Solid Waste Management

During the project kick-off period in March, 2014, discussions were held with CBS administration representatives (Municipal Administrator, Public Works Department staff, Finance Director). Two meetings of the SWAC were subsequently held, and the community survey was implemented. Historical documents related to solid waste management in Sitka were also reviewed and summarized (see Section 1.4). Considering these activities, there appears to be some preliminary consensus among stakeholders that a balanced and practical solid waste management system for the future would be based on the following broad principles and goals:

- Provide reliable and efficient services that are convenient for citizens, businesses, and institutions to use.
- Secure long-term disposal capacity.
- Control rate adjustments, and assure rates are equitable, predictable, and sufficient to meet operational and capital replacement needs.
- Utilize, maintain, and as necessary improve existing infrastructure.
- Continue the solid waste operation as a self-supporting enterprise fund.
- Increase opportunities for waste diversion and decrease the amount of waste disposed.
- Offer ongoing promotion, education, and outreach.
- Conduct periodic monitoring to assess progress.
- Provide CBS and/or contractor resources to meet responsibilities.
- Be consistent with CBS' general commitment to environmental sustainability as expressed in other relevant documents such as the Climate Action Plan.



SECTION 6 FINDINGS

Based on the numerous discussions with stakeholders, review of prior planning efforts in CBS, feedback from the SWAC from the two meetings, and the results of the community survey, the following findings are made:

- ❑ The current CBS solid waste system has evolved over time to include: a variable-rate collection system (in which residents are charged based on size of container); the Sitka Recycling Center (for drop-off recycling) and a program to recycle scrap metal and junked vehicles; a transfer station and off-island disposal of trash; local disposal for inert waste materials and yard waste; and special collection events for household hazardous waste and spring cleanup. 87 percent of respondents to the community survey indicated that they are very satisfied or somewhat satisfied with the current solid waste program.
- ❑ In terms of the future system, respondents to the community survey indicated the following top 3 priorities: 1) maintaining existing services/like the current program (37 percent); 2) controlling monthly service costs paid by residents/businesses (31 percent); and, 3) having additional recycling opportunities (such as curbside recycling), even if costs increase (25 percent).
- ❑ Prior planning efforts, going back to 1991, have identified curbside recycling and centralized composting as priority waste diversion goals, though such programs were not subsequently implemented⁶. The community survey performed for this study provides both current and broad-based (nearly 500 surveys were received) perspectives on these two long-standing issues.
- ❑ 28 percent of respondents indicated they were interested in curbside recycling, even if there was an additional cost. 42 percent said they were interested, but only if there was no additional cost. 31 percent of respondents indicated they were not interested in a curbside recycling program.
- ❑ After considering these survey results, the SWAC recommended that curbside recycling be further investigated as a short-term priority.
- ❑ Based on the feedback from the community survey and SWAC, it appears that curbside recycling is the primary diversion program for future consideration by CBS.
- ❑ There was also interest for a potential composting program, but less support than for curbside recycling. 11 percent of survey respondents said they were interested in composting, even if there was an additional cost. 37 percent were interested, but only if there was no additional cost. 53 percent of respondents were not interested in a composting program.

⁶ There have been community efforts at composting, and many respondents to the community survey indicated they compost yard waste at their homes, but centralized composting was not implemented.



- ❑ The community survey also indicated that most respondents are currently managing yard waste at their homes (either by composting or leaving it on the lawn). This type of home management is encouraged in many communities as a waste reduction strategy. Only 17 percent of survey respondents said they mix yard waste with their trash for collection. Therefore, a composting program for yard waste might result in lower quantities of material being collected assuming residents continued the current practice of home management of yard waste.
- ❑ Food waste composting would have to address a number of challenges. In the residential sector, food waste would either have to be collected at curbside, which would necessitate another container and increase collection costs as well as potentially exacerbate current bear issues. Alternatively, residents would have to store food waste and then self-haul the material to a designated drop-off facility, which could impact participation and result in a low amount of material being collected.
- ❑ Further, preliminary discussions with manufacturers of in-vessel composting equipment⁷ indicated that, for a project located in Alaska, the equipment was recommended to be installed within a building or a fenced area for protection from bears. Curing areas, in which material processed through the in-vessel equipment is subsequently matured, were also recommended to be enclosed. Both of these requirements would add to the development cost of a compost program.
- ❑ After considering these issues, the SWAC recommended further investigation of organics composting, but only if cost neutral or cost reducing. Based on the collection issues and other challenges noted above for a residential food waste program, it appears that a food waste composting program would more appropriately be considered by a large institutional or commercial generator of food waste material. In such an instance, the avoided collection and disposal costs for managing the food waste as trash could provide a potential offset against managing the food waste on-site with in-vessel equipment. Such a program, however, would likely be driven by interest of the institutional generator and not as a primary initiative of CBS.
- ❑ Disposal options were also considered by the SWAC, which recommended the continued use of the transfer station and off-island disposal. This disposal option is consistent with the goals of the community to increase recycling and waste diversion, since the costs of off-island disposal are variable and (currently) higher than the cost of off-island processing and marketing of recyclables. Development of a local disposal facility is challenged by space constraints and the fixed costs of such a facility could serve as an economic deterrent to increasing recycling.
- ❑ From a financial standpoint, it is noted that although collection and disposal costs escalate annually, and recycling costs have also increased due to lower material revenues, monthly service rates and transfer station tipping fees charged by CBS to customers have remained flat for at least 10 years. This places significant challenges on the ability of the solid waste system to operate as a self-sufficient enterprise fund. Future rates and rate-setting will have to address both the historical escalation in costs that has occurred, as well as future annual escalations.

⁷ In an in-vessel composting system, the organic material undergoes the composting process within an enclosed container.



- ❑ Comments provided as part of the community survey indicate a range of perspectives in the community on bear issues. Many respondents indicated that they did not have bear issues at their residences, and that the most appropriate approach was to enforce the bear nuisance ordinance against homes that have bear issues; these respondents also indicated they did not want to pay for a problem they are not contributing to. Some respondents indicated that the bears were the “problem” and that populations should be controlled. Another group of respondents believe that bears are a community-wide problem, and were supportive of bear-deterrent efforts depending on costs.
- ❑ Like other solid waste issues, the survey question addressing bear-resistant garbage containers demonstrated a sensitivity to costs. 69 percent of respondents said they would not support an increase in costs to address bear concerns.

Solid Waste Management Plans ultimately reflect community consensus, identifying the programs that are of most interest to local citizens and businesses and that align with the goals and objectives of the community. In many cases, a number of strategies and programs are developed in the Plan to follow the waste management hierarchy -- source reduction (including education), recycling/composting, recovering energy from waste, and disposal. The strategies are typically further organized into near-term options for implementation, and longer-term options for further evaluation; this prioritization reflects that funding is not available to do everything at once, as well as other considerations (e.g., a technology may be of interest to the community, but is not fully-developed when the Plan is written).

Citizen surveys, such as that performed for this study, are an emerging method to collect broad-based community input into solid waste planning issues; the surveys provide useful insight into community goals beyond the input provided by “expert” panels such as the SWAC. The Sitka survey revealed that residents and businesses have a generally high level of satisfaction with current services, and some cost sensitivity to future programs. This provides a useful guide to CBS going forward.

Based on the public input received through the citizen survey as well as discussions by the SWAC, curbside recycling is the program of most interest to the Sitka community. Curbside recycling is technically viable and is being evaluated and implemented by other communities in Southeast Alaska. That being said, implementation of curbside recycling would represent a major initiative for CBS, one that would require public outreach and coordination to be successful. In addition, vendor quotes to provide the service would have to be reasonable in terms of cost -- based on the survey, a few dollars per month in additional cost may be acceptable, but higher costs would be challenging. The key technical issue, which would impact economic feasibility, is whether the collected recyclable materials could be processed at the existing transfer station, or would require a new building or site to handle.

Conceptually, composting could have benefits in that there would be local markets for the finished compost. However, there are significant cost challenges for a residential program that included food scrap materials (it is relatively expensive even in the lower 48 states), and more significant technical challenges due to odors and bears. A residential program that included just yard waste (and not food waste) might suffer from a lack of material -- the survey indicated that most residents already manage yard waste at their homes. On the commercial side, sourcing organic material is a challenge unless there is widespread interest from institutions/businesses that generate a large amount of organics. As a result of these factors, composting presents



more challenging collection, technological and cost hurdles than curbside recycling. The community survey also revealed greater interest in curbside recycling than composting.

Bear issues were identified for further discussion by the SWAC during meetings in subsequent phases of the planning process. Based on preliminary discussions with some SWAC members, it does not appear that there is a “technical” solution (e.g., bear-resistant carts) that would solve the issue, since neither trash nor the bears are going away. Enforcement of the existing bear ordinance, coupled with continued community outreach and education, appears to be a reasonable approach and, based on the citizen survey, would have the broadest community support.



APPENDIX A

SOLID WASTE ADVISORY COMMITTEE (SWAC) MEETING MATERIALS

SOLID WASTE ADVISORY COMMITTEE (SWAC) MEMBERS

Stakeholder Group	Name
CBS Assembly	Phyllis Hackett
Solid Waste Industry	Don Anderson (Alaska Pacific Environmental Services)
	Chris McGraw (ASRC - Granite Creek Waste Area)
Environmental Groups	Andrew Thoms (Sitka Conservation)
	Michelle Putz (Climate Action Plan)
	Dorik Mechau (Island Institute)
Local Business	Garry White (Sitka Economic Development Association)
	Steven Eisenbeisz (Downtown Businesses)
Sitka Workgroups	Richard Parmelee (Planning Committee)
	Phil Mooney (Bear Committee)
Tribal	Ron Martin (Southeast Alaska Regional Health Consortium)
	Allen Bell (Sitka Tribe)
Public Participants	Scott Brylinski
	Michael Litman
	Jonathan Kreiss-Tomkins
	Leah Mason
	Jay Stelzenmuller

**CITY AND BOROUGH OF SITKA, ALASKA
SOLID WASTE ADVISORY COMMITTEE (SWAC)
BY – LAWS AND OPERATING PROCEDURES**

1. NAME

This set of By – Laws and Operating Procedures pertains to the Solid Waste Advisory Committee or SWAC as established by City and Borough of Sitka (CBS).

2. MISSION AND PURPOSE

To provide a forum for input to the CBS Assembly, CBS staff, and consultants regarding the development and implementation of a Solid Waste Management Plan (SWMP). The SWAC shall provide input during the development of the SWMP with the aim of developing consensus on future solid waste programs and recommending that the Assembly adopt the final SWMP. The SWAC is an Advisory Group to the Plan and not a formal committee of the Assembly.

3. MEMBERSHIP

As listed below, there are 7 different sectors represented on the SWAC by 17 individuals:

<u>Sector</u>	<u>Number of Representatives</u>
A - CBS Assembly	1
B - Solid Waste Industry	2
C - Environmental Groups	3
D - Local Business	2
E - Sitka Committees/Workgroups	2
F - Tribal	2
G - Public/At-Large	5

4. MEMBERS DUTIES AND EXPECTATIONS

Members are expected to attend scheduled meetings; participate in discussions on topics brought before the SWAC; work collaboratively with other SWAC members, stakeholders, and other involved parties; and inform themselves and the SWAC on related topics through reading of handout materials and other sources of information.

5. MEETINGS

- 5.1 Meeting dates for the SWAC have been established as May 28, 2014; July 23, 2014; and August 27, 2014.
- 5.2 Minutes shall be a summary of the actual discussions and proceedings that transpired at the SWAC meeting.
- 5.3 Minutes shall be distributed to all members and interested persons who have requested to be on the mailing list prior to the next scheduled meeting.

5.4 SWAC members may submit clarification of their own comments, positions, votes or other member activity at the next regularly scheduled meeting for inclusion in the minutes of the meeting being clarified.

6. VOTING MEMBERS

Each representative of the SWAC shall be considered a voting member.

7. QUORUM

A quorum shall be present in order to conduct the business of the SWAC. A quorum shall be a simple majority of the SWAC.

8. DECISION – MAKING METHOD

A motion must be pending before a decision may be made. For a motion to be pending it must be proposed by one SWAC member and seconded by another member. Every effort will be made to reach consensus when the SWAC is deliberating toward a decision. If consensus cannot be reached, any member may call for a vote but it must be seconded by another member. For the vote on an item to be considered a valid position of the SWAC it must be supported by a majority of the total SWAC membership.

9. GUIDELINES FOR COMMUNITY RELATIONS

Any member of the public is welcome to attend, participate in, and provide input at SWAC meetings, at the approved agenda time. Public comments are encouraged and may be accepted verbally or in writing.

Solid Waste Advisory Committee City and Borough of Sitka, Alaska



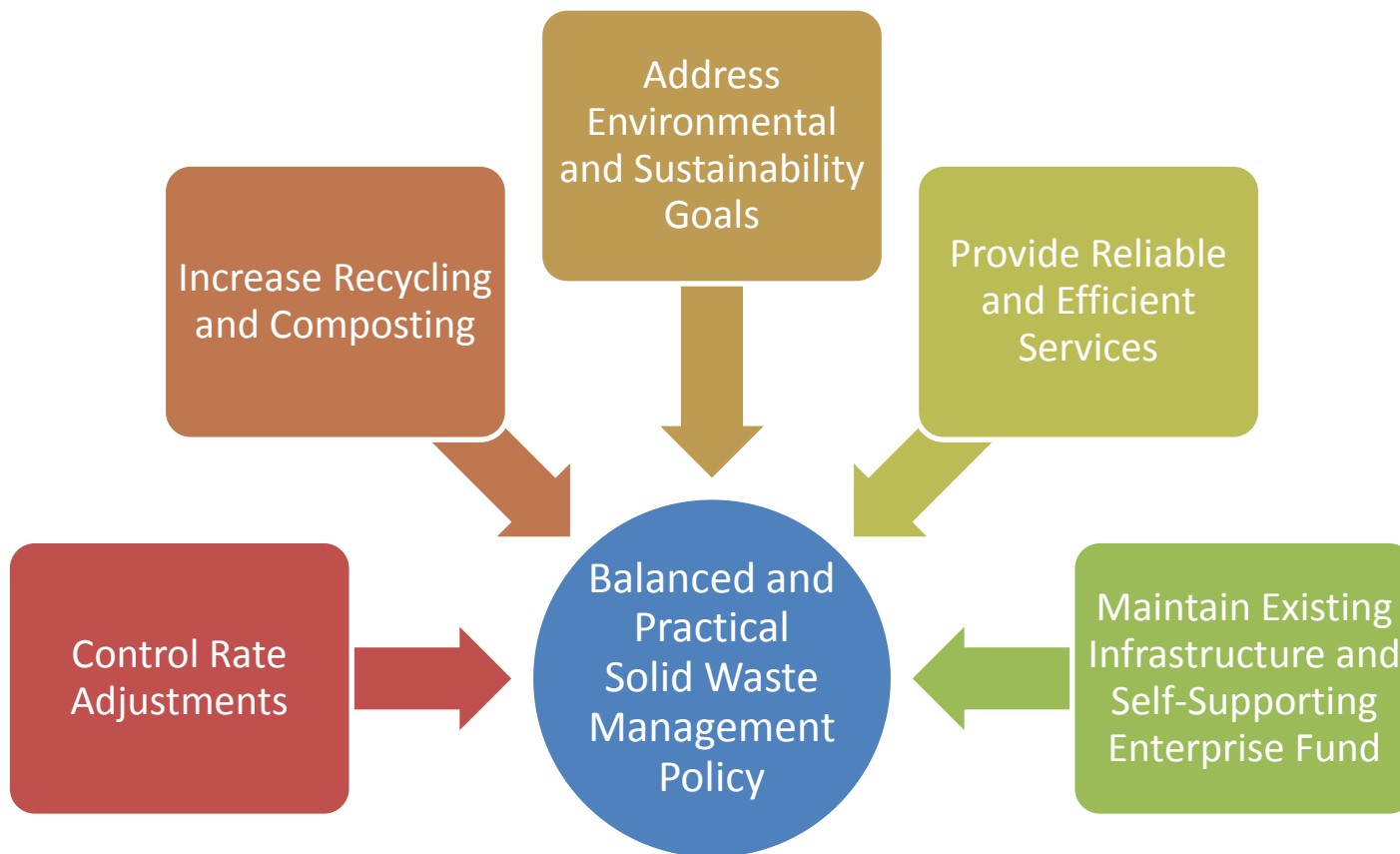
Solid Waste Management Plan March 12, 2014

Presented by:
CB&I Environmental & Infrastructure, Inc.
WIH Resource Group



- **Prior plans were developed in 1990s and require updating**
- **Existing contracts for collection, transport, recycling, and disposal are expiring in 2015**
- **Community interest in recycling and composting options**
 - **Plan will allow options to be evaluated in a comprehensive, systematic manner**
- **Bear issues**
- **Solid waste is funded through an enterprise fund; rates have been generally flat for 10 years**
- **Plan will provide a financial model that evaluates rate impacts from:**
 - **Capital improvements and maintenance of existing infrastructure**
 - **Development and operation of potential new or expanded programs**
 - **Solid Waste Plan is different than other Master Plans because it will examine new and existing programs**
- **Solid waste is a core public service that is important to residents and businesses**
 - **Development of the Plan will include extensive public involvement process**
- **Plan will provide direction on important and long-lasting decisions**
 - **Requires thorough evaluation of current system and future options**

- Sitka may have several objectives related to solid waste management, including:



- Plan recommendations will represent a combination of these objectives

- **Prioritize goals and objectives**
- **Identify preferred collection, transfer, transport, disposal and diversion strategies for next contract term and beyond**
- **Guide development and implementation of future programs**
- **Plan for existing and potential future infrastructure**
- **Budget for future expenses**

Planning Methodology



- **Solid Waste Advisory Committee (SWAC) has been formed in consultation with staff**
- **The SWAC provides stakeholder input and feedback**
 - **Advisory group to Plan, not a formal committee of the Assembly**
 - **Key role in consensus-building**
- **Broad community representation:**



Stakeholder Group	Representation
Assembly	- Assembly Representative
Solid Waste Industry	- Alaska Pacific Environmental Services - ASRC (Granite Creek Waste Area)
Environmental Groups	- Sitka Conservation - Climate Action Plan - Island Institute
Business	- Sitka Economic Development Association - Downtown Businesses
Sitka Committees/Workgroups	- Bear Committee - Planning Committee
Tribal	- Sitka Tribe - Southeast Alaska Regional Health Consortium
Public/At-Large	- Citizen Representative(s)

- **A series of SWAC meetings will be held throughout the planning process**
 - Consultant team will provide background information through an initial presentation
 - Consultant team will facilitate discussion with SWAC
 - Opportunity for public comment following SWAC discussion
- **Consultant team will assist staff to:**
 - Develop meeting agendas and materials
 - Lead / facilitate meetings
- **Additional opportunities will be provided for public input during the planning process in an organized manner:**

Public Input Opportunity	Objectives / Process
Resident Survey (Web-based)	<ul style="list-style-type: none"> - Secure input early in planning process - Satisfaction with existing services - Participation in existing recycling programs - Interest in expanded recycling/composting programs - Willingness to pay for additional services
SWAC Meetings	<ul style="list-style-type: none"> - Open to public - Public comment period at end of agenda
Information Distribution	<ul style="list-style-type: none"> - SWAC meeting materials posted on website - Makes materials available to broader public during Plan development

- Build upon current system and its successes
- Optimize use of existing public and private infrastructure
- Rate plan to include capital investment and maintenance expenses
- Revise / renew contract with Republic Services vs. other alternatives
- Curbside recycling collection: source separated vs. commingled, mandatory vs. voluntary
- Composting of yard and food waste: range of applicable, available technologies
- Management of construction/demolition debris and bulky materials
- Rate incentives for increasing diversion
- Partnership opportunities: roles of CBS and private sector
- Address bear concerns / issues
- Promotion / education strategies
- CBS staff requirements, responsibilities

REDUCE

REUSE

Recycle
SITKA

**Initial System Assessment
Public Policy Issues
Kick-Off Meetings and Public Input**

**Alternatives
Evaluation**

**Plan Drafting and
Presentation**

Feb 2014

Mar 2014

Apr 2014

May 2014

Jun 2014

Jul 2014

Aug 2014

Sep 2014

Resident Survey

- Initial public input

SWAC Meeting

- Present background and existing conditions information
- Discuss alternatives to be evaluated
- Public comment

SWAC Meeting

- Present alternatives evaluation findings
- Public comment

SWAC Meeting

- Present plan
- Public comment

SWAC Meeting Dates:

- **Wednesday, May 28, 2014**
- **Wednesday, July 23, 2014**
- **Wednesday, August 27, 2014**



- Initial chapters provide background information and identification of existing system:

1. Introduction

- Purpose
- Background
- Planning method
- Process

2. Local Conditions

- Population
- Climate
- Geography
- Economy
- Government

3. Waste Quantities & Characteristics

- Disposed quantities
- Recycled quantities
- Future projections

4. Description of Existing System

- Collection
- Transfer & disposal
- Recycling
- Hazardous/special wastes
- Contracts & costs
- Administration

- Middle chapters consist of analysis of existing system and potential options relative to goals:

5. Analysis of Existing System

- Observations & needs
- Challenges & opportunities

6. Guiding Principles & Priorities

- Goals for future system
- Serve as criteria for evaluating options

7. Options Identification & Evaluation

- Pragmatic options
- Recycling potential
- Compatibility with waste stream & infrastructure
- Costs

- Final chapters identify recommendations and provide implementation guidance:

8. Recommended Options

- Rationale
- Short-term & long-term

9. Implementation

- Timeframe
- Phases
- Responsibilities
- Milestones



- Broad-based representation
- Stakeholders with various roles
- Wide range of expertise

- Solid waste planning experience
- Facility planning and design expertise
- Local/regional long-haul disposal experience
- Diversion program design and implementation
- Financial planning
- Public outreach and consensus building

- Institutional knowledge
- Infrastructure familiarity
- Operational and administrative expertise

- **What are the strengths / opportunities of the current system?**
 - Service and reliability
 - Predictable rates
 - Use and convenience of facilities
 - Special events (household hazardous waste, spring cleanup)
 - Knowledge/awareness of programs and facilities
 - Other

- **What are opportunities / interests for future system?**
 - Expand / enhance recycling opportunities
 - Secure reliable, long-term disposal capacity
 - Design programs for convenient citizen/business participation
 - Control rates
 - Other

**City and Borough of Sitka
Solid Waste Advisory Committee (SWAC)**

Meeting Minutes

March 12, 2014 – Centennial Hall

Meeting Convened at 6:00 p.m.

Advisory Board Members Present:

Michelle Putz, Climate Action Plan
Dorik Mechau, Island Institute
Scott Brylinsky, Public Participant
Phil Mooney, Bear Committee
Steve Eisenbeisz, Downtown Business
Don Anderson, Pacific Waste
Andrew Thoms, Sitka Conservation Society

Staff and Consultants:

Gary Baugher, City and Borough of Sitka
Michael Harmon, City and Borough of Sitka
Mark Gorman, City and Borough of Sitka
Chaix Johnson, City and Borough of Sitka
Phil Kowalski, CB&I (Chicago Bridge & Iron)
Richard Hertzberg, CB&I

Others:

Larry Trani
Hugh Bevan
Mike Litman
Megan Pasternak
Robert Jacobs
Carole Gibb
Ken Corson
Kerry MacLane

Michael Harmon, Public Works Director, called the meeting to order at 6:06 p.m. Harmon gave a brief introduction of the meeting and why the Solid Waste Advisory Committee is needed. The contract for shipping trash off the island will be up in 2015, and the City wants to be prepared and ready for that and to change the direction according to what the community would like. He noted how important it is that the citizens of Sitka give their ideas for solid waste changes or additions that are different from the current contract.

Gary Baugher, Maintenance and Operations Superintendent, is the Project Manager for this project and he introduced Phil Kowalski and Richard Hertzberg of CB&I.

Kowalski invited the committee members to introduce themselves (detailed below) and then members of the public were invited to introduce themselves and to say why they are interested in this topic.

Members of the Public

Larry Trani: Sitka resident

Mike Litman: Has a welding shop that generates a lot of metal scrap and was on the previous committee

Carole Gibb: Sitka resident with the Maritime Heritage Society. Interested in recycling.

Megan Pasternak: Worked with an ad hoc recycling group here in Sitka when it was feared the recycling program would not last.

Hugh Bevan: Sitka resident

Robert Jacobs: Pacific Waste

Ken Corson: Sitka resident, also on ad hoc recycling committee

Kowalski then gave some background as to why CB&I has been hired to help the CBS formulate a new Solid Waste Plan and described their process. He would like to see this process be collaborative, the last time a municipal waste plan was drafted it was a collaborative effort and CB&I would like to continue that process. The prior plan was developed in the 1990s with considerable public input and one of the recommendations that came out of that planning process was that rather than wait for the end of the period or a crisis to develop, the plan should be updated periodically. The service contract, collection agreement and transport, and disposal agreement will come up in early 2015 and now is a good time to look at overall strategies and desires of the community. There is community interest in recycling opportunities and composting and it is a good time to look at different options and evaluate them to incorporate them into a comprehensive system. Bear systems are another issue in our community and will be addressed. Solid waste is funded as an enterprise fund and is meant to be self-sustaining and the rates have been stable for 10 years. Rate and cost models will be created to assure that this program can be maintained as an independent enterprise fund going forward; prices and future desired services will be added into the rates to evaluate what the impact will be.

The outcome of this master plan will address long-term strategic issues and creating a new master plan will be done in a thorough, logical manner that looks at the existing system and any future potential options. There are a number of objectives behind the plan. Some are economic related such as controlling the rates, providing sufficient revenue to maintain existing infrastructure and programs. There are also environmentally related objectives such as increasing recycling or composting. The Climate Action Group considered a number of solid waste options as a part of their study and there are sustainability aspects to the Solid Waste Management Plan. Service and reliability are important as this is a service that residents rely on a weekly basis. Tradeoffs have to be made and different factors have to be weighed in

regards to this plan so at the end the plan is practical, implementable, reflects the desires of this community, and is sustainable.

The plan will be created in three phases. The first phase is the **objective phase**. The objective phase is when priorities and goals are set and the existing system is reviewed. The existing system works currently but there may be opportunities for enhancements. The second phase is **analyzing options and alternatives**; these options will address composting, diversion opportunities as well as disposal opportunities. The third phase is when CB&I will **develop recommendations** and create a final Solid Waste Master Plan report.

The objective that the city had was to obtain broad representation in a committee; with representatives from the city, the assembly, the solid waste industry, environmental groups, business groups, some of the existing committees such as the Bear Committee, tribal representation as well as public representatives; this type of group should provide a balanced review. There will be a series of meetings with this Advisory Committee with CB&I providing background and factual information in the form of a Power Point. The information will be ready and given to the committee a few days before the meeting for review. Each meeting is open to the public and following each meeting there will be an opportunity for the public to ask questions or make comments. A resident survey will be created to provide valuable input to the overall effort, and assess current satisfaction. The survey will also help to define whether residents know about current recycling opportunities and locations. All materials from the meetings will be posted on the internet for the public to see and be able to chart the progress of the plan.

The plan will optimize the use of existing facilities and programs. The committee will look at costs to maintain and move forward with the goal of controlling rates to the users. Disposal options will be looked at, which may include renewal of agreement with Republic Services for shipment of the waste to their landfill in Washington State or other alternatives. There is interest in curbside recycling as well as what the implications to the current drop off center and transfer station for processing that material. There is interest in composting and that will be discussed by the committee. Subsidiary issues such as construction and demolition debris, rate incentives for recycling, bear issues, and promotion and education will be discussed as well.

The first phase will consist of initial system assessment with initial meetings. The resident survey will be implemented in April to provide useful information for the committee and the development of the solid waste plan. The next meeting will be at the end of May and more factual information will be given for the cost of the current system and discussions of current system and begin discussions of alternatives and options as well as service enhancement. The second phase will be in June and July; this is when the alternatives will be discussed. The third phase will be trying to take the input of the committee and the public and develop a set of recommendations for the final plan.

Kowalski gave a brief history of his credentials. He has been involved in solid waste for over 25 years and Hertzberg a few more years than that. They have written solid waste master plans in the Pacific Northwest and throughout the country. His firm has experience in designing facilities such as landfills, transfer stations, and recycling facilities and bring knowledge of infrastructure to the project. Bob Wallace is also on the project but not present developed many of the initial long haul transport and disposal methods in the Pacific Northwest when they were first initiated in the 1990s. Chris Bell who is also on the project but not present is the financial expert will be working on setting the rate structure.

Kowalski then introduced Dorik Mechau. Mr. Mechau previously worked on the development of a solid waste planning document titled, "Long Term Waste Management Strategies for Sitka; a Consensus through Collaboration," approved by the Assembly in August, 2001. This was followed by the formation and activity of an ad hoc group known as the Solid Waste Implementation Team, or SWIT. SWIT functioned for close to three years to promote Assembly and staff action on priorities identified in this original plan. Mechau notes that the interesting aspect about solid waste is that there is nobody in town who can claim to be outside of the issues of solid waste as we all contribute to the solid waste stream. After the mill closed in the 1990s, the community was divided on many issues and problems with solid waste were growing. The landfill was at, or beyond capacity and the State of Alaska was threatening to shut it down. The incinerator plant that had always been a divisive solution or partial solution to dealing with solid waste had failed and its lifetime had run out. There were many views in the community and was an emotional topic that was hard to get thorough information on all the facets of solid waste.

The Island Institute worked with community division and the issues that faced the community post the pulp mill shut down. There was a collaborative process that was proposed by an Assembly-sanctioned long-range planning commission. The commission proposed to the assembly a process driven by a community group. That collaborative process got underway over a period of about a year and a half. The group initially met to discuss how to work together on divisive issues, not about solid waste per say but when the workshops were concluded, the decision was reached to move ahead on solid waste because it was considered to be a paramount, pressing issue. In 2001, SWIT worked for two years put pressure on the assembly to advance the items recommended on the proposal – long term waste management strategies for Sitka. It was also felt that succeeding assemblies would need to look at those proposals and adjust them for changes in the environment and technology. Mechau reminds this committee that the value of the original document and the recommendations has to do with the process and the legitimacy and power of a true collaboration.

Committee members then introduced themselves and gave their thoughts of current services and what they see as needs for the future.

Scott Brylinsky worked for CBS during the time the first plan was drafted.

- Stragier's service has been exemplary.

- Believes there is a lot of interest in recycling.
- Biosolids landfill at Granite Creek is filling fast and alternatives need to be discussed. Biosolids are the solids retrieved at the end of the wastewater process. These solids are periodically trucked to a landfill in the Granite Creek valley. This landfill operates under a DEC (Department of Environmental Conservation) permit. It is estimated that the landfill will be filled to capacity in approximately 6 years.
- Clean or inert waste can be dumped at Granite Creek – people do not know about it
- Hazardous waste landfill at Granite Creek is very large. The landfill accepts asbestos and contaminated soil but does not accept regulated hazardous waste.
- Would like to look into biofuel opportunities with waste (cardboard and pallets). Sitka has access to a machine that can turn cardboard into bricks.
- Would like to see about opportunities for turning fish waste into biofuel.
- Would like to see more or changes in the fluorescent & CFL (compact fluorescent light) recycling and collection.

Don Anderson, Pacific Waste (Stragier Sanitation)

- The transfer station needs upgrades, the facility is old and needs some maintenance.
- The scrap yard facility is old and small and needs maintenance.
- If the committee would like to see more recycling and reuse, a centralized area for sorting and dropping off all recyclables would be the best option. The reuse center currently used is so far out the road many people do not know it is there.
- The trucks currently used are older (15+ years) and will need to be upgraded in the near future. Anderson will give CB&I an estimate for purchasing new trucks.

Andrew Thoms

- Service and reliability from Stragier is terrific.
- Would like to see recycling services expanded and enhanced.
- Would like to see where the recycling stream goes and what the commodity markets look like. Would also like to see new areas to recycle, new commodity markets. Is also interested in what the end result is of the recycling – what is made from the materials recycled.
- Would like to see the waste stream used locally without shipping off island – such as biofuels and composting.
- Incentivize for recycling so there is less shipping off island, remember that per our contract we have to ship a certain amount of material off the island.
- Would like to see case studies of other communities like ours such as Kodiak, Petersburg, and Juneau.
- Would like to see shipping costs for getting trash and recyclables off the island, and where costs are trending.

Michelle Putz, former Assembly member and member of the Climate Action Plan.

- Would like to see more ways to divert trash by centrally locating a reuse/recycle facility.

- Would like to see Sitka working with other communities regionally if there is a need.
- Service and reliability from Stragier is great.
- According to the Community Action Plan, they would like to see curbside recycling, materials reuse center, municipal composting, banning yard waste from garbage pickup, and more enforcement.
- Would like to see trash cans marked with identification markers.
- Wants to see what other communities are doing.
- When the survey is done, would like to see the responses, and wonders how surveys will be given so the results are not skewed.
- Is interested in more reuse and green waste recycling.
- Would like to see more of Sitka's waste be used, or reused for business opportunities such as using fish waste for food, supplements, or energy, plastics into electricity etc.

Stephen Eisenbeisz, Sitka business member

- Is curious how the survey will be given out and received by the City (per Kowalski, it will be a web-based survey with paper copies available at several locations).
- Wonders what the term of the plan will be (per Kowalski, it will be approximately 20 years).
- Would like to see curbside recycling be mandatory for all residents, and wonders how curbside recycling will affect businesses.
- Wonders about green funds or grants for expanding the City's recycling center.
- Would like to see an option for downtown businesses to combine garbage cans to save time, money, and space.
- Would like to see cardboard turned into biofuel as downtown businesses have massive amounts of cardboard.

Phil Mooney, Bear Committee. Mooney is the area biologist with the Fish and Game and wants the committee to know that the bears are not the problem, the humans are. Education about attracting bears is very important

- Would like to give Stragier credit for educating the public about bear proofing their garbage.
- Would like to have input regarding shape and style of can so it is not so top-heavy and so the lid does not flip open allowing bears, ravens, and crows' entry to the can.
- Wants to make sure any composting and recycling areas are bear proofed. The STA fish waste composting areas were successful in keeping away bears, so it can be done.
- The biosolids site at Granite Creek is currently a bear attractant – would like to see changes in how the City crews dump their biosolids at that site.
- There are no bear situations at the transfer station. The crews keep it very clean and neat. Agrees that a centralized location is better for recycling in terms of bear safety.
- Curbside recycling could be an issue because of bears.
- Would like to see bear-proof cans around facilities such as the harbors and ball fields.

- Would like to see markings on the downtown cans as tourists often wonder why the garbage cans are all reinforced. If the City has some sort of marking that the cans are “bear proof” it shows the City cares.

Dorik Mechau

- Would like to see more information on technology for turning plastics into fuel.
- Would like to see a different way to recycle yard waste, the McGraw site is difficult to get to and out of the way. Mechau notes that Sitka pays a lot of money to ship yard waste out because people throw it away in their cans. Anderson reminded the public that there is a container at the Transfer Station for people to dispose of their yard waste. Anderson will make sure it is labeled so the public can recognize what it is.

PUBLIC COMMENT

Kerry MacLane

- Would like to see the City divert money back into Sitka. If we are going to spend the money to ship our recyclables and trash out, why not divert the same amount of money into Sitka and employ Sitkans.

Megan Pasternak

- A survey has been done about recycling in the past, and she will get the results to Baugher and CB&I.
- Educating residents is very important and recommended small, occasional tips in the paper regarding recycling and garbage is always important.
- Wanted to remind the committee there is a plastic shredder at the Bottling Company that can be used for shredding plastic.
- There is a machine to dispose of CFLs that is owned by Holland America. The contact is Tim Ryan who works at Sitka Sound Seafoods.
- Would like to see an option to share garbage cans with neighbors.

Mike Litman

- He would like to see the city open a position such as a public information officer or similar role who can advertise recycling information as well as other information. Harmon noted the Clerk’s office is currently discussing different options for getting more information out to the public.

Ken Corson

- Likes the idea of a weighted lid that is bear proof.
- Recycling works, he cut his personal trash 80% simply by recycling.

Hugh Bevan

- An idea for the survey is to have the schools offer extra credit if students bring back completed surveys.

- Wanted to remind the committee that if we lower our waste so much that a company may decide it is not enough and we may not get bids to take our trash.

Kowalski then reminded the committee that there are two slots open for public members. Michelle Putz recommended Mike Litman. Andrew Thoms seconded the recommendation. Committee members present approved, Mike Litman accepted the position. Mike Litman is now a committee member. Putz would like to see the open position advertised to the public.

Megan Pasternak would like to see the last open position advertised to the public so interested citizens could apply. The committee will recommend to people they think could be interested to Baugher.

Adjourn 8:15 p.m.

UPCOMING MEETINGS

May 28, 2014

July 23, 2014

August 27, 2014

Solid Waste Advisory Committee City and Borough of Sitka, Alaska



Solid Waste Management Plan May 28, 2014

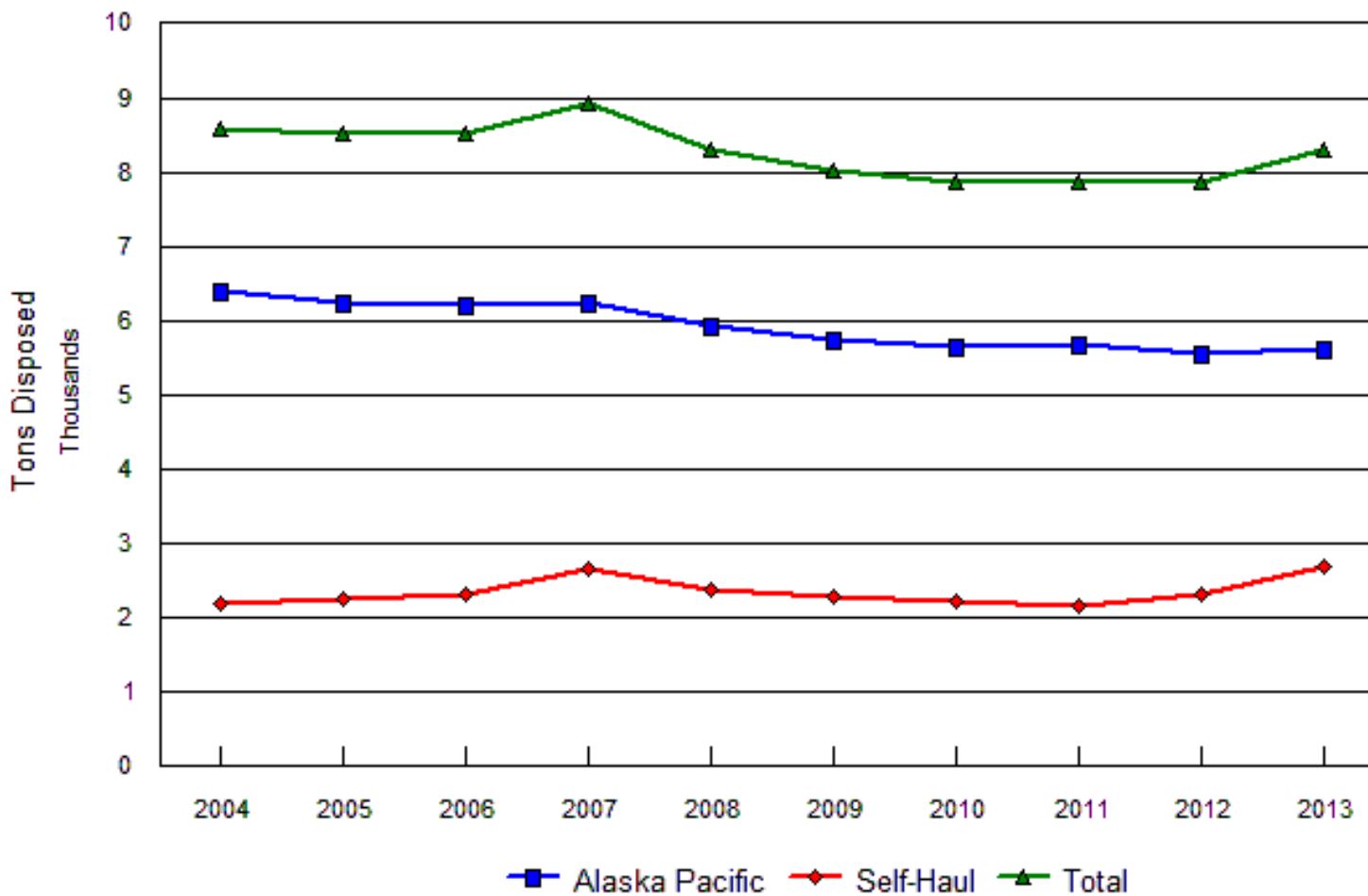
Presented by:
CB&I Environmental & Infrastructure, Inc.
WIH Resource Group



- **Current program, material quantities, costs**
- **Public survey responses**
- **Strengths, weaknesses**
- **Main issues, future needs**
- **Initial realistic alternatives – primary, secondary**
- **Common starting point needed to get to common end point**

- **Is decreasing the amount of waste disposed and significantly increasing diversion a core priority for Sitka?**
- **Is maintaining/controlling user rates a core priority for Sitka?**
- **Is curbside recycling at the top of the agenda in the short-term?**
- **Is composting at the top of the agenda in the short-term?**
- **Should the policy of allowing residents to bring 200 pounds of trash to the transfer station free-of-charge be modified?**
- **Is off-island shipment of refuse to a landfill in Washington or Oregon the best disposal alternative for Sitka?**
- **Should bear issues be addressed individually or area-wide? Should costs be individual or within system?**

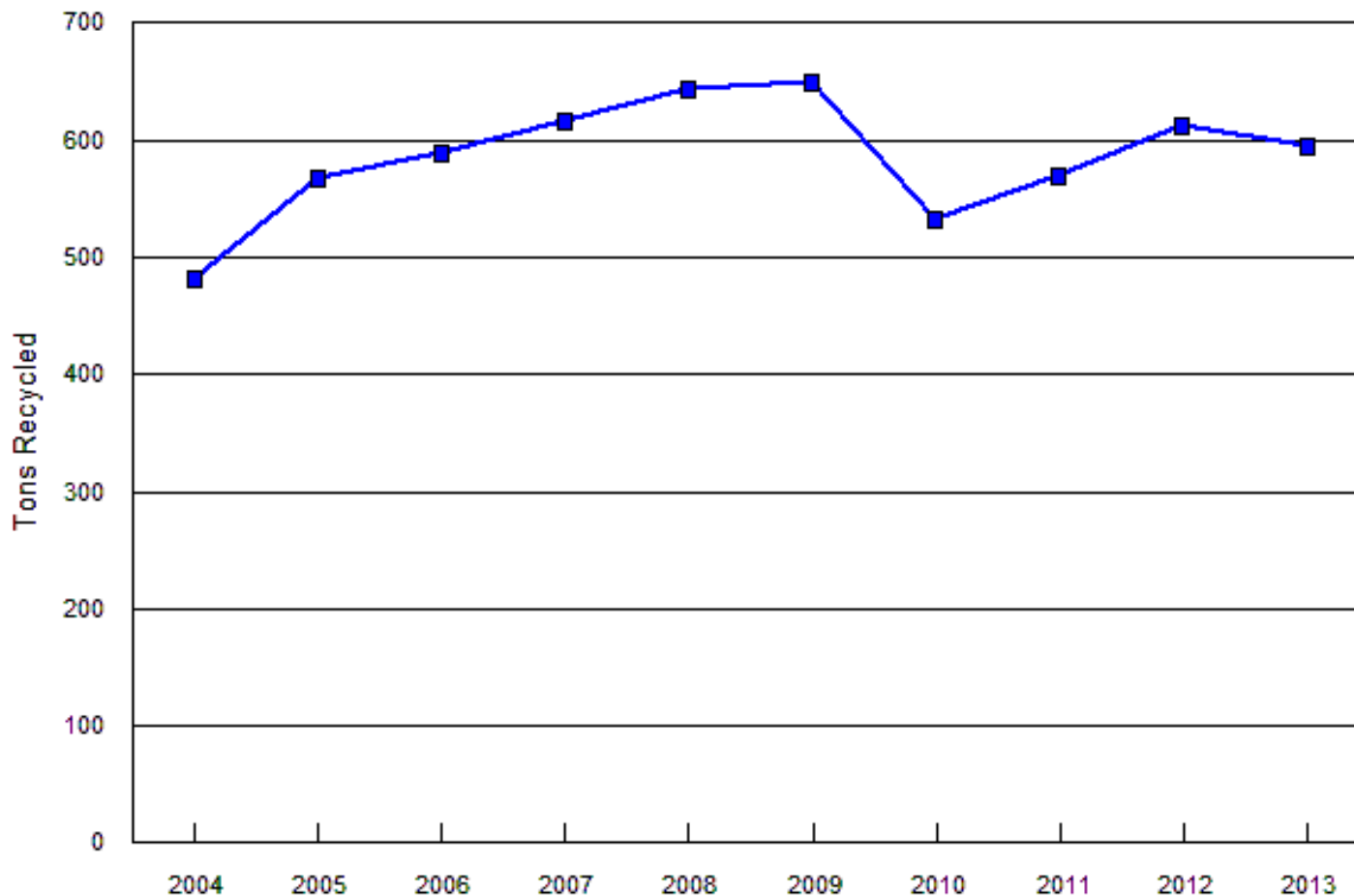
Waste Handled at Transfer Station



Observations

- Average: 8,218 tons/year
- 2013: 8,315 tons
- Alaska Pacific: 71 %
- Self-haul: 29 %
- 3 % overall decrease from 2004 to 2013
- Uptick in 2013
- Decrease beginning in 2007 likely due to impacts of economic downturn

Sitka Recycle Center

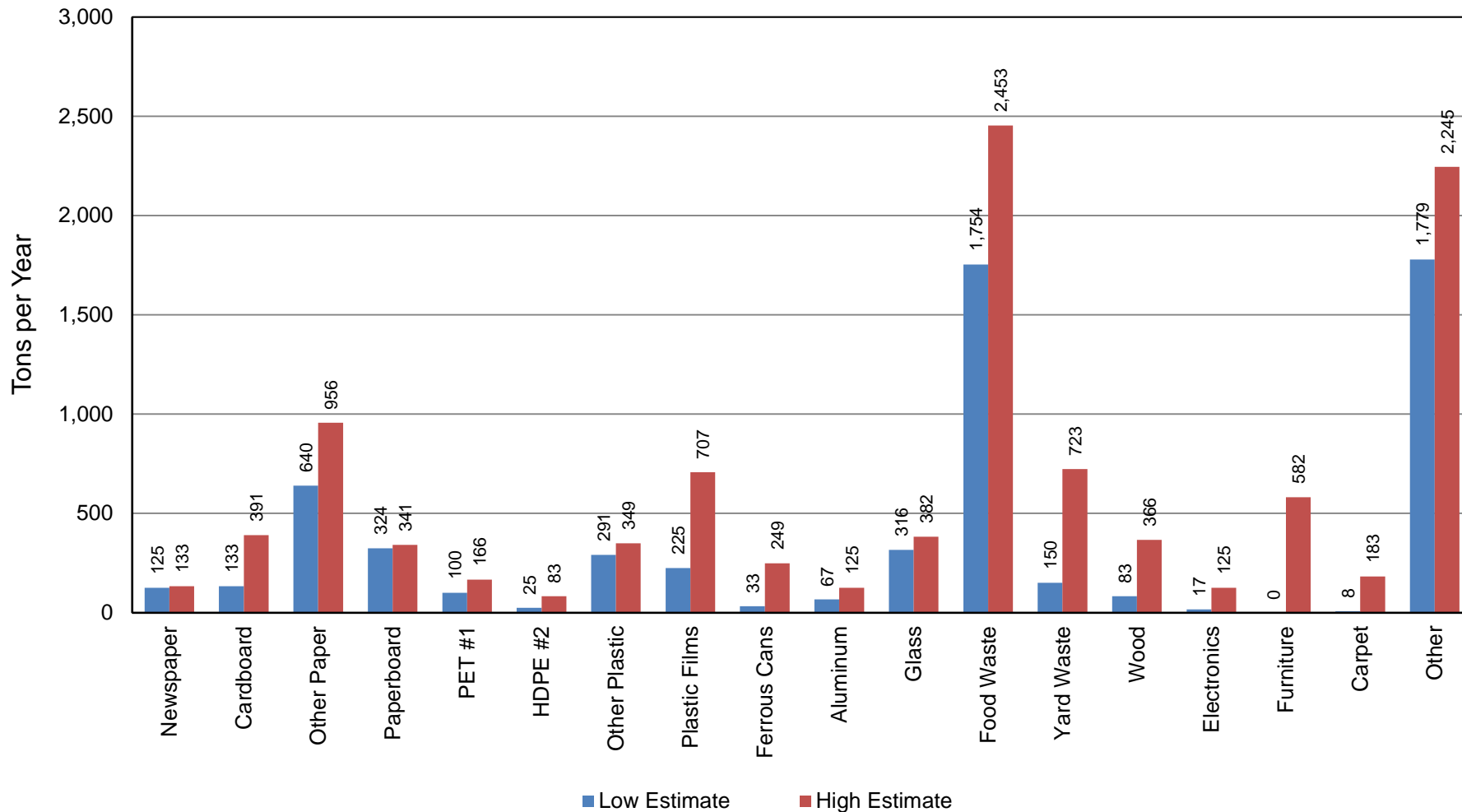


Observations

- Average: 587 tons/year
- 2013: 541 tons
- 24 % overall increase from 2004 to 2013
- Does not include aluminum cans at 11-13 tons/year donated to Swim Club
- Diversion rate: 6-7 %
- Junked vehicles/scrap metal: 6,193 - 7,499 tons/year over last 3 years (not included in diversion rate)

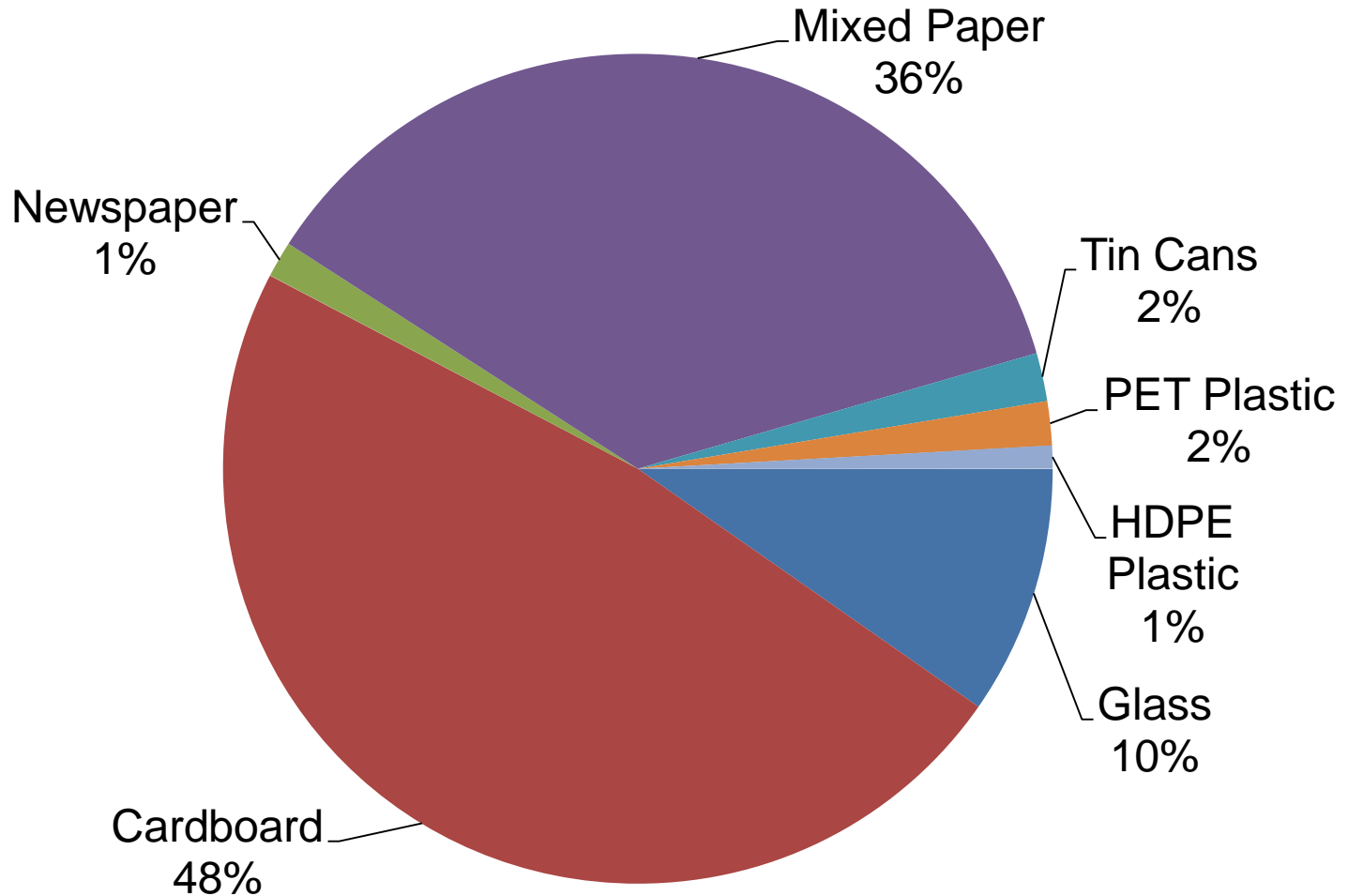
Note: Does not include aluminum at 11-13 tons per year donated to Barracuda Swim Club.

Estimated Tons in Disposed Wastestream

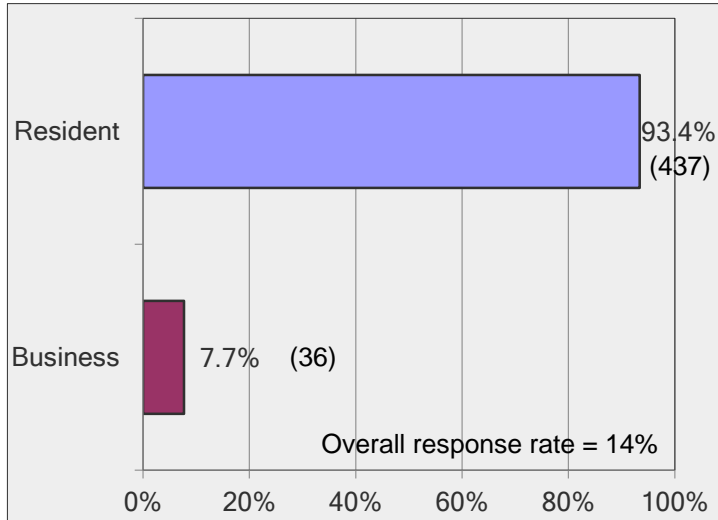


Source: Skagway Solid Waste Plan and U.S. EPA.

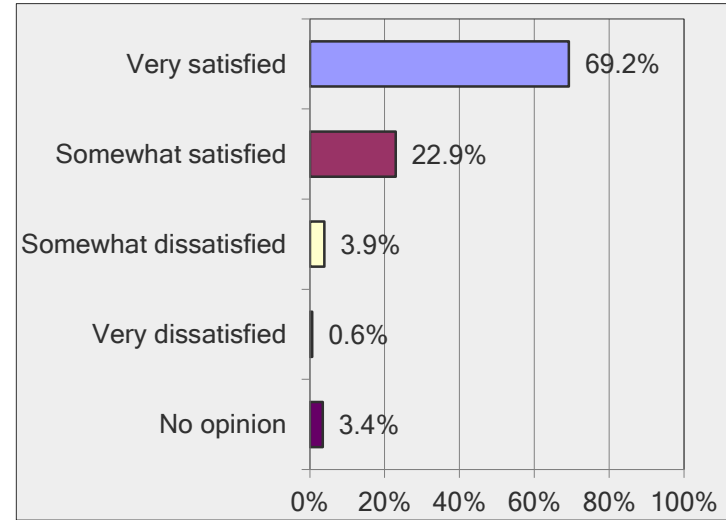
Sitka Recycle Center (2010-2013 Average)



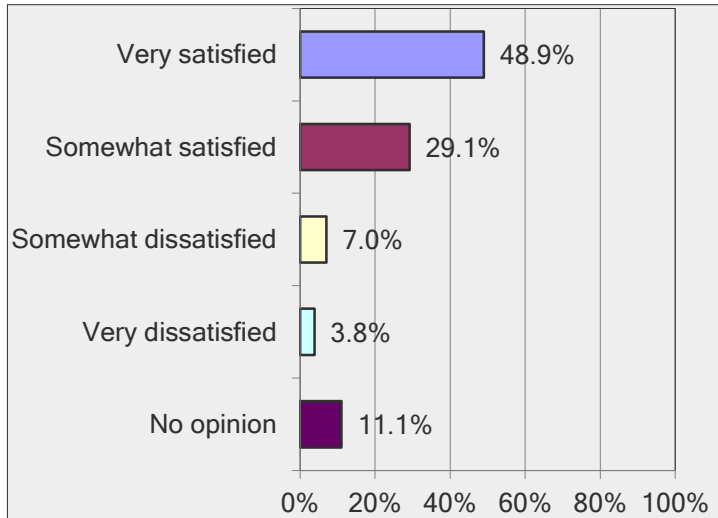
Are you responding as resident or business?



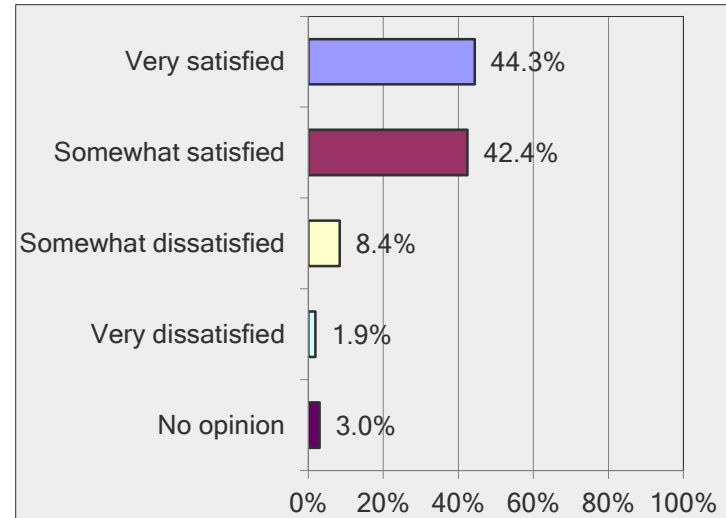
How satisfied are you with the current collection service?



How satisfied are you with your current access to recycling service?



How satisfied are you with the current solid waste program in Sitka?



Waste Tons	2013	2012	2011	2010
Alaska Pacific Tons	5,613	5,552	5,695	5,651
Self-Haul Tons	2,702	2,307	2,167	2,228
Total Tons	8,315	7,859	7,862	7,878
A.P. Tonnage %	67.5%	70.6%	72.4%	71.7%
Self-Haul Tonnage %	32.5%	29.4%	27.6%	28.3%

2013 Collection Activity	Amount
Monthly Customers	3,463
Collected Waste Tons	5,613
Collected Commercial Waste Tons	1,605 (29%)
Collected Residential Waste Tons	3,784 (67%)
Collected Litter Receptacle Tons	4
City Containers Collected Waste Tons	219 (4%)

Observations

- 3,229 residential accounts
- 234 business accounts
- Residential accounts:
 - 32 Gallon: 26%
 - 90 Gallon: 62%
 - 350 Gallon (shared): 12%

Container Volume	Weekly Pick-Ups					
	1	2	3	4	5	6
32 gal. cart	\$25	\$50	\$75	\$100	\$125	\$150
90 gal. cart	\$42	\$84	\$126	\$168	\$210	\$252
350 gal. tub	\$170	\$340	\$510	\$680	\$850	\$1,020

- **Primary source of revenue to support solid waste system**
- **The rates are intended to recover the following costs:**
 - **Collection Costs for services provided by Alaska Pacific**
 - **Disposal Costs for transfer, transport, and disposal**
 - **CBS Administration Costs for Household Hazardous Waste Disposal, City Operations, General and Administrative Costs, and Depreciation**
 - **Recycling Costs that are not covered by material revenues**

Year	2013	2012	2011	2010
Transport & Disposal	\$113.77	\$111.18	\$108.68	\$108.47
Transfer Station Operations	\$31.52	\$30.80	\$30.11	\$30.05
WA refuse tax	\$1.87	\$1.80	\$1.55	\$1.72
Total Cost per Ton	\$147.16	\$143.78	\$140.34	\$140.24

- **Contract rates paid to Republic.**
- **Includes cost to operate transfer station, transport waste to Roosevelt Landfill in Washington State and dispose waste at landfill.**
- **Variable cost based on tonnage handled at transfer station.**

External Costs

Year	2013	2012	2011	2010
Material Tons	541	497	535	516
Baling Materials in Sitka	\$65.87	\$64.38	\$62.93	\$62.81
AML Transport	\$63.12	\$61.69	\$60.30	\$60.18
Processing / Marketing	\$52.70	\$51.50	\$50.34	\$50.25
Material Value (Average)	\$(146.96)	\$(142.69)	\$(203.58)	\$(154.14)
Recycling Cost per Ton	\$34.73	\$34.88	\$(30.01)	\$19.10

- Includes costs paid to Republic for processing, shipping and marketing of materials
- Tonnage is for Sitka Recycling Center (excluding glass)

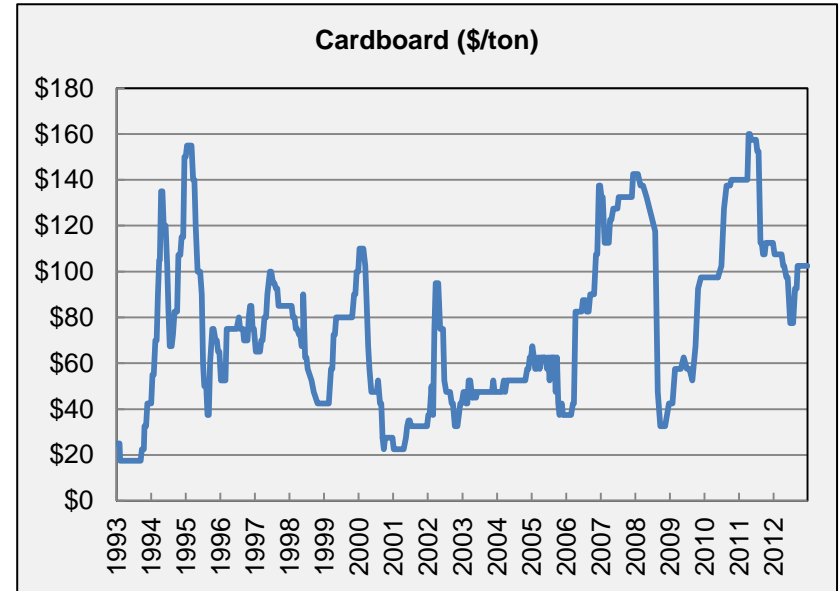
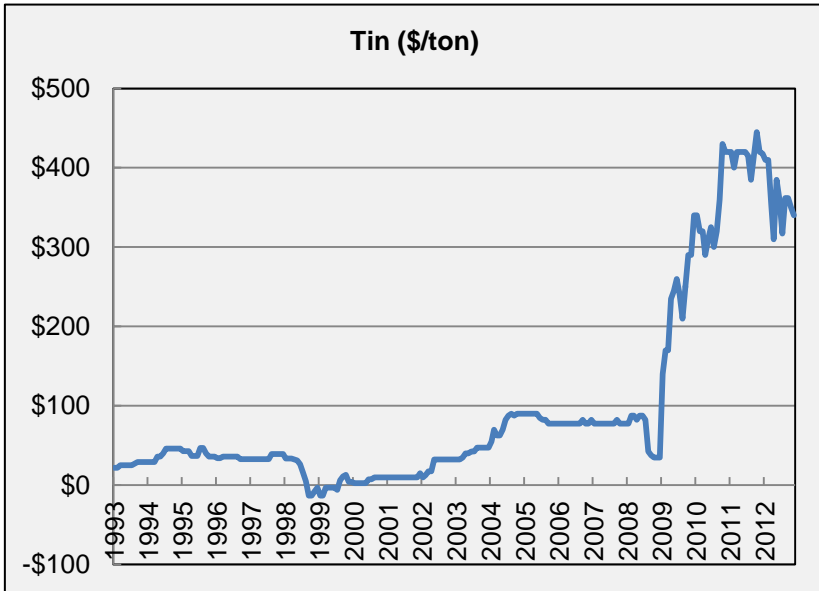
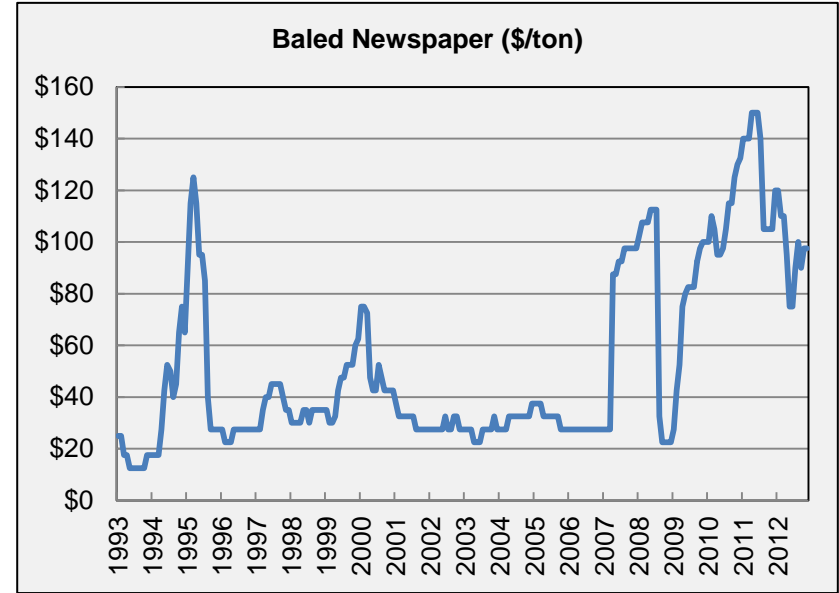
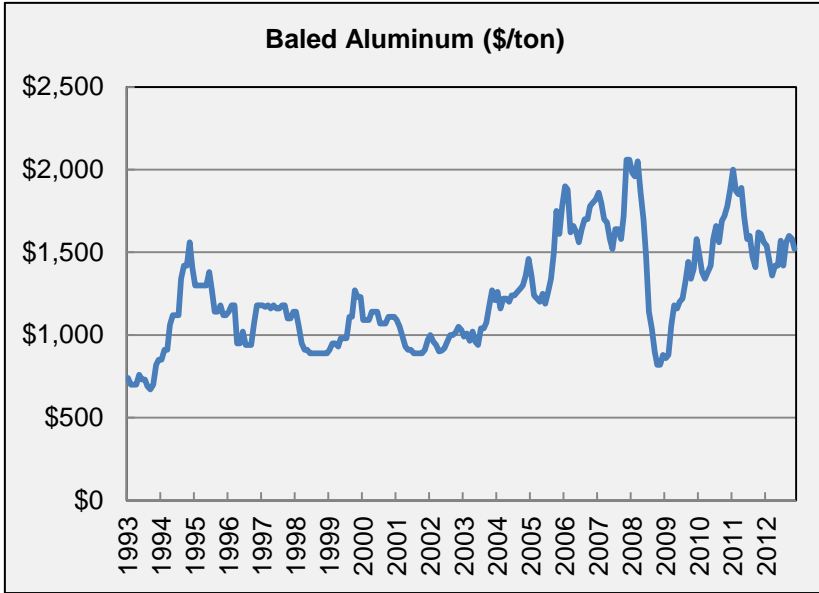
Internal Costs

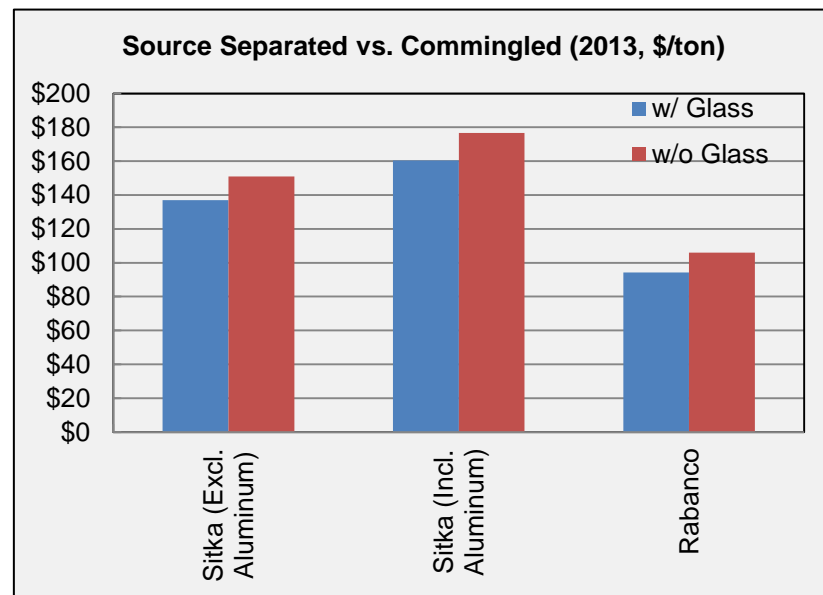
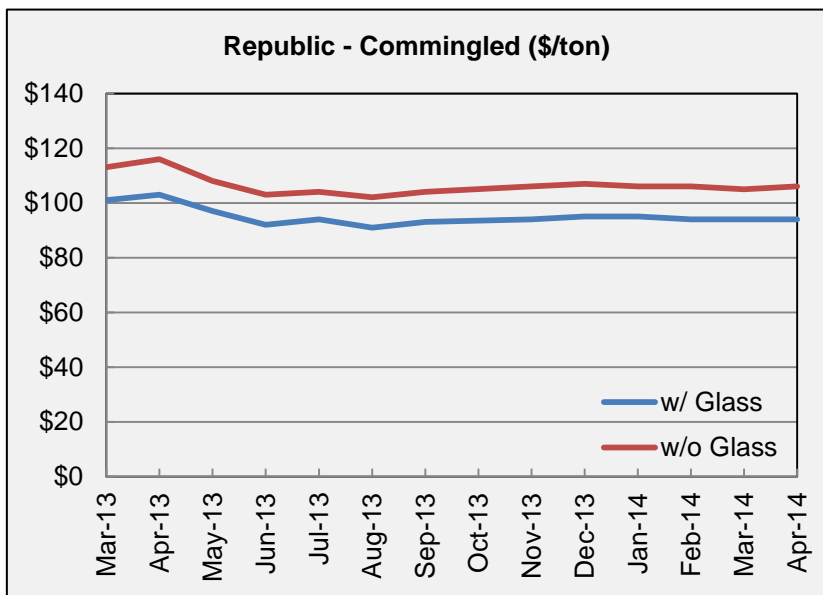
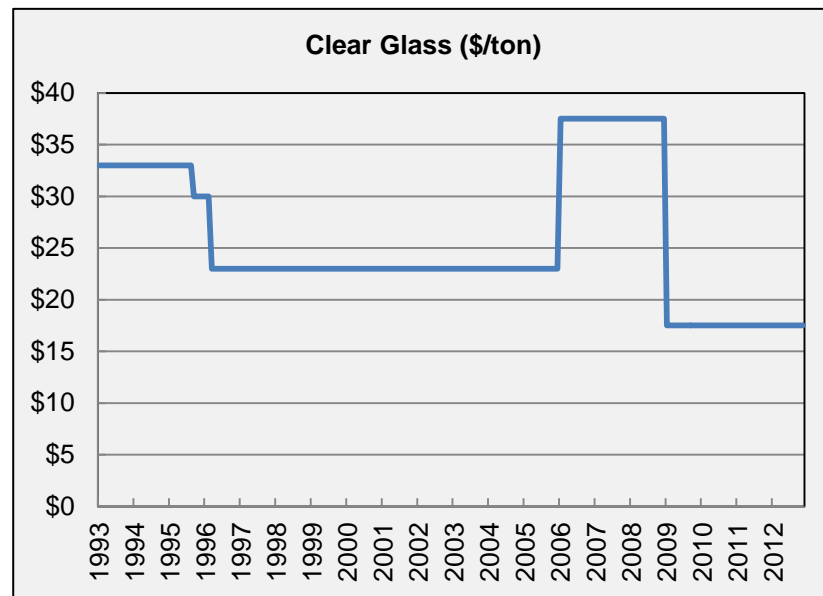
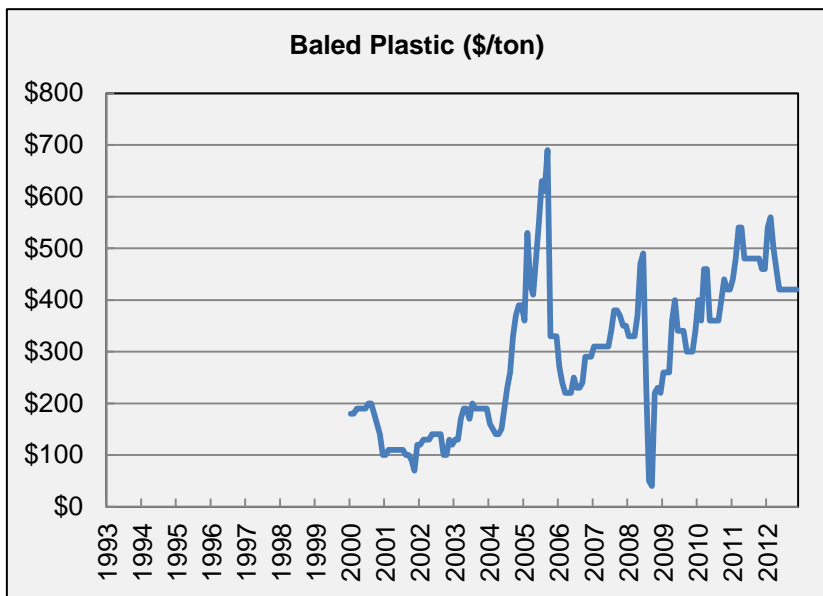
Year	2013	2012	2011	2010
Coordinator	\$33,938	\$36,000	\$36,000	\$33,200
Recycling Expenses	\$3,872	\$1,634	\$1,171	\$1,090
Total CBS Recycling Costs	\$37,810	\$37,634	\$37,171	\$34,290
Total Material Tons	541	497	535	516
CBS Cost per Ton	\$69.91	\$75.72	\$69.48	\$66.45

- Includes City costs for handling some materials

Combined Costs

Year	2013	2012	2011	2010
Internal Cost	\$69.91	\$75.72	\$69.48	\$66.45
External Cost	\$34.73	\$34.88	\$(30.01)	\$19.10
Total Cost per Ton	\$104.64	\$110.60	\$39.47	\$85.55





Cost Component	2013	2012	2011	2010
Labor Scrap Metal	\$173,337	\$176,558	\$167,352	\$181,352
Operations Scrap Metal	\$72,342	\$51,069	\$34,838	\$9,739
Transport Scrap Metal	\$151,158	\$77,562	\$90,528	\$93,530
Revenue - Metals	\$(211,991)	\$(168,256)	\$(353,455)	\$(321,261)
Net Metal Cost / (Revenue)	\$184,846	\$136,934	\$(60,737)	\$(36,640)
Scrap Metal Tons	7,499	6,193	6,460	N A
Cost per Ton	\$24.65	\$22.11	\$(9.40)	N A

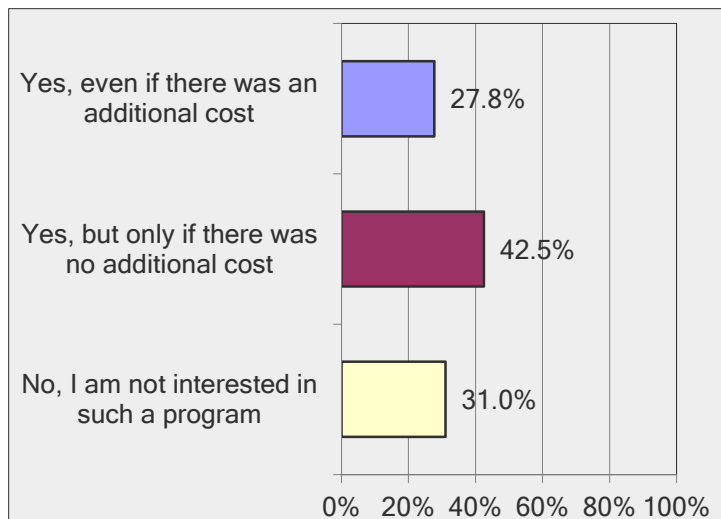
Strengths	Weaknesses
Central location of Recycling Center	Remote location
Automated refuse collection, supports operation efficiency and worker safety	Limited access to island
Single, experienced vendor for processing and marketing recyclables and handling of waste	Facilities are located on opposite ends of town
Survey indicates satisfaction with services	Baling facility near or at capacity
Access to modern landfill with energy recovery	Recyclables hauled from Recycling Center to scrap yard, then across town to port
Local disposal of inert debris	Free disposal (200 lbs/month) at transfer station provides a service, but may encourage disposal rather than diversion
Glass re-used in Sitka	Relatively small wastestream constrains number and type of capital investments
Spring cleanup/HHW collection events	Suitable sites for alternative disposal options constrained
Scrap metal recycling	Collection fleet is aged
Universal service policy - all generators billed for trash service	
Variable rate structure in-place	
Community interest in diversion	

- **Prior planning efforts recommended curbside recycling**

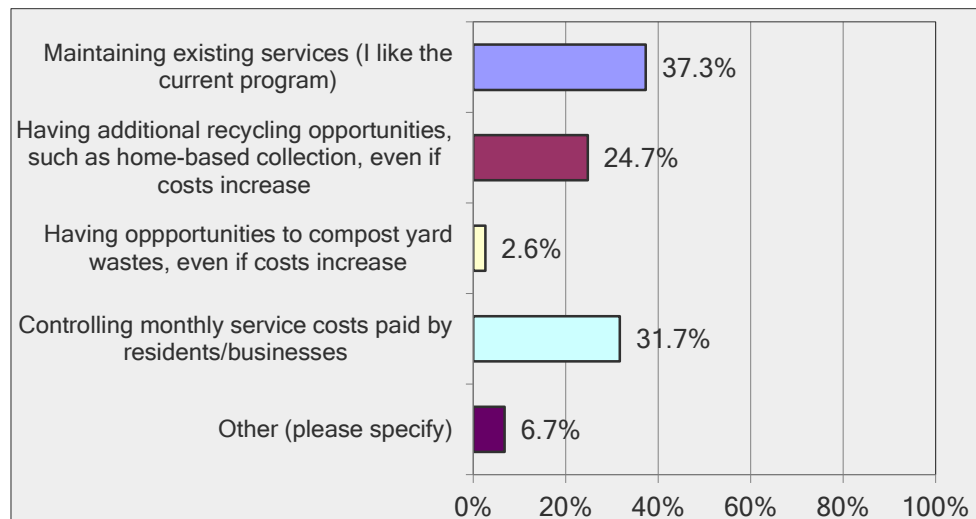
- **Survey results indicate citizen interest in curbside recycling**
 - Sensitivity to costs with this option

- **Curbside recycling more important than composting**

Would you prefer to have recyclable materials collected at your home or business?

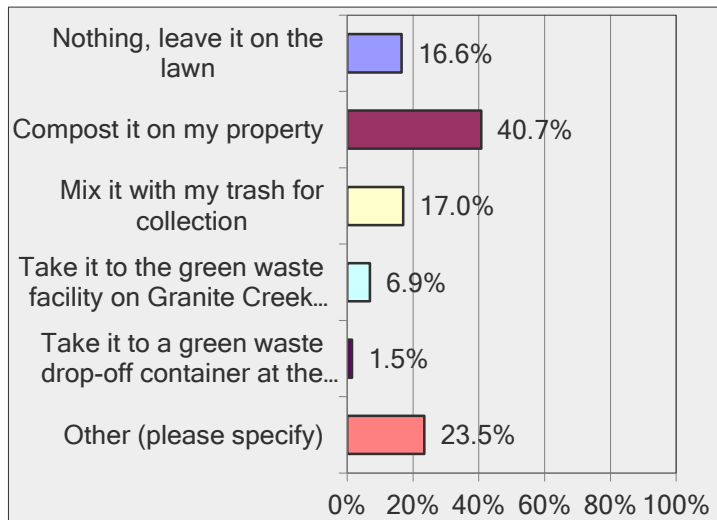


Regarding garbage and recycling services and programs in Sitka, what is most important to you?

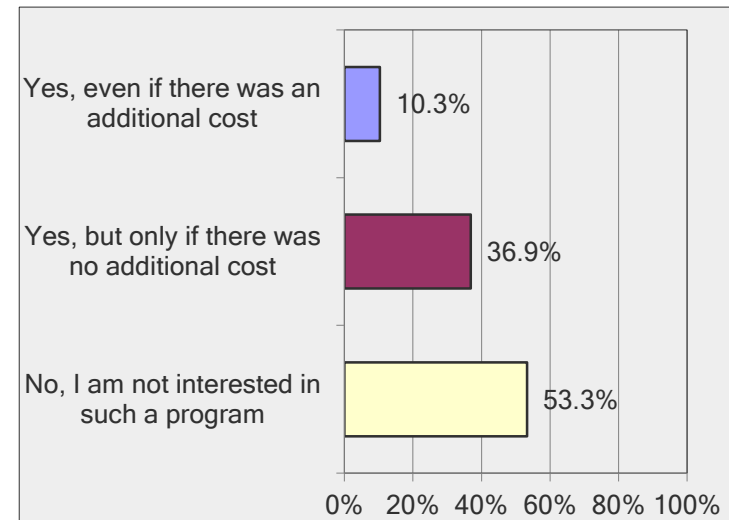


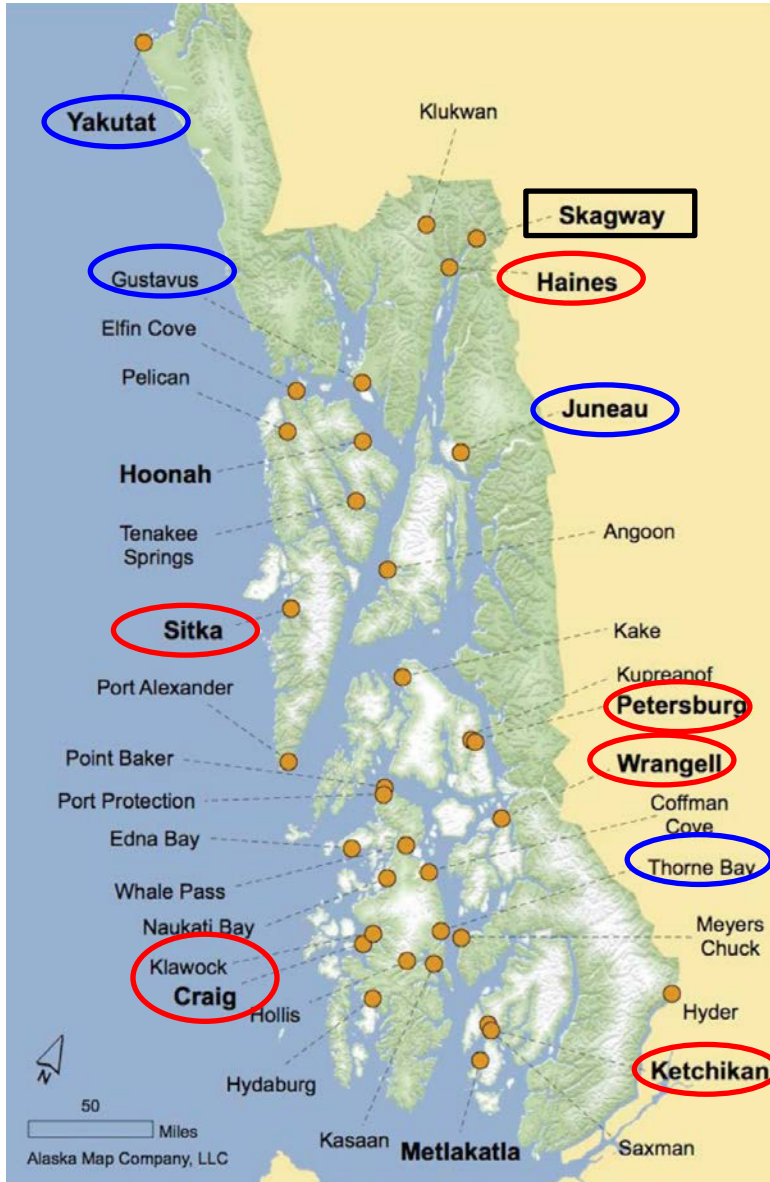
- **Prior planning efforts recommended composting**
- **Citizen survey indicated some resident interest in composting**
 - Nearly 60% of respondents indicate they manage green waste at home now, either by leaving it on the lawn or composting it. “Other” category indicated burning, “have none”, or use as fill on property.
 - More limited interest in composting of green waste than in curbside recycling
 - Sensitivity to costs with this option

What do you currently do with your yard waste such as grass clippings, tree or brush trimmings, or leaves?



Another option being looked at is composting of yard waste. Would you participate in such a program?





- Rabanco (barge/rail/landfill) used by a number of Southeast Alaska communities
- Waste Management owns/operates a landfill in Juneau (\$130/ton)
- One incinerator
- Key trade-off: exporting waste a variable cost, local facility a fixed cost. Variable costs are incentive to divert waste, fixed costs are a disincentive.

LEGEND

Rabanco

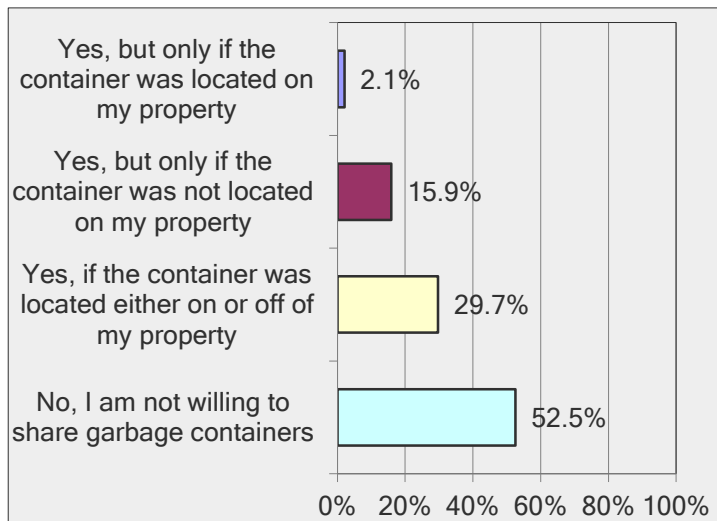
Local LF

Incinerator

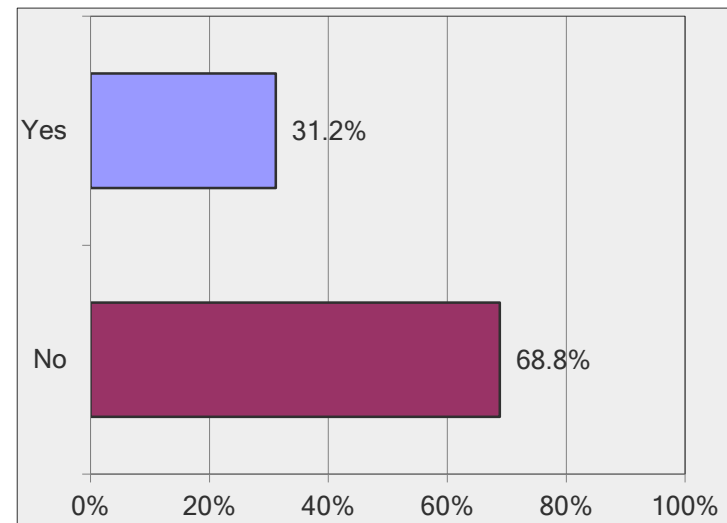
▪ **Citizen survey indicates resident interest in addressing bear issues, but there are widely-varying attitudes and sensitivity to how costs are allocated**

- Enforce current ordinance and issue fines
- Bear-resistant carts should be for residents/areas with problems
- Control bear population
- More/continued education

Would you be willing to place your garbage in a centralized container or share a container in your neighborhood or business area?



Another option being looked at is bear-resistant carts. Would you support an increase in monthly rates to address bear issues?



- **Is decreasing the amount of waste disposed and significantly increasing diversion a core priority for Sitka?**
- **Is maintaining/controlling user rates a core priority for Sitka?**
- **Is curbside recycling at the top of the agenda in the short-term?**
- **Is composting at the top of the agenda in the short-term?**
- **Should the policy of allowing residents to bring 200 pounds of trash to the transfer station free-of-charge be modified?**
- **Is off-island shipment of refuse to a landfill in Washington or Oregon the best alternative for Sitka?**
- **Should bear issues be addressed individually or area-wide? Should costs be individual or within system?**

**City and Borough of Sitka
Solid Waste Advisory Committee (SWAC)
Meeting Minutes
May 28, 2014 – Centennial Hall – Rousseau Room**

Meeting Convened at 6:30 p.m.

Advisory Board Members Present:

Kerry MacLane for Michelle Putz
Dorik Mechau, Island Institute
Scott Brylinsky, Public Participant
Phil Mooney, Bear Committee
Steve Eisenbeisz, Downtown Business
Don Anderson, Pacific Waste
Andrew Thoms, Sitka Conservation Society
Phyllis Hackett, Assembly member
Mike Litman, Public Participant

Advisory Board Members voted in during meeting:

Leah Mason
Jay Stelzenmuller
Jonathan Kreiss-Tomkins, Chair

Staff and Consultants:

Gary Baugher, City and Borough of Sitka
Michael Harmon, City and Borough of Sitka
Mark Gorman, City and Borough of Sitka
Jay Sweeney, City and Borough of Sitka
Chaix Johnson, City and Borough of Sitka
Phil Kowalski, CB&I (Chicago Bridge & Iron)
Richard Hertzberg, CB&I

Others:

Ann Delill-Johnson
Jeff Riley

Gary Baugher, City of Sitka Maintenance and Operations Superintendent opened the meeting and introduced the consultant group, Chicago Bridge and Iron (CB&I) representatives Phil Kowalski and Richard Hertzberg.

Phil Kowalski, CB&I started the meeting with administrative matters. The open position on the advisory board was publically advertised and there are three candidates who have expressed

interest and are here at the meeting today; Jay Stelzenmuller, Leah Mason, and Jonathan Kreiss-Tomkins. Kowalski recommends admitting the candidates to the advisory committee.

Mike Litman moved to accept all three candidates; Jay Stelzenmuller, Leah Mason, and Jonathan Kreiss-Tomkins to the Solid Waste Advisory Committee.

Kerry MacLane seconded the motion.

Voice vote

Phyllis Hackett – Yes

Don Anderson – Yes

Phil Mooney – Yes

Andrew Thoms – Yes

Kerry MacLane for Michelle Putz – Yes

Steven Eisenbeisz – Yes

Scott Brylinski – Yes

Mike Litman – Yes

Vote passed with no opposition and the candidates moved to the table as Advisory Committee Members.

The second administrative matter is acceptance to the bylaws created by CB&I.

Scott Brylinski moved to approve the bylaws as submitted with the changes reflected in membership.

Mike Litman seconded the motion.

Voice vote

Phyllis Hackett – Yes

Don Anderson – Yes

Phil Mooney – Yes

Andrew Thoms – Yes

Kerry MacLane for Michelle Putz – Abstain

Steven Eisenbeisz – Yes

Scott Brylinski – Yes

Mike Litman – Yes

Jay Stelzenmuller – Yes

Jonathan Kreiss-Tomkins – Yes

Leah Mason - Yes

Vote passed with one abstention.

Phil Kowalski gave a presentation, please see handout given during the meeting for more detail. There was a survey conducted in Sitka to provide public opinion and assessment of the current system and Mr. Kowalski will go over the results. Priorities for future options will be set during this meeting as well.

In looking at the past 10 years, our trash system has been fairly stable, averaging about 8,200 tons per year. There has been a 3% reduction since 2004, part of that is due to increased recycling efforts and the recession and economic downturn. Within the system, 70% of the waste is collected by Pacific Waste from both commercial and residential generators, and 30% is self-hauled by residents to the transfer station. Recycling trends from recyclables dropped off at the drop-off center are also shown. Recycling averages 587 tons per year and there is an upward trend between 2004 and 2013, showing an increase of 24%. It is important to note that aluminum is not included as the Baranof Barracudas collect this. The diversion rate is 6-7% and junked vehicles and scrap metal has been 6,000-7,000 tons per year for the last 3 years – scrap metal numbers are not included in the diversion numbers.

Composition by weight of various materials in the disposed waste is examined comparing Sitka with Skagway. It is noted that the numbers shown as USEPA are numbers obtained by an annual study nationally. Food waste composes the largest single element in the waste stream. The other large elements are paper and other commodities currently being collected at the drop-off center and that could conceivably be collected through curbside pick up.

Average composition of materials accepted at the recycle center is mostly paper and cardboard; which usually means that a big contributor at the recycle center are local businesses as households usually do not have much cardboard. Aluminum was not included because it goes to the swim team, but if aluminum was included it would be about 2% of the overall recycle stream.

The survey that went out to residents to gauge people's attitudes about the current system and what their interests are going forward has been very successful with approximately 500 surveys returned. Satisfaction for the current collection system provided by Pacific Waste and the results were about 92% either choosing "very satisfied" or "somewhat satisfied". Responses to the question about satisfaction with current access to recycling services showed 78% of people chose either "very" or "somewhat" satisfied, and 86% of respondents were either "very" or "somewhat" satisfied with the overall program.

Waste Collection provided by Pacific Waste is discussed; 70% of the waste that is disposed of is collected by Alaska Pacific and about 30% is self-haul. There are just over 3,200 residential customers and 234 business accounts. Distribution of container services is that a quarter of the people opt for the 32 gallon service, which is the smallest container size, and 60% opt for the larger 90 gallon size, and about 12% of the customers share a larger tub.

Customer rates are volume-based. A 32-gallon cart is \$25 per month, the 90-gallon cart is \$42 per month, and the larger tub service is \$170 per month. The source of revenue supporting the solid waste system is the monthly rate paid by customers. This covers the collection and disposal costs as well as recycling and administrative costs. The solid waste program is a self-supporting enterprise fund.

Disposal costs are that there is a contract with Republic which includes the cost of operating the transfer station, loading the trucks, moving the trucks to the port, putting them on the barge, barging the containers to Seattle and putting them on a rail car and ultimately disposing at the Roosevelt landfill in Washington State. Costs have grown from \$140 per ton to \$147 per ton currently and there is a provision in the contract that is tied to the consumer price index (CPI), which is 85%. Recycling program costs have two major components; internal and external costs. External costs are the contract rates paid to Republic to process and ship the recyclable materials and internal costs are the costs borne by the City to handle some of the materials. Total costs to handle a ton of recyclables was \$85.50 in 2010 and in 2013 it was \$104.64. This is lower than the cost to transport the material out as trash. The increase over time to handle recyclables was 22% versus 5% increase for trash. The large driver of that is the material revenue received when the materials are sold. They are commodities and they fluctuate over time. Glass is excluded because the glass is repurposed here in Sitka.

Hertzberg noted that CB&I is working with eight communities in the Southeast Alaska Solid Waste Authority; six on Prince of Wales Island, Petersburg, and Wrangell. Four of the cities are in the process of negotiating a contract with Republic – Petersburg, Wrangell, Thorne Bay, and Klawock. The other four communities on POW Island will subcontract to either Klawock or Thorne Bay. Republic has given these cities prices for a variety of services including source-separated recycling and commingled recycling, both with glass and without. Hertzberg asked Republic to provide prices over the last year for commingled and these prices and trends are reflected in the presentation given today by CB&I.

There used to be a company from Juneau who used to collect scrap metal on a barge but that company recently filed for Chapter 11 bankruptcy and CB&I currently has a Request for Qualifications out for collection of scrap metal to all Southeast Alaska communities under a coordinated program.

The meeting then shifts to prioritize what the SWAC would like to see in Sitka. CB&I has looked at the surveys, the past studies done by Dorik Mechau's group, and has read Jonathan's report from 2007 – noting that much of the information is the same. Strengths in Sitka are the automated trucks which can be used to collect commingled recyclables using carts. Sitka has universal service, meaning everybody is billed for service in the community. Negatives are that if Sitka goes to commingled, the current baling building and operation will not be able to handle the increased quantities of materials. Isolation and remote location are also negatives to costs. The collection fleet (trash trucks) will need to be replaced soon.

Curbside recycling is new in Southeast Alaska; Juneau has a program now and Petersburg just started a program as well as Haines. The survey showed that people are more interested in curbside recycling than composting. Composting constraints are that many people already manage their own green waste on their property, and it is not entering the waste stream. Food waste is the major organic portion that could be composted, however there is no collection

infrastructure for this material. Leah Mason notes that there is food waste collected by the wastewater system as well as people putting food waste in their garbage disposals.

There are no landfills in Southeast Alaska that waste can go to, therefore all waste from Southeast Alaska must be shipped to the continental United States.

Bear issues must be discussed further; such as costs for bear carts and code enforcement methods. It must be discussed whether only the people who have bear issues pay for special carts or whether all of the rate payers absorb the costs.

The next phase of the meeting is for the SWAC to prioritize the issues and give CB&I a direction to move in. Discussion of all the topics noted previously ensued.

Stelzenmuller wondered what percentage of the population has a problem with bears, and Jeff Riley noted that there are only approximately 150 houses with bear problems, which is less than 10% of the whole. Leah Mason noted that the bear problem is not just to the houses, that the bears take the garbage into the forest and then it becomes a bigger problem, and a problem for the whole community.

Jonathan Kreiss-Tomkins would like there to be a chair to help run the discussion and prioritize the topics. Kreiss-Tomkins will take on the facilitator or chair role.

MacLane wondered if waste diversion could help create jobs in Sitka, and Kowalski noted that there is a possibility in curbside recycling and composting, depending upon what the different programs will be.

Kowalski noted that the priorities are starting a commingled recycling pick up, and organics composting as the two diversion options. This is based on previous studies, the survey results, and CBS administration. There are costs associated with these options, but they can be viewed as cost control mechanisms due to the reduction in the amount of refuse disposed and the costs related to disposal. Leah Mason noted that composting and diversion can be done in a phased approach. Kowalski reminded the SWAC that recycling is not a free service and while it costs \$147 a ton to take trash to Washington, it takes \$100 a ton to run a recycle program. Recycling however does have the potential to have a cost offset. Currently the recycling program is very inefficient per Richard Hertzberg. Costs could go down with more efficiency. Brylinski noted that with curbside recycling there would be another pick up which could drive costs up. Anderson confirmed that a new truck would have to be purchased if the option of curbside commingled recycling is chosen. Trucks can cost \$250,000 to \$300,000. It is noted that the refuse trucks need to be replaced and the additional truck could serve as a back-up even if recycling collection service is not implemented.

Depending upon which direction the SWAC wanted to go, CB&I could build different scenarios and price spread sheets, they just need the direction. There are only three companies with large landfills and an RFP could be drafted for cost analysis.

Andrew Thoms made a motion to continue the option of off-island disposal.

Scott Brylinski seconded the motion.

There was no opposition to the motion, motion passed.

Steven Eisenbeisz made a motion to further investigate diversion and curbside recycling as a short-term priority.

Andrew Thoms seconded the motion.

There was no opposition to the motion, motion passed.

Glass recycling was discussed, currently glass is repurposed, however Leah Mason would like to have the SWAC look at reuse of the glass such as at the brewery as an option.

The free 200 pounds at the transfer station was the next topic of discussion. Eisenbeisz is opposed to ending this service. Mason would like to see the amount lowered. Anderson notes this only makes up 10% of total at the transfer station. Jay Sweeney informed the SWAC that this service was started because without it, often citizens will take their trash to the end of the road or down a driveway that does not belong to them. People also store their garbage and wait for the Spring Clean-Up. Michael Harmon brought up the issue of someone using a 32-gallon can, which does not pay for itself, and then using the free 200 pounds to get around the system. Don Anderson notes there does not seem to be any frequent offenders of abusing the free 200 pounds per month. Kowalski notes that per the survey, only 1% say they use the free 200 pounds weekly or more often, 6% say they use it 1-2 times per month, and 77% say they use it a few times a year and 15% say they do not use it at all. Discussion was had about lowering the 200 pounds, however Eisenbeisz noted that it is a small enough amount that contractors will not abuse it but if a resident gets a new mattress or couch they can use the program.

Scott Brylinski made a motion to continue the 200 pounds of free drop off at the transfer station in the rate structure.

Jay Stelzenmuller seconded the motion.

There was no opposition to the motion, motion passed.

Some points and ideas brought up by the SWAC members

- Phil Mooney: There are no ordinances for fining or punishing people who create bear attractants, which makes it hard to monitor.
- Leah Mason: Worm composting could be an option for food waste issues – especially in big producing areas such as Pioneer Home, schools, and grocery stores.
- Rebates for garbage disposals were discussed, Michael Harmon noted the solid waste program would have to subsidize the rebates and it would be hard to track the use.

- Richard Hertzberg reminded the group that the political process should be remembered, and this process is to find the best program for all of Sitka, the ideals and values of all citizens are not the same across the board.
- Phil Kowalski noted there is no collection mechanism for collecting food waste and even though food waste is a large component of the waste stream, collecting it may not be feasible at this time. It would be possible to start organic recycling at schools or other big food producers, which would benefit them by lowering the frequency of trash pickups.

Andrew Thoms made a motion that with diversion, CB&I consider how to remove food waste, compostable waste, and yard waste out of the waste stream.

Steven Eisenbeisz is opposed to this motion because he feels this is against what the citizens of Sitka say they want from the results of the survey. Thoms notes that he is not talking about setting up a composting system, but setting up scenarios for commercial facilities or schools, or advertising for green waste disposal at Granite Creek not in the waste stream.

Steven Eisenbeisz made a motion to investigate cost neutral or cost reducing diversion or self-sustaining opportunities for organics.

Leah Mason seconded the motion.

There was no opposition to the motion, motion passed.

It is noted by Pacific Waste and the CB&I survey that the majority of people seem to be diverting their green waste on their own property already, and there is a can for green waste at the Transfer Station.

Steven Eisenbeisz wants to make sure there is ease of use for the organics diversion, because the public will not use something, no matter how much money it saves, if it is hard to use. Andrew Thoms notes that it would be better to focus on larger users by putting in large-scale garbage disposals for diverting the food waste to the wastewater system.

Bear issues will be discussed at the next meeting. Especially how possibly having two cans a week on the curb – one for trash and one for recyclables - will affect the bears. Rate changes, changes in services, as well as keeping baseline services will also be discussed at the next meeting.

Adjourn 9:15 p.m.

UPCOMING MEETINGS

July 23, 2014

August 27, 2014



APPENDIX B

COMMUNITY SURVEY RESULTS

The City and Borough of Sitka has recently started a study to plan for how our community is going to handle and manage solid waste in the future. We are requesting your input regarding solid waste and recycling issues to assist in the planning process. Please take a few minutes to respond to the following questions. For your convenience, the survey is available online at www.cityofsitka.com; alternatively, please return this paper survey with your utility payment or you can drop it off at City Hall. Your input is important -- thank you for participating in the survey.

1. **Please provide your utility account number or street address. This will be used solely to confirm that duplicate responses are not received. (Your account number is shown near the top of your utility bill.)**

2. **Are you responding to this survey as a resident or a business?**
 - Resident
 - Business
3. **How satisfied are you with your current garbage pickup service at your home or business?**
 - Very Satisfied
 - Somewhat Satisfied
 - Somewhat Dissatisfied
 - Very Dissatisfied
 - No Opinion
4. **Currently, residents may deliver up to 200 pounds of garbage per month at no charge to the transfer station on Jarvis Street. How frequently do you use the transfer station?**
 - Weekly or more often
 - 1-2 times per month
 - A few times per year
 - Have never used
5. **If you have taken garbage to the transfer station, how satisfied were you with service at the transfer station?**
 - Very Satisfied
 - Somewhat Satisfied
 - Somewhat Dissatisfied
 - Very Dissatisfied
 - No Opinion
6. **How frequently do you use the recycling drop-off center on Sawmill Creek Road?**
 - Weekly or more often
 - 1-2 times per month
 - A few times per year
 - Don't use
7. **How satisfied are you with your current access to recycling service?**
 - Very Satisfied
 - Somewhat Satisfied
 - Somewhat Dissatisfied
 - Very Dissatisfied
 - No Opinion
8. **One option being looked at is to offer collection of recyclables at your home/business. This would likely require another container at your home/business, but you would not have to sort and take recyclables to the drop-off center. Would you prefer to have recyclable materials collected at your home or business?**
 - Yes, even if there was an additional cost
 - Yes, but only if there was no additional cost
 - No, I am not interested in such a program
9. **If you do not currently recycle, what is the reason? (Select the primary reason.)**
 - I don't have space in my home/business to store recyclables
 - It is not convenient to use the drop-off facility
 - I am not sure what to recycle
 - I don't know where the drop-off facility is located
 - I don't have time
 - Other (please specify) _____
 - Not applicable (I recycle)
10. **What do you currently do with your yard waste such as grass clippings, tree or brush trimmings, or leaves? (Select the option used most frequently.)**
 - Nothing, leave it on the lawn
 - Compost it on my property
 - Mix it with my trash for collection
 - Take it to the green waste facility on Granite Creek Road
 - Take it to a green waste drop-off container at the transfer station
 - Other (please specify) _____

11. How frequently do you deliver yard waste to the facility on Granite Creek Road?

- Weekly or more often
- 1-2 times per month
- A few times per year
- Don't use

12. Another option being looked at is composting of yard waste. This would require you to separate your yard waste from your garbage and take it to the transfer station on Jarvis Street or the drop-off center on Sawmill Creek Road for subsequent composting. Would you participate in such a program?

- Yes, even if there was an additional cost
- Yes, but only if there was no additional cost
- No, I am not interested in such a program

13. Do you participate in the City's annual spring clean-up program?

- Yes
- No

14. Do you participate in the City's household hazardous waste collection events (offered twice per year, in the spring and fall)?

- Yes
- No

15. Sitka's website currently provides information about garbage and recycling services and programs available in the community. Have you visited the website?

- Yes
- No

16. Do you have adequate information about waste and recycling services in the community?

- Yes
- No (please specify what additional information would be useful) _____

17. Overall, how satisfied are you with the current solid waste program (garbage pickup, recycling, cleanup events, etc.) in Sitka?

- Very Satisfied
- Somewhat Satisfied
- Somewhat Dissatisfied
- Very Dissatisfied
- No Opinion

18. If you are somewhat dissatisfied or very dissatisfied with current garbage and recycling services, please provide the reason(s) for your dissatisfaction.

19. Regarding garbage and recycling services and programs in Sitka, what is most important to you? (Select only one.)

- Maintaining existing services (I like the current program)
- Having additional recycling opportunities, such as home-based collection, even if costs increase
- Having opportunities to compost yard wastes, even if costs increase
- Controlling monthly service costs paid by residents/businesses
- Other (please specify) _____

20. One option being looked at to reduce bear incidents with garbage is to share garbage containers among multiple generators. Would you be willing to place your garbage in a centralized location or a shared container in your neighborhood or business area?

- Yes, but only if the container was located on my property
- Yes, but only if the container was not located on my property
- Yes, if the container was located either on or off of my property
- No, I am not willing to share garbage containers

21. Another option being considered to reduce bear incidents with garbage is to utilize bear-resistant collection containers, which could result in an increase in monthly service costs. Would you support an increase in monthly costs to address bear concerns?

- Yes
- No

22. Please provide any additional comments you have about solid waste and recycling services in Sitka:

Sitka Waste and Recycling Survey

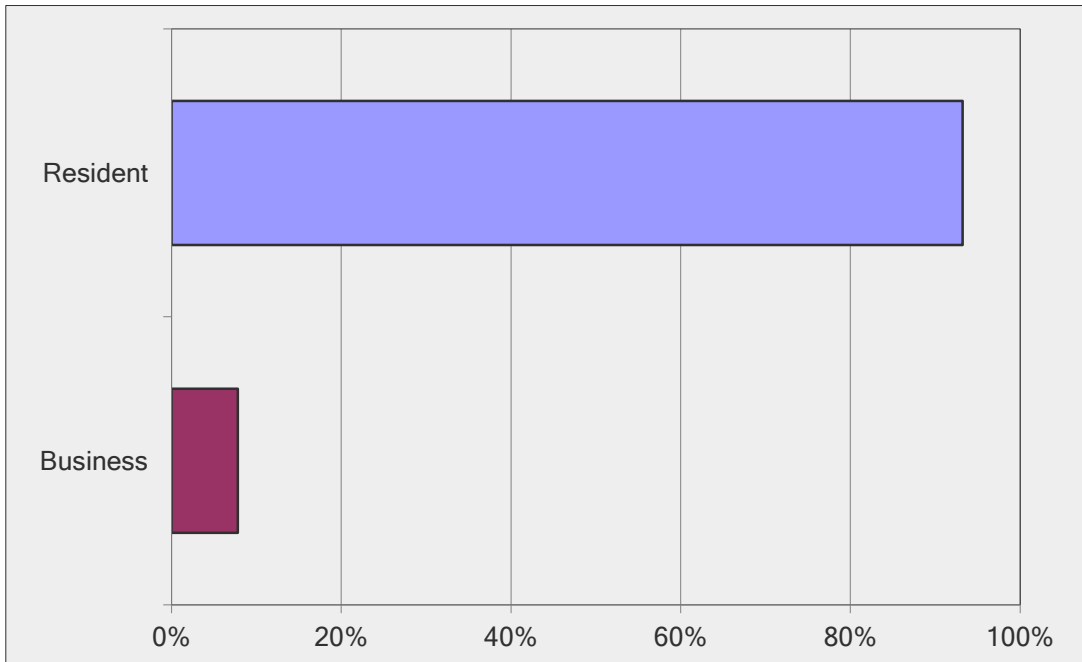
Q1. Please provide your utility account number or street address. This will be used solely to confirm that duplicate responses are not received. (Your account number is shown near the top of your utility bill.)

	Response Count
	453
<i>answered question</i>	453
<i>skipped question</i>	39

Sitka Waste and Recycling Survey

Q2. Are you responding to this survey as a resident or a business?

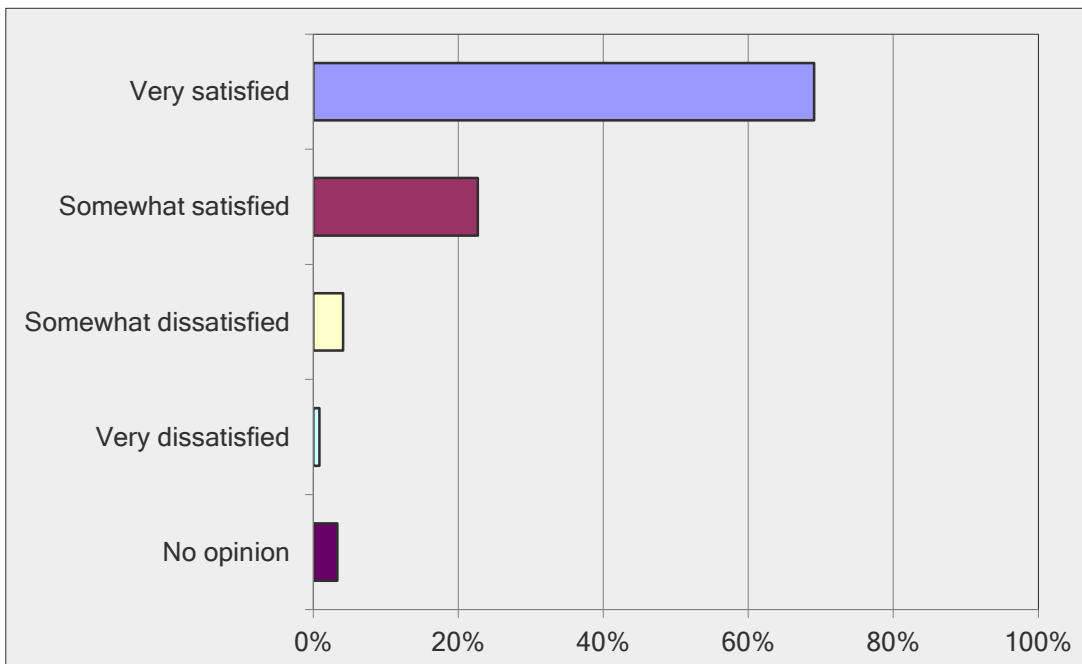
Answer Options	Response Percent	Response Count
Resident	93.2%	454
Business	7.8%	38
<i>answered question</i>		487
<i>skipped question</i>		5



Sitka Waste and Recycling Survey

Q3. How satisfied are you with your current garbage pickup service at your home or business?

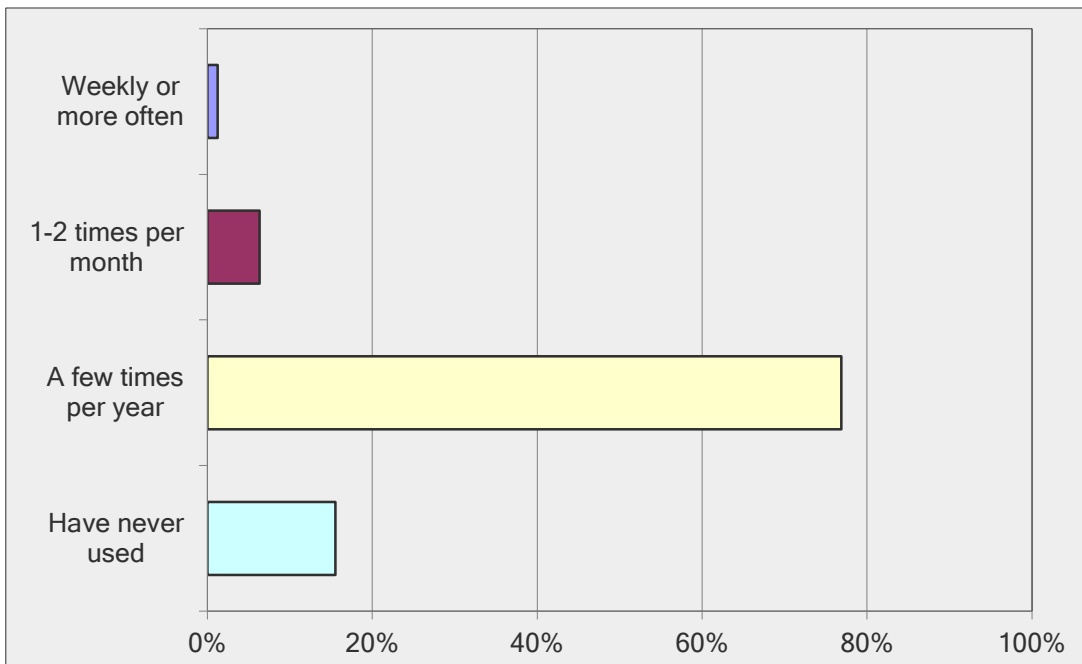
Answer Options	Response Percent	Response Count
Very satisfied	69.1%	335
Somewhat satisfied	22.7%	110
Somewhat dissatisfied	4.1%	20
Very dissatisfied	0.8%	4
No opinion	3.3%	16
<i>answered question</i>		485
<i>skipped question</i>		7



Sitka Waste and Recycling Survey

Q4. Currently, residents may deliver up to 200 pounds of garbage per month at no charge to the transfer station on Jarvis Street. How frequently do you use the transfer station?

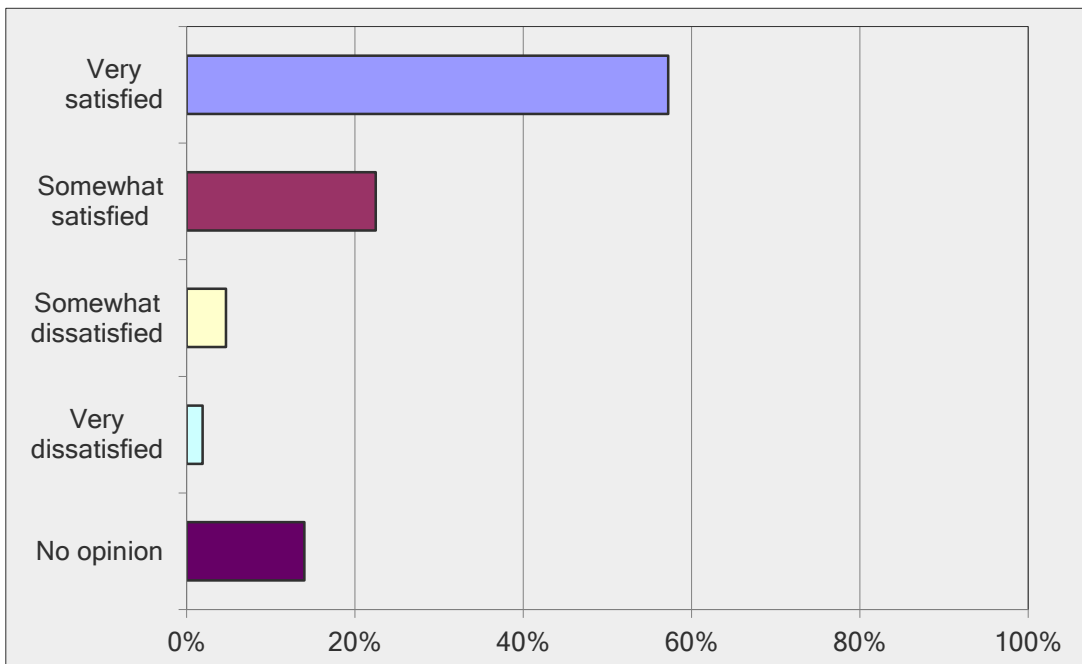
Answer Options	Response Percent	Response Count
Weekly or more often	1.2%	6
1-2 times per month	6.3%	31
A few times per year	76.9%	376
Have never used	15.5%	76
<i>answered question</i>		489
<i>skipped question</i>		3



Sitka Waste and Recycling Survey

Q5. If you have taken garbage to the transfer station, how satisfied were you with service at the transfer station?

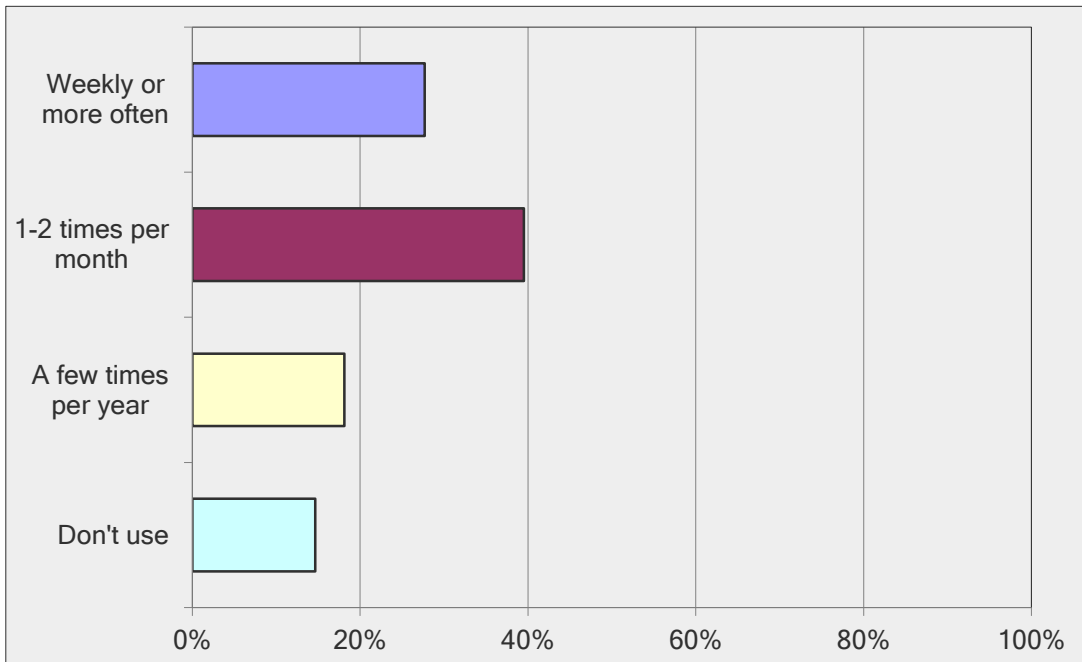
Answer Options	Response Percent	Response Count
Very satisfied	57.2%	270
Somewhat satisfied	22.5%	106
Somewhat dissatisfied	4.7%	22
Very dissatisfied	1.9%	9
No opinion	14.0%	66
<i>answered question</i>		472
<i>skipped question</i>		20



Sitka Waste and Recycling Survey

Q6. How frequently do you use the recycling drop-off center on Sawmill Creek Road?

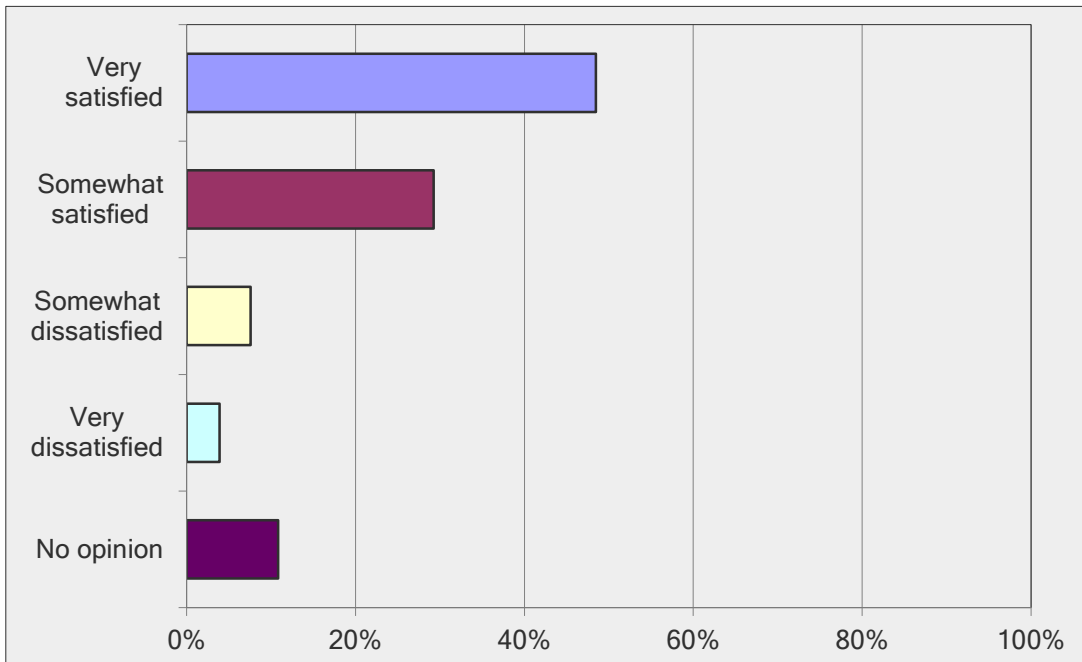
Answer Options	Response Percent	Response Count
Weekly or more often	27.7%	136
1-2 times per month	39.5%	194
A few times per year	18.1%	89
Don't use	14.7%	72
<i>answered question</i>		491
<i>skipped question</i>		1



Sitka Waste and Recycling Survey

Q7. How satisfied are you with your current access to recycling service?

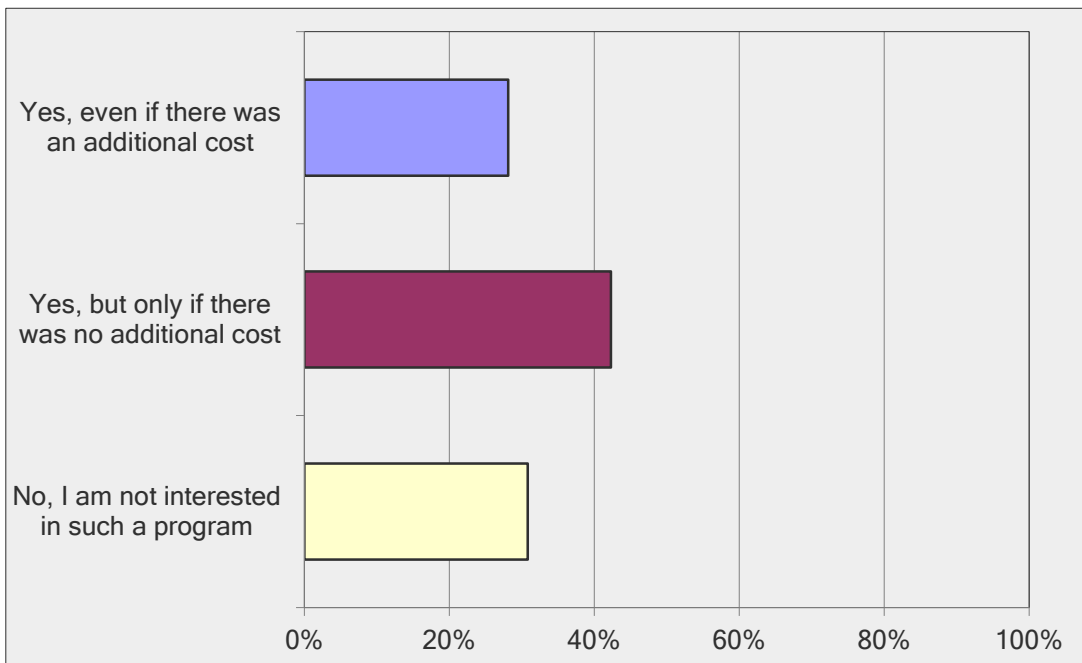
Answer Options	Response Percent	Response Count
Very satisfied	48.5%	237
Somewhat satisfied	29.2%	143
Somewhat dissatisfied	7.6%	37
Very dissatisfied	3.9%	19
No opinion	10.8%	53
<i>answered question</i>		489
<i>skipped question</i>		3



Sitka Waste and Recycling Survey

Q8. One option being looked at is to offer collection of recyclables at your home/business. This would likely require another container at your home/business, but you would not have to sort and take recyclables to the drop-off center. Would you prefer to have recyclable materials collected at your home or business?

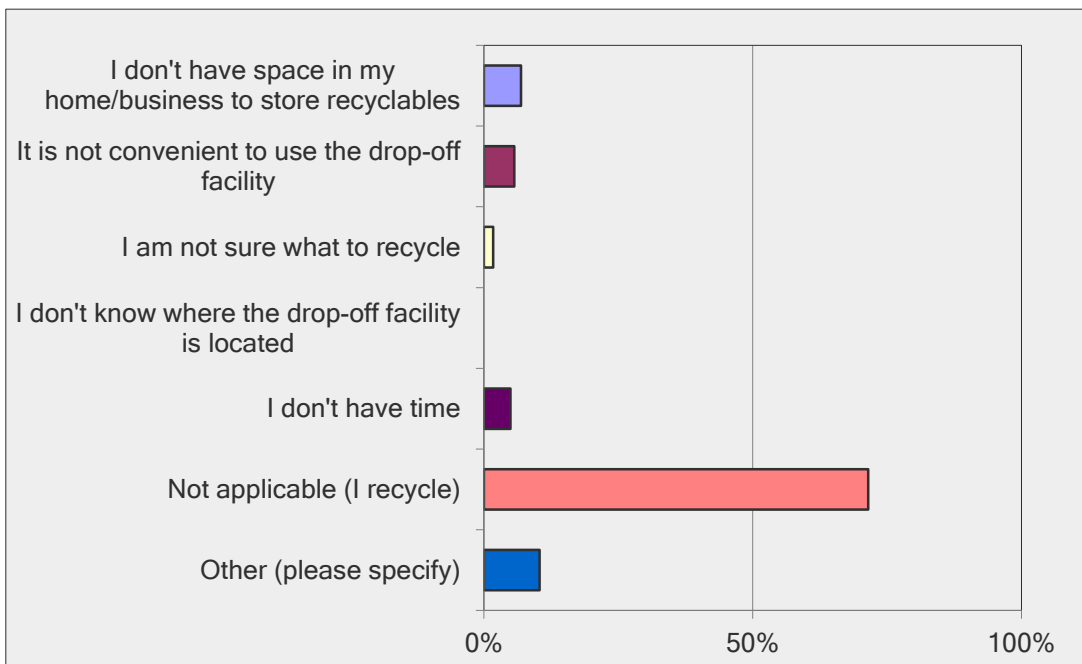
Answer Options	Response Percent	Response Count
Yes, even if there was an additional cost	28.1%	135
Yes, but only if there was no additional cost	42.3%	203
No, I am not interested in such a program	30.8%	148
<i>answered question</i>		480
<i>skipped question</i>		12



Sitka Waste and Recycling Survey

Q9. If you do not currently recycle, what is the reason? (Select the primary reason.)

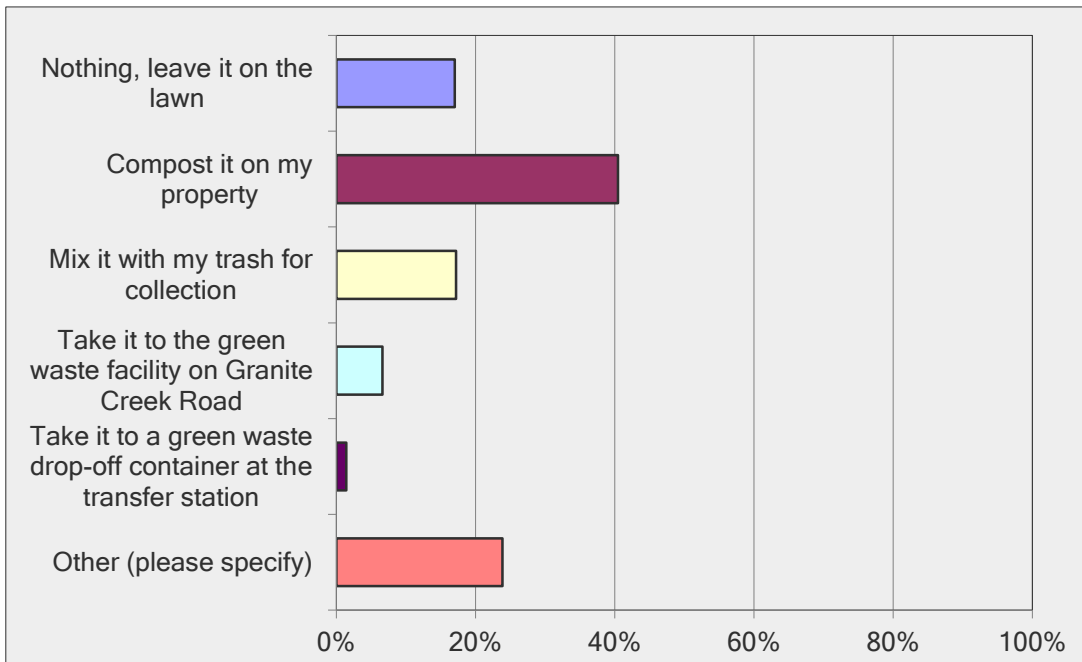
Answer Options	Response Percent	Response Count
I don't have space in my home/business to store	6.9%	28
It is not convenient to use the drop-off facility	5.7%	23
I am not sure what to recycle	1.7%	7
I don't know where the drop-off facility is located	0.0%	0
I don't have time	4.9%	20
Not applicable (I recycle)	71.5%	291
Other (please specify)	10.3%	42
<i>answered question</i>		407
<i>skipped question</i>		85



Sitka Waste and Recycling Survey

Q10. What do you currently do with your yard waste such as grass clippings, tree or brush trimmings, or leaves? (Select the option used most frequently.)

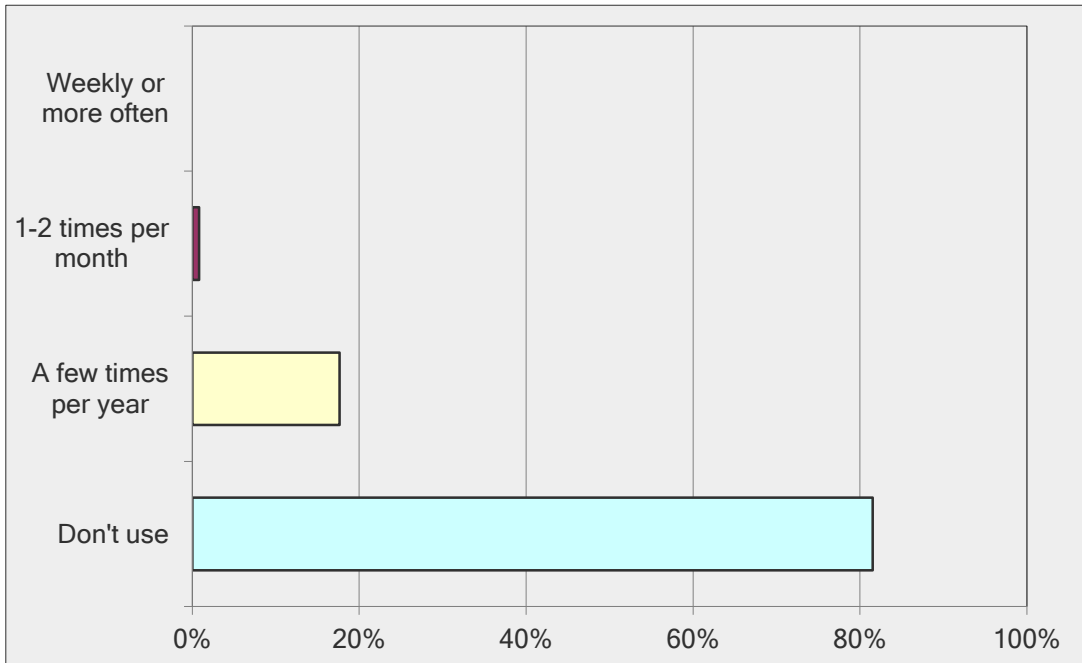
Answer Options	Response Percent	Response Count
Nothing, leave it on the lawn	17.0%	82
Compost it on my property	40.5%	195
Mix it with my trash for collection	17.2%	83
Take it to the green waste facility on Granite Creek Road	6.6%	32
Take it to a green waste drop-off container at the transfer	1.5%	7
Other (please specify)	23.9%	115
<i>answered question</i>		482
<i>skipped question</i>		10



Sitka Waste and Recycling Survey

Q11. How frequently do you deliver yard waste to the facility on Granite Creek Road?

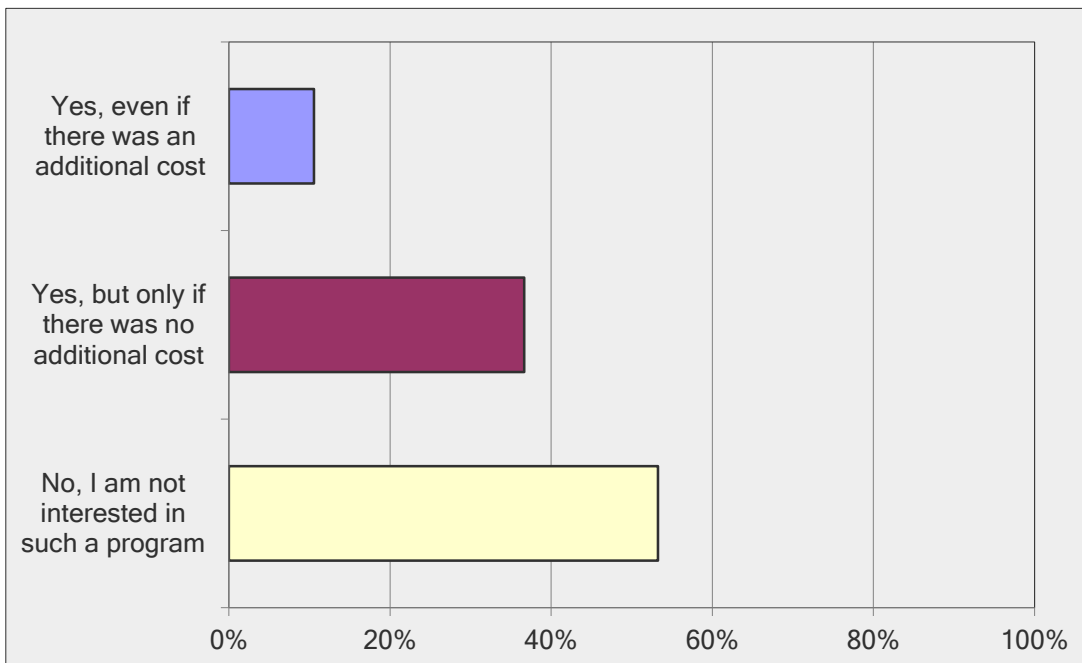
Answer Options	Response Percent	Response Count
Weekly or more often	0.0%	0
1-2 times per month	0.8%	4
A few times per year	17.7%	86
Don't use	81.5%	397
<i>answered question</i>		487
<i>skipped question</i>		5



Sitka Waste and Recycling Survey

Q12. Another option being looked at is composting of yard waste. This would require you to separate your yard waste from your garbage and take it to the transfer station on Jarvis Street or the drop-off center on Sawmill Creek Road for subsequent composting. Would you participate in such a program?

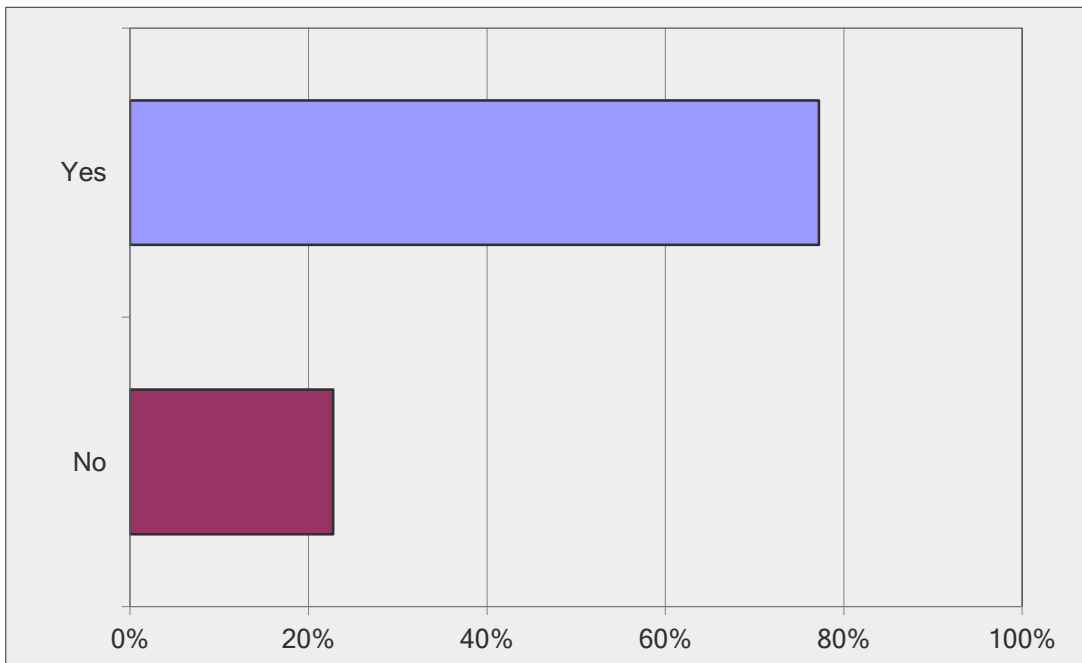
Answer Options	Response Percent	Response Count
Yes, even if there was an additional cost	10.6%	49
Yes, but only if there was no additional cost	36.6%	170
No, I am not interested in such a program	53.2%	247
<i>answered question</i>		464
<i>skipped question</i>		28



Sitka Waste and Recycling Survey

Q13. Do you participate in the City's annual spring clean-up program?

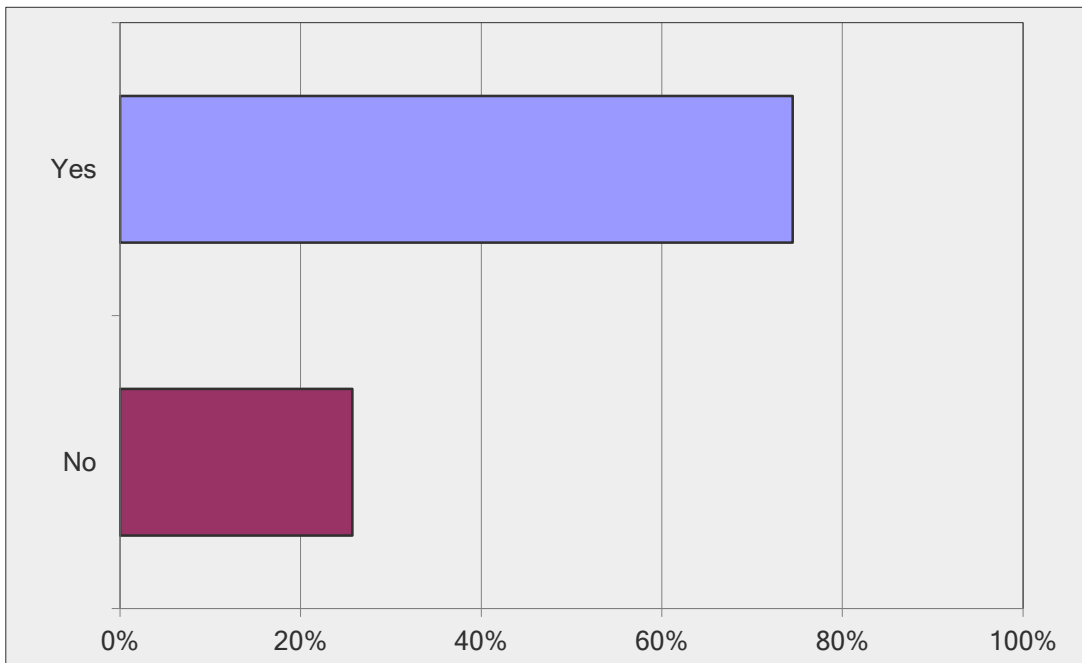
Answer Options	Response Percent	Response Count
Yes	77.2%	373
No	22.8%	110
<i>answered question</i>		483
<i>skipped question</i>		9



Sitka Waste and Recycling Survey

Q14. Do you participate in the City's household hazardous waste collection events (offered twice per year, in the spring and fall)?

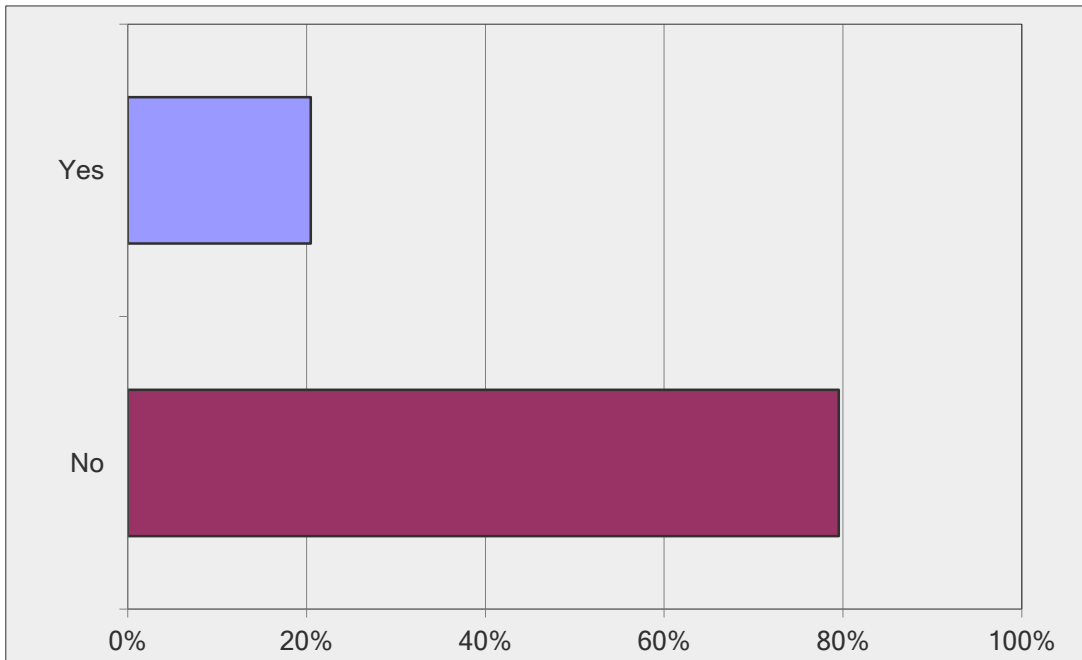
Answer Options	Response Percent	Response Count
Yes	74.5%	362
No	25.7%	125
<i>answered question</i>		486
<i>skipped question</i>		6



Sitka Waste and Recycling Survey

Q15. Sitka's website currently provides information about garbage and recycling services and programs available in the community. Have you visited the website?

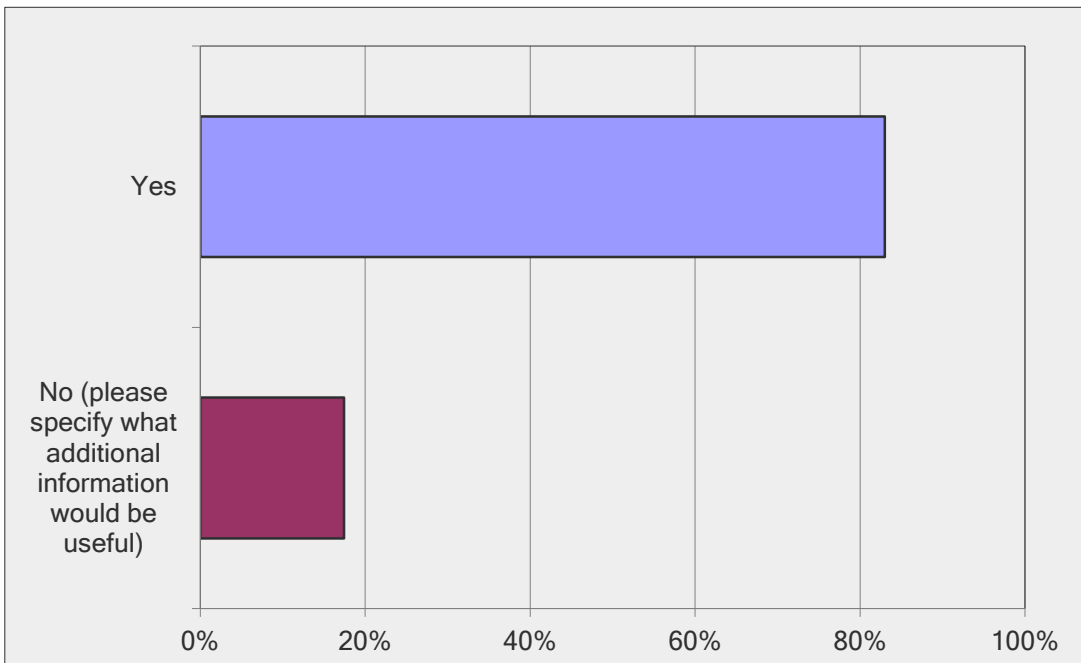
Answer Options	Response Percent	Response Count
Yes	20.5%	100
No	79.5%	388
<i>answered question</i>		488
<i>skipped question</i>		4



Sitka Waste and Recycling Survey

Q16. Do you have adequate information about waste and recycling services in the community?

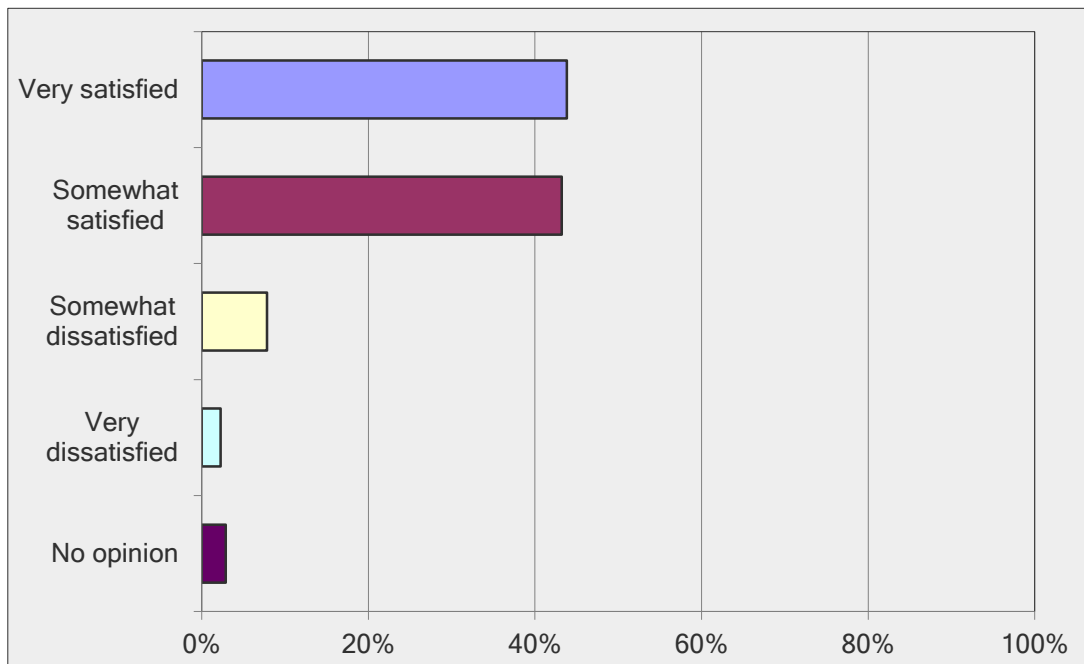
Answer Options	Response Percent	Response Count
Yes	83.0%	400
No (please specify what additional information would be	17.4%	84
<i>answered question</i>		482
<i>skipped question</i>		10



Sitka Waste and Recycling Survey

Q17. Overall, how satisfied are you with the current solid waste program (garbage pickup, recycling, cleanup events, etc.) in Sitka?

Answer Options	Response Percent	Response Count
Very satisfied	43.8%	213
Somewhat satisfied	43.2%	210
Somewhat dissatisfied	7.8%	38
Very dissatisfied	2.3%	11
No opinion	2.9%	14
<i>answered question</i>		486
<i>skipped question</i>		6



Sitka Waste and Recycling Survey

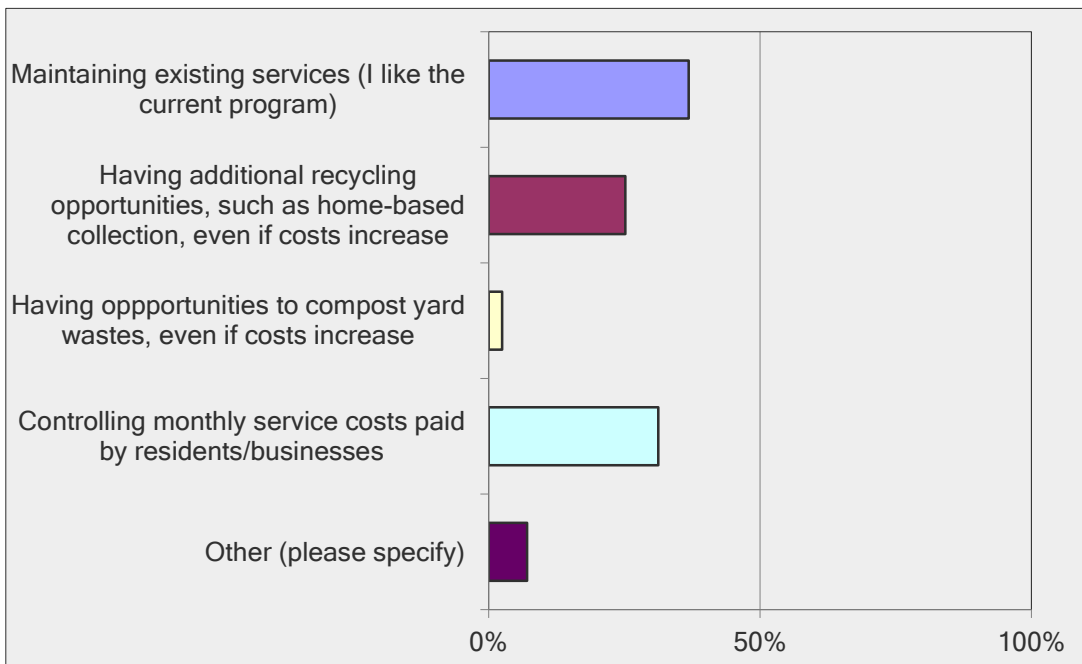
Q18. If you are somewhat dissatisfied or very dissatisfied with current garbage and recycling servies, please provide the reason(s) for your dissatisfaction.

	Response Count
	138
<i>answered question</i>	138
<i>skipped question</i>	354

Sitka Waste and Recycling Survey

Q19. Regarding garbage and recycling services and programs in Sitka, what is most important to you? (Select only one.)

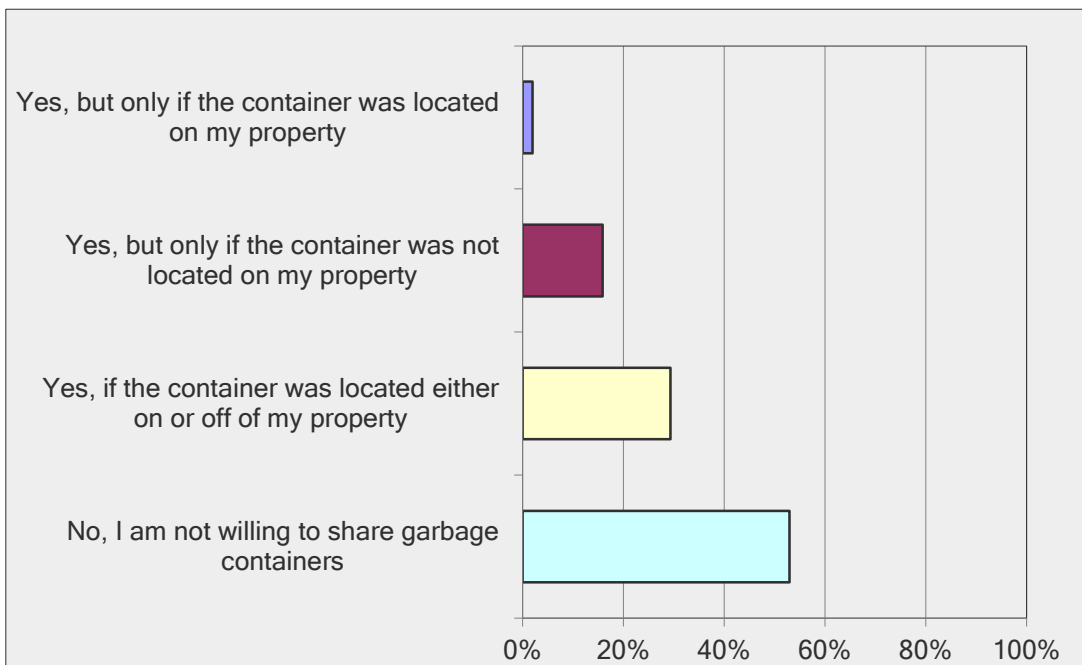
Answer Options	Response Percent	Response Count
Maintaining existing services (I like the current program)	36.9%	177
Having additional recycling opportunities, such as home-	25.2%	121
Having opportunities to compost yard wastes, even if	2.5%	12
Controlling monthly service costs paid by	31.3%	150
Other (please specify)	7.1%	34
<i>answered question</i>		480
<i>skipped question</i>		12



Sitka Waste and Recycling Survey

Q20. One option being looked at to reduce bear incidents with garbage is to share garbage containers among multiple generators. Would you be willing to place your garbage in a centralized location or a shared container in your neighborhood or business area?

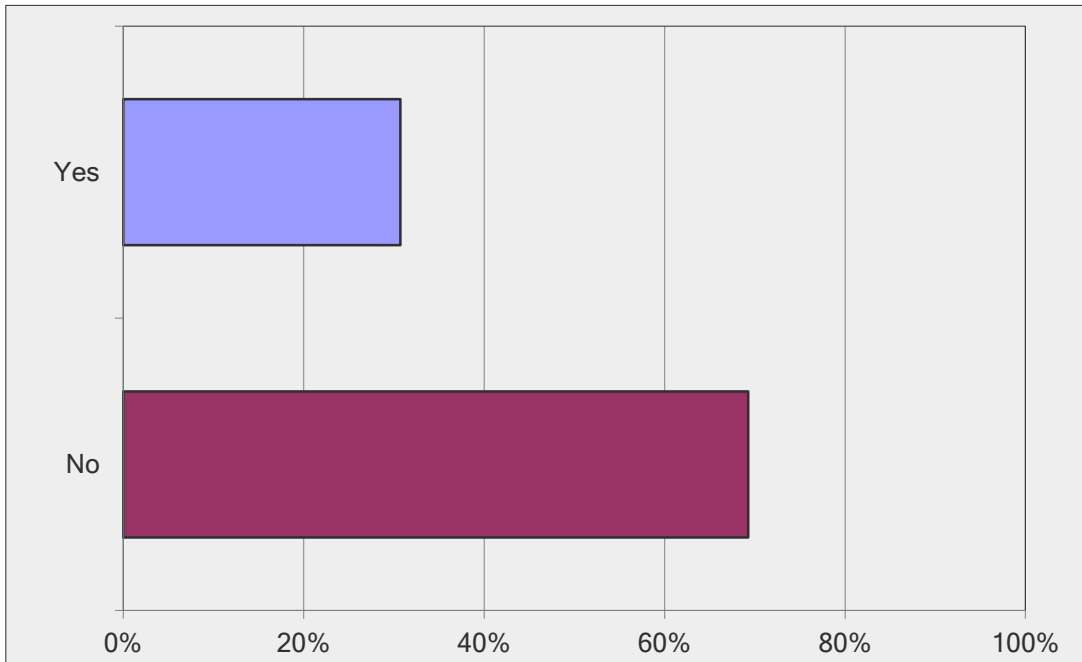
Answer Options	Response Percent	Response Count
Yes, but only if the container was located on my property	2.0%	9
Yes, but only if the container was not located on my property	15.9%	72
Yes, if the container was located either on or off of my property	29.4%	133
No, I am not willing to share garbage containers	53.0%	240
<i>answered question</i>		453
<i>skipped question</i>		39



Sitka Waste and Recycling Survey

Q21. Another option being considered to reduce bear incidents with garbage is to utilize bear-resistant collection containers, which could result in an increase in monthly service costs. Would you support an increase in monthly costs to address bear concerns?

Answer Options	Response Percent	Response Count
Yes	30.7%	142
No	69.3%	320
<i>answered question</i>		462
<i>skipped question</i>		30



Sitka Waste and Recycling Survey

Q22. Please provide any additional comments you have about solid waste and recycling services in Sitka:	
	Response Count
	256
<i>answered question</i>	256
<i>skipped question</i>	236

