

Haines Waste Management Survey Results

SUMMARY

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Introduction

Purpose

Charting the course for development of a comprehensive community solid waste management program requires an appreciation of what we do and what we think now. To gain that appreciation, Haines Borough households were surveyed for habits and attitudes about solid waste issues and community values February 3 through March 31, 2014 utilizing the SurveyMonkey.com ® platform. This is a report of summarized or highlighted survey results.

Methodology

The survey was developed under the tutelage of Kathleen DiLorenzo, Assistant Professor of Public Administration at the School of Management, University of Alaska Southeast. Probability sampling methods were employed. The survey population was determined to be Haines Borough households represented by US postal addresses. The sampling frame was a list of postal addresses at zip code 99827 clear of corporate businesses, associations, organizations and apartment complexes. Proprietors were substituted for business names when known; households with more than one postal box were collapsed into one and when two or more distinct households utilized one US postal box, the address was duplicated to allow for an accurate household count.

The population was 1279 households.¹ Systematic sampling was employed; after random selection of the first address, every sixth household on the sampling frame was selected. The first mail out went to 213 randomly-selected households. Ninety-seven of those randomly-selected participants were followed up by telephone. A second mail out went to 100 different randomly selected households. In total, ninety-five households responded.²

69% of respondents reside within the townsite service area. 31% reside in the borough outside of the townsite service area and within zip code 99827.

Confidence and Accuracy

95 households participated, though not all respondents answered every question. Confidence and accuracy for survey results are therefore not consistent. However I am 90% confident that the results generally are accurate within 8.2%.³ This is not a strong endorsement; however, it is adequate for drawing general conclusions.

¹ The US Census Bureau American Community Survey 2008-2012 estimates 1139 households in the Haines Borough.

² The survey was designed to direct proprietors of businesses generating more than 1 cubic yard of solid waste per week to a slightly different set of questions focused on commercial solid waste issues. However, only 5 responses were captured. That response level is not significant, and those responses were set aside. See Appendix: "Commercial Waste in a Nutshell."

³ See attached analysis of the survey construction provided by Raosoft.

Highlighted Survey Results

A. Practices/Behavior

- 62% of households **compost**
- 86% of households **self-haul** to a collection site (either Acme or CWS)
 - 57% self-haul to Acme Transfer.
 - 29% self-haul to CWS
 - 78% of households self-haul to Haines Friends of Recycling
- 15% of households **store, bury or burn** solid waste on private property
- **Recycling**
 - 91% of households recycle
 - 91% of households that self-haul to Acme also self-haul recyclables to HFR
 - 23% of households that self-haul to CWS sort for recyclables
 - Materials recycled by the households that recycle:
 - Metals (Al, Sn): 91%
 - Glass: 87%
 - Plastic: 78%
 - Cardboard, paper, newsprint: 67%
 - Fabric: 27%
- 81% of households generate 32 gallons or less of solid waste per week. ⁴
- 1% generates more than 64 gallons per week
- 98% of all households spend less than 2 hours per week managing household waste, ⁵ and 81% feel that is just the right amount of time. 6% of households feel that they spend too much time dealing with garbage issues. 14% of households feel guilty about not spending enough time to do a “good job.”

B. Economics

- 57% of households spend \$1 - \$20 cash per month to dispose/recycle solid waste
- 82% of households spend \$1 - \$49 cash per month to dispose/recycle solid waste
- 74% of households are satisfied with what they are paying to dispose/recycle solid waste
- 11% of households spend \$0 on household solid waste management
- 11% of households would pay more for convenience

C. Community Values

- 55% of households think it is important/critical that all households compost
- 88% of households think it is important/critical that all households recycle
- 87% of households think it is important/critical that all households dispose of solid waste “properly.”
- 92% of households think it is important/critical that the community has a regulated landfill for inert materials

⁴ The US Census Bureau American Community Survey 2008-2012 reports that 33% of the households in the Haines Borough are single-person households.

⁵ 71% spend less than one hour.

D. Perceptions

- Households are about equally divided between thinking that the community has a problem managing its solid waste and not. The greatest number, 34%, have no opinion.
- There is no discernable agreement about the nature of the problem among those who think there is a problem. By slim margins, the ranking of possible reasons are:
 - Lack of enforcement against littering and dumping
 - Lack of ordinances requiring “proper” disposal
 - Complicated scheduling for disposal, distances to travel
 - Cost is too high
- Households are most bothered by seeing litter in public places (85%). Secondarily, households are bothered by other households burning plastics and solid waste (72%).⁶ 52% of households are bothered by seeing household trash in public dumpsters.

E. System Solutions

- Overwhelmingly (88%), the community supports a program of solid waste management that separates
 - biodegradable materials for compost
 - Recyclables for export
 - Mixed waste for export
 - Inert material for landfill
- Landfilling everything except recyclables locally is preferred to exporting all materials
- The community does not support a property tax to pay for a municipal solid waste management program
- If a universal municipal solid waste program were initiated, the community prefers that it be financed by user fees.

⁶ The response is not a measure of the % of households that are actually bothered by this activity; respondents were asked to rank what bothers them most when given a list of potentially bothersome activities.

Appendix

Commercial waste in a nutshell. We recognized in designing the survey that commercial waste issues are not only more voluminous, but also specialized. The clinic generates hazardous waste; the brewery generates a biodegradable waste very different from the biodegradable wastes generated by the food service industry; retail and grocery generates cardboard and manufacturers and cottage industries generate waste unique to their product. A randomly selected sample would not give us a general picture of the commercial profile because the population is too small. Nonetheless, we learned these things from a very small sample of commercial accounts:

- Proprietors combine their household waste with their commercial wastes.
- A higher % of commercial accounts burn their waste than do households.
- Commercial accounts generally sort and recycle as households do: Metals, glass, plastics, cardboard
- Sorting & Recycling is an economic choice: it saves money for a business
- Lack of space is the reason why a business would not recycle
- A local landfill is important
- The economic benefit of community-wide composting is unknown

Comments offered on methods/concerns for managing solid waste in Haines: 34 people offered comments. I have attempted to categorize the issues that were raised to quantify or otherwise measure the degree of concern around that particular category. My own interests will color my interpretation of comments, but I did my best to delineate between those who would appear to support government regulation and those who would not. I conclude that there is a general sense of need for government regulation even among those who don't state it directly; for example, if a response is "there should be more public garbage cans around town" or "provide neighborhood transfer stations where we could all put our garbage" or "offer free pick up of recyclables" I categorized all as supportive of intervention, as I do not see how to provide these services without government intervention. Many issues were raised; I included unique comments to stimulate discussion. Actual responses are included in their entirety for your interpretation.

A	OPPOSE MANDATORY PICKUP	2
B	ENFORCE LITTER/JUNK/ANTIBURNING CODE	3
C	SUPPORT MANDATORY RECYCLING	10
D	SUPPORT CURBSIDE PICKUP W/RECYCLING	4
E	SUPPORT NEIGHBORHOOD TRANSFER STATIONS W/RECYCLING	11
F	TAX WASTEFUL PACKAGING	1
G	PROVIDE MORE PUBLIC GARBAGE CANS	3
H	NEED MORE OPPORTUNITY FOR HAZARDOUS WASTE DISPOSAL	2
I	INSTALL COIN-OPERATED "PAY FOR WASTE" STATION FOR VISITORS	1
J	SEPARATE OUT CONSTRUCTION ITEMS FOR RESALE	1
K	BEARS (and dogs) MAKE COMPOSTING & CURBSIDE PICKUP UNREASONABLE (garbage in driveways waiting for pick-up)	2

Attachments:

(1) Q18 Comments on Methods for Managing Solid Waste (3 pages)

(2) Raosoft ® Survey Structure Analysis

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Q18 If you can offer additional methods for managing Haines' solid waste, please describe briefly here.

Answered: 34 Skipped: 61

#	Responses	Date
1	1. Mainly NOT to have mandatory pick-up. Mandatory pick-up is very common for large communities, but not small ones like Haines (and I've worked in the solid waste business for 37 years). Conscientious people who minimize waste and reuse and recycle do not produce enough garbage to make it necessary or worthwhile. 2. Elderly people typically do not produce much waste, and are on fixed incomes (and Haines has the highest elderly population in Alaska) so not fair to them. 3. It would be nice to minimize litter in the streets and town-site. Littering penalties should be enforced, and from a very early age kids should learn to respect and help preserve the beauty of our area by not littering. There should be campaigns similar to Smokey Bear to help keep our town litter-free. . . and recycling campaigns as well. Recycling should become "2nd nature" to people. It is not difficult or expensive and should make you feel good. It is virtually mandatory in California, where I am from.	4/3/2014 5:51 PM
2	Make it easier for people to recycle in town. More hazardous waste pickups per year. Use discounts to encourage recycling. More metal recycling pickups per year.	3/31/2014 9:41 AM
3	begin by having curbside recycling (using appropriate containers that are given to the clients to assist with the recycle efforts.) ticket persons who abandon vehicles—vin numbers are located in several places in vehicles so ownership is easy to determine—don't try to make the abandoned cars an 'everybody pays' situation.	3/27/2014 5:15 PM
4	Most of us who recycle, compost, and eat very little package food...do not have much waste to deal with. As far as inert materials, having e-waste, electronic waste and the landfill for inert materials, gives us options for those items we can need to dispose. We need to deal with our own town waste, and not ship it to other states for them to deal with. The exception is recyclables, and if there ends up being a place in SE AK that has one huge landfill for all communities. We, in this town, need to learn to deal with our own waste properly. We need options for those that need pick-up service, but it does not need to be a one business option. I do not mind driving my few bags of garbage to town every 3 months or so. I also do not mind separating my recyclables so HFR can pay for their shipments south. Thank you for offering this survey.	3/26/2014 10:20 PM
5	I don't know enough about how we recycle/dispose of waste to have a real opinion. It is very low on my lists of concerns with the Haines Borough.	3/25/2014 12:06 PM
6	Composting is great but there are areas where a household cannot compost because of bears in the area. There are many people that disregard burning regulations. If they are caught burning toxic materials, they should pay a fine, not just given a warning because they are required to read what they can and can't burn before they are issued a permit each year. There is no excuse. I can't think of a solution to the garbage, furniture, TV's, computers that are dumped by the Chilkat River all up and down the Haines Hwy.	3/25/2014 9:58 AM
7	HFR has been doing a great job. With municipal funds they could do more recycling.	3/24/2014 4:59 PM
8	offer free pick up of recyclable materials to households within town limits	3/24/2014 12:23 PM
9	need a highway disposal center	3/23/2014 4:19 PM
10	Turn it into a power source	3/20/2014 5:18 PM
11	Eliminate burn barrels. Have compulsory trash collection with credit for recyclables.	3/19/2014 3:19 PM
12	Mandatory recycling like Seattle.	3/19/2014 8:39 AM

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13	It's difficult to keep straight who does what when – thankfully I can take stuff to Haines Recycling or glass to Acme any time, day or night. But for the rest that can't be recycled (here), I can never keep their hours straight, and have occasionally driven around like a New York garbage scow, with a car full of trash, looking for a home for my trash, missing everybody's open hours. When I visit family in CA, I do appreciate that they put ALL their recyclables in one container, and the municipality sorts them. However, Haines is not LA (thankfully), so I don't see Haines capable of that. My best suggestion: ALL disposal costs should be on our property tax bills; if ALL recycling and trash disposal were seemingly 'free' (prepaid more heavily by those with more assets), we might see an end to the improper disposal of trash.	3/18/2014 6:23 PM
14	some of this should be handled on the federal level as far as taxing plastic so that people pay more for them and standardize plastic containers so there are fewer sizes and they can be re-used more easily. less packaging. Taxes put on too much packing to encourage less of it. On the local level we should subsidize trash pick up so that big items (couches, beds, hazardous material) are disposed of properly. Landlords pay for garbage pick up for their tenants.	3/18/2014 6:04 PM
15	i don't know enough to say landfill is better than shipping inert materials out. I'm for shipping them out if they are disposed of properly to decompose.	3/13/2014 12:26 PM
16	It would be good to have more frequent times/events to get rid of more hazardous items like paint, solvents, sprays, etc.	3/11/2014 8:11 AM
17	Use more bear proof containers. Make sure that public containers are available all year long.	3/6/2014 10:02 AM
18	I live at Mosquito Lake and there is no collection place or dumpster for us to dispose of our garbage. It would be good to have a place where we can take all our garbage, including recyclables.	3/5/2014 11:34 AM
19	Make it more user friendly and convenient.	3/5/2014 10:52 AM
20	Borough and state should provide public dumpsters around town for visitors to deposit their garbage.	3/5/2014 10:25 AM
21	Borough should encourage a pay waste station at the police department with cameras that is coin operated and does not cost the Borough money. Maybe collaborate with a business owner. Visitors need somewhere to dump their garbage that's convenient rather than using public dumpsters.	3/5/2014 10:08 AM
22	If people sort and recycle and compost organic waste it is very good and the amount of waste is manageable. It is a simple process to sort and recycle and do compost, everyone should!	3/5/2014 9:56 AM
23	Provide neighborhood transfer stations for all waste categories.	3/5/2014 9:52 AM
24	Compost, landfill inert trash, have area or organization to reuse items that have value- similar to the "free books bins" at the library, reuse as much of the recyclables in state as possible, export recyclables and mixed waste only if no other choice. Shipping our trash out to be someone else's problem is unconscionable and expensive. There are too many resources being buried in landfills for a community with limited access like Haines.	3/5/2014 6:12 AM
25	From my perspective, I think the waste is pretty well managed. I think the high cost of disposing garbage is good incentive to sort, recycle and compost and after doing so the price for trash is pretty reasonable. It would be helpful to have a glass recycling container at the recycling center. The one thing I would really love to see is if there was a way or an area to separate still useful construction materials or items that aren't totally trashed that could be reused by others. This would save bulky items from taking up space in the landfill and would keep money in the community rather than funneling it out of town through the hardware store chains.	2/12/2014 11:21 AM
26	Whitehorse has recycling and composting cans everywhere, and that town is very much more clean than Haines. It would be nice to see more public garbage cans around town.	2/11/2014 9:45 AM
27	In an area I lived previously everyone hauled their garbage to a station that was set up very nicely (there was no serious odor). You were required to recycle certain waste (tin cans, aluminum, plastics, ect...) and place it into it's designated bins. You weren't charged each time, but had a flat fee in your property taxes each year. If a person rented then their landlord paid the fee in their taxes and adjusted the rent accordingly. The station was manned for assistance in understanding and making sure things were sorted properly. From that station I can't honestly say where the waste went, but it's initial starting point was managed very well.	2/10/2014 6:39 AM
28	how about a simple system of curbside bins for paper and trash at the very least for those who do curbside pickup. For those who schlep their trash, more support for friends of recycling to move waste more quickly and have it all at one place. Businesses and government buildings could lead by example...	2/9/2014 5:54 PM

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29	Use neighborhood "transfer" stations that let residents separate their garbage into recyclables, compost, waste for \$20 per month	2/9/2014 4:59 PM
30	I would like to see free waste drop off. However, I disagree with curbside service, as I feel that is a bear attractant.	2/9/2014 12:49 PM
31	I am grateful that where I live, we have a bear-proof box for compost that get's picked up in Bio-Bags every week I use the recycling bin regularly, and feel fortunate that I have that option where I live. I wish it were something every household could and would gladly use in my town.	2/8/2014 4:56 PM
32	I am strongly opposed to the idea of being made to participate in a Borough trash disposal program for the following reasons 1. We recycle, compost and pay to responsibly dispose of our waste and pay less than \$10 per month.....to pay the (proposed) \$40 per month is not acceptable 2. We would have to carry (or drive) our trash cans down to the end of our driveway every week.....time consuming and cumbersome 3. We have bears and a lot of neighborhood dogs that frequent our neighborhood and they would scatter the trash, making a huge mess. We love that wild bears often come through our property and do no harm. That is because neither we nor any of our neighbors leave our garbage out. Cans being out (even supposed bear proof ones) for even a couple of hours on a regular basis, will attract bears. This certainly will result in bears being killed and people being endangered. A high price to pay for a service that we do not want and do not need.	2/7/2014 4:49 PM
33	the ranking system for this question and the last one will not allow for change in the ranking	2/7/2014 3:45 PM
34	longer and more hours for disposal and days	2/7/2014 3:32 PM



Sample size calculator

<p>What margin of error can you accept? 5% is a common choice</p>	8.2	%	<p>The margin of error is the amount of error that you can tolerate. If 90% of respondents answer <i>yes</i>, while 10% answer <i>no</i>, you may be able to tolerate a larger amount of error than if the respondents are split 50-50 or 45-55.</p> <p>Lower margin of error requires a larger sample size.</p>
<p>What confidence level do you need? Typical choices are 90%, 95%, or 99%</p>	90	%	<p>The confidence level is the amount of uncertainty you can tolerate. Suppose that you have 20 yes-no questions in your survey. With a confidence level of 95%, you would expect that for one of the questions (1 in 20), the percentage of people who answer <i>yes</i> would be more than the margin of error away from the true answer. The true answer is the percentage you would get if you exhaustively interviewed everyone.</p> <p>Higher confidence level requires a larger sample size.</p>
<p>What is the population size? If you don't know, use 20000</p>	1279		<p>How many people are there to choose your random sample from? The sample size doesn't change much for populations larger than 20,000.</p>
<p>What is the response distribution? Leave this as 50%</p>	50	%	<p>For each question, what do you expect the results will be? If the sample is skewed highly one way or the other, the population probably is, too. If you don't know, use 50%, which gives the largest sample size. See below under More information if this is confusing.</p>
<p>Your recommended sample size is</p>	94		<p>This is the minimum recommended size of your survey. If you create a sample of this many people and get responses from everyone, you're more likely to get a correct answer than you would from a large sample where only a small percentage of the sample responds to your survey.</p>

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Alternate scenarios

With a sample size of	95	200	300	With a confidence level of	90	95	99
Your margin of error would be	8.12%	5.34%	4.16%	Your sample size would need to be	94	129	207

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More information

If 50% of all the people in a population of 20000 people drink coffee in the morning, and if you were repeat the survey of 377 people ("Did you drink coffee this morning?") many times, then 95% of the time, your survey would find that between 45% and 55% of the people in your sample answered "Yes".

The remaining 5% of the time, or for 1 in 20 survey questions, you would expect the survey response to more than the margin of error away from the true answer.

When you survey a sample of the population, you don't know that you've found the correct answer, but you do know that there's a 95% chance that you're within the margin of error of the correct answer.

Try changing your sample size and watch what happens to the *alternate scenarios*. That tells you what happens if you don't use the recommended sample size, and how M.O.E and confidence level (that 95%) are related.

To learn more if you're a beginner, read **Basic Statistics: A Modern Approach** and **The Cartoon Guide to Statistics**. Otherwise, look at the **more advanced books**.

In terms of the numbers you selected above, the sample size n and margin of error E are given by

$$x = Z(c/100)^2 r(100-r)$$

$$n = N x / ((N-1)E^2 + x)$$

$$E = \text{Sqrt}[(N - n)x / n(N-1)]$$

where N is the population size, r is the fraction of responses that you are interested in, and $Z(c/100)$ is the critical value for the confidence level c .

If you'd like to see how we perform the calculation, view the page source. This calculation is based on the Normal distribution, and assumes you have more than about 30 samples.

About Response distribution: If you ask a random sample of 10 people if they like donuts, and 9 of them say, "Yes", then the prediction that you make about the general population is different than it would be if 5 had said, "Yes", and 5 had said, "No". Setting the response distribution to 50% is the most conservative assumption. So just leave it at 50% unless you know what you're doing. The sample size calculator computes the critical value for the normal distribution. Wikipedia has good articles on statistics.

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