

# EXECUTIVE SUMMARY

## A SURVEY OF SKAGIT COUNTY RESIDENTS: OPINIONS ABOUT LOCAL REUSE AND RECYCLING OF BIOSOLIDS COMPOST



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## Introduction

As part of a Washington State University (WSU) research project funded by the Town of La Conner, WA, a mail survey of Skagit County residents was conducted in March - May 2013. The objectives of the survey were (1) to gain a better understanding of residents' attitudes, opinions, and knowledge about the use of "Class A" biosolids on agricultural land and in the community; and (2) to explore potential correlations between attitudes about biosolids and the demographic characteristics and lifestyle choices of respondents. Skagit County is a rural agricultural county in northwestern Washington State with a population of approximately 117,000 people. The Town of La Conner has a population of approximately 900 people.

## Methods

In collaboration with the WSU Social and Economic Sciences Research Center, we designed and implemented the survey in such a way that respondents could choose to participate either by mail (paper) or via the Internet (electronic). Surveys were mailed to a total of 1,374 households in Skagit County using the Tailored Design Method. This method includes carefully designed and timed contacts to increase survey response rates. The data collection period was open for eight weeks to allow ample time for people to participate.

The survey population consisted of two sub-populations:

1. La Conner residents who were served by the La Conner Waste Water Treatment Plant (WWTP) in January 2013. This list was provided by the Town of La Conner. Businesses and multi-family dwellings were excluded. A total of 374 households were surveyed with a survey completion rate of 52%.
2. Randomly chosen sample of 1,000 households in Skagit County, excluding the Town of La Conner. This list was purchased from Survey Sampling International and based on U.S. Postal Service databases. The survey completion rate for this population was 32%.

The survey consisted of 25 multiple choice and Likert scale questions and one open-ended question. The first part of the survey focused on respondents' concerns about various environmental issues, "green" purchasing and lifestyle choices, involvement in the agricultural community, and familiarity with waste water treatment and the term "biosolids." Respondents were then asked to read brief definitions of composting, biosolids, and "Class A" biosolids.

The second set of questions were used to ascertain respondents' attitudes and opinions about the use of "Class A" biosolids on farmland in Skagit County; appropriate agricultural and community uses for "Class A" biosolids in general; labeling of food grown using "Class A" biosolids; and concerns about the use of animal manure, synthetic fertilizer, and "Class A" biosolids on food crops. La Conner respondents were questioned about their level of support for the WSU biosolids compost research project, and their opinions about composting operations at the La Conner WWTP.

## Results

*Please note: In the following summary, "La Conner respondents" are the residents of the Town of La Conner who responded to the survey. "Skagit County respondents" are the rural and urban residents of Skagit County who responded to the survey, excluding residents of the Town of La Conner.*

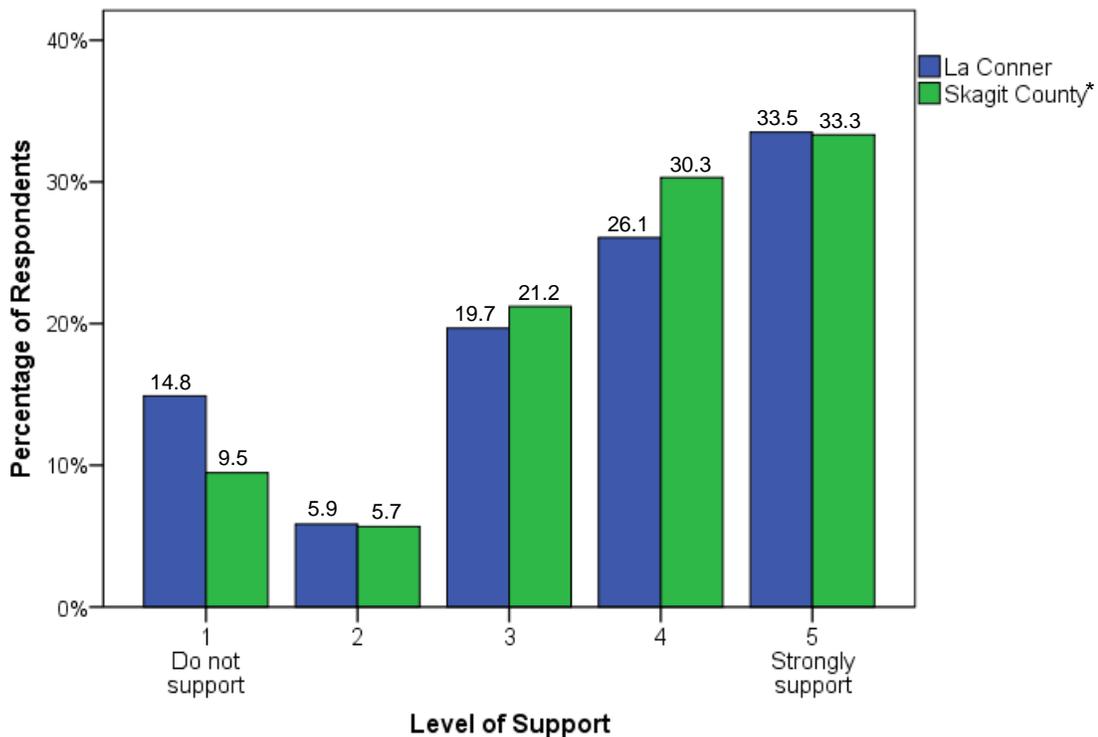
The responses and demographics of the two sub-populations were very comparable. La Conner respondents, however, were much more familiar with the term "biosolids" and showed slightly

more interest in community engagement around the topic of waste management compared with Skagit County respondents. Thirty-one percent of La Conner respondents and 14% of Skagit County respondents were "very familiar" with the term "biosolids"; 10% of La Conner respondents and 39% of Skagit County respondents were "not familiar" with the term.

La Conner respondents were slightly more interested in working with their neighbors and local government to develop a countywide waste management strategy compared with Skagit County respondents. Fourteen percent of La Conner respondents and 11% of Skagit County respondents were "very interested," whereas 42% of La Conner respondents and 47% of Skagit County respondents were "not interested."

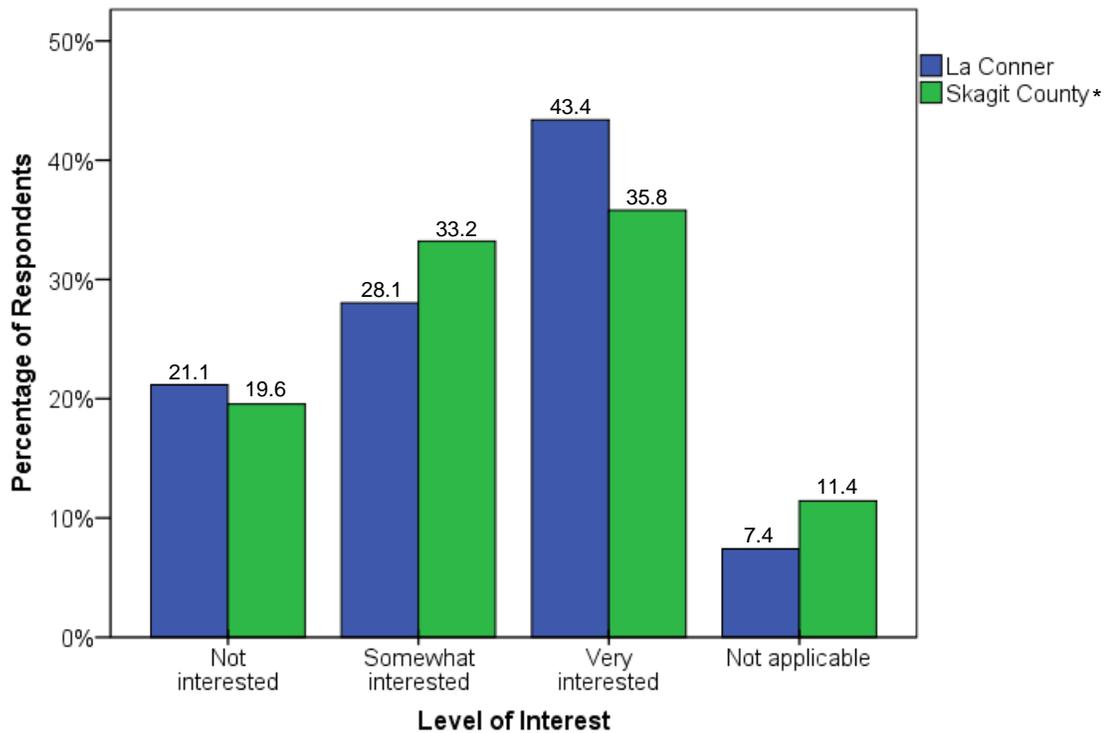
Fifty-nine percent of La Conner respondents and 63% of Skagit County respondents said they "strongly support" the use of "Class A" biosolids on farmland in Skagit County, while only 15% and 10%, respectively, said they "do not support" the use of "Class A" biosolids on farmland (Figure 1). Most respondents also showed an interest in using "Class A" biosolids as a fertilizer and soil conditioner if it saved them money: 72% of La Conner respondents and 69% of Skagit County respondents were "somewhat interested" or "very interested" (Figure 2).

**Figure 1. Level of Support for the Use of "Class A" Biosolids on Farmland in Skagit County**



\* Respondents from Skagit County *excluding* the Town of La Conner

**Figure 2. Level of Interest in Using "Class A" Biosolids if it Saved Money**



In three separate questions, respondents were asked about their feelings about the use of animal manure, "Class A" biosolids, and synthetic fertilizer for growing food crops (Table 1). Nearly 60% of all respondents felt positive about the use of animal manure, approximately half felt positive about the use of "Class A" biosolids, and less than one fifth felt positive about the use of synthetic fertilizer. Fifty-five percent of La Conner respondents and 45% of Skagit County respondents felt the government should create new labeling requirements for food grown using biosolids-based fertilizers (Table 2).

**Table 1. Feelings About the Use of Animal Manure, "Class A" Biosolids, and Synthetic Fertilizer on Food Crops**

	Animal Manure		"Class A" biosolids		Synthetic Fertilizer	
	La Conner (%)	Skagit County* (%)	La Conner (%)	Skagit County* (%)	La Conner (%)	Skagit County* (%)
Very/somewhat negative	15.5	10.8	26.8	19.5	58.0	57.9
Neutral	24.6	30.7	24.6	30.3	24.5	31.7
Very/somewhat positive	59.9	58.5	48.6	50.2	17.5	10.4

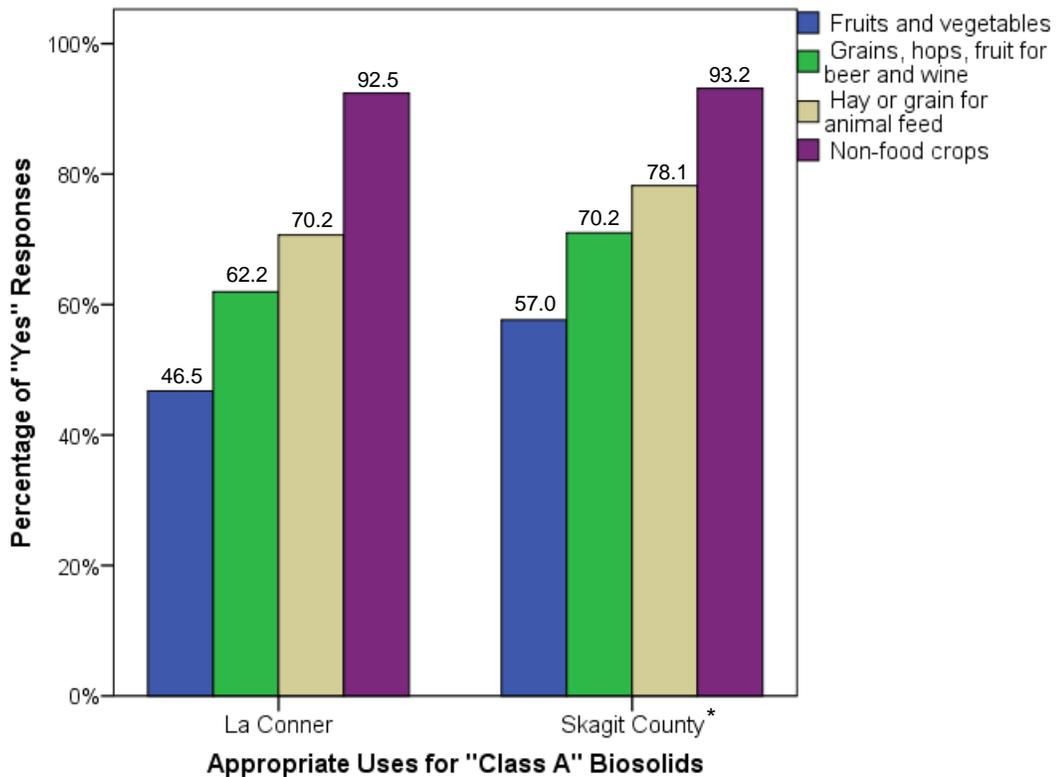
\* Respondents from Skagit County *excluding* the Town of La Conner

**Table 2. Respondents' Opinions About Whether or Not the Government Should Create New Labeling Requirements for Food Grown Using Biosolids-Based Fertilizers**

	La Conner (%)	Skagit County* (%)
Yes	54.5	44.7
No	25.9	29.3
Don't know	19.6	26.0

Over 90% of all respondents felt that non-food crops were appropriate uses for "Class A" biosolids in agriculture, but only about half of all respondents felt that fruits and vegetables were appropriate uses (Figure 3).

**Figure 3. Perceived Appropriate Uses for "Class A" Biosolids in Agriculture**

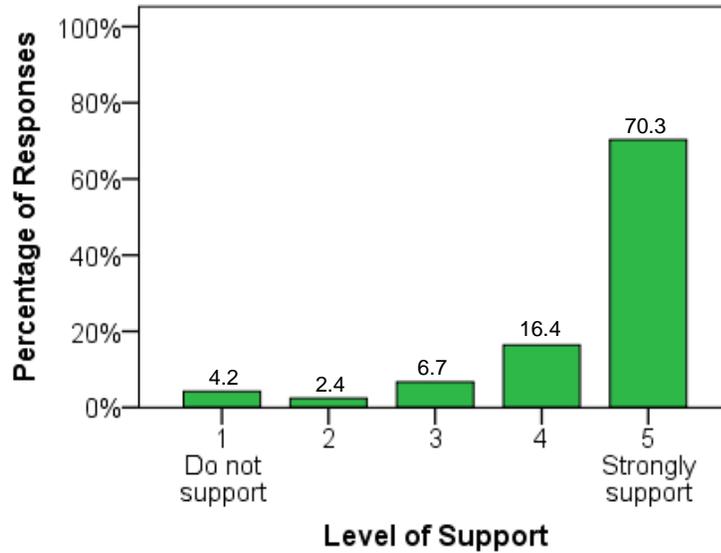


A sub-set of questions was asked only of the La Conner respondents to determine the level of support for the ongoing WSU biosolids compost research project funded by the Town of La Conner. Seventy percent of respondents said they "strongly support" the biosolids compost research activities (Figure 4). There was also strong support for the composting activities at the

\* Respondents from Skagit County *excluding* the Town of La Conner

La Conner WWTP and most respondents appreciated that the biosolids compost is available to residents free of charge (Table 3).

**Figure 4. Level of Support Among La Conner Respondents for the WSU Biosolids Compost Research Project**



**Table 3. Opinions About Composting Operations at the La Conner WWTP (La Conner Respondents Only)**

	Strongly disagree (%)	Disagree (%)	Neither agree nor disagree (%)	Agree (%)	Strongly agree (%)
I appreciate that La Conner biosolids compost is available to town residents free of charge.	3.5	3.5	19.4	14.7	58.8
I support the biosolids composting activities at the WWTP.	8.2	2.4	16.5	21.8	51.2
Composting biosolids turns a waste product into a valuable resource.	6.4	5.2	13.9	26.0	48.6

All survey respondents were asked a series of questions about their level of concern with various environmental issues, "green" purchasing and lifestyle choices, and involvement in the local agricultural community. We did not find any statistically significant correlations between respondents' opinions about the land application of "Class A" biosolids in Skagit County and their environmental concern, purchasing and lifestyle choices, or agricultural involvement.

The average age (63) of La Conner respondents was slightly higher than the average age (59) of Skagit County respondents. Fifty-one percent of La Conner respondents were female, compared with 47% of Skagit County respondents. We did not find any statistically significant correlations between respondents' demographic characteristics and their opinions about the use of "Class A" biosolids on farmland in Skagit County.

### **Conclusion**

Over 90% of La Conner respondents were moderately or strongly in support of the composting activities at the La Conner WWTP, and more than two thirds felt that composting turns a waste product into a valuable resource. The survey results also show strong support among La Conner respondents for the WSU biosolids compost research project currently funded by the Town of La Conner, indicating that this approach to government-university collaboration may be a good model for community supported biosolids research.

The survey results also provide valuable insight into Skagit County residents' attitudes, opinions, and knowledge about local waste management, local agricultural use of "Class A" biosolids, and the use of biosolids-based fertilizers on food crops. This information will be useful to local governments, community groups, waste management personnel, farmers, and researchers.

This document and the full survey report are available on the WSU Biosolids Management web page: <http://puyallup.wsu.edu/soilmgmt/Biosolids.html>.

### **For more information about these survey results, please contact:**

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