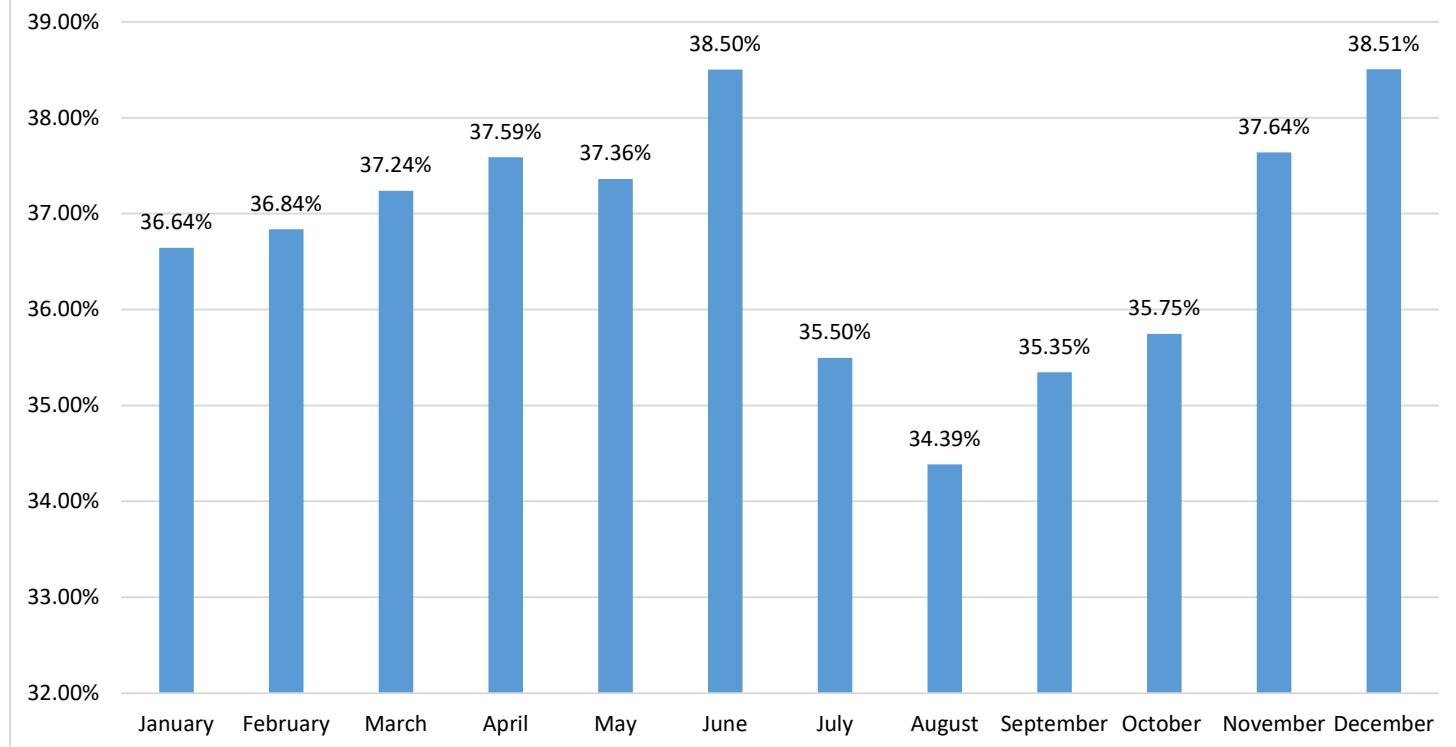


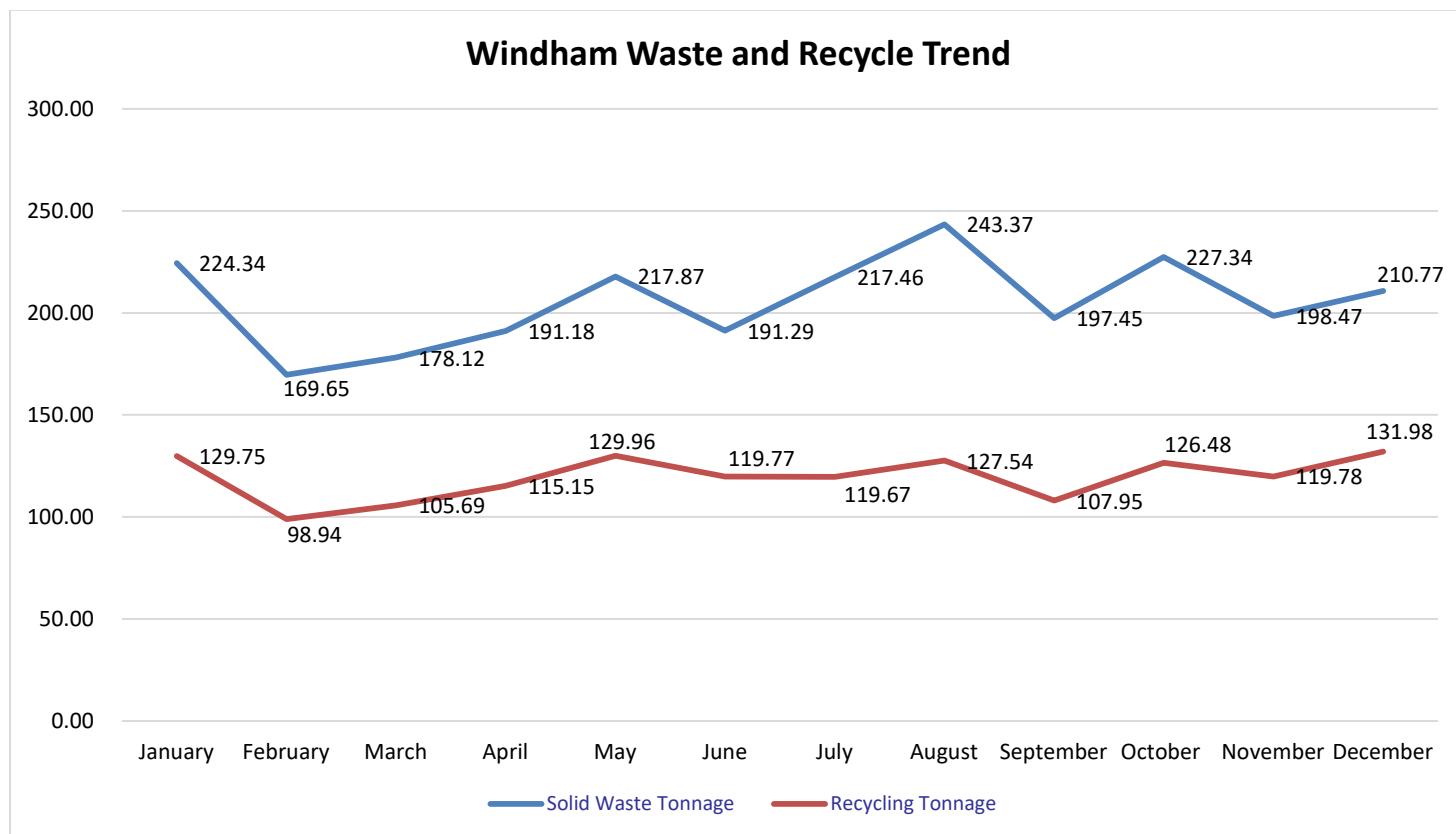
**Town of Windham**  
**Solid Waste and Recycling Tonnages for 2018**

Month	Solid Waste Tonnage	Recycling Tonnage	Combined Tonnage	Recycling %
January	224.34	129.75	354.09	36.64%
February	169.65	98.94	268.59	36.84%
March	178.12	105.69	283.81	37.24%
April	191.18	115.15	306.33	37.59%
May	217.87	129.96	347.83	37.36%
June	191.29	119.77	311.06	38.50%
July	217.46	119.67	337.13	35.50%
August	243.37	127.54	370.91	34.39%
September	197.45	107.95	305.40	35.35%
October	227.34	126.48	353.82	35.75%
November	198.47	119.78	318.25	37.64%
December	210.77	131.98	342.75	38.51%
<b>Total</b>	<b>2,467.31</b>	<b>1,432.66</b>	<b>3,828.36</b>	<b>37.42%</b>

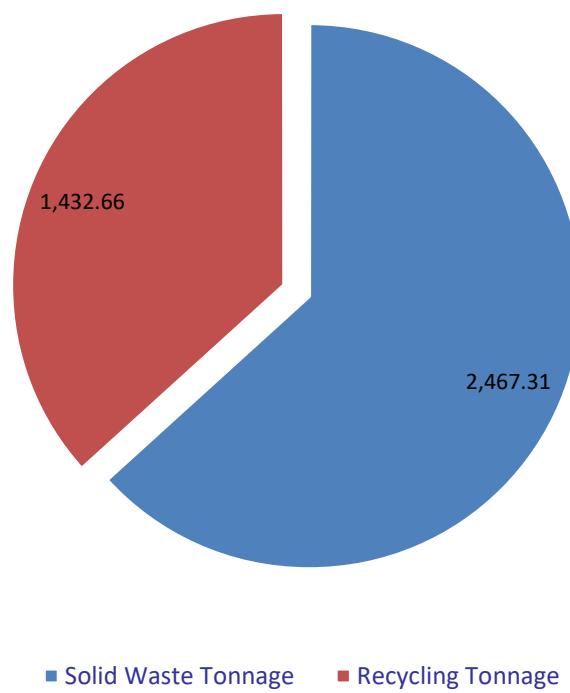
## Windham Recycling Percentage Trend



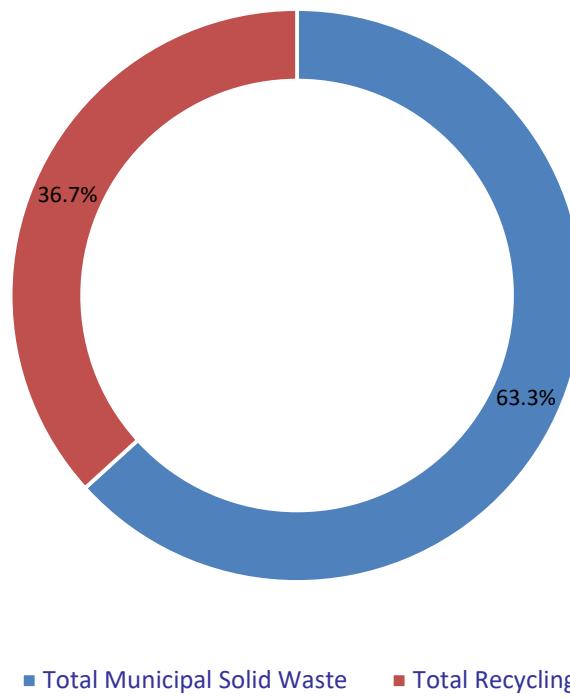
## Windham Waste and Recycle Trend



### Windham Waste and Recycling



### Windham Waste and Recycling Ratio



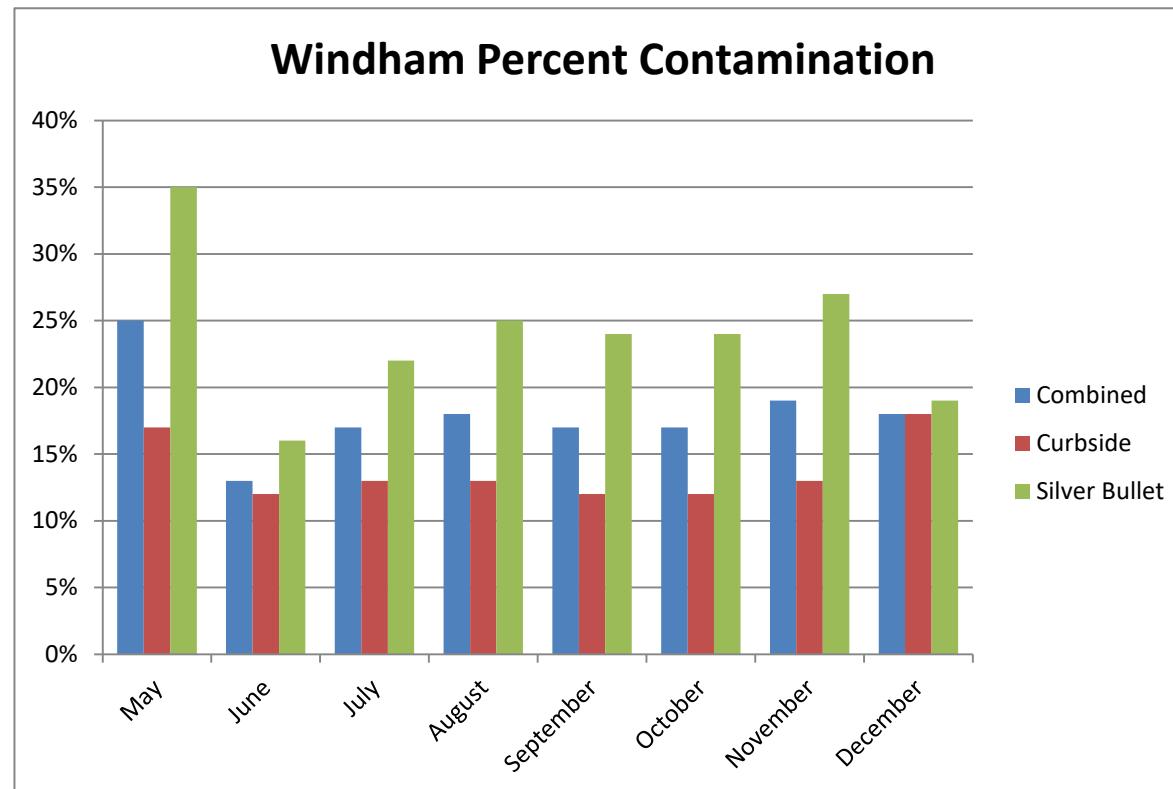
# Town of Windham Average Contamination Rates

## May-December 2018

Month	Contamination Rate
May	25%
June	13%
July	17%
August	18%
September	17%
October	17%
November	19%
December	18%

Month	Curbside Contamination Rate
May	17%
June	12%
July	13%
August	13%
September	12%
October	12%
November	13%
December	18%

Month	Silver Bullet Contamination Rate
May	35%
June	16%
July	22%
August	25%
September	24%
October	24%
November	27%
December	19%



**Windham Recycling Contamination Descriptions**  
**December 2018**

DATE	% CONTAMINATION	LOCATION	NOTED CONTAMINANTS
12/3/2018	10%	WINDHAM - CURBSIDE	1 x full bag, 60+ empty plastic bags, styrofoam, plastic wrap, scrap metal
12/3/2018	10%	WINDHAM - CURBSIDE	80+ empty plastic bags, styrofoam, plastic straps, foam
12/3/2018	25%	WINDHAM - CURBSIDE	20+ full bags, 30 x empty plastic bags, styrofoam, trash, loose diapers
12/4/2018	10%	WINDHAM - CURBSIDE	1 x full bag, 60+ empty plastic bags, styrofoam cooler, plastic wrap
12/4/2018	15%	WINDHAM - CURBSIDE	10+ full bags, 60+ empty plastic bags, mittens, plant branches, plant, bubble wrap
12/4/2018	10%	WINDHAM - CURBSIDE	No full bags, 60+ empty plastic bags, styrofoam, brush, outdoor light fixture
12/4/2018	15%	WINDHAM - CURBSIDE	10+ full bags, 60+ empty plastic bags, styrofoam, padded envelopes, plastic wrap
12/5/2018	15%	WINDHAM - CURBSIDE	4 x full bags, 60+ empty plastic bags, styrofoam, cushion, padded mailers, styrofoam egg carton, scrap wood
12/5/2018	10%	WINDHAM - CURBSIDE	80+ empty plastic bags, styrofoam cooler, rug, plastic strapping
12/5/2018	10%	WINDHAM - CURBSIDE	10+ full bags, 40+ empty plastic bags, styrofoam, twine
12/6/2018	25%	WINDHAM - PUBLIC WORKS	30+ full bags, 6 x large styrofoam pieces, large plastic tarp, plastic straps, bubble & foam wrap
12/6/2018	35%	WINDHAM - PUBLIC WORKS	30+ full bags, 60+ empty plastic bags, styrofoam, down spout & gutters, copper pipe, metal poles, mop, pumpkin, PVC, trash, plastic wrap, pool hose
12/6/2018	30%	WINDHAM - PUBLIC WORKS	20+ full bags, styrofoam, air mattress, metal door casing, Christmas figures, pine branches, bubble wrap, coffee maker, wooden cabinet door
12/6/2018	15%	WINDHAM - CURBSIDE	4 x full bags, 50+ empty plastic bags, styrofoam, string lights, plastic tarp, bubble wrap, political sign metal, batting
12/6/2018	15%	WINDHAM - CURBSIDE	10+ full bags, 40+ empty plastic bags, styrofoam, wax OCC box, scrap metal, electrical cords, padded mailers
12/10/2018	20%	WINDHAM - PUBLIC WORKS	20+ full bags, 20+ styrofoam, pieces, bubble wrap, plastic & nylon straps, stove pipe elbow, plastic OCC
12/11/2018	10%	WINDHAM - CURBSIDE	3 x full bags, 70+ empty plastic bags, packing foam, plastic tarp, mesh bag
12/11/2018	15%	WINDHAM - CURBSIDE	10+ full bags, 60+ empty plastic bags, styrofoam, packing foam, lamp, twine
12/11/2018	10%	WINDHAM - CURBSIDE	10 x full bags, 40+ empty plastic bags
12/12/2018	10%	WINDHAM - CURBSIDE	4 x full bags, 70+ empty plastic bags, plastic straps, packing foam, padded mailers
12/12/2018	15%	WINDHAM - CURBSIDE	10+ full bags, 60+ empty plastic bags, styrofoam, string lights, lamp
12/12/2018	10%	WINDHAM - CURBSIDE	60+ empty plastic bags, styrofoam, twine, canvas tote, plastic wrap
12/13/2018	30%	WINDHAM - PUBLIC WORKS	20+ full bags, 40+ empty bags (pet food, pellet, etc), styrofoam, 2 x plastic tarps, 2 x blue tarps, toaster, shovel, foam padding
12/13/2018	15%	WINDHAM - CURBSIDE	3x full bags, 100+ empty plastic bags, plastic straps, plastic wrap, desk fan, 2x types of bubble wrap
12/13/2018	10%	WINDHAM - CURBSIDE	2x full bags visible, 80+ empty plastic bags, styrofoam, plastic straps, bubble wrap
12/13/2018	15%	WINDHAM - PUBLIC WORKS	10+ full bags, 60+ empty bags, campaign sign, metal broom, padded envelope
12/13/2018	20%	WINDHAM - PUBLIC WORKS	Almost 30 bags visible, 20+ large styrofoam pieces, plastic wrap, air mattress, weed whacker
12/17/2018	35%	WINDHAM - PUBLIC WORKS	30+ full bags, 100+ empty plastic bags, 80+ empty pellet bags styrofoam, steam cleaner, scrap metal, mop, bubble wrap
12/18/2018	3%	WINDHAM - CURBSIDE	No full bags, 30+ empty plastic bags, styrofoam, 3 x bubble wrap
12/18/2018	20%	WINDHAM - CURBSIDE	20+ full bags, 60+ empty plastic bags, styrofoam, packing foam, pine branches, plastic wrap, plastic tarp
12/18/2018	15%	WINDHAM - CURBSIDE	10+ full bags, 60+ empty plastic bags, styrofoam, plastic wrap, bubble wrap, compressor hose
12/18/2018	10%	WINDHAM - CURBSIDE	2 x full bags, 10+ empty plastic bags, styrofoam, string lights, car headlight
12/18/2018	15%	WINDHAM - CURBSIDE	6 x full bags, 100+ empty plastic bags, styrofoam, 4 x areas of bubble wrap, padded mailer
12/19/2018	25%	WINDHAM - CURBSIDE	30+ full bags, 60+ empty plastic bags, styrofoam, trash, food waste, rubber shower mat, jacket, wire trash bin, gloves, car vents, bubble wrap
12/19/2018	15%	WINDHAM - CURBSIDE	10+ full bags, 60+ empty plastic bags, styrofoam, boots, padded mailer, cooler, jeans
12/19/2018	15%	WINDHAM - CURBSIDE	10+ full bags, 60+ empty plastic bags, styrofoam, shovel head, 2 x shoes, padded mailers
12/20/2018	40%	WINDHAM - PUBLIC WORKS	50+ full bags- nearly half the load was bags full of trash, clothes, floor rug, vacuum hose, styrofoam, bubble wrap
12/20/2018	35%	WINDHAM - PUBLIC WORKS	40 burlap sacks, trash, food waste, extension cord, scrap metal, basket, bubble wrap, foam
12/20/2018	15%	WINDHAM - CURBSIDE	5 x full bags, 100+ empty plastic bags, styrofoam, bike brake kit, bubble wrap, plastic straps

**Windham Recycling Contamination Descriptions**  
**December 2018**

12/20/2018	15%	WINDHAM - CURBSIDE	6 x full bags, 100+ empty plastic bags, plastic wrap, packing peanuts, carpet scraps
12/20/2018	15%	WINDHAM - PUBLIC WORKS	15+ full bags, hose, pressure washer, picture frame, construction debris
12/24/2018	20%	WINDHAM - PUBLIC WORKS	20+ full bags, styrofoam, bubble wrap, plastic straps, Keurig, metal shower rack, padded mailers
12/26/2018	10%	WINDHAM - CURBSIDE	3 x full bags, 60+ empty plastic bags, styrofoam, metalic wrapping paper, plastic straps
12/26/2018	10%	WINDHAM - CURBSIDE	4 x small full bags, 100+ empty plastic bags, styrofoam, plastic straps & wrap
12/26/2018	10%	WINDHAM - CURBSIDE	Only 2 small full bags, 100+ empty plastic bags, styrofoam, plastic straps
12/26/2018	15%	WINDHAM - CURBSIDE	3 x full bags, 100+ empty plastic bags, styrofoam, plastics straps
12/27/2018	35%	WINDHAM - PUBLIC WORKS	40+ full bags, shoes, white boat tarp, wire, cloth, kids tent, cloth briefcase, plastic straps, bubble & plastic wrap, styrofoam
12/27/2018	30%	WINDHAM - PUBLIC WORKS	30+ full bags, 20+ empty plastic bags, styrofoam, packing foam, metal decorative bin, plastic wrap and straps
12/27/2018	30%	WINDHAM - PUBLIC WORKS	40+ full bags, styrofoam, foam wrap, sheetrock scrap
12/28/2018	15%	WINDHAM - CURBSIDE	10+ full bags, 100+ empty plastic bags, coat hangers, plastic wrap, soccer ball
12/28/2018	20%	WINDHAM - CURBSIDE	10+ full bags, 60+ empty plastic bags, styrofoam, purse, twine, extension cord, plastic straps, string lights
12/29/2018	10%	WINDHAM - CURBSIDE	10+ full bags, 100+ empty plastic bags, styrofoam, packing foam, pillow
12/29/2018	15%	WINDHAM - CURBSIDE	10+ full bags, 60+ empty plastic bags, padded mailers, sheet, foam wrap
12/27/2018	15%	WINDHAM - CURBSIDE	10+ full bags, 60+ empty plastic bags, styrofoam, scrap metal, bubble wrap, string
12/31/2018	15%	WINDHAM - CURBSIDE	10+ full bags, 60+ empty plastic bags, styrofoam, red basket, plastic tarp, coat hangers
12/31/2018	10%	WINDHAM - PUBLIC WORKS	less than 10 full bags, bunch of Christmas decorations, styrofoam, clothes
12/31/2018	40%	WINDHAM - PUBLIC WORKS	At least 50 full bags, styrofoam, clear plastic tarp, wreath, scrap metal, padded mailers, 2 x pillows
12/31/2018	35%	WINDHAM - CURBSIDE	After second look, load was probably more like 50%, but driver had already left, so 35% stands, 40 x full bags, string lights, trash, large styrofoam, stuffed animals, foam padding, foam wrap
12/28/2018	15%	WINDHAM - CURBSIDE	10+ full bags, 100+ empty plastic bags, styrofoam, fake holiday garland, plastic straps

**Town of Windham**  
**Contamination Fees 2018\***

	Loads Greater than 25% Contamination				
	Date	% Contamination	Tons	Fee (\$70.50/ton)	Monthly Fee \$
May	5/14/2018	35%	1.16	81.78	756.47
	5/15/2018	25%	3.42	241.11	
	5/17/2018	35%	0.84	59.22	
	5/17/2018	40%	1.08	76.14	
	5/24/2018	35%	0.90	63.45	
	5/24/2018	30%	1.26	88.83	
	5/24/2018	25%	1.10	77.55	
	5/31/2018	25%	0.97	68.39	
June	6/4/2018	25%	1.14	80.37	332.06
	6/11/2018	25%	0.82	57.81	
	6/14/2018	30%	0.79	55.70	
	6/28/2018	25%	0.93	65.57	
	6/28/2018	25%	1.03	72.62	
July	7/3/2018	25%	3.25	229.13	654.24
	7/5/2018	30%	0.76	53.58	
	7/12/2018	25%	0.7	49.35	
	7/12/2018	30%	0.95	66.98	
	7/12/2018	25%	0.84	59.22	
	7/19/2018	30%	0.89	62.75	
	7/19/2018	25%	0.46	32.43	
	7/19/2018	35%	0.8	56.40	
	7/30/2018	35%	0.63	44.42	
August	8/2/2018	25%	0.91	64.16	681.03
	8/6/2018	25%	0.63	44.42	
	8/9/2018	40%	0.63	44.42	
	8/9/2018	25%	0.8	56.40	
	8/16/2018	25%	0.71	50.06	
	8/16/2018	35%	0.74	52.17	
	8/16/2018	30%	1	70.50	
	8/23/2018	30%	0.67	47.24	
	8/23/2018	35%	0.76	53.58	
	8/23/2018	25%	0.74	52.17	
	8/27/2018	35%	0.85	59.93	
	8/30/2018	25%	0.57	40.19	
	8/30/2018	30%	0.65	45.83	
September	9/6/2018	25%	0.6	42.30	405.38
	9/13/2018	40%	1	70.50	
	9/13/2018	30%	0.74	52.17	
	9/20/2018	30%	0.78	54.99	
	9/20/2018	25%	0.75	52.88	
	9/24/2018	30%	1.26	88.83	
	9/27/2018	35%	0.62	43.71	

	Loads Greater than 25% Contamination				
	Date	% Contamination	Tons	Fee (\$70.50/ton)	Monthly Fee \$
October	10/4/2018	25%	0.54	38.07	618.29
	10/4/2018	25%	0.81	57.11	
	10/8/2018	25%	0.87	61.34	
	10/11/2018	30%	0.97	68.39	
	10/11/2018	30%	1.11	78.26	
	10/18/2018	30%	1.05	74.03	
	10/18/2018	30%	0.8	56.40	
	10/22/2018	30%	1.28	90.24	
	10/25/2018	25%	0.69	48.65	
	10/25/2018	30%	0.65	45.83	
November	11/1/2018	35%	0.94	66.27	680.33
	11/8/2018	45%	0.77	54.29	
	11/8/2018	40%	1.04	73.32	
	11/8/2018	35%	0.73	51.47	
	11/12/2018	25%	0.55	38.78	
	11/15/2018	30%	1.02	71.91	
	11/15/2018	25%	0.77	54.29	
	11/23/2018	30%	1.09	76.85	
	11/26/2018	50%	0.88	62.04	
	11/29/2018	35%	0.94	66.27	
	11/26/2018	50%	0.92	64.86	
December	12/3/2018	25%	0.68	47.94	1027.19
	12/6/2018	25%	0.69	48.65	
	12/6/2018	35%	1.01	71.21	
	12/6/2018	30%	0.95	66.98	
	12/13/2018	30%	0.84	59.22	
	12/17/2018	35%	0.86	60.63	
	12/19/2018	25%	3.39	239.00	
	12/20/2018	40%	0.88	62.04	
	12/20/2018	35%	0.84	59.22	
	12/27/2018	35%	1.11	78.26	
	12/27/2018	30%	0.87	61.34	
	12/27/2018	30%	0.94	66.27	
	12/31/2018	40%	0.67	47.24	
	12/31/2018	35%	0.84	59.22	
					5,154.96
Actual Ecomaine Fee Charged 672.57					
<p>* The only fees charged to Town are outlined in red. All other fees are hypothetical based on ecomaine's contamination threshold and associated fee policy.</p>					

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## The Christian Science Monitor

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# China gets tough on US recyclables. How one Maine town is fighting back.

### WHY WE WROTE THIS

*Beijing's 2018 crackdown on recyclables was widely decried as a disaster for global recycling. Facing rising recycling costs, cities like Sanford, Maine, have found innovative ways to respond.*



On Pine Tree Waste's daily recycling run in Sanford, Maine, Dillon Pomerleau tags a curbside recycling bin for noncompliance with the city's recycling rules.

January 3, 2019

### TWO WAYS TO READ THE STORY

By Christa Case Bryant, Staff writer

 @christacbryant

SANFORD AND PORTLAND, MAINE

**A**t the peak of the recycling crisis here, Kayla LeBrun almost pressed the panic button that summons the police. As the administrative assistant at the Sanford Public Works Department, she was on the front lines of an ugly battle – one that had been triggered half a world away.

Residents stormed into the office and set her phone ringing off the hook. They demanded to know, in language that can't be printed here, why the city's recycling service was suddenly refusing to pick up things they'd always collected – like plastic grocery bags.

In short, the answer was that China – the No. 1 destination for US recyclables – had cracked down on imports of “recycling” that was laced with trash, and had even stopped taking certain materials altogether. That had driven up the cost of business for US recycling facilities, which in turn started charging municipalities for banned items mixed in with recycling. Sanford, seeking to avoid \$100,000 in unexpected fees, abruptly ramped up enforcement of its recycling rules.

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That didn't go over well with many of the city's 21,000 residents, who pay the highest taxes in York County despite the fact that their household incomes are well below the county average. And on top of that, they pay for each bag of garbage they put out on the curb. So when recycling trucks refused to pick up their recycle bins because of violations, that meant a more expensive trash bill.

“Well, I'll just throw it in the street,” screamed one lady who had stuffed her recyclables into a 50-pound nonrecyclable dog food bag. Other angry residents stood in front of the recycling trucks and refused to move; one individual even threw a paint can at a truck driver, injuring her.

The company that collects Sanford's recycling, Casella, was spending as much as two extra hours a day, at a rate of \$140 per truck per hour, examining recyclables and leaving orange warning tags for offenders.

But both they and the city held firm. Within just a few weeks, Sanford's contamination rates – the percent of trash mixed in with recyclables – dropped from 15 to 20 percent to 0 to 3 percent.

At a time when many American cities and towns face steep costs for their recycling programs, leading some to dump their recyclables in landfills or stop collecting them altogether, Sanford's example offers an alternative path forward. It shows how, at a time when developing countries such as China are raising their environmental standards, the United States can take greater responsibility for the waste it produces.

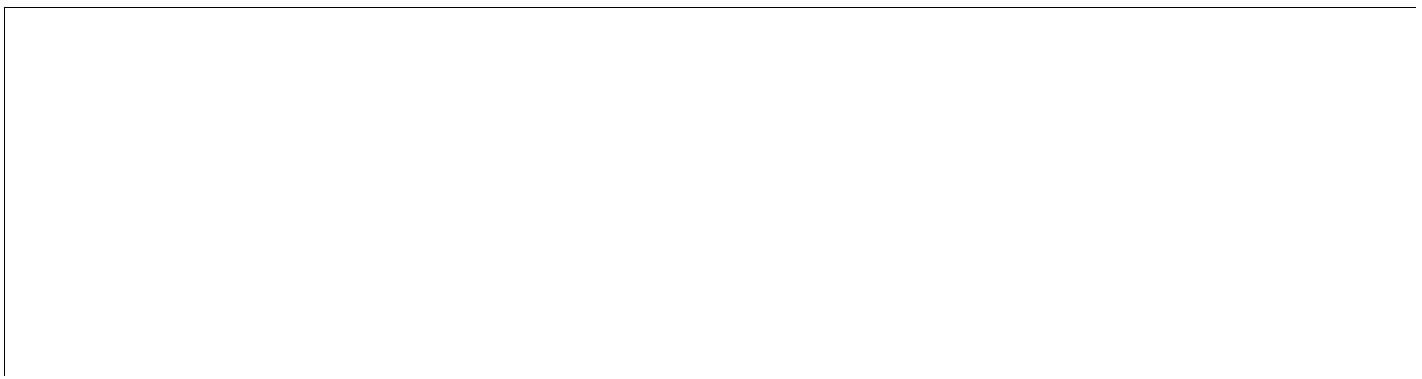
“The disruption to American recycling markets is in the long term going to be good for the United States from an economic and environmental perspective,” says David Biderman, chief executive of the Solid Waste Association of North America, who says the reduced dependence on a foreign market will boost jobs in the US while also spurring innovation at home. “I think it’s reinvigorated a discussion about reducing waste in the first place.”

## Why Sanford didn’t play the blame game

America’s recycling rates have more than tripled over the past 30 years, to nearly 35 percent of total waste produced.

Yet that track record is marred by “wishesycling” – people putting everything from lobster shells to Christmas lights into their recycle bins. In just a few weeks this summer, Sanford residents tried to recycle a hair dryer, coffee grounds, diapers, a dog run chain, stuffed animals, pool toys, blinds, a car mat, a vacuum cleaner, and a cooler.

“They need to get rid of this thing, and here’s a bin that gets picked up every week, so why not give it a shot?” says Matt Hill, director of the Public Works Department in Sanford.



About these a

So long as China was taking America’s recyclables, no one much minded. But when Beijing implemented its “National Sword” policy in early 2018, everyone suddenly cared a lot more.



Christa Case Bryant/The Christian Science Monitor

Crusher, the lobster mascot for the Maine Red Claws minor league basketball team, helps ecomaine educator Katrina Venhuizen (not pictured) teach students at the Carl J. Lamb Elementary School in Springvale, Maine, about what is recyclable and what is not.

One day this summer, Ms. LeBrun opened a shocking bill from ecomaine, the Portland-based company that processes Sanford's recycling. The company, facing a 50 percent drop in revenues as the new Chinese policies created a glut of recyclables in the US, was charging municipalities for exceeding the certain contamination rates. In just 15 days, Sanford had racked up thousands of dollars in fees.

LeBrun immediately brought the bill to Mr. Hill, who calculated that at this rate, it would cost the city about \$100,000 in fees a year. He started flipping through the city's contract with ecomaine.

"There was the opportunity to point the finger at ecomaine," he says, but the city decided instead to work with ecomaine and Casella to address the underlying problem. "The problem is not ecomaine enforcing. The problem is not China rejecting contamination. The problem is that people are just not paying attention to what we do with our waste."

## Beyond the curb

From the giant bay at ecomaine where Casella and other trucks dump their loads, it takes just 3.5 minutes for recyclables to be whizzed along a conveyor belt through a series of sorting areas, which include everything from workers picking out particular kinds of materials to high-tech optical sensors that trigger bursts of compressed air under certain items in order to separate them into a different channel. The workers and whirring machines process as much as 18 tons an hour, making it difficult to achieve China's ultra-low contamination rates of 0.5 to 1.5 percent, depending on the material.

"We can clean up the load, but we're doing it by hand," says ecomaine chief executive Kevin Roche. "None of the automation is helping with contamination – that's all manual."



Christa Case Bryant/The Christian Science Monitor

Bales of recyclables stand ready for pickup in a parking lot at ecomaine, which runs a recycling facility in Portland, Maine, as well as a waste-to-energy plant (visible in the background) that burns trash to produce electricity.

The day the Monitor visited ecomaine, the facility had just sent a shipment of paper to a mill in West Virginia under new ownership – from China.

In effect, US subsidiaries of Chinese firms are becoming part of the solution to US recycling challenges. Faced with the Beijing-imposed decline in imported recyclables, some of them are seeking to rebuild their profits by expanding into US markets.

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A subsidiary of Chinese firm Nine Dragons Paper, ND Paper LLC had bought the mill this fall for \$62 million in cash. The company, which was only formed this year, is one of at least several China-linked outfits that have set up shop in the US after Beijing's shift, says Brian Boland, vice president of government affairs and corporate initiatives at ND Paper.

Some 60 percent of American recycling consists of paper, and until 2018 China took more than half of that paper. That created a whole subset of companies in China that used that material to make recycled paper products. So, when starved of their core material, some have started buying up paper mills in the US, including ones that had been shuttered.

ND Paper is in the process of hiring 130 people to reopen a mill in Old Town, Maine, says Mr. Boland. The company has also announced it will invest in a new recycling operation at its plant in Rumford, Maine, next year, giving facilities like ecomaine a destination far closer, and cheaper, than China or even West Virginia.

“Really, the Rumford mill is our biggest hope,” says Mr. Roche, the ecomaine executive.

## A model for other communities

Such stateside solutions make a lot of sense to Hill of Sanford's Public Works.

“If China can do all this with the recycled material, why aren't we doing it?” he says, citing the cost of transporting a mounting volume of recyclables halfway around the world to be turned into recycled materials. “Why does it have to go over there and then come back here? Why can't it just be done here?”

Sanford, Casella, and ecomaine's partnership shows that it can be.

“It definitely could be replicated across the country,” says Kenneth Blow, who oversees Casella's operations in Sanford and beyond, and says a number of towns have dramatically reduced their contamination rates. “All the municipalities have worked very well with us.... It was a lot of work, a little bit of a struggle, but it's been successful.”

## What can I recycle?

Unfortunately there is no simple answer, as it depends on the collection system and sorting facility used by your city or town. But your Department of Public Works will thank you if you depart from the world of “wishcycling” – crossing your fingers as you throw everything from pool toys and stuffed animals to coffee grinds in your recycle bin, hoping they will be taken away – and spend a few minutes educating yourself.

**Here are a few tips:**

- Check your town or city's website for a guide to recycling. Many communities or even states post a "recyclopedia" of what's allowed and what isn't.
- Just because something is marked with the triangular recycling symbol doesn't mean it can go in your curbside recycling. The biggest culprit is plastic grocery bags, which will gum up the machines at most facilities that take residential recycling. Most local grocery stores will recycle such bags, so bring them on your next shopping trip – and/or invest in reusable bags.
- Food containers, particularly pizza boxes, can be too dirty to recycle. Scrape off that extra cheese, or only recycle the top half of the box.
- Remove all plastic film, such as that found on the top of yogurt containers. Refrain from putting in long stringy items, like garden hoses or Christmas lights, which tangle up the fast-moving sorting machines and can cause injury to facility employees.
- Don't forget about the first two parts of the recycling triangle: Reduce and reuse.

### Give us your feedback



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