

*What lies ahead for the Town of Merrimack*

# Rising Cost of Recycling

*Kris Perreault, Solid Waste Foreman*

*Kyle Fox, Public Works Director*

*Bonnie Bethune, NRRRA Member Services Manager*

*Reagan Bissonnette, NRRRA Executive Director*

# How Merrimack Recycles Today

- Single Stream Recycling; like many larger communities in NH, Merrimack utilizes its drop-off facility for single stream, zero sort recycling – began operations in May, 2010
- This has been an attractive means of recycling because of its simplicity, low processing costs, and ease of use for residents
- Since May, 2010 we have recycled 13,868 tons of single stream material.



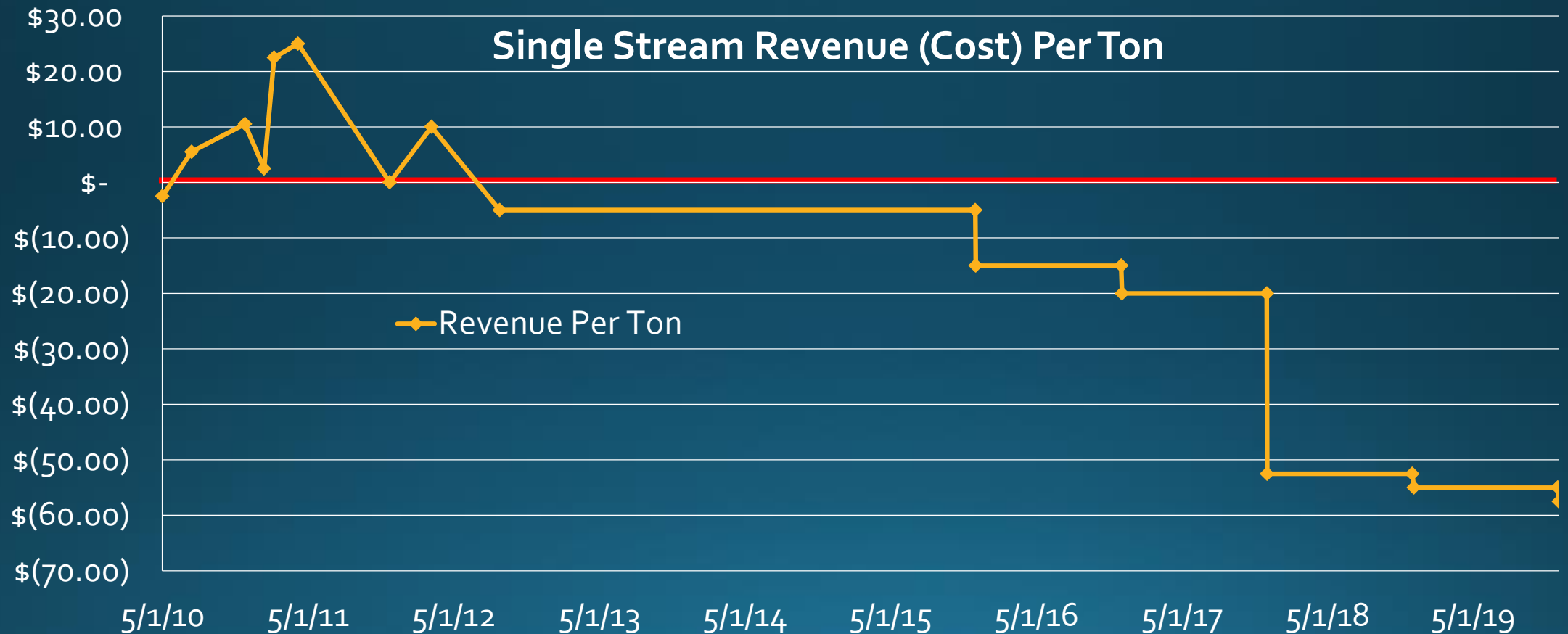
Town of Merrimack, NH  
Single Stream Recycling Guide



**Place All Recyclables in One Bin at Transfer Station**



# How Merrimack Recycles Today



# Current State of Recycling Markets

- There is a glut of certain recyclable materials in the world market causing prices to tumble
- For example: the average price of mixed paper in the northeast has dropped from a high of \$85.00 per ton in March 2017 to costing \$80 per ton today
- Some communities, Merrimack included, have been protected from these dwindling markets thanks to ongoing contracts with MRFs (material recovery facilities).

*However this is about to change with our current contract expiring November 30, 2020.*

# Contributing Factors

- In 2017 China, a world leader of importing recycling materials for its own manufacturing, determined it was no longer accepting the levels of contamination found in most MRF (materials recovery facilities)
- In January 2018 China banned almost all imports. The **Chinese National Sword** is the country's latest and strictest regulation on imports of solid wastes. The policy bans various plastic, paper and solid waste.
- In particular the levels of contamination typically found in **mixed plastics** and **mixed paper**
- This essentially closed off the market for these materials
- Overseas Transportation costs have also gone up

# Contributing Factors – On a Local Level

- Residents putting unacceptable materials into the recycling stream, consumers are faced with a wide variety of items for disposal that don't always fit into a single recycling category i.e. orange juice containers, milk cartons, etc....
- Residents eagerness to recycle has actually increased contamination levels (wish-cycling)

# Town of Merrimack's Recycling Tonnage

Fiscal Year	Tonnage	
2014-2015	1,512	
2015-2016	1,508	
2016-2017	1,434	
2017-2018	1,475	
2018-2019	1,458	<b>*1,477 ton average per year</b>
		*this average will be used in our projections



# Single Stream Commodity Breakdown

Commodity	Composition %	# Tons
OCC (Cardboard)	14%	207
Mixed Paper (All other paper)	44%	650
Aluminum Beverage Cans	1%	15
Steel/Tin Cans	2.5%	37
PET (#1 Plastic)	5.5%	81
HDPE Natural (# Plastics)	1.5%	22
HDPE Colored (#2 Plastics)	1.5%	22
Glass	20%	295
Residue	10%	148
Total:	100%	<b>1477 tons annually</b>

# Single Stream Recycling- Pricing

	Cost per ton		
	2017	2018	2019 ytd
Single Stream (Area Average)	\$40.22	\$79.31	\$76.12
<i>Merrimack's Cost:</i>	<i>\$53.50</i>	<i>\$55.00</i>	<i>\$57.50</i>

# So What Happens Now?

- The current contract the Town of Merrimack has with E.L. Harvey, through the NRRA, expires November 30, 2020
- We are currently paying \$57.50 per ton for all of our recycling
- This VERY FAVORABLE price includes; the rental of one compactor, the rental of 7 recycling boxes, transportation and tipping fees
- The Town of Merrimack is currently talking with vendors to obtain pricing going forward to dispose of our recyclables

# Some Possible Scenarios

1. We continue our current recycling program and absorb these increased costs
2. We return to 'Source Separation'; separating our recyclables baling them onsite and storing until target weights are met
3. We suspend the recycling program and dispose of our recycling in the Solid Waste Stream
4. We pursue some modified recycling that makes financial and recycling sense

# Scenario #1 *Continue Recycling:* Considerations

- This new vendors have expressed the importance of maintaining certain composition percentages and town would be subject to audits
- All other costs associated with recycling remain similar, i.e. labor costs, machine costs and utilities
- For our estimate we are assuming each recycling container will hold an average of 5 tons of recyclables, we arrived at this figure by taking last year's annual tonnage (1,458 divided by the number of loads 280 which is 5.2 tons per pull)

# Scenario #1 – Projected cost FY21

- So what would be the annual cost of disposing the Town's recycling with new vendor?
- We will use our five year average **1,477** tons annually
- We will look at just the 2020-2021 contact period, the transportation costs increase every year

Fees:	July 1 – Nov. 30	Dec. 1 – June 30	Frequency	Annual Cost
Tipping	\$57.50/ton	\$84.76/ton *	1477 tons	\$108,414
Trucking	\$0	\$260/haul	170 loads (292 loads / year)	\$44,200
Equip. Rental	\$0	\$350 / month	7 months	\$2,450
*Prices subject to market change with cap			Total FY21 Cost	\$155,064
			Increase from FY 20	<b>\$68,814</b>
Cost per Ton	\$57.50 5 months	\$139.00 7 months		<b>\$105.04</b> Per month average

# Scenario #1 – Projected cost FY22 and FY23

	Fees:	Rate Schedule	Frequency	Annual Cost
Year 2	Tipping	\$84.76 / ton*	1477 tons	\$125,190
	Trucking	\$269/ haul	292 loads	\$78,548
	Equip. Rental	\$350/ month	12 months	\$4,200
			Total Annual Cost	\$207,938
			Increase from FY 20	<b>\$121,688 (\$140.78/T)</b>
Year 3	Tipping	\$84.76 / ton*	1477 tons	\$125,190
	Trucking	\$279/ haul	292 pulls	\$81,468
	Equip. Rental	\$350/ month	12 months	\$4,200
			Total Annual Cost	\$210,858
*Prices subject to market change with cap			Increase from FY 20	<b>\$124,608 (\$142.76/T)</b>

# Scenario #2 *Return to Source Separation:* Considerations

- Increased Labor Costs; need for a third recycling attendant? (\$65,000 with wages and benefits)
- Increased Utilities
- Baling Supplies and Onsite Storage
- Transportation Costs
- Reintroducing sort separation to the public and the level of work and commitment required
- Increased delays in the Recycling Building for residents
- Lack of room at the Transfer Station for the storage of baled commodities
- The capital expenditure to gear up for separating; purchasing of new storage trailers, compactors or balers and/or refurbishing old equipment



# Scenario #2 – Projected Revenue / Cost Tipping Fees (not including delivery)

	Revenue / (Cost) per ton	Composition %	# tons annually	Annual Revenue / (Cost) per ton
Commodity:	*Tipping Fee Only*			
<i>OCC (Cardboard) baled</i>	\$57.00	14%	236	\$11,786
<i>Mixed Paper (All other paper) baled</i>	(\$80.00)	44%	694	(\$51,990)
<i>Steel / Tin Cans baled</i>	\$97.00	2.5%	59	\$3,582
Aluminum Cans baled	\$735.00	1%	15	\$10,856
Plastics (Baled) #1-7	\$129.00	8.5%	325	\$16,195
Glass	(\$38.00)	20%	74	(\$11,225)
Residue	(\$132.00)	10%	74	(\$19,496)
Annual Projected Revenue:				<b>\$(40,292)</b>

# Scenario #2 – Projected per ton cost

Costs to Consider:	Annual Costs:	Annual Revenue:
		(\$40,292)
Hiring of Additional Recycling Attendant	(\$65,000)	
E.O. III Overtime (416 * \$45) (assumes 8 hours per week)	(\$18,720)	
On Site Storage (estimated 6 trailer rental \$200 per month)	(\$14,400)	
Baling Supplies	(\$1,000)	
Trucking (\$155 x 75 estimated loads) (Fuel and maintenance)	(\$11,625)	
New/Refurbish Equipment (10 Yr. life)	(\$100,000)	
New Box Trailer over the road (10 Yr. life)	(\$50,000)	
Total Estimated Annual Costs:	(\$166,037)	(\$301,037)*
Estimated Cost per ton:	(\$112.42)	(\$203.82)*

\* Assumes capital  
cost items  
expended fully in  
year 1

# Scenario #3 *Suspend Recycling:* Considerations

- Increased labor costs;
  - Increase in overtime due to 15% increase in solid waste disposal
- It may be difficult for the residents to accept this change
- The recycling center provides many services above and beyond the traditional recycling i.e. lights bulbs, electronics, propane tanks, batteries, automotive chemicals, etc.

# Scenario #3 – Projected per ton cost

- So what would be the annual cost of disposing the Town's recycling in with the Solid Waste?
- The trucking costs have been estimated to be \$155 per load factoring in fuel (75 miles), labor (2 hours), and maintenance
- There will be some overtime to allow for the addition 1.5 trailers per week; approx. 8 hours per wk.

Fees:		Frequency	Annual Cost
Tipping	\$71.50/ ton	1477 tons	\$105,606
Trucking approx. 75 additional trailers	\$155 / haul	75 loads	\$11,625
E.O. III Overtime 416 hours per year @\$45			\$18,720
Wages two E.O. III and Scale Operator	To support extra 1,500 tons		\$40,658
		Total Annual Cost	\$176,609
		Cost per Ton	\$119.57

# Scenario #4 *Modified Recycling Program:* Considerations

- Do we pull the glass from the recycling stream? i.e. Hooksett and Bedford?
  - Based on the Town of Merrimack's composition this is 20% of our recycling or 295 tons annually
- Recycle just the items that generate revenue
- Keep the operation the same logistically with the hope that this is temporary and the markets will correct themselves
  - The staff will remove the recyclables and transport them to the Solid Waste building
  - This will keep things consistent for the residents and wait times will remain the same

Questions?