



Reclay StewardEdge

Product Stewardship Solutions

Continuous Improvement Fund
Price Sheet Commodity Price Trends

PREPARED BY: Reclay StewardEdge Inc.



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1. Introduction

1.1. Overview and Background of Project

In 2017, China, the largest importer of recovered materials, indicated it would be banning the importation of 24 scrap materials. This ban included the importation of mixed paper and plastics that resulted in world-wide market issues. China's ban was a result of long standing quality issues, where MRF operators with poor quality control measures would sell heavily contaminated recyclables commodities to China. Effectively, using China as a way to dispose of waste. As it appears that China's ban will not to be lifted in the near future, MRF operators are struggling to improve quality control measure and find alternative homes for their materials.

For Ontario municipalities, the ban has resulted in significant price drops for recycled fibre commodities, specifically Sorted Residential Paper & News (SRPN #56, also referred to SRP #56) and Mixed Paper (MP #54) grades. In addition, the closure of Resolute, a domestic paper mill has further exacerbated the issue resulting in significant price drops due to an over-supply of materials.

The Continuous Improvement Fund (CIF) has funded the development of the monthly CIF Price Sheet since 2015 as a way to share commodity pricing information with Ontario municipalities and other stakeholders. In light of recent changes to the markets, the CIF has requested Reclay StewardEdge (RSE) to analyze the past trends in the composite index and pricing against other public sources of information. This report describes the methodology used and the results from the analysis.

1.2. Purpose/Objective

The Price Sheet provides monthly pricing for all major post-consumer commodities produced by Ontario MRFs based on pricing information provided by Ontario municipalities. As part of the continuous improvement process, the study also looks to evaluate the accuracy of the monthly pricing information provided by municipalities as it is provided voluntarily without the need for extensive back-up; i.e. municipalities do not need to provide invoices to demonstrate final prices.

RSE compared the pricing information from 2015 – June 2018 against two public sources commonly used to track prices of post-consumer commodities.

1.3. Methodology and Approach

RSE compared the reported monthly pricing from the CIF Price Sheet against two public sources that are commonly used:

- Secondary Materials Pricing (<http://www.recyclingmarkets.net/secondarymaterials/index.html>)
- RISI Pulp and Paper Week (<https://www.risiinfo.com/>)

While other sources of data exist for individual materials (e.g. London Metal Exchange, etc.), Secondary Materials Pricing and RISI represents the most commonly used and comprehensive data for all of the commodities being considered.

All prices provided were converted to CAD/Metric Tonne using the Monthly Average Rates – U.S. Dollar (close) as reported by the Bank of Canada (<https://www.bankofcanada.ca/rates/exchange/legacy-noon-and-closing-rates/>). Data from the CIF Price Sheet, Secondary Materials Pricing, and RISI's domestic prices are presented as Freight On Board (FOB) the seller's dock which means freight/transportation costs are included in the purchase price. However, RISI's export prices were provided as Free Alongside Ship (FAS) indicating the seller must cover all transportation costs to the pier of origin but includes shipping costs from that point forward. For the purposes of this analysis, the Price Sheet was compared directly with the FAS prices without any adjustment to transportation. As such, the export prices are typically higher than the pricing from the other sources.

2. Commodity Pricing Results

2.1. Summary

Pricing data for container commodities from the Price Sheet was compared only to the pricing information provided by Secondary Materials Pricing (<http://www.recyclingmarkets.net/secondarymaterials/index.html>) as it represents the most comprehensive site for a wide range of post-consumer commodities marketed by municipalities. Similarly, pricing data for fibres was compared against both the Secondary Materials Pricing website, as well as RISI's domestic and 'Export to Asia' prices.

For large volume container commodities with established markets, such as PET, HDPE, Aluminum and Steel, the variance between the Price Sheet and the Secondary Materials Pricing was typically under +/- 10%. Similarly, the pricing variance for fibres was also typically under 10% when comparing it to RISI's domestic pricing.

Smaller commodities with limited markets, such as #3-7 Plastics, Film, and Polycoat showed the greatest variance on an annual basis. These results are expected as the composition of these materials are largely driven by local market conditions. For example, US municipalities do not typically sell dairy in plastic film, which is prevalent in Ontario. This results in greater volumes of gable top containers available for collection that may be contributing to better pricing.

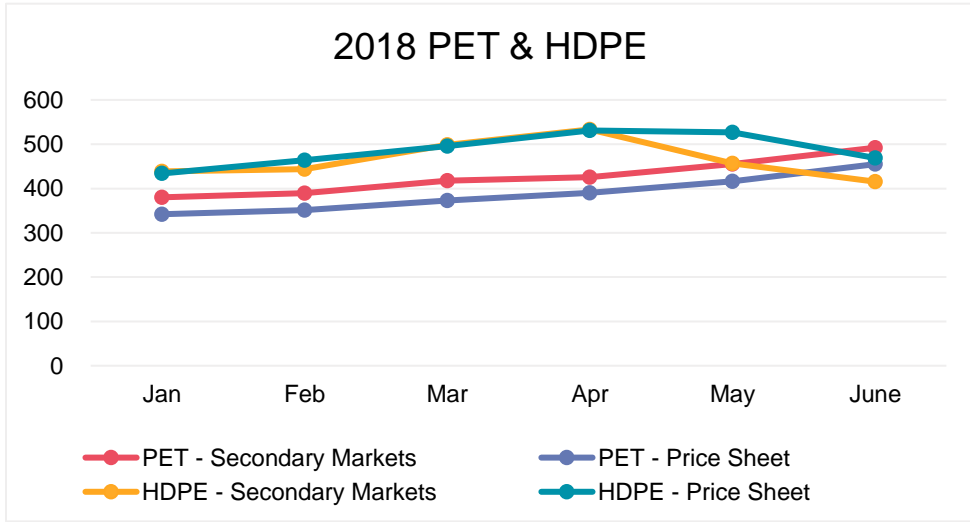
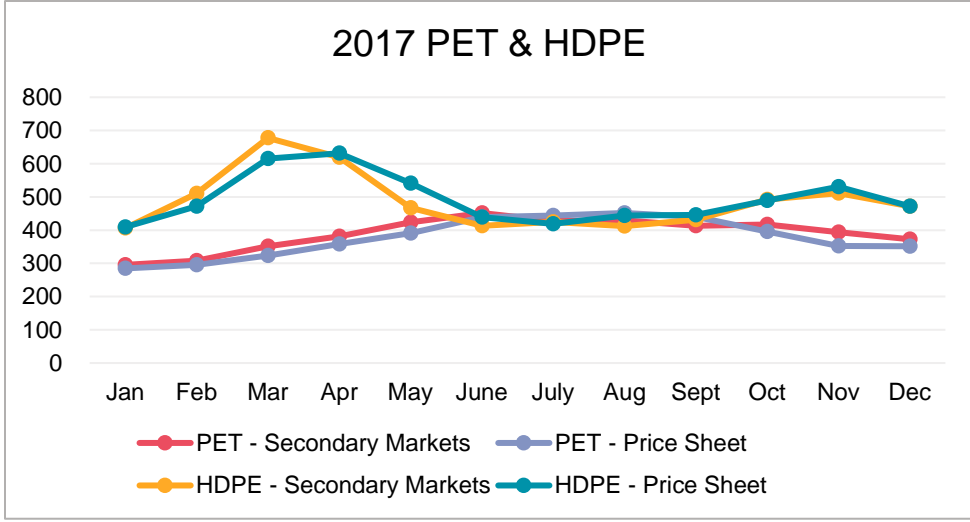
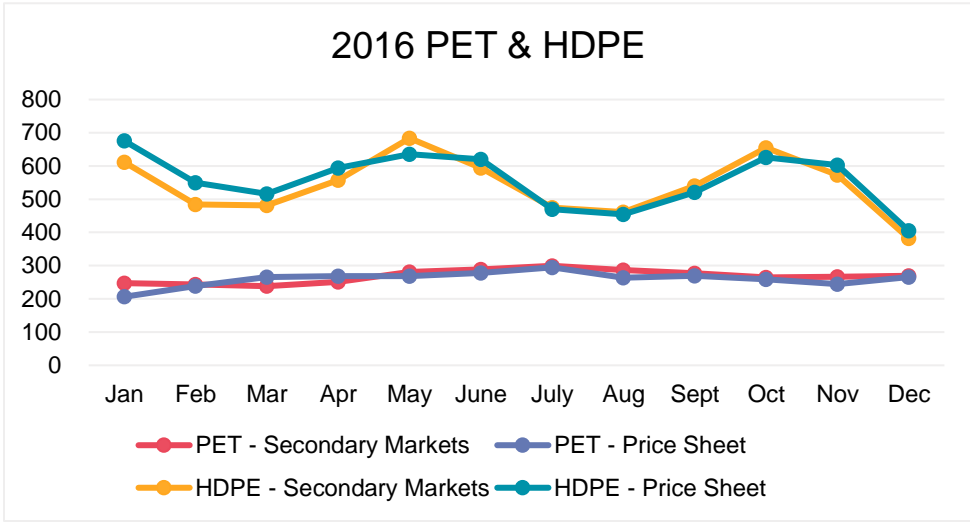
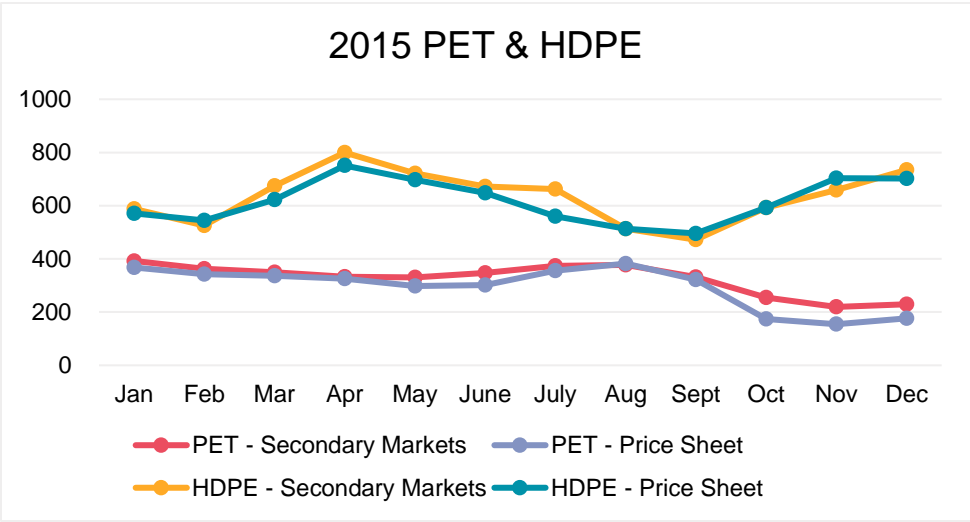
While for most commodities, the price variances have been under 10% over the past 3 years, it is evident that the variance is increasing in 2018. This is a direct result of the uncertainty in global markets, which has resulted in significant price swings. The table below illustrates the average variance by month for the given year.

	Average Annual Variance			
	2015	2016	2017	Jan- June 2018
PET (%)	14%	3%	4%	10%
HDPE (%)	3%	-3%	-1%	-5%
#3-7 Plastics (%)	-53%	-21%	37%	3%
Film (%)		86%	168%	183%
Aluminum (%)	15%	9%	8%	13%
Steel (%)		4%	2%	-5%
Polycoat (%)	56%	22%	102%	58%
ONP#8/SRPN#56 Secondary Markets (%)	23%	11%	4%	-34%
ONP#8/SRPN#56 RISI Domestic Buffalo High (%)	-4%	-4%	-3%	-12%
ONP#8/SRPN#56 RISI Export NY/NJ High (%)	104%	53%	55%	-24%
ONP#6/MP#54 Secondary Markets (%)	57%	12%	13%	-56%
ONP#6/MP#54 RISI Domestic Buffalo High (%)	29%	7%	8%	17%
ONP#6/MP#54 RISI Export NY/NJ High (%)	185%	127%	91%	-83%
OCC Secondary Markets (%)	5%	-2%	-7%	-5%
OCC RISI Domestic Buffalo High (%)	-5%	-8%	-8%	-13%
OCC RISI Export NY/NJ High (%)	54%	24%	26%	32%

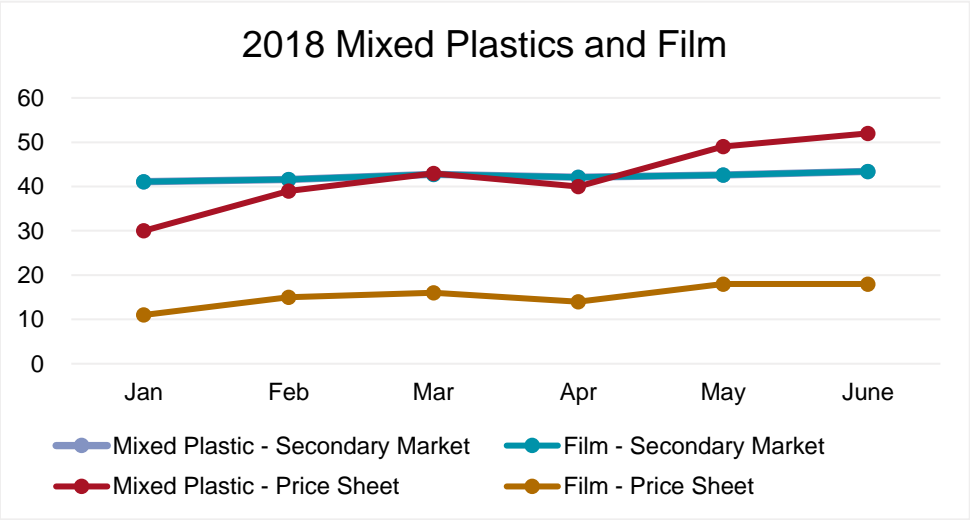
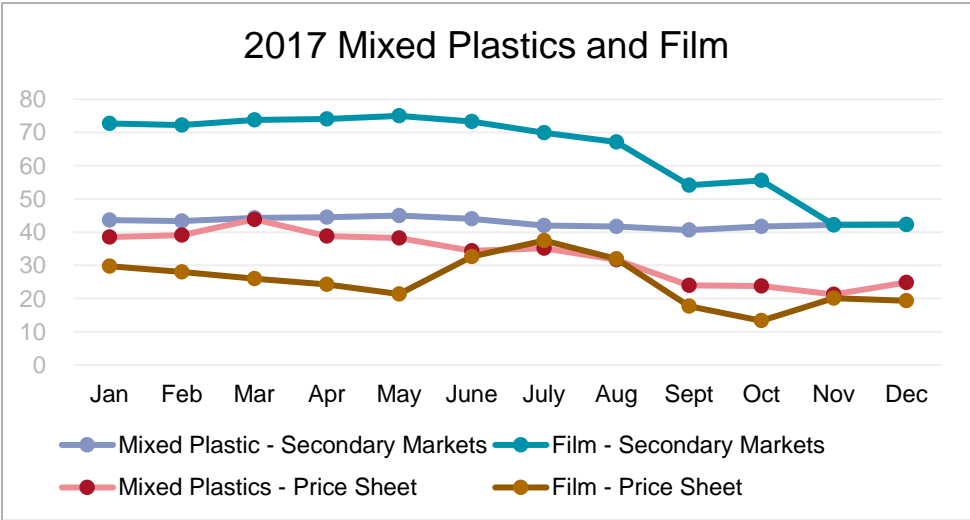
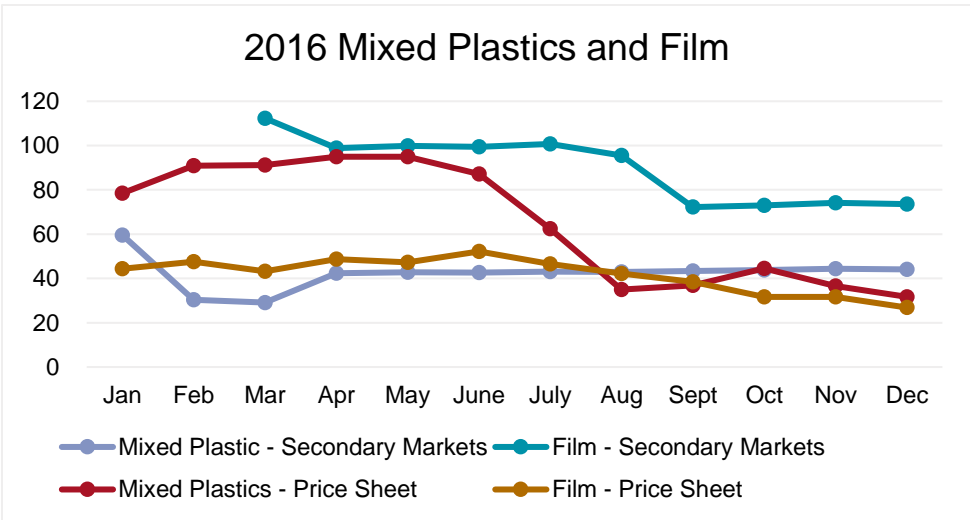
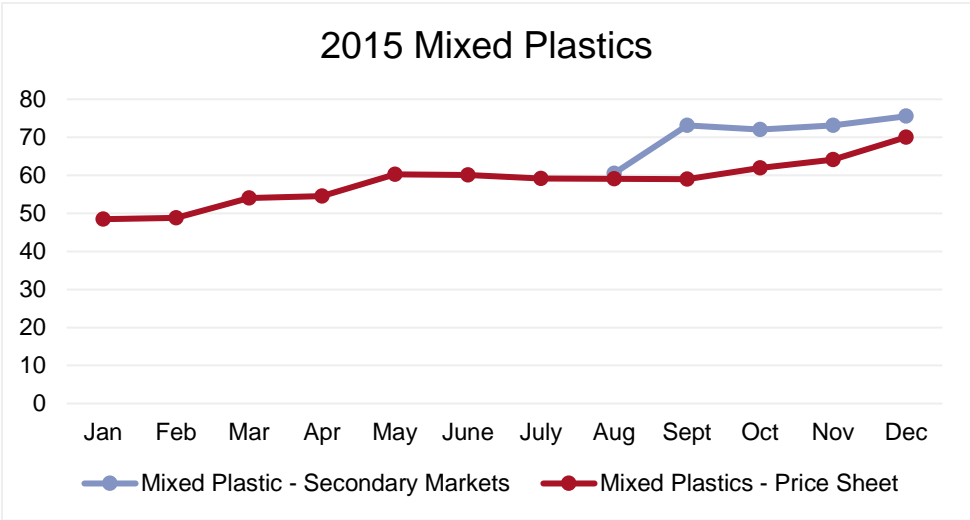
Monthly variances between the different commodities and their respective data sources are presented in Section 3.2. **Note:** In 2018, the Mixed Plastics and Film price from Secondary Markets are the same and overlap each other. However, only one line is visible on the graph (Section 3.2.2).

2.2. Commodity Specific Summary

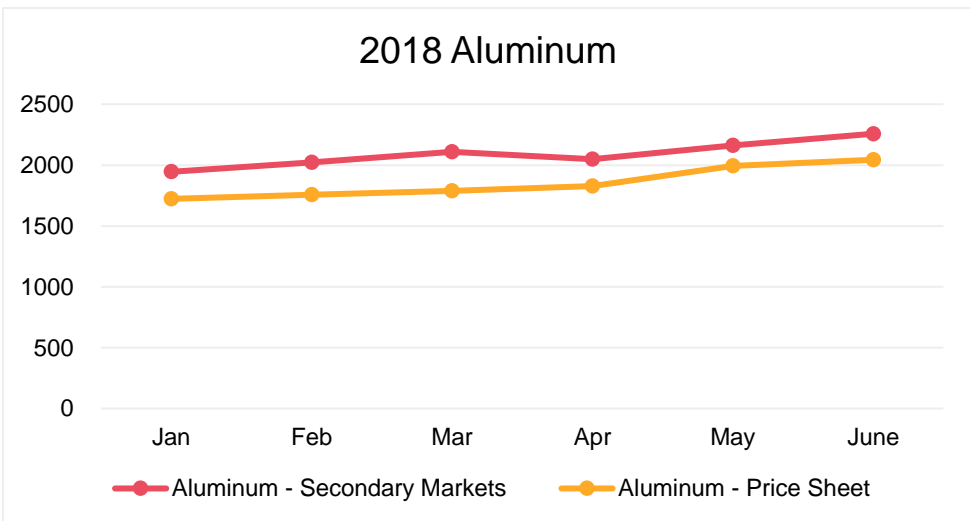
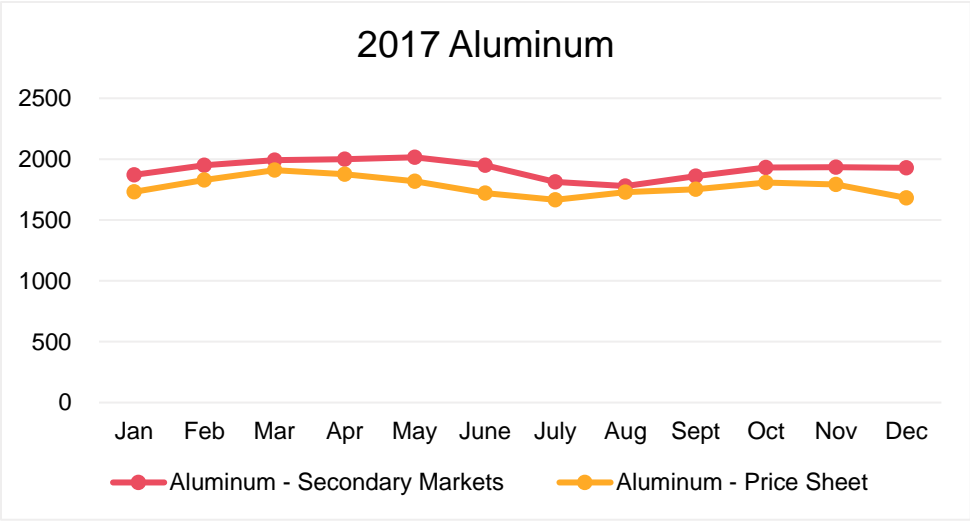
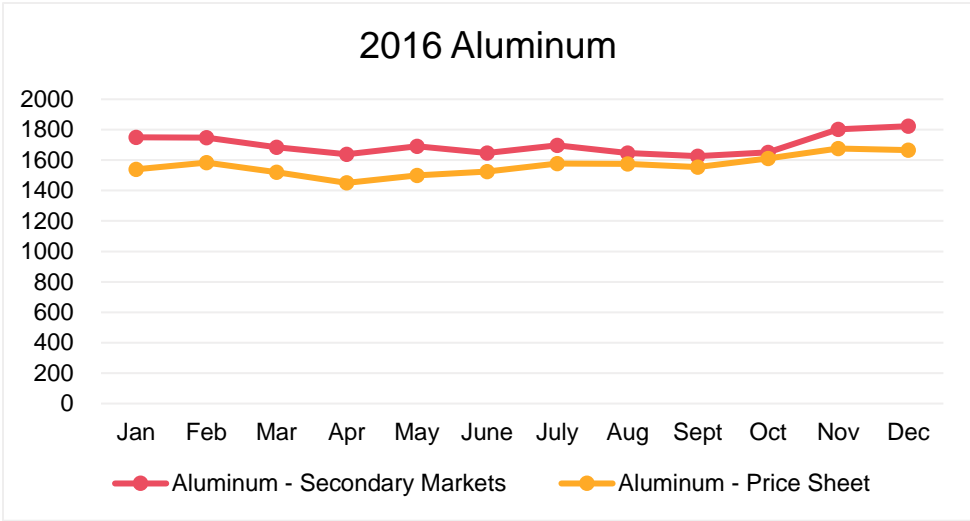
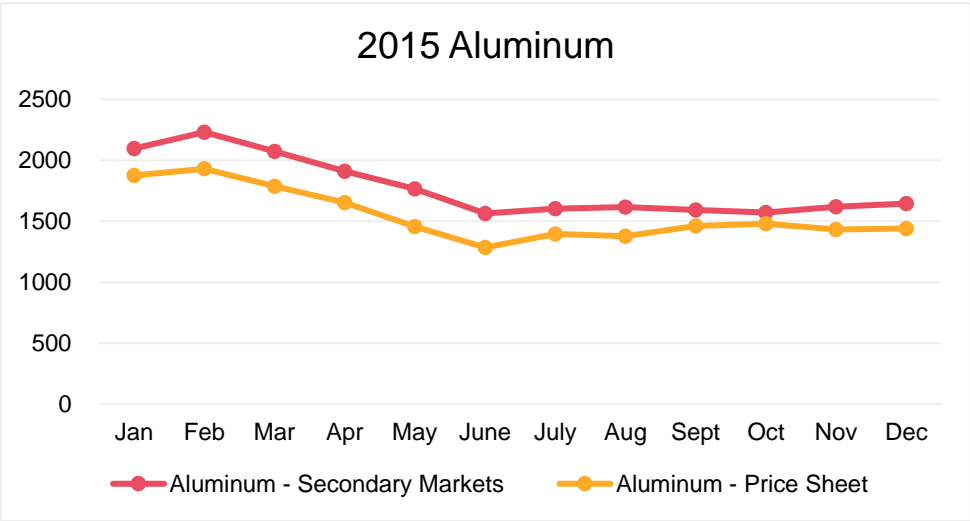
2.2.1. PET & HDPE 2015 – 2018



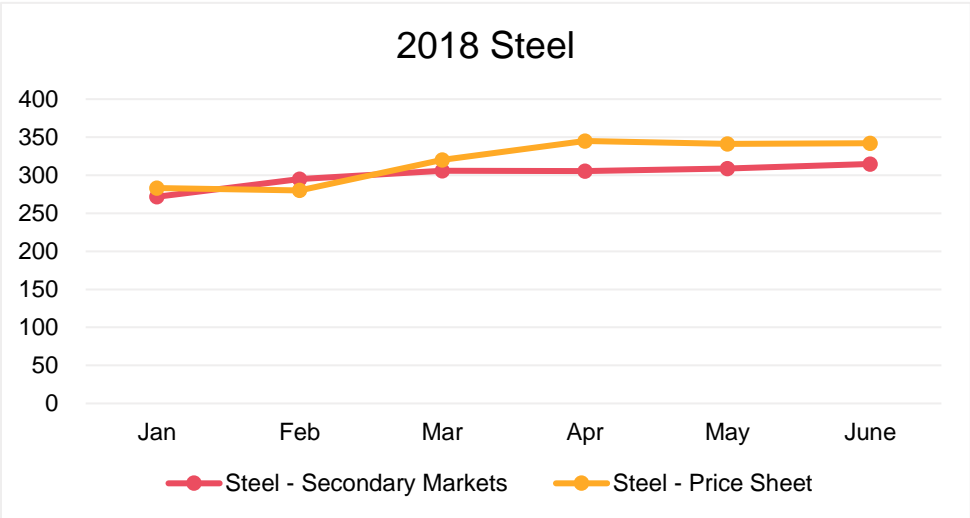
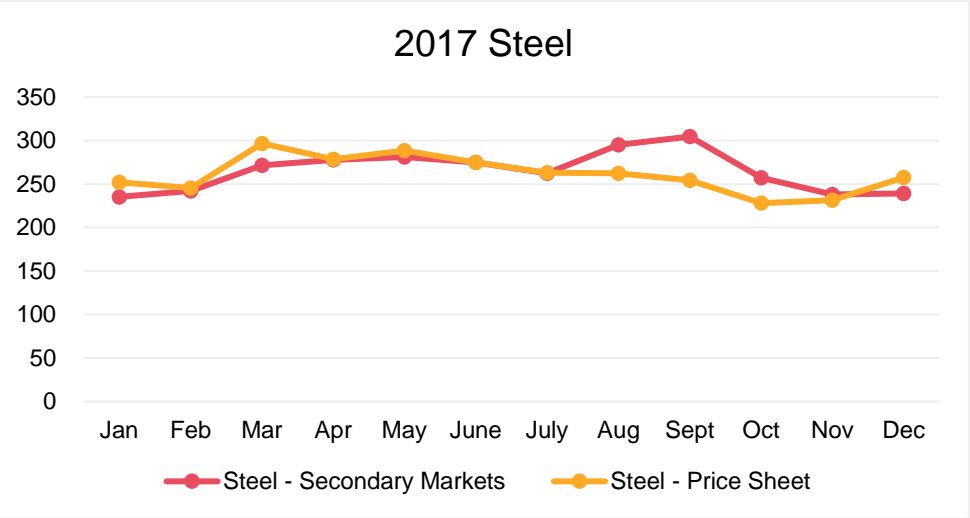
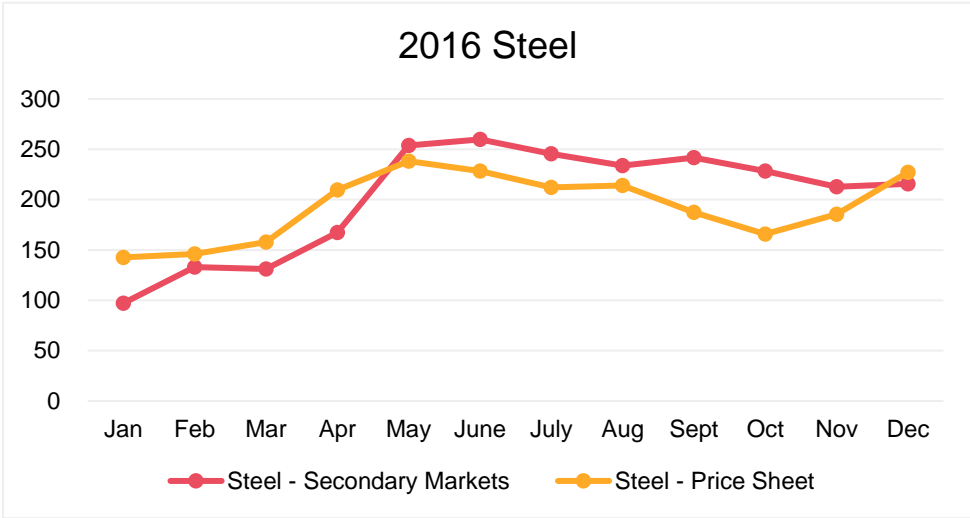
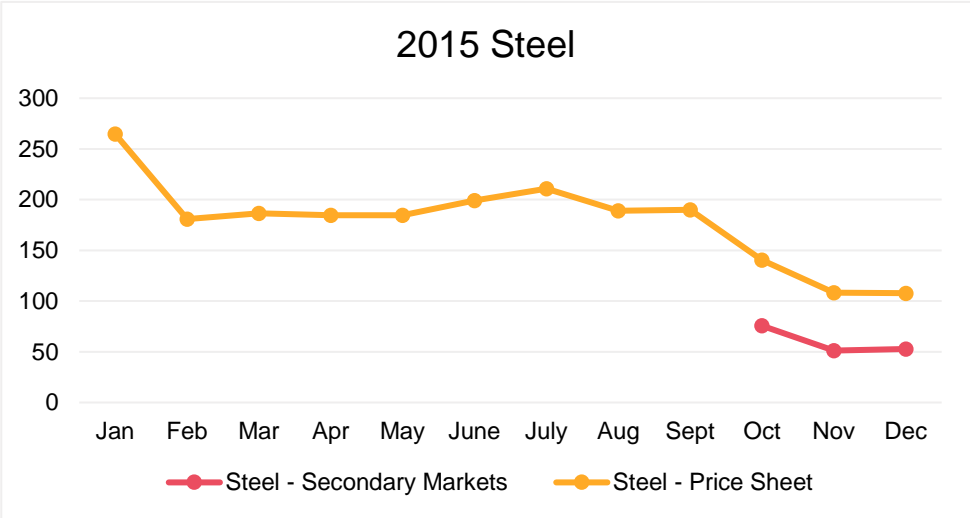
2.2.2. Mixed Plastics 2015 – 2018



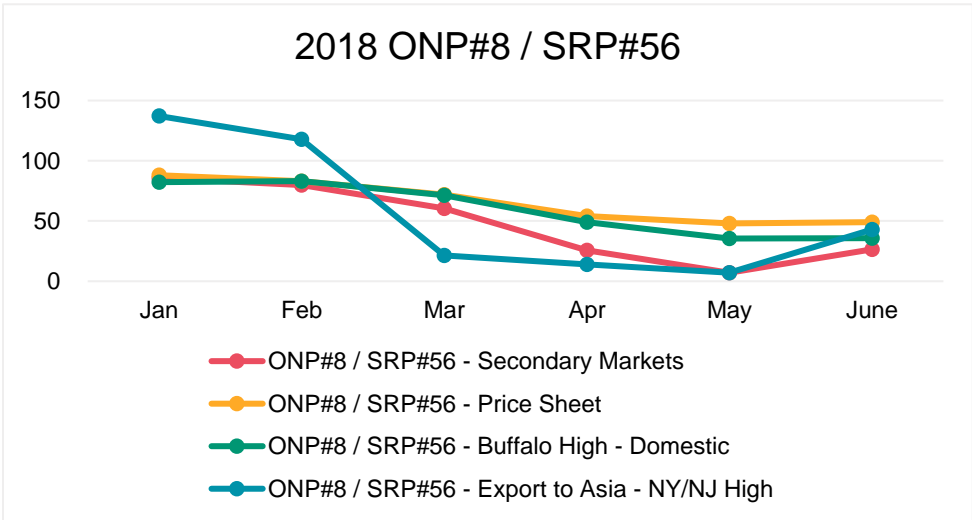
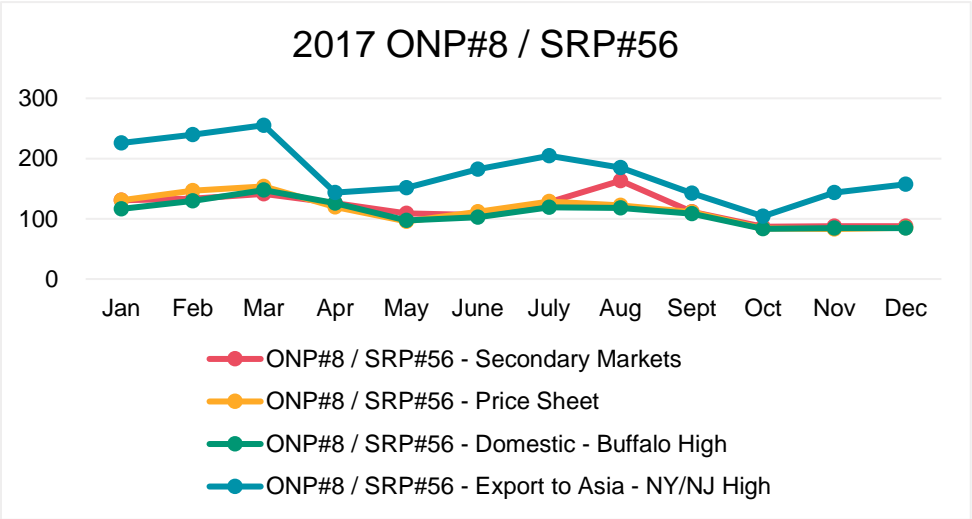
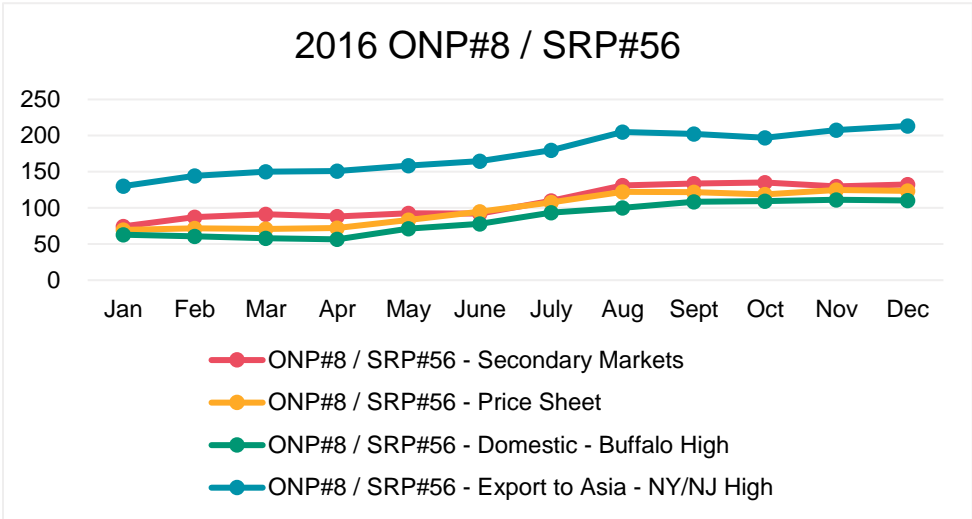
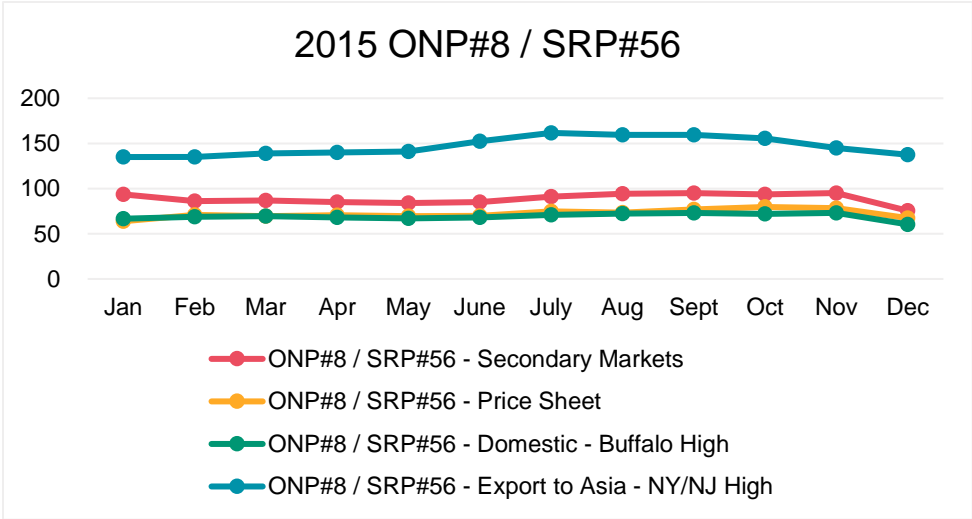
2.2.3. Aluminum 2015 – 2018



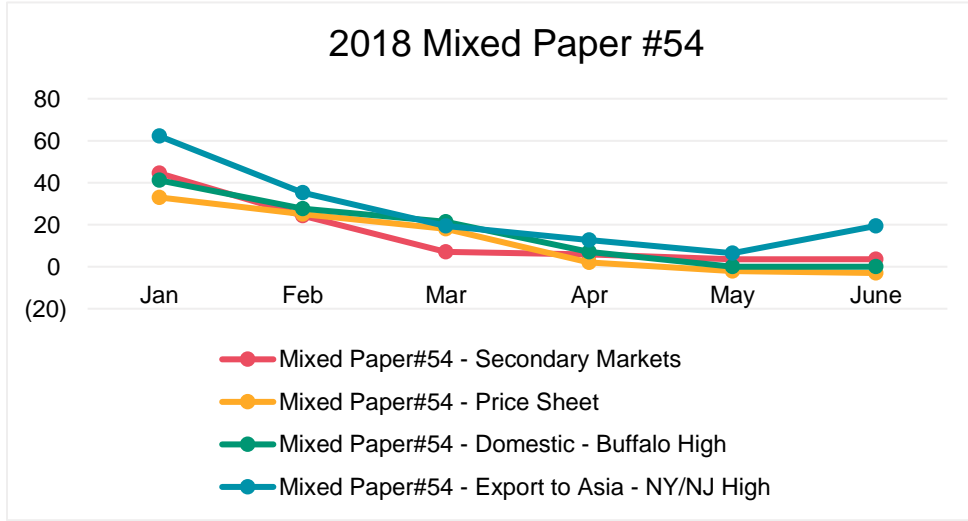
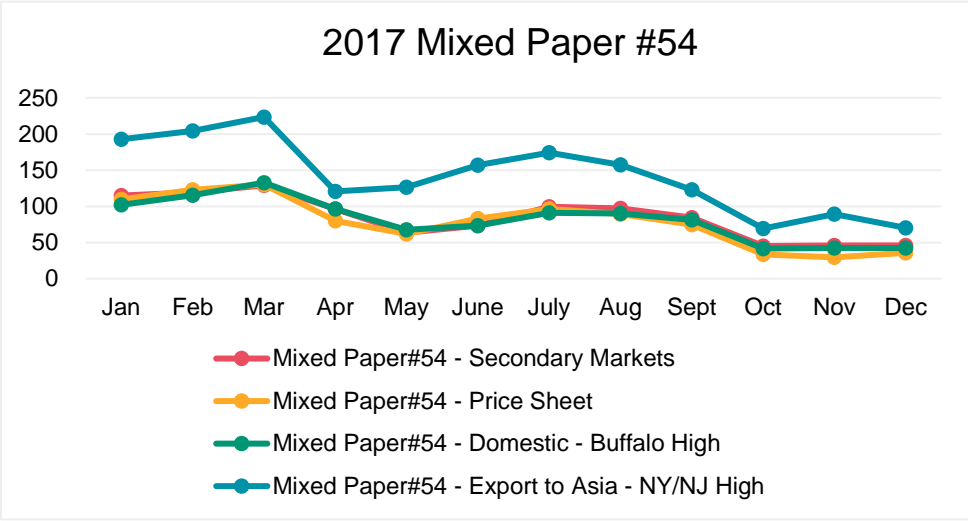
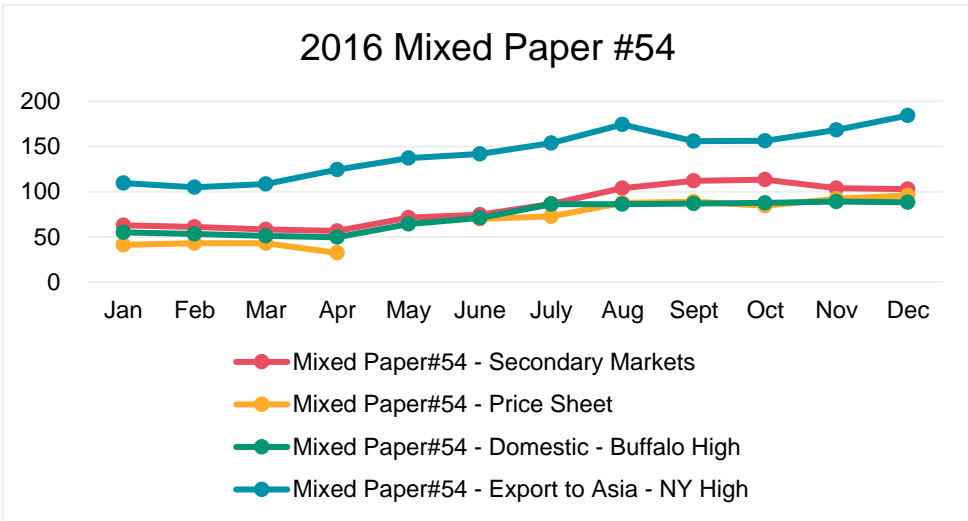
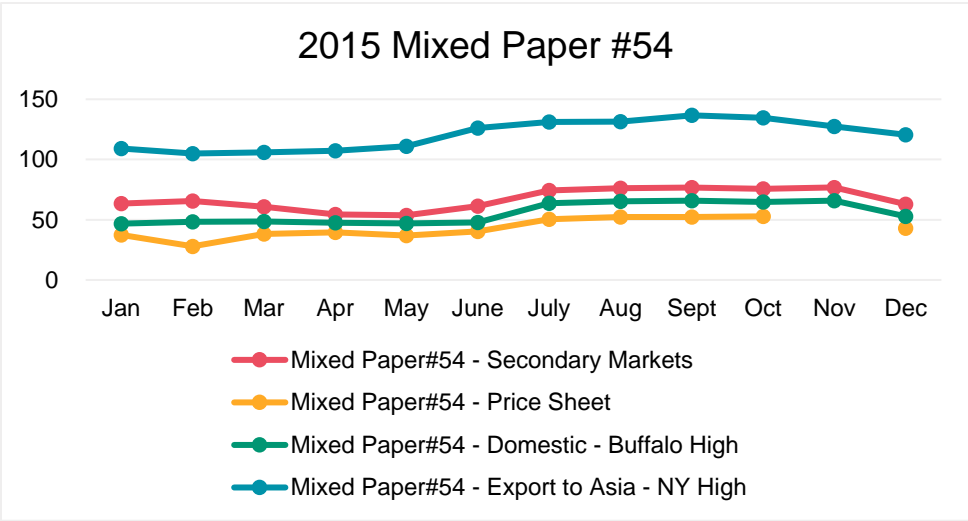
2.2.4. Steel 2015 – 2018



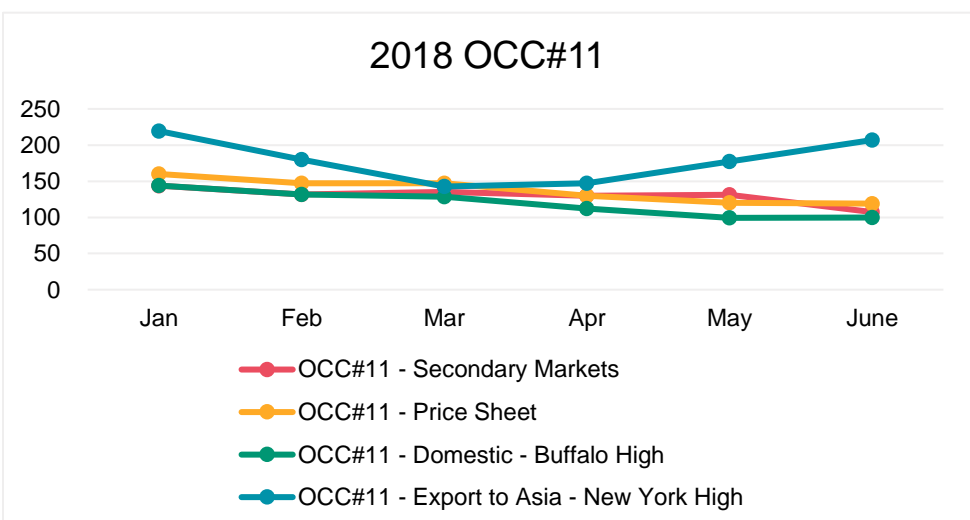
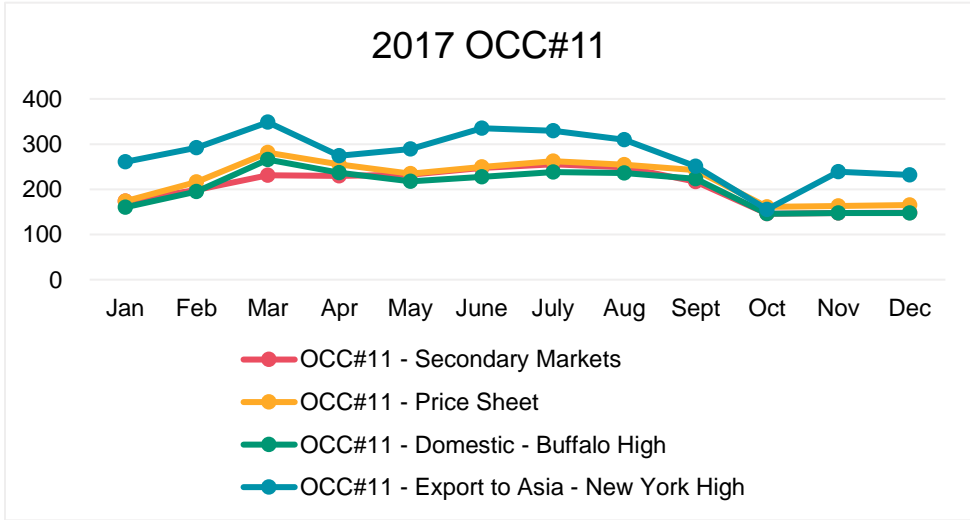
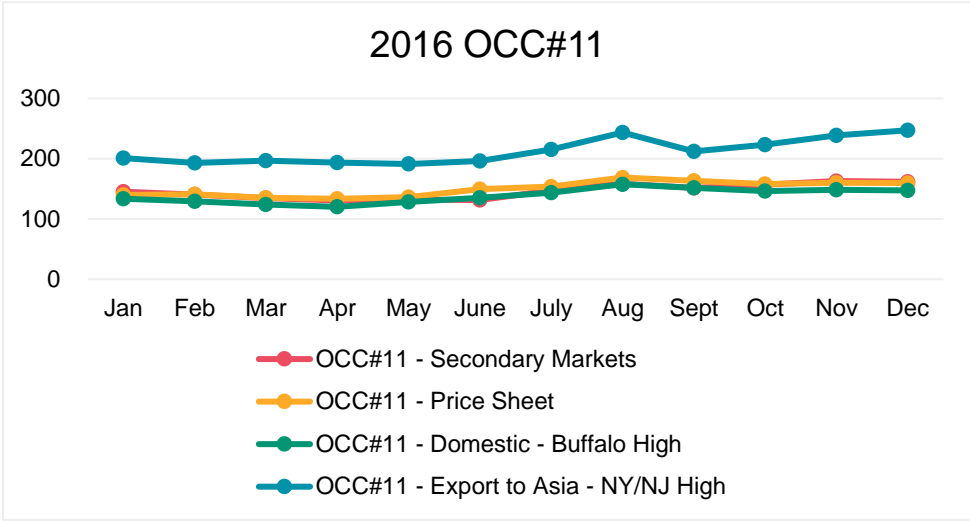
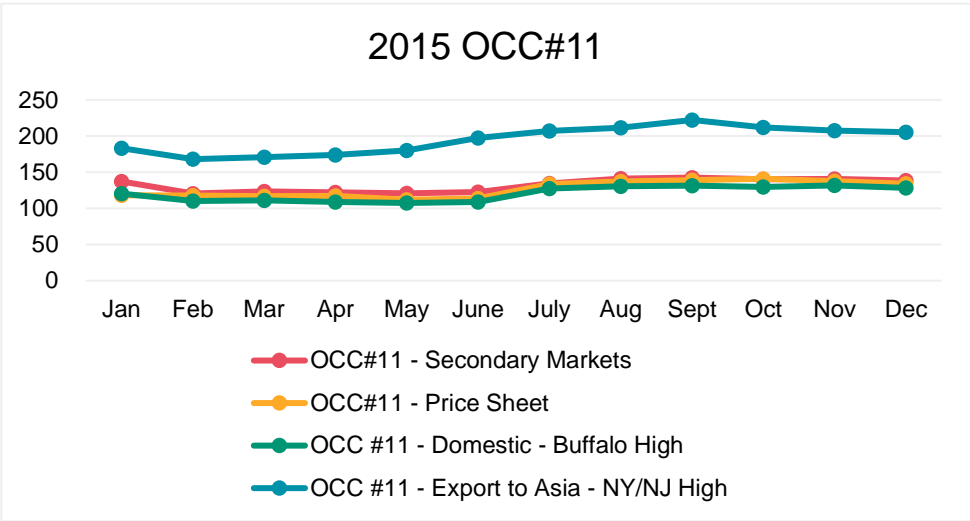
2.2.5. ONP#8 / SRP#56 2015 – 2018



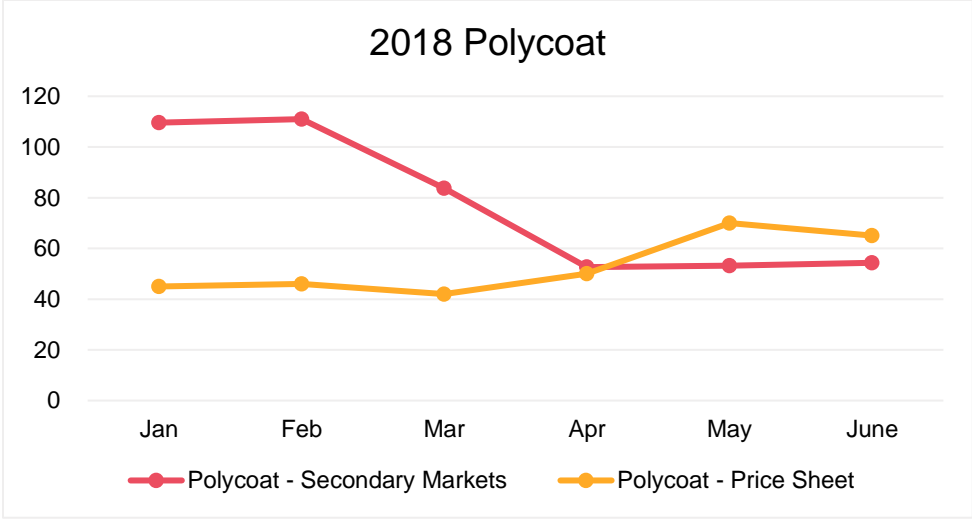
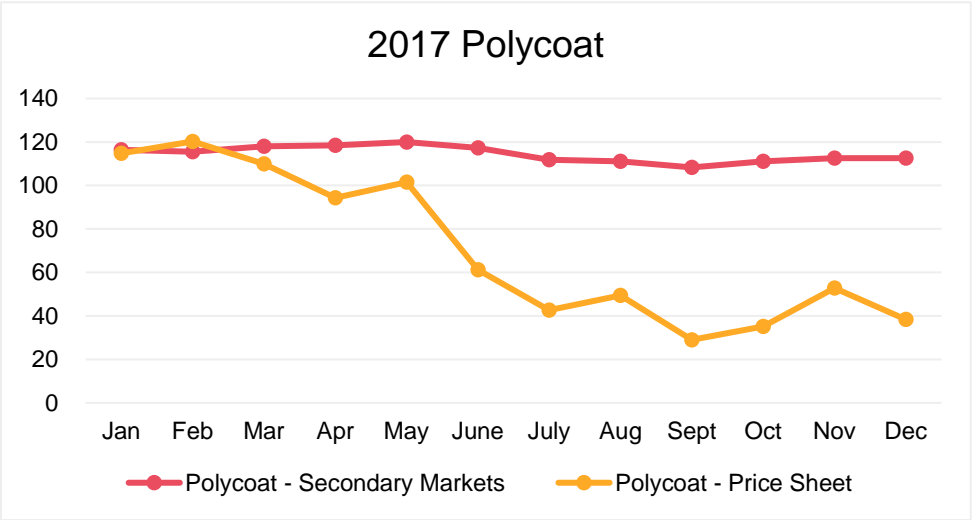
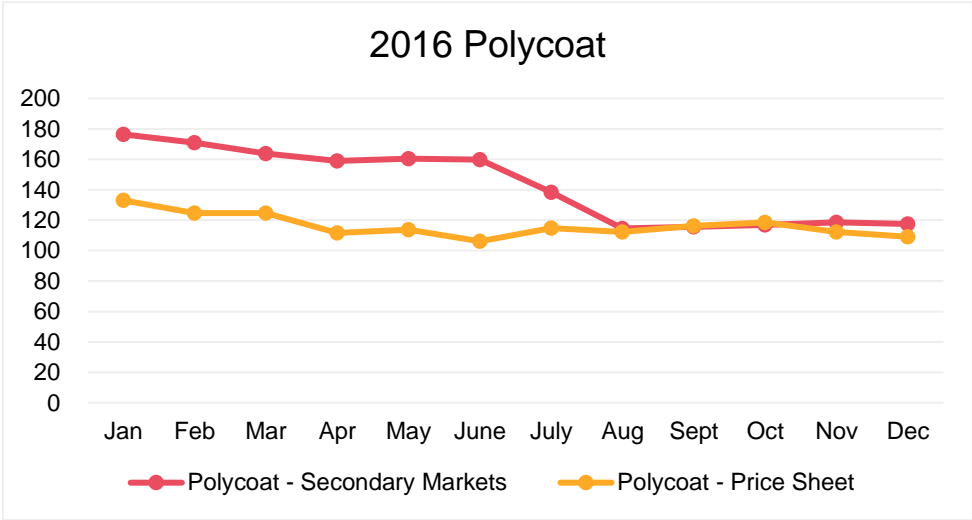
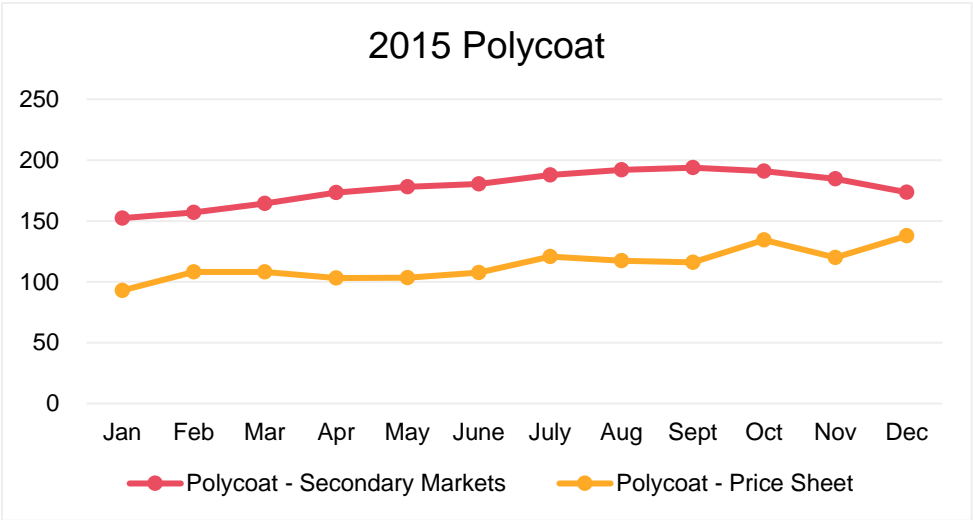
2.2.6. Mixed Paper #54 2015 – 2018



2.2.7. OCC#11 2015 – 2018



2.2.8. Polycoat 2015 – 2018



3. Conclusions

Comparing the monthly pricing from the CIF Price Sheet to the two other comprehensive commodity pricing data sources, Secondary Materials Pricing and RISI Pulp and Paper Week, it is evident that the information provided voluntarily by municipalities is still consistent and reflective of the market. In most cases, the pricing from the CIF Price Sheet is typically lower than the pricing from the other two data sources, which could be the result of slightly higher transportation costs from Ontario to the US.

The biggest variance between the CIF Price Sheet pricing and the two other data sources appears to be with smaller volume commodities, such as Mixed Plastics, and Polycoat. Both of these commodities are highly dependent on the material mix collected which may significantly impact bale quality. For example, very few municipalities in the U.S. accept film in curbside programs which limits the amount of film that may enter a mixed plastic bale. Similarly, the use of milk bags is not common in the U.S. and is often replaced with HDPE or Gable Top cartons. The use of Gable Top cartons results in greater volumes of polycoat materials that can be captured and marketed.

The greatest variance with large volume commodities is with fibre commodities when compared to the RISI Export prices. A \$20-#30/tonne variance is expected, as the RISI Export Prices do not include transportation to the port; however, in some cases the variance is greater than \$60/tonne. This variance highlights the role export markets, specifically China, has played in purchasing large quantities of post-consumer commodities at much higher prices compared to domestic markets. This variance has typically been seen in previous years, prior to 2018.

In April – June 2018, the pricing for ONP#8/SRPN#56 on the CIF Price Sheet is higher than the RISI and Secondary Material pricing. This variance is likely due to the number of dual-stream facilities that provide pricing to the CIF Price Sheet, indicating their ability to produce higher quality bales resulting in better pricing.

Overall, the CIF Price Sheet has been fairly consistent with the other sources of data for commodity pricing and represent the only free data source on commodity pricing that is based entirely on Ontario pricing.

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