State Perspective on Glass Recycling

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North Carolina Supports Glass Recycling

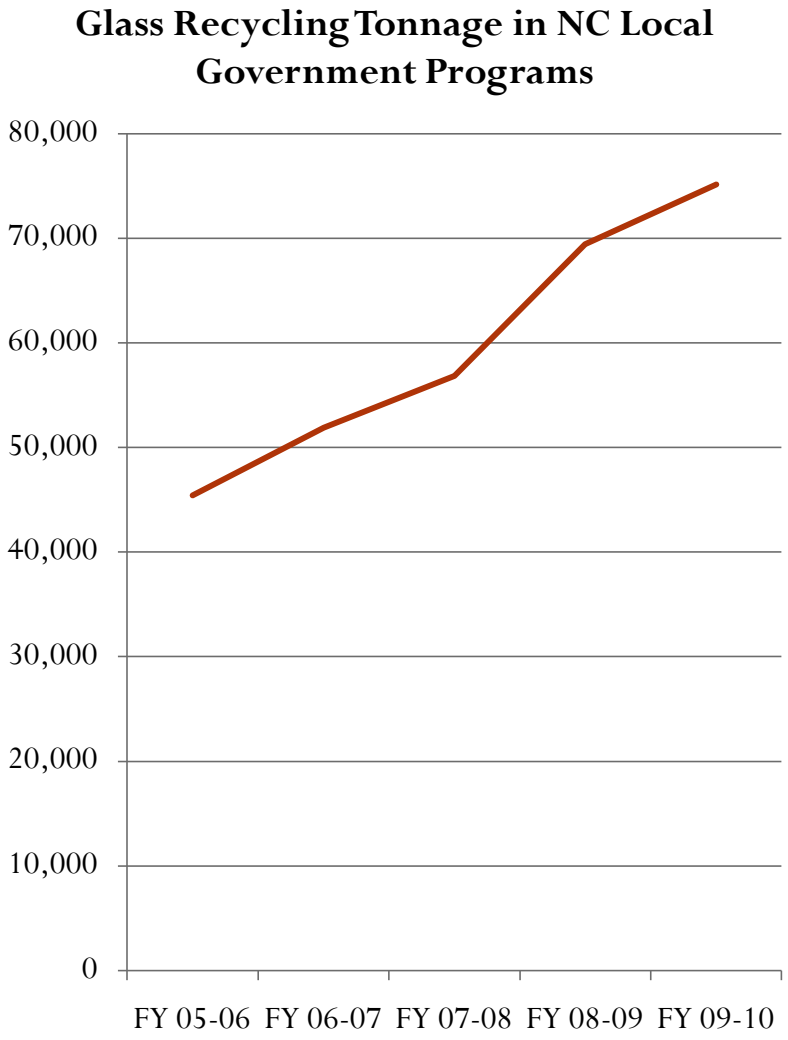
- NC home to three glass plants and two major beneficiation facilities, employing over 800 North Carolinians.
- NC understands the environmental and economic reasons to maximize glass recovery and cullet use – we support GPI's 50% goal.
- Extensive technical assistance and grant work to improve glass recycling conditions in NC.
- Implementation of only legislation in the U.S. mandating bar and restaurant recycling.

But…, Glass has Challenges

- Close interaction with generators, community recycling programs, collectors, and processors informs NC's perspective.
- At its points of generation, collection, and processing, glass has low value and sometimes negative value.
- Glass is very freight sensitive and the cost of storage and transport is an issue.
- Collection and processing practices are drifting toward lowering market value.

The Good News – Glass Recovery is Up

- Increases in curbside and drop-off activity helping drive up glass recycling.
- Estimated 3,600 ABC permit-holders served by private collectors and 1,294 ABC served by local governments.
- 82 communities allow ABC permit-holders to use their drop-centers.
- 1,965 permit-holders claim to be self-haulers.
- 5 – 6 tons per year per permit-holder: 25,000 to 29,000 tons per year (not counting self-haulers)



The Not-So-Good News

- To make glass collection more affordable, three color-mixing is becoming prevalent.
- The transition to single stream means more MRFs will produce more three-mix.
- All collected glass may not be getting to glass plants – yield loss through collection and processing may be 30% or higher.
- Lack of glass value tends to alienate glass collectors and processors.

Glass value to a typical bar and restaurant: -$300/ton

Glass: the View from the Trenches

Comments from NC recyclers:

- "Glass… a nasty word"
- "I've heard haulers say that glass is worthless and tell their customers to throw it away"
- "If I had my way, I'd stop collecting brown and green glass"
- "I'm not ever going to get anything for my glass, so why should I care about quality?"

- Still, most programs work to keep glass in the collection mix.

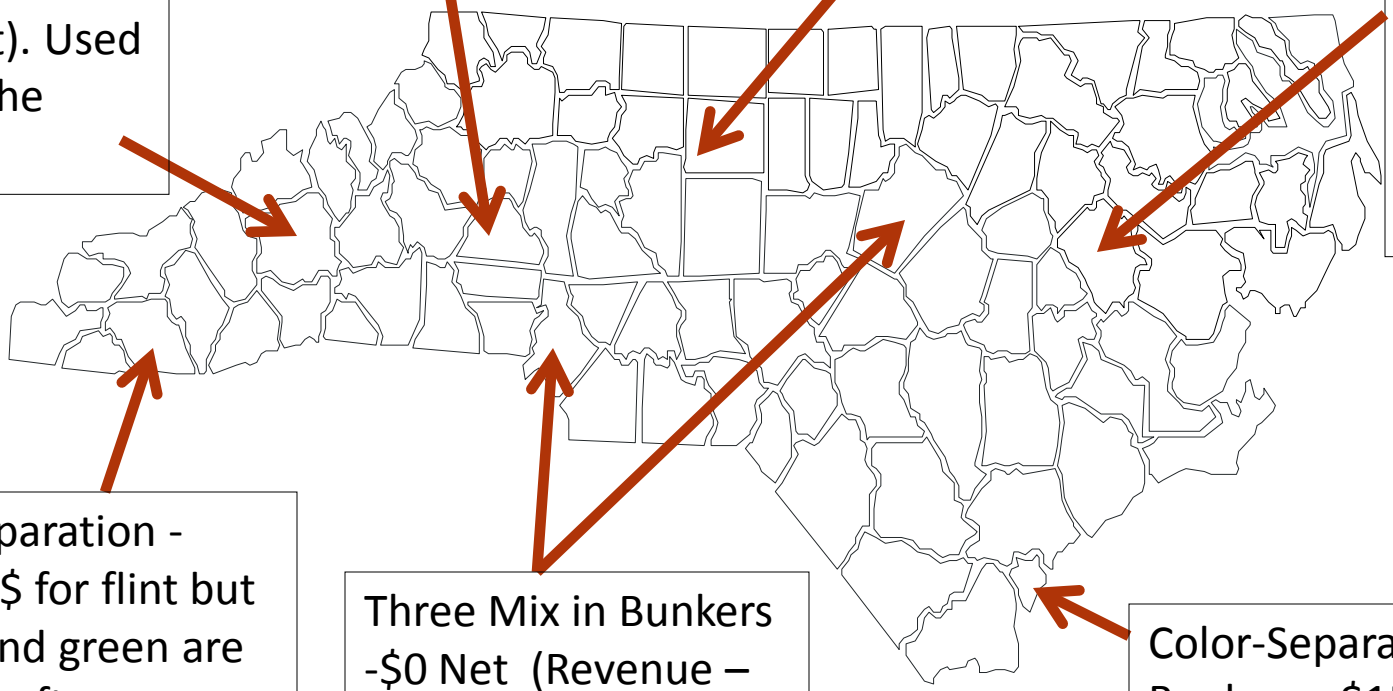
Processor and Recycling Program Experience

Color separation: $25 for flint; $18 Amber, $3 green. Possibly going to single stream and 3 mix ($20 charge)

Three mix stored in bunkers, netting $13/ton after transport; "MRF soup" also taken for free.

Color separation : $18 for flint; $18 Amber, -$12 mixed. Ratio: 5 mix to 4 amber to 2 flint

Three Mix - $0 Net (Revenue – Transport). Used to be in the negative.

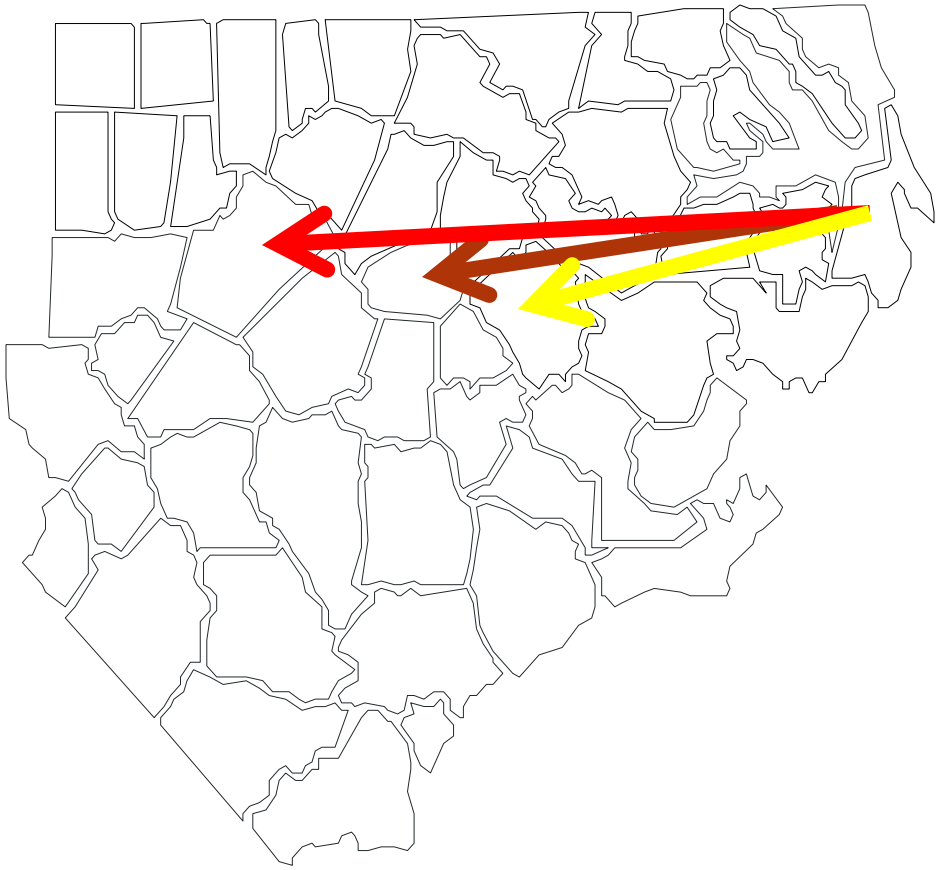


Color separation - positive $ for flint but amber and green are negative after transport.

Three Mix in Bunkers -$0 Net (Revenue – Transport)

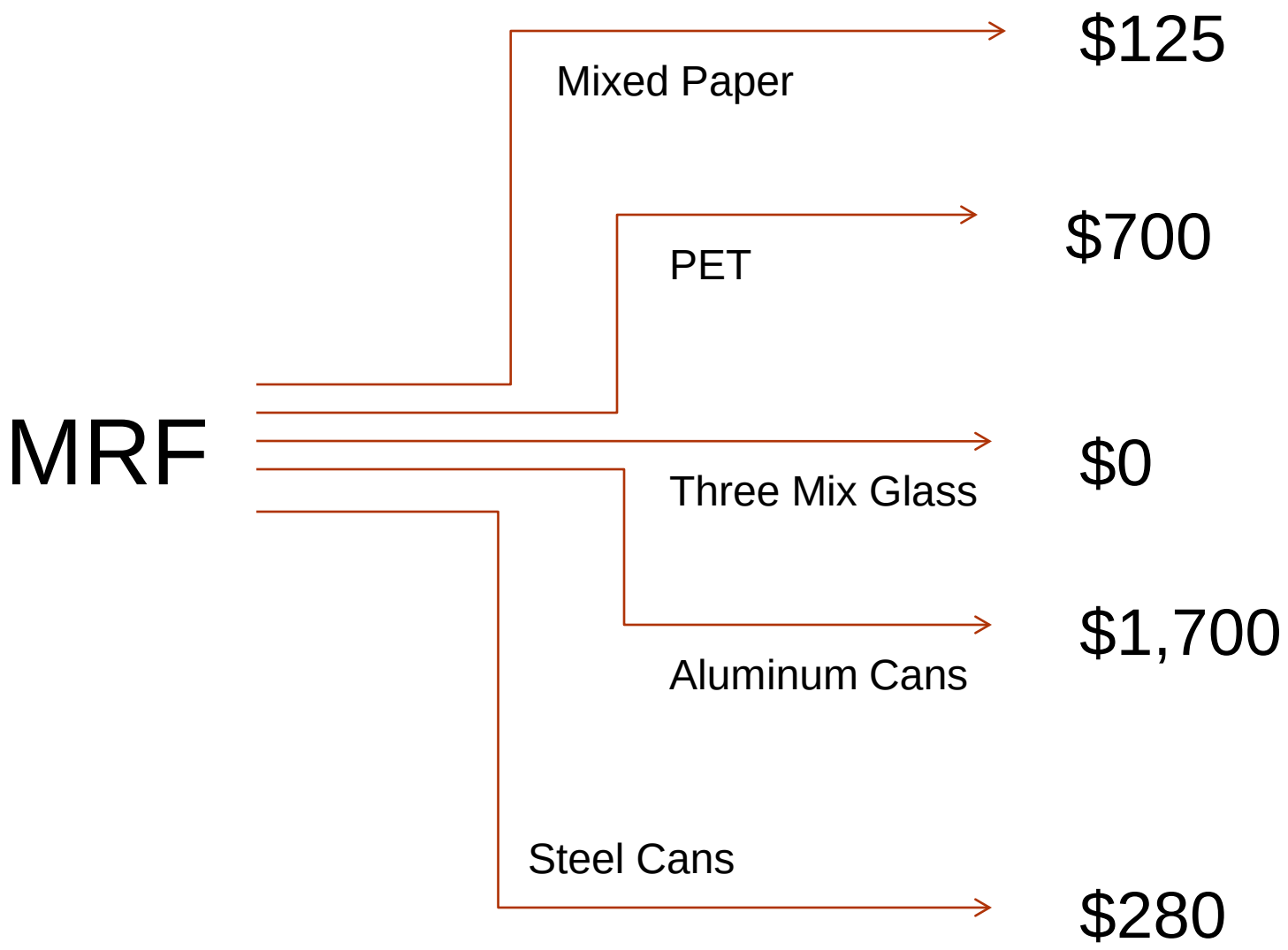
Color-Separated Bunkers - $15 Flint, $4 Amber; $0 Green

Tale of the Decline in Glass Value

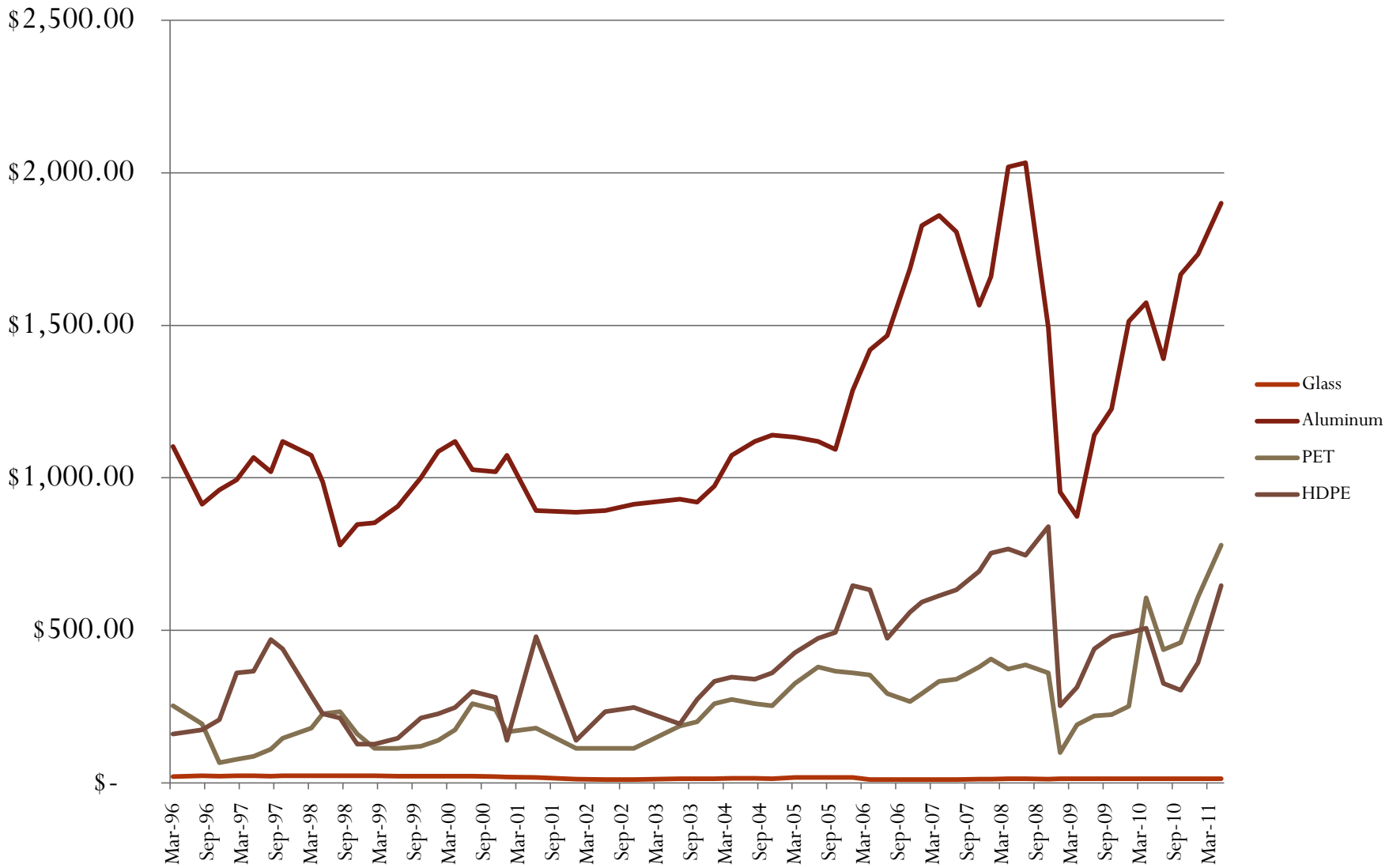


- Up to ~1994 – 4 hour round trip direct to glass plant, $65/ton for flint.
- After 1994, 8 hour round trip to CRA, $30/ton for flint
- After 1996, 3 hour round trip to consolidation site, $0/ton for flint

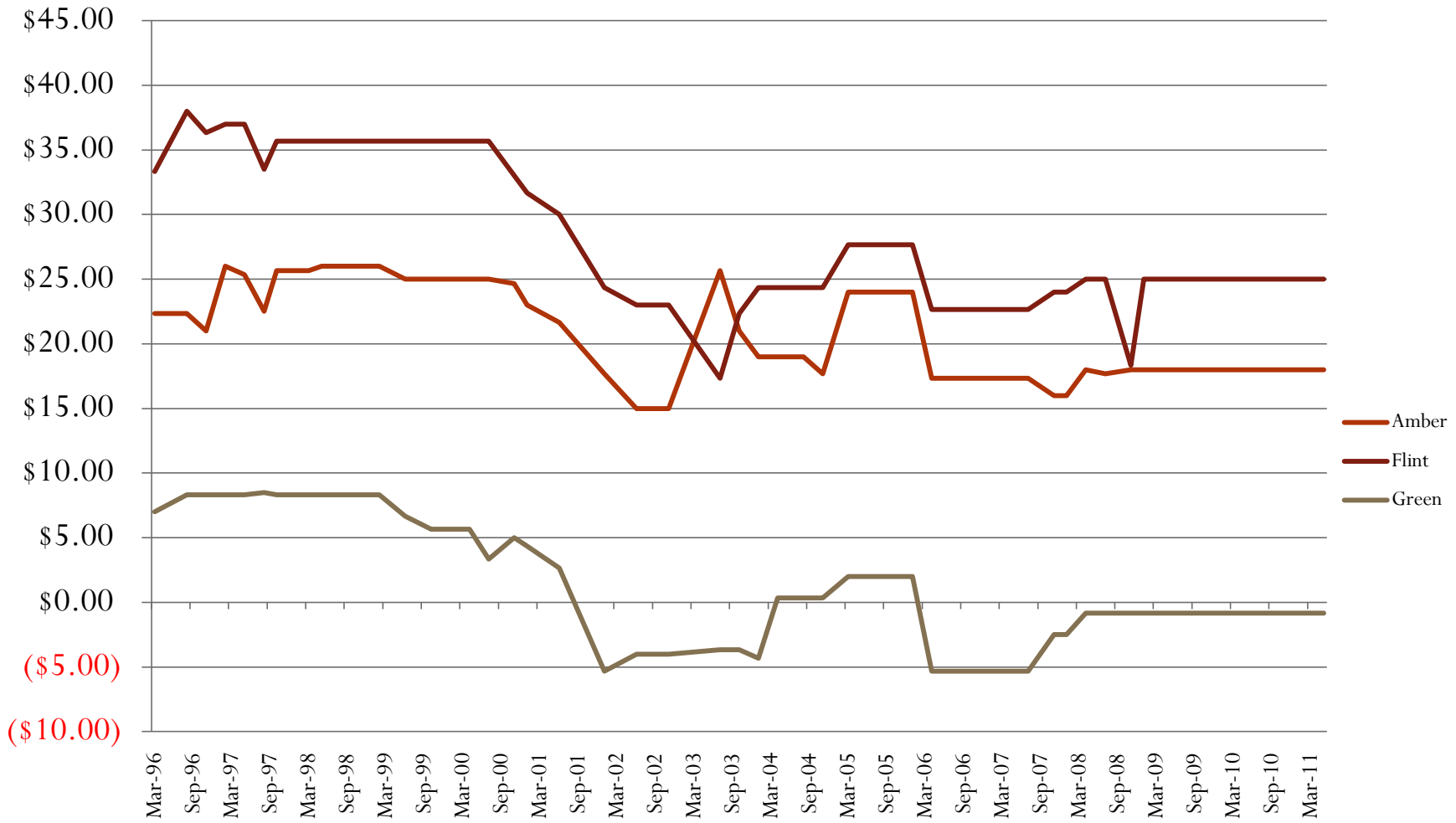
What are MRFs Receiving Per Ton?



MRF Material Price Charts



MRF Price Charts - Glass



Types of Interventions That Could Improve Glass Recycling Conditions

- Collection
  - Increasing drop-off (possibly in conjunction with exclusion from curbside)
  - Help increase general growth of curbside programs
  - Support commercial collection
- Glass Storage and Transport
  - Foster widespread use of bunkers
- Increase in Material Value
  - Raise prices or offer premiums in certain circumstances

Recommendations

- Become familiar with the specific glass recycling experience of generators, community recycling programs, haulers, and material processors.
- Find ways to increase glass value.
- Spend effort and capital to address efficient storage and transportation.
- Work with MRFs to improve glass yield and quality.
- Collaborate with other commodities to raise overall recycling rates.

Thank You!

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