

Long Island Garbage Index

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Introduction

Municipal Solid Waste (MSW) and recycling data was collected from seven towns on Long Island, one in Nassau County (Hempstead) and six in Suffolk County (Babylon, Brookhaven, East Hampton, Huntington, Islip, and Smithtown). Together, these towns represent about 75% of Long Islands Population. Specifically, the Town of Hempstead represents 57% of the population of Nassau County, while Babylon, Brookhaven, East Hampton, Huntington, Islip and Smithtown together represent 92% of Suffolk County's population. These towns represent the face of Long Island and include rural, suburban and urban areas. Waste statistics from these towns are a good indicator for Long Island as a whole.

This study looks exclusively at residential waste generation rates on Long Island and does not include commercial waste or construction and demolition debris. Previous studies, that included both residential and commercial waste, found that Long Island's daily per capita waste generation rate is about 7 lbs compared to the national rate of the 4.3 lbs (Swanson, 2004). This is possibly due to Long Islanders' having a high disposable income and being a commuter society. In general, affluent areas produce more waste than those areas that are less affluent because they tend to buy new goods, versus repairing old or broken objects, and purchase more goods, therefore generating more garbage from packaging. A commuting society, verses non-commuting, can lead to higher waste generation rates due to on-the-go eating, and increased car use and tire turnover. Long Islanders are also generally educated at a high level (post-secondary education) and therefore read more, generating more paper waste.

Residential waste management on Long Island is exclusively the domain of local municipalities and is managed by the three towns and two cities of Nassau County and the ten towns of Suffolk County (Tonjes and Swanson, 2002).

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Figure 1. Residential MSW for 2002 and 2003

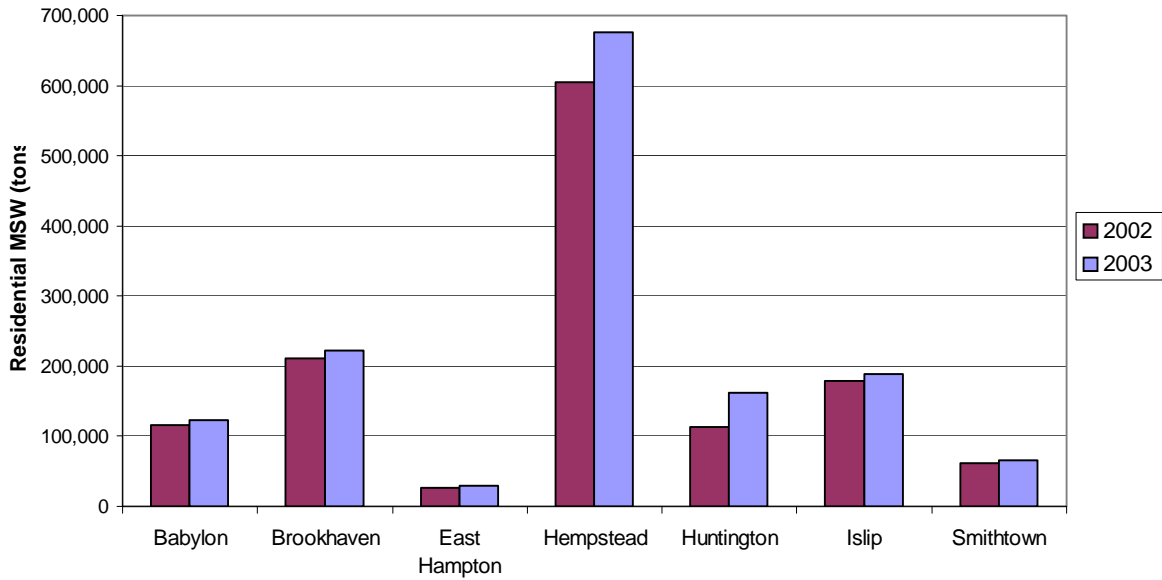


Figure 1. Residential MSW – 2002 and 2003

Total residential municipal solid waste tonnages for 2002 and 2003 in seven Long Island Towns are compared above in Figure 1. These numbers reflect **residential waste**, and do not include waste collected from commercial sources, construction and demolition debris, yard waste, or recyclables. Residential waste is generally from one, two or three family homes, and does not include apartment complexes or private communities (such as condominium complexes). Six of the towns sampled collect MSW and recyclables municipally, with the exception of East Hampton. Our results show an increase in total MSW generated in each town from 2002 to 2003.

Table 1. Municipal Collection

Town	Curbside Pick-ups (number of units served)*
Babylon	49,159
Brookhaven	128,000
East Hampton	0
Hempstead	239,000
Huntington	57,898
Islip	77,747

Table 1. Curbside Pick-ups per Town

The number of curbside pick-ups per town represents the number of residences (one, two and three family homes) in the town where there is curbside waste pick-up. As stated in the previous section, apartment buildings and private communities are generally not serviced by individual towns for curbside garbage pick-up and must contract out with private carters. East Hampton is the only town that does not provide curbside pick-up for residential MSW; residents either contract with private carters or use the town drop-off facility. Also, the Town of Hempstead only directly serves 84,000 residences, the remainder are collected by individual villages (within the town) or commissioner administered collection districts. Data was not available for Smithtown.

Figure 2. Residential Recyclables for 2002 and 2003

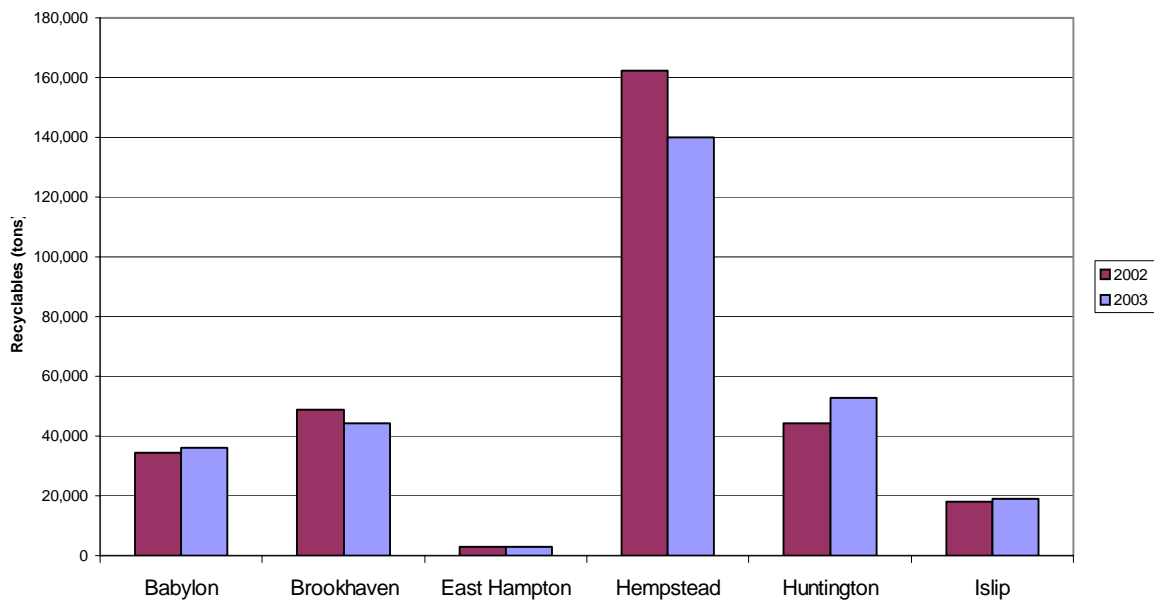


Figure 2. Recycling – 2002, 2003

The graph above reflects the total amount (in tons) of recyclable waste collected in 2002 and 2003 by each of the towns surveyed in this study. Smithtown data was not available. These recycling numbers do not include yard waste totals, which are tabulated separately below. Also, our numbers do not account for beverage containers recycled under New York State’s nickel deposit law. Our results show a decrease in recycling from 2002-2003 for Brookhaven, Hempstead, and East Hampton; and a slight increase for Huntington and Islip.

Materials collected from residential properties for recycling vary for each town but in general include glass, metal, plastic containers, mixed paper, corrugated cardboard, and newspaper. In New York State, recycling of newspaper, corrugated cardboard, aluminum and steel cans, and plastic (PET and HDPE 1&2) and glass bottles has been mandatory for all residents since 1992 (Tonjes and Swanson, 2000).

Tonjes and Swanson (2002) note that recycling rates on Long Island reported to the public are not necessarily appropriate, and that what is reported to the public as recycling is not always what the public perceives as recycling. For this reason the recycling totals were manipulated from the original numbers received from the towns of Babylon, Brookhaven, Islip, and East Hampton to better reflect residential recycling numbers. We did not include woodchips, autoparts, co-mingled glass/plastics due to MRF downtime, construction and demolition debris, antifreeze and oil, or deposit containers.

Figure 3. Yard Waste for 2002 and 2003

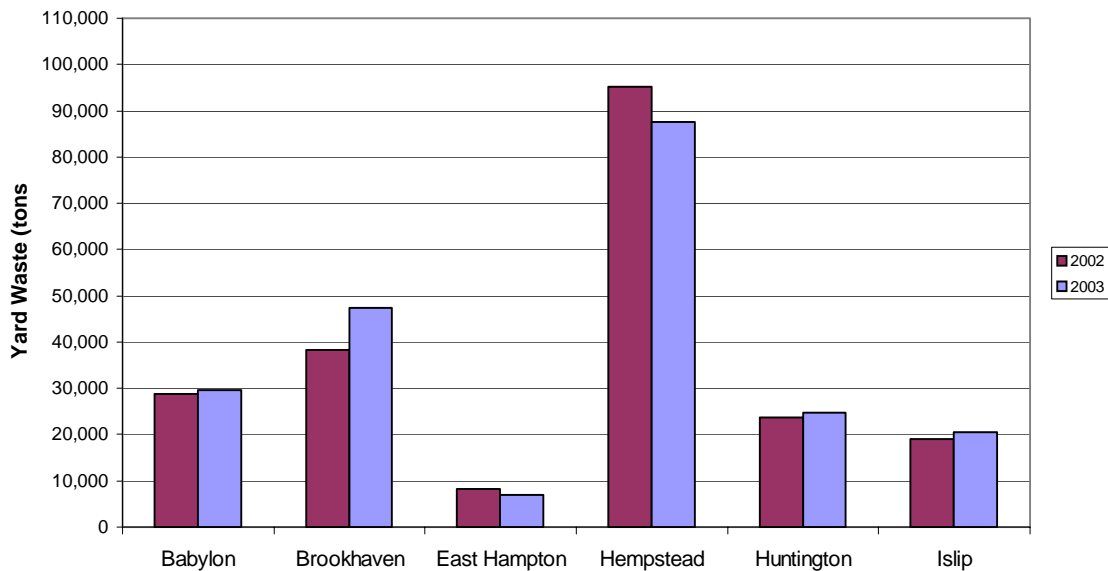


Figure 3. Yard Waste

Some towns, including Islip, Brookhaven and Hempstead, provide curbside pick up for yard waste, but in general it must be dropped off at specific yard waste composting facilities. Tonjes and Swanson (2002) note that yard wastes accounts for 15-20 percent of Long Island’s total waste stream. Data was not available for Smithtown.

Figure 4. Residential Waste Removal Cost per Household in 2003

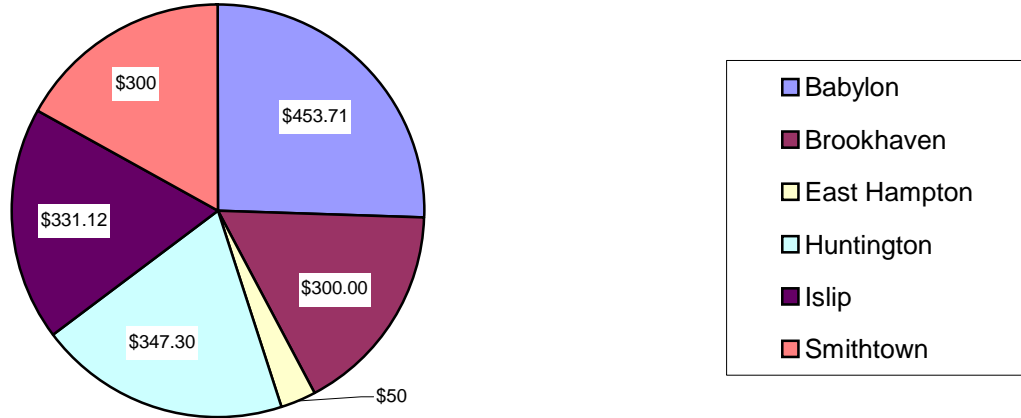
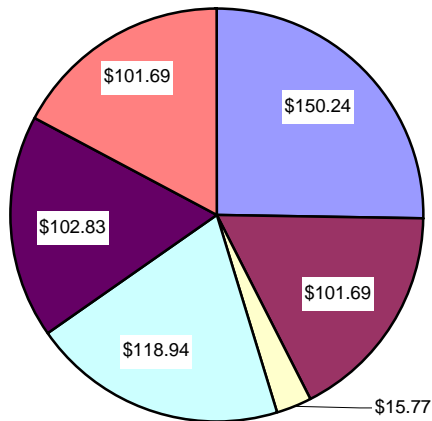


Figure 5. Average Cost per Person per Household in 2003



Figures 4 & 5. Cost for Garbage Collection in 2003

The yearly cost (for 2003) per household for garbage collection is depicted in Figure 5 above. Data on cost per household was not available for Hempstead because most of the garbage collection is handled separately by the individual villages within the town or by commissioner managed special districts. Thirteen of the municipalities on Long Island collect waste management fees through property taxes (Tonjes and Swanson, 2002). East Hampton is the only town surveyed that does not provide curbside pick up for its residents, but does allow residents to buy a \$50.00 permit each year to drop off their garbage at the town facility. The average cost/person/household is depicted in Figure 6 above, and was calculated by dividing the cost/household for garbage collection by the average number of people in each household for each town (taken from LIPA 2003 Long Island Population Survey).

Figure 6. Tons of Residential MSW Generated per Household in 2003

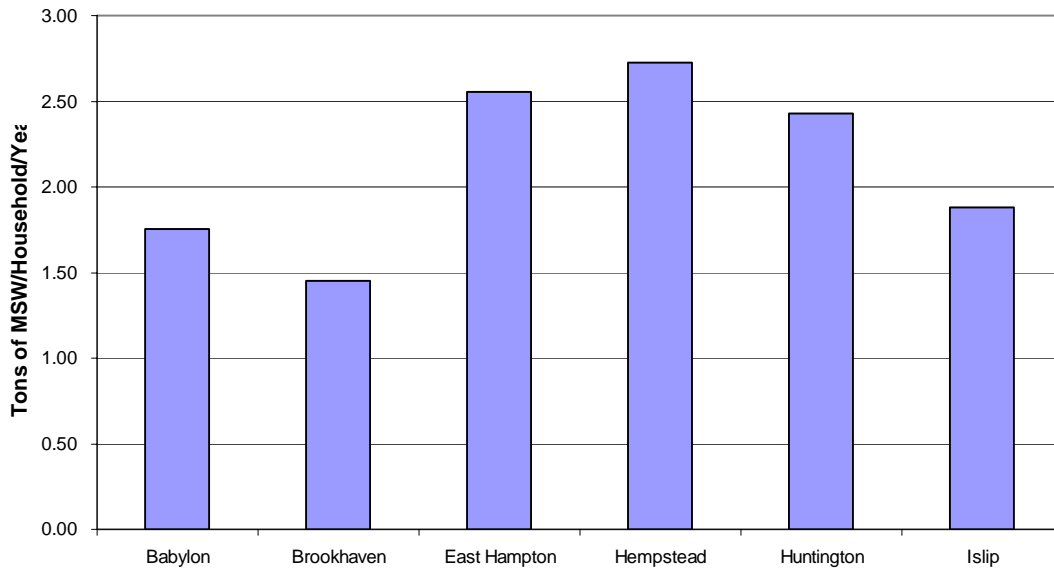
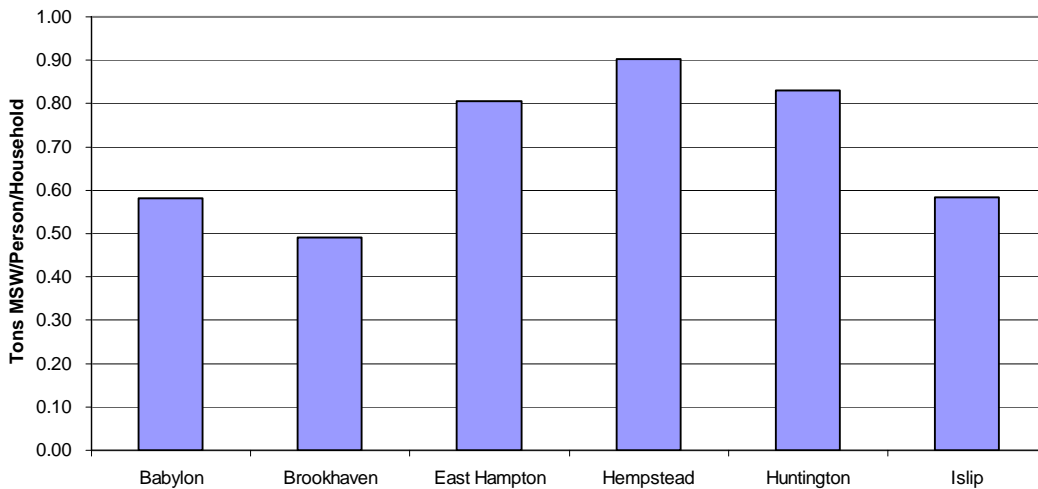


Figure 7. Tons of Residential MSW Generated per Person per Household in 2003



Figures 6 & 7. MSW per Household, and per Person per Household in 2003

This MSW/household was calculated by using the total tons of MSW generated and dividing it by the number of year-round households (LIPA, 2003) in each municipality. Tons of MSW/person/household was generated by dividing the total tons of MSW generated by the number of households, divided by the average number of persons per household (LIPA, 2003). East Hampton's total number of households and persons per household were manipulated from LIPA's original data to account for the large seasonal population.

Figure 8. Pounds of Residential MSW and Recyclables Generated per Person per Day in 2002 and 2003

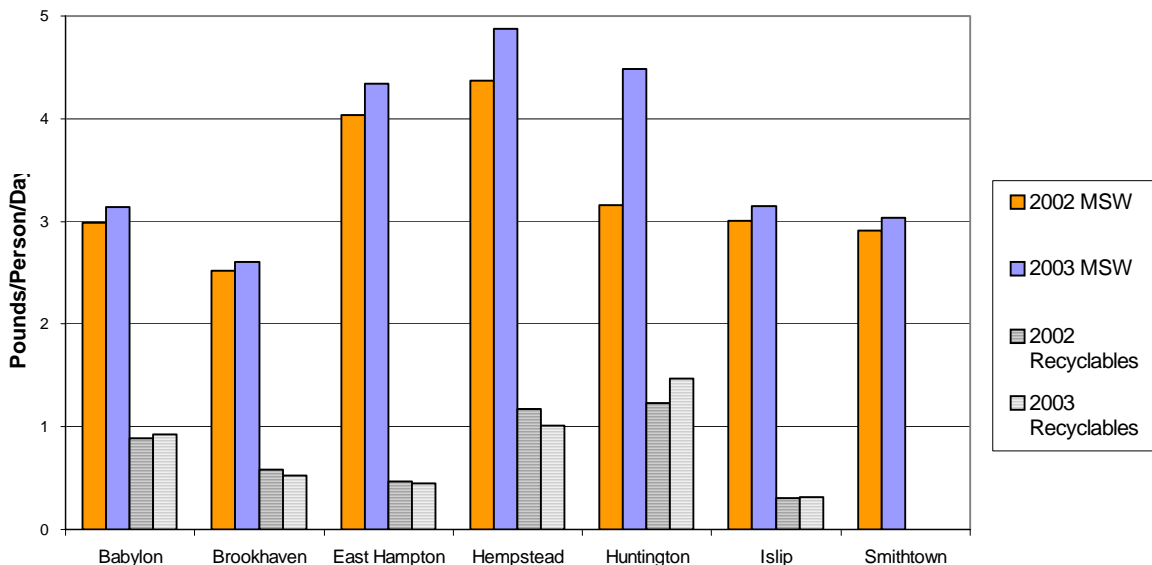
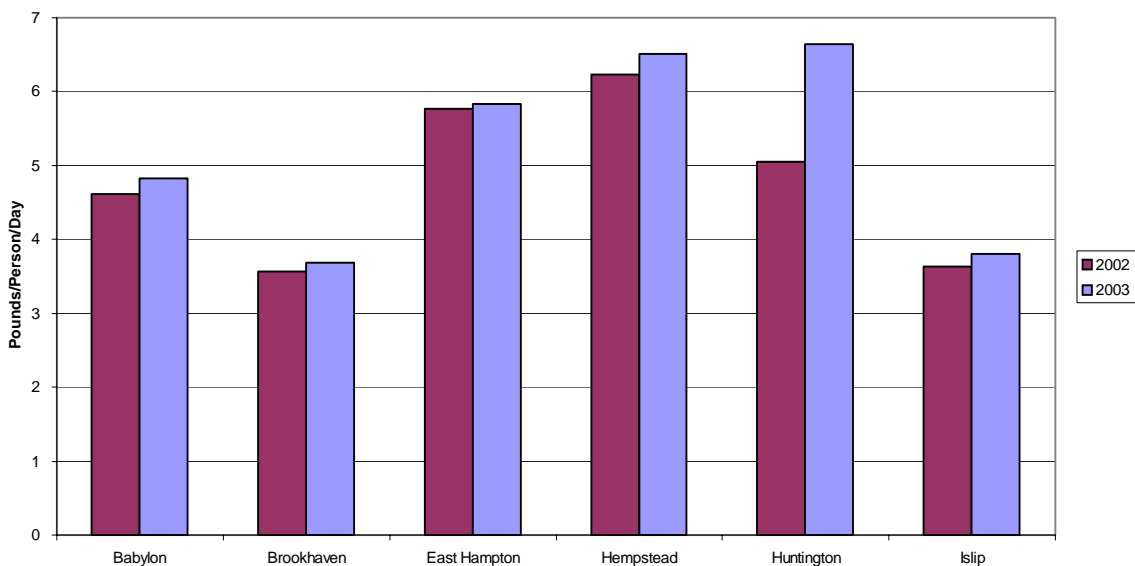


Figure 9. Pounds of Total Residential Waste (MSW, Recyclables, and Yard Waste) Generated per Person Each Day in 2002 and 2003



Figures 8 & 9. MSW and Recyclables; and Total Residential Waste/Person/Day in 2002 and 2003

Pounds/person/day was calculated by dividing the amount of MSW or recyclables produced (in pounds) by the estimated population for each town (LIPA, 2003). Total pounds of residential waste generated each day by residents of the various towns are compared above as well. This statistic was calculated by adding the total pounds of MSW, recyclables, and yard waste together and then dividing by the estimated population for each town (LIPA, 2003). Again, East Hampton’s population was adjusted to account for the large seasonal population.

Conclusion

The Towns of Babylon, Brookhaven, East Hampton, Hempstead, Huntington, Islip, and Smithtown produced over 2 million tons of residential waste (MSW, recyclables, and yard waste) in 2003. Together, the Towns sampled for this study are an adequate representation of Long Island's population and demographics, and therefore, its waste generation trends. The waste statistics gathered from these seven towns are good indicators for Long Island as a whole. The average residential waste statistics for the seven towns sampled are listed below:

Total Residential Waste (MSW, recyclables, and yard waste):

- **5.23 lbs/person/day in 2003**
- **4.89 lbs/person/day in 2002**

Residential Recycling (not including yard waste):

- **0.81 lbs/person/day in 2003**
- **0.86 lbs/person/day in 2002**

From 2002 to 2003, Long Island residents increased their daily per capita residential waste generation by 6.3%, while the amount they recycled decreased by 4.7%. The annual recycling rate in 2003 (not including yard waste) was 21%, compared to 25% the previous year.

With further study these data can show longer-term waste generation and recycling trends on Long Island. An increase in residential waste generation may correlate with an increase in economic activity. In times of high economic activity there is an increase in consumption rates of goods, which may be coupled with an increase in disposal rates. Waste generation trends have the potential for use as an indicator of the region's economic growth, decline and stability.

Methods

The data for this study was collected by contacting the individual departments within each of the seven towns surveyed on Long Island that are responsible for waste management within the municipality. Six towns in Suffolk County – Babylon, Brookhaven, East Hampton, Huntington and Islip – and one town in Nassau County, Hempstead, were included in this study. The data was then synthesized to reflect the statistics in this report. Specifically, total MSW and recycling tonnage was manipulated to reflect residential collection and does not include commercial or construction and demolition waste.

Population and household data was taken from the Long Island Power Authority's (LIPA) 2003 Long Island Population Survey. This data was synthesized with the waste statistics for each town to generate our results. East Hampton's total number of households, persons per household, and population were manipulated from LIPA's original data to account for the large seasonal population. This was done calculating weighted means for the seasonal and year round population, households, and persons per household. Seasonal population data was taken from the Suffolk County Planning Department and the Town of East Hampton's 2004 Comprehensive Plan. In calculating the weighted mean we assumed the seasonal population accounted for 4 months, or 1/3 of

the year. The year round population was added to the additional summer population and multiplied by 1/3, then the year round population itself was multiplied by 2/3; the two values were then added together to get East Hampton's population. This same method was used to calculate the total number of households. Similarly, we used this method to calculate the average number of persons per household in East Hampton, however we added an additional 1.172 persons per household to the year round households for the summer months to account for houseguests (Obser, 2000).

References

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