

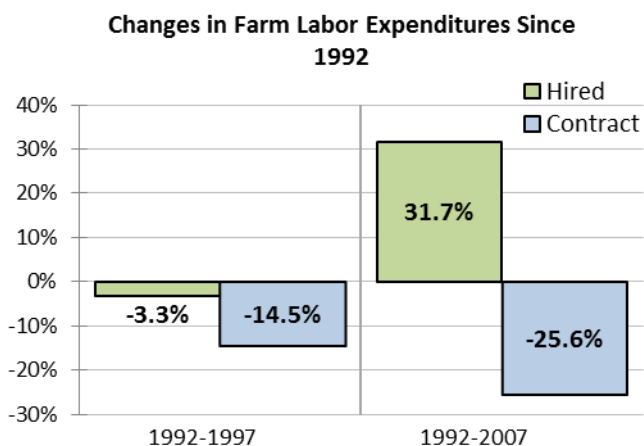
In keeping with national trends, Long Island’s farmers are aging. The long-term success of our agricultural system depends on bringing in younger, newer farmers, who are typically more diverse in terms of sex and race/ethnicity. These operators can help to revitalize farming at the same time they better reflect and represent the growing diversity of our region.

This indicator looks at expenditures in hired and contract labor as a proxy for fair wages and working conditions. It also examines trends in farm operator diversity, by sex, age and race/ethnicity. Data for this indicator comes from the USDA Census of Agriculture.

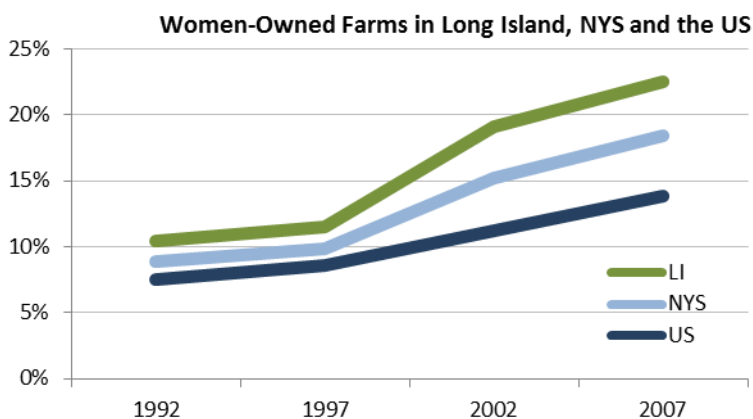
### Farm workers employed by farm labor contracts

Some farmworkers are hired to work on farms through middle-men, often called farm labor contractors, who provide a range of services, including transporting, hiring and supervising farmworkers. Even though federal law makes farm operators using contractors jointly responsible for complying with employment standards, operators sometimes use contractors as a way to outsource labor issues and avoid responsibility for fair working conditions and wages.

On Long Island, farms are largely reliant on direct hires rather than on employees obtained through labor contractors. Between 1992 and 1997, overall expenditures for both hired and contracted labor declined. This corresponds with an overall decrease in the number of farms on Long Island. When adjusted for inflation, expenditures for hired labor increased by 31.7% between 1997 and 2007. In the same time period, expenditures for contracted labor decreased by 25.6%. As of 2007, expenditures for hired labor represented 98% of the \$68.5 million spent on the labor force on Long Island’s farms.



Source: United States Department of Agriculture, NASS Census of Agriculture



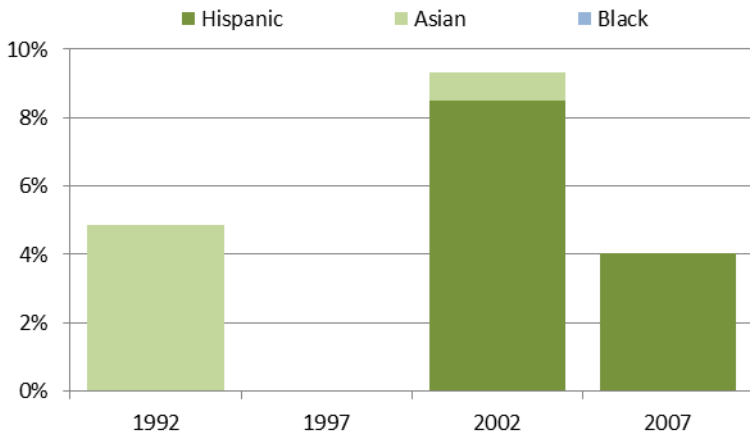
Source: United States Department of Agriculture, NASS Census of Agriculture

### Farmer and farm operator diversity

Nationally, a growing number of farms are being operated by women. On Long Island, women historically have operated farms at higher rates than they have in either New York State or the US, although the number of female farm operators has significantly increased in recent years. The number of farms operated by women on Long Island more than doubled between 1992 and 2007, reaching over 22.5% of farms. In contrast 18.4% of farms in the state and 13.9% of farms nationwide were operated by women in 2007. As of 2007, Nassau County had the highest percentage of women-operated farms of the two counties –over one third– slightly more than double the number in 1992.

However, this doubling in the number of women-operated farms in Nassau County did not occur until after 2002, when the percentage was just under 15.4%. Unlike Nassau, the growth of women-operated farms in Suffolk County has been more gradual, representing less than 21.4% of all farms in the county in 2007.

### Minority Operated Farms in Nassau County



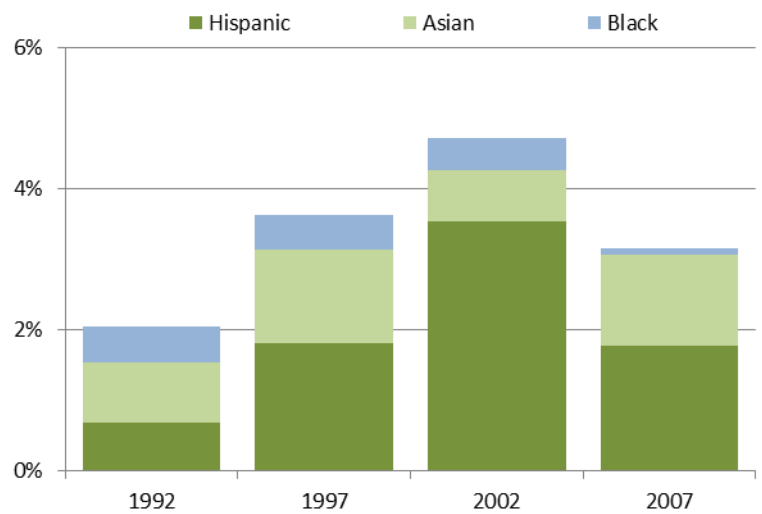
Source: United States Department of Agriculture, NASS Census of Agriculture

Nationwide, fewer young people are choosing farming as a career than in the past. This trend is also occurring statewide and on Long Island. While the average age of farmers decreased between 1997 and 2002, it began to increase in 2007, although at a much slower pace than at the state or national level. The average age of farmers nationwide increased 3.1 years to 57.1 years old between the years 1997 and 2007. In the same timeframe, the average age of farmers in New York State rose 3.3 years to 56.5 years. In Suffolk County, the average age rose 1.1 years to 55.2 years old while in Nassau County, the average age rose 0.6 years to 55.1 years old.

Long Island farm operators are more racially/ethnically diverse than operators in other areas of New York State, although New York has proportionately fewer farms operated by African Americans and Hispanics than do farms nationwide.

In 2007, the percentage of farms operated by people of Hispanic origin in Nassau County was over 4%, more than six times the state rate and almost double the national rate. However, in Suffolk County, Hispanic-operated farms represented 1.78% of all farms, or roughly double the state rate, but less than the national rate. There were no Asian-operated farms in Nassau County, but Asian-operated farms in Suffolk County represented 1.28% of all farms, more than five times the state percentage and more than double the national percentage. The only race/ethnic group that did not exceed the state or national rates in either county was African Americans, who did not operate any farms in Nassau County and operated just 0.1% of farms in Suffolk County, only slightly larger than the state and national's rates.

### Minority Operated Farms in Suffolk County



Source: United States Department of Agriculture, NASS Census of Agriculture



Transformation & Processing Sector				
Domains	Categories	Indicators	Trends	Needs
Economic	Food Manufacturing	Diversity of food manufacturing by county and type	↓	Yellow
		Animal slaughtering and processing	↓	Orange
		Fruit and vegetable preserving and manufacturing	↔	Yellow

## Food Manufacturing

### Indicator Background

Food transformation or processing involves converting raw agricultural, animal, seafood, or other food sources into products as well as labeling and packaging them for market. A strong processing infrastructure is important to developing the local food economy because it keeps this critical part of the supply chain in the community, generating greater revenue and more jobs. It also increases the likelihood that consumers will be able to access and consume locally produced food.

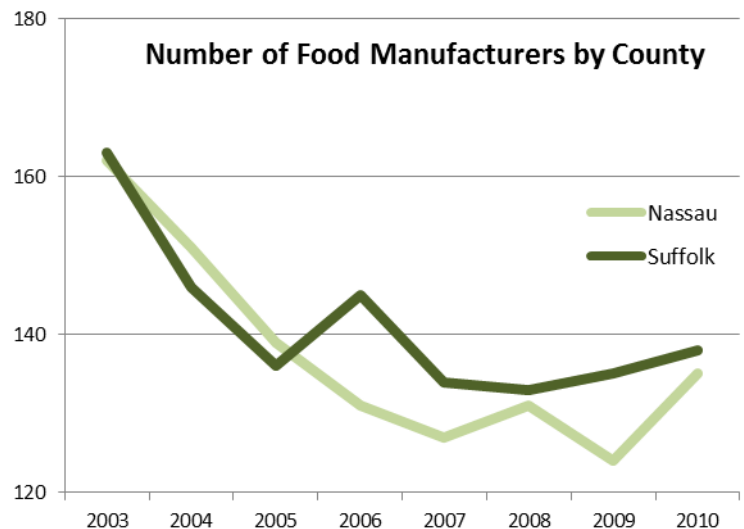
This indicator examines trends in the size and scale of individual manufacturing categories, as well as manufacturing overall. It also pulls out two categories –animal slaughtering and processing and fruit and vegetable preserving and manufacturing– for closer analysis. Data for this indicator come from the U.S. Census, County Business Patterns, 2010.

### Diversity of food manufacturing by county and type

Since 2003, both Nassau and Suffolk Counties have seen some decline in their overall food manufacturing, with some sectors seeing larger declines than others. The number of food manufacturers overall decreased 16.7% percent in Nassau from 2003 to 2010, while the number of food manufacturers overall fell 15.3% in Suffolk County during the same time period. From 2007 to 2010, the number of food manufacturers in Nassau increased by 6.3% while in Suffolk County, it rose 3%. Between 2009 and 2010, the number of manufacturers rose by 8.9% in Nassau and 2.2% in Suffolk, respectively. While this points to a positive trend, the number of food manufacturing establishments throughout Long Island was still lower in 2010 than it was in 2003.

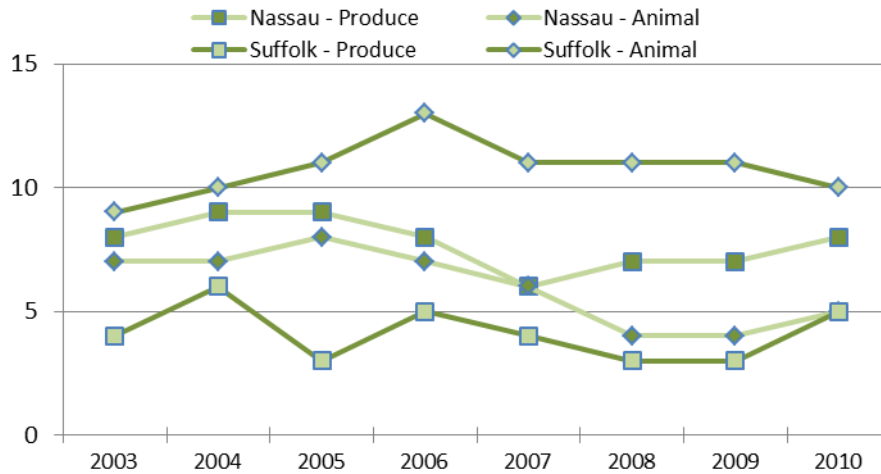
Of all food manufacturing categories, the bakery and tortilla manufacturing category experienced the largest decline in both counties, dropping 23.4% in Nassau and 17% in Suffolk between 2003 and 2010. Interestingly, most of the falloff in bakery and tortilla manufacturing occurred between 2003 and 2007, when manufacturing throughout the other categories had either leveled off or improved. Despite this, bakery and tortilla manufacturing still represents approximately 70% of all the food manufacturing facilities on Long Island.

Only seafood and other manufacturing facilities have seen increases in the number of facilities on Long Island, while the remaining six food manufacturing categories have either remained flat or have declined slightly. The number of seafood manufacturing facilities doubled from 2003 to 2010, with all of the new facilities located in Nassau County. Animal food and dairy products saw the largest decline in the number of facilities between 2003 and 2010, falling 25% and 27.3%, respectively.



Source: U.S. Census, County Business Patterns

## Produce and Animal Manufacturing Facilities



Source: U.S. Census, County Business Patterns

### Fruit and vegetable preserving and manufacturing

The number of fruit and vegetable preserving and manufacturing facilities rose and fell several times between 2003 and 2010, but ultimately grew slightly more than 8% overall during this time period. This growth may be related to the increase in production of produce that was reported earlier in this report. Still, fruit and vegetable manufacturing is one of only three categories of food manufacturing that has shown an increase in the number of facilities on Long Island.

### Animal slaughtering and processing

After seeing a slight increase between 2003 and 2006, the number of animal slaughtering and processing facilities dropped by 25% on Long Island in 2008. From 2008 to 2010, the number of these establishments remained flat. This may be a consequence of an indicator trend reported earlier that showed huge declines in the number of farm animals produced.



Distribution, Marketing & Retail Sector				
Domains	Categories	Indicators	Trends	Needs
Economic	Wholesale Market	Food wholesalers	↓	Orange
Equity	Consumer and Retail Market	Food retailers per 100,000 people	↔	Yellow
		Percentage of farms with direct sales	↑	Yellow
		Value of agricultural products sold for human consumption	↑	Green

## Wholesale Market

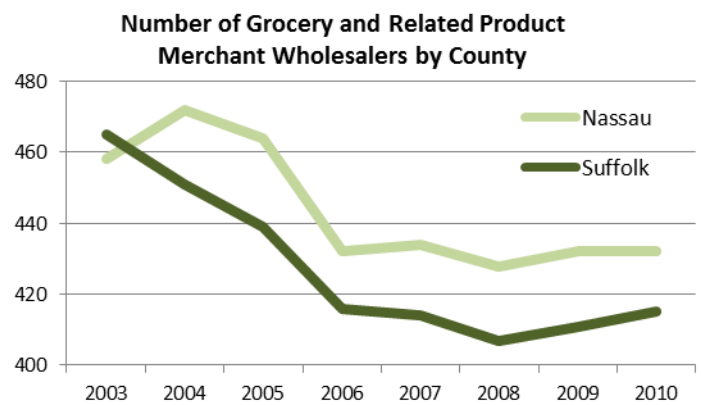
### Indicator Background

Food wholesaling involves the storing, assembling, marketing, and transport of food to retailers, food service operators, other wholesalers, and additional types of businesses. Wholesalers typically buy items in bulk from producers or manufacturers and distribute them to retailers for a service fee. Wholesale channels allow retailers and other food-businesses to purchase products at a cost that is less than they would pay dealing with producers/manufacturers directly. The presence of a strong regional wholesale market increases the likelihood that food produced in an area is distributed, sold and consumed locally.

This indicator tracks the number of food wholesalers on Long Island over time. Data for this indicator come from the U.S. Census, County Business Patterns, 2010.

### Food wholesalers

Between 2003 and 2010, the number of food wholesalers decreased in Nassau and Suffolk Counties. Over these eight years, Suffolk County lost 10.8% of food wholesale companies, with the largest declines in the poultry, packaged frozen foods, and fish and seafood sectors. In Nassau County, the number of food wholesale companies fell 5.7% over the same period, with the largest declines in the same sectors as Suffolk County.



Source: U.S. Census, County Business Patterns

The drop in the number of establishments was most dramatic during 2006-2008, just as the recession was getting underway. Since then, all sectors have either leveled off or shown a slight increase in number as industries continue to come back to Long Island.

## Consumer and Retail Market

### Indicator Background

Consumers acquire their food from a number of sources, including directly from farmers, roadside stands, Community Supported Agriculture (CSAs) programs or farmers' markets, as well as from intermediary retailers, such as supermarkets, convenience stores and restaurants. Over the past twenty years, major changes have occurred in the retail food market, as nontraditional grocery retailers, like warehouse clubs and drugstores, have increased their share of sales. At the same time, direct sales from food producers (farmers) to consumers have also increased, rising 104.7% from 1997 to 2007 in the U.S.

Within the consumer/retail market, not all individuals have equal access to safe, affordable and nutritious food. Barriers to food access vary and may include price, personal mobility and geographic distance from retailers. One way to measure possible geographic access challenges involves the ratio between population size and the number of stores in an area. A negative change in the ratio may indicate an increase in access barriers, with more people having to travel greater distances to acquire food.

This indicator examines consumer access to food by assessing rates of grocery stores, convenience stores and supercenters per population over time. It also looks at access and market trends by tracking changes in the number of farms selling directly to consumers as well as the value of agricultural products sold for human consumption. Data for this indicator come from the U.S. Census of Agriculture and Food Environment Atlas.

### Food retailers per 100,000 people

Trends in the number of retail food stores per 1,000 county residents vary by county as well as by types of stores. From 2007-2009, the number of grocery stores<sup>12</sup> per 1,000 people rose 1.7% in Nassau and fell 1.6% in Suffolk. As of 2009, Nassau had .42 grocery stores per 1,000 people and Suffolk had .34. The ratio of convenience stores to 1,000 people increased in both counties over the same time period, up 3.9% in Nassau and 10% in Suffolk. As of 2009, Nassau had .29 convenience stores per 1,000 residents and Suffolk had .34.

Growth in the number of supercenter stores per 1,000 residents was slightly negative in Nassau (-.32%) and Suffolk (-.44%) between 2007 and 2009. As of 2009, both Nassau and Suffolk had .01 supercenter stores per 1,000 residents. This development runs counter to trends at the national level.

As of 2011, the number of farmers' markets per 1,000 persons was lower in Nassau (.001) and Suffolk (.001) than statewide (.003). As reliable data for previous years are unavailable at the county level, it is impossible at this time to determine any trends for this indicator.

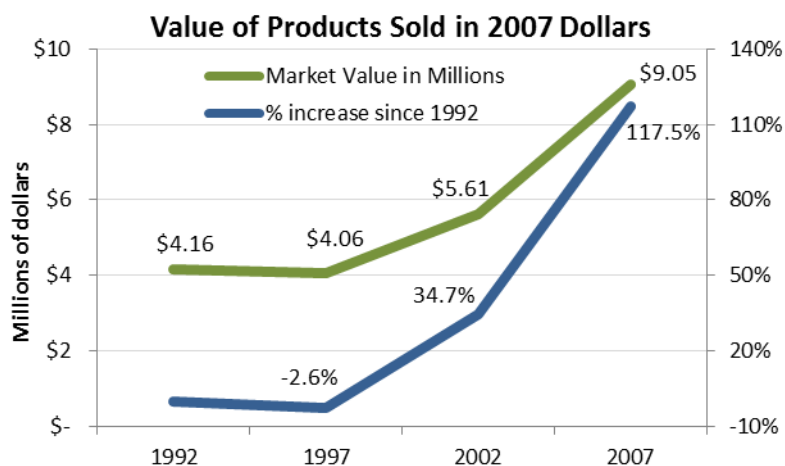
### Percentage of farms with direct sales

This indicator represents the value of agricultural products produced and sold directly to consumers from retail establishments like roadside stands, farmers' markets, and pick-your-own sites. The benefits of direct sales are that farmers can generally sell their products for more than wholesale prices, while customers can purchase them at or below general retail prices.

Since data were first collected in 1992, the number of farms with direct sales has decreased in Nassau County while it has increased in Suffolk County. From 1992 to 2007, the percentage of farms in Nassau with direct sales declined from 12.9% to less than 8.5%. In Suffolk County, the percentage of farms with direct sales increased from 15.84% in 1992 to almost 19% in 2007. However, the percentage of farms in Suffolk County offering direct sales declined by 0.1% from 2002 to 2007, reflecting a small fall from the record high.

### Value of agricultural products sold for human consumption

Since 1992, the value of direct sales of products for human consumption has decreased in Nassau while it has increased in Suffolk. As of 2007, only five farms or roughly 8.5% of farms in Nassau County reported direct sales, down from eight farms in 1992. The last year data were disclosed for the value of products sold directly for human consumption in Nassau County was 1997, with a reported value of \$154,000. In Suffolk County, 111 farms or nearly 19% of farms in the County reported direct sales of products for human consumption in 2007, up from 93 farms in 1992 and the market value of products sold was reported at over \$9 million.



Source: United States Department of Agriculture, NASS Census of Agriculture

Food Access & Consumption Sector				
Domains	Categories	Indicators	Trends	Needs
Economic	Expenditures and Purchasing Power	Average annual food expenditure per consumer unit	↓	
		Food expenditures, Home vs. Away from Home	↓	
		Value of SNAP/EBT purchases and access at farmers markets	↑	
Equity	Food Insecurity and Public Health	Population as food insecure and SNAP eligibility	↓	
		Percentage of children anemic or underweight	↔	
		Percentage of population that is diabetic	↓	
		Emergency food programs and pounds of food rescued	↔	
		Adults eating 5+ servings of fruit & vegetables per day	↔	

## Expenditures and Purchasing Power

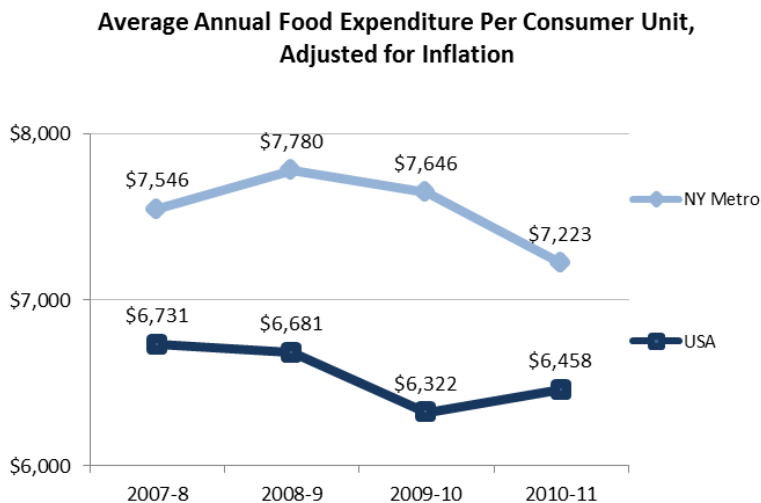
### Indicator Background

Expenditure patterns are important because they reflect fiscal well-being for consumers as well as the greater economy. The Great Recession and the continued economic downturn have significantly impacted household purchasing power, as incomes have stagnated or declined and prices, for some items like food, have risen. Due to economic pressures, households may cut back on the amount spent on food. This shift has particular significance for lower-income households, who spend a greater percentage of their income on food and may be forced to make difficult budgetary tradeoffs in order to eat. Households may also need to reduce expenditures on all or certain food products in order to meet other monthly expenses, putting members at increased risk for food insecurity.

This indicator tracks consumer spending on food over time to show trends in purchasing power. It also explores patterns in Supplemental Nutrition Assistance Program (SNAP) sales at farmers markets. Data for this indicator come from the Bureau of Labor Statistics, Consumer Expenditure Survey and the Farmers' Market Federation of New York.

### Average annual food expenditure per consumer unit

According to the Consumer Expenditure Survey, average annual food expenditures per household residents in the New York Metro Area, which includes Long Island, declined slightly, just 0.6%, between 2007 to 2008 and 2010 to 2011.



However, when adjusting for inflation, average annual household expenditures on food in the New York Metro region fell 2.3% from \$7,546 in 2007 to 2008 to \$7,371 in 2010 to 2011. This drop is smaller than the decline in expenditure nationally over the same time period (4.1%). By contrast, annual food price inflation, as measured by the Consumer Price Index, rose 5.5% in 2008, 1.8% in 2009 and 0.8% in 2010. For 2007 to 2008, New York Metro food expenditures made up roughly 12% of all annual household expenses. This rose to 13% in 2008 to 2009, at the height of the recession, and remained at this level through 2010 to 2011.

Source: Bureau of Labor Statistics, Consumer Expenditure Survey  
Consumer Unit equals 2.5 people in all years except 2009-2010 when it is 2.6.

## Food expenditures, Home vs. Away from Home

The amount spent on food at home and away from home per household has changed over the course of the economic downturn. Households are cutting back on the number of meals eaten out at restaurants and other venues while increasing food bought at the grocery store to eat at home.<sup>13</sup>

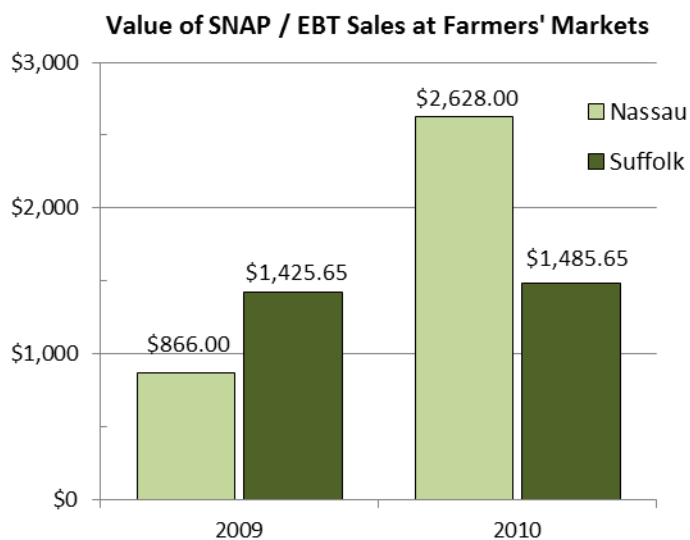
Whereas a household in the New York Metropolitan region spent an average of 53% of their food budget on groceries in 2007 to 2008, it spent 57% in 2010 to 2011. This percentage was smaller than the percentage spent on groceries per household at the national level in 2010 to 2011 (59.4%). The proportion of the food budget spent on certain food groups has also changed slightly. Compared to 2007 to 2008, households in 2010 to 2011 spent a greater percentage of their food budget on fruits, vegetables and meat. However, they spent less on dairy. Expenditures for staples like bread and cereal remained stable.

## Value of SNAP/EBT purchases and access at farmers markets

Farmers markets are increasingly important consumer sources for locally grown, healthful food. However, several barriers, including product prices, make markets less accessible to lower-income eaters.

To address this issue, a growing number of farmers markets are accepting Supplemental Nutrition Assistance Program (SNAP) benefits as payment for food. Typically, farmers' markets use a central point of sale Electronic Benefits Transfer (EBT) terminal to process preloaded benefit cards and sell scrip to customers to use throughout the market. On Long Island, growth in farmers' market revenue varies by county. In Nassau County, value from SNAP sales increased 203.5% between 2009 and 2010, from \$866 to \$2,628. The increase in SNAP sales was less dramatic in Suffolk County, which has historically had higher SNAP/EBT redemption rates than Nassau County, rising just 4.2% from \$1,425 in 2009 to \$1,485 in 2010. In 2009, Suffolk County accounted for nearly 62% of total SNAP/EBT redemptions at farmers' markets on Long Island, but in 2010, it made up just 36% of all redemptions with

Nassau's sales exceeding Suffolk's by nearly two-thirds. These numbers comprise a very small portion of the \$26.5 million in SNAP benefits distributed to recipients each month. SNAP dollars remain a virtually untapped source for revenue which could potentially help farmers markets grow and vendors prosper.



Source: Farmers' Market Federation of New York

## **Food Insecurity and Public Health**

### Indicator Background

For a food system to be sustainable, it must meet the food needs of its entire population. Food needs vary, depending on cultural conditions and the make-up of a local population. However, there are basic guidelines to the "right to food" which have been articulated by international bodies, like the United Nations. In sum, the right to food is respected when food is available (from the land or in shops), economically and physically accessible and adequate in terms of nutrition, safety and cultural relevancy. When these conditions are present, they create an environment in which people are empowered to feed themselves in dignity and without worry. In addition, they contribute to health, which may be conceived as a complete state of physical, emotional and social well-being.

Much research suggests that overall poorer physical health is associated with low-income/food insecure Americans, although the complex pathways by which this occurs are not fully understood (but stress/poor mental health is thought to play a significant role).<sup>14</sup> Another factor includes inconsistency in diet, including irregular access to produce and grains, resulting in greater risk for diabetes, heart conditions and other ailments.

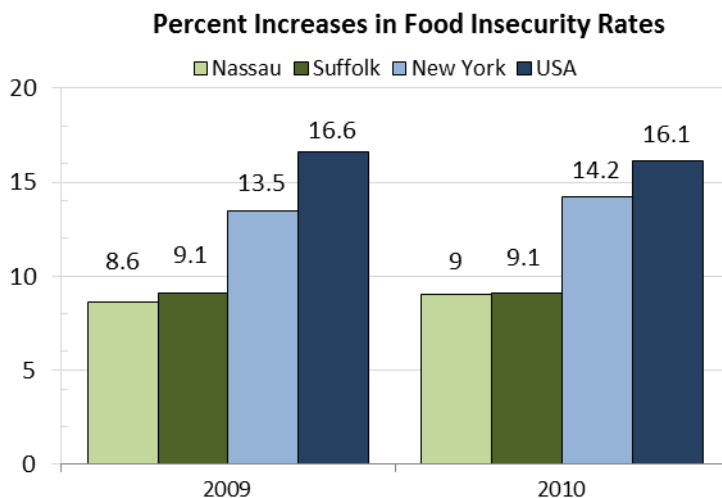


This indicator tracks degrees of food insecurity, dietary patterns, as well as health impacts, potentially related to nutrition. In so doing, it monitors changes in food-related behavior and health outcomes, in the context of the current economic downturn. Data for this indicator come from a range of sources including the New York State Office of Temporary and Disability Assistance, the not-for-profit Feeding America, the 2010 U.S. Census, and the Centers for Disease Control (CDC).

#### Population as food insecure and SNAP enrollment

The federal government defines food insecurity as “limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways.” Food insecurity typically increases during times of economic hardship. Other conditions that also contribute to food insecurity are high housing costs, low wages, underemployment and unemployment, conditions which are found throughout Long Island. When household resources are not able to cover the cost of living, many people must make a decision between paying housing or other costs and buying (enough) food.

A recent study by Feeding America’s “Map the Meal Gap, 2011,” which measures the distance between household food budgets and the actual cost of meeting nutrition needs, suggests that food insecurity continues to slowly rise throughout Long Island. From 2009 to 2010, the percentage of the population that was considered food insecure in Nassau County rose to 9.0% of the population, whereas in Suffolk County it remained flat at 9.1%, representing roughly 254,000 people in total for 2010. Food insecurity rates for children were higher than rates for adults in 2010, when 13.6% of children in Nassau and 15.1% of children in Suffolk experienced food insecurity.



Source: Feeding America, “Map the Meal Gap”

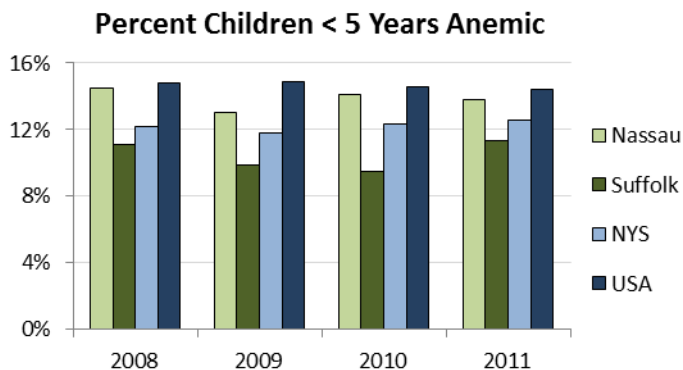
Feeding America further identified food insecurity across the income spectrum, noting that approximately 61% of the region’s food insecure households make above 185% of the federal poverty level or more than \$40,348 for a family of four, approximately double the national average.

Another measure to assess food insecurity involves tracking the number of people enrolled in the Supplemental Nutrition Assistance Program (SNAP). Under SNAP, the federal government provides eligible low-income households an electronic benefit card they can use to buy food at authorized food markets. The number of people receiving SNAP in an area highlights economic need and also shows how successfully people are accessing food assistance programs. Eligibility for SNAP is based on a range of financial and non-financial factors, including immigration status, age and household composition. In terms of income, households must not earn more than 130% of the federal poverty line (FPL) in gross income or 100% of the federal poverty line in net income in order to qualify for the program.<sup>15</sup>

On Long Island, SNAP enrollment has increased dramatically in recent years. Between October 2008 and October 2011, SNAP enrollment rose 116% in Nassau and 168% in Suffolk. Today, approximately 181,704 people on Long Island receive SNAP benefits. This growth in enrollment on Long Island mirrors state and national trends.

#### Percentage of children anemic or underweight

Food insecurity puts children at greater risk for dietary deficits and under-nutrition, which can potentially impact physical health, cognitive development and the ability to concentrate and learn at school. Two common measures of nutritional status are anemia and underweight.

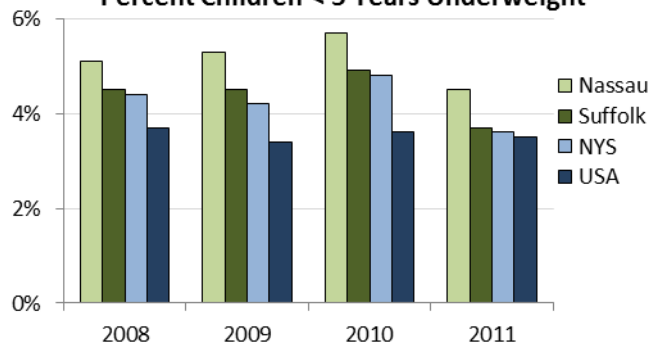


Source: CDC. Note: Based on 1998 CDC MMWR, "Recommendations to Prevent and Control Iron Deficiency in the United States" altitude adjusted, children 6 months of age and older included in the analysis. Includes low Hb, low Hct and low Hb/Hct.

From 2008-2011, the percentage of children with anemia declined from 14.5% to 13.8% in Nassau and increased from 11.1% to 11.3% in Suffolk; however, there was a significant degree of fluctuation in percentages during these years. In 2011, the percentage of children with anemia was greater in Nassau (13.8%) than at the state level (12.6%); In Suffolk, it was smaller (11.3%) than at the state level. Rates of anemia were lower in both Nassau and Suffolk than nationally.

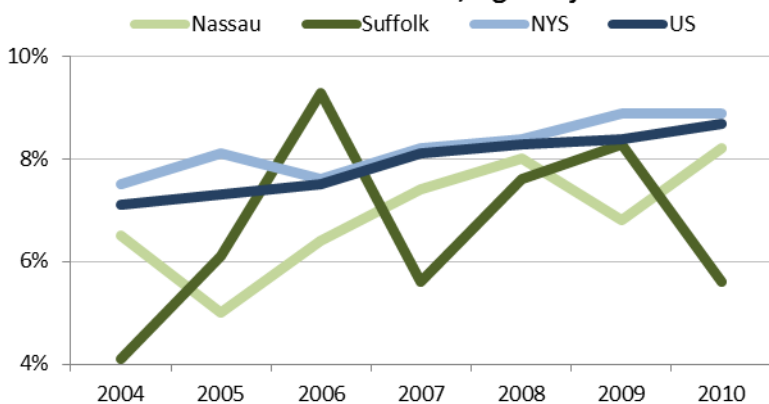
From 2008-2011, underweight percentages declined from 5.1% to 4.5% in Nassau; however, the rate increased from 2008 to 2010, making the drop in 2011 difficult to interpret, as it may be a single year outlier in an overall negative trend. In Suffolk, rates also decreased, from 4.5% in 2008 to 3.7% in 2011. Both Nassau and Suffolk had higher percentages of children underweight for all years compared to New York and the nation.

### Percent Children < 5 Years Underweight



Source: CDC. Note: Based on 2000 CDC growth chart percentiles for children 2 years of age and older; underweight is defined as BMI-for-age < 5th percentile.

### Adult Diabetes Rates, Age-Adjusted



Source: BRFSS, CDC

On Long Island, the age-adjusted adult diabetes rate has increased in both Nassau and Suffolk. From 2004-2010 the rate rose 26.2% in Nassau and 36.6% in Suffolk, although rates varied during the intervening years. As of 2010, the adult diabetes rate was 8.2% in Nassau and 5.6% in Suffolk. Rates in both counties were lower than the state or national level.

Anemia is a condition which results from a lack of enough red blood cells to carry the required amount of oxygen to body tissues. Anemia is an indicator of iron deficiency in children, the most common micronutrient deficiency. Underweight is also known as wasting or thinness and may be a sign of malnutrition.

The CDC's Pediatric Nutrition Surveillance System (PedNSS) provides trend-related data on nutrition-related indicators for children enrolled in federal child health and nutrition programs. In New York, PedNSS data are drawn from infants and children participating in the Special Supplemental Program for Women, Infants and Children.

### Percentage of population that is diabetic

Diabetes is caused by the inability of the body to metabolize glucose, resulting in high blood glucose levels. There are four types of diabetes: Type 1 diabetes, Type 2 diabetes, gestational diabetes, and diabetes secondary to other conditions. Type 2 is the most common form of diabetes and is more prevalent in African Americans, Latinos, Native Americans, Asian Americans, and the elderly. Unlike Type 1 diabetes, which is the result of genetics and autoimmune condition, type 2 diabetes can be prevented and managed through diet and exercise.

### Emergency food program and pounds of food rescued

Once every three to four years, the two largest emergency food organizations on Long Island –Long Island Cares and Island Harvest– participate as network members in a hunger survey conducted by the national not-for-profit, Feeding America. Based on data from Hunger in America 2010, more than 280,000 Long Islanders received emergency hunger-relief services from Island Harvest and Long Island Cares through soup kitchens, food pantries and other sources, an increase of 21% in the number of clients since the Hunger in America 2006 report.

In terms of demographics, the study found that 63% of clients seeking emergency food assistance were members of households living below the federal poverty line, with 48% of households having at least one employed adult. Children made up 39% of the members of households served by Island Harvest and Long Island Cares. Approximately 4% of the members in client households were elderly.

While these data are instructive, Hunger in America does not look at client demand and demographics at sites which are not members of the Feeding America network. As a result, data are missing from small non-affiliated agencies as well as larger organizations, like the soup kitchen “Interfaith Nutrition Network” (The INN). Consequently, the numbers of emergency food clients on Long Island are likely undercounted.

While the primary aim of emergency food organizations is to address food insecurity, many also engage in food rescue to achieve this goal. In our region, Island Harvest operates according to this model, collecting surplus food from a range of area businesses –restaurants, food retailers, distributors and manufacturers– that would otherwise be disposed of as municipal waste, lessening the impact on the environment.

A review of program data indicates that the pounds of food collected and distributed by Island Harvest have grown over time. In 2006, Island Harvest reported that it had rescued over 7 million pounds of food on Long Island. By 2010, the organization reported collecting and distributing over 8 million pounds of unused food. Other local organizations engaged in food rescue include Rock and Wrap It Up and Food Not Bombs.

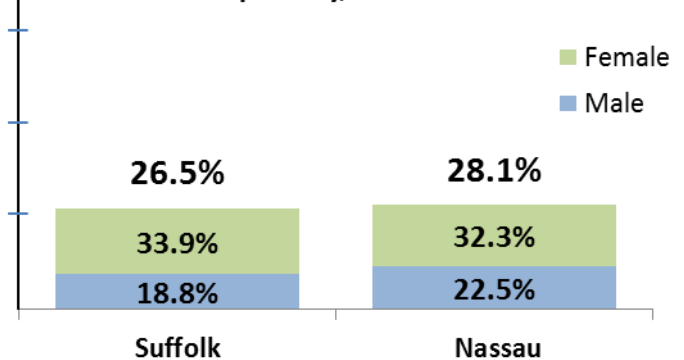
### Adults eating 5+ servings of fruit & vegetables per day

Diets with higher intakes of vegetables and fruits have been associated with a variety of health benefits, including decreased risk for heart disease, diabetes and some types of cancers. With this in mind, the USDA's Food Guide Pyramid recommends 2-4 servings of fruit and 3-5 servings of vegetables each day or a minimum of 5 or more servings daily.<sup>16</sup>

On Long Island, patterns of fruit and vegetable consumption vary by county. Between 2003 and 2009, the percentage of adults who reported consuming five or more servings of fruits or vegetables per day increased 15.8% in Nassau and decreased 7.3% in Suffolk. Consumption rates increased at the state and national

level during the same time period. As of 2009, 27.1% of Nassau adults and 28% of Suffolk adults ate five or more servings of fruits and vegetables per day, a proportion greater than at the state or national levels.

**Population Reporting Eating Five or More Fruit and Vegetable Servings per Day, 2009**



Source: BRFSS, CDC

In terms of gender, women reported eating more daily servings of fruits and vegetables than men in both counties in 2009. The data also show a relationship between higher education levels and increased fruit and vegetable consumption (although education may be acting as a proxy for income level). In Suffolk County, 30.9% of individuals with a college degree ate five servings of fruits and vegetables per day compared to 19% of individuals with a high school degree or less. Results in Suffolk County were even starker, with 33.1% of college graduates eating five serving per day versus 15.9% of individual with a high school degree or less.

## Waste Management Sector

Domains	Categories	Indicators	Trends	Needs
Economic	Waste Alternatives	Composting and alternatives to incineration	NA	
		Recycling as a percentage of municipal solid waste	↓	
Environment	Negative Impacts and Tracking Waste	Water quality of rivers, lakes, and estuaries	NA	
		Drinking water quality	NA	
		Municipal solid waste transported or incinerated	NA	

### Waste Alternatives

#### Indicator Background

Composting and recycling are environmentally and economically advantageous alternatives to traditional waste disposal means like incineration/landfills.

Composting involves the decomposing and recycling of organic matter (e.g. yard trimmings, food wastes, manures) into a substance that can be used to fertilize and condition soil. In addition to its ecological benefits, like soil enrichment and clean-up, composting is financially beneficial for consumers, farmers and the wider economy. Composting yields economic returns by reducing the need for pesticides and fertilizers, creating a market for local compost producers and eliminating landfill disposal costs.

Recycling is the process of collecting, sorting, and turning solid waste into new products. Like composting, recycling offers environmental benefits by increasing energy efficiency, diminishing greenhouse gas emissions and preserving natural resources. From an economic standpoint, recycling minimizes energy and disposal costs.

This indicator explores rates of composting and recycling for Long Island municipalities. Data for this indicator come from *Recycling on Long Island 2009 – A Report on Municipal Programs in Nassau and Suffolk Counties* produced by the Waste Reduction and Management Institute at Stony Brook University.

#### Composting and alternatives to landfills/incineration

The report considers a number of indicators, including composting activities in 13 of the 15 municipalities on Long Island in tonnage collected and in pounds generated per person per day by municipality. The report does not specify composting rates for the Town of Riverhead or the City of Long Beach. In addition, it does not indicate any trends and previous reports did not specifically capture composting rates.

In general, East End towns had higher rates of composting activities. Only five of the thirteen municipalities recorded composting rates in excess of one pound per person per day in 2009, with the Town of South Hampton ranked highest at 2.4 pounds/person/day and 4<sup>th</sup> in annual tons collected at 26,310 tons per year. The Town of Hempstead reported the highest amount of composting generated at 66,602 tons annually, despite ranking only 10<sup>th</sup> in amount collected per person per day (0.52 pounds per person per day). The Town of Oyster Bay had one of the lowest composting rates on Long Island, ranking 13<sup>th</sup> in pounds per person per day reported (0.11 pounds) and collecting only 6,018 tons annually, a tenth of what is generated in Hempstead, ranking 10<sup>th</sup> overall in tonnage collected.

Composting Rates on Long Island - 2009				
Municipality	Tons	Ranking	PPD*	Ranking
Hempstead	66,602	1	0.52	10
Islip	48,695	2	0.79	7
Brookhaven	45,748	3	0.51	11
Southampton	26,310	4	2.4	1
Smithtown	25,617	5	1.17	5
Babylon	23,956	6	0.6	8
Huntington	21,245	7	0.57	9
North Hempstead	16,576	8	0.4	12
Southold	8,527	9	2.02	2
Oyster Bay	6,018	10	0.11	13
East Hampton	5,523	11	1.39	4
Glen Cove	5,018	12	0.99	6
Shelter Island	807	13	1.74	3
Riverhead	0	14	0.0	14
Long Beach	0	15	0.0	15

\*PPD- Pounds Per Person Per Day

*Source: The Waste Reduction and Management Institute,*