

SCMUA 2015 Recycling Program Annual Report



The SCMUA herein presents its Annual Recycling Report for 2015, which includes information on the following materials recycled at the SCMUA Solid Waste & Recycling Facilities:

- Class A Traditional Recycling Materials: commingled containers (i.e. glass bottles, plastic bottles, cartons, metal cans); fiber (i.e. newsprint; cardboard; chipboard, magazines and other paper)
- Class B Non Traditional Materials: tires, metals, wood, mixed rigid plastic, etc.
- Class C Vegetative Waste Materials: leaves, stumps, brush and grass clippings
- Class D Materials: car batteries, waste oil, antifreeze, E-Waste, etc.
- Other Recycling Materials

The 2015 Recycling Report also incorporates four-year comparison graphs (2012, 2013, 2014 and 2015) to illustrate recycling tonnage trends. It is important to note that street sweepings and Household Hazardous Waste (HHW) are included in the SCMUA 2015 report as "Other Materials." The inclusion of these materials in this Report has been approved by NJDEP and is credited towards Sussex County's overall recycling rate. A summary of the SCMUA's recycled materials are as follows:

• Class A Traditional Materials	2,889 tons
• Class B Non-Traditional Materials	1,051 tons
• Class C Vegetative Materials (including stumps)	2,228 tons
• Class D Type Materials	534 tons
• Other Materials (Street Sweepings)	8,390 tons
• Household Hazardous Waste	<u>28 tons</u>
Total for 2015	15,120 tons

It is worthwhile to note that these are tonnage figures are for only those materials brought to the SCMUA's Solid Waste Facility; these figures **do not** represent the total of all recycling efforts within Sussex County. The SCMUA Solid Waste/Recycling Facility continues to be popular for municipalities, institutions, residents and area businesses. This is illustrated in the attached SCMUA vehicle trip chart (see attached), which indicates customer visits through the SCMUA Solid Waste Facility for the year. In 2015, over 255,354 vehicles accessed the SCMUA's Solid Waste and Recycling Facilities.

In addition to preserving natural resources, County recycling efforts saved 1½ months of landfill space by diverting these materials from the waste stream.

RECYCLING MARKETING CONDITIONS

The SCMUA Class A & B marketed recycled materials generated \$256,190 in revenues to help offset the Solid Waste & Recycling Facilities operating and maintenance expenses. During 2015 Class A & B recycling commodities market pricing remained fairly stable.

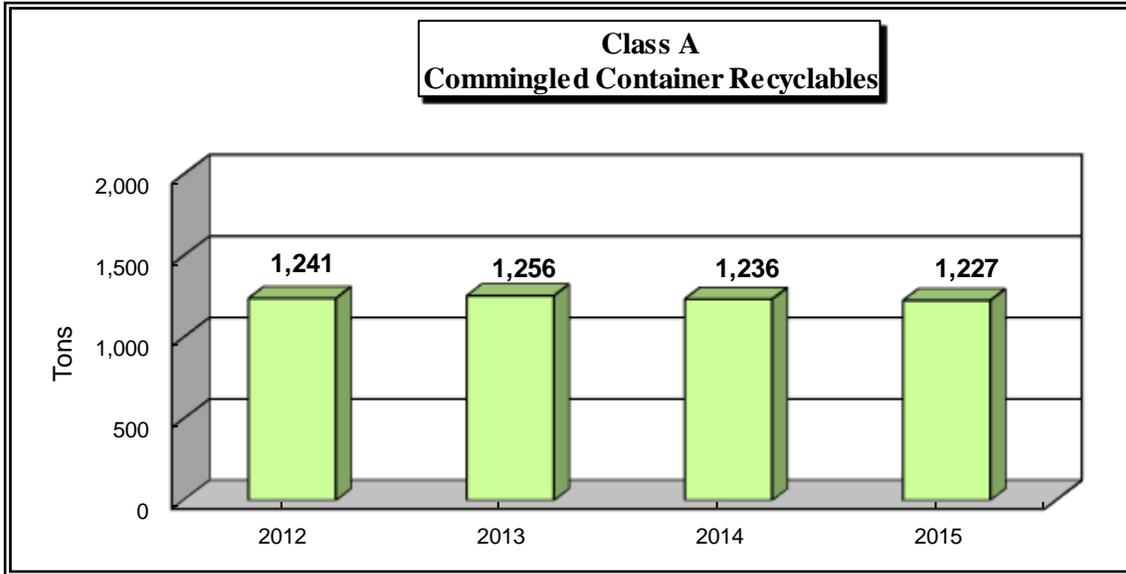
CLASS A RECYCLABLES

(Commingled beverage containers and Fiber Material such as newspaper, cardboard and office paper)

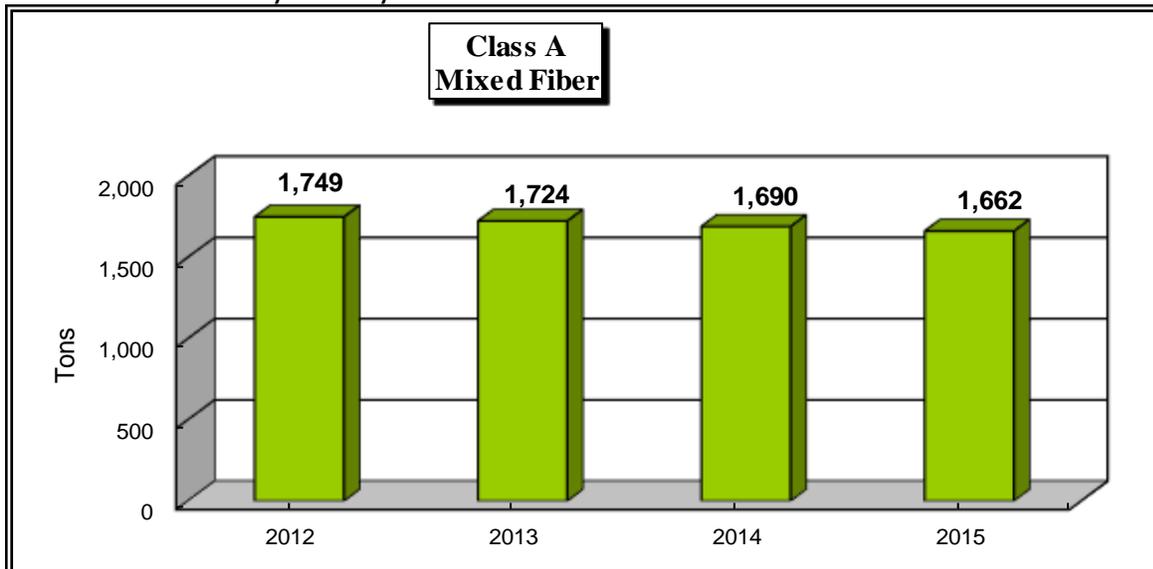
Sales of Class A recyclables are market driven and typically reflect the global economy. This was evident in 2015 with international demand remaining soft, especially the Asian markets. Some Asian countries have initiated extreme quality control measures for accepting recyclable materials which has resulted in market pricing remaining somewhat flat. The demand and value of Class A materials for domestic mills have remained at moderate levels throughout the year. Regardless of the market conditions, the SCMUA's Class A recycling programs remains popular and has continued to serve Sussex County residents, businesses and municipalities for over 25 years. The SCMUA accepts both small and large quantities of recyclable material for processing, transporting and marketing on a daily basis.

It has become standard practice for consumers (i.e. homeowners, institutions and businesses) to commingle Class A materials (glass containers, aluminum cans, steel cans, plastic containers, gable-top and aseptic cartons). The SCMUA continues to accept these commingled materials from generators as part of the SCMUA's overall recycling program. The SCMUA commingled recycling program provides a convenient method for the public to bring in these materials commingled, rather than require that each commodity be source separated. By encouraging commingling of these materials, there is a propensity to divert more recyclables from the municipal solid waste stream since consumers find it convenient and have readily accepted commingled container recycling. The SCMUA expanded commingled container recycling program includes gable-topped and aseptic cartons. These carton types have long been used for packaging milk, juice, broth and other liquid food-related products. The addition of these cartons to the commingled containers collection program offers another opportunity for Sussex County residents and businesses to divert material from the solid waste stream (landfilling) and help improve Sussex County recycling rates.

The amount of Class A commingled container recyclables tonnage received at the SCMUA for 2015 was comparable to 2014 tonnage figures; there was a slight decrease (9 tons) of Class A containers. It should be noted that there are other Class A commingled container recycling markets available, both within and outside Sussex County.



The SCMUA has developed a mixed fiber recycling and marketing program with a number of local fiber recycling vendors including Trinity and Recycle America. The SCMUA recycled/marketed 1,662 tons of Fiber in 2015. Although this was a 28 ton decrease from 2014, continuing the declining trend, the SCMUA was very successful in marketing this fiber material due to the strategy of maintaining the segregation of the various fiber streams (i.e. newspaper, cardboard and mixed office paper). Both domestic and overseas markets pay a premium for source separated fiber material, thereby driving such fiber revenue price per ton upwards, and making it a more lucrative commodity to recycle.



SCMUA vendors in 2015 included the following Class A market outlets:

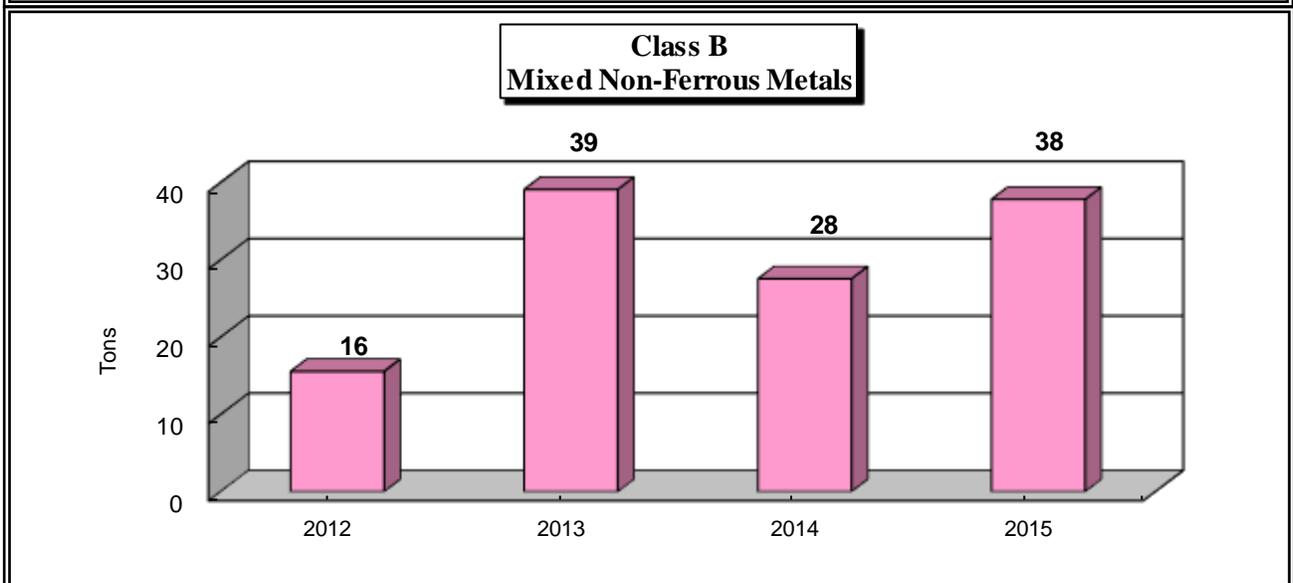
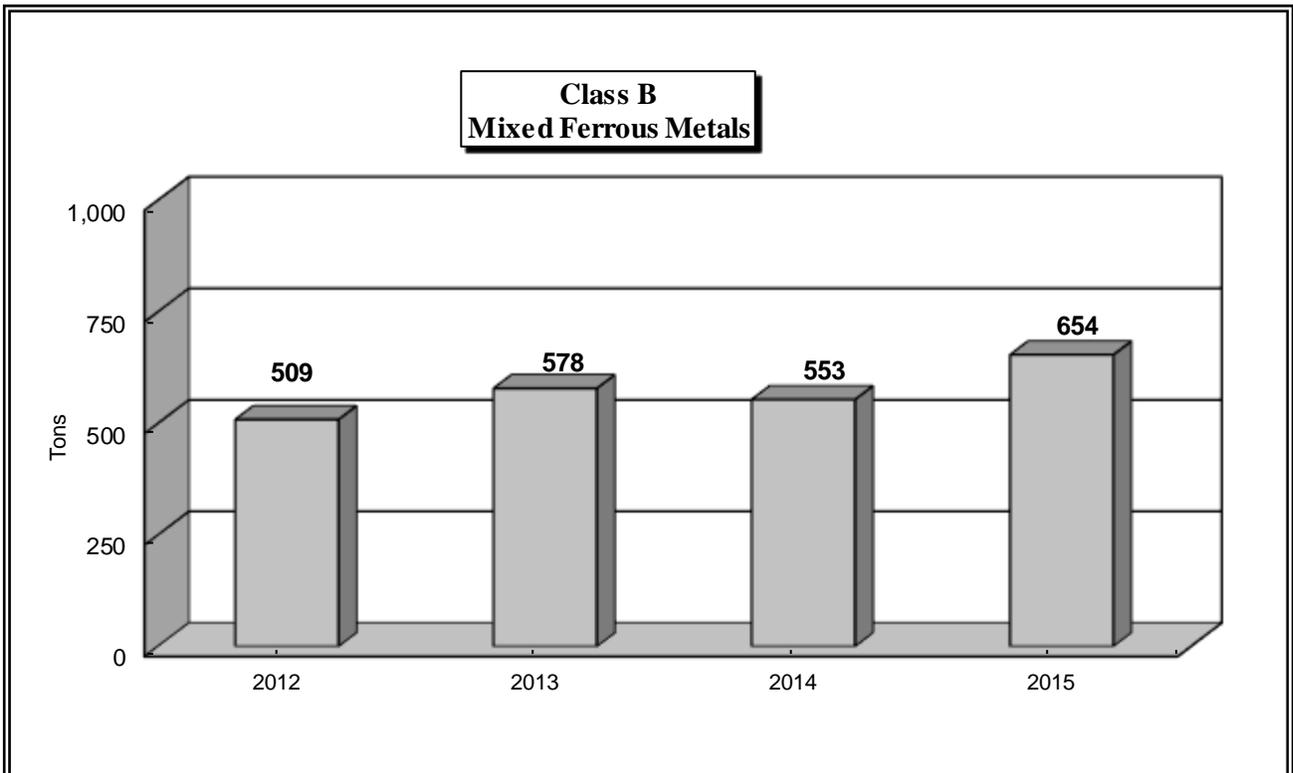
- Sims Municipal Recycling and Waste Management/Recycle America for commingled Class A materials;
- Trinity and Waste Management/Recycle America for cardboard, newspapers, & other mixed fiber
- Sims Municipal Recycling and Waste Management/Recycle America for Mixed Rigid Plastic

Price quotes are solicited from recycling market vendors on a monthly basis to ensure competitive pricing for the recyclable materials generated. While the SCMUA continues to explore alternative marketing arrangements with vendors to help reduce operation and maintenance expenses and to enhance revenues, it is important to note that the SCMUA does not collect or market Singlestream recyclable material. Even though the majority of Sussex County municipalities have converted to Singlestream curbside collection, the SCMUA has maintained a "dual-stream" collection program for its Class A recyclable materials. The SCMUA has maintained a dual stream recycling program wherein the separation of the fiber and container materials results in less contamination, and better marketability of these recyclables.

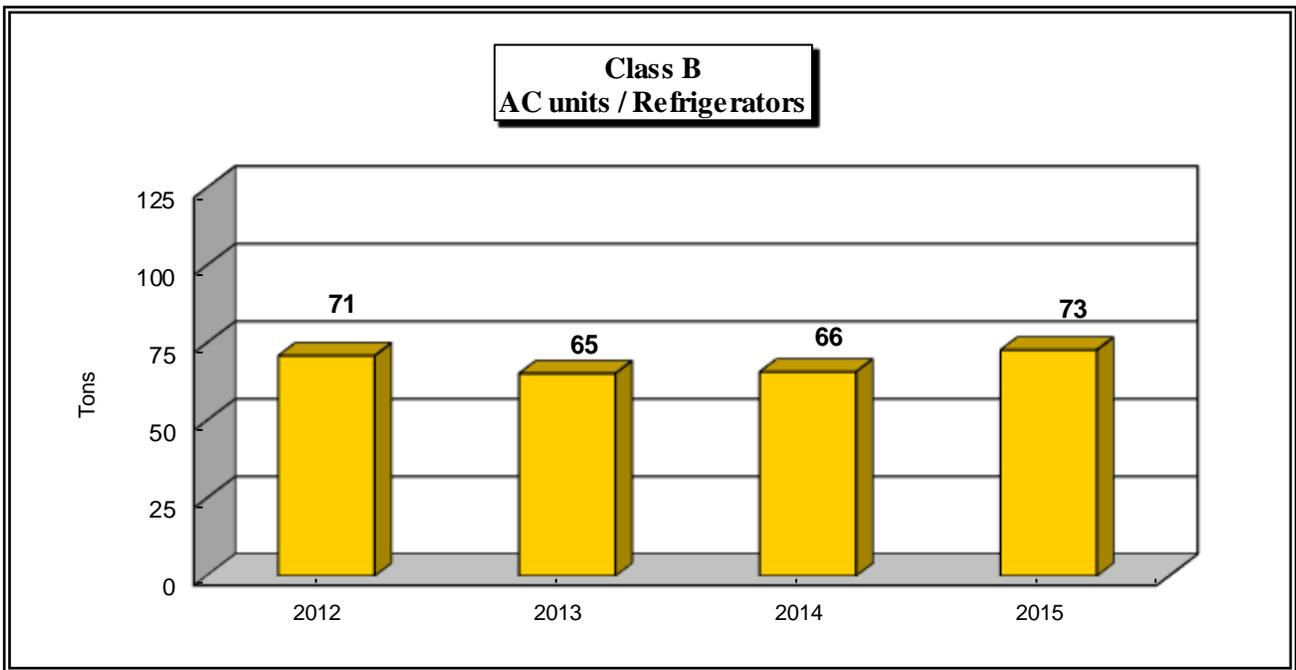
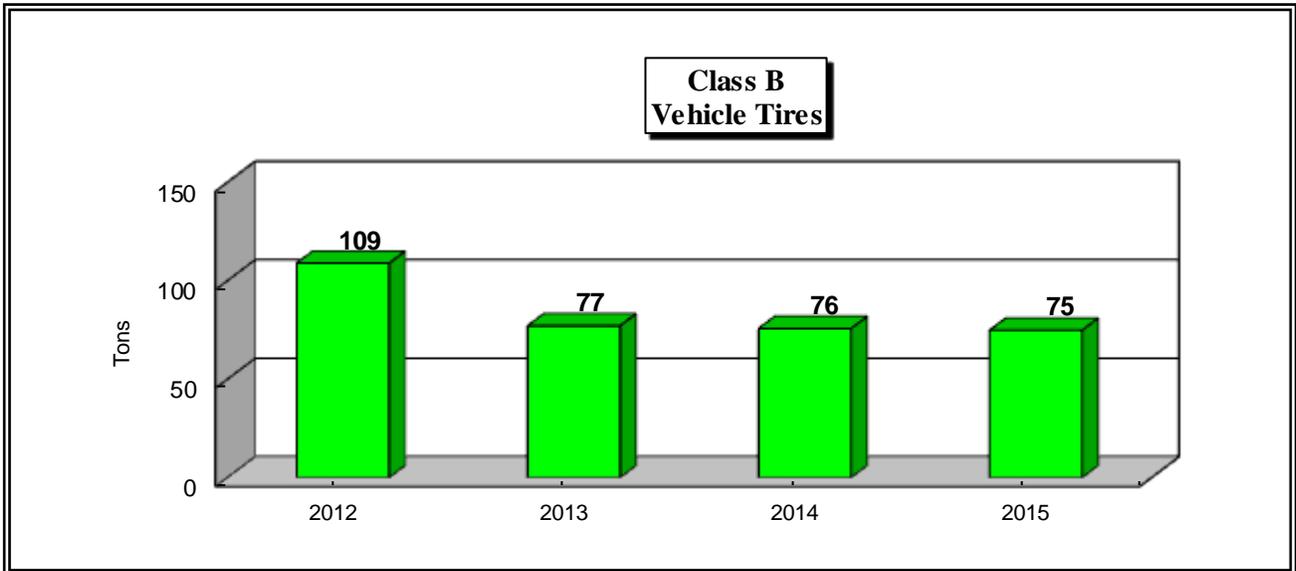
CLASS B RECYCLABLES

(Household Appliances, Ferrous and Non-Ferrous Metal, Tires, Propane Tanks & Clean Wood)

The SCMUA experienced an increase (134 tons) in the overall volume of Class B non-traditional recyclable materials in 2015 (see following graphs), scrap metal prices for ferrous (light iron) remained consistently high throughout the year. Overseas markets continued to drive the demand for steel products in 2015, while domestic markets for this material remained weak. The market demand for non-ferrous (copper and aluminum) remained high which allowed pricing to remain strong in 2015. It should be noted that most generators of these types of materials sell them at local salvage yards, rather than dispose at the SCMUA. Traditionally, recycling market rates directly impact the disposal of certain items, such as scrap metals, appliances, air conditioning units and refrigerators. When prices are high for these materials there is a greater incentive for consumers to bring them directly to salvage yards. In 2015 the SCMUA continued separating copper, brass and aluminum (non-ferrous) items from the scrap metals received. By sorting this material, the SCMUA has been able to maximize revenues for these commodities. Regardless of recycling market conditions, SCMUA staff has always separated both ferrous and non-ferrous metals from the solid waste stream to save landfill space, save natural resources and enhance revenues.



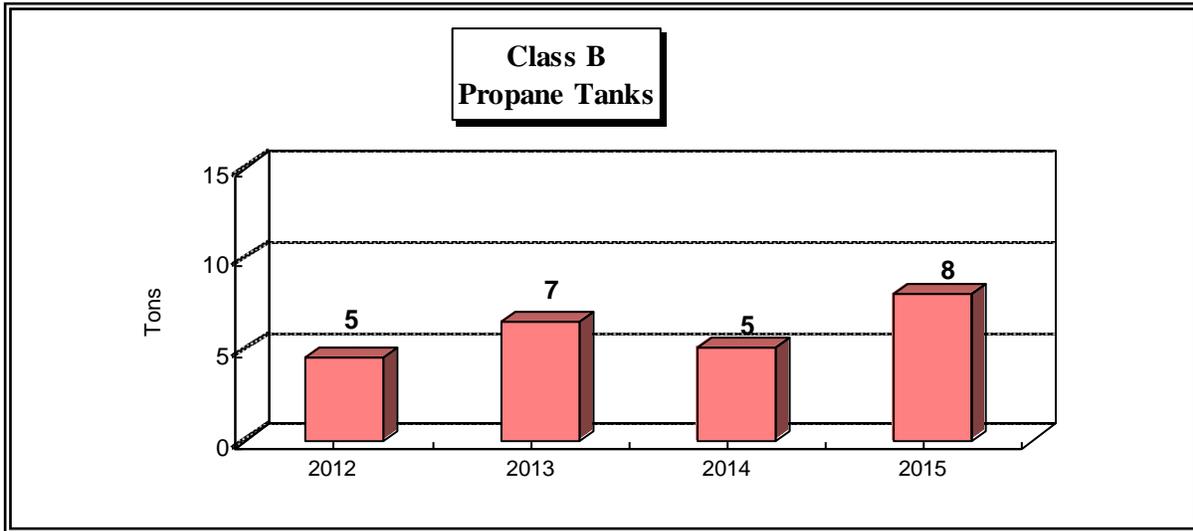
For 2015, the SCMUA collected/recycled approximately 75 tons of vehicle tires. At approximately 100 tires per ton, this translates to over 7,500 tires that were diverted from the landfill for recycling. The SCMUA contracts with two vendors for recycling of waste tires. Covanta, Inc. incinerates the tires in a waste-to-energy recycling process, whereas Rubberecycle, Inc. grinds the tires into chips for various reuse applications such as rubberized mulch which is used for landscaping and playgrounds.



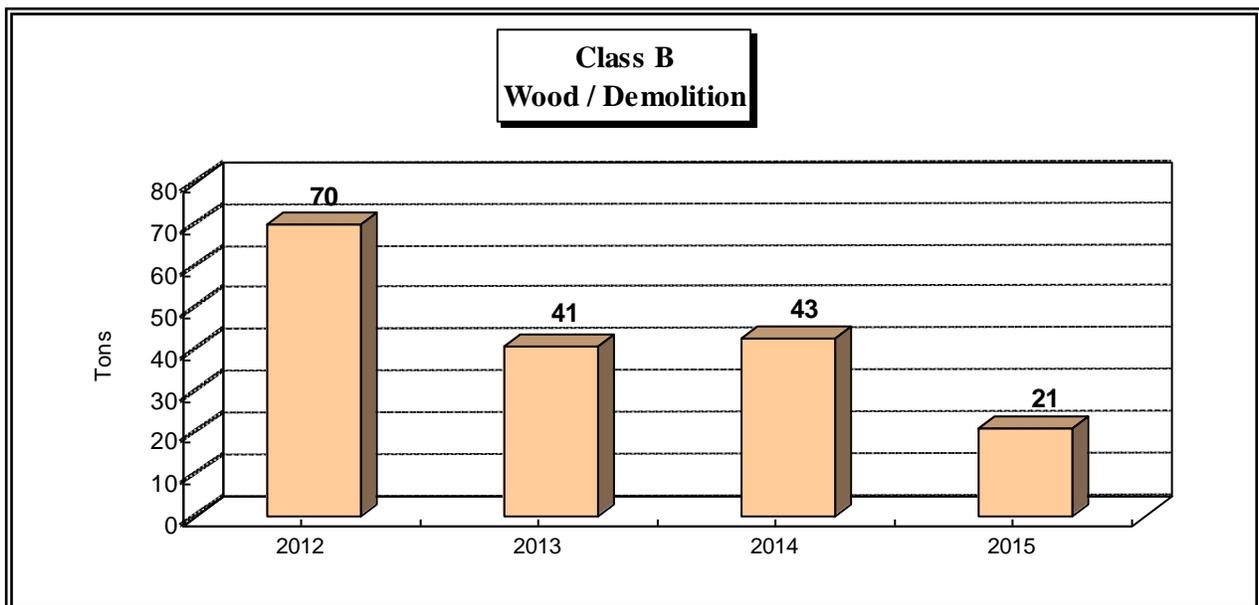
Sussex County residents, municipalities and businesses brought just under 73 tons of used refrigerators, dehumidifiers and air conditioning units to the SCMUA in 2015. Appliances received at the SCMUA are collected and processed by a scrap appliance vendor, Al's Appliance, Inc., who removes all CFCs and PCBs and shreds the scrap steel for shipment to a mill. Scrap steel is then re-used to manufacture new products. Removal of CFCs and PCBs protects the environment while proper appliance recycling conserves energy, landfill space, and conserves natural resources.

The SCMUA also has a program to recycle propane tanks. The SCMUA collected/recycled approximately 8 tons of propane tanks in 2015. At approximately 100 propane tanks per ton, this translates to about 800 propane tanks that were

diverted from the solid waste stream for recycling in 2015. The high value of the various metals used to make up propane tanks, including steel and brass, developed an ongoing SCMUA marketing and revenue opportunity. The SCMUA contracts with a vendor, who pays the SCMUA to pick up the collected tanks, safely remove any unused propane gas, and recycle the containers. In 2016, we look forward to continuing with this beneficial program.

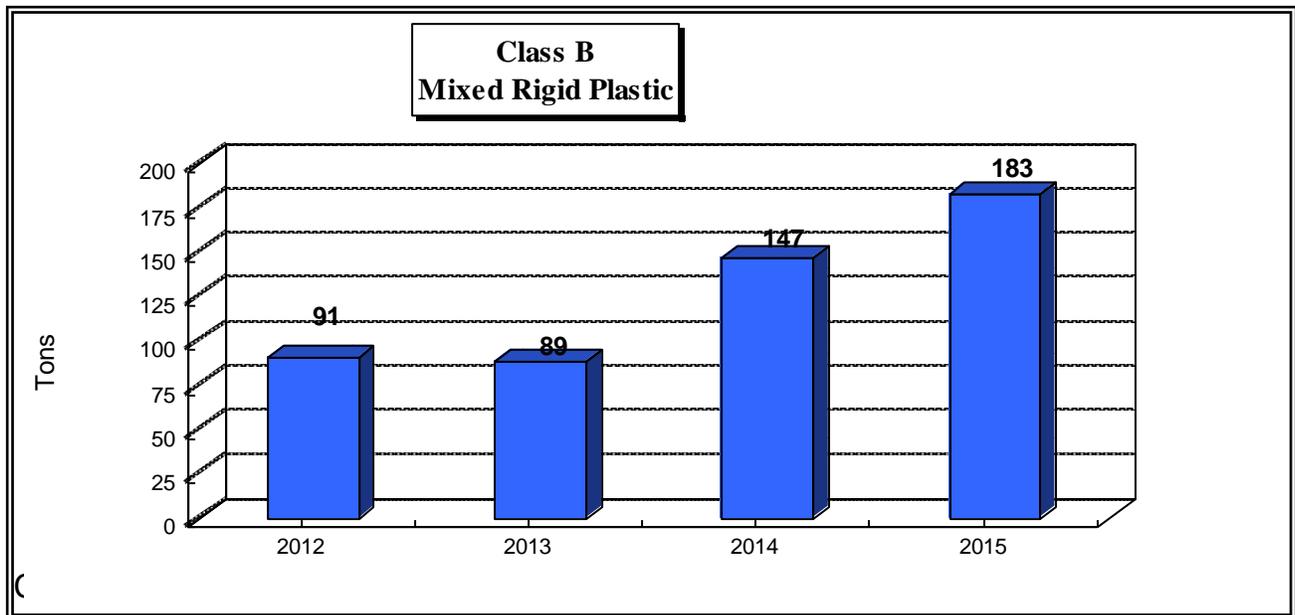


The collection of Clean Wood such as wood pallets and other Demolition wood materials, such as unpainted fencing decreased significantly by about 22 tons from 2014 to 2015. There are a number of alternative in-county and out-of-county recycling facilities which accept and market these materials. These wood items were diverted from the waste stream prolonging our landfill life and conserving natural resources.



In 2015 the SCMUA continued recycling and marketing Mixed Rigid Plastic (MRP). Examples of MRP include plastic buckets 5-gallon sized or larger, plastic 55 gallon drums, up to 90 gallon totes, plastic milk crates, kitty litter buckets, laundry baskets, pet carriers, lawn furniture, agriculture plastic trays and pots, corrugated plastic signs, plastic toys including Little Tykes play houses, cars, trikes, big wheels, and household plastic items such as storage containers, tubs, shelving, etc. These plastic materials that are being collected for recycling normally end up being landfilled. The MRP material is typically brought to the SCMUA in mixed loads of Type 13 waste at the Residents' Convenience Center. SCMUA staff removes the MRP while assisting SCMUA customers. The separated MRP material is stored separately and hauled to a local recycling market to be baled and processed for plastic manufacturing facilities' feedstock. The benefits of diverting this type of material from the solid waste stream at the SCMUA include extending landfill life, providing a steady plastic feedstock for businesses, and generating additional revenue for the SCMUA. Since the inception of the program in October 2011, the SCMUA has diverted over 482 tons of MRP from mixed solid waste loads.

As a new recycling initiative at the SCMUA Landfill/Recycling Facility, the Mixed Rigid Plastic collection program has been a success for diverting bulky material from the Landfill, and will continue in 2016.

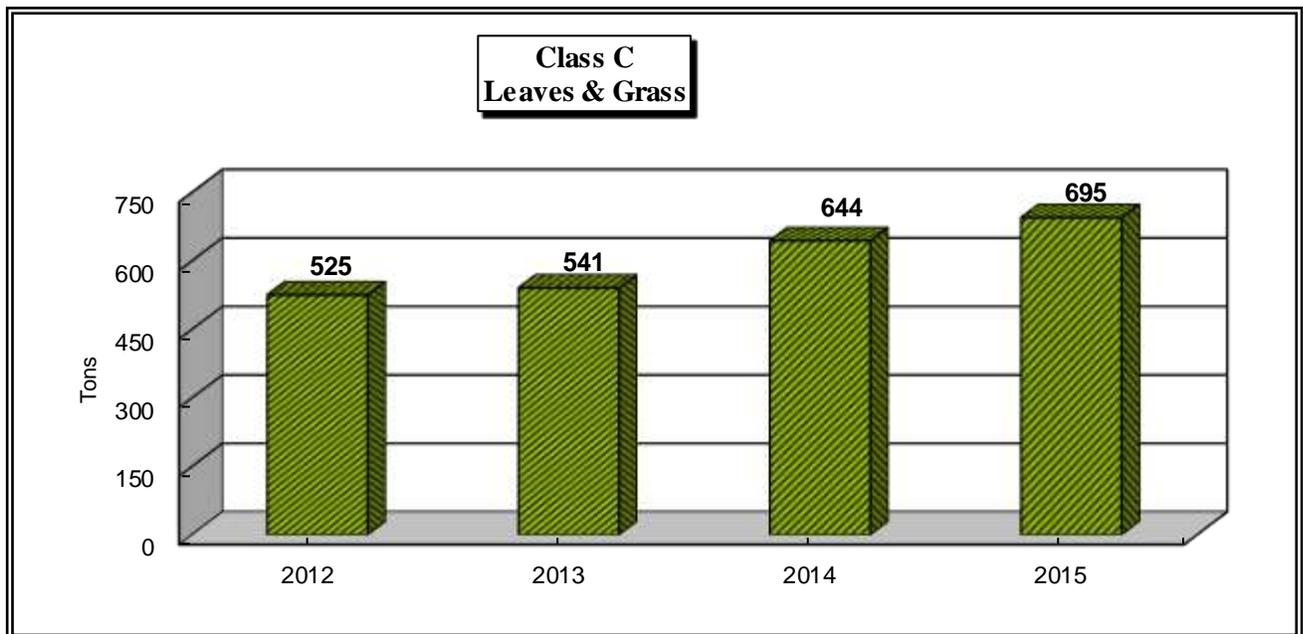


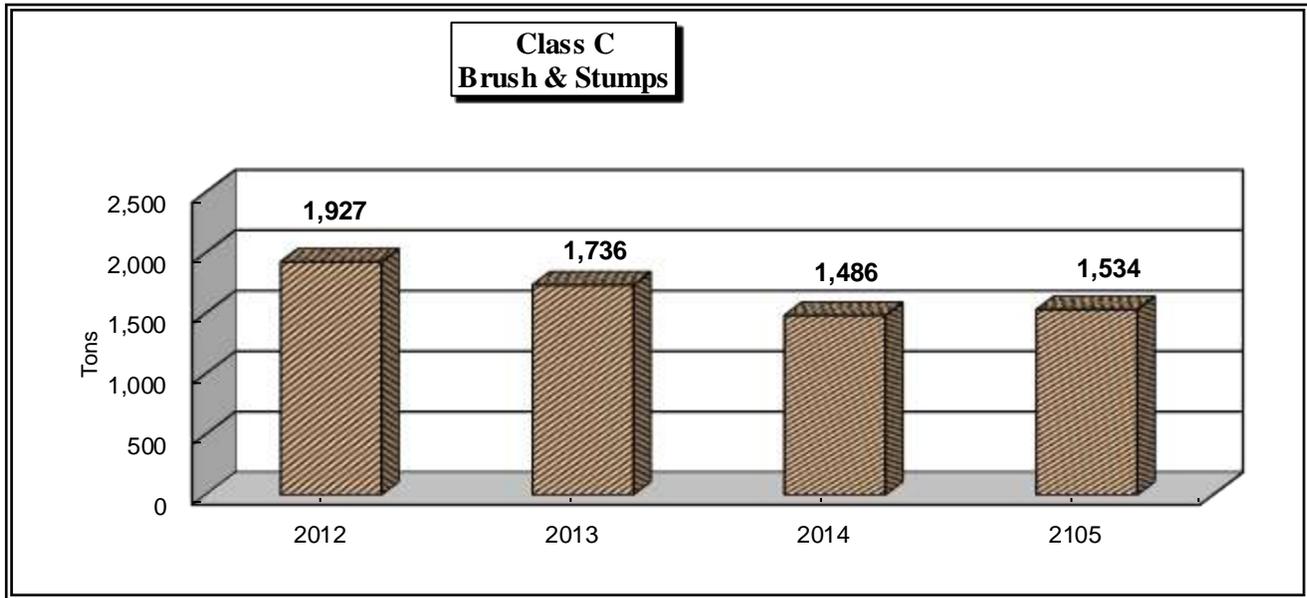
- Metal Management, Inc. for ferrous and non-ferrous scrap metals;
- Al's Appliance for refrigerators and air conditioners;
- Reliable Wood, Inc. for clean wood waste and stumps;
- Paraco Gas, Inc. for propane tanks;
- Covanta, Inc. for tires;

- Rubberecycle, Inc. for tires;
- Recycle America and Sims Municipal Recycling for Mixed Rigid Plastic

CLASS C RECYCLABLES
(Leaves, Grass Clippings, Brush, Tree Parts and Stumps)

In 2015 the SCMUA's Class C Vegetative Waste Facility accepted and processed 2,229 tons of brush, stumps, leaves and grass clippings. The total volume of vegetative material received at the SCMUA increased slightly in 2015 compared to 2014. Leaves and Grass tonnage increased in 2015 by 8% compared to 2014, and Brush and Stumps received in 2015 was up by 3% compared to 2014. Brush, leaves and grass clippings are recycled on-site at the SCMUA. Residents & businesses may load the processed material (mulch and compost) at the vegetative waste area for their own use free of charge. If customers prefer, the SCMUA also produces and sells colorized mulch (red and black) at \$20 per C.Y. In 2015, over 1,088 cubic yards of colorized mulch was sold to the public. The SCMUA will continue to promote this program in 2016, thereby encouraging recycling of this vegetative waste which conserves landfill space and enhances revenues. In 2015, the Class C Facility generated \$128,181.00 in revenues from both vegetative waste disposal fees and the sale of mulch and compost materials.



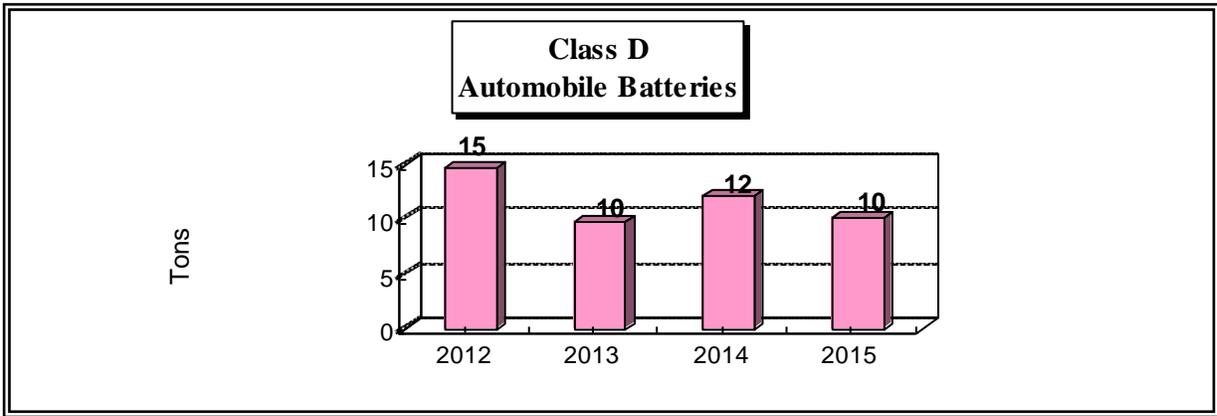


CLASS D RECYCLABLES

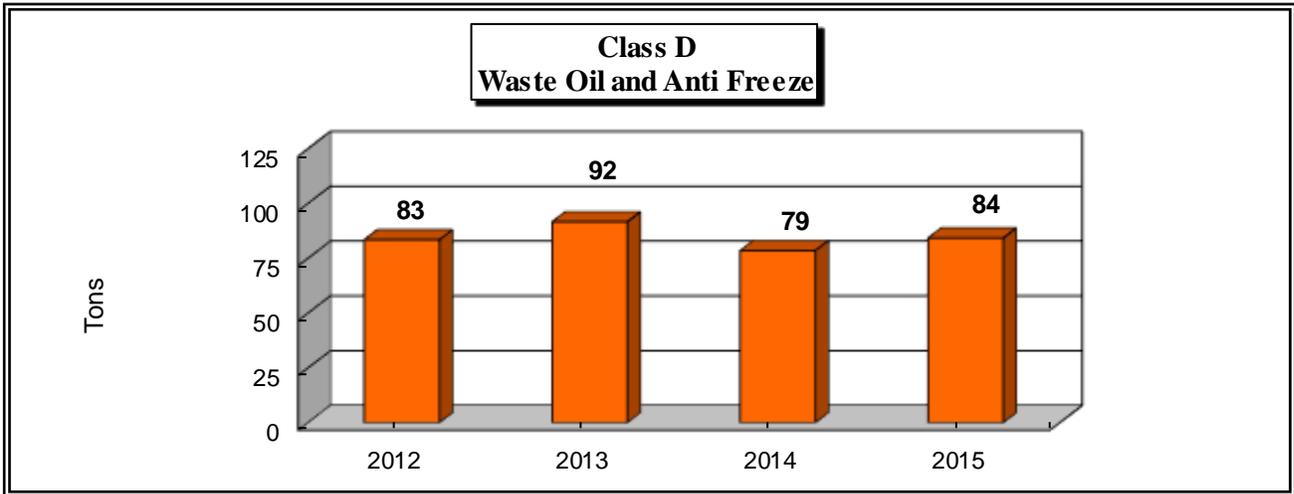
(Automotive Batteries, Household Batteries, Used Motor Oil, Anti-Freeze, Consumer Electronics and Textiles)

The majority of the Class D Recyclables category are materials which, if improperly handled, may pose an environmental hazard, and as such, require special attention by generators and the SCMUA. Class D Recyclables are segregated from the solid waste stream and managed in a careful manner. There was a slight overall increase in Class D recyclable tonnage for 2015 as compared to 2014. A focus on consumer electronics (E-Waste) in 2015 is ongoing in conformance with NJ State Law regarding the disposal of Televisions, Computers, Scanners, Fax Machines, Cell Phones, etc. E-waste tonnages recycled by the SCMUA increased slightly in 2015 compared to 2014. It is anticipated that E-Waste tonnages will continue to increase over the next few years in response to both public education and solid waste haulers not accepting these items.

Automotive Batteries – In 2015 approximately 10 tons of automotive type batteries were collected for recycling at the SCMUA, a decrease of 17% compared to 2014. Automotive batteries contain acid and lead which can pollute the environment and, if landfilled, can cause fires. The SCMUA contracts with responsible Recyclers who properly handle these items and recover the components such as the acid, lead, and plastic housing which are recycled.

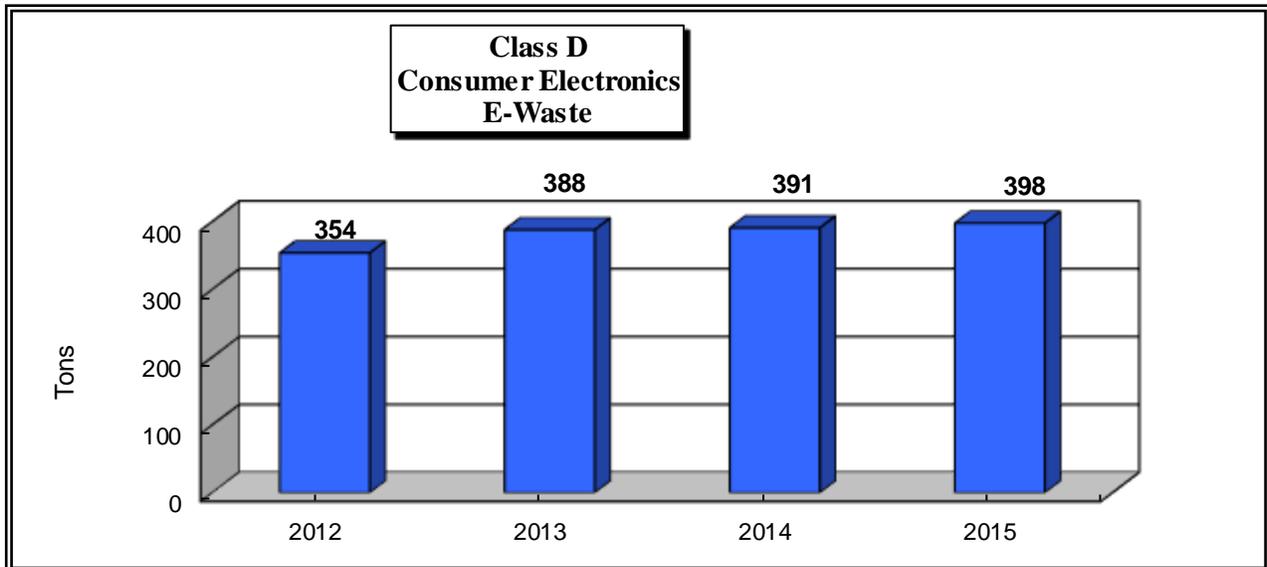


Motor Oil and Anti-Freeze – More than 84 tons (24,000 gallons) of used motor oil and antifreeze were recycled at the SCMUA. Both these items are of concern in that, if not handled properly, can pollute Sussex County lakes, streams and groundwater. Recyclers can reprocess both these items for reuse. It is also noteworthy to mention that the SCMUA owns and operates a used motor oil burner to heat the Solid Waste Facilities - Mobile Equipment Maintenance Garage. In 2015 the SCMUA “re-used” approximately 1,500 gallons or over 5 tons (included in above total) of waste motor oil to heat the maintenance garage. This reuse reduces SCMUA heating expenses and helps reduce our dependence on foreign oil.



E-Waste Program - Since 2002 the SCMUA has been providing responsible disposal of consumer electronics (E-Waste), for Sussex County residents and businesses. Discarded consumer electronics could harm the environment if disposed of improperly. E-Waste contains heavy metals including; lead, mercury, nickel, cadmium and other hazardous materials. The SCMUA has a two-pronged approach to managing E-Waste at the Solid Waste Facility in an effort to prevent it being landfilled. On a daily basis, SCMUA employees segregate E-Waste from the solid waste stream while assisting customers at the Residents’ Convenience Center. In 2015 this effort segregated 263 tons of E-Waste for recycling. Additionally the SCMUA hosts special E-Waste Events each year for Sussex County residents, businesses and institutions. In 2015 the SCMUA sponsored

four (4) free E-Waste events generating 135 tons of electronic equipment while serving 2,950 participants. The four E-Waste events plus regular daily drop-offs by residents at the Convenience Center resulted in a total of over 398 tons of electronic equipment collected and recycled at the SCMUA for 2015. The SCMUA partnered with Vintage Tech Recycling and ERI to provide for the four (4) no cost resident collection events in 2015. The ever-increasing development of new electronic devices being matched by the escalating demand of consumers' needs to be offset by providing opportunities for safe collection and recycling.



Household Batteries - In response to U.S. Department of Transportation regulations, the SCMUA revised its Household Battery Collection Program. The DOT regulations mandated special preparation for recycling or disposal of certain rechargeable and other hazardous battery types, to prevent any short-circuiting during transport. Additionally, revised federal and state regulations indicate household type Alkaline (single use) Batteries fall below hazardous waste standards and are now considered disposable and should be discarded as normal household trash. As such, the SCMUA no longer collects Alkaline type batteries for recycling purposes. Residents, business and institutions should dispose of alkaline batteries with daily household waste. However, rechargeable batteries and other battery types that still contain mercury or other hazardous materials need to be properly handled, managed and recycled. The SCMUA will continue to accept (at no cost to the public) rechargeable batteries and batteries containing hazardous materials such as mercury, at the SCMUA's Recycling Center. The SCMUA will ensure these types of batteries are properly packaged and shipped to an authorized processing facility

SCMUA vendors in 2015 included the following market outlets:

- Vintage Tech Recycling, for E-Waste
- Clean Venture, Inc., for Household Hazardous Waste

- Clean Venture, Inc., for Household Batteries
- Loeffels Waste Oil Inc., for waste oil and antifreeze
- AMVETS, for textiles (donated clothing)

OTHER RECYCLED MATERIALS:

Street Sweepings: Since 2004, NJ State regulations require that municipalities collect street sweepings on a regular basis as part of New Jersey’s Stormwater Management Plan. In response to these State requirements, the SCMUA began accepting this material to provide public agencies a convenient, NJDEP approved location to dispose of their street sweepings. In 2015, 8,390 tons of Sussex County generated street sweepings were accepted at the SCMUA Solid Waste Facility. Street Sweepings are used as Alternate Daily Cover (ADC) for the landfill operations. When applied as ADC on the landfill these street sweepings are considered “recycled” since they are used in a beneficial manner. This recycling program reduces the SCMUA’s need to purchase “clean fill” for daily cover need thereby saving resources and reducing operating expenses. The SCMUA keeps accurate reports on municipal street sweeping tonnage which is provided to the NJDEP and is credited toward overall municipal/Sussex County recycling rates.

Household Hazardous Waste Program: The SCMUA hosted two Household Hazardous Waste Disposal Events in June and November 2015. A total of 28 tons was collected while accommodating 1,800 participants. All of the Hazardous Waste is properly disposed (or recycled) under contract with a vendor licensed by the State of NJ. The contractor is responsible to segregate, pack and transport the hazardous material to the proper hazardous waste recycling or disposal facilities, thereby protecting both the SCMUA landfill and the environment from contamination. The SCMUA has hosted two (2) annual household hazardous waste events for over 25 years; in keeping with this tradition two household hazardous waste collection events are again planned for 2016.

OTHER SCMUA RECYCLING RELATED PROGRAMS & INFORMATION:

Earth Energy Day Event - As a way to promote environmental stewardship and spread valuable educational information about proper solid waste disposal and recycling, the SCMUA and the Wallkill River Watershed Management Program celebrated its 10th annual Earth-Energy Day Event in April. Sussex County residents and schools participated in activities designed to raise awareness of environmental issues such as hazardous waste management, recycling, watershed management, alternative energy, protection of natural resources, and other educational activities. Over 450 students

from various Sussex County schools participated in the event, as well as, local volunteers.

Secure Document Destruction Program - For the past 10 years, the SCMUA has contracted with a local secure document destruction company, SK Paper Shred, to offer residents and business owners with secure and convenient paper shredding service. SK Shred conducts monthly shredding of documents at the SCMUA Solid Waste Facilities for a nominal fee. At the conclusion of each event, all shredded paper remains at the SCMUA for transport to a recycling facility. In 2015 almost 36 tons of paper was shredded/recycled for 1,408 customers who participated in these events.

American Flag Disposal Program - The SCMUA Recycling Center provides a designated container for used U.S. flags that are no longer needed, or suitable for display. In 2015, the challenge was to find a proper disposal solution for over 720 pounds of American flags, brought to the Recycling Center by Sussex County residents and businesses. Previously, the accumulated flags were donated by the SCMUA to the American Legion Post for their annual Flag Retirement ceremony. With many flags now typically being made of nylon or polyester-based fabrics, the potential air and health hazards associated with burning the non-cotton flags has been a deterrent from conducting the traditional open pit burning of the flags. Derek and Kevin Cooke, proprietors of Abbey Glen Pet Memorial Park generously offered utilizing their crematory at no charge to provide a proper and environmentally sound method to retire the flags. The NJDEP Division of Air and Hazardous Materials Enforcement issued an approval to the Abbey Glen Pet Memorial Park to combust the flags in a proper and respectful manner. Representatives from Boy Scout and Girl Scout Troops, American Legions and Veteran's organizations, along with local, county and state officials participated in the ceremony on June 15th, 2015

Cell Phones for Soldiers Collection Program - The SCMUA provides special containers at both the Residents' Convenience and Recycling Centers to collect used cell phones from Sussex County residents and businesses. All makes and model cell phones are accepted, including batteries and accessories. As part of this program, the collected cell phones are recycled and program proceeds are used to purchase prepaid calling cards for US military personnel serving abroad. In 2015, just under 300 pounds of cellphones were collected for the Cell Phones for Soldiers, qualifying the SCMUA as a Star Sponsor on their website: <http://www.cellphonesforsoldiers.com/sponsors.php> for going above and beyond to support the program.

Sharps and Medical Waste Disposal Programs - The SCMUA provides a monthly drop-off location for the proper disposal of sharps and regulated medical waste from home generators. In addition, the SCMUA continues to promote the Countywide Prescription Medication Disposal Program. Local law enforcement agencies collect expired, unused and unwanted prescription drugs for proper disposal/destruction. This program was developed by authorities to reduce the unauthorized accessibility of prescription drugs.

Boat Shrink Wrap Recycling Plus Program - For the seventh year the SCMUA organized a county-wide boat shrink wrap collection and recycling program. This program time period is March 30th – June 30th. The SCMUA provides 30-yard recycling containers for this program. These containers were stationed at Danforth's Marina locations at Lake Mohawk and the in Borough of Ogdensburg. Other participating boat stores were located in Frankford Township and Hopatcong Borough. By increasing recycling locations in Sussex County, it has allowed boat owners more convenience in recycling this type of this material. In 2015 the SCMUA collected 14,040 pounds of Boat Shrink wrap material which was marketed at Waste Management/Recycle America.

Fluorescent Lamp Collection Program - This program was started five years ago to provide a safe and convenient location to dispose of fluorescent bulbs in an environmentally safe manner. Over 9,780 lbs of fluorescent lamps were collected in 2015 as part of this program.

SCMUA Landfill/Recycling Facility Tours - Throughout 2015 regular educational presentations and tours were conducted for elementary schools, high schools and colleges, as well as scouting groups, and other organizations from Sussex County and surrounding communities, regarding the SCMUA Solid Waste & Recycling Facilities. In 2015, over 635 participants took part in tours of the SCMUA Landfill and Recycling Center to learn, firsthand, their impact on the environment and strategies that could be adopted to increase the lifespan of the Landfill.

School Recycling Projects - Various environmental projects are developed on a regular basis with the Sussex County MUA, local school districts, and Municipal Recycling Coordinators. In 2015 the SCMUA in conjunction with local municipalities, took part in a plastic film and bags collection program for participating Sussex County schools, to help promote the importance of proper waste disposal and recycling. The Sussex County School Plastic Film Recycling Challenge sponsored by the Trex Company, focused on collecting clean and dry recyclable plastic film in order to keep it out of the landfill, and instilling school pride. Five (5) participating schools competed within the county to recycle the most plastic film, and the winning school is awarded a Trex bench. The Challenge started on November 15, 2015 (America Recycles Day) and ends on April 22, 2016 (Earth Day). This challenge has been an excellent way of promoting less trash in our daily lives, encouraging more recycling, and is a highly effective educational opportunity for local students. It is a natural fit for the SCMUA and Municipal Recycling Coordinators to work together in developing school programs that highlight the core concepts of recycling awareness, integral to providing a sustainable future for Sussex County.

Municipal Recycling Coordinators – The SCMUA employs the Sussex County Recycling Coordinator who establishes and consults on the many County recycling programs. In February 2015 a Recycling Tonnage Workshop was conducted for local Municipal

Recycling Coordinators to plan strategies for obtaining business and commercial recycling reports for their towns in an effort to improve the overall County recycling rate. In October 2015, the County Recycling Coordinator held an informational meeting for Municipal Recycling Coordinators on new recycling innovations, and updates on current solid waste and recycling regulations. The SCMUA regularly partners with local municipalities to provide education and outreach.

The SCMUA's Recycling programs owes its success, in large part, to the many residents and businesses of Sussex County who recognize that recycling is a necessary and beneficial solid waste management option. Recycling is a cost effective activity which conserves natural resources and extends landfill life. Sussex County recycling programs have only been successful due to the support of the Sussex County Board of Chosen Freeholders, the SCMUA Board of Commissioners, municipal officials and most importantly the public's participation each and every day.

Below is a comparison of vehicle traffic at the SCMUA for recent years (2012-2015), this graph indicates that during 2015, a monthly average of roughly 21,000 vehicles utilized the SCMUA - Solid Waste and Recycling Facilities.

