

# 2021 Recycling Report



## **Crow Wing County**

### **2021 Recycling Report**

**11/2/2022**

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**LIST OF ABBREVIATIONS**

<b><u>Abbreviation</u></b>	<b><u>Term/Phrase/Name</u></b>
AMC	Association of Minnesota
AST	Aboveground Storage Tank
CCA	Chromated Copper Arsenate
C&D	Construction and Demolition
C-I-D	Crosby-Ironton-Deerwood
CII	Commercial, Industrial, and Institutional
CON	Certificate of Need
CREDI	Cuyuna Range Economic Development, Inc.
CRT	Cathode-Ray Tube
DEA	Drug Enforcement Administration
DIY	Do It Yourself
DNR	Department of Natural Resources
EoL	End of Life
ES	Executive Summary
GMLCF	Greater Minnesota Landfill Cleanup Fee
Greater Minnesota	Non-Metro Areas
GWI	Goodwill Industries
HHW	Household Hazardous Waste
HID	High-Intensity Discharge
IPPAT	Interagency Pollution Prevention Advisory Team
LFG	Landfill Gas

<b><u>Abbreviation</u></b>	<b><u>Term/Phrase/Name</u></b>
LMC	League of Minnesota Cities
MEI	Minnesota Environmental Initiative
MDA	Minnesota Department of Agriculture
MMSW	Mixed Municipal Solid Waste
Mn/DOT	Minnesota Department of Transportation
MnGREAT	Minnesota Government Reaching Environmental Achievements Together
MPC	Material Processing Corporation
MPCA	Minnesota Pollution Control Agency
MSBA	Minnesota School Boards Association
MSW	Municipal Solid Waste
NACo	National Association of Counties
NAHMMA	North America Hazardous Material Management Association
NEWAC	Northeast Minnesota Waste Advisory Committee
OEA	Office of Environmental Assistance
PRA	Pesticide Regulatory Account
RBRC	Rechargeable Battery Recycling Corporation
RCRA	Resource Conservation and Recovery Act
RDC	Regional Development Commission
SCORE	Select Committee in Recycling and the Environment
Site	County's 564-Acre Solid Waste Disposal Site
STS	Sentence-to-Serve
SW-111	Unlined MMSW Landfill

<b><u>Abbreviation</u></b>	<b><u>Term/Phrase/Name</u></b>
SW-376	Lined MMSW Landfill
SW-440	Construction and Demolition Debris Landfill
SWANA	Solid Waste Association of North America
SWCD	Soil and Water Conservation District
SWMP	Solid Waste Management Plan
SWMT	Solid Waste Management Tax
The County	Crow Wing County
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VDD	Video Display Devices
VSQG	Very Small Quantity Generator
WLSSD	Western Lake Superior Sanitary District
WMA	Waste Management Act

## EXECUTIVE SUMMARY (ES)

This 2021 Recycling Report (Report) is intended to provide an updated overview of the solid waste/non-landfill related activities as outlined in the County Solid Waste Management Plan (November 2013). In addition, this Report presents data concerning the overall waste generation, recycling activities, and data on the other solid waste/non-landfill related programs within the County.

### ES.1 MSW/Demolition Generation

The County continues to experience overall growth in MSW waste generation. Sanitary waste tonnage previously peaked in 2005 at 51,828 tons. It took until 2019 (14 years) for the County to obtain this level of tonnage again. However, the tonnage landfilled in 2021 experienced a slight decrease of 1.4 percent (53,168 tons) over last year. When the industrial waste streams are removed, the County experienced an overall decrease of 3.6 percent in the residential waste generated within the County for 2021. In 2021, the County Demolition Landfill cubic yardage was 9,980 or a decrease of 11 percent over last year.

### ES.2 Recycling

The County has a well-developed residential recycling program. In addition, some local haulers have a recycling program that is offered to both their residential and commercial customers. Many of the larger businesses also have recycling/waste reduction programs in place. Table ES-1 provides a summation of the recycling programs within the County. The amount of recovered materials met the overall State recycling goal of 35 percent.

#### ES.2.1 County/SCORE Funded – Residential Recycling

The County/SCORE funded recycling programs showed a decrease in tonnage to 971 tons in 2021 compared to 1,136 tons 2020.

As outlined below, since the beginning the commercial recycling program is an important aspect for the County to meet the State recycling goal of 35 percent.

#### ES.2.2 Commercial, Industrial, and Institutional (CII) Recycling

Commercial and industrial activities have always represented the largest portion of the ongoing recycling efforts within the County. In 2020, commercial/industrial documented recycling was 41,254 tons. Of that total, 39,180 tons were recycled using out-of-county recycling infrastructure. Commercial and industrial recycling accounts for 84.6 percent of all materials collected this year in the County. This is above the statewide average of 75 percent for CII recycling.

### **ES.3 Problem Materials (Yard Waste, Waste Tires, White Goods, Vehicle Batteries, Used Oil & Used Oil Filters, Used Electronics, and Fluorescent & HID Lamps)**

The County's integrated solid waste management program addresses problem materials and prohibition of these materials into the County Landfills. The problem material challenge consists of two main components: items that reach the end of their useful life and need to be disposed of, and those items that are in stockpiles and/or storage. In many cases, the County's problem material programs complement existing retailer programs to ensure in-depth coverage. The goal is maximum recovery and to encourage residential participation; convenient times, location, and ease of disposal are key features of the County's program. It is felt that these programs are and will continue to be successful. Problem materials management accounts for 8.6 percent of all materials collected this year in the County.

### **ES.4 Household Hazardous Waste (HHW) and Other Hazardous Waste Programs**

Programs that deal with hazardous waste provide a direct benefit to the County by offering proper disposal actions for these items to the residents/businesses of the County. In 2021, 1,408 tons of hazardous waste/materials were brought in through these County/State programs that would not have been otherwise. This action has greatly reduced the risk of illegal dumping or disposal into the County Landfill. If placed in the Landfill, this quantity of chemicals would have had a profound effect on the leachate quality. If disposed of inappropriately elsewhere, these chemicals could have contaminated land, groundwater or surface water, and air quality. Removal of this material from the general MSW waste stream has also minimized the health risk to waste haulers and Landfill operator's staff. It is felt that these programs are and will continue to be successful.

### **ES.5 2021 Recycling Program Overview**

**Table ES-1** provides an overview of Crow Wing County's recycling program in 2021. Historic data is provided in **Appendix A**.

**Table ES-1: 2021 Recycling Program Overview**

Item	Quantity
Total MSW Tons Generated <sup>a</sup>	96,578
Total MSW Tons Into Landfill <sup>a</sup>	46,095
Tons Collected for Recycling <sup>a</sup>	48,783
Residential Tons Recycled SCORE Funded	971
Overall Cost Residential	\$141,474
County Cost Per Ton Residential <sup>b</sup>	\$145.63
Residential Tons Recycled No SCORE Funding	2,370
C/I/I Tons Recycled In County Assets <sup>c</sup>	2,074
C/I/I Tons Recycled – Self Marketed	39,180
Problem/Ban Materials (Tons) <sup>a</sup>	4,188
Recycling Rate <sup>a</sup>	50.5%

(a) Used data obtained from the annual MPCA SCORE Reports.

(b) Used data obtained from local haulers/scrap yards.

(c) This is only the cost to the County and does not include any additional funding by the individual programs or the haulers.

## ES.6 Crow Wing County Integrated Solid Waste

The following summarizes the Crow Wing County Integrated Solid Waste Management system facts and figures.

- Construction and Demolition (C&D) Debris Landfill (SW-440) (Three private sites plus our Site service our County residents):
  - From 1991 – 2021; 505,101 cubic yards have been managed; the County Site has managed 22% of this waste stream.
- Used oil/filter and antifreeze collection facility (11 located throughout the County):
  - From 2002 – 2021; 76,050 gallons of used oil or 1.3% generated within the County, and 23,774 gallons of antifreeze.
- Lead-acid battery collection container:
  - From 1998 – 2021; 15,272 ea. or 3.2% generated within the County.
- Recycling drop-off centers and curbside programs (3 drop off and 6 curbside programs located throughout the County):
  - From 1991 – 2021; 83,260 tons were collected for recycling through the County funded aspect of this program for a cost of \$86.92 per ton.
- Used residential electronics collection area:
  - From 2004 – 2021; 113,304 ea. or 2,869 tons.

- Mattress collection area:
  - From 2006 – 2021; 51,393 ea. or 1,477 tons for recycling, 25% are now being recycled.
- Household appliance and scrap metal collection area;
  - From 1992 – 2021; 111,150 ea. or 63% of the appliances generated within the County.
  - From 1996 – 2021, 9,561 tons of scrap metal/appliances was shipped
- Brush disposal area;
  - 2003 – 2021; 343,635 cubic yards
- Used tire collection area;
  - 1992 – 2021; 216,480 ea. or 12.3% of those generated within the County
  - 1997 – 2021; 3,651 tons of tires
  - Since 1997, waste tire shreds have been used in the Landfill's leachate recirculation program, replacing recirculation lateral aggregate.
- Yard waste composting operation;
  - 1994 – 2021; 318,454 cubic yards managed at the Site.
  - Yard waste composting on the Landfill crown is an innovative approach to augment the nitrification-denitrification process in the leachate treatment at the Site.
  - Once the compost is mature, it is used as a topsoil supplement on Landfill construction projects (e.g., final cover), and erosion control on intermediate slopes. This product has been very beneficial since the Site is extremely topsoil poor.
- Household Hazardous Waste facility with product exchange; and a
  - 1994 – 2021; 959 tons of materials managed or 1,039 55-gallon drums of oil-based paint, 1,164 55-gallon drums of latex paint, 265; 55-gallon drums of flammable material, and 165.7 tons of lab pack material.
  - Product Exchange gave away an additional 205 tons of material. The cost savings by avoiding shipping this material was \$156,250. Overall 17% of material coming in is managed through this program. In 2021, 11% through this program.
- Pharmaceutical Program (partnership with Sheriff's Office, Community Services, and local police Departments – 5 drop off sites located throughout the County)
  - 2012 – 2021; 16,580 pounds were managed

## 1.0 INTRODUCTION

Minnesota's statewide recycling efforts began in earnest in 1989, when the Legislature adopted comprehensive legislation based on the recommendation of the Governor's Select Committee on Recycling and the Environmental (SCORE). This set of laws, commonly referred to as SCORE, initiated a "stable" source of State funding for programs for recycling, as well as waste reduction, the improved management of household hazardous waste, and problem materials. SCORE related programs are a key element of the integrated solid waste management program initiated and managed by Crow Wing County (the County) through its Solid Waste Office within Land Services.

The County's efforts on developing a solid waste system goes back to the permitting of the County's old unlined Landfill (SW-111) that started operations on June 17, 1974. Prior to this, many of the communities within the County had their own local dump. The development of the County's integrated municipal solid waste management system goes back to 1991 when many of the areas recycling programs were initiated and a new lined Landfill (SW-376) was constructed.

Many elements of the integrated solid waste system are located at the County's 564-acre Solid Waste Disposal Site (Site) complex located six (6) miles east of Brainerd on State Highway 210 in Oak Lawn Township. Service provided at the Site complex includes the following:

- Lined Mixed Municipal Solid Waste (MMSW) Landfill (SW-376);
- Construction and Demolition (C&D) Debris Landfill (SW-440);
- Used oil/filter and antifreeze collection facility (one of 11 located throughout the County);
- Lead-acid battery collection container;
- Recycling drop-off center (one of 3 located throughout the County);
- Used residential electronics collection area;
- Mattress collection area;
- Household appliance and scrap metal collection area;
- Used tire collection area;
- Yard waste composting operation;
- Brush disposal area; and a
- Household Hazardous Waste facility with product exchange.

## 1.1 Purpose and Scope

This Report is intended to provide an updated overview of the solid waste/non-landfill related activities as outlined in the County Solid Waste Management Plan (SWMP). The SWMP was last updated in November 2013 and will be updated again in May 2023. In addition, this Report presents data concerning the overall waste generation, recycling activities within the County, and data on the other solid waste/non-landfill related programs:

- Recycling (residential and commercial);
- Household Hazardous Waste (HHW) and other hazardous waste programs;
- Problem Materials (Yard Waste, Waste Tires, White Goods – Household Appliances, Vehicle Batteries, Used Oil & Used Oil Filters, Used Electronics, and Fluorescent & HID Lamps);
- Reduce/Reuse Activities;
- Education; and
- Littering/Illegal Dumping.

The County has met the State's mandated goals since 1996, and will again exceed the recycling goal of 35 percent (§115A.551, Subd. 2a) established by the State for the non-metro areas (Greater Minnesota). This goal was to be met by December 31, 1996 – changed in 2014 to December 31, 2030. The goal was reached by using documented residential recycling, commercial recycling, appliance recycling, used oil, used oil filters, used tires, and documented reduce/reuse activities. The most significant factor in meeting the established goal is the accurate documentation of the commercial, industrial, and institutional (CII) recycling efforts within the County.

This Report is presented in five sections:

- **Section 1.0** - The Introduction; provides a historical review of previous years and summary of the Report.
- **Section 2.0** - County/SCORE Funded Residential Recycling Programs; describe the County's requirements under the statute, and provides a brief evaluation of each of the County/SCORE funded recycling programs.
- **Section 3.0** - Commercial, Industrial and Institutional Recycling section; provides a review and discussion.
- **Section 4.0** - Other Solid Waste/Non-Landfill related programs; provides comprehensive information.
- **Section 5.0** - Provides conclusions and recommendations.

## 1.2 Program Background

Municipal solid waste (MSW), also known as garbage, trash, refuse and rubbish, is simply what is left of products that have been used and is no longer needed. MSW does not include construction and demolition debris, hazardous, medical, and radioactive wastes, or other non-household and non-business refuse. The United States Environmental Protection Agency (USEPA) regulates the land disposal of MSW through the Resource Conservation and Recovery Act's (RCRA) Subtitle D regulations. RCRA was originally passed in 1976 and reauthorized in the mid-80's. USEPA released RCRA Subtitle D landfill standards in 1991. At that time, RCRA's purpose was to develop regulations for landfills: they had to be lined, have leachate collection systems, groundwater monitoring, etc. Congress delegated the administration of Subtitle D to the states. The Minnesota Pollution Control Agency (MPCA) further regulates the disposal of MSW through the Minnesota Waste Management Act (WMA). The WMA was originally passed in 1980, with a major revision in 1989. The WMA laid the groundwork for developing an integrated solid waste program to reduce the volume and toxicity of waste, fund waste management facilities, increase the separation and recovery of materials, energy from waste, and coordinate the statewide management of waste.

As required by State Legislation, the County is using mandated State goals. To meet these goals, the County is using funding from:

- SCORE funds (described in Section 1.2.1) dispensed by the State (funding provided through the Solid Waste Management Tax),
- County funds (provided through the \$25 Solid Waste/Recycling Assessment described in **Section 1.2.2**); and
- Starting in 2002 interest funds raised by the Greater Minnesota Landfill Cleanup Fee (GMLCF) through the tipping fee at the County MMSW Landfill as described in Section 1.2.3.

### 1.2.1 SCORE Funds

SCORE legislation created a separate revenue mechanism for recycling programs (a statewide tax on the collection and disposal of solid waste). The SCORE tax was modified in 1996 to become the Solid Waste Management Tax (SWMT) under §297H. The tax rate for municipal solid waste collection is 9.75 percent for residential customers and 17 percent for commercial customers.

Initially, half of the proceeds or \$22 million, whichever was greater, went into the Solid Waste Fund, used for MPCA landfill assessment and closure cost and appropriations for solid waste programs. The remainder went into the General Revenue Fund, but then a portion went to fund MPCA and SCORE

grants to counties. Starting in 2006, this was changed to the Environmental Fund. Under this concept, 70 percent of the SWMT went into the Environmental Fund, which MPCA receives funds for SCORE, HHW, competitive grants, loans for waste abatement, and MPCA's operating budget. The remaining 30 percent remained in the General Fund and is being spent on programs not related to solid waste or the environment.

SCORE authorized grants of \$55,000 or more to counties if they meet certain requirements, including providing matching funds and having an approved Solid Waste Management Plan. The 2002 Legislature reduced the baseline from \$55,000 to \$49,500, and reduced the overall SCORE funding by \$1,401,000 or 10% for FY 2003, 2004 and 2005 in the Omnibus Budget Reduction Bill to \$12.6 million. This action was prompted by the announcement of the \$2 billion state budget shortfall for 2002-2003 biennium. The 2003 Legislature reduced the SCORE funds slightly to \$12.5 million. The projected shortfall for the 2004-2005 biennium was \$4.6 billion. For the 2008-2009 biennium the SCORE grant was increased back to the 2001 level of \$14 million and reestablished the baseline back to \$55,000. The Solid Waste Management Tax generated \$63.7 million in FY2010. Even with the projected shortfall for the 2010-2011 biennium of \$4.8 billion, the Legislature increased the SCORE funding by \$250,000. For the 2015-2016 biennium, the Legislature increased the SCORE funding to \$18,250,000 and \$17,250,000. The 2018-2021 biennium, the Legislature kept the SCORE funding at \$17,250,000 for each year. These manipulations have challenged the concept for this being a "stable" source of State funding.

In addition, the MPCA also utilizes SWMT funds to help support the HHW program with an annual HHW stipend. This is usually set at \$600,000 annually; part of this is then distributed to the participating counties.

### **1.2.2 County Funds**

The solid waste service charge (\$400.08, Subd. 3) was established by County Board resolution in October 1991. This fee was initially set at \$20. In 1993, it was lowered to \$15. In 2022, it was raised to \$25. All properties (seasonally used as well as year round use) with a building value greater than \$1,000 are assessed the base amount. Maximum charge per parcel is \$45.

### **1.2.3 Greater Minnesota Landfill Cleanup Fee**

Part of the Landfill per ton tipping fee, is the \$6.67 for GMLCF (§115A.923). By statute (§115A.919), this cannot be spent on Landfill operations. The funds being raised by this fee are being utilized to pay in full the closure of cells, post closure care, and financial assurance requirement of the County Landfills. Each financial assurance fund is generating interest. The interest generated is being replaced by funds

raised by GMLCF. The interest generated is becoming an important funding source for the County's waste abatement programs. With the flat/fluctuating State SCORE/HHW funding, funding through this interest can fill in the State funding shortfalls to maintain and even expand the County's waste abatement programs.

### 1.2.4 County Solid Waste Management Funds

State statute §115A.929 requires any political subdivision that provides solid waste management shall account for all revenue collected, including interest, separately from other revenue collected and shall report it separately. The County has set up the following funds:

- Fund 18 – Solid Waste (non-landfill); special revenue governmental fund accounts are used when proceeds of a special revenue source are restricted to expenditures for specific purposes. The County tracks solid waste (non-landfill/SCORE) revenues and expenditures as a Special Revenue Fund to accurately track SCORE (§115A.557, Subd.3(1)) and solid waste program revenues/costs.
- Fund 50 – Landfill Enterprise Fund; the County maintains one Proprietary Fund. This fund is used to present business-type of activities. The County tracks landfill revenues and expenditures as an Enterprise Fund.
- Fund 50550 (Demolition Landfill, SW-440), Fund 50551 (Old Landfill, SW-111) fund closed in 2017, and Fund 50552 (New Landfill, SW-376); since the County operates a sanitary landfill, MPCA rule 7035.2695 require that financial assurance for closure, post closure care and corrective action be established. As outlined in MPCA rule 7035.2705, the County has established trust funds for the two active landfills.

Under the current County funding structure, the landfill tipping fee accurately reflects the actual cost of landfill operations versus the total integrated solid waste system cost. This has two advantages. First, with keeping the tipping fee low at the County Landfill it can compete with alternative disposal options that are also priced to reflect the cost of disposal only. Also, Minnesota Statutes, Chapter §297H, requires a political subdivision that subsidizes solid waste services below the cost of their market price to pay the Solid Waste Management Tax (SWMT) on the difference between the subsidized price and the market price. As defined by Minnesota Statute, §297H.01, Subd. 4, *“Market price” means the lowest price available in the area, assuming transactions between separate parties that are willing buyers and willing sellers in a market.* The intent of the statute is to provide equity in payment of the SWMT where a public subsidy for service is provided from local revenue sources. Second, dependency on landfill tipping fee revenues to support other Solid Waste/SCORE programs puts these programs in direct competition with

their source of funding. When all aspects of an integrated solid waste program are incorporated into a single tip fee, it allows little flexibility for change.

Fund 18 – 520; Solid Waste (non-landfill): primary fund revenue is the County Solid Waste Assessment and State SCORE grant. The assessment is covering most of the cost of solid waste services such as recycling, yard waste, household hazardous waste, problem material management, education, illegal dumping, and other non-landfill/SCORE related programs. The Solid Waste Assessment spreads the cost more widely than tax levies.

Fund 18 – 521; Closure/post closure: primary fund revenue is GMLCF. This will be utilized as following to be in compliance with state statute (§115A.919, Subd.1(a)):

- All ongoing operational/maintenance cost associated with post closure care for the old landfill, new landfill, and the closed Phase I and II aspect of the C&D Landfill; any future cost of cell closures for either County Landfill.
- The entire cost to establish and maintain the financial assurance trust funds; Fund 50550 (Demolition Landfill, SW-440), Fund 50551 (Old Landfill, SW-111 – ended in 2017), and Fund 50552 (New Landfill, SW-376).
- Each Financial Assurance Fund is generating interest. Initially, interest was a critical factor in ensuring these Funds would be fully funded. Starting in 2006, the interest generated is being replaced by funds raised by GMLCF. This means, all the funding within each FA Fund is from GMLCF ensuring compliance on how these funds can be utilized.

Fund 18 – 500; Interdepartmental: primary fund revenue is the interest that is being generated from each Financial Assurance Fund. The interest generated is being replaced by funds raised by GMLCF (§115A.919, Subd.1). The interest generated can become another important funding source for the County's solid waste programs. With the flat/fluctuating State SCORE/HHW grants, funding through this interest could fill in the State funding shortfalls and inflation to maintain the County's waste abatement programs. This interest is now being utilized for interdepartmental support. Interest from Fund 18 and Fund 50 has historically been kept within General Revenue to fund other County Administrative Departmental support (i.e., Auditor, Purchasing Agent, County Attorney, etc.) to the Solid Waste Office.

Overall, the County source of funding for the integrated solid waste program has been stable and sustainable as highlighted by the fact the tipping fee first major change did not occur until April 1, 2016. At that time the tipping fee went up from \$45 per ton to \$50 per ton. The solid waste assessment saw its first increase in 2022, with no increases for 30 years prior. The County intends to continue supporting its

solid waste system through existing funding sources. This strategy was utilized to ensure those who dispose of their solid waste illegally and legally pay a portion of the total cost for solid waste management. The County will maintain the Solid Waste Assessment and use these funds as the designated revenue source for the solid waste related activities as outlined in the current SWMP. Annually, this will be evaluated to determine if changes will be required for the upcoming 10-year planning period. While on the other hand, State funding has fluctuated during fiscal crisis.

### 1.3 Recycling Program Overview

**Table 1-1** provides the recycling effort within the County for 2021. Additional information for each year concerning the recycling program is provided below the table. Historic data is provided in **Appendix B**.

**Table 1-1: 2021 Residential Recycling Program Overview**

Item	Quantity
Total MSW Tons Generated	96,578
Tons Recycled – SCORE Funded	971
Overall Cost Residential	\$141,474
Cost per Ton Residential	\$145.63
MSW Collected for Recycling	48,783
Recycling Rate	50.5%

**1991** – SCORE funded recycling programs were in their initial stages of operation during 1991, and most operated part of the year.

**1992** – In 1992, the residential recycling strategy selected by the Board was essentially in place. To complete the initial strategy entirely, would require drop-off programs at Bay Lake and either Fort Ripley or St. Mathias. Plastics recycling were suspended in June 1992, due to deteriorating markets.

In late 1992 and early 1993 the Solid Waste Department surveyed business and industry within the County to learn the extent undocumented recycling was taking place. The results of the survey identified 1,864 tons of additional recycling for which had been previously unaccounted.

**1993** – Plastics recycling were resumed in May 1993 for many County programs. The complexion of recycling in the County changed during 1994. Greater opportunities for recycling continue to open and local markets began to develop. For example, Pythons of St. Cloud opened a branch in Brainerd offering recycling opportunities to many recyclable items. Volunteer activities are contracting to drop-off

recyclables at Pythons, thus increasing amounts and types of recyclables. Another significant activity was the introduction of Minnesota Waste Wise.

**1994** – Improved data collecting and more activity by existing programs resulted in a better recycling rate.

**1995** – All recycling programs operated throughout 1995.

**1996** – All recycling programs operated throughout 1996. Lower prices for recyclables resulted in a lower recycling rate within the residential programs.

**1997** – The complexion of recycling in the County changed during 1997. Opportunities for recycling decreased as local markets began to close down. Pythons closed on December 1st, eliminating an opportunity to recycle many items. Due to cost and participation rates, the C-I-D Committee evaluated their program and changed its operation starting in 1998 from curbside pickup to drop-off operation. Brainerd Chamber of Commerce reintroduced Minnesota Waste Wise to its membership.

**1998** – All recycling programs operated throughout 1998.

**1999** – All recycling programs operated throughout 1999.

**2000** – All recycling programs operated throughout 2000.

**2001** – Total recycling within the County decreased for the first time. The statewide recycling rate also dropped for the first time. The major reason for this decrease for the County is a drop in the reported recycling within the commercial arena.

**2002** – The decrease continued into this year. All recycling programs operated throughout 2002.

**2003** – Beginning to see an increase in recycling. All recycling programs operated throughout 2003.

**2004** – All recycling programs operated till November 2004. At that time South Long Lake program discontinued its services. Seen an increase for prices for recyclables, if this continues it is expected to have positive effect on the recycling efforts.

**2005** – All recycling programs operated throughout 2005. The increase prices for recyclables continued to have a positive effect on the recycling efforts.

**2006** – All recycling programs operated throughout 2006. The prices for recyclables have remained high, and continue its positive long term effect on the overall recycling efforts. First time saw a decrease in the amount of MSW being generated after fifteen years of record keeping.

**2007** – All recycling programs operated throughout 2007. The prices for recyclables have remained high, and continue its positive long term effect on the overall recycling efforts. Continued to see the trend of the amount of MSW being generated decreasing.

**2008** – Total recycling within the County decreased due to the reduction in commercial/industrial activities. All recycling programs operated throughout 2008, with Maple Grove Township starting in July. The price for recyclables has remained high till the end of the year. If low markets continue, it is expected to have negative long term effect on the overall recycling efforts in 2009. Continued to see the trend of the amount of MSW being generated decreasing.

**2009** – Total recycling within the County decreased due to the reduction in commercial/industrial activities. All recycling programs operated throughout 2009, with Bay Lake Township starting in Jan. Continued to see the trend of the amount of MSW being generated decreasing.

**2010** – Total recycling within the County increased. All recycling programs operated throughout 2010. The prices for recyclables remained high, and continue its positive long term effect on the overall recycling efforts. Saw the trend of the decreasing amount of MSW being generated stop, and actually saw a 1 percent increase.

**2011** – Total recycling within the County increased. All recycling programs operated throughout 2011. The prices for recyclables is beginning to show signs of weakness, this may affect the previous positive long term effect on the overall recycling efforts. The trend of a 1 percent increase continued in 2011 for the amount of MSW being generated within the County.

**2012** – Total recycling within the County increased. All recycling programs operated throughout 2012. The price for recyclables has remained stable; it is expected to continue to have positive long term effect on the overall recycling efforts. The trend of a 1 percent increase continued in 2012 for the amount of MSW being generated within the County.

**2013** – Total recycling within the County increased. All recycling programs operated throughout 2013. The price for recyclables has remained stable. The trend of an increase continued in 2013. Until 2011, a State directive allowed a maximum 5 percent recycling credits for yard and 3 percent for source

reduction. Prior to this year pallets (3,027 tons) and yard waste (1,981 tons) were accounted under those credits; now starting in 2013 it is under commercial recycling.

**2014** – Total recycling within the County increased. The hauler who was servicing 12 of the 16 drop off sites dropped service for eight of them (Pequot Lakes, Nisswa, Bay Lake Twp., SW Townships - Crow Wing Twp., Maple Grove Twp., Mission Twp., Garrison, and Roosevelt Twp.). Pequot Lakes was the first as they received a letter in April that service will end on June 1<sup>st</sup>. Since then, Pequot Lakes had time and they adopted an ordinance requiring curbside recycling. On June 16<sup>th</sup> staff was informed by a representative of the hauler that they were starting to pull service from the other seven sites with no 30-day prior notice. The hauler did maintain four of the sites (Crosby, Ironton, Deerwood, and the landfill site). Of the seven sites; Maple Grove Township and Roosevelt Township decided to drop their recycling program. Waste Management was contacted and Garrison, Crow Wing Township, Mission Township, and Bay Lake Township will now be serviced by them. Nisswa was able to change their service over to Waste Partners. The trend of an increase continued in 2014 for the amount of MSW being generated within the County (5%).

The County evaluated the overall residential recycling program and came up with goals for each program. This year will be used by the program managers to meet these goals. The drop off program will use the County Landfill site as a baseline to establish the cost per ton limit. The goal for the curbside program was based from the Baxter program.

**2015** – Programs that dropped their recycling program; Deerwood, Garrison, and Mission Township, but Mission and Garrison plan to restart it in 2016. Total recycling within the County decreased. Starting in 2015 the drop off program will use the County Landfill site as a baseline to establish the cost per ton limit. The goal for the curbside program was based from the Baxter program. Each City/Township will need to assist in subsidizing their community recycling program if there program cost come in over the established goals. The trend of an increase continued in 2015 for the amount of MSW being generated within the County (6.3%).

**2016** – Total recycling within the County increased. The trend of an increase continued in 2016 for the amount of MSW being generated within the County (5.5%). The price for recyclables has remained low; it is expected to have a negative long term effect on the overall recycling efforts. In 2016 AAA Disposal and Blue Lakes Disposal were bought by Waste Management.

**2017** – Total recycling within the County increased. The trend of an increase continued in 2017 for the amount of MSW being generated within the County (1.5%). The price for recyclables has remained low; it is expected to have a negative long term effect on the overall recycling efforts.

**2018** – Total recycling within the County decreased. The trend of an increase continued in 2018 for the amount of MSW being generated within the County (3.2%). The price for recyclables has remained low; it is having a negative long term effect on the overall recycling efforts.

**2019** – Total recycling within the County increased. We had two drop-off recycling programs close in October. The price for recyclables has remained low; it is expected to have a negative long-term effect. The trend of an increase continued in 2019 for MSW being generated within the County (0.7%).

**2020** – Total recycling within the County increased. We had four drop-off recycling programs close during the year and two more at the end of the year. The price for recyclables has gone up; still the overall negative long-term effect on the overall recycling will continue. The trend of an increase continued in 2020 for MSW being generated.

**2021** – Total recycling within the County increase to approximately 48,783 tons. 971 tons were recycled by County/SCORE funded residential recycling programs. A total of \$141,474 was dedicated to the County/SCORE funded residential recycling programs resulting in an overall cost of \$145.63 per ton. The price for recyclables has remained low; the negative long-term effect on the overall recycling will continue into the future. The trend of an increase continued in 2021 for MSW being generated. Estimated waste generation rate of 46,095 tons, estimated recycling rate will be 50.5%. A breakdown of the amount of each material received in 2021 is summarized in **Table 1-2**.

**Table 1-2: Material Received in 2021**

<b>Waste Type</b>	<b>Tons</b>	<b>Percent</b>
Landfill <sup>a</sup>	46,095	47.7
Problem Materials not Collected	1,474	1.5
On-site <sup>b</sup>	226	0.2
Recycling	48,783	50.5
Total	96,578	100.0

(a) Per Annual Report for SW-376

(b) Per Crow Wing County Solid Waste Management Plan (November 2013)

## 1.4 Summation

The Landfill tipping fee had remained at \$45.00 per ton (this includes the \$6.67 for GMLCF, but does not include state SWMT) from June 1, 1991 till its first major change on April 1, 2016. The Landfill tip fee was raised to \$50 per ton (including GMLCF). This fee represents only part of the waste disposal cost. When considering the disposal cost with collection costs, a resident in the County pays between \$100 - \$150 per ton for garbage disposal. The cost per ton for recycling for the residential program will be compared with this total cost as an upper limit as a goal. Nationally, the new axiom seems to be that recycling costs roughly three times that of landfilling. For 2020, the County's cost for the residential recycling program was \$145.63 per ton, which is above the goal limit of \$150. It should be noted that this goal only includes the cost to the County, and does not include any additional funding by the individual programs or the haulers. The overall true cost of the residential program would be higher. The County will be looking at an additional rate increase in 2023 to offset raising costs.

The County has made considerable progress in achieving and maintaining the States mandated recycling goals. A key aspect for the most cost effective future increases is to provide consideration and incentive for local businesses to recycle/reduce/reuse different types of material.

**Table 1-3, Table 1-4, Table 1-5, Figure 1-1, and Figure 1-2** provide a better overview and demonstrate the historical flow of MMSW to the County Landfill. Historic data is provided in **Appendix C** and **Appendix D**.

**Table 1-3: 2021 Waste Receipts**

<b>Item</b>	<b>Quantity<sup>1</sup></b>
Scale (Tons)	41,503
Residential Bags (Each)	13,153
Loose Garbage (Cubic Yards)	110,303
Total MSW (Tons)	52,731
Asbestos Bags (Each)	736
Asbestos Bulk (Cubic Yards)	1,172
Total Asbestos (Tons)	245
Loose Industrial Solid Waste (Tons)	192
Total Landfill (Tons)	53,168

<sup>1</sup> – Per Annual Report for SW-376.

**Table 1-4: 2021 Problem/Banned Material Management**

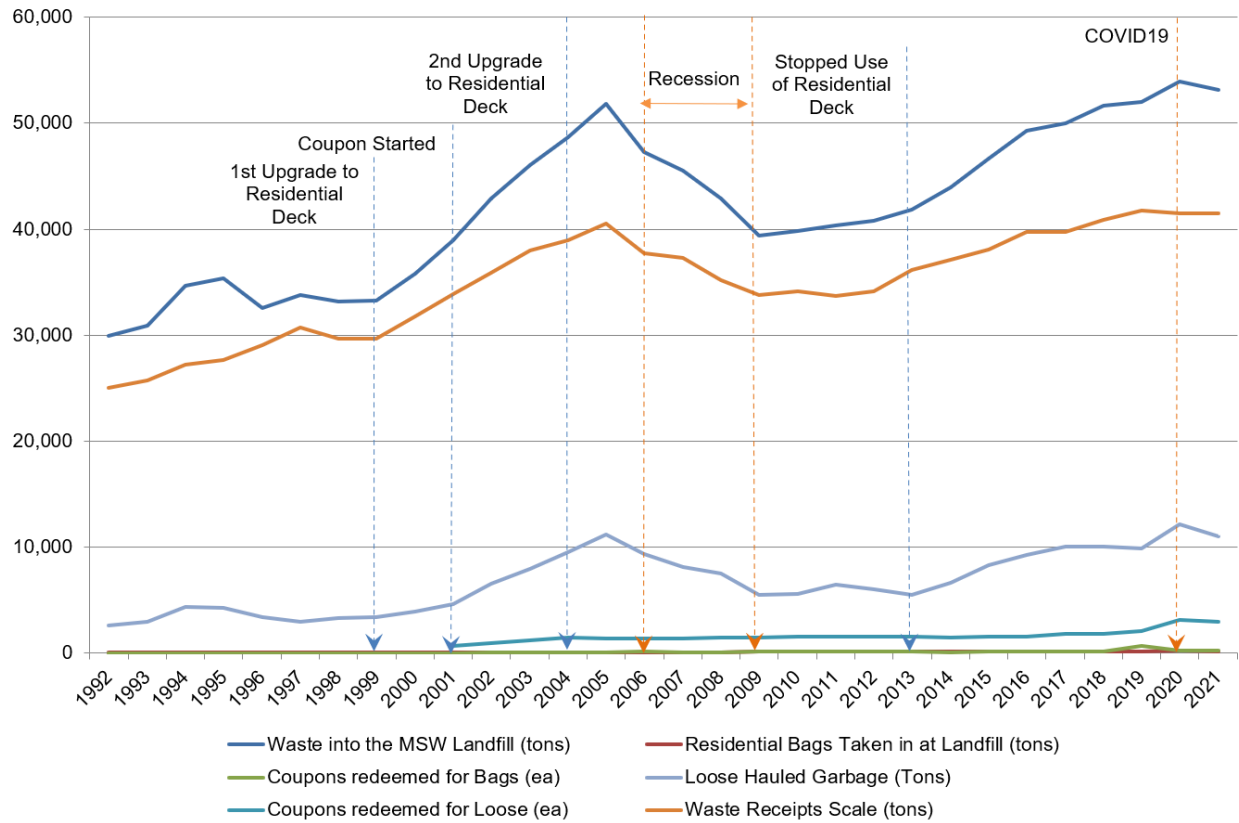
<b>Item</b>	<b>Quantity</b>
Yard Waste (Cubic Yard) <sup>1</sup>	15,137
Brush (Cubic Yard)	24,192
Used Oil (Gallons)	1,743
Lead Battery (Each)	695
Tires (Each)	9,605
Tires Shipped (Ton)	145
Used Electronics Residential (Each)	7,396
Electronics Shipped (Ton)	161
Mattress Landfilled (Each)	6,154
Mattress Shipped (Each)	2,309
Mattress Shipped (Tons)	78
Appliance (Each)	4,972
Appliance Shipped (Tons)	545
Demo (SW-330) (Cubic Yards) <sup>1</sup>	9,980

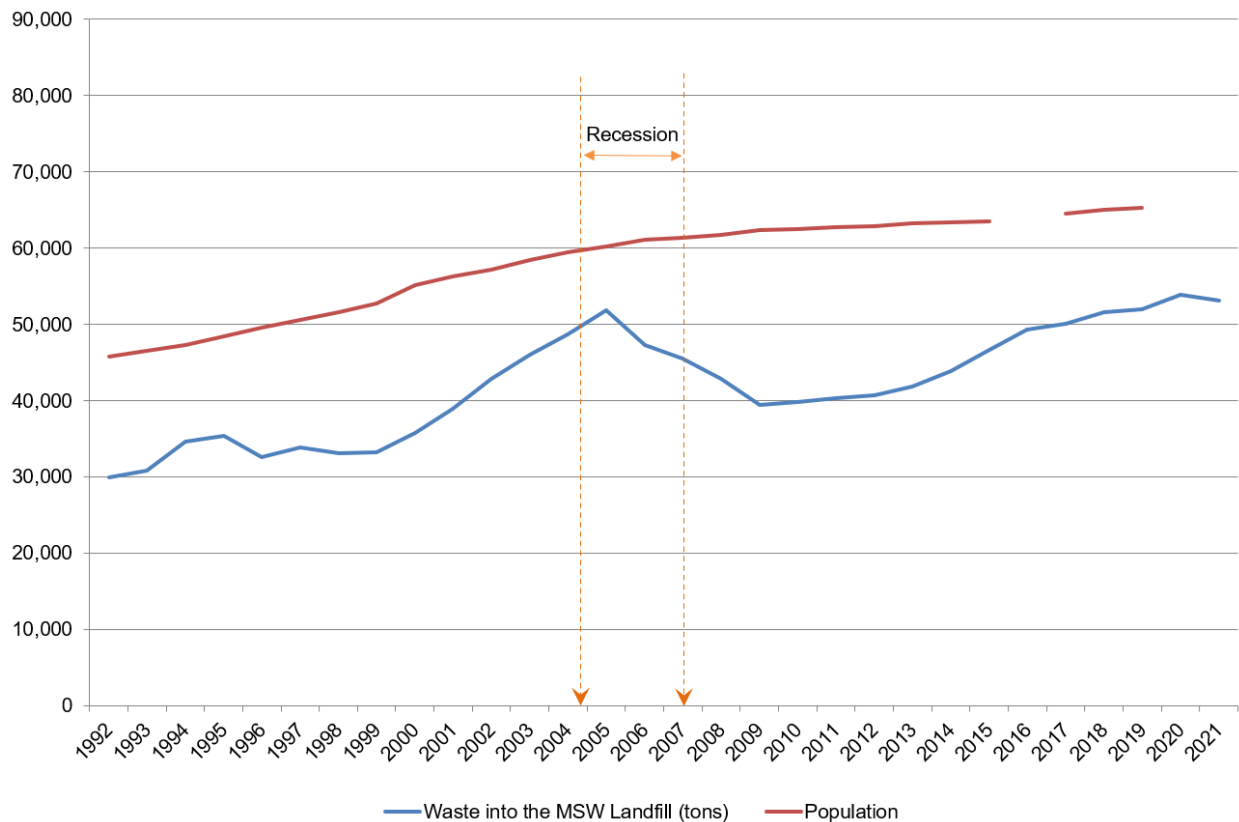
<sup>1</sup> – Per Annual Report for SW-440.

**Table 1-5: 2021 MMSW Landfill Waste Receipts**

<b>Month</b>	<b>MMSW Quantity (Tons)</b>
January	3,078
February	2,811
March	3,967
April	4,332
May	4,628
June	5,419
July	5,494
August	5,395
September	5,192
October	4,643
November	4,093
December	3,679
Total Landfill	53,168
Industrial Waste	7,073
MSW	46,095
Total Generation	53,168

**Figure 1-1: Sanitary Landfill Historic Waste Trends (by Ton)**



**Figure 1-2: Sanitary Landfill Historic Tonnages and Population Trends**

The tables and figures above show 1996 had a significant decrease in the waste generation due to:

- The significant recycling/reduction/reuse accomplished by the three large generators within the County; and
- Better accounting of the recycling being accomplished in the C/I/I section through the survey. Since 2014, lack of manning has made this more difficult to accomplish.

The tables and figures above also show that starting in 2006; another significant decrease in the waste generation was observed. This may be due to:

- In 2006, the County clarified its out-of-county waste policy. This cut off the flow of some out-of-county waste, lowering the volume of waste coming into our facility.
- In 2006 & 2007, the area suffered through a drought. The garbage has reduced moisture content. This reduced the weight of the garbage coming in.
- County may be seeing benefits from the recycling/reduction/reuse programs it has initiated.
- Largest factor was the slowdown in the areas economy.

In 2021, tonnage was 52,976 or a decrease of 1.7% over last year. This includes the following non-MSW:

- Part of the requirements of entering the leachate recirculation phase II program was to track the industrial waste entering the Landfill more accurately. Asbestos was the only industrial waste tracked previously. All industrial waste is now being subtracted out starting in 2002.
- Starting in 2002, many of the local private demolition landfills strengthened their screening procedures. As a result, there has been a significant increase of this rejected material being deposited at the Landfill. Starting in 2002, haulers are declaring this waste as industrial waste. Industrial waste is being tracked separately from sanitary waste as outlined above.

With the above waste streams removed, the County experienced an overall decrease of 3.6% in the residential waste generation within the County for 2021.

The EPA released its annual report, *Advancing Sustainable Materials Management: Facts and Figures 2013*, previously known as *Municipal Solid Waste in the United States: Facts and Figures*. Annual waste generation continued to increase until 2005. After 2005, the tons of waste generation started to decrease until 2009 when the tons of waste generation started to increase. This matches very closely to our landfill data. The decline might have been a recession-oriented decline or a combination of recession and a change in material use by various sectors. For example, manufacturers are now using more lightweight packaging and sustainability efforts. Experts are predicting when the recession is over that there will be a slower growth in waste generation, even as population grows. The continuing implementation of zero-waste goals by companies will have an impact on the size of the MSW stream. Even if this proves to be correct and waste generations flattens and recycling continues to increase, waste will still be produced and the need to manage it will continue.

County/SCORE funded recycling programs showed a decrease in tonnage. MSW generation continues to increase steady, the recycling rate has remained level or has slightly increased. Key issues remain - the low value for some of the recyclables, the availability/lack of markets for many of the materials, and lack of a stabilized price paid for the recyclable materials collected. Also, in Greater Minnesota the biggest cost component is shipping - moving the materials to the market.

It is felt that education and advertising can increase participation rates and amounts collected. However, the largest factor in lowering the overall cost of the program will require expanding markets for the recyclable materials and a stabilized price paid for the recyclable materials collected. The prices paid for the recyclables gathered has an enormous impact on the revenues that a recycling program can generate.

When the value of recyclable materials decreases significantly, the overall cost per ton for this program will go up.

## 2.0 SCORE/COUNTY FUNDED RESIDENTIAL RECYCLING PROGRAMS

### 2.1 Introduction

Residential recycling activities represent the third largest portion of the ongoing recycling efforts within the County. In 2021, residential recycling was 7,157 tons. Of that total, 971 tons were recycled using the county funded residential recycling infrastructure. Residential recycling accounts for 14.3 percent of all materials collected this year in the County.

### 2.2 Background

SCORE legislation passed in 1989 directed Greater Minnesota counties to achieve a recycling rate of 25 percent of MSW by December 31, 1993. Subsequent amendments set a supplementary recycling goal of 35 percent for Greater Minnesota by December 31, 1996. 2014 legislative session changed the implementation date for county recycling goals to 2030. In comparison, the USEPA has set the national recycling goal at 35 percent by 2005. Very few states have a more stringent goal. California requires cities and counties to reduce their waste by 50 percent by January 2001 compared to 1990 levels. In 2006, California reached their goal of 50% waste reduction. The national recycling rate in 2014 was 34.6 percent.

The following is a brief historical overview of the State's SCORE programs. Minnesota counties spent \$83 million in State and local funds for SCORE-related programs in 2016. This includes the \$17.25 million paid directly to counties from the State as a block grant. Counties spent an additional \$65.4 million in 2016 on SCORE related programs. Counties spent more than 15 times the matching funds (by law they must match 25 percent or \$4.3125 million) they are required to provide under statute. It should be noted, the block grant of \$14 million provided by the State was flat since 1991 to 2013. During the same period, Minnesota's recycling volumes increased 90 percent even though State funding stayed level. In addition, the buying power of that \$14 million, as measured by the national Consumer Price Index, declined over 48 percent or the funding would have to be at a level of \$20,692,307 million by 2017. Even with this flat investment by the State, the tonnage of recyclables processed by the counties has risen significantly. The following **Table 2-1** shows what the counties have spent (in millions of dollars) on SCORE:

**Table 2-1: Amount Spent on SCORE (in millions of USD)**

	1991	2010	2011	2012	2013	2014 <sup>a</sup>	2015	2016	2017
Greater Minnesota	13.5	33.5	36.3	36.0	37.2	-	-	-	-
Metropolitan Area	22.4	24.1	25.6	25.0	26.2	-	-	-	-
TOTAL	35.9	57.7	61.9	61.0	63.4	-	80.0	82.6	80.8
State Share	14.2	14.2	14.3	14.1	14.3	18.25	17.25	17.25	17.25

(a) MPCA stopped providing annual Reports starting in 2014.

The 2014 Legislature increased the amount of Environmental Fund dollars dedicated to SCORE grants to \$18.25 million in 2014 and \$17.25 million annually thereafter. The 2019 Legislature kept the amount of Environmental Fund dollars at \$17,250,000 per year for fiscal year 2020-2021.

Per the recently completed 2021 County SCORE Report (see **Appendix E**), the County spent \$141,474 on the overall SCORE-related programs, of which the State provided only \$189,880 in funds (or 74.5 percent). It should be noted that the County's cost is only what the County has expended, and does not include additional funding by cities, townships, individual programs, or haulers.

The SCORE legislation requires that the County do the following:

- The County must have at least one recycling center in the County and sites for collecting recyclable materials that are located in places convenient for people to use them. (§115A.552, Subd.1 & §115A.552, Subd.2).

**Compliance Action:** Drop-off site at the Landfill Site meets the definition of a recycling center. Our present recycling system provides convenient drop-off sites to the County rural residents and curbside services in the larger cities.

- The County must ensure that cities in the County with a population of 5,000 or more has either curbside pickup, centralized drop-off, or a local recycling center that accepts at least four materials (§115A.552, Subd.2 para (2)).

**Compliance Action:** The City of Brainerd, with a population of approximately 14,395 (as of 2020), and the City of Baxter, with a population of approximately 8,612 (as of 2020) has mandatory curbside collection. Our present program meets or exceeds this requirement.

- The County must provide information on how, when, and where materials can be recycled (§115A.552, Subd.3 para (a)).

**Compliance Action:** The Solid Waste Office provides information on how, when, and where materials can be recycled through an annual coupon mailing, County web page, and publishes ads in the Brainerd Daily Dispatch, the Crosby-Ironton Courier, Lake Country Echo, News Hopper,

Vacationland brochure, Northland Arboretum Newsletter, County Fair flyers plus special ads as needed.

- The County must ensure that facilities under its control collect and remove for recycling at least four (paper, glass, plastic, and metal) recyclable materials (§115A.555, Subd.1).

**Compliance Action:** The County has recycling opportunities at all county buildings and county sub garages. The materials recycled are: paper (office paper, cardboard, shredding paper, and phone books), aluminum cans, batteries, used electronics, toner/ink jet cartridges, fluorescent lamps, used oil/filters, scrap steel, and antifreeze. In 1998, the County expanded its refuse pickup to incorporate a bin specifically for cardboard and another bin for mixed paper for recycling.

- The County must provide for the recycling of problem materials and major appliances (§115A.552, Subd.1).

**Compliance Action:** The County has recycling opportunities at the landfill site for all problem materials except fluorescent bulbs. These bulbs are managed by multiple hardware stores located throughout the County.

**Table 2-2** shows a summary of the County/SCORE funded residential recycling programs in 2021.

Historic data is provided in **Appendix F**. **Appendix G** denotes the recycling each program accomplished for 2021. These programs are helping the County maintain its compliance to the State mandated recycling rates and are below the established County goal of \$150 cost per ton as an upper limit. Some programs in the more sparsely populated areas of the County will naturally have a higher cost per ton than those in more densely populated areas. However, these programs help provide convenient opportunities for the County residents to recycle. From 1994 to 2021 the County's annual population growth was 1.2 percent; the annual growth of tonnage going into the landfill during the same period was 2.0 percent.

**Table 2-2: 2021 SCORE Funded Recycling Program Summary**

<b>Program</b>	<b>Tons</b>	<b>Funding</b>	<b>Cost/Ton</b>
Baxter	500	Curbside	N/A
Brainerd	932	Curbside	N/A
Breezy Point	286	Curbside	N/A
Crosslake	314	Curbside	N/A
Ideal	168	\$41,021	\$244
Ironton	56	Curbside	N/A
Landfill	274	\$60,091	\$219
Nisswa	529	\$40,333	\$76
Pequot Lakes	282	Curbside	N/A

Curbside collection program or a centralized drop-off is mandated (§115A.552, Subd.2) based on city population. Both collection systems are needed. The following is a discussion of each of the SCORE Funded programs.

### **2.3 Curbside Recycling Program**

The following are the cities that offer curbside recycling at least monthly:

- Baxter (Waste Management, Waste Partners, & Garrison Disposal)
- Brainerd (Waste Management, Waste Partners, & Garrison Disposal)
- Breezy Point (Waste Partners & Pequot Lakes Sanitation) – started in 2006
- Crosslake (Waste Partners, Waste Management, Pequot Lakes Sanitarian) – started 2021
- Ironton (Waste Management – started January 2018)
- Pequot Lakes (Waste Partners, Garrison Disposal & Pequot Lakes Sanitation) - started July 2014

The estimated population served by residential curbside recycling programs, based on Minnesota State Demographers Estimate (<https://mn.gov/admin/demography/data-by-topic/population-data/our-estimates/>) 2020 is summarized in **Table 2-3**.

**Table 2-3: Estimated Residential Curbside Recycling Programs Participants**

	<b>Population</b>	<b>Households</b>
Baxter	8,612	3,459
Brainerd	14,395	6,086
Breezy Point	2,574	1,026
Crosslake	2,394	1,169
Ironton	576	271
Pequot Lake	2,395	1,039
TOTAL	30,945	13,050

### 2.3.1 Baxter Program

The Baxter curbside collection program started in March 1991 and was the first curbside recycling program in the County. **Appendix G** shows the tabulated results of the program. Part of the SCORE funds for 1991 was provided to the City of Baxter in 1990 and does not appear in **Appendix G**. Therefore, the cost per ton of the program appears much lower in 1991 than is actually the case. The results and funding for 1992 accurately reflect the status of this program except the portion of funding provided by the City of Baxter. In 1993, the County provided all program funding. SCORE funds were provided to the City of Baxter for operating this program until 2019.

In the 1992 Recycling Report, commercial office paper was included with the data for this program dramatically lowering the cost per ton. For the 1993 report, only residential data is included. This provides a more accurate representation of the curbside collection program.

In April 1993, Waste Management began to collect commingled recyclables and added some plastics to the materials that would be accepted. In response to this, Blue Lakes Disposal resumed accepting plastics but continued to ask that materials to be separated. The plastics each hauler accepted differ. The differing requirements caused some difficulty with the County's public information efforts.

The program offers twice per month curbside collection of recyclable materials for Baxter residents. The City contracts with Blue Lakes Disposal (sold to Waste Management November 2016), Garrison Disposal, Waste Partners, and Waste Management for this service.

For 2021, 500 tons were collected. The quantities collected this year has decreased from 2020. Participation rates, assuming 3,459 households were approximately 289 pounds per year per household.

### **2.3.2 Brainerd Program**

The Brainerd curbside collection program was started in August of 1991. **Appendix G** shows the tabulated results of the program. The results and funding for both 1991 and 1992 accurately reflect the status of the program except that portion of the funding provided by the City of Brainerd. In 1993 funds were provided entirely by the County, consequently the results and funding accurately reflect this program. In the 1992 Recycling Report, cardboard, scrap metals, and magazines from commercial generators were included. This dramatically lowered the cost per ton of the program. For the 1993 report, only residential curbside data were included. The 1993 - 2019 numbers represent only residential curbside data.

Beginning in April 1993 and extending through the 2016 report period, Waste Management began and continued to collect commingled recyclables and some plastics. Blue Lakes Disposal continues their program directly with the City. In November 2016, Blue Lakes Disposal was bought by Waste Management. Starting in 2000, Garrison Disposal also provides recycling services. Waste Partners started to provide recycling services in 2002, and AAA Disposals started to provide recycling services in 2011. In 2016, AAA Disposal was bought by Waste Management. These programs offer weekly curbside collection of recyclable materials for residents of the City of Brainerd. SCORE funds were provided to the City of Brainerd up to 2019.

For 2021, the program collected 932 tons. Assuming 6,086 households, approximately 306 pounds per household per year were collected in 2021.

### **2.3.3 Breezy Point Program**

The Breezy Point Drop-off program has been in operation since 1991. **Appendix G** shows the tabulated results of the program. In October 1993, they contracted with Kenwood Recycling to pick up materials one Saturday each month. The collection site was staffed with volunteers. In November 1993, Nisswa Sanitation placed a permanently located bin thus allowing recyclable materials to be dropped off any time. Garrison/Nisswa Sanitation was providing a bin and hauling recyclable materials to Cass Recycling in Pine River. SCORE funds were provided to the City of Breezy Point up to 2019.

In 2006 the program was changed to curbside by the city council. Waste Partners and Pequot Lakes Sanitation are providing this service to this area. The recycling tonnage for 2021 is 286 tons. The quantities collected have been increasing annually, and now is stabilizing. Assuming 1,026 households, approximately 558 pounds per household per year were collected in 2021.

### **2.3.4 Crosslake Program**

In 2021 the City's drop-off program was changed to curbside by the City Council. The City began licensing the garbage haulers and adopted an ordinance that required all haulers in the City to provide curbside recycling service. Waste Partners, Pequot Lakes Sanitation, and Waste Management are licensed haulers in the City of Crosslake and all provide curbside recycling.

The recycling tonnage for 2021 is 314 tons. Assuming 1,169 households, approximately 537 pounds per household was collected. This is their first year.

### **2.3.5 Ironton Program**

In 2018 the City's drop-off program was changed to curbside by the City Council. The City provide curbside garbage service through a contract; contract was modified to now include recycling service. Waste Partners is their contractor and provides curbside recycling. SCORE funds was provided to the City of Pequot Lakes up to 2019.

The recycling tonnage for 2021 is 56 tons. Assuming 271 households, approximately 413 pounds per household was collected.

### **2.3.6 Pequot Lakes Program**

The Pequot Lakes drop-off recycling program began in January 1991. The City contracted with Kenwood Recycling who provided recycling pick up from the drop-off site one Saturday per month. The site was staffed by volunteers.

In 1993, the City's drop off program began receiving funding from SCORE funds. In April 1993 the City contracted with Nisswa Sanitation to provide a permanently located bin at City Hall. This bin was picked up twice per month. Since that time there was a continuous need to increase the number of pickups.

In 2000 the City contracted with North Country Roll-off to provide recycling pick up program. In 2005, the drop off site allowed recyclable materials to be dropped off at any time.

In 2005 the County installed an oil tank for used oil recycling. The County also upgraded the City recycling location by installing a concrete pad for the recycling area.

In 2005 the City contracted with Nisswa Sanitation. Nisswa Sanitation provided two roll-offs located at City Hall plus a cardboard dumpster. The City's drop-off site served residents and cabin owners from many of the surrounding areas. During the summer months, it was not uncommon to have both of the roll-offs and cardboard picked up 5 times per week resulting in over 20 pulls per month.

The City took great pride in its drop-off recycling program. The City Public Works Department spent many hours with snow removal, cleaning up unwanted recycling articles, and ensuring that the site was clean.

In 2014 the City's drop-off program was changed to curbside by the City Council. This was done because Nisswa Sanitation notified the City that it would no longer be able to provide the drop-off service. The City began licensing the garbage haulers and adopted an ordinance that required all haulers in the City to provide curbside recycling service. Waste Partners, Pequot Lakes Sanitation, and Nisswa Sanitation are licensed haulers in the City of Pequot Lakes and all provide curbside recycling. SCORE funds were provided to the City of Pequot Lakes up to 2019.

The recycling tonnage for 2021 is 282 tons. Assuming 1,039 households, approximately 543 pounds per household was collected. This is their sixth year, and their tonnage continued to increase.

### **2.3.7 Crosby-Ironton-Deerwood (C-I-D) Program (CLOSED – 1997)**

The C-I-D curbside collection program started in July 1991. This program offered twice per month curbside collection of recyclable materials for Crosby, and once per month curbside collection for Ironton, Deerwood, and the south shore of Serpent Lake area.

When the initial estimates were made and a recycling strategy selected, it was anticipated that the C-I-D Recycling Program would collect 207 tons per year and the cost of the curbside program would be \$121 per ton. The overall cost per ton annually from 1992 - 1997 was \$342.57; \$222 more costly than the original projection.

The participation and quantity of material per household were lower than anticipated. Assuming 1,394 households, about 60.5 pounds per household for 1997 was collected. Due to cost and participation rates of a curbside program, the C-I-D Committee evaluated the program and changed operation in 1998 to a drop-off operation. Starting in the 1998 Report, this program is now listed as a drop-off program. The existing drop-off program for Deerwood was incorporated under this program starting in 1998.

### **2.3.8 Curbside Program Summation**

In 2016, an industry nonprofit group The Recycling Partnership and the U.S. EPA released a report showing the results of an extensive study of recycling programs in more than 450 communities across the country. The 2016 State of Curbside Report noted there is no single policy or approach that will guarantee materials diversion success.

Report did find that the average pounds per household per year collected in the communities was 357 pounds.

## 2.4 Drop-Off Program

The following are the active drop-off programs offered within the County:

- Ideal Township
- City of Nisswa
- County Solid Waste Disposal Site

The projections for these programs were based on early results of the Emily Program. This resulted in an estimated 54 pounds per capita per year. Estimate appeared reasonable and the County remains optimistic if markets expand with a value for recyclable material and outlying drop-off programs can continue to increase their recycling amounts at a reasonable cost.

### 2.4.1 Ideal Township Program

The Ideal Drop-Off Program began September 1991. **Appendix G** shows the tabulated results of the program. SCORE funds are being provided to the Township for their program. In 2002, the County gave a grant of \$6,000 for the Township to update their recycling shelter. Cardboard was added in 2008.

The Township accepted materials during all canister station operating hours (open Monday, Wednesday, and Saturday from 8 a.m. to 4 p.m.). The Township had North Country Sanitation removing this material for recycling. In 2019, this was changed to Waste Partners.

Currently, this program accounts for 168 tons of recycled materials at a cost of \$244 per ton of recyclable material collected.

### 2.4.2 City of Nisswa Program

The Nisswa Drop-Off Program began September 1991. **Appendix G** shows the tabulated results of the program. SCORE funds are provided to Nisswa for the program. In 2010, the County as part of the installation of a used oil tank, the recycling drop-off area was upgraded by installing a concrete pad for the recycling bins to sit on, for \$8,000. The indicated totals for each month are accurate while the individual material quantities are based on percentages of the total. The City contracts with Garrison/Nisswa Sanitation to provide two containers and haul materials to Aitkin Recycling Center until June 2014. Waste Partners took over the program in July 2014. This program provides a permanently

located bin rather than a once-a-month service. The projected results for a once-a-month drop-off were 67.6 tons per year. The 2021 cost per ton was \$76 for 529 tons, with a daily drop-off opportunity.

### **2.4.3 County Solid Waste Disposal Site**

Pythons stopped taking glass on March 15, 1998. Because of this, the local office of the OEA was able to obtain a grant for local recycling of mixed glass through Cass County and Region Five RDC (Regional Development Commission). A report for the most feasible, cost effective, and beneficial use for glass collected for recycling in this area has been accomplished. Due the readily available and cheap supply of local aggregate it was determined each county could stockpile their glass and utilize it in a construction contract or use it as select fill at the Site.

To address this issue, the County purchased a 20-cubic yard dumpster in 1998, and it was placed at the County solid waste disposal site for self-haulers to place glass into. An area is set aside for the SCORE/County funded recycling programs to stockpile the glass at the Site starting in 1998. This material is being utilized as select fill at the Site and in future construction at the Site.

A more comprehensive drop-off collection program was started in October 2003 to address additional recyclables. **Appendix G** shows the tabulated results of the program. This program offered drop-off collection of recyclable materials for County residents whenever the Site is open. Summer operations (April - October) is Monday through Saturday, 8:00 a.m. to 5:00 p.m. Winter operations (November - March) is Monday through Friday, 8:00 a.m. to 5:00 p.m. In 2021, the program accounted for 274 tons of recycled material at a cost of \$219 per ton.

### **2.4.4 Bay Lake Township Program (CLOSED - October 2019)**

Bay Lake Township started a drop-off program in 2009. **Appendix G** shows the tabulated results of the program. SCORE funds are provided to the Township for their program. The County gave a \$2,000 grant in 2009 to Bay Lake Township to enhance their recycling drop-off area by installing a fence around their recycling bins. Garrison Disposal started to provide service in January 2, 2009 till June 2014. Waste Management took over the program starting July 2014. Drop-off site will allow recyclable materials to be dropped off any time.

This program closed its operating in October 2019. During the life of this program it collected 577.97 tons of recyclables. The overall cost to collect this recyclable material was \$211.84 per ton

#### **2.4.5 Center Township Program (CLOSED - Dec 2020)**

Center Township started a drop-off program in 2017. **Appendix G** shows the tabulated results of the program. SCORE funds are provided to the Township for their program. Waste Partners Disposal started to provide service in June 2017. The drop-off site allowed recyclable materials to be dropped off any time. This program closed in 2020.

During the life of this program it collected 55.49 tons of recyclables. The overall cost to collect this recyclable material was \$126.15 per ton

#### **2.4.6 Crosby (formerly part of the C-I-D Program) (CLOSED - June 2020)**

The Deerwood Drop-Off Program began operation in July 1991. **Appendix G** shows the tabulated results of the program. SCORE funds were provided to the City of Deerwood to operate the program. Pythons of Brainerd offered a once-a-month pick up of recyclables up to 1996. This program was operated by Range Disposal till 1997, with the collection site being staffed with volunteers. In 1998, the existing drop-off program for Deerwood was incorporated under the C-I-D program. The drop off location was located at Range Disposal shop till October 2008. In November 2008, Nisswa Sanitation provided a permanently located bin for each city that will allow recyclable materials to be dropped off any time. The County gave a \$5,681.14 grant to the City of Deerwood and \$3,000 grant to the City of Ironton for a permanent recycling drop-off area by installing a concrete pad for their recycling bins to sit on in 2009. The County gave a \$3,800 grant to the City of Crosby for a permanent recycling drop-off area by installing a concrete pad at their new location for their recycling bins to sit on in 2013. Deerwood stopped their program on August 19, 2015 due to illegal dumping. Ironton stopped their drop-off program in 2017 and converted it to a curbside program in 2018.

For Crosby only, the 2020 recycled material's amount is 72.5 tons. CLOSED on June of 2020. During the life of this program it collected 5,929 tons of recyclables. The overall cost to collect this recyclable material was \$149.50 per ton.

#### **2.4.7 Crosslake Program (CLOSED - June 2020)**

The Crosslake Drop-Off Program has been in operation since 1991. **Appendix G** shows the tabulated results of the program. SCORE funds are provided to the City of Crosslake. A curbside service began in August 1993 and ended in 1996. In 1996, a permanent drop-off service was in place by Crosslake Roll-Off allowing recyclable materials to be dropped off any time. The Crosslake recycling center is open all week. A hauler started up a curbside service June 2007. Cardboard was added back as a recycled item in 2008, and plastics bottles were added in 2009.

The projected results for this program were 41 tons per year. In 2020, the drop-off program recycled 176 tons (including the 73 tons for scrap metal and 35 tons for cardboard). CLOSED on June of 2020. During the life of this program it collected 5,023 tons of recyclables. The overall cost to collect this recyclable material was \$132.39 per ton.

The curbside recycling (not funded through City) has continued, the total amount of residential recycling for this is 182 tons.

#### **2.4.8 Emily Program (CLOSED - October 2019)**

The Emily Drop-Off Program started operations in 1991. **Appendix G** shows the tabulated results of the program. SCORE funds were provided to the Emily Area Recycling Committee. Kenwood provided a once-a-month (third Saturday from 9 a.m. to noon) pick up of recyclables but in 1993 the committee contracted Range Disposal for this service. The contract remained in place throughout 2007. Volunteers staff the collection site and it was open once a month. The recycling drop-off was located in a church parking lot. Due to liability issues, the City in 2007 relocated the drop-off site.

The County gave an \$8,008 grant to the City of Emily to upgrade their recycling drop-off area by installing a concrete pad for their recycling bins to sit on in 2007. The new drop-off location for recyclables started in April 2008 and allowed recyclable materials to be dropped off any time. This program closed down in October 2019.

During the life of this program it collected 1,326.61 tons of recyclables. The overall cost to collect this recyclable material was \$142.25 per ton.

#### **2.4.9 Fifty Lakes Program (CLOSED - October 1992)**

The Fifty Lakes Drop-Off Program began operation in November of 1991 and ended with the closure of the demolition landfill and transfer station in October 1992. SCORE funds were provided to the City of Fifty Lakes for the program. City personnel managed the program and materials were picked up by Crow Wing Recycling. Recyclable materials were accepted during all transfer station-operating hours.

#### **2.4.10 Garrison Program (CLOSED - December 2020)**

The Garrison Drop-Off Program began in August of 1991. **Appendix G** shows the tabulated results of the program. SCORE funds are provided to the City of Garrison for the program. In 2005, the County gave a grant of \$10,000 to Garrison to upgrade their recycling drop-off area by installing a concrete pad for their recycling bins to sit on. Initially, the City contracted with Kenwood (Pythons of Brainerd) Recycling for the pickup. Garrison Disposal was providing this service till June 2014, then Waste Management took

over the program in July 2014. The program offers a drop-off service once each month, at the Garrison City Hall parking lot. In 2014 the hours of operations changed from 1 - 4 p.m. on the first Monday of every month to 24/7 starting end of March 2013. Previously the program was operated by senior volunteers who provide curbside service (seniors unload your vehicle for you). The projections for this program were 26 tons per year. Garrison stopped their program on September 18, 2015 due to illegal dumping, but restarted in 2016. In 2016 Garrison went back to a drop-off service once each month during the summer. This program closed in 2020.

During the life of this program it collected 624.54 tons of recyclables. The overall cost to collect this recyclable material was \$157.62 per ton.

#### **2.4.11 Maple Grove Township Program (CLOSED - June 2014)**

The Maple Grove Drop-Off Program began July 2008, and was ended by the sponsor in July 2014 when the hauler would no longer provide the recycling service. SCORE funds were provided to the Township for the program. The Township initially contracted with Waste Management. Starting in 2010, Garrison Disposal was providing this service until June 2014. The drop-off site did allow recyclable materials to be dropped off any time. The drop-off location was at the South Shores Paradise Resort on South Long Lake. This site closed down when Garrison Disposal stopped their service.

During the life of this program it collected 189.34 tons of recyclables. The overall cost to collect this recyclable material was \$190.67 per ton.

#### **2.4.12 Merrifield Program (CLOSED - December 2020)**

The Merrifield Drop-Off Program began June 1992. **Appendix G** shows the tabulated results of the program. SCORE funds were provided to the Merrifield Lions for the program. The Lions contracts with Blue Lakes Disposal to provide weekly drop-off service (Monday - Friday from 7 a.m. to 5 p.m.). Waste Management took over the program in 2017. The drop off location was located at the Blue Lakes Disposal Shop. This program closed in 2020.

During the life of this program it collected 4,438.75 tons of recyclables. The overall cost to collect this recyclable material was \$26.56 per ton.

#### **2.4.13 Mission Township Program (CLOSED - December 2020)**

The Mission Township Drop-Off Program began June 1992. **Appendix G** shows the results of the program. SCORE funds are provided to the Township for the program. In 2004, the County gave a grant of \$5,000 for the Township to update their recycling shelter. Previously the program was offering one

Saturday (last Saturday of the month from 10 a.m. to 2 p.m.) per month drop-off at the Town Hall in the winter and at the transfer station during the summer. Starting in November 2009, the County gave another grant of \$6,000 to move/upgrade their recycling drop-off area so it is now located by the Township Hall (providing 24/7 service). These funds were used to install a concrete pad for their recycling bins and a used oil tank to sit on. The Township contract was with Blue Lakes Disposal, and starting November 2009 it is with Garrison Disposal to handle the recyclable materials. Garrison Disposal stopped service on June 2014; Waste Management took over the program. This program closed in 2020.

During the life of this program it collected 1,239.58 tons of recyclables. The overall cost to collect this recyclable material was \$125.72 per ton.

#### **2.4.14 Roosevelt Township Program (CLOSED - June 2014)**

The Roosevelt Drop-Off Program began August 1991. SCORE funds were provided to the Township for the program. The Township contracted with Pythons of Brainerd until August 1996. At this time, Garrison Disposal was contracted to provide for a one Saturday per month service (third Saturday from 9 a.m. to noon). The County gave a \$6,000 grant to the Roosevelt Township to upgrade their recycling drop-off area by installing a concrete pad for their recycling bins to sit on in 2009, and the site location was change to be located by the Township hall (provide 24/7 service). Because this program is in a sparsely populated area of the County, it is unlikely that the results can be comparable to another program. Garrison Disposal did provide this service till June 2014.

Although limitations for this program existed, it did provide a service for this area of the County. Overall, the program accounted for 485.57 tons of recycled material at a cost of \$191.26 per ton.

#### **2.4.15 South Long Lake Program (CLOSED - November 2004)**

The South Long Lake Drop-Off Program began March 1992 and was ended by the sponsor in November 2004. SCORE funds were provided to the South Long Lake Recyclers for their program. Range Disposal provided once-a-month services up to April 1997. From March 1997 till they closed, Waste Management provided the service. For program flexibility, Waste Management stationed a trailer at the site from Friday evening until Monday morning. This site was self-monitored. Residents could commingle glass, plastic, aluminum, and tin cans into a single bin. Newspapers and magazines were placed in another bin. Instructional signs were posted at the site and area flyers help educate residents about changes. This resulted in good compliance with the self-monitoring program. The longer hours and commingle opportunities increased participation in this program.

During the life of this program it collected 224.35 tons of recyclables. The overall cost to collect this recyclable material was \$161.23 per ton.

#### **2.4.16 Southwest Townships (CLOSED - December 2020)**

This is a cooperative effort between St. Mathias, Fort Ripley and Crow Wing Township. The South West Townships program started in 2003 when this was chosen to be a site under the used oil program. Also in 2003, the County gave a grant of \$8,129 for the townships to place a small building at the site for use as a recycling center. In June 2014 Garrison Disposal dropped the recycling efforts; Waste Management began to service this program recycling needs in July 2014. County/SCORE funds are provided and the program starting in 2005. **Appendix G** shows the results of the program.

The drop-off center was located at the Crow Wing Township Hall in Barrows. The actual recycling program started May 7, 2005. The center was open the 1st and 3rd Saturday of the month from 8 a.m. to noon. At the end of 2020 the site was shutdown. Overall recycling rate was 691 tons, for an operating cost of \$244 per ton.

#### **2.4.17 Drop-off Program Summation**

There is no reasonable comparison between actual and projected results for the programs. The population served by an individual drop-off program is difficult to determine. The County has a large transient population.

Some programs are in a sparsely populated area of the County, it is unlikely their results will be comparable to another program. However, convenient drop-off sites assist County residents to recycle. As the data suggests, a permanently located bin appears to collect more recyclable material than does a once-a-month drop off. In the future, as costs allow, most of the programs have been expanded to provide increased opportunity by adding additional collection days.

### **2.5 Overall Residential Recycling Program Summation**

Recycling consists of three different activities:

- Collection of the recyclable materials;
- Preparing those materials for market; and
- Conversion of these materials by manufacturers into new products.

The greatest problem facing recycling is not the ability to collect the materials. It is the ability of the markets to absorb the quantity of materials being collected and convert it into inexpensive, new products.

Market development is the responsibility of the State (§115A.48, Subd. 1), and a key factor that will affect the County's recycling program is the Federal and State's effort toward market development. It should be noted that the largest negative impact on the County recycling programs has been the lack of expanding recycling markets, and a stabilized price paid for the materials collected. Providing increased economic incentive for collection activities without simultaneous market development will exacerbate the situation and ultimately end in failure. A desirable end point or goal for the County, and no doubt the State, would be a recycling industry without government subsidies.

The County's programs can increase their recycling rate but the question is, "Can it be done at a reasonable cost?" Initially, recycling programs were sold on the basis that markets would be developed for recyclable material and market revenue would eventually pay for the programs. Market development has not progressed to a point where the materials can fully support these programs - and it is questionable if this would ever be reached. In Greater Minnesota, another large cost component is shipping - moving the materials to the market. Currently the recycling industry is experiencing a paradigm shift; overall value of the incoming recycling stream is decreasing. The industry is seeing some of the higher value material being light weighted out of the recycling stream, and that is impacting the overall value of the recycling stream.

Recycling's fatal paradox is that increased demand for recyclables does not necessarily equal higher prices for recyclables. Manufacturers do not want to pay top dollar for their raw materials. Many times the low price's manufacturer's pay for recyclables is the key to their profitability.

Increased education, public advertising, and increased hours of operation can increase overall participation. However, a point can be reached when recycling practices mature and costs associated with increasing yields exceed the benefits. The recycling rate will become flat because it will reach an inevitable plateau. There is some room to improve the existing County system, but there is a limit. Any significant gains in recycling will come from either development of markets for materials presently being thrown away or development of cheaper ways to recycle. After all, waste is waste - materials for which there is no longer sufficient economic value to rescue from disposal.

Another long-term concern is the changing makeup of the waste stream. One area is the growth of plastics. More plastic is being collected for recycling, but it is dwarfed by an even larger increase in the amount of plastic being sold. The recycling rate has not kept pace with the growth of plastics.

Many businesses enter and exit a specific recycling market to insure a profit margin. This indicates a position of fiscal responsibility by the business community. Recyclers tend to compete for items having a

high market price and ignore items whose volume, cost of preparation, and price makes them less attractive. The following risks are associated with the loss of profitable materials to the recycling market: the County can be left with the remaining less valuable products in County-sponsored programs and increased operating costs. Recyclable materials are usually considered property, not waste, under law. Thus, the ability to legally control recyclables at the County level is restrictive. When the markets are strong, the County will see significant quantities of valuable materials diverted from the normal County-sponsored recycling programs. The County cannot interfere with these activities since recyclables are considered property and are generally exempt from municipal solid waste regulations.

It appears County-sponsored recycling programs will never have a level playing field. The County must provide financial incentives for these programs when markets are weak and face stiff competition for products when the prices are firm. With today's mandated programs, the natural market mechanisms of supply and demand no longer work. The market was not generated by the private sector. Bottom line is that mandated recycling will not be self-sustaining, and needs to be considered a service - like water, sewer, police and fire protection. Funding a program from revenue raised by selling recyclables is not possible, and a service fee through local property tax and State grants will be required to pay for recycling programs into the foreseeable future. With a continued budget shortfall at the State level, counties have already seen a reduction in State SCORE grants and at the same time, declining State support. This will lead to additional recycling reassessments at the local level. The reality is that recycling competes for taxpayers dollars.

Another problem is that the benefits of recycling accrue globally while the costs are borne locally. Recycling is a resource conservation issue, not a public health issue. Overall, the relevant question at the local level is "how much recycling is good policy?" The reality of the situation is that recycling services require government funding. This was further highlighted in the January 2002, *Office of the Legislative Auditors Program Evaluation Report, Recycling and Waste Reduction* which states:

*"before deciding if and how to pursue options to divert more waste, however, state and County officials need to assess priorities, agree on funding, and better understand the cost and benefits of various alternatives."*

It is time for federal and state policy makers to consider financial measures for recycled material that would create meaningful incentives for recycling and enable local governments to keep and expand the recycling programs they offer.

Crisis is the primary driver to provoke significant change. For the past decade, garbage and recycling have not been among America's significant political issues. Tighter government budgets will make this an issue when program levels are reduced, no new programs are initiated, or programs are stopped all together, while at the same time, recycling mandates are maintained or increased.

### **3.0 COMMERCIAL, INDUSTRIAL, AND INSTITUTIONAL RECYCLING**

#### **3.1 Introduction**

Commercial and industrial activities represent the largest portion of the ongoing recycling efforts within the County. In 2021, commercial/industrial documented recycling was 41,254 tons. Of that total, 39,180 tons were recycled using out-of-county recycling infrastructure. Commercial and industrial recycling accounts for 85.0 percent of all materials collected this year in the County. This is higher than the statewide average of 75 percent for CII recycling.

#### **3.2 Survey of CII Recycling Effort**

In late 1992 and early 1993, the Solid Waste Department sent a survey to most businesses to learn if there was unreported commercial recycling and to detect barriers to recycling. Almost 61 percent of the businesses did not respond to the survey. To ensure comprehensive data for business recycling, an annual mass mailing to local business was started in 1996 and was continued to 2010. This provides an opportunity for business to request information from the County Solid Waste Office. Starting in 2011, the Solid Waste Office only mailed the survey to those businesses whose recyclables in previous years was not incorporated within the local haulers recycling reports. In the future, the County will readdress the need to do a mass mailing to all businesses. The survey serves as the source of the documented in-county commercial recycling total. Lack of reporting from business interest remains a significant barrier.

The following are the results of this survey (**Appendix H**):

- The survey identified approximately 39,180 tons of out-of-county recycling. This is the bases of the documented in-county commercial recycling total.

The survey provides a more accurate picture of the recycling effort within the CII sector.

#### **3.3 Large CII Recycling Efforts**

A significant portion of the County's CII recycling rate is related to the reduction/reuse/recycling efforts of our large CII in the County. Much of the materials generated by these industries have historically been accepted at the County MMSW facility. The large CII have reduced their volume of waste going to the Landfill.

#### **3.4 Overview of Entire CII Program**

**Appendix I** is the tabulated data regarding the CII recycling effort for which data is available, broken out by stream. Due to concerns voiced in 1996, the information gathered to document the CII recycling effort;

businesses had an option if they wanted to be identified by name in this Report. Those choosing not to be identified are consolidated and listed under “Proprietary.” The data is presented to eliminate double counting of materials, i.e., the material collected by the Baxter Curbside Program does not appear with the data for Waste Management. The large commercial recycling in the County consists primarily of:

- Waste Management
- Garrison Recycling
- Waste Partners

**Table 3-1** summarizes the data from haulers who reported data as single stream recycling.

**Table 3-1: Commercial Recycling Data**

<b>Hauler</b>	<b>Residential Recycling (Tons)</b>	<b>Commercial Recycling (Tons)</b>
Garrison Disposal	198	49
Pequot/Gull Lake Sanitation	392	44

### 3.5 Summary

While the County has selected and carried out a comprehensive residential recycling strategy, it has not developed a business recycling system other than providing information concerning waste prevention and recycling opportunities. Although unintended, the Landfill tipping fee increased from \$25 to \$45 per ton in mid-1991, in 1996 the solid waste management tax for commercial/industrial waste going into a MMSW landfill was set at 17 percent, and on April 1, 2016 the tipping fee was increased further to \$50 per ton; these actions greatly increased the incentive for businesses to recycle/reuse/reduce. Waste generation prevention is likely having an impact in the business sector. Many businesses, through a combination of waste prevention and recycling, have significantly reduced the amount of solid waste sent to the Landfill. This resulted in large savings to them by reducing operational expenses such as time, labor, storage, procurement, and in avoidance costs for collection and disposal. It remains less costly to landfill material, except perhaps where a relatively homogenous recyclable waste stream is generated. Nonetheless, some businesses have recycled significant amounts of material with limited County support.

Nationally, starting in 2007 waste volumes has fallen due to the recession. When the recession is over, some experts expect that the commercial and industrial waste streams will continue to decline. They have discovered the value of producing less waste. They now view what they once called “waste” as a material

to be managed in the most productive way possible. Businesses have demonstrated that they see bottom line benefits in producing less waste.

Another important factor making the business programs more viable than residential programs is their waste streams, in some cases, contain a high quantity of quality recyclables. In addition, businesses wishing to be certified for ISO 9000 and ISO 14000 need to establish an infrastructure for waste-reduction and recycling, and documentation to qualify for certification. This including the economic factors discussed above makes business recycling the most beneficial avenue for County support.

## 4.0 WASTE/NON-LANDFILL PROGRAMS

### 4.1 Introduction

Problem/ban material recycling activities represent the third and last portion of the ongoing recycling efforts within the County. In 2021, problem/ban material was 4,188 tons, using both the County and commercial recycling infrastructure. Problem/banned material recycling accounts for 8.6 percent of all materials collected this year in the County.

### 4.2 Background

Other aspects of the County's integrated solid waste program are; yard waste management, household hazardous waste (HHW) management, problem material (items banned from the Landfill) management, waste reduction, public education, and illegal dumping. In many cases, the County's problem material program complement existing retailer programs to ensure in-depth coverage. The goal is maximum recovery, and to encourage residential participation; convenient times, location, and ease of disposal are key features of the County's program.

The County's Solid Waste Disposal Site complex is located between the two major population centers for the County: Brainerd/Baxter and Crosby/Ironton/Deerwood. The "One-Stop-Service" provides convenient access for proper disposal for these materials at a reasonable price. Prices are set to promote the proper management of waste, eliminate illegal dumping, and halt backyard burn barrels. Programs have been established to be sustainable, economically feasible, and environmentally sound. The status of the County's efforts in each of these areas and others are discussed within this chapter. **Appendix M** is the tabulated data regarding these programs within the County.

The lined MSW Landfill, which opened in November 1991, is the foundation of the County's integrated solid waste management program. The Landfill was the first greenfield MSW landfill in Minnesota that met RCRA Subtitle D requirements. The initial construction included a leachate management system with two treatment and storage ponds. This expedited permit and construction was recognized in 1992 as one of the Seven Wonders of Engineering by the Minnesota Society of Professional Engineers.

The Solid Waste Association of North America (SWANA) has an Excellence in Solid Waste Management Awards Program that recognizes members and their programs that promote socially, environmentally, and economic waste management. In 2004, Crow Wing County won the GOLD Special Waste Excellence Award. Although all the County's special waste management programs provide environmental benefits, the application for this award focused on HHW, yard waste, used oil/filters, antifreeze, and tires.

The North America Hazardous Material Management Association (NAHMMA) has an Awards Program to promote and recognize programs engaged in pollution prevention, hazard reduction, and waste stream toxicity reduction. In 2004, Crow Wing County won the Program Excellence Award. This recognizes outstanding programs which addresses household and CESQG hazardous waste management at the state or local level. The County application for this award focused on HHW, used oil/filters, antifreeze, electronics, lead-acid batteries, and our Very Small Quantity Generator (VSQG) program.

Through both awards, the entire special waste management has been recognized nationally for its excellence.

The Interagency Pollution Prevention Advisory Team (IPPAT) recognizes projects that demonstrate a high degree of commitment and leadership and provide substantial benefit to the environment. They give out the Minnesota Government Reaching Environmental Achievements Together (MnGREAT!) Awards to recognize environmental achievements by government employees in the areas of pollution prevention, toxicity reduction, waste reduction and recycling. Our used oil collection program received a MnGREAT! Award in 2004.

The Minnesota Environmental Initiative (MEI) builds innovative partnerships to develop solutions to Minnesota's environmental problems. MEI works with nonprofit, business and government partners to develop consensus on critical issues and move collectively toward action that has positive impacts. Under their 2006 Environmental Initiative Awards - Public Sector Innovations, Crow Wing County was one of the top three finalist concerning our used oil program. These awards recognize projects that have used collaborative methods to produce tangible environmental outcomes.

The U.S. EPA Landfill Methane Outreach Program was launched in 1994 to reduce methane emissions by facilitating the development of projects that capture and utilize landfill gas as a source of energy. The Crow Wing County Sanitary Landfill On-Site Landfill Gas Recovery Project was selected to receive a 2010 LMOP Project of the Year Award. This project was also chosen as a 2010-11 Local Government Innovations Award winner. The Local Government Innovation Awards recognize outstanding cities, counties, and schools that demonstrate results in improving local services. The Hubert H. Humphrey Institute of Public Affairs at the University of Minnesota partnered with the Association of Minnesota Counties (AMC), the League of Minnesota Cities (LMC), and the Minnesota School Boards Association (MSBA). This was their 5<sup>th</sup> annual Local Government Innovation Awards. In addition, the National Association of Counties (NACo) recognized this project as a 2011 Achievement Award Program. For more than three decades, they have administered this non-competitive awards program to recognize

innovative county government programs that modernize and streamline county government and increase its service to its citizens.

### 4.3 Yard Waste

The State of Minnesota banned yard trimmings (§115A.931) from all landfills within the State in 1992. By 1998, 24 states representing more than 50 percent of the nation's population had legislation reducing disposal of yard trimmings. Most bans were put in place over fears of shrinking landfill space. In recent years there has been a trend of states reversing this ban. Iowa overturned its ban in 2015; Georgia and Florida have already repealed their ban.

The pre-ban estimate for yard waste was 18 percent of the State's waste stream. Immediately afterward, it declined to 2.7 percent. Through two waste composition studies, the State has concluded yard waste making its way to landfills declined by more than 80 percent as soon as the ban went into effect. A second composition study conducted in 1999 found a nominal decrease in yard waste to 2.3 percent of the waste stream, providing no evidence of backsliding. A third composition study conducted in 2013 found yard waste at 2.8 percent of the waste stream. The increased use of mulching lawn mowers has also reduced the amount of yard waste generated. Until 2011, a State directive allowed a maximum 5 percent recycling credits for yard waste.

During the course of the development of the yard waste compost program there have been no odor, leachate or other public health risks at yard waste compost sites within the County. The following are the locations of the yard waste collection programs within the County:

- County Landfill Site
- Mission Township
- Ideal Transfer Station
- Roosevelt Township
- Breezy Point (only for Breezy Point residents)

Estimated population served by residential curbside yard waste program is summarized in **Table 4-1** (Population based on Minnesota State Demographers Estimate - 2020).

**Table 4-1: Estimated Population Served by Residential Curbside Yard Waste Program**

<b>City</b>	<b>Population</b>
Crosby	2,394
Ironton	576
<b>TOTAL</b>	<b>2,970</b>

The County's yard waste (leaves, grass clippings, pine needles, garden debris) management program includes a yard waste compost area at the Site complex, and the prohibition of yard waste in the County's Landfill. Yard waste is taken from the residents for free at the Site complex. A separate area is set aside at the Site for composting leaves and yard waste. With the increased number of self-haulers and quantities of composting material coming in, the existing area had become congested. In 2000, the drop-off area was moved away from the tipping deck.

As part of the County's leachate recirculation efforts, a yard waste composting area was established on the bermed intermediate crown of Cells 1 and 2 of the MSW Landfill in 2002 until this area received final cover in 2020. Pretreated leachate from the leachate ponds is then sprayed over the yard waste, approximately three to five times per month, from April through October. A typical application ranges between 20,000 and 70,000 gallons. Application of the leachate is accomplished by using a trailer mounted spray gun.

Leachate recirculation in the MSW Landfill has resulted in an accumulation of ammonia and a depletion of carbon (i.e., reduction of biochemical oxygen demand - BOD) in the leachate. Yard waste composting on the Landfill crown is an innovative approach to augment the nitrification-denitrification process in the leachate. Due to aerobic conditions and the addition of organic carbon material from the yard waste, nitrification is promoted. The leachate then enters an anaerobic environment as it migrates into the Landfill, promoting denitrification, thus reducing the nitrogen fraction within the leachate as nitrate is converted to nitrogen gas. The compost layer also serves as a biofilter for the emission of landfill gas (LFG) through the intermediate cover, including methane and volatile organics.

Once the compost is mature, it is removed from the Landfill crown and stockpiled to be used as a topsoil supplement on Landfill construction projects (e.g., final cover), and erosion control on intermediate slopes. This product has been very beneficial since the site is extremely topsoil poor. One growing season is required to generate a mature product. Testing completed by the County verifies that the compost has a high nutrient content with no concern of contamination. Fresh yard waste is subsequently applied on the Landfill crown to renew the composting process.

Cost savings are also realized by the County when yard waste compost is used to amend topsoil on construction projects. Delivery of topsoil from off-site sources costs about \$10 per cubic yard. If the compost is blended 50:50 with site soil to create a topsoil mix, the County saves about \$5,000 per acre of construction. This assumes a 6-inch thick topsoil or erosion control lift and some costs to move and blend the material on-site. As an example, the total savings due to compost utilization for a partial closure of the demolition landfill in 2004 is estimated to be \$12,000. This material was used in conjunction with the construction of Cell 4 and Pond 4 in 2007. The savings in this project is estimated to be \$21,000. In 2008, this material was used in conjunction with the construction of the new leachate land application area for an estimated savings of \$50,000. This material was critical to ensure a viable seed bed material for the success of this project.

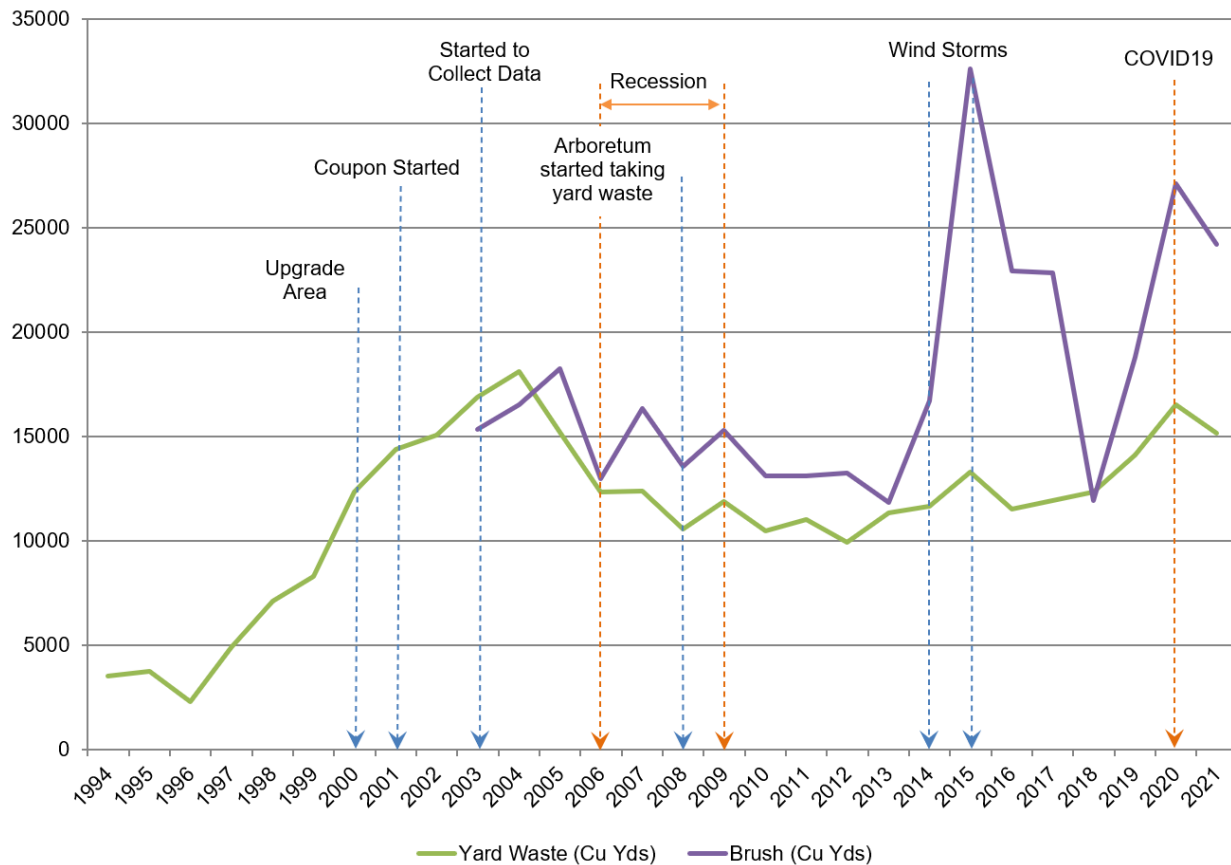
In 2006, the County utilized 60 cubic yards of this compost to construct rain gardens as part of the Judicial Center construction. The islands within the Judicial Center parking lot were designed as rain gardens. Research has shown that rain gardens can trap and retain up to 99 percent of pollutants in urban runoff, protecting against metals, oils, fertilizers, etc. Rain gardens significantly reduced the impact of storm water reaching storm drains. These will serve as an example and to promote storm water management techniques for all new construction county wide.

In April 2007, the Master Gardeners in conjunction with the Extension Office contacted the County about having a composting system similar to Morrison County. They brought the issue to the Board on the Sept 18th Committee of the Whole meeting. The County was open in providing support through a grant to help them construct any needed infrastructure. A request was received from the Northland Arboretum (this was a group effort, the City of Brainerd, the City of Baxter, the Master Gardeners, and the Arboretum) in 2008. The County provided a grant of \$13,785, and the facility opened on October 14, 2008.

In October 2010, the MPCA awarded a waste reduction grant (\$41,615) to the Crow Wing Soil and Water Conservation District (SWCD) to establish a backyard composting program throughout the County. SWCD has partnered with the CWC Master Gardeners and the Northland Arboretum to host regional workshops on backyard composting, sell low-cost backyard compost bins, and test and turn the Northland Arboretum compost site. Compost bins and workshops have been available to County residents since spring 2011. By the end of 2012, over 500 compost bins were sold by the Northland Arboretum; municipalities and the SWCD selling an additional 300 backyard compost bins; over 19 workshops with 290 adults in attendance were held in the Brainerd Lakes area; and provided backyard composting school lessons for 450 students.

Prior to 1994, yard waste data was not recorded at the Site, yard waste was handled separately prior to this. **Figure 4-1** shows the quantities of yard waste handled at the Site complex since 1994.

**Figure 4-1: Yard Waste & Brush Historic Trends (by Cubic Yard)**



This is a free service to our residents; the source of funding for this program is through the \$25 County Solid Waste/Recycling Assessment charged to every resident. The County Board established this rate. The County will maintain its current program with no substantial changes anticipated.

#### 4.3.1 Christmas Tree Recycling Program (CLOSED)

Starting in 2019, the Arboretum is no longer taking them - program was shutdown.

Prior, Minnesota Power, Brainerd Public Utilities, Crow Wing Power, and Lake State Tree Service provided the tree shredding service. Waste Management, Waste Partners, Nisswa Sanitation, and Range Disposal assisted to service the Brainerd, Baxter, Crosby, and Ironton area. Christmas tree chips were used for trail maintenance at the Northland (formerly Paul Bunyan) Arboretum located in Brainerd. In addition, Mille Lacs Electric Cooperative also started a Christmas tree recycling program in 1998,

servicing the Garrison area. Christmas trees were dropped off at the ball field behind the fire hall in Garrison. Annual totals of Christmas trees dropped off are included in **Table 4-2**.

**Table 4-2: Christmas Tree Recycling Program**

<b>Year</b>	<b>Amount (ea.)</b>
1992	1,122
1993	Unknown
1994	Unknown
1995	Unknown
1996	815
1997	1,500
1998	800
1999	1,000
2000	1,200
2001	500
2002	300
2003	300
2004	600
2005	600
2006	300
2007	300
2008	30
2009	500
2010	100
2011	320
2012	300
2013	100
2014	202
2015	351
2016	35
2017	50
2018 (Last Year)	400
<b>Total</b>	<b>11,725</b>

### **4.3.2 Brush**

A separate area is set aside at the Site for brush. With the increased number of self-haulers and quantities of material coming in, the existing area had become congested. In 2000, the layout of the drop off area was moved away from the tipping deck. Open burning is prohibited at the Site, with the exception of brush and grass which is allowed by Minnesota Department of Natural Resources Burning Permit. This service is free to residents of the County. The graph shows the quantities of brush handled at the Site since 2003.

With the growth of a biomass market, in 2009 there was a vendor who tried to utilize as much of the brush material on a trial basis. Approximately 221.6 tons of woody biomass were produced at the Landfill that year and transported to Benson, Minnesota. It was used by a facility that generates electricity using a single, biomass stoker boiler and a conventional steam turbine generator. This facility generates 50 MW of electricity. Poultry litter comprises over 75% of the biomass with woody biomass being one of the secondary vegetative matter. Unfortunately, this did not pan out.

## **4.4 Hazardous Waste Program**

### **4.4.1 HHW Program**

Following the passage of RCRA in 1976 hazardous waste from industrial and commercial sources came under cradle to grave regulation, but hazardous waste from households was left unregulated. Beginning in the early 1990s the MPCA was required by Minn. Stat. §115A.96 to establish a statewide program to manage HHW. Minn. Stat. §115A.96, Subd. 3, provides that the statewide HHW program may be provided directly by the State or by contract with public or private entities.

Chemical-based products from a single home may seem insignificant, but the cumulative effects of all households that handle and dispose of hazardous material improperly can become a major problem. According to the USEPA, Americans generate 1.6 million tons of household hazardous wastes (HHW) per year. The average home can contain as much as 100 pounds of HHW. HHW makes up less than 1 percent of the solid waste stream, but can contribute significantly to the level of toxins in the total waste stream. For example, paint can contain volatile organic compounds as well as fungicides. Old paint can include hazardous metals such as lead, mercury, cadmium, and hexavalent chromium.

State law (§115A.96, Subd. 6) required counties to include a section on HHW management as part of their solid waste management plan. Minnesota rule (7035.2535, Subp. 6) also requires that HHW management must be addressed as part of any application to permit/repermit a MSW sanitary landfill in the State. MPCA provides technical assistance and grant funding to counties that administer a HHW

program. In addition, counties can utilize a statewide disposal contract negotiated by MPCA. The statewide disposal contract has made managing HHW more affordable for the counties. In 2002, the law was changed to also provide indemnification to the counties for any waste disposed of through the State contract.

The County HHW Facility was built as part of a Landfill Maintenance Building in 1992, and opened in August 1993. The HHW operation began to utilize the entire building in 2002, when the Landfill operator was moved to a new maintenance facility located at the Site complex. The HHW Facility is 40 feet by 78 feet with areas for storage, processing and bulking, product exchange, and administration. County personnel operate the Facility with assistance provided by the County's Sentence-to-Serve (STS) program starting in 1997. Between 1997 and 2019, the amount of STS personnel available for this program shrunk significantly. Starting in October 2017, the STS program is no longer being run by the State, but County personnel. In 2020 and 2021, COVID prevented any STS assistance – only county staff. The County's HHW Facility is open 8 am to 5 pm, Monday through Saturday from April to September, and 8 am to 5 pm, Monday through Friday from October to March. The County began construction on a new HHW building in August 2022, with anticipated completion in June 2023.

In 2003, the County started its own Regional Program. Previously, the County was a member of the Tri-County (Stearns, Benton, and Sherburne) Regional Household Hazardous Waste Program. Morrison and Todd County joined Crow Wing County's Regional Program in 2003. The program was created to provide local program managers with central fiscal disbursement, an ongoing technical education program for HHW management, processing, information, and a materials clearinghouse. Additional benefits include recommendations about equipment, a conduit to MPCA's HHW Program staff, and meeting location for local program managers.

All HHW is either reused in product exchange, recycled, fuel blended, or incinerated. The HHW vender (through the state contract) transports solvent-based and other flammable liquid waste (that does not contain unwanted constituent) to be used for fuel in high-temperature cement kilns. These kilns are EPA approved.

A can crusher was purchased in 1997 to help bulk oil-base and latex paint. An aerosol can crusher was purchased in 2002 to bulk those contents. This equipment, along with the STS personnel, had enabled staff to process the increased traffic volume. An additional benefit was the crushed metal cans were recycled versus being disposed of into our Landfill. The County no longer crushes cans. Starting in 2018, now shipping most of our latex and oil-based paint directly to PaintCare in their original container. This

action has greatly reduced the time and volume that is bulked. The following in **Table 4-3** is the amount of metal recycled and the cost savings of avoiding landfill disposal:

**Table 4-3: Annual Amount of Recycled Metal & Cost Savings**

<b>Year</b>	<b>Amount (tons)</b>	<b>Cost Saving</b>
1997	7.8	\$402
1998	8.4	\$433
1999	10.2	\$526
2000	7.5	\$388
2001	8.2	\$421
2002	9.1	\$470
2003	9.7	\$500
2004	8.9	\$456
2005	9.3	\$476
2006	13.6	\$698
2007 <sup>a</sup>	10.6	\$545
2008	10.9	\$562
2009	6.7	\$545
2010	13.4	\$693
2011	9.8	\$504
2012	8.0	\$411
2013	9.9	\$509
2014	11.3	\$583
2015 <sup>b</sup>	18.4	\$948
2016	8.9	\$511
2017	4.9	\$279
2018 <sup>c</sup>	4.0	\$2228
2019	4.8	\$264
2020	2.1	\$118
<b>TOTAL</b>	<b>216.4</b>	<b>\$11,372</b>

(a) Starting to see more plastic 1-gallon containers

(b) PaintCare program started

(c) Stopped bulking paint, all sent to PaintCare for processing

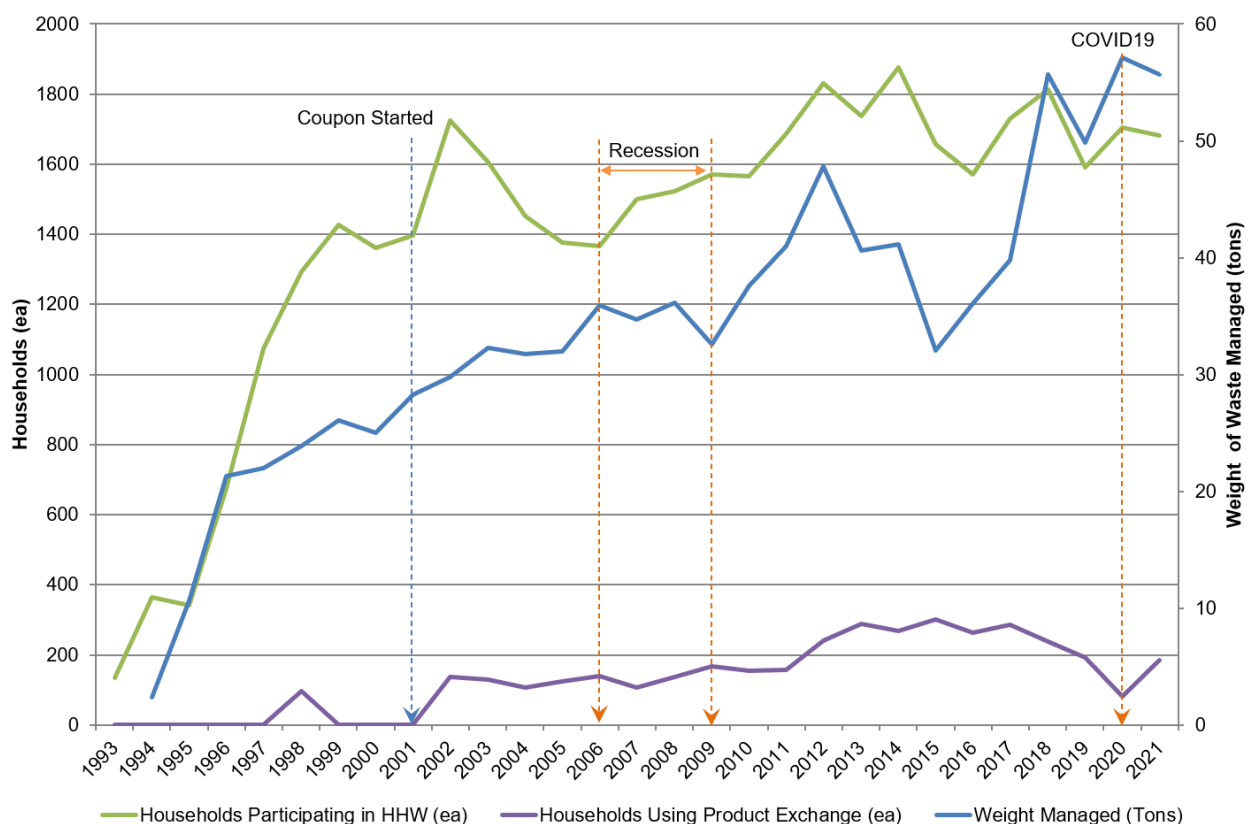
A local company, Central Converting Inc., took empty #2 HDPE plastic 5-gallon containers for recycling in 2009. In 2010, the company also took the black plastic 1-gallon containers on a trial basis for recycling. An additional benefit is the plastic containers are recycled versus being disposed of in the landfill. Under

PaintCare, all paint containers are now being shipped to them, no longer bulking paint at the site. The following in **Table 4-4** is the amount of containers (3 lb. each) that were recycled and the cost savings of avoiding landfill disposal:

**Table 4-4: Annual Amount of 3lbs Containers Recycled & Cost Savings**

<b>Year</b>	<b>Amount (tons)</b>	<b>Cost Saving</b>
2009	1,000	\$77.28
2010	600	\$46.37
2011	500	\$38.64
2012	547	\$42.27
2013	550	\$42.40
2014	530	\$40.96
2015	405	\$31.30
2016	716	\$61.62
2017 (Last Year)	465	\$40.02
Total	5,313	\$420.86

**Appendix J** and **Figure 4-2** provides an idea of how the County residents are using this service. As **Appendix J** shows, in 2021, 7 percent of the County households utilized this service annually. In 2021, 68 tons of material was managed through this County program. In the past 5 years, the average amount of HHW disposed through this program is 18.7 pounds per household. To put this in perspective, a full one gallon can of paint weighs about 10 pounds.

**Figure 4-2: HHW Program Historic Trends (by Ton)**

As **Appendix J** shows, old paint (latex/oil-base) is the largest item and thus the largest cost when the County conducts HHW collection events. The USEPA estimates that between 8.8 percent and 20 percent of all paint sold could become leftovers headed for the waste stream. In 2007, Minnesota was chosen to undertake a paint product stewardship initiative by the National Paint and Coating Association. A statewide demonstration was desired in order to best inform the creation of the national system and Minnesota was chosen as the state for the demonstration project. The bill that would have authorized the establishment of a paint stewardship organization funded by a fee was vetoed by the Governor in 2008 and 2009. Oregon then initiated this program, and in addition California, Connecticut, and in 2012 Rhode Island has enacted the PaintCare program. In 2013, HF967, the Omnibus Environmental bill that contained provisions for the paint stewardship program was passed and signed by the Minnesota Governor. The paint stewardship plan was sent to MPCA on March 1, 2014; program was to commence on July 1, 2014 but was delayed till November 1, 2014. PaintCare was able to resolve issues with the MPCA and the counties by July 2015. Since 2015, there are five commercial PaintCare sites located within the County: Hirschfield's (Baxter), Sherwin-Williams (Baxter), Carson Hardware of Nisswa, Crosslake Ace Hardware, and Emily Ace Hardware. Starting November 2014 counties will no longer pay for disposal or transportation of architectural latex/oil paint. Plus Counties will be reimbursed for items

given away through Product Exchange and bulking their paint. Started in 2015, as part of the HHW program started to accept architectural latex coating from contractors and businesses for free as part of the PaintCare Program.

We hope in the future the amount of waste per load will decrease due to having high repeat customers who usually have less material than people using the service for the first time. Seeing a better quality of material come in that can be placed on the Product Exchange shelf. As more people become aware of this County service, it has resulted in less to just an occasional "large" load of HHW. These large residential stockpiles of HHW within the County are slowly being brought into the program.

In 2021, 11 percent of the material coming in was reused through the Product Exchange Program as outlined in **Appendix J**. Actually, this number is higher, through the PaintCare program they are recycling the latex paint they obtain from us. This action has reduced the amount of material being disposed of as waste. The County will accept HHW for Product Exchange if a product is usable, stored in the original container, and is in good condition (i.e., automotive supplies, cleaning supplies, etc.). Any resident or organization of the County can utilize the product for free. Examination of the program indicates that 22 percent of the material brought in the last five years was reused through this program. The quantity of usable products from the HHW facility for 2021 is summarized in **Table 4-5**.

**Table 4-5: Quantities of Hazardous Materials Collected (2021)**

<b>Product</b>	<b>Quantity</b>	<b>Cost Saving (disposal)</b>
Latex Paint	0 lbs	\$11
Oil-Based Paint	1,034 lbs	\$109
Aerosols	6,465 lbs	\$628
Auto Supplies	4,676 lbs	\$4,398
Reused Fuel	4,526 gal	\$612
Acid	180 gal	\$171
Base	78 lbs	\$74
Compressed Gas	87 cyn	\$83
Anti-Freeze	10,327 lbs	\$124
Household Supplies	2,437 lbs	\$2,315
2021 Total	-	\$8,525

Since the HHW program is available to all residents with no direct costs, the primary source of funding for this program is through the \$25 County Solid Waste/Recycling Assessment charged to every resident

with about 10 percent coming from an annual MPCA grant. Starting in 2015, funding through PaintCare has become a significant source of additional funding. In addition, MDA provides funds to manage waste pesticides through this program. The County Board established this rate. The County will maintain its current program with no substantial changes anticipated.

#### **4.4.2 Pesticide Program**

The Waste Pesticide Program was created in 1990 as required by Minn. Stat. §18B.065 and administered through the Minnesota Department of Agriculture (MDA). Initially MDA provided (with County assistance) a waste pesticide collection program for the area every two years by Statute. In 2009 this was modified to every two years for agricultural waste pesticides, and annually for nonagricultural waste pesticides. The last MDA sponsored event for our County was August 22, 2012. It was then incorporated into the County HHW program.

There is no cost for the participants under this program. Funding is through the Pesticide Regulatory Account (PRA) that is funded by a fee charged to pesticide manufacturers for both agricultural and nonagricultural products that sell pesticide in Minnesota. The fee is set at 0.4 percent of the annual gross pesticide sales within the State. This was agreed to by the manufactures and legislature as an effective product stewardship policy for proper disposal of unwanted or unusable waste pesticides, with the costs paid up-front. Initially by statute, at least \$600,000 per fiscal year must be transferred from PRA to the Waste Pesticide Account. In the 2003 Legislation, this was lowered to \$300,000 and the fee remained at the same level.

##### **4.4.2.1 Empty Pesticide Containers (CLOSED)**

Initially the pesticide program had two parts - the first part was an empty pesticide container collection effort, and the second part consisted of the collection of actual pesticides. These events were previously held at Barrett Ag Supply south of Brainerd on Highway 25. Starting in 2000, the event was held at the HHW Facility located at the Site. Collection and disposal cost was managed through the MDA. The following in **Table 4-6** is a comparison of the empty pesticide container collection effort. Due to the low number, this aspect of the program was discontinued after 2000:

**Table 4-6: Empty Pesticide Containers Collected**

<b>Year</b>	<b>Number of Containers Collected</b>
1994	469
1995	577
1996	600
1997	150
1998	1,330
1999	699
TOTAL	3,825

#### **4.4.2.2 Waste Pesticides**

All pesticides, including aerosols, gathered under the County's HHW program is disposed through the MDA program at no cost to the County. This started in mid-1997 (state fiscal year starts midyear), and the County's second shipment of pesticides for that year went through this program. Starting in 1998, all household pesticide was managed through this program.

Initially in 2002, counties were informed there will be no more shipping of household pesticides through the MDA. This decision was based on the MDA's revised budget for the waste pesticide program, a revision prompted by the announcement of the \$2 billion state budget shortfall for 2002-2003 biennium. All expenses not directly related to waste pesticide events including organization and collection of waste from farms, businesses and other pesticide end users were to be cut. The shortfall for the 2004-2005 biennium of \$4.6 billion reduced the amount of funds from \$600,000 to \$300,000. The aspect of the MDA organizing and collecting waste from farms was discontinued after 2003. Starting in 2004, the MDA set up a Pesticide Partnership. Under this program, the MDA was promoting Waste Pesticide Collection Program Agreements with county HHW programs. In the Agreement, the MDA pays up to a certain limit for any farm and household pesticides that is brought into a county HHW facility. It acted as a "debit card." When a county makes a shipment of HHW, they annotate the drums that are pesticides and MDA will pay for its disposal charges up to the limit set for each county. Starting in 2009 the MDA modified this program, removing any limits that the counties could take in, but required in-depth inventory and weights of the material brought in. In 2013, the Legislature changed the statutory language and suspended the recording requirement for waste pesticides types at collection points. With this change, the County did sign their Agreement.

**Table 4-5** has a comparison of the actual collection of pesticides. Minnesota's program ranks among the top five states nationally in total pounds of waste pesticide collected. A summary of pesticides addressed through our County's HHW program is provided in **Table 4-7**.

**Table 4-7: Annual Pesticides Statistics through Crow Wing County's HHW Program**

<b>Year</b>	<b>Number of People Who Brought in Pesticides</b>	<b>Amount Disposed (pounds)</b>
1999	180	1,036
2000	196	1,883
2001	201	894
2002	157	1,313 <sup>a</sup>
2003	267	450 <sup>b</sup>
2004	257	2,837 <sup>c</sup>
2005	261	1,080
2006	268	1,411
2007	272	1,280
2008	267	1,199
2009	269	2,448
2010	293	2,000
2011	286	1,267
2012	351	1,379
2013	343	3,405
2014	380	3,591
2015	352	2,182
2016	358	2,879
2017	377	2,793
2018	417	3,919
2019	443	5,101
2020	403	5,378
2021	334	683
<b>TOTAL</b>	<b>6,598</b>	<b>49,725</b>

(a) MDA did take HHW pesticides that were collected up to July 2002.

(b) From July - June

(c) July 2003 - Nov 2004

(d) Prior to and including 2012 - cost saving was only disposal cost 2013 and forward - cost saving included disposal, transportation, and replacement drums.

#### **4.4.3 VSQG (Very Small Quantity Generator) – (CLOSED)**

Federal law prohibits the disposal of certain quantities of hazardous waste into the solid waste stream. This type of waste must be managed separately. Minnesota hazardous waste rules allow Very Small Generators (VSQGs), those who generate 220 pounds or less hazardous waste per month, to deliver their own waste in their own vehicle to a licensed VSQG collection program. Collection programs consolidate waste from many businesses, and then ship it to a permitted treatment, recycling or disposal facility. Although program participants still pay the disposal charges, the programs are intended to provide a convenient and cost-effective disposal option. Each program determines the waste(s) it will accept, the area it serves, its hours of operation and associated charges.

Under the existing County HHW program through the MPCA, organization and business hazardous waste is prohibited at this time. Due to the limited amount of waste generated, many businesses find cost-effective methods to dispose of their hazardous waste very limited. This was an area of concern to the County for the following reasons:

- In 1993, the Lake Superior Basin did door-to-door site visits to locate hazardous waste generators. Through this effort, 611 additional generators were identified, accounting for 54 percent of the known generators at that time. Of those newly identified generators, 360 or 59 percent was mismanaging a total of 40 tons of hazardous waste; and
- In addition, Olmsted County, another Greater Minnesota County, completed a survey in 1995. This survey indicated that 9 out of 10 businesses produce hazardous waste. This county has about 3,500 businesses of which only 700 were listed in the State's database, for an estimated compliance rate of 23.3 percent. Crow Wing County maintains an active database that lists more than 2,000 businesses.

With the two case studies listed above, there exists a need to provide assistance to smaller businesses in Greater Minnesota. In most cases, there are inadequate technical and financial resources for obtaining information, assessing waste management methods, and developing and applying waste reduction techniques. Starting in 2002, in conjunction with the Northwest Minnesota Household Hazardous Waste program located in Bagley, Minnesota, the County hosted two VSQG days - Spring and Fall. They were unable to continue the support for the County VSQG program in 2005. Stearns County has a mobile VSQG collection vehicle, and Crow County was able to utilize this VSQG program starting in 2005. Stearns County could not continue the support for the County VSQG program in 2008. In 2008, Crow Wing went back to the Northwest Minnesota Household Hazardous Waste program located in Bagley, Minnesota. Due to staffing issues, this was discontinued in 2011. In 2011, the County was able to utilize

Stearns County program again, provided the business could transport the waste to St. Cloud. On August 21, 2016 received a notice from Stearns County that they will only accept VSQG wastes from within its program region and counties with HHW facilities/mobile agreements.

Currently there is no VSQG program within the County.

#### **4.4.4 Mercury Waste**

In 1992, the Legislature enacted legislation prohibiting disposal of waste mercury thermostats, thermometers, electric switches, gauge, or medical or scientific instruments from businesses and households from which the mercury has not been removed for reuse or recycling (Minn. Stat. §115A.932 and 119.92).

The national Thermostat Recycling Corporation (TRC) was formed in 1997 to operate a national wholesaler reverse-distribution system. For a nominal deposit, TRC provides postpaid bins that hold about 100 thermostats. The program was expanded to HVAC contractors in 2005. In 2006, Minnesota's HHW program was part of a test program with TRC. After the test program, the entire household hazardous waste programs in Minnesota are eligible to obtain bins and participate directly in the TRC program. MPCA obtained and provided a TRC bin to our HHW program in 2008. In 2008, all local HVAC and electrical contractors have been notified of this disposal option for any thermostats they need to dispose of. This notification was accomplished again in 2015 and 2016. In 2009, demolition contractors were also notified of this program being available through our HHW program. The first shipment of thermostats was shipped in 2009. Each mercury thermostat contains approximately 4 grams of mercury.

Prior to this, the County HHW program could only handle thermostats from residents and had to pay the disposal cost for this item. The County is now able to take both residential and business thermostats and dispose of them for free through TRC. Today more than 3,600 businesses and communities in 48 states are enrolled in the program. Since the beginning to 2015 over 2.1 million mercury-containing thermostats have been collected, which is about 10 tons of mercury.

#### **4.4.5 Pharmaceutical Waste**

In the spring of 2011, the Drug Enforcement Administration (DEA) and its national and community partners/the County Sheriff gave the public an opportunity to prevent pill abuse and theft by ridding homes of potentially dangerous expired, unused, and unwanted prescription drugs. On Saturday, April 30<sup>th</sup>, from 10 a.m. to 2 p.m., DEA and its partners held their second National Prescription Drug Take-Back Day at sites nationwide. The service was free and anonymous, no questions asked.

This initiative addresses a vital public safety and public health issue. Medicines that languish in home cabinets are highly susceptible to diversion, misuse, and abuse. Rates of prescription drug abuse in the U.S. are alarmingly high--more Americans currently abuse prescription drugs than the number of those using cocaine, hallucinogens, and heroin combined, according to the 2009 National Survey on Drug Use and Health. Studies show that a majority of abused prescription drugs are obtained from family and friends, including from the home medicine cabinet. Crime associated with prescription drug abuse also is on the rise. Another issue is pharmaceuticals have been detected in water samples collected from U.S. waterways that are considered susceptible to contamination from various wastewater sources.

The County program to address the disposal of old residential pharmaceutical medications was initiated in 2012. As part of a regional effort, our County also assisted Cass County with five sites, and one site at the Aitkin County Sheriff's Department. The Crow Wing County sites are at: Crow Wing County Law Enforcement Center, Breezy Point Police Department, and Crosby Police Department. The program officially started on April 9<sup>th</sup> for the Breezy Point and Crosby site, and April 10<sup>th</sup> for the Law Enforcement Center. In 2014, City of Nisswa request to be part of the program. Their program official started on August 18<sup>th</sup>. Early in 2015, CVS Pharmacies offered free pharmaceutical drop off bins to any law enforcement agency. Pequot Lakes was able to obtain one of these and was incorporated into our program on August 11, 2015. Crosslake was also able to obtain one in 2016; program started up in August.

The result of Crow Wing's pharmaceutical efforts is outlined in **Table 4-5**.

#### **4.4.6 Summation**

These waste streams do require special handling. Even though handling HHW is more costly, time consuming, and subject to more regulatory oversight than any other of the components of the waste stream that we manage; these programs that deal with hazardous waste provide a direct benefit to the County by offering proper disposal actions for these items to the residents/businesses of the County. As **Table 4-5** outlines, since 1990 1,240 tons of hazardous waste/materials were brought in through these County/State programs that would not have been otherwise. This action has greatly reduced the risk of illegal dumping, or disposal into the County Landfill. If placed in our Landfill, this quantity of chemicals could have had a profound effect on the leachate quality. If disposed of inappropriately elsewhere, these chemicals may contaminate land, groundwater or surface water, and air quality. Removal of this material from the general MSW waste stream has also minimized the health risk to waste haulers and Landfill operator staff. It is felt that these programs are and will continue to be successful. The State should continue to bear the risks for the transportation, management, and disposal of HHW and pesticides collected in the County.

County staff foresees the volume accepted at the HHW facility to remain near the current disposal level. Initially, much of the waste going through the facility was manufactured over 10-years ago. A reason may be homes in the rural area historically did not have a high turnover rate as in the Metro area. A farmstead or home in the County may stay in the family for multi-generations allowing a buildup of HHW versus throwing it away - the adage, "We may need it!" When things are cleaned up, there is a significant quantity of HHW and some of it was quite old. Now the County staff is seeing much of the waste going through the facility was manufactured within 10-years. Overall, it will take time before all of the existing waste is disposed of properly.

## **4.5 Problem Materials**

Counties shall also provide for the recycling of problem materials and major appliances (§115A.552, Subp 1). The County's integrated solid waste management program addresses problem materials, and prohibition of these materials in our County Landfills. The problem material challenge consists of two main components: items that reach the end of their useful life and disposed of, and those items that are in stockpiles and/or storage. As outlined below, many of the County's problem material programs compliment retailer programs ensuring in-depth coverage.

### **4.5.1 Waste Tires**

There exist many reasons to regulate the management and disposal of waste tires. The primary concern is public health. Tires can become a prime breeding ground of disease carrying mosquitoes, and a potential fire hazard. This became an issue starting in 2016 concerning the Zika virus; tire management is important as one method to mitigate mosquitoes breeding in tires. In addition, burying tires in a landfill consumes valuable landfill space and wastes a resource. Waste tires represent approximately two (2) percent of total solid waste generation in the United States

Typical scrap tire management before 1985 consisted of sending whole tires to landfills for burial. Another means of managing scrap tires was for someone to collect scrap tires and place them onto a pile. In 1985, Minnesota enacted the first legislation in the nation specific to scrap tires. Since then, the State of Minnesota has enacted a landfill ban (§115A.904) on tires. Currently, 38 states have banned whole tires from landfills.

To address the stockpile issue, the County worked closely with MPCA under a grant program to remediate inactive waste tire disposal sites within the County in 1991. Approximately 100,000 tires or 1,456.5 tons were collected from motor vehicle salvage yards and other stockpiles. Of which, 423.44 tons were from the County Landfill. Today, there are no longer any large stockpiles located within the State or

any known "large" tire dumps within the County. As part of the 2002 Legislative actions, Chapter 382 repealed the authority for the MPCA to make grants and loans to eliminate waste tires stockpiles.

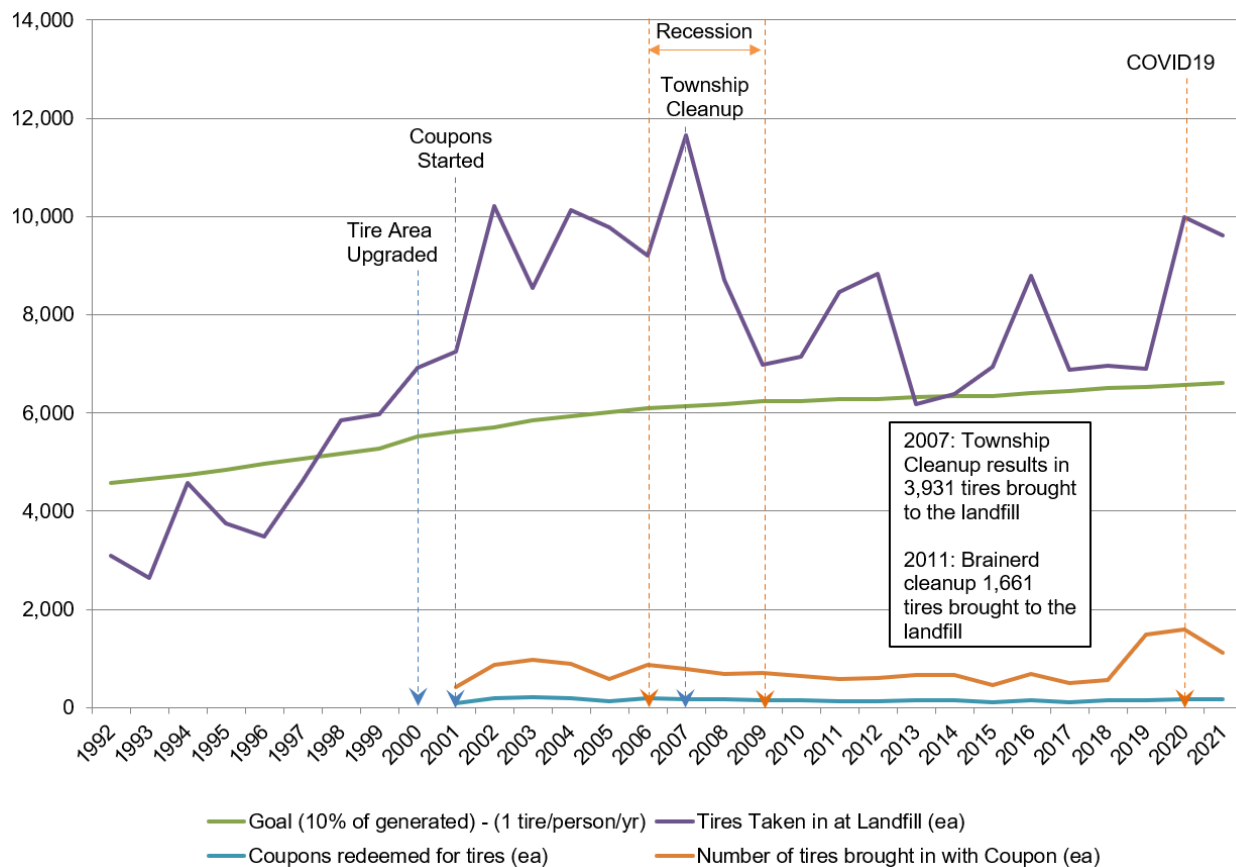
In 2005, per the Rubber Manufacturers Association (now the U.S. Tire Manufacturers Association), the annual tire replacement amounted to 299 million tires nationwide. In 2007, it was estimated that the end-use markets consumed 89.3 percent by weight of the annual take off produced. By comparison, in 2005, about 82 percent of tires were consumed by weight. In 1990, only eleven percent of tires were consumed on a per tire basis. Scrap tire for energy is currently the largest market. In 2007, 54 percent of scrap tires disposed of in the US was used for tire derived fuel.

As done nationally, local tire retailers are processing the majority of the used tires generated annually within the County. Since April 1, 1989 in Minnesota, retailers who sell tires have been required by statute (Minn. Stat. §325E.32) to take one waste tire for each new tire they sell. The local retailers are allowed, and do charge a small fee for this disposal service. According to a document distributed by Goodyear titled "Scrap Tires Recovery, An Analysis of Alternatives," 90 percent are returned by the consumer to the thousands of retail locations across the country when worn out tires are replaced by new ones. EPA estimates that 95 percent of tires are collected through the commercial waste stream, and only five (5) percent or less through the household waste stream.

To address the remaining five - ten percent that is not returned by the consumer to the retail locations across the County when worn out tires are replaced by new ones, there is a drop-off location for waste tires at the Landfill Site Complex for the residents. Mission and Ideal Township canister stations also handle tires. In addition, another disposal option people utilize are area "Cleanup Days". These events offer residents convenient opportunities to bring waste tires to a central location for disposal at a minimum charge. The tires gathered at these events are brought either to the Site complex or to an area tire retailer.

The Site complex is permitted to store up to 10,000 tires. The County does not accept tires from the local tire retailers. The tire disposal area was upgraded in 2000 to provide improved access for the residents and maintenance by the Landfill operator. Waste tires are accepted at the Site complex for reuse/recycling for a fee. The Site complex receives mostly tires that have been on residential property, and residents are willing to utilize the One-Stop-Service disposal system at the Site complex.

**Figure 4-3** shows how the five – ten percent goal is being met. The graph shows the quantities of tires that are being handled just at the Site complex since 1992.

**Figure 4-3: Tire Program Historic Trends (by Ton)**

Waste tires collected by private retailers are disposed/recycled through arrangements between the retailer and a collection/recycling transporter. At this time, the County has no contract with a tire disposal/recycling facility. When sufficient tires have accumulated, they are sent to the facility with the lowest prices. Historically, waste tires collected at the County Landfill drop-off location were sent to BFI. BFI transported the tires to South Dakota where they have them chipped and used for road bedding material. Some chipped tires may have been used in a WTE facility. Since 1997, waste tire shreds have been used in the Landfill's leachate recirculation program, replacing recirculation lateral aggregate. Tire shreds are also used during liner construction, placed to mark the top of the drainage sand around a cell perimeter and at LFG well locations. The tire shreds provide a warning indicator to Landfill equipment operators when excavating near the liner system.

The County's tire program has become self-sustaining with all tires reused at the Site complex. All tires collected are shredded and used on-site for recirculation lateral and liner construction. The difference in price between washed aggregate and shredded tires is about \$16 per in place cubic yard. Currently, 34

recirculation laterals have been installed, each having an average length of 420-feet within a 4-foot by 4-foot trench. This results in significant construction cost savings. Metal rims are recycled.

The County has used First-State Tire in East Bethel, Greenman Technology, Monitor Tire, and Liberty in Minnesota for tire processing. Unfortunately, there are only two processors left within the State (Liberty and First-State Tire).

The source of funding for this program is primarily through the tire tipping fee at the Site complex, which is established by the County Board. This fee is set at a level sufficient to cover the cost of handling and low enough not to encourage illegal dumping. The County will maintain its current program with no substantial changes anticipated – added a new category in 2015; semi tires. This year, the County will use the weight from the tire vender for the SCORE report.

#### **4.5.2 White Goods (Household Appliances)**

By weight, the typical appliance consists of about 60 percent steel. The steel used in appliances is made with a minimum of 25 percent recycled steel. The purpose of a ban is to extend the life of the State's landfills and require the public sector to carry out the recycling of these goods. The most recent data available (2013) concerning the nationwide appliance recycling rate was 82 percent. The overall steel recycling rate in 2014 is 86 percent.

White goods are large items defined by statute (Minn. Stat. §115A.03, Subd. 17a) as refrigerators, freezers, dishwashers, heat pumps, furnaces, garbage disposal, clothes washers and dryers, ranges and stoves, hot water heaters, conventional and microwave ovens, dehumidifiers, trash compactors, and air conditioners. These products comprise about 2 percent of the MSW produced in the US.

The State of Minnesota has enacted a landfill ban for appliances, and tasked each county (§115A.9561, Subd. 2) to ensure there is an opportunity for its residents to recycle used major appliances. As of 2000, 18 states enacted landfill bans for appliances, which helps drive successful recycling toward an ultimate goal of total recycling. This strategy appears to be working.

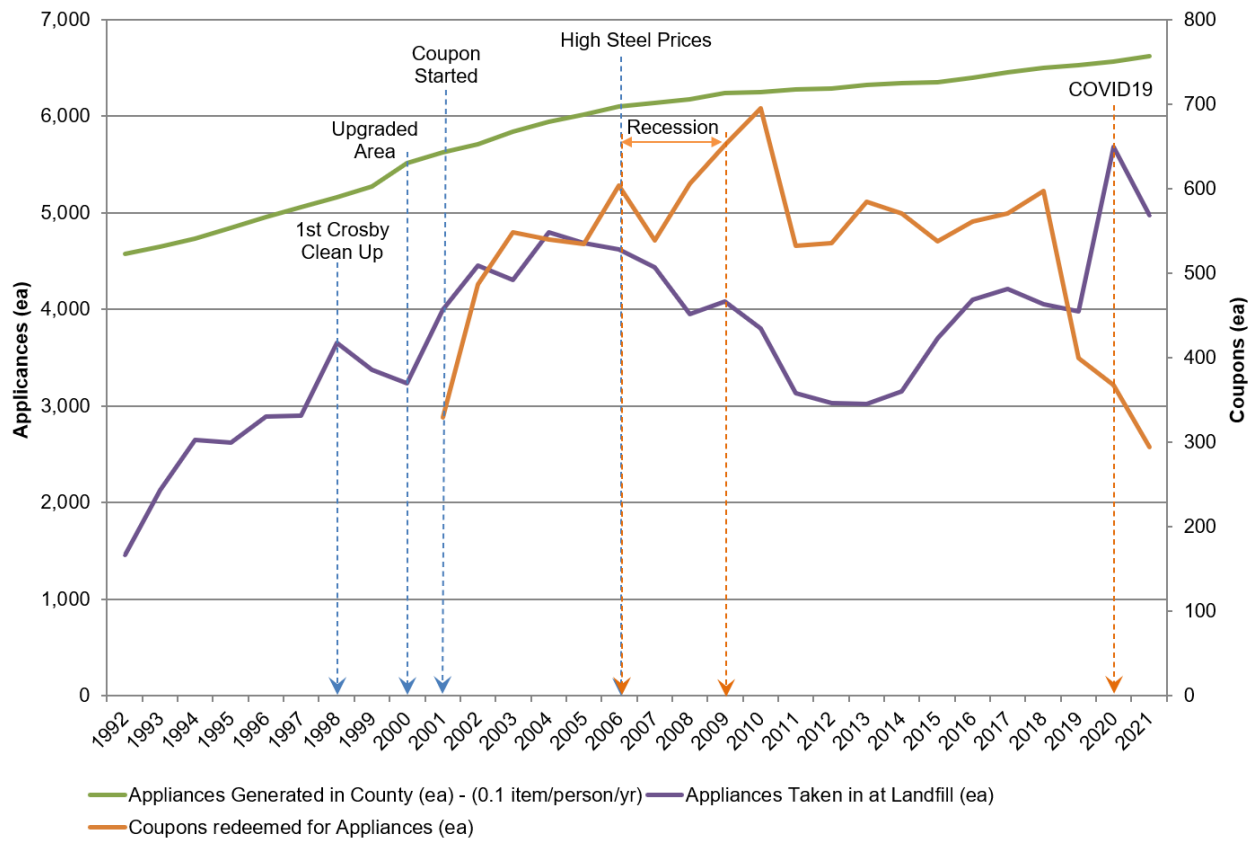
Appliance disposal options are provided at the Site complex, area "Cleanup Days," Mission and Ideal Township canister stations, and an area private scrap metal dealer for a fee per appliance. The area at the Site complex was upgraded in 2000 to provide improved access for the residents and the contracted processor. Appliances collected from the Site complex are processed by Curtis Whitegoods (bought out by Cohasset White Goods/Bass Brook Recycling in 2005) and transported to a scrap yard.

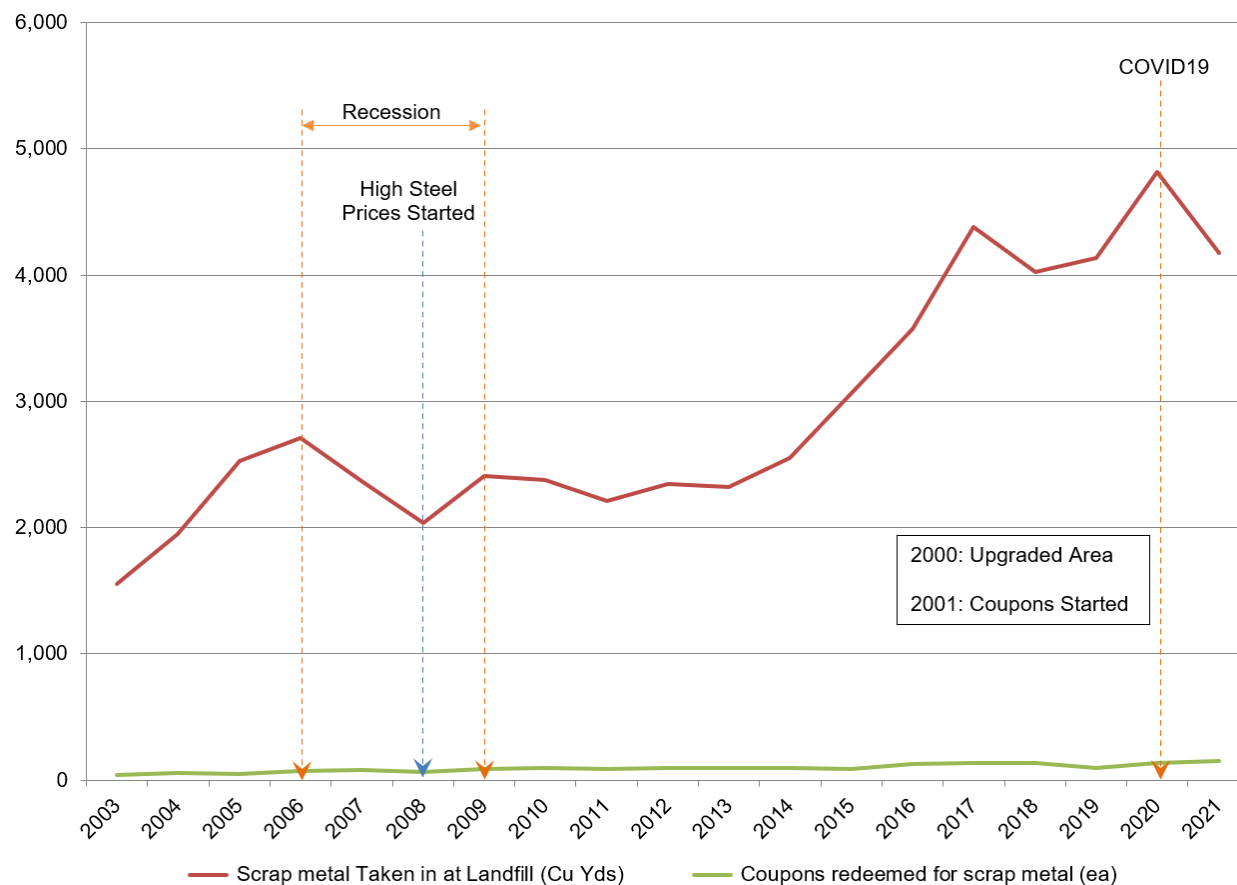
The County has an agreement with the Landfill operator to remove Freon (§116A.731), PCB contaminated capacitors and mercury switches (§115A.932). The Landfill operator is certified with all applicable local, state and federal regulations for proper capture of hazardous products contained in the appliances. Disposal of the PCB capacitors and mercury switches is accomplished through the County HHW program.

At the Site complex the Servel gas refrigerator rebate program is promoted. This refrigerator was popular in hunting cabins, vacation cottages and remote areas where electricity was unavailable and gas was the preferred energy source. Servel manufactured between 1933 and 1957 are linked to 22 deaths from carbon monoxide poisoning nationwide. Proper disposal of a Servel refrigerator will receive a \$100 rebate from the manufacturer.

The Site complex is accepting a significant amount of used appliances generated within the County. In addition, a local scrap metal dealer (Crow Wing Recycling) accepts a large amount of used appliances. With this in mind, the County is generating more than the State/national average. This may be due to people who live on the lakes and people who are cleaning up their property. Nonresidents with summer lake homes bring old appliances from their permanent residence for use at their lake homes and dispose of them in our County. This transient population, which is not included in our population total, may be adding a significant amount of appliances to our solid waste system. **Figure 4-4** shows the quantities of appliances handled at the Site complex since 1992. **Figure 4-5** shows the quantities of scrap metal coming into the Site.

**Figure 4-4: Appliance Program Historic Trends (by Count)**



**Figure 4-5: Scrap Metal Historic Trends (by Cubic Yard)**

The source of funding for this program is primarily through the appliance tipping fee at the Site complex, which is established by the County Board. This fee is set at a level sufficient to cover the cost of handling the appliances per §115A.552, Subd. 1 and low enough not to encourage illegal dumping. The Site fee to accept appliances for recycling is five dollars per appliance. There will be no substantial changes to the existing major appliance program.

### 4.5.3 Used Oil & Used Oil Filters

Due to its potential value, the EPA term is “used oil” rather than “waste oil.” After it is collected, nearly 89 percent of used motor oil from vehicles is recycled/reused for use as industrial fuel or space heating. Because it usually has a thicker viscosity, used oil possesses more energy than #2 fuel oil. A typical gallon of used oil contains 163,000 to 240,000 BTU - more than twice the energy value of LP gas or coal. This creates a valuable form of energy, which helps our economy by avoiding the need to refine new commercial heating from imported crude oil.

The State of Minnesota has enacted a landfill ban for these items (§115A.916). In 1987, legislation was passed (§325E11 (a)(1)) in Minnesota requiring all retailers of motor oil to collect used oil or post signs saying where the nearest location for acceptance of used oil is found. In 2004, the County contacted and provided a sign (94 were posted in area motor oil retailers) promoting the eight used oil drop-off sites to all the motor oil retailers located within the County. During this visit only 2 of the 94 stores had a sign posted. In addition, motor oil legislation (§325E112, Subd. 1, (2)) was passed in Minnesota in 1997 specifically requiring the industry to ensure each county has at least one free site, in addition to any free government site. Currently, this site is Valvoline Oil in Baxter. Valvoline Oil will take up to 5 gallons of used oil and 10 oil filters. A local business (Waste Partners) at one time provided residential/commercial used oil filter collection service in the County. Tonnage from this business was used in the SCORE Report.

The County informs residents through its public education program that disposal of motor oil in or on the land is banned and that improperly disposed waste oil impacts ground and surface water, human health, and the environment. All retailers of motor oil must either offer collection of used oil to the public, or indicate the nearest collection site.

Area service stations or shops specializing in oil changes are processing most of the used oil/filters generated in the County. The sites outlined below are geared toward “do-it-yourselfers” (DIY) to utilize as their disposal system. In addition, people bring in used oil during the HHW collection events are informed of the used oil tanks and their availability.

The January 1999 MPCA report, “Do-It-Yourselfers Used Oil and Filter Recycling - A Report to the Environmental and Natural Resources Committees of the Senate and the House of Representative” estimates that there are approximately 3.5 million gallons of DIY used oil generated annually in Minnesota. The total amount of used oil collected from DIY’s in Minnesota is approximately 2.5 million gallons. Approximately 775,000 gallons or 22% is mismanaged (e.g., illegally disposed) and approximately 225,000 gallons is burned for heat or reused.

This is further strengthened by the *1999 Used Motor Oil and Oil Filter Study* (OEA, January 2000), according to a telephone survey, 68 percent of vehicle owners pay to have their oil changed at a service station or shop specializing in oil changes. Eighteen percent change their oil at home, and another 14 percent changes their oil both at home and commercially. As this outlines, the majority of people are utilizing commercial oil changing opportunities versus doing-it-yourself. However, there still remains a

significant amount of people who change their oil at home, and there seems to be an increase in utility vehicles (lawnmowers, four wheelers, etc.) that have oil filters requiring people to change their own oil.

The County Solid Waste Office and Highway Department entered into a joint venture to install above ground waste oil storage tanks (560 gallons) at four locations in the County in 1995. This was part of the OEA used oil storage tank grant program. These locations are at the following County Highway garages:

- Pequot Lakes (Shop closing in 2004)
- Emily (upgraded 2003)
- Deerwood
- Pine Center

An additional tank was installed at the Site. Collection of used oil at the Site started in 1995 and data collection began in 1997. The following in **Table 4-8** are the quantities of used oil collected at the Site complex from 1997 through 2002:

**Table 4-8: Annual Quantity of Used Oil Collected**

Year	Amount (gal.)	Generated	Estimated <sup>a</sup> Percent Handled at Site
1997	1,675	202,312	0.83%
1998	2,605	206,420	1.26%
1999	3,570	210,792	1.69%
2000	3,475	220,396	1.58%
2001	4,225	225,124	1.88%
2002	5,161	228,528	2.26%
TOTAL	20,711	1,293,572	1.60%

(a) Estimated generation rate is 4 gallons/person/year

The County's 2002 Comprehensive Local Water Plan identified illegal dumping of used oil as a pollution source of concern and recommended the development of a program for used oil collection. The reuse and recycling of these fluids would remove the potential for environmental impacts to the County's water resources.

The County received an additional grant in 2002 from OEA to assist in the upgrade of the used oil storage tank at the Site complex and to install a tank in the City of Crosby in addition to six other sites. The majority of the funding came from the County. These were initially 4,000 gallon underground storage tanks (UST). The placement of the drop-off sites offers convenience for County residents; each location has been strategically placed to be within 10 miles of any County resident. Most collection sites are self-

service centers that are open 24 hours, seven days a week. In 2003, the additional six (6) sites were installed throughout the County. The following are the location of these six sites:

- Brainerd
- Baxter
- Fort Ripley Area/Crow Wing Twp.
- Garrison
- Crosslake
- Emily

2004 was the first year all 8 sites listed above was operational for the entire year. In 2005, a ninth UST was installed at Pequot Lakes. A tenth tank, a 2,000 gallon aboveground storage tank (AST), was installed in 2009 for Mission Township by their township hall/fire station. An eleventh tank, another 2,000 gallon AST, was installed in 2010 for the City of Nisswa. In 2021, the eleven tanks are in the following locations:

- Emily Maintenance Garage
- Crosslake City Garage
- Pequot Lakes Clerk's Office
- Mission Town Hall
- Nisswa Community Center
- Crosby Street Department
- Crow Wing County Landfill
- Baxter Maintenance Garage
- Brainerd Fire Department
- Crow Wing Town Hall
- Garrison City Hall

The County has granted ownership to the host cities and townships and the sites have been a welcomed addition by the communities and residents. The host cities and township are responsible for inspection and maintenance of the tanks and sites. This used oil collection service is offered at no charge to County residents. Oil filters and antifreeze collection service is also offered at no charge to County residents.

A licensed used oil hauler services these tanks. Used oil is a source of fuel for asphalt production. This alternative fuel option conserves other fuels such as natural gas, heating oil, and diesel fuel. Used oil filters are crushed and the metal is recycled. Antifreeze is shipped for refurbishing and reuse.

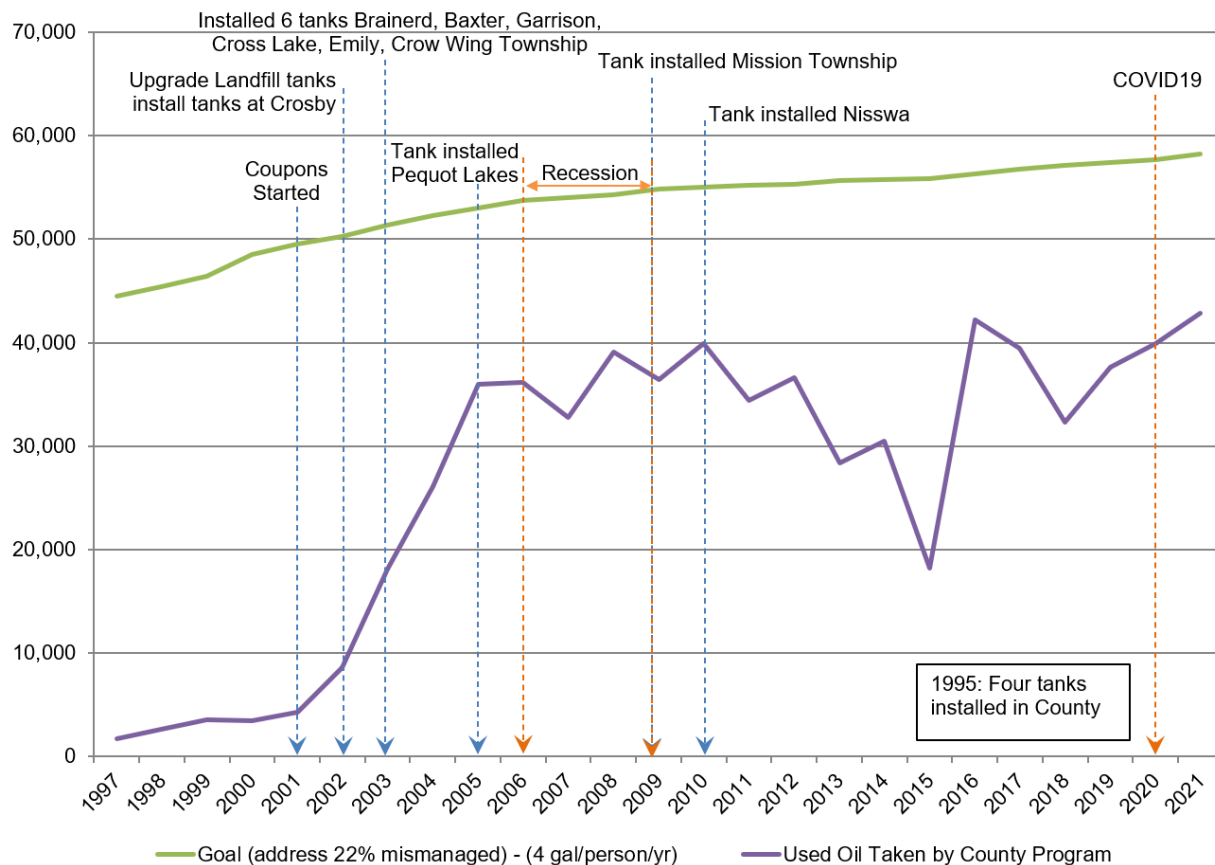
Annually the Solid Waste Office uses about 1,500 gallons of used oil collected from the County Highway Department and Landfill Operators vehicle maintenance shops to heat the HHW Facility. The used oil heater was purchased in 1999. Review of the heating bill for propane in the four years prior to 1999 indicates an average annual cost of \$2,800. Since the heater installation, the County only uses propane as a backup in early fall and late spring. As a result, the costs have gone down to less than \$650 per year. The initial cost of the heater was \$8,900; therefore, the program has provided a 4 to 5-year payback.

The primary source of funding for this program is through the \$25 County Solid Waste/Recycling Assessment charged to every resident with a small amount coming from an OEA's grant for the installation of the tanks. The County Board established this rate. The County will maintain its current program with no substantial changes anticipated.

A summary of the quantities of oil collected by site is provided in **Table 4-9**. Historic data is provided in **Appendix K**. Trends in used oil collected by the County program are shown in **Figure 4-6**.

**Table 4-9: 2021 Used Oil Quantities**

Site	Used Oil (Gallons)
Baxter	5,965
Brainerd	12,650
Crosby	4,146
Crosslake	3,122
Crow Wing Township	2,401
Emily	1,727
Garrison	3,348
Nisswa	3,788
Mission Township	1,257
Pequot Lake	2,698
Landfill Site	1,743
Total	42,845

**Figure 4-6: Used Oil Program Historic Trends (by Gallon)**

#### 4.5.4 Vehicle Batteries

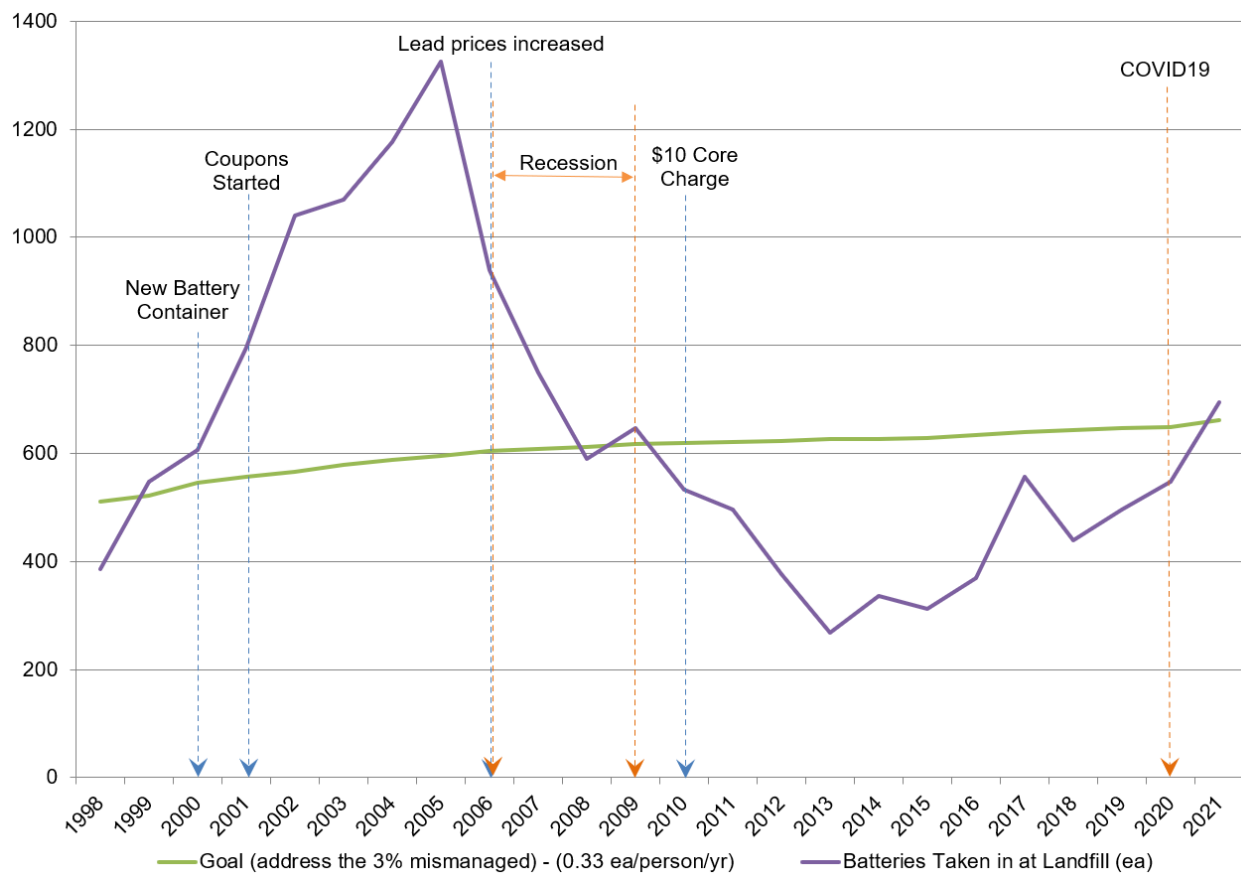
Lead-acid batteries have the highest recycling rate of any product sold in the United States. Based on Battery Council International, the national recycling rate for batteries is more than 99 percent. This is because batteries are easily returned when a new battery is purchased and because battery's lead and plastic components have value. Typically, a new battery contains 60 to 80 percent recycled lead and plastic.

The State of Minnesota has enacted a landfill ban for lead acid batteries (§115A.915). It has been illegal since January 1, 1988 to place these in the waste stream.

Minnesota law (§325E.1151, Subd. 1) established a five-dollar refundable surcharge when a motor vehicle battery is purchased; this was changed to a ten-dollar refundable surcharge in 2010. The law (§325E.1151, Subd. 2) also requires motor vehicle battery retailers to accept up to five (5) motor vehicle batteries free of charge, whether or not the consumer is making a purchase. When a new battery is purchased, the customer may avoid the surcharge by turning in a used motor vehicle battery. Lead-acid battery laws in 44 states require the collection and recycling of batteries.

The private sector provides the primary collection opportunities for lead-acid batteries. Battery disposal options are also provided at the Site complex, area "Cleanup Days," Mission and Ideal Township canister stations, and a local private Recycling Facility. There is a receptacle for the lead-acid batteries at the Site complex. A new container was purchased in 2000. The lead-acid batteries are removed as required for recycling. Lead-acid battery recycling is a free service to County residents. The Site complex typically receives used batteries that have been stored at residential properties and are delivered when residents are utilizing the One-Stop-Service disposal system at the Site complex. Collection of batteries at the Site complex started in 1992 and data collection began in 1998. **Figure 4-7** shows the quantity of batteries managed at the Site.

**Figure 4-7: Batteries Collection Program Historic Trends (by Count)**



#### 4.5.4.1 Rechargeable Batteries

The State of Minnesota has enacted a landfill ban for rechargeable batteries (§115A.9157). It has been illegal since January 1, 1988 to place these in the waste stream.

The private sector provides the primary collection opportunities for rechargeable batteries. The Rechargeable Battery Recycling Corporation (RBRC) has a national program that works with local interested retailers with a no-cost recycling service through its Call2Recycle initiative. The RBRC is a nonprofit group, funded by more than 300 manufacturers and marketers of portable rechargeable batteries and products. More than 30,000 North America retailers, businesses and communities serve as collection points. In addition, the County gives residents a disposal option for Ni-Cad and other rechargeable batteries through the HHW program. Batteries are subsequently disposed through Call2Recycle for the HHW program. It is estimated the rechargeable battery recycling rate in 2002 to be at 10 to 13 percent nationwide.

[Call2Recycle](#), in 2019 the program's top battery recycling states according to the company; Vermont topped the list, with Delaware, Minnesota, New Hampshire, California, Washington, Florida, Maine, Oregon, and Iowa rounding out the top 10. Through the Call2Recycle program, more than 8.4 million pounds of batteries were recycled in the U.S. in 2020. The following in **Table 4-10** are local businesses that accept used Ni-Cd batteries:

**Table 4-10: Local Businesses Accepting Used Ni-Cd Batteries**

City	Business
Brainard	ACE Hardware
	Batteries Plus
Baxter	Home Depot
Nisswa	Carson Hardware

Below in **Table 4-11** is the generation data from Call2Recycle/RBRC and others for collection sites located within the County:

**Table 4-11: Quantity of Batteries Collected within the County**

<b>Year</b>	<b>Amount (lbs.)</b>
2006	4,585
2007	2,872
2008	1,787
2009	1,989
2010	6,569
2011	6,875
2012	4,10
2013	4,877
2014	5,105
2015	5,184
2016	4,907
2017	5,080
2018	4,998
2019	373 <sup>a</sup>
2020	538 <sup>a</sup>
2021	631 <sup>a</sup>
<b>TOTAL</b>	<b>56,011</b>

(a) Represents count, not pounds.

Conventional dry cell and alkaline batteries are disposed along with the MSW.

Since this is a free service to residents, the source of funding for this program is through the \$25 County Solid Waste/Recycling Assessment charged to every resident. The County Board established this rate. The County will maintain its current program with no substantial changes anticipated.

#### **4.5.5 Fluorescent & HID Lamps**

Fluorescent lights and other high-intensity discharge (HID) lights are banned (§115A.932) from disposal in MSW. This ban became effective August 1, 1994 and applies to households as well as businesses, and includes all shapes of fluorescent lights. Per the EPAs *Characterization of Products Containing Mercury in the United States*, they estimate fluorescent lamps account for 0.09 percent of all solid waste. In 2008, legislation was passed (§325E.127) in Minnesota requiring any person who sells fluorescent lamps at retail to post a notice visible to consumers stating that the light bulbs contain mercury and must be recycled at the end of use.

According to the Association of Lighting and Mercury Recyclers, the national lamp recycling rate in 2003 was 23 percent. Since lamps are banned from the MSW in Minnesota, the recycling rate will be much higher for Minnesota than the national average due to the success of local programs and multiple recyclers locally. The amount of mercury contained in fluorescent lamps has declined significantly, from an average of 48.2 mg per four-foot bulb in 1995 to less than 5 mg in the Philips Alto lamp. At the same time, the quantity of fluorescent lamps in use has increased.

There are businesses in the County and throughout the State offering disposal opportunities for fluorescent tubes and HID intensity lamps. Many local business interests have a direct contract with a commercial establishment too pickup and dispose of lamps. Residents can properly dispose of their lamps through area hardware stores or during some of the area "Cleanup Days" for a fee per bulb. In addition, some of the power companies give out coupons that give \$0.50 off the recycling fee for each bulb people recycle at designated hardware stores within the County. Every city within the County has a business that will take these bulbs. For this reason, the County does not handle this item through the HHW program.

As part of the annual SCORE report, the County used actual tonnage. This is based on responses received back from mass mailing to individual businesses and from the commercial interests processing these items. It appears the majority of bulbs are recycled versus illegal disposal. The following in **Table 4-12** is the amount of bulbs recycled:

**Table 4-12: Quantity of Light Bulbs Recycled Annually**

<b>Year</b>	<b>Amount (lbs.)</b>	<b>Equivalent 4 Foot Bulb<sup>a</sup></b>
1997	25,372	40,595
1998	30,858	49,373
1999	23,871	38,194
2000 <sup>b</sup>	63,930	102,288
2001	34,400	55,040
2002	39,920	63,872
2003	26,421	42,274
2004	39,135	62,616
2005	46,112	73,779
2006	39,517	63,227
2007	37,129	59,406
2008	37,708	60,333
2009	36,708	58,733
2010	29,795	47,672
2011	26,079	41,726
2012	56,182	89,891
2013	64,019	102,430
2014	38,312	61,870
2015	37,312	59,699
2016	26,915	43,064
2017	26,419	42,270
2018	42,617	67,472
2019	24,136	38,618
2020	31,369	50,190
2021	16,400	26,240
<b>TOTAL</b>	<b>623.4 tons</b>	<b>1,381,044</b>

(a) 4 foot bulb is 0.625 pounds

(b) Started to received data directly from bulb recyclers for Crow Wing County

There will be no substantial changes to the existing program.

#### **4.5.6 Electronic (Browngoods/e-waste)**

As much as 40 percent of the heavy metals (including lead, mercury and cadmium) found in landfills come from electronic equipment discards. End-of-life (EoL) electronics continues to grow rapidly and

contribute two (2) percent of the municipal solid waste stream, if we continue to replace old or outdated electronic equipment at our current rate, this percentage will continue to grow.

In 1999, OEA partnered with Sony Electronics, Inc., the Asset Recovery Group of Waste Management, Inc., and the American Plastic Council to examine and evaluate recycling options for used household electronic products. Their report came out July 2001 concerning this effort. The northern Minnesota counties of Beltrami, Cass, Clearwater, Crow Wing, Hubbard, Norman, Red Lake, Lake of the Woods, and Roseau participated in this project. In total, collections were held at 64 sites in 32 counties. Through this program, the County collected eight (8) tons of material. The entire program collected 575 tons of used products during the three-month collection phase of the project.

On April 1, 2000, Massachusetts became the first state to ban cathode-ray tubes (CRTs) from landfills. Twenty four (24) states, including Minnesota, currently have e-waste legislation in place. A 2010 report by the Hinkley Center for Solid and Hazardous Waste Management, funded by Florida Department of Environmental Protection, has found that the peak quantities of CRTs being disposed or recycled in the Sunshine State will occur in "the next few years, between 2012-2016."

In 2003, Minnesota required that CRTs may not be placed in municipal solid waste after July 1, 2005. In 2005, this ban (§115A.9565) was extended to July 1, 2006 due to the legislature body unable to come to an agreement on a management strategy for waste electronics. In 2007, additional legislation (Minnesota Electronics Recycling Act – §115A.1310) was passed. Under this new law, manufacturers of video display devices sold to Minnesota households must recycle 60% the first year (starting July 1, 2007) and 80% of the total weight of video display devices (VDDs) sold in subsequent years of the program.

Federal law required television broadcasters to switch from analog to digital transmission signals in 2009. An estimated 21 million US households, or 19 percent, own analog TV sets that receive only free broadcasts. When the analog broadcasts stopped, those viewers had to connect their old sets to converter boxes to get programming, whether delivered via broadcast, cable or satellite.

In 2013, Samsung chose Forest View Middle School in Brainerd as one of the five winners for Samsung's Solve for Tomorrow contest; where over \$100,000 in technology and an electronics recycling day were awarded to each winning school. Forest Middle School held an electronics recycling day on July 17<sup>th</sup>, 2013. They took in 49,322 pounds of electronics.

To assist local government agencies in the proper management of these items, the County in 2001 coordinated a one-day drop-off event for all government/public entities in the County. Used electronics

collected from the commercial program are processed through the State contract (Asset Recovery). The event was held on September 21, 2001 to coincide with National Pollution Prevention Week, a week dedicated to pollution prevention awareness and publicity. The drop-off location was the County HHW facility. This program was expanded in 2002 to two events - spring and fall - and to include businesses. County personnel makes this program possible. Under this program, the business only has to pay the disposal cost for their used electronics. The County paid for the transportation and to have the contractor at the Site complex. The amount participants and tons of used electronics that were dropped off at the facility are summarized in **Table 4-13**.

**Table 4-13: Quantity of Used Electronics Dropped Off Annually**

<b>Year</b>	<b>Amount (lbs.)</b>	<b>Participants</b>
1999	8.0	152 <sup>a</sup>
2000	N/A	N/A
2001	3.0	5
2002	9.7	20
2003	10.7	33
2004	16.1	41
2005	30.4	56
2006	24.7	48
2007	23.5	62
2008	20.0	58
2009	15.0	36
2010	13.9	34
2011	11.6	21
2012	13.0	40
2013	7.8	22
2014	7.9	22
2015	15.6	33
2016	15.1	33
2017	17.6	37
2018	20.7	43
2019	13.6	31
2020	18.1	58
2021	10.7	36
Total	326.9	-

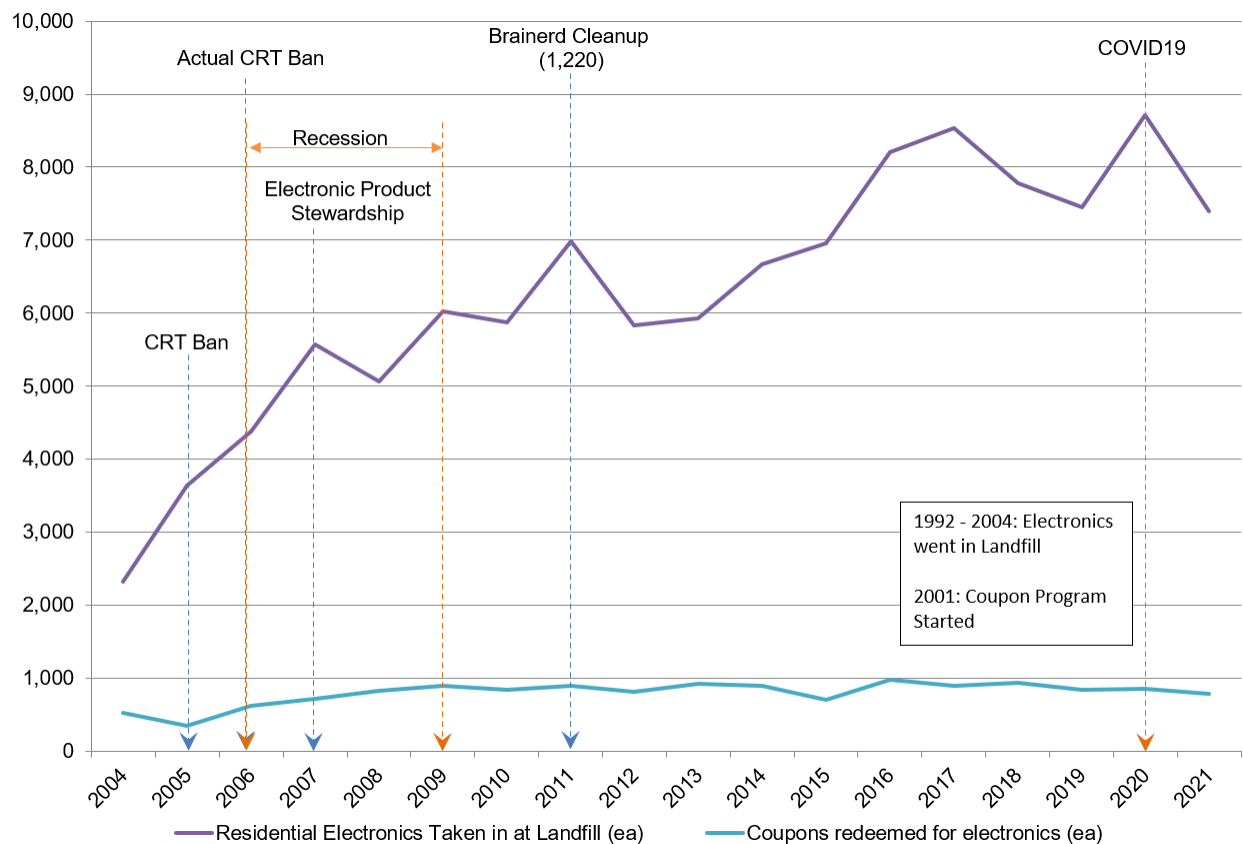
(a) OEA Pilot Program

A residential used electronics storage facility was built at the Site complex in 2003. It opened May 2004. The County residential electronic waste program (Computers/Laptops and Components - CPU, monitor, keyboard, and mouse - Fax, Copier/Printer, Microwave\*, TVs, VCRs/DVDs, Scanners, Electric Typewriter, and Stereos) initially had a per item fee of \$5. Other used electronic disposal options are provided at area “Cleanup Days,” Mission and Ideal Township canister stations for a fee. County personnel with assistance provided by the County’s Sentence-to-Serve (STS) program makes this program possible.

Prior to 2008 utilized the state contract. In 2008 went out for our own contract for the disposal of residential electronics. In 2011, Cass County received an electronic collection improvement project grant from MPCA to explore potential avenues for electronics within our region. Working with Crow Wing and Hubbard; Cass County received quotes from vendors to provide this service starting July 2012. The low quote received took electronics for no cost, plus no cost for transportation. This contract met our goal of reducing the cost for this program, plus provided a partnership opportunity with surrounding counties. Unfortunately the vendor - Materials Processing Corporation (MPC) could not honor the new three-year contract after the first year.

Manufacturers’ obligation to fund recycling is decreasing while the amount of e-waste and recycling costs are increasing. The law requires manufacturers to recycle e-waste based on 80% of the weight of their current sales (manufacturers’ obligation). This obligation has decreased because today’s electronics continue to get smaller and lighter, while Minnesotans continue to recycle their old, heavy electronics. It all worked until commodity prices dropped and the metal in the TVs became so cheap that recycling companies had to charge counties more to take the material starting in 2014. In 2014, the manufactures obligation was for 15 million tons, but 35 million tons came in. The gap between manufacturer recycling obligations and the amount of recycling actually collected means manufacturers don’t have to pay the full cost of managing their electronic waste. Explicitly requiring manufacturers to pay for transporting video display devices (VDDs) to a recycler and recycling them will relieve much of the financial burden on counties and residents. VDDs account for the vast majority of household electronic waste and are the most expensive type of electronics to recycle without damaging the environment. Purpose of the E-Waste Act of 2016 is to address this gap. This has not occurred as hoped.

**Figure 4-8** shows the quantities of used residential electronics handled at the Site complex since 2004.

**Figure 4-8: Electronics Program Historic Trends (by Count)**

The primary source of funding for this program is through the \$5 tip fee, with remaining amount coming from the \$25 County Solid Waste/Recycling Assessment charged to every resident. The County Board established this rate. Current fees for TV's are \$10 for TV's 27 inches or smaller, and \$15 for TV's 28 inches or larger.

#### 4.6 Source Reduction/Reuse

In 1995, the Minnesota Legislature established a statewide goal to reduce the amount of waste generated by 10 percent by the year 2000. Waste reduction (sometimes called source reduction) refers to actions taken to prevent the generation of waste. Source reduction activities affect the waste stream at or before the point of generation. MSW is considered to have been generated if it is placed at curbside, in a receptacle such as a dumpster for pickup, or it is taken by the generator to another site for disposal or other management alternative.

Source reduction can be accomplished through changes in product designs to use less material and by changes in consumer practices that reduce the amount of MSW produced. This is different from recycling

and reuse, which while being able to extend the life of some materials, by and large are delaying tactics to disposal.

Source reduction measures encompass a very broad range of activities by private citizens, communities, commercial establishments, institutional agencies, manufacturers and distributors.

In general, source reduction activities include:

- Designing products or packages to reduce the quantity of resultant waste materials or the toxicity of the materials used and waste material generated;
- Reducing amounts of products or packaging used through modification of current practices;
- Reusing products or packaging already manufactured;
- Lengthening the life of products to postpone disposal; and
- Managing non-product organic waste (food wastes, yard waste) through backyard composting or other on-site alternatives to disposal.

The extent of source reduction/reuse activities is difficult to quantify. In an attempt to gather information, a questionnaire was sent along with a request concerning recycling to all area businesses. Since 1999, the questionnaire provided enough data to enable the County to claim a waste reduction/reuse rate greater than 3 percent. This option was available to any county that was able to demonstrate actual tons of MSW that was reduced above and beyond the 3 percent credit available through the SCORE checklist. Crow Wing County was the only one of the 87 counties that utilized this option. In 2011, as with the previous four years, the County received an 8 percent credit for quantifiable source reduction activities. The 2012 Legislation removed this credit beginning in 2012.

This survey was an annual event until 2011, starting in 2012 counties will no longer receive this credit. The survey did indicate many businesses did have some type of source reduction in place. This generally occurs as a cost-effective business practice. In fact, the normal economic pressures in a free market system guarantee that manufactures are constantly figuring out how to use fewer raw materials when making products or packages. They create less trash in the process. Lighter weight products are easier to use, less expensive to transport and more convenient for consumers. For example, steel cans contain one third less metal than they did 20 years ago. Transportation costs are particularly important. Markets, not government mandates, have given us less waste and a more efficient economy.

In an EPA report, *Municipal Solid Waste in the United States: 2000 Facts and Figures*, chronicle the solid waste generation and recovery rates over the past few decades. The EPA estimates if the level of

source reduction did not occur in 1999, 22 percent more MSW would have been generated. On-site yard waste composting, use of mulching mowers, and reduction in the weight of beverage containers have been the main reason for the 22 percent reduction. One of the major problems with source reduction for residents is that it runs counter to the public's present-day consumption ethic. Also, it is felt significant source reduction for residents require actions outside a county's sphere of influence, and a large reduction in waste production would require national influences. With industry, source reduction does have an impact on their ledger. Manufacturers will continue to find ways to use fewer materials to make more products - light weighting is a guaranteed economic reality.

#### **4.7 Mattress Recycling**

Bulky items are an ongoing issue for residents, haulers, and County Landfill operations. A large concern was mattresses. Haulers find them difficult to deal with, and they are an operational issue in landfill operations. For example, the wire from mattresses tends to wrap around the wheels of the trash compactor and cause maintenance problems. In addition, the average mattress consumes a cubic yard of landfill space and does not compact as normal refuse would, thus cause a loss of valuable landfill space.

Western Lake Superior Sanitary District (WLSSD) established a local pilot program in Minnesota in 2000 with the federal prison. WLSSD, OEA, and members of NEWAC established a Mattress Recycling/Disposal Work Group (Crow Wing County was part of this group) in 2003 for the purpose of developing and implementing a program to deal with mattress disposal practices in the region. This is a public-private partnership between Goodwill Industries (GWI), the northeast counties, retail sales operations, and other businesses and institutions that collectively generate a steady stream of used mattresses. The goal of the program was to establish a stable, self-supporting market mechanism to divert mattresses from the waste stream, recycle by-products, and provide training and employment for individuals working within GWI. The small-scale pilot testing began in June 2004. By January 2005, larger scale pilot operations began as other county partners implement some form of mattress collection with full scale operation being initiated in June 2005. Crow Wing County started to utilize this program on August 17, 2006. Starting November 2017, a local business (Green Forest) started a mattress program. We did utilize their services till May 2018 when we went back to Goodwill. With this item now being recycled, it will increase the County recycling rate, remove an operational issue at the landfill, and extend the life of the County Landfill. County personnel with assistance provided by the County's Sentence-to-Serve (STS) program made this program possible. 2019 was the last year STS was utilized.

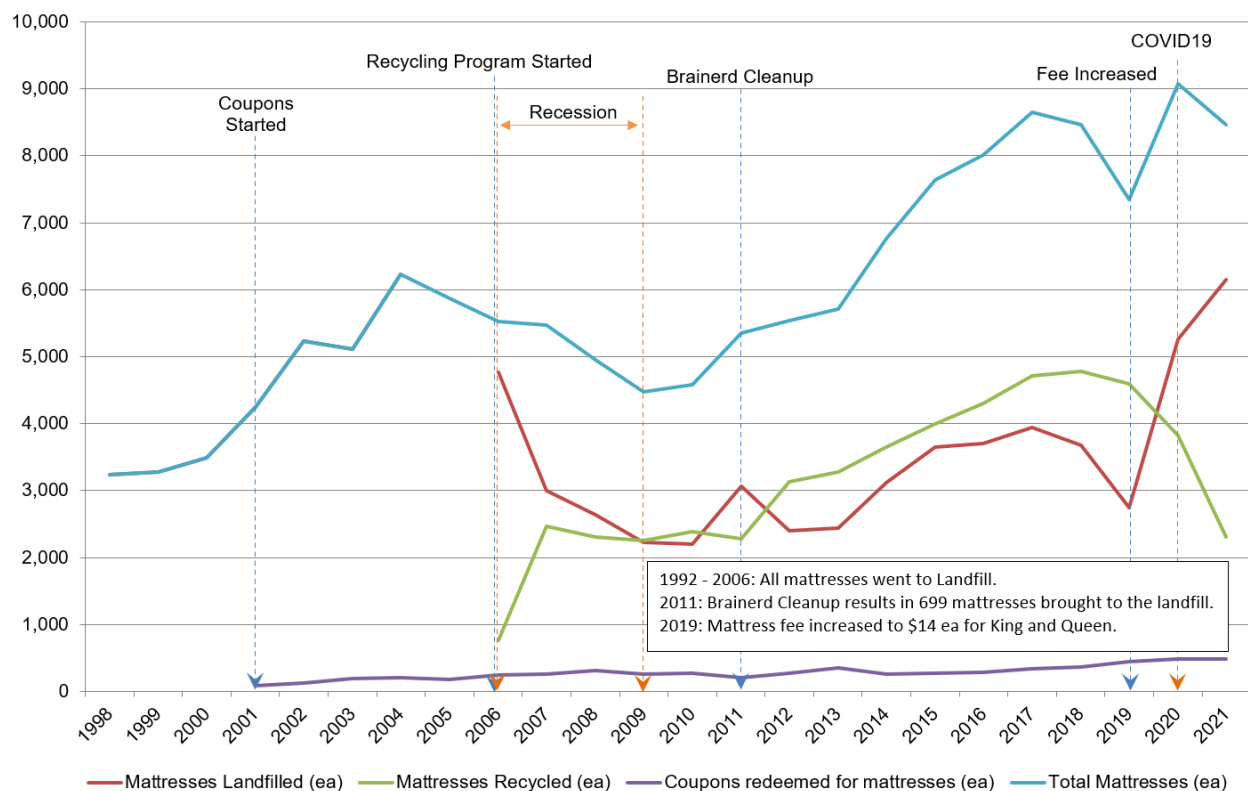
The Minnesota Environmental Initiative (MEI) builds innovative partnerships to develop solutions to Minnesota's environmental problems. MEI works with nonprofit, business and government partners to

develop consensus on critical issues and move collectively toward action that has positive impacts. Under their 2012 Environmental Initiative Awards – the mattress recycling program won the Business and Environmental Sector Innovations aspect. These awards recognize projects that have used collaborative methods to produce tangible environmental outcomes. In this case, a decade-long collaboration to reduce landfill space, create jobs and revolutionize the mattress recycling industry.

Connecticut passed a law in 2013 to launch the first statewide mattress recycling program. Retailers will charge a \$9 fee at purchase.

Mattresses must be clean and dry to be recycled, if not they go into the Landfill. Started to track the amount of used mattresses collected at the Site complex in 1998, **Figure 4-9** shows show the quantities handled at the Site.

**Figure 4-9: Mattress Recycling Program (by Count)**



Initially, the cost to drop off a recyclable mattress at the Landfill was \$6; one going into the Landfill had a disposal cost of \$14.00. In 2016 had a cost increase from \$6 to \$7. In 2019, increase the cost for queen and king size mattress to \$14 with other remaining at \$7, and the cost of any mattress going into the Landfill to \$28. In 2021, increase the cost for any mattress being recycled to \$30, and the cost of any

mattress going into the Landfill to \$30. The County will maintain its current program with no substantial changes anticipated.

The primary source of funding for this program is through the tip fee with a small amount coming from the \$25 County Solid Waste/Recycling Assessment charged to every resident. The County Board established this rate.

#### **4.8 Education**

The public education program is designed to complement existing retailer programs and to target the portion of the population that has improperly or illegally disposed of waste in conjunction with maintaining adequate Site infrastructure. The County believes maintaining aesthetics and updating infrastructure at the Site has a parallel effect to a proficient public education program. A proficient education program will bring customers to utilize the solid waste disposal resources, but facility infrastructure that is aesthetically pleasing and user friendly will ensure customers will return.

The County has used all forms of media exposure (television, Internet, newspaper and radio, fact sheets, and brochures) to encourage the public and the business community to reduce, reuse and recycle. This same media has been used to identify improper and illegal disposal methods; and manage problem materials such as used oil and used oil filters; lead acid batteries, used tires, major appliance disposal, electronics, mattresses, and household hazardous waste. Other areas of educational activity include:

- Weekly advertising concerning HHW events through Brainerd Dispatch, Crosby Courier, and News Hopper;
- Advertising in County Fair Brochure.
- Quarterly advertising concerning recycling and used oil program through the News Hopper;
- Press releases concerning County programs;
- Partnership with Dept. of Ag for their pesticide program;
- A booth at the Crow Wing County Fair;
- Public speaking engagements and/or tours of the County disposal site for Central Lakes Community College, area schools, professional service organizations, volunteer groups, and other organizations;
- The County web page;
- County information updated on Earth 911 data base ([www.Earth911.org](http://www.Earth911.org));
- On-site education to residents and businesses experiencing illegal waste disposal problems;
- One-on-one educational opportunities for elected township officials;

- Distribution of a \$10 coupon for services provided at the County disposal site; and
- Distribution of brochures and fact sheets.

In 2019, Land Services through the Solid Waste Office revised the brochures for HHW, recycling, demolition, and yard waste program. In addition, the following are other activities accomplished by our office:

- April, continued the coupon (raised from \$5 to \$10 in 2019) for services provided at the County Site. 33,744 coupons were mailed in 2021. Part of the mailing included information on the area recycling programs and problem material management programs.
- Advertising of the used oil and HHW program in the Vacation Land Highway 6 Map.
- Advertising in County Fair Brochure.
- Monthly advertising (May – October) concerning HHW events through Brainerd Dispatch, Crosby Courier, Lakes Country Echo, and News Hopper.
- Quarterly advertising concerning recycling and used oil program through the News Hopper.
- March Press Release concerning Landfill summer hours.
- April Press Release, County recycling.
- April Press Release, the first HHW event on April 28<sup>th</sup>.
- May Press Release, start-up of commercial latex paint program
- May Press Release, Business Electronics day on May 19<sup>th</sup>.
- Aug fair booth to promote the Counties integrated solid waste management programs.
- Advertising of Landfill services in the Crow Wing County Fair Information Booklet.
- Sept Press Release concerning the fall business electronics event on Sept 15<sup>th</sup>.
- Sept Press Release concerning the last HHW events on Oct 8<sup>th</sup> and 11<sup>th</sup>.
- Oct Press Release concerning the Landfills winter hours of operations.
- Dec, mailing to local businesses.

#### **4.8.1 Coupon**

In 2001, a \$5 coupon for services provided at the Site complex was initiated. In 2019, the coupon was increased to a \$10 value. Labels are obtained through the Auditors' office for the households that paid the County \$25 solid waste assessment. The County has one of the largest nonresident ownership populations in Minnesota. About 1/3 of the coupons mailed are to these seasonal recreational property owners. The rationale for this program are:

- Reduce illegal dumping. With this coupon, residents can now get rid of items for free at the Landfill, for example - 10 car tires or 2 appliances. This is an issue with large bulky items. People have small garbage cans and larger discards (e.g., appliances, broken furniture, mattresses, etc.) typically do not get thrown away as part of their service.
- Provide a monetary saving back to the residents. Previously it was discussed during the Board meeting that lowering tipping fees will not necessarily be passed to the residents by the haulers.
- Incentive to get people to utilize the solid waste disposal services being provided by the County, and it will prevent some of the ongoing illegal burning and dumping that is occurring.
- Excellent education opportunity/tool to provide information to all our residents on the services the County is offering as part of its integrated solid waste management system. Part of the mailing includes information on the area recycling programs and problem material management.

**Table 4-14** gives an idea of the number of items brought in. A detailed breakdown of the coupon receipts in 2021 is presented in **Appendix L**.

**Table 4-14: Redeemed Coupons**

Year	Coupons Sent Out	Coupons Returned	Used for Appliances	Used for Mattress	Used for Furniture	Used for Tires
2001	28,977	1,583	329	87	97	88 for 415
2002	27,675	2,290	486	128	195	188 for 875
2003	27,351	2,936	548	195	257	216 for 965
2004	29,909	3,597	1,061 <sup>a</sup>	206	218	188 for 899
2005	30,343	3,124	534	181	192	121 for 576
2006	31,200	3,757	603	251	255	185 for 864
2007	34,192	3,699	539	254	209	164 for 780
2008	34,454	4,009	606	307	239	161 for 690
2009	35,271	4,181	651	261	258	153 for 700
2010	34,811	4,260	695	279	222	140 for 653
2011	35,366	4,152	532	211	225	130 for 585
2012	35,345	4,123	535	269	254	130 for 608
2013	37,217	4,398	584	351	283	150 for 664
2014	37,774	4,108	571	259	304	150 for 664
2015	33,697	4,021	538	276	312	102 for 451
2016	36,287	4,315	561	290	264	145 for 683
2017	40,438	4,624	571	336	336	115 for 509
2018	41,527	4,712	597	359	349	141 for 567
2019 <sup>b</sup>	42,542	5,187	399	440	361	152 for 1,490
2020	36,010	5,894	367	489	293	163 for 1,582
2021	33,744	5,260	294	479	285	167 for 1,108

(a) Includes electronics. Following year, electronics was listed separately.

(b) \$10 Coupons

## 4.9 Litter/Illegal Dumping

The County discourages and prevents illegal and onsite disposal of MSW through promotion of proper alternatives, waste education, and enforcement of the solid waste ordinance and MPCA rules. The methodology generally used is:

- Receive notification of a potential ordinance violation;
- Conduct initial on-site inspection;
- Meet with property owners or responsible individual(s);
- Discuss rule and ordinance violation;
- Issue a Cease and Desist Order or Citation, if necessary;

- Send a letter to responsible party with copy to the County Attorney, MPCA, and District Commissioner, if appropriate;
- DNR staff is notified for burn barrel violations;
- Identify time line for cleanup;
- Require receipts for proof of proper disposal;
- -Cleanup complete - close the file

The County also has a policy that outlines the procedures under which solid waste collected in a cleanup project may be disposed of at the County Landfill Facilities at no cost to the organization doing the cleanup. The County Board addresses requests on a case-by-case basis. Additionally, there are programs within the County funding their own cleanups. The following are recent and previous cleanup projects held within the County:

- Fairfield Township Cleanup (May 15, 2021)
- Garrison Lions Cleanup (June 5, 2021)
- 2020 – COVID no cleanups held
- City of Pequot Lakes Cleanup by the Pequot Lakes Lions (April 27, 2019)
- City of Emily-Fifty Lakes Cleanup (September 17, 2016)
- City of Brainerd Cleanup (June 15, 2013)
- City of Crosby Cleanup day (May 19, 2012)
- City of Brainerd residential curbside pick-up of unwanted items (May 9 – 13, 2011)
- Annual KIWANIS Cleanup Blitz (May 7, 2011)
- Mission Township Cleanup (April 2009)
- Nisswa Lions Cleanup (May 2009)
- Annual Mineland/Cuyuna Country Recreation Area Cleanup Program (May 2009); starting in 2001 Project Green Touch (cooperative sponsorship between Touchstone Energy, Crow Wing Power and Mille Lacs Electric) took over organizing this effort from CREDI (Cuyuna Range Economic Development, Inc.)
- NE and North Brainerd Cleanup (May 30, 2009)
- CINOSAM Cleanup (August 2008)
- Crow Wing Township Cleanup (May 19, 2007)
- Roosevelt Township Cleanup (June 2005)
- Bay Lake Township Cleanup (August 2005)
- Manhattan Beach, roadside Cleanup (April 20, 2002)

- Deerwood Township, roadside Cleanup (April, 27, 2002)
- First Annual North Brainerd Cleanup (May 18, 2002)
- Merrifield Marathons Snowmobile Club, picked up 500 miles of snowmobile trails in Center and Mission Township (June 10, 2002)
- City of Breezy Point Spring Cleanup Days
- Borrows Junk Car Cleanup Program (October 12, 2002)
- First Annual Northeast Brainerd Cleanup (May 4, 2002)

These community “cleanup” days are becoming less important once we started the coupon program. According to Parkinson’s Law on Garbage “when people have small garbage cans, larger discards (e.g., appliances, broken furniture, mattresses, etc.) typically do not get thrown away.” They often sit in basements and garages. When homeowners are provided with these cleanup days and/or coupon, they now have a new option. This seems to be more of an issue for communities as the distance from the landfill increases.

Other programs include: the MN Department of Natural Resources (DNR), Adopt-a-River Program and; and the MN Department of Transportation (Mn/DOT), Adopt-a-Highway Program. These are approaches which encourage a volunteer’s response to the public rubbish problem.

An example of the Adopt-a-River Program is the Brainerd Kiwanis Club’s cleaning of Boone Park. The Club has, for the past 11 years, been cleaning the banks of the Mississippi River. The spring 2000 cleanup event included about 100 - 4th grade students. At that time, for approximately 10 years, each of Brainerd’s ten parks has been adopted by a different classroom of 4th graders.

Besides the Mn/DOT program, the County Highway Department also addresses litter along County roads. The County Highway Departments encourages public participation in the cleanup of roadsides by area groups, conservation clubs, service organizations and other who desire to perform a public service by litter pickup and general cleanup along public roads. The County Highway Department will provide plastic bags, reflective vests, pick up the bags, and haul the trash to the landfill at no charge. The County Highway Department pays for the tipping fee at the landfill.

Mn/DOT is required by Minnesota Statute 161.242 to regulate the operation of junkyards on lands adjacent to Minnesota’s Truck Highway System. Illegal or non-conforming junkyards must be removed, relocated on-site or screened to become compliant with this statute. Furthermore, MPCA has a publication and education program for operators of junk/salvage facilities.

The County intends to continue the educational program on the hazards of onsite and illegal disposal. The program will attempt to bring more rural residents into the solid waste system. With continuing education targeting the environmental hazards of onsite and illegal disposal, and the increasing availability of rural collection service and enforcement activities, the County intends to reduce on-site disposal of solid waste. These actions will assist in the mitigation of impacts to air, surface water, groundwater, public health and will help to avoid nuisance conditions.

Civil citations can be and are issued by the MPCA to individuals for disposing of solid waste on someone else's property. The DNR can also issue citations for burning solid waste, i.e., burn barrels. Several property owners have voluntarily cleaned up their properties. The Land Services Department will continue to pursue enforcement against the property owner as needed.

During 1998, in conjunction with Land Services (then Planning and Zoning), a dedicated position was created for enforcement. Starting in 1999, the enforcement officer has had the authority to issue civil citations regarding violations.

Effective September 2, 2008, Crow Wing County initiated a site based model to help landowners comply with county zoning requirements. The model provides a high level of customer service by verifying permits and potential violations in the field which in turn protects our natural resources. The county is divided up into three zones geographically with each zone covered by a Land Service Specialist who is responsible for building permit approval, septic system inspection during installation and enforcement of the Land Use Ordinance. Land Service Specialists meet individual landowners and contractors on-site to discuss land use issues. Another improvement with the site based model is enforcement. In the past there was one Enforcement Office, and now the County has three Land Service Specialists to handle enforcement. Landowners are made aware of land use violations and given solutions and options to bring the property into compliance. It is always the goal of Environmental Services to obtain voluntary compliance with a landowner. When voluntary compliance cannot be obtained, a citation may be issued requiring an appearance in court.

The Land Services staff reviews annually the enforcement activities with the intent to develop recommendations that will improve this critical tool for waste management.

- Some sites may not be cleaned-up without some assistance or administrative action by the County. Assistance may be in the form of a reduced tipping fee or a guaranteed loan. Flexibility may be warranted on a case-by-case basis. Notwithstanding, this action would not qualify under our current cleanup project tipping fee policy, if the party responsible for the solid waste is the

property owner. A potential idea is to set up a revolving fund similar as discussed to upgrading sewers within the County.

- Continue to help townships/municipalities/county with cleanup of sites on government property. Utilize Sentence to Serve crews to cleanup abandoned dumpsites. Each government entity is responsible for paying the tipping fee incurred.

Previously, there was conflicting information in the County ordinances. The County junk/salvage yards ordinance is an example of an ordinance needing to be updated in such a manner that provides methodology addressing the numerous complaints received each year. In 2006, the Zoning Ordinance revision for junk/salvage was approved and became effective on August 1, 2006.

The County plans to continue its educational program on the hazards of onsite and illegal disposal for rural residents and will attempt to bring more rural residents into the solid waste system. With education on the environmental hazards of onsite and illegal disposal, increasing availability of rural collection service and enforcement activities, the County intends to reduce the amount of waste disposed onsite.

#### **4.10 Demolition**

Demolition debris is managed at four demolition debris land disposal facilities as outlined below. Note, the County facility only handles approximately 23 percent of the demolition being generated within the County.

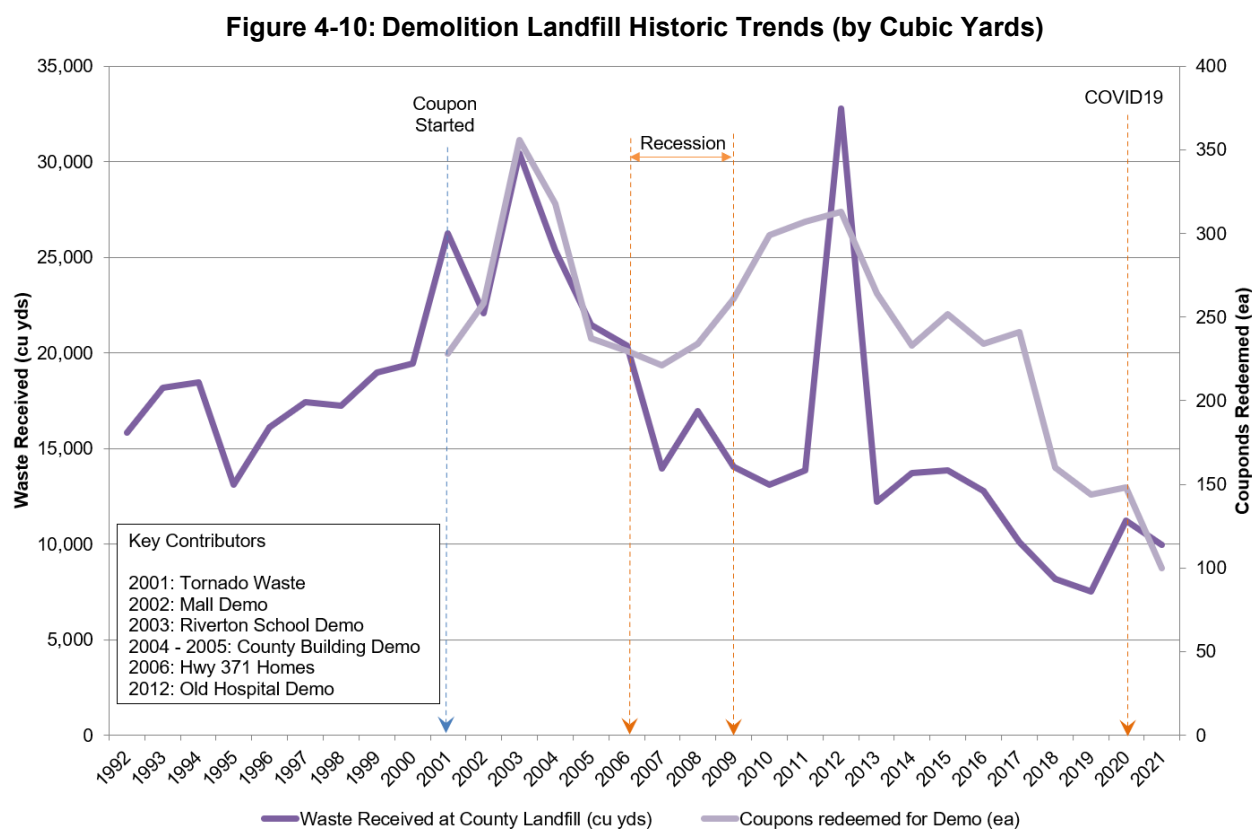
The Phase I aspect of the County demolition Landfill was constructed and began to accept waste in 1993. The County obtained permit SW-440 to utilize a site of approximately 4.58 acres of land for the demolition Landfill on August 19, 1993. Also, incorporated into it is an old permit-by-rule demolition landfill. This permit-by-rule landfill was permitted for disposal of 15,000 cubic yards of demolition debris through July 31, 1992. The total disposal capacity for Phase I is 85,900 cubic yards, not including final cover.

A permit that was reissued September 11, 2002 utilizing the remaining disposal capacity at the permitted area (Phase I) and incorporated Phase II. The Phase II expansion is the area located just west of the existing facility. The design was developed to provide an in-place capacity of 203,000 cubic yards for compacted demolition debris and intermediate cover. The Phase II area is 4.71 acres. Construction of the demolition expansion was tied into the Potlatch Phase I upgrade, and was completed in 2000. The Phase I aspect accepted its last waste in July 2003. The Phase II aspect began to accept waste in August 2003. Based on the annual survey waste rates, Phase II is projected to reach capacity in 2025.

The last 10-year permit reissuance was on May 15, 2015 to utilize the remaining disposal capacity at the permitted area (Phase II) and incorporated Phase III. The Phase III expansion is the area located north of the existing facility. With the construction of Cell 5, Phase III was constructed in 2019 to be ready when Phase II reaches capacity.

County residents also utilize privately owned demolition facilities: Crosslake (SW-412) located within Crow Wing; Hengel (SW-291), and Grinning Bear Demolition Debris (SW-556) located in Cass County.

**Figure 4-10** summarizes the quantities received at the demolition landfill.



The Lakes Area Habitat for Humanity ReStore is a retail store that accepts and sells donated building material supplies. They accept materials such as cabinets, appliances, furniture, flooring, doors, windows and more. For more information visit their website at [www.lakesareahabitat.org](http://www.lakesareahabitat.org). Since 2004, the ReStore has diverted over 9,000 tons of materials from the landfill. All donated items are tax deductible and help build Habitat homes in partnership with families in need in Cass, Crow Wing and Hubbard Counties.

Anderson Brothers, a local contractor, recycles asphalt and concrete. The Hengel Demolition landfill, located just west of Brainerd and their Westside Demolition landfill recycles the concrete and asphalt taken in at the site. Hengel also recycles scrap metal (steel, copper and aluminum) at both sites. A Permit-

by-Rule was given to Knife River to recycle concrete at their operation located in Crow Wing starting in 2000.

Per conversations with Crosslake Demolition landfill and Grinning Bear, the volume of asphalt and concrete is not large enough to incorporate a concrete crusher into their operations, but both do recycle metal.

In 2005, the new runway at the Brainerd Lakes Regional Airport showcased area recycling efforts. The project's second phase used 109,000 tons of 100 percent recycled concrete from area redevelopment projects as base material beneath the new paved surfaces. In phase three, the base material was created by combining about 56,000 tons of "bed rock," or unwanted mine tailing from a closed mine pit in Trommald, with another 24,000 tons of recycled concrete. Asphalt used in the project contained 20 percent recycled bituminous (ground up from old roads and parking lots).

#### **4.10.1 Chromated Copper Arsenate (CCA) Treated Wood**

For the last 15 years, the amount of CCA-treated wood headed for disposal has peaked. There was a seven-to-tenfold increase in the amount of CCA-treated wood appearing at the Site for the last 10 to 20 years as decks and outdoor structures were replaced. Other common wood preservatives include creosote and pentachlorophenol, but the predominant preservative used was CCA. CCA-treated wood was not widely used until the early 1970s. Previously CCA-treated wood represents nearly 80 percent of the market, with more than 450 million cubic feet being sold in the United States. CCA-treated wood is a concern for research indicates arsenic is leaching from it at levels above the national safe drinking water standard. Environmental Protection Agency officials and representatives of the wood-preservative industry reached a deal in 2002 to end the manufacturing of lumber permeated with CCA. They will cut production under graduated caps, allowing time to move to alternative treatments. Relative to waste disposal, any CCA-waste from new construction will decrease in the future. However, future demolition of CCA-treated wood projects will provide a source of this waste for decades.

The copper acts as a fungicide and the arsenic is an insecticide. Chromium adheres those materials to the wood and creates lumber that can withstand decades of outdoor use. Burning this material concentrates the metal content and creates a toxic ash. Currently, the only viable option is disposing of this material into a landfill.

Minnesota is unique in that it did not adopt federal hazardous waste exemption for CCA-treated wood. Treated wood is classified as an industrial solid waste in Minnesota and must go into a MMSW landfill

versus a demolition landfill. The current policy being administered at the County Landfill is that treated wood is disposed in the MMSW Landfill and not the demolition landfill.

The problem is that CCA-treated wood is difficult to separate out at the disposal site. New CAA-treated wood is easy to identify due to its greenish color, but when this material is exposed to sun and rain, the treated surface often turns a similar color as weathered, untreated wood. Once this happens, treated and untreated wood is commingled, they can be very difficult to distinguish from one another. To have sorting at the Site would require an additional setup and labor costs. Also, with this entering into our MMSW Landfill, we are seeing elevated arsenic in our leachate quality.

The key is to source separate it prior to disposal. Contractors and the haulers must separate this material from their demolition load and ensure it is brought in as a solid waste versus a demolition waste. To assist in this, the existing Haulers Manual and Demolition Manual was upgraded in 2002 to address this issue. These are provided annually to all the licensed haulers in the County and major haulers of demolition, and starting in 2013 it is posted on the County website.

## 5.0 CONCLUSIONS AND RECOMMENDATIONS

The County has a well-developed residential recycling program, and many of the larger businesses also have a well-developed recycling/waste reduction programs in place. This is being threatened by the continual low prices for recyclables being experiencing for the past few years and projected to continue into the future. Recycling offers a vital environmental benefit, and in conjunction with the County state-of-the-art Landfill provides a safe, reliable, and essential disposal option for our residents. The County is lucky to have both options - recycling and landfill at its disposal.

Considerable quantities of MSW will continue to be generated long into the foreseeable future, and it is imperative that the County continues to invest in its facilities and systems to manage the solid waste generated within the County in an economically and environmentally sound manner.

It is being forecasted that the declining waste trend of the recent decade is here to stay. How much waste being made, what's in it, and how it is being managed have evolved dramatically in the last decade. In the past, waste generation has been a function of population growth, economic growth, and the material utilized in our daily lives. In the last decade population growth has exceeded the growth in the waste stream. Less waste may be for three reasons: "the evolving ton," source reduction, and zero waste initiatives by manufacturers and retailers. "The evolving ton" is a phrase coined by Republic Services that refers to the changes in the contents of the waste stream. Less paper, more plastic and smaller electronic products are the hallmark of this trend.

Paper generation is off by 17 million tons, or 20 percent, in the last 11 years. Virtually this entire decline came in printed grades such as newspaper and printing and writing paper. This decline in paper also has an effect on the existing recycling processing systems, because these systems were designed to have a certain amount of paper. While use of plastic products increased by 25 percent in the same period, they have replaced heavier products. As for electronics products, smart phone combines the functions of a telephone, video camera, watch, music player, and more plus it fits into your pocket. Think of all the products that replaces, not only in the homes, but in the waste stream.

Source reduction is also playing a huge role in the waste decline. Primarily referring to waste reduction techniques such as grasscycling and backyard composting along with product lightweighting. Examples of the latter can be found for products made out of plastic, metals, paper, and glass. It now takes 11,000 more aluminum cans to make a ton of aluminum than it did five or six years ago. PET bottles are 30 percent lighter. Now seeing some of the higher value materials being lightweighted out of the stream and that is impacting the overall value of the stream.

Zero waste initiatives by manufacturers and retailers have had both the largest effect and the hardest to quantify impact. In the past, these businesses were content to pay to have their waste products hauled away. Now they are aggressively turning a cost center into a profit center. Examples of this include “zero waste to landfill” factories; grocers and food processors donating edible unsold food products to food banks; factories redesigning production procedures to eliminate defects; and breweries selling their spent grains for animal feed. Zero waste is simply smart capitalism.

These changes in quantity and quality have not come without a price. Material Recovery Facilities (MRFs) have to adjust to the revenue impact of less paper and more plastic. Recycling rates will seem to experience little growth. Recycling is measured in weight, not in number of actual items collected. Lightweighting has had the effect of stalling diversion rates and perhaps falsely suggesting that programs have become ineffective. Fuel and vehicle maintenance cost have increased, making it more expensive to collect. Labor and capital cost have also increased, making it more expensive to process those loads. And with each load yielding less material by weight, revenues per load have decreased, widening the expense/revenue gap. Landfills, especially small local landfills, will struggle with less supply. These changes are here to stay; we have no choice except to adapt.

The amount of recovered materials within the County met the overall State recycling goal of 35 percent. If, in the future, the County fails to reach the State mandated goal for recycling, the Board can consider making participation in the recycling programs mandatory. In addition, statute (§115A.551, Subd. 5) requires the County to:

- Notify county residents of failure to achieve the goal and why the goal was not met, and
- Provide county residents with information on recycling programs offered by the County.

An annual report such as this on the status of the County's solid waste programs has been prepared for the County Board and program managers since 1992. This has allowed the progress or lack thereof, to be tracked.

A key issue: maintain the states mandated 35 percent recycling goal. For this to happen markets must exist and expand greatly for recyclable materials if County programs are to expand further and to be economical. One major flaw in the existing integrated management system established by the State is it has continued to promote a supply side approach to recycling (i.e., collect and the markets will follow). This approach has not significantly strengthened markets for recyclable commodities and has even led to backsliding in market development for commodities such as plastics. Bottom line is: Mandated recycling will not be self-sufficient, and needs to be considered a service - like water, sewer, police and fire

protection. Funding a program from revenues raised by selling recyclables is not possible, and a service fee through local property tax and State grants will be required to pay for recycling programs into the foreseeable future. Overall, the relevant question is: “How much recycling is good policy?”. This is further highlighted as a Major Finding in the January 2002, *Office of the Legislative Auditors Program Evaluation Report, Recycling and Waste Reduction*:

“Before deciding if and how to pursue options to divert more waste, however, state and county officials need to assess priorities, agree on funding, and better understand the cost and benefits of various alternatives.”

Starting in 2020 the County will no longer provide funding for the curbside programs. Curbside collection programs will be continued through the cities and consideration given the following:

- Much depends on expanding markets for recyclable materials to make the programs cost effective.
- Efforts can be made to increase participation in the curbside collection programs. A more active public information program would likely promote participation in the programs; the question then become on how much can we spend.

Starting in 2020, the Drop-Off program will be operated by the County versus each individual program. In 2021, dropped down to three sites. The Drop-off Program will be continued with consideration given the following:

- Much depends on expanding markets for recyclable materials to make the program cost effective.
- Efforts can be made to increase the participation in the drop-off collection program. A more active public information program would likely promote participation in the program; the question then become on how much can we spend.
- The issue for the drop off programs is maximizing the weight for each load since the cost is based on the “pull”.

Follow-ups to the annual business survey have reduced many barriers in this sector. This has provided additional opportunity in meeting our recycling/reuse/reduce goals. One key issue remains, the low return rate to the annual questionnaire. There is still recycling that is occurring that the County is not getting credit for.

Even though area retailers are handling used materials (i.e., used tires, used oil, lead-acid batteries, and white goods), we continue to see a quantity of these items being deposited at the drop-off areas located at the Site complex. It appears to adequately address problem materials, the County needs to have a program in conjunction with the private retailers.

Key issues the State needs to work on, and the County needs too follow-up on are:

- Funding a recycling program from revenues raised by selling recyclables is not possible, and a service fee through local property tax and State grants will be required to pay for recycling programs into the foreseeable future. State funding for SCORE comes from a portion of sales tax on solid waste management. The tax rate for municipal solid waste collection is 9.75 percent for residential customers and 17 percent for commercial customers. This tax has remained untouched; the State is just diverting more of these funds to General Revenue. Counties have seen no increase in their state SCORE grants till 2014. At that time the Legislature increased the amount of Environmental Fund dollars dedicated to SCORE grants to \$18.5 million in 2015 and \$17.25 million annually thereafter. Only issue if you inflation-adjusted the value of the \$14 million back to 1991. The 1991, \$14 million is now worth \$8 million in 2014. So the \$4 million increase in 2015 still does not get us back to the initial worth of the \$14 million in 1991. This will lead to additional recycling reassessments at the local level. The reality is recycling competes for taxpayers dollars;
- How to make up for the 8% credits (yard waste and source reduction) that was lost in 2012? In 2013 only 51% of counties achieved the base recycling rate without the source reduction and yard waste credits. If these credits were included, the number of counties meeting their recycling goal would be much greater; as high as 71%. For many counties, these credits were critical for them to make the State goal of 35%. Removal of these credits with no additional funding or lowering of the State goal left counties in a very awkward position. Many counties are going through zero levies and SCORE funding has been flat since 1991; unable to fund any programs to offset the 8% credit loss. This becomes a greater issue when a county Solid Waste Plan comes due;
- Per MPCA letter dated December 24, 2013; subject – SCORE reporting for 2013 data. "One recommendation of the *SCORE Implementation Plan* is to rely on documented numbers, not estimates. The removal of credits for source reduction and yard waste was the first step in this direction. The next step toward fully achieving this goal is to move away from estimated recycling rates. This change will take effect for Calendar Year 2014 data, therefore, **estimated recycling rates will be accepted for Calendar Year 2013;**"
- The February 2015, OLA Evaluation Report; Recycling and Waste Reduction;

“We heard about the importance of market development for recyclable material from all corners of the waste management industry. Staff from counties, cities, businesses, waste haulers, and others emphasized to us that having adequate outlets for reachable material is key for the state to reach its recycling goals.”

Market development for recyclables collected (promote the demand side). Initially, recycling programs were sold to the counties on the basis that markets would be developed (by the State) for recyclable material and that this would eventually pay for the programs. Markets have not developed enough to fully support these programs fiscally. The largest factor remains the lack of expanding recycling markets, and a stabilized price paid for the materials collected. The demand for recovered commodities continues to fluctuate;

- Ensure state agencies and other government departments are following existing state laws regarding solid waste management, recycling, and waste reduction/reuse;
- Address “problem” components of the waste stream having high environmental costs and that have not become strong components of the recycling marketplace (i.e., plastic). Plastic products and packaging exhibit an ever-increasing share of the market, however, the ability to recycle this material has been shrinking. Historically there were only two types of plastic that were commonly recycled - No. 1 for PETE and No. 2 for HDPE. Even then, the economics is marginal; and
- Electronics. Manufacturers’ obligation to fund recycling is decreasing while the amount of e-waste and recycling costs are increasing. The law requires manufacturers to recycle e-waste based on 80% of the weight of their current sales (manufacturers’ obligation). This obligation has decreased because today’s electronics continue to get smaller and lighter, while Minnesotans continue to recycle their old, heavier electronics. It all worked until commodity prices dropped and the metal in the TVs became so cheap that recycling companies had to charge counties more to take the material starting in 2014. In 2014, the manufactures obligation was for 15 million tons, but 35 million tons came in. The gap between manufacturer recycling obligations and the amount of recycling actually collected means manufacturers don’t have to pay the full cost of managing their electronic waste. Explicitly requiring manufacturers to pay for transporting video display devices (VDDs) to a recycler and recycling them will relieve much of the financial burden on counties and residents. VDDs account for the vast majority of household electronic waste and are the most expensive type of electronics to recycle without damaging the environment. Purpose of the E-Waste Act of 2016 is to address this gap.

The primary goals for the Solid Waste Office in 2022 concerning the Solid Waste programs are:

- Continue to manage the existing HHW, recycling, and problem material management programs;

- Start on updating the Solid Waste Management Plan, the 10-year update is coming due; and
- The County is still meeting the recycling goals within the County, but in recent years seen a decrease in the amount being recycled by businesses due to the amount of area businesses that have closed. Continue to investigate and develop programs to increase commercial recycling efforts and reporting within the County.

## **APPENDIX A – HISTORIC RECYCLING PROGRAM OVERVIEW**

RECYCLING PROGRAM OVERVIEW																					
Year	Total MSW Tons Generated*	Total MSW Tons into Landfill*	Tons Collected for Recycling*	Residential Tons Recycled SCORE Funded	Overall Cost Residential	County*** Cost per Ton Residential	% of Recycling Effort	Residential Tons Recycled No SCORE Funding	% of Recycling Effort	C/I/I Tons Recycled In County Assets**	% of Recycling Effort	C/I/I Tons Recycled Self Marketed	% of Recycling Effort	C/I/I % Total	Problem/Ban Materials Tons*	% of Recycling Effort	Recycling Rate*	State Goal	Source Reduction Credit*	Yard Waste Credit*	Recycling Rate with Credits
1991	39,666	29,756	4,464	255	\$99,021	\$388.21	5.7%	0	0.0%	Unk	Unk	Unk	Unk	Unk	Unk	Unk	11.0%	35.0%	0.0%	0.0%	11.0%
1992	40,706	29,886	7,230	535	\$123,250	\$230.51	7.4%	0	0.0%	Unk	Unk	Unk	Unk	Unk	Unk	Unk	18.0%	35.0%	0.0%	0.0%	18.0%
1993	44,873	30,849	10,965	777	\$148,971	\$191.81	7.1%	0	0.0%	Unk	Unk	Unk	Unk	Unk	Unk	Unk	24.0%	35.0%	0.0%	0.0%	24.0%
1994	47,713	34,647	14,314	1,021	\$165,460	\$162.11	7.1%	0	0.0%	Unk	Unk	Unk	Unk	Unk	Unk	Unk	30.0%	35.0%	0.0%	0.0%	30.0%
1995	50,471	34,800	12,572	1,306	\$156,149	\$119.54	10.4%	0	0.0%	10,536	83.8%	Unk	Unk	83.8%	730	5.8%	25.0%	35.0%	0.0%	5.0%	30.0%
1996	51,470	32,537	17,148	1,044	\$170,715	\$163.46	6.1%	0	0.0%	4,785	27.9%	10,446	60.9%	88.8%	873	5.1%	33.0%	35.0%	3.0%	5.0%	41.0%
1997	55,850	33,794	20,569	1,173	\$160,855	\$137.11	5.7%	0	0.0%	3,448	16.8%	14,441	70.2%	87.0%	1,507	7.3%	36.8%	35.0%	5.7%	5.0%	47.5%
1998	68,767	34,610	32,478	1,302	\$167,705	\$128.78	4.0%	6	0.0%	4,328	13.3%	25,324	78.0%	91.3%	1,518	4.7%	47.2%	35.0%	6.0%	3.0%	56.2%
1999	70,822	34,434	34,769	1,560	\$167,905	\$107.62	4.5%	26	0.1%	3,921	11.3%	28,036	80.6%	91.9%	1,226	3.5%	49.1%	35.0%	6.5%	5.0%	60.6%
2000	73,185	36,345	35,118	1,798	\$171,005	\$95.09	5.1%	25	0.1%	3,798	10.8%	28,487	81.1%	91.9%	1,009	2.9%	48.0%	35.0%	8.0%	5.0%	61.0%
2001	75,581	41,236	32,689	1,914	\$178,605	\$93.30	5.9%	56	0.2%	5,257	16.1%	24,154	73.9%	90.0%	1,308	4.0%	43.3%	35.0%	9.0%	5.0%	57.3%
2002	76,803	41,917	33,187	2,005	\$188,772	\$94.15	6.0%	72	0.2%	4,411	13.3%	25,467	76.7%	90.0%	1,232	3.7%	43.2%	35.0%	6.7%	5.0%	54.9%
2003	77,802	42,241	33,973	2,164	\$199,760	\$92.33	6.4%	180	0.5%	3,818	11.2%	26,186	77.1%	88.3%	1,625	4.8%	43.7%	35.0%	6.0%	5.0%	54.7%
2004	84,234	41,981	40,599	2,721	\$205,043	\$75.35	6.7%	163	0.4%	4,661	11.5%	31,429	77.4%	88.9%	1,625	4.0%	48.2%	35.0%	6.0%	5.0%	59.2%
2005	90,894	43,128	46,022	2,934	\$222,474	\$75.84	6.4%	197	0.4%	5,093	11.1%	36,635	79.6%	90.7%	1,164	2.5%	50.6%	35.0%	6.5%	5.0%	62.1%
2006	90,190	40,478	48,058	3,142	\$234,424	\$74.61	6.5%	224	0.5%	6,261	13.0%	36,943	76.9%	89.9%	1,488	3.1%	53.3%	35.0%	6.9%	5.0%	65.2%
2007	89,993	39,625	48,747	3,650	\$242,056	\$66.31	7.5%	265	0.5%	11,220	23.0%	32,253	66.2%	89.2%	1,359	2.8%	54.6%	35.0%	7.0%	5.0%	66.6%
2008	78,119	37,025	39,519	4,066	\$261,204	\$64.24	10.3%	362	0.9%	17,335	43.9%	16,232	41.1%	84.9%	1,524	3.9%	50.6%	35.0%	7.9%	5.0%	63.5%
2009	64,903	35,545	27,767	4,696	\$312,027	\$66.44	16.9%	431	1.6%	9,247	33.3%	11,963	43.1%	76.4%	1,430	5.1%	42.8%	35.0%	8.0%	5.0%	55.8%
2010	65,544	35,558	28,349	4,781	\$333,850	\$69.83	16.9%	444	1.6%	10,274	36.2%	11,153	39.3%	75.6%	1,697	6.0%	43.3%	35.0%	8.0%	5.0%	56.3%
2011	66,934	35,933	29,367	4,679	\$334,758	\$71.54	15.9%	471	1.6%	10,879	37.0%	11,841	40.3%	77.4%	1,497	5.1%	43.9%	35.0%	8.0%	5.0%	56.9%
2012	70,439	36,563	32,272	4,523	\$351,801	\$77.79	14.0%	439	1.4%	10,823	33.5%	14,956	46.3%	79.9%	1,531	4.7%	45.8%	35.0%	N/A****	N/A****	45.8%
2013	73,198	38,286	33,212	4,483	\$359,432	\$80.18	13.5%	457	1.4%	15,847	47.7%	10,983	33.1%	80.8%	1,442	4.3%	45.4%	35.0%	N/A****	N/A****	45.4%
2014	91,016	40,508	48,808	4,871	\$295,662	\$60.70	10.0%	449	0.9%	17,822	36.5%	23,778	48.7%	85.2%	1,888	3.9%	53.6%	35.0%	N/A****	N/A****	53.6%
2015	91,714	42,661	47,353	4,583	\$349,499	\$76.26	9.7%	305	0.6%	18,672	39.4%	22,098	46.7%	86.1%	1,695	3.6%	51.6%	35.0%	N/A****	N/A****	51.6%
2016	95,938	45,359	48,879	4,464	\$378,003	\$84.68	9.1%	268	0.5%	18,305	37.4%	24,053	49.2%	86.7%	1,789	3.7%	50.9%	35.0%	N/A****	N/A****	50.9%
2017	113,836	46,776	65,360	3,435	\$351,237	\$102.24	5.3%	172	0.3%	15,060	23.0%	44,580	68.2%	91.2%	2,114	3.2%	57.4%	35.0%	N/A****	N/A****	57.4%
2018	85,979	47,220	37,059	3,825	\$314,534	\$82.23	10.3%	154	0.4%	14,725	39.7%	16,031	43.3%	83.0%	2,324	6.3%	43.1%	35.0%	N/A****	N/A****	43.1%
2019	91,447	47,291	42,456	3,792	\$375,881	\$99.12	8.9%	207	0.5%	14,623	34.4%	19,123	45.0%	79.5%	4,712	11.1%	46.4%	35.0%	N/A****	N/A****	46.4%
2020	116,797	47,803	67,294	1,136	\$253,808	\$223.33	1.7%	2,058	3.1%	14,161	21.0%	44,608	66.3%	87.3%	5,331	7.9%	57.6%	35.0%	N/A****	N/A****	57.6%
2021	96,578	46,095	48,783	971	\$141,474	\$145.63	2.0%	2,370	4.9%	2,074	4.3%	39,180	80.3%	84.6%	4,188	8.6%	50.5%	35.0%	N/A****	N/A****	50.5%

\* Used data obtained from the annual MPCA SCORE Reports  
\*\* Used data obtained from local haulers/scrap yards  
\*\*\* This is only the cost to the County, and does not include any additional funding by the individual programs or the haulers  
\*\*\*\* The 2012 Legislative Session Omnibus Environmental Bill eliminated these two credits

## **APPENDIX B – RESIDENTIAL RECYCLING PROGRAM OVERVIEW**

**TABLE 1.1  
RESIDENTIAL RECYCLING PROGRAM OVERVIEW**

<b>Year</b>	<b>Total MSW Tons Generated</b>	<b>Tons Recycled SCORE Funded</b>	<b>Overall Cost Residential</b>	<b>Cost per Ton Residential</b>	<b>% of Total Effort</b>	<b>MSW Collected for Recycling</b>	<b>Recycling Rate</b>	<b>Source Reduction Credit</b>	<b>Yard Waste Credit</b>	<b>Recycling Rate with Credits</b>
<b>1991</b>	39,666	255	\$99,021	\$388.21	0.6%	4,464	11.0%	0.0%	0.0%	11.0%
<b>1992</b>	40,706	535	\$123,250	\$230.51	1.3%	7,230	18.0%	0.0%	0.0%	18.0%
<b>1993</b>	44,873	777	\$148,971	\$191.81	1.7%	10,965	24.0%	0.0%	0.0%	24.0%
<b>1994</b>	47,713	1,021	\$165,460	\$162.11	2.1%	14,314	30.0%	0.0%	0.0%	30.0%
<b>1995</b>	50,471	1,306	\$156,149	\$119.54	2.6%	12,572	25.0%	0.0%	5.0%	30.0%
<b>1996</b>	51,470	1,044	\$170,715	\$163.46	2.0%	17,148	33.0%	3.0%	5.0%	41.0%
<b>1997</b>	55,850	1,173	\$160,855	\$137.11	2.1%	20,569	36.8%	5.7%	5.0%	47.5%
<b>1998</b>	68,767	1,302	\$167,705	\$128.78	1.9%	32,478	47.2%	6.0%	5.0%	56.2%
<b>1999</b>	70,822	1,560	\$167,905	\$107.62	2.2%	34,769	49.1%	6.5%	5.0%	60.6%
<b>2000</b>	73,185	1,798	\$171,005	\$95.09	2.5%	35,118	48.0%	8.0%	5.0%	61.0%
<b>2001</b>	75,581	1,914	\$178,605	\$93.30	2.5%	32,689	43.3%	9.0%	5.0%	57.3%
<b>2002</b>	76,803	2,005	\$188,772	\$94.15	2.6%	33,187	43.2%	6.7%	5.0%	54.9%
<b>2003</b>	77,802	2,164	\$199,760	\$92.33	2.8%	33,973	43.7%	6.0%	5.0%	54.7%
<b>2004</b>	84,234	2,721	\$205,043	\$75.35	3.2%	40,599	48.2%	6.0%	5.0%	59.2%
<b>2005</b>	90,894	2,934	\$222,474	\$75.84	3.2%	46,022	50.6%	6.5%	5.0%	62.1%
<b>2006</b>	90,190	3,142	\$234,424	\$74.61	3.5%	48,058	53.3%	6.9%	5.0%	65.2%
<b>2007</b>	89,993	3,650	\$242,056	\$66.31	4.1%	48,747	54.6%	7.0%	5.0%	66.6%
<b>2008</b>	78,119	4,066	\$261,204	\$64.24	5.2%	39,519	50.6%	7.9%	5.0%	63.5%
<b>2009</b>	64,903	4,696	\$312,027	\$66.44	7.2%	27,767	42.8%	8.0%	5.0%	55.8%
<b>2010</b>	65,544	4,781	\$333,850	\$69.83	7.3%	28,349	43.3%	8.0%	5.0%	56.3%
<b>2011</b>	66,934	4,679	\$334,758	\$71.54	7.0%	29,367	43.9%	8.0%	5.0%	56.9%
<b>2012</b>	70,439	4,523	\$351,801	\$77.79	6.4%	32,272	45.8%	N/A*	N/A*	N/A*
<b>2013</b>	73,198	4,483	\$359,432	\$80.18	6.1%	33,212	45.4%	N/A*	N/A*	N/A*
<b>2014</b>	91,016	4,871	\$295,662	\$60.70	5.4%	48,808	53.6%	N/A*	N/A*	N/A*
<b>2015</b>	91,714	4,583	\$349,499	\$76.26	5.0%	47,353	51.6%	N/A*	N/A*	N/A*
<b>2016</b>	95,938	4,464	\$378,003	\$84.68	4.7%	48,879	50.9%	N/A*	N/A*	N/A*
<b>2017</b>	113,836	3,435	\$351,237	\$102.24	3.0%	65,360	57.4%	N/A*	N/A*	N/A*
<b>2018</b>	85,976	3,825	\$314,534	\$82.23	4.4%	37,059	43.1%	N/A*	N/A*	N/A*
<b>2019</b>	91,447	3,792	\$375,881	\$99.12	4.1%	42,456	46.4%	N/A*	N/A*	N/A*
<b>2020</b>	116,797	1,136	\$253,808	\$223.33	1.0%	67,294	57.6%	N/A*	N/A*	N/A*
<b>2021</b>	96,578	971	\$141,474	\$145.63	1.0%	48,783	50.5%	N/A*	N/A*	N/A*

\* Until 2011, a State directive allows a maximum 5 percent for yard waste credit for recycling and a credit for source reduction.

**APPENDIX C – WASTE RECEIPTS AND PROBLEM/BANNED MATERIAL  
MANAGEMENT**

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Waste Receipts

----->|

TABLE 1.2

Problem/Banned Material Management

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Year	Scale* (Tons)	Residential* Bags (EA)	Loose* Garbage (cy)	Total * MSW (ton)	Asbestos* Bags (Ea)	Asbestos* Bulk (cy)	Total * Asbestos (ton)	Loose ISW (ton)	Total Landfill (tons)	Yard** Waste (cy)	Brush (cy)	Used Oil (gal)	Lead Battery (Ea)	Tires (Ea)	Tires Shipped (ton)	Used Electronics Res (Ea)	Electronics Shipped (ton)	Mattress Landfilled (Ea)	Mattress Shipped (Ea)	Mattress Shipped (Tons)	Appliance (Ea)	Appliance Shipped (ton)	Demo ** (SW-440) (cy)
1991				3,666					3,666														
1992	25,020	3,632	26,251	29,886	1,343	135	47	N/A	29,933	Unk	Unk	N/A	Unk	3,097	N/A	N/A	N/A	Unk	N/A	N/A	1,456	Unk	15,836
1993	25,765	3,796	29,856	30,849	158	58	14	N/A	30,863	Unk	Unk	N/A	Unk	2,641	Unk	N/A	N/A	Unk	N/A	N/A	2,128	Unk	18,172
1994	27,186	4,764	44,037	34,647	1,455	34	29	N/A	34,676	3,506	Unk	N/A	Unk	4,573	Unk	N/A	N/A	Unk	N/A	N/A	2,649	Unk	18,448
1995	27,634	4,915	42,783	35,270	1,890	235	75	N/A	35,345	3,735	Unk	Unk	Unk	3,755	Unk	N/A	N/A	Unk	N/A	N/A	2,615	Unk	13,121
1996	29,076	4,891	33,876	32,537	1,141	94	36	N/A	32,573	2,278	Unk	Unk	Unk	3,486	N/A	N/A	N/A	Unk	N/A	N/A	2,890	254	16,124
1997	30,742	4,641	29,825	33,794	492	84	24	N/A	33,818	4,892	Unk	1,675	Unk	4,618	269	N/A	N/A	Unk	N/A	N/A	2,901	345	17,422
1998	29,673	5,999	33,471	33,110	1,365	124	45	N/A	33,155	7,113	Unk	2,605	386	5,843	N/A	N/A	N/A	3,244	N/A	N/A	3,758	173	17,237
1999	29,671	6,420	34,068	33,174	1,613	268	78	N/A	33,252	8,302	Unk	3,570	548	5,982	182	N/A	8	3,283	N/A	N/A	3,370	460	18,990
2000	31,754	5,845	38,899	35,731	519	293	66	N/A	35,797	12,335	Unk	3,475	606	6,923	N/A	N/A	N/A	3,494	N/A	N/A	3,235	170	19,436
2001	33,919	6,874	46,510	38,673	236	1,269	257	N/A	38,930	14,392	Unk	4,225	795	7,240	232	N/A	3	4,254	N/A	N/A	4,001	294	26,266
2002	35,911	7,939	65,994	42,630	523	1,125	233	N/A	42,863	15,056	Unk	5,141	1,040	10,221	215	N/A	10	5,232	N/A	N/A	4,457	437	22,095
2003	38,007	7,684	79,192	46,042	337	91	23	N/A	46,065	16,889	15,341	5,846	1,069	8,536	161	N/A	11	5,106	N/A	N/A	4,306	445	30,455
2004	38,961	6,875	95,377	48,602	3,044	348	115	N/A	48,717	18,132	16,499	2,053	1,177	10,138	N/A	2,321	83	6,224	N/A	N/A	4,793	377	25,361
2005	40,534	7,114	111,875	51,828	827	75	27	N/A	51,855	15,216	18,241	6,879	1,325	9,777	344	3,635	131	5,694	N/A	N/A	4,686	355	21,480
2006	37,706	7,788	94,012	47,224	489	210	49	N/A	47,273	12,353	12,968	3,604	939	9,197	131	4,378	134	4,761	802	22	4,624	610	20,386
2007	37,263	7,570	81,087	45,486	235	51	14	N/A	45,500	12,480	16,346	2,312	750	11,660	215	5,570	162	3,004	2,606	71	4,434	415	13,959
2008	35,172	7,132	75,479	42,827	1,393	274	76	N/A	42,903	10,590	13,557	2,657	590	8,709	76	5,059	137	2,646	2,235	67	3,949	388	16,950
2009	33,783	8,571	54,671	39,379	431	76	22	N/A	39,401	11,873	15,311	2,383	647	6,984	156	6,020	146	2,223	2,254	66	4,077	272	14,055
2010	34,109	9,490	55,905	39,842	633	7	11	N/A	39,853	10,487	12,827	3,617	532	7,145	140	5,872	152	2,203	2,525	75	3,801	433	13,124
2011	33,701	9,463	64,802	40,323	43	153	31	N/A	40,354	11,016	13,105	1,871	469	8,461	147	6,983	152	3,061	2,298	67	3,131	246	13,880
2012	34,154	9,562	59,928	40,290	10	2,332	467	N/A	40,757	9,945	13,270	3,213	376	8,828	141	5,836	144	2,405	3,231	92	3,025	282	32,769
2013	36,152	10,015	55,351	41,838	6	14	3	N/A	41,841	11,321	11,849	2,015	268	6,175	N/A	5,930	136	2,434	3,274	97	3,021	257	12,232
2014	37,131	11,096	66,071	43,905	124	100	22	N/A	43,927	11,682	16,724	1,969	337	6,393	208	6,675	156	3,122	3,625	106	3,149	261	13,714
2015	38,058	10,871	83,513	46,572	207	640	131	N/A	46,703	13,278	32,587	1,214	313	6,942	115	6,953	186	3,649	4,078	121	3,699	330	13,849
2016	39,756	12,927	92,711	49,221	38	32	7	42	49,270	11,502	22,936	3,203	370	8,789	155	8,203	207	3,706	4,405	127	4,098	387	12,789
2017	39,747	12,444	100,285	49,962	30	29	6	52	50,020	11,954	22,822	2,534	556	6,870	174	8,530	212	3,948	4,609	110	4,213	441	10,081
2018	40,919	13,232	101,028	51,219	568	51	19	384	51,622	12,351	19,154	2,913	440	6,996	154	7,778	201	3,675	4,673	136	4,056	443	8,178
2019	41,735	11,687	99,234	51,834	167	472	97	66	51,997	14,123	18,796	2,969	496	6,901	112	7,454	172	2,751	4,651	133	3,977	414	7,498
2020	41,484	14,416	121,535	53,853	78	86	18	48	53,920	16,516	27,110	2,364	548	9,995	177	8,711	198	5,255	3,818	110	5,679	529	11,214
2021	41,503	13,153	110,303	52,731	736	1,172	245	192	53,168	15,137	24,192	1,743	695	9,605	145	7,396	161	6,154	2,309	78	4,972	545	9,980
Total	1,046,226	250,806	2,027,929	1,266,945	20,131	9,932	2,287	784	1,270,017	318,454	343,635	76,050	15,272	216,480	3,651	113,304	2,900	91,528	51,393	1,477	111,150	9,561	505,101

\* Per Annual Reports for SW-376  
\*\* Per Annual Report for SW-440

## **APPENDIX D – MMSW LANDFILL WASTE RECEIPTS**

MMSW Landfill Waste Receipts

Month	1991-2011* MMSW (tons)	2012* MMSW (tons)	2013* MMSW (tons)	2014* MMSW (tons)	2015* MMSW (tons)	2016* MMSW (tons)	2017* MMSW (tons)	2018* MMSW (tons)	2019* MMSW (tons)	2020* MMSW (tons)	2021* MMSW (tons)	TOTAL MMSW (tons)	12-16 AVERAGE (tons)	17-21 AVERAGE (tons)
January	51,352	2,518	2,725	2,733	2,783	2,804	3,213	3,428	3,397	3,502	3,078	81,533	2,713	3,324
February	45,749	2,290	2,362	2,440	2,475	2,956	2,870	2,937	3,126	2,953	2,811	72,969	2,505	2,939
March	54,821	2,860	2,560	2,757	3,294	3,636	3,421	3,435	3,294	3,506	3,967	87,551	3,021	3,525
April	63,440	3,140	3,271	3,427	3,660	3,738	3,693	3,732	4,295	4,434	4,332	101,162	3,447	4,097
May	74,618	3,935	4,163	4,283	4,247	4,593	4,762	5,042	5,111	5,238	4,628	120,620	4,244	4,956
June	77,792	3,956	4,130	4,320	4,615	4,984	5,191	5,153	4,823	5,560	5,419	125,943	4,401	5,229
July	81,792	4,498	4,736	4,966	5,172	5,194	5,168	5,623	5,803	5,961	5,494	134,407	4,913	5,610
August	81,727	4,365	4,294	4,598	4,785	5,351	5,368	5,372	5,165	5,501	5,395	131,921	4,679	5,360
September	70,946	3,354	3,834	4,311	4,435	4,714	4,682	4,582	4,761	5,396	5,192	116,207	4,130	4,923
October	67,849	3,450	3,908	3,962	4,175	4,212	4,588	4,793	4,780	4,561	4,643	110,921	3,941	4,673
November	59,930	3,198	2,926	2,951	3,562	3,848	3,792	3,824	3,634	3,693	4,093	95,451	3,297	3,807
December	55,509	2,726	2,929	3,157	3,370	3,192	3,214	3,302	3,645	3,501	3,679	88,224	3,075	3,468
Out-of-County**	7,654	108	109	200	0	130	141	0	0	48	0	8,389	109	38
Total Landfill	786,793	40,757	41,841	43,927	46,704	49,271	50,020	51,626	51,997	53,872	53,168	1,269,976	44,366	51,911
Industrial Waste	53,851	4,194	3,555	3,418	4,043	3,911	3,244	4,406	4,706	6,069	7,073	98,470	3,824	5,100
MSW	732,942	36,563	38,286	40,509	42,661	45,360	46,776	47,220	47,291	47,803	46,095	1,171,505	40,676	47,037
Total Generation	794,448	40,865	41,950	44,127	46,704	49,401	50,161	51,626	51,997	53,919	53,168	1,278,365	44,609	52,174
% Change Landfill		1.0%	2.7%	5.0%	6.3%	5.5%	1.5%	3.2%	0.7%	3.6%	-1.3%			17.0%

	% of annual	% Cumulative
	6.37%	6.37%
	5.63%	12.00%
	6.76%	18.76%
	7.85%	26.61%
	9.50%	36.11%
	10.02%	46.13%
	10.75%	56.89%
	10.27%	67.16%
	9.44%	76.60%
	8.96%	85.55%
	7.30%	92.85%
	6.65%	99.50%
	0.07%	99.57%
Asbestos	0.43%	100.00%
1,269,980	100.00%	

Total						12-16 Average	17-21 Average	% Increase
Annual Growth =	MSW	1.7%	(92 - 20)					
Overall Growth =		60.0%	(92 - 20)					
5 Year Growth =		1.3%	(16 - 20)		Average (December - February) Winter	2,764	3,244	14.8%
5-Overall Growth =		6.9%	(16 -209)		Average (March - May) Spring	3,571	4,193	14.8%
10 Year Growth =		3.2%	(11 - 20)		Average (June - August) Summer	4,664	5,400	13.6%
10-Overall Growth =		33.0%	(11 - 20)	By Total Tonnage	Average (September - November) Fall	3,789	4,468	15.2%
Annual Growth =	All Waste	2.1%	(92 - 20)	2.3%	Percent change from Winter to Summer	68.8%	66.5%	
Overall Growth =		80.0%	(92 - 20)		Percent Winter to Spring & Fall	33.1%	33.5%	
5 Year Growth =		2.3%	(16 - 20)	2.1%	Percent Spring & Fall to Summer	26.7%	24.7%	
5-Overall Growth =		9.3%	(16 - 20)					
10 Year Growth =		3.3%	(11 - 20)	6.3%				
10-Overall Growth =		33.5%	(11 - 20)					

## **APPENDIX E – 2021 SCORE REPORT**

# SOURCE REDUCTION

Cycle: *Annual* | Year: *2021* | Status: *Completed*

Member Name: *Crow Wing County SCORE Program*

## Source Reduction Includes:

- Reusing a product in its original form
- Increasing the life span of a product
- Reducing material or the toxicity of material used
- Changing procurement, consumption, or waste generation habits to result in smaller quantities of waste or lower toxicity of waste

Source reduction reduces the generation of discards or the toxicity of those discards. See examples:

### Source Reduction

- Purchasing refurbished toner cartridges
- Shifting from disposal plastic to reusable utensils

### Discards Management (Not Source Reduction)

- Recycling toner cartridge
- Shifting from single use disposable plastic to single use compostable

## Section 1: Internal Source Reduction

Please list your county's most effective internal source reduction actions or programs. These should be activities that occur anywhere within your county operations. Provide a detailed description of each, specify any calculated environmental outcomes, and how the project ties to the County Solid Waste Plan. (Examples of relevant activities: Internal office supply reuse programs, making contracting or bid process entirely electronic, and policy to prohibit purchase of bottled water)

### Activity \*

Use of post-consumer recycled content material

### Start Date \*

01/01/2021

### End Date \*

12/31/2021

### Description \*

When economically possible we buy post-consumer recycled content material.

### Outcomes \*

By using these products, it closes the loop for recycling.

*Example of outcomes: Lbs. or tons source reduced, documentation of reduced paper or other purchases, increased number of printers and copiers that default to duplex or number of people trained on waste reduction activities.*

**Please describe how this activity directly relates to the County Solid Waste Master Plan: \***

This item was outlined in the Plan as one of the items the county has implemented as a source reduction program.

## Section 2: Community Source Reduction

Please list your county's most effective source reduction efforts with citizens or businesses. Provide a detailed description of each, specify any calculated outcomes, and how the project ties to the County Solid Waste Plan. (Examples of relevant activities: technical assistance at manufacturing plant reduced use of corrugated cardboard; promotion of shopping second hand increased traffic at 6 businesses in Big City; grant program resulted in implementation of reusable transport packaging at farmers market)

**Activity \***

Provide technical assistance to local businesses.

**Start Date \***

01/01/2021

**End Date \***

12/31/2021

**Description \***

The County intends to continue to encourage businesses to utilize various state and local programs for technical assistance with source reduction, recycling and pollution prevention programs. Further, the County will refer contacts resulting from telephone advice guidance to these organizations for technical assistance.

**Outcomes \***

The extent of source reduction/reuse activities is difficult to quantify. In an attempt to gather information, a questionnaire was sent along with a request concerning recycling to all area businesses.

*Example of outcomes: Lbs. or tons source reduced, documentation of reduced paper or other purchases, increased number of printers and copiers that default to duplex or number of people trained on waste reduction activities.*

**Please describe how this activity directly relates to the County Solid Waste Master Plan: \***

This item was outlined in the Plan as one of the items the county has implemented as a source reduction program.

**Created:** Mar 24, 2022 at 02:06 PM CDT

| Jessica Shea jessica.shea@crowwing.us

**Last Updated:** Mar 30, 2022 at 02:31 PM CDT

| Jessica Shea jessica.shea@crowwing.us

# REVENUES AND EXPENDITURES

Cycle: *Annual* | Year: *2021* | Status: *Completed*

Member Name: *Crow Wing County SCORE Program*

Please provide total county revenues and expenditures made during calendar year 2021) that were dedicated towards SCORE-related activities. If there were no county revenues or expenditures for a particular line item, please enter zero. Reported expenditures should only reflect direct county expenditures. No attempt should be made to quantify spending by other units of government, the private sector or citizens.

Note: Clicking the "Enter" button on your keyboard will submit the form. To navigate to a different cell/field, use the tab button on your keyboard.

## Revenues

### Calendar year 2020 revenues (1/1/2020 to 12/31/2020)

Balance carried-over from CY 2020 \* \$ 0.00 *If negative, please indicate appropriately. Ex. -1000*

Adjustment to balance carried-over from CY 2020 \* \$ 0.00

Adjusted balance carried-over from CY 2020 \$ 0.00

### Calendar year 2021 revenues (1/1/2021 to 12/31/2021)

General revenue (special assessments, levy, prop. tax, etc.) \* \$ 0.00

Service Fee \* \$ 513,593.13

Processing facility tip fee \* \$ 111,140.80

Land disposal facility surcharge \* \$ 0.00

SCORE funds received in CY 2021 \* \$ 189,880.00

Grants \* \$ 0.00

Household hazardous waste (HHW) funding from MPCA \* \$ 9,025.82

HHW funding from regional program sponsor \* \$ 0.00

Material sales \* \$ 0.00

Other \* \$ 32,315.14

#### Description of Other Revenue \*

Funds from PaintCare ad Dept of Ag for HHW program to manage pesticides and paint.

Total CY 2021 Revenues

\$ 855,954.89

## Expenditures

### Materials Management

Source Reduction \*

\$ 0.00

Reuse \*

\$ 0.00

Recycling \*

\$ 144,269.72

Organics \*

\$ 10,452.00

Household Hazardous Waste & Problem Material Management \*

\$ 319,704.57

Waste to Energy Processing \*

\$ 0.00

### Administration & Operations

County Grants to Other Local Units of Government \*

\$ 0.00

Education \*

\$ 10,835.79

Litter Prevention \*

\$ 1,034.00

Market Development \*

\$ 0.00

SCORE planning, oversight and administration \*

\$ 369,658.81

Total CY 2021 Expenditures

\$ 855,954.89

## Balance

Total CY 2021 Revenues

\$ 855,954.89

Total CY 2021 Expenditures

\$ 855,954.89

Balance of carry-over to CY 2022

\$ 0.00

## Financial Contact Information

Name *	Jessica Shea
Phone *	12188241123
Fax	
E-mail *	jessica.shea@crowwing.us

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**Created:** Mar 24, 2022 at 02:19 PM CDT

Jessica Shea jessica.shea@crowwing.us

**Last Updated:** Mar 30, 2022 at 02:17 PM CDT

Jessica Shea jessica.shea@crowwing.us

# MATERIALS COLLECTED FOR RECYCLING

Cycle: *Annual* | Year: *2021* | Status: *Completed*

Member Name: *Crow Wing County SCORE Program*

## Materials Collected for Recycling

For purposes of calculating recycling rates, Commercial/Industrial/Institutional (C/I/I) recycling only includes material sold by commercial, industrial or institutional establishment for the purpose of recycling. It does not include material recycled "in-house" or "mill scrap" within a manufacturing operation. Do not include materials recovered from other non-MSW waste streams such as demolition or construction debris, agricultural wastes, or non-hazardous industrial wastes. However the MPCA recognizes and encourages these activities.

C/I/I Documented Tons: Recyclable materials from the C/I/I sector for which tonnages are verifiable by:

- a.) A signed affidavit;
- b.) Tare slips from a recycler;
- c.) A report submitted to the county by a recycler, company official, school or other municipalities that are the point of collection; or
- d.) Otherwise verifiable from a specific source.

### Paper

	RESIDENTIAL TONS *	<u>C/I/I DOCUMENTED TONS *</u>	COMMENTS
Aseptic Containers/Drink Boxes	0.00	0.00	
Boxboard/Cardboard	599.13	3,396.93	
Catalogs/Magazines	0.00	0.00	
Mixed Paper	892.91	23,574.92	
Newspaper	0.00	0.00	
Office Paper	0.00	6.95	
Telephone Directories/Phone Books	0.00	0.00	
Books	0.00	0.00	
Shredded	0.00	0.00	
Kraft Paper/Bags	0.00	0.00	
Plastic-lined Paper Bags	0.00	0.00	

Total Tons of Residential Paper

1,492.04

Total Tons of C/I/I Paper

26,978.80

Total Tons of Paper

28,470.84

## Metal

	RESIDENTIAL TONS *	C/I/I DOCUMENTED TONS *	COMMENTS
Aluminum	0.00	0.00	
Aluminum Cans	102.16	0.00	
Ferrous Metals	373.43	0.00	
Non Ferrous Metal	0.00	13,361.43	

Total Tons of Residential Metal

475.59

Total Tons of C/I/I Metal

13,361.43

Total Tons of Metal

13,837.02

## Glass

	RESIDENTIAL TONS *	C/I/I DOCUMENTED TONS *	COMMENTS
Clear Glass Containers	0.00	0.00	
Brown Glass Containers	0.00	0.00	
Green Glass Containers	0.00	0.00	
Mixed Glass Containers	1,169.87	112.76	
Non-Container Glass: Includes plate glass, glass from electronics, etc	0.00	0.00	

Total Tons of Residential Glass

1,169.87

Total Tons of C/I/I Glass

112.76

Total Tons of Glass

1,282.63

## Plastics

	RESIDENTIAL TONS *	C/I/I DOCUMENTED TONS *	COMMENTS
EPS Blocks/Shapes & Foam Food Service	0.00	0.00	

HDPE Bottles - Colored	0.00	0.00	
HDPE Bottles - Natural	0.00	0.45	
HDPE Injection Grade	0.00	0.00	
LDPE Tubs & Lids	0.00	20.83	
Mixed Plastic Containers	203.56	13.30	
Mixed Retail Bags/Wraps Film	0.00	31.86	
PET Bottles	0.00	0.00	
PET Clam Shells	0.00	0.00	
PP Bottles, Containers & Bulky	0.00	0.00	
PS Rigids	0.00	2.25	
Ag Film/Boat Wrap	0.00	0.00	

Total Tons of Residential Plastics

203.56

Total Tons of C/I/I Plastics

68.69

Total Tons of Plastic

272.25

## Organics

	RESIDENTIAL TONS *	C/I/I DOCUMENTED TONS *	COMMENTS
Fats/Oils/Greases	0.00	20.05	
Food to People	0.00	0.00	
Food to Livestock	0.00	0.00	
Source-Separated Organic Materials: Includes meat scraps, rendering, etc if being source separated at a commercial facility	0.00	0.00	
Yard Waste Composting: Includes brush, untreated wood waste, lawn and yard clippings, etc (does NOT include burning/WTE)	2,911.48	126.14	

What specific composting initiatives did the county implement this year to progress towards meeting the composting goal established in 115A.551?

Total Tons of Residential Organics	2,911.48
Total Tons of C/I/I Organics	146.19
Total Tons of Organics	3,057.67

## Hazardous Waste

Report all residential and commercial hazardous waste here to ensure that you get full recycling credit for your recycled hazardous waste.

	RESIDENTIAL TONS *	C/I/I DOCUMENTED TONS *	COMMENTS
Antifreeze	0.00	0.00	
Fluorescent and HID Lamps	0.00	8.20	
Ballasts	0.00	0.00	
Latex Paint	0.00	0.00	
Oil Filters	0.00	26.78	
Used Oil	0.00	610.91	
Vehicle Batteries	0.00	228.43	
HHW - Residential Only: Includes Pharmaceuticals and sharps, Latex Paint, or other materials that are reported on HHW form in aggregate (no residential tons should be reported in other categories)	534.13	0.00	

Total Tons of Residential Hazardous Waste	534.13
Total Tons of C/I/I Hazardous Waste	874.32
Total Tons of Hazardous Waste	1,408.45

## Other Recyclables

	RESIDENTIAL TONS *	C/I/I DOCUMENTED TONS *	COMMENTS
Sawdust for Animal Bedding	0.00	0.00	

Carpet	0.00	0.00	
Mattresses and Box Springs	63.50	0.00	
Major Appliances and White Goods	545.20	14.97	
Electronic Devices	150.30	29.87	
Pallets	0.00	575.00	
Textiles	0.00	0.00	
Waste Tires	145.41	306.55	
Batteries: Includes button, rechargeable, single use, etc but NOT vehicle (please report those under Hazardous)	0.32	0.83	
Inkjet Cartridges	0.00	27.30	
Furniture	0.00	3.43	
Shingles	0.00	0.00	
Concrete/Asphalt: Does NOT include road projects or city maintenance projects	0.00	0.00	

What specific recycling initiatives did the county implement this year to progress towards meeting the recycling goal established in 115A.511?

Total Tons of Other Residential Recyclables	904.73
Total Tons of Other C/I/I Recyclables	957.95
Total Tons of Other Recyclables	1,862.68

## Materials Collected for Reuse

"Reuse" is the continued use or repurposing of items or materials without processing (this includes resale, repair, rental, and donation of items to partners that facilitate reuse). Reuse extends the life of existing products to reduce the demand for new production and the associated environmental impacts of that manufacturing. Recycling numbers should NOT be included in this section.

Please list the quantity of items and materials reused in your county through county programming or partner efforts located within your county.

Do you have reuse to report? \*

☐ Yes

☒ No

## Totals

Total Tons of All Residential Recyclables and Reused Materials <i>Included</i>	7,157.27	<i>Hazardous Waste is not</i>
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Total Tons of All C/I/I Recyclables and Reused Materials <i>Included</i>	41,625.82	<i>Hazardous Waste is not</i>
---	-----------	-------------------------------

Total Tons All Recyclables and Reused Materials <i>Included</i>	48,783.09	<i>Hazardous Waste is not</i>
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Total Tons of All Residential Recyclables and Reused Materials	7,691.40	<i>Hazardous Waste Included</i>
--	----------	---------------------------------

Total Tons of All C/I/I Recyclables and Reused Materials	42,500.14	<i>Hazardous Waste Included</i>
--	-----------	---------------------------------

Total Tons All Recyclables and Reused Materials	50,191.54	<i>Hazardous Waste Included</i>
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**Created:** Mar 25, 2022 at 11:03 AM CDT

**Created by:** Jessica Shea jessica.shea@crowwing.us

**Last Updated:** Mar 30, 2022 at 02:53 PM CDT

**Last Updated by:** Jessica Shea jessica.shea@crowwing.us

# WASTE GENERATION

Cycle: *Annual* | Year: *2021* | Status: *Completed*

Member Name: *Crow Wing County SCORE Program*

## Total MSW Generation

Total MSW to Landfill:

46,095.00 tons per year

Total MSW to Waste to Energy:

0.00 tons per year

## On-site-disposal of uncollected MSW

To estimate the quantity of waste generated in the county that is not collected and disposed of in the formal waste management system, please estimate the county population without MSW collection service that does not self-haul \*

550 persons

Estimated tons of MSW managed on-site using the following formula: (# of persons x 2.3 lbs./person x 365 days)/(2000 lbs./ton). The result is the total tons of county waste considered to be disposed on-site each year.

230.86 tons per year

## Managed MSW

Estimate the percent of MSW generated by the *C/I/I* sector \*

36.00 percent

Have all the licensed haulers in the county reported to MPCA? \*

☐ Yes

☒ No

Please provide licensed hauler data for all haulers that have not reported to MPCA.

	HAULER NAME *	DESTINATION *	RESIDENTIAL MSW/TRASH *	COMMERCIAL MSW/TRASH *
1	Tiger Rolloff	Crow Wing County MSW Landfill SW-376 - SW-376	1.00	1.00

Created: Mar 24, 2022 at 04:05 PM CDT

Jessica Shea jessica.shea@crowwing.us

Last Updated: Mar 30, 2022 at 02:32 PM CDT

Jessica Shea jessica.shea@crowwing.us



# LICENSED HAULERS

Cycle: *Annual* | Year: *2021* | Status: *Completed*

Member Name: *Crow Wing County SCORE Program*

## Licensed Haulers Operating in County

Please list all of the licensed haulers operating within your county.

	HAULER NAME *	PHONE # *	EMAIL *	COLLECTION * (Check all that apply)
1	Mille Lacs Band Public Works (H-0550)	320-532-7437	brian.scheinost@millelacsband.com	<input type="checkbox"/> C&D <input type="checkbox"/> Recycling <input checked="" type="checkbox"/> MSW <input type="checkbox"/> Transfer Only
2	Garrison Disposal (H-0165)	218-927-6435	questions@garrisondisposal.com	<input checked="" type="checkbox"/> C&D <input checked="" type="checkbox"/> Recycling <input checked="" type="checkbox"/> MSW <input type="checkbox"/> Transfer Only
3	Waste Partners, Inc (H-0470)	218-824-8727	info@wastepartners.inc	<input type="checkbox"/> C&D <input checked="" type="checkbox"/> Recycling <input checked="" type="checkbox"/> MSW <input type="checkbox"/> Transfer Only
4	Grinning Bear Roll-Off (H-0179)	218-851-2509	g.bear@brainerd.net	<input checked="" type="checkbox"/> C&D <input type="checkbox"/> Recycling <input checked="" type="checkbox"/> MSW <input type="checkbox"/> Transfer Only

5	Nisswa Roll-Off Service (H-0295)	218-963-0014	jasonrani@hotmail.com	<input checked="" type="checkbox"/> C&D <input checked="" type="checkbox"/> Recycling <input checked="" type="checkbox"/> MSW <input type="checkbox"/> Transfer Only
6	North County Sanitation & Roll-Off - Pequot Lakes (H-0303)	218-831-2003	tinachisholm@tds.net	<input checked="" type="checkbox"/> C&D <input type="checkbox"/> Recycling <input checked="" type="checkbox"/> MSW <input type="checkbox"/> Transfer Only
7	Range Disposal (H-0337)	218-546-5200	shellie@rangedisposal.com	<input type="checkbox"/> C&D <input type="checkbox"/> Recycling <input checked="" type="checkbox"/> MSW <input type="checkbox"/> Transfer Only
8	Waste Management - Baxter (H-0448)	218-829-4155	sbednave@wm.com	<input checked="" type="checkbox"/> C&D <input checked="" type="checkbox"/> Recycling <input checked="" type="checkbox"/> MSW <input type="checkbox"/> Transfer Only
9	Pequot Lakes Sanitation dba Gull Lake Sanitation (H-0318)	218-568-4630	pequotlakessanitation@tds.net	<input checked="" type="checkbox"/> C&D <input type="checkbox"/> Recycling <input checked="" type="checkbox"/> MSW <input type="checkbox"/> Transfer Only
10	Hengel Ready Mix and Construction, Inc (H-0191)	218-746-3355	heather@hengelreadymix.com	<input checked="" type="checkbox"/> C&D <input type="checkbox"/> Recycling <input checked="" type="checkbox"/> MSW <input type="checkbox"/> Transfer Only

11	Emily Roll-Off (H-0141)	218-821-3330	genzconst@emily.net	<input checked="" type="checkbox"/> C&D <input type="checkbox"/> Recycling <input checked="" type="checkbox"/> MSW <input type="checkbox"/> Transfer Only
12	Bob Lemieur Roll-Off, Refuse, and Recycling (H-0040)	320-632-5212	lindalemieur@yahoo.com	<input checked="" type="checkbox"/> C&D <input type="checkbox"/> Recycling <input checked="" type="checkbox"/> MSW <input type="checkbox"/> Transfer Only
13	American Disposal, Inc (H-0024)	218-246-8729	xxxx@xxx.net	<input type="checkbox"/> C&D <input type="checkbox"/> Recycling <input checked="" type="checkbox"/> MSW <input type="checkbox"/> Transfer Only
14	Greenday Hauling, LLC (H-0563)	218-825-8141	greendayhauling@gmail.com	<input checked="" type="checkbox"/> C&D <input type="checkbox"/> Recycling <input checked="" type="checkbox"/> MSW <input type="checkbox"/> Transfer Only

Transfer Only – Haulers that only transport material between permitted solid waste facilities

**Created:** Mar 24, 2022 at 03:45 PM CDT

Jessica Shea jessica.shea@crowwing.us

**Last Updated:** Mar 30, 2022 at 02:32 PM CDT

Jessica Shea jessica.shea@crowwing.us

## **APPENDIX F – SCORE FUNDED RECYCLING PROGRAM SUMMARY**

## SCORE Funded Recycling Program Summary

TABLE 2.1

Program	2019			2020			2021		
	Tons	Funding	Cost/Ton	Tons	Funding	Cost/Ton	Tons	Funding	Cost/Ton
Baxter	674.25	\$14,000	\$20.76	582.23	Curbside	N/A	499.57	Curbside	N/A
Bay Lake Township	80.20	\$28,000	\$349.13	N/A	N/A	N/A	N/A	N/A	N/A
Brainerd	881.77	\$16,000	\$18.15	744.16	Curbside	N/A	931.77	Curbside	N/A
Center Township	18.97	\$3,000	\$158.14	N/A	N/A	N/A	N/A	28.51	N/A
Crosby	257.52	\$57,000	\$221.34	72.50	\$23,179	\$319.71	N/A	N/A	N/A
Breezy Point	348.39	\$12,500	\$35.88	281.57	Curbside	N/A	285.59	Curbside	N/A
Crosslake	317.66	\$29,200	\$91.92	175.89	\$32,100	\$182.50	314.03	Curbside	N/A
Deerwood	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Emily	102.84	\$8,000	\$77.79	N/A	N/A	N/A	N/A	N/A	N/A
Fifty Lakes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Garrison	2.21	\$6,000	\$2,714.93	N/A	N/A	N/A	N/A	N/A	N/A
Ideal	82.35	\$35,000	\$425.02	116.51	\$37,200	\$319.29	168.04	\$41,021	\$244.12
Ironton	51.45	\$3,000	\$58.31	43.48	Curbside	N/A	56.27	Curbside	N/A
Landfill	130.56	\$45,431	\$347.97	239.26	\$54,845	\$229.23	274.07	\$60,091	\$219.25
Maple Grove Township	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Merrifield	13.58	\$5,750	\$423.42	N/A	N/A	N/A	N/A	N/A	N/A
Mission	50.95	\$25,000	\$392.54	N/A	N/A	N/A	N/A	N/A	N/A
Nisswa	440.93	\$68,000	\$154.22	479.98	\$90,750	\$189.07	529.35	\$40,333	\$76.19
Pequot Lakes	284.99	\$10,000	\$35.09	219.57	Curbside	N/A	282.39	Curbside	N/A
Roosevelt	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Southwest Townships	53.67	\$15,000	\$279.49	52.34	\$15,734	\$300.61	N/A	N/A	N/A
South Long Lake	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Total - County Funded</b>	<b>3,792.29</b>	<b>\$375,881</b>	<b>\$99.12</b>	<b>1,136.48</b>	<b>\$253,808</b>	<b>\$223.33</b>	<b>971.46</b>	<b>\$141,474</b>	<b>\$145.63</b>
<b>Total - No Funding</b>				<b>1,871.01</b>	<b>N/A</b>	<b>N/A</b>	<b>2,369.62</b>	<b>N/A</b>	<b>N/A</b>

SCORE Funding \$184,082

\$185,912

\$189,880

% Funded by State SCORE Grant 49%

73%

134%

Program	Total 1991- 2021			20 - 21
	Tons	Funding	Cost/Ton	Tons
Baxter	16,919.33	\$687,680	\$40.64	1,081.80
Bay Lake Township	577.97	\$122,440	\$211.84	N/A
Brainerd	25,806.18	\$2,197,443	\$85.15	1,675.93
Center Township	55.49	\$7,000	\$126.15	N/A
Crosby	5,928.53	\$886,343	\$149.50	N/A
Breezy Point	4,554.53	\$259,425	\$56.96	567.16
Crosslake	5,022.78	\$664,958	\$132.39	314.03
Deerwood	284.33	\$12,000	\$42.20	N/A
Emily	1,326.61	\$188,705	\$142.25	N/A
Fifty Lakes	14.18	\$1,500	\$105.78	N/A
Garrison	624.54	\$98,437	\$157.62	N/A
Ideal	2,671.53	\$305,782	\$114.46	N/A
Ironton	111.08	\$6,000	\$54.02	99.75
Landfill	2,376.49	\$313,427	\$131.89	N/A
Maple Grove Township	189.34	\$36,102	\$190.67	N/A
Merrifield	4,438.75	\$117,900	\$26.56	N/A
Mission	1,239.58	\$155,835	\$125.72	N/A
Nisswa	6,478.85	\$639,740	\$98.74	N/A
Pequot Lakes	3,239.36	\$238,541	\$73.64	501.96
Roosevelt	485.57	\$92,871	\$191.26	N/A
Southwest Townships	690.51	\$168,486	\$244.00	N/A
South Long Lake	224.35	\$36,172	\$161.23	N/A
<b>Total - County Funded</b>	<b>83,259.88</b>	<b>\$7,236,787</b>	<b>\$86.92</b>	
<b>Total - No Funding</b>		<b>N/A</b>	<b>N/A</b>	<b>4,240.63</b>

SCORE Funding \$4,683,452

% Funded by State SCORE Grant 65%

## **APPENDIX G – RESIDENTIAL RECYCLING PROGRAM SUMMARY**

ANNUAL RECYCLING REPORT (RESIDENTIAL)  
CROW WING COUNTY  
2021  
WEIGHT IN TONS

Ironton - Curbside (WASTE PARTNERS/Pine River Recycling Center)

Ironton														
1/31/2021	711				1,423		316	1,327		3,853	632			8,262
2/28/2021	671				850		280	1,176		3,417	560			6,954
3/31/2021	819				469		340	1,429		4,150	680			7,887
4/30/2021	945				1,175		386	1,619		4,703	771			9,599
5/31/2021	1,029				1,175		386	1,619		4,703	771			9,683
6/30/2021	1,041				2,119		489	2,056		5,971	979			12,655
7/31/2021	1,317				754		487	2,047		5,947	975			11,527
8/31/2021	1,134				484		465	1,955		5,679	931			10,648
9/30/2021	573				591		461	1,934		5,619	921			10,099
10/31/2021	436				203		357	1,500		4,358	714			7,568
11/30/2021	429				310		405	1,701		4,942	810			8,597
12/30/2021	437				575		415	1,742		5,059	829			9,057
Subtotal LB	9,542	0	0	0	10,128	0	4,787	20,105	0	58,401	9,573	0	0	112,536
Subtotal TN	4.77	0.00	0.00	0.00	5.06	0.00	2.39	10.05	0.00	29.20	4.79	0.00	0.00	56.27

SCORE FUNDS/COST PER TON

N/A #VALUE!

Residue
190
168
204
231
231
294
0
0
0
0
0
0
1,318
0.66

56.27

112,536

8,452  
7,122  
8,091  
9,830  
9,914  
12,949  
11,527  
10,648  
10,099  
7,568  
8,597  
9,057

% Residue

113,854

1.2%

MONTH	OCC	NEWS	OFFICE PAPER	MAGS	MIXED PAPER	PHONE BOOKS	ALUM. CANS	TIN CANS	SCRAP METAL	GLASS	PLASTIC	FOOD WASTE	OTHER	TOTAL
	(WASTE PARTNERS/Pine River Recycling Center)													
1/31/2021	1,515				3,034		673	2,828		8,214	1,347			17,611
2/28/2021	1,430				1,811		597	2,507		7,283	1,194			14,822
3/31/2021	1,746				999		697	2,929		8,508	1,395			16,274
4/30/2021	1,550				2,505		726	3,049		8,856	1,452			18,138
5/31/2021	3,292				3,046		713	2,996		8,704	1,427			20,178
6/30/2021	3,329				4,517		947	3,979		11,558	1,895			26,225
7/31/2021	4,210				1,608		912	3,830		11,127	1,824			23,511
8/31/2021	3,626				1,032		867	3,639		10,571	1,733			21,468
9/30/2021	3,565				1,226		833	3,500		10,167	1,667			20,958
10/31/2021	2,715				422		719	3,018		8,767	1,437			17,078
11/30/2021	2,651				637		809	3,397		9,867	1,617			18,978
12/30/2021	2,699				1,184		828	3,478		10,101	1,656			19,946
Subtotal LB	32,328	0	0	0	22,021	0	9,321	39,150	0	113,723	18,644	0	0	235,187
Subtotal TN	16.16	0.00	0.00	0.00	11.01	0.00	4.66	19.58	0.00	56.86	9.32	0.00	0.00	117.59
(PEQUOT LAKES SANITATION/Pine River Recycling Center)														
1/31/2021					18,389		518	777		4,921	1,295			25,900
2/28/2021					15,840		446	669		4,239	1,116			22,310
3/31/2021					17,516		493	740		4,687	1,234			24,670
4/30/2021					18,091		510	764		4,841	1,274			25,480
5/31/2021					18,221		513	770		4,876	1,283			25,664
6/30/2021					21,220		598	897		5,679	1,494			29,888
7/31/2021					22,107		623	934		5,916	1,557			31,136
8/31/2021					21,692		611	917		5,805	1,910			30,934
9/30/2021					22,981		647	971		6,150	2,023			32,773
10/31/2021					20,971		591	886		5,612	1,846			29,905
11/30/2021					19,636		553	830		5,255	1,729			28,002
12/30/2021					20,567		579	869		5,504	1,811			29,330
Subtotal LB	0	0	0	0	237,231	0	6,683	10,024	0	63,484	18,570	0	0	335,992
Subtotal TN	0.00	0.00	0.00	0.00	118.62	0.00	3.34	5.01	0.00	31.74	9.28	0.00	0.00	168.00
Total LB	32,328	0	0	0	259,252	0	16,004	49,174	0	177,207	37,214	0	0	571,179
Total TN	16.16	0.00	0.00	0.00	129.63	0.00	8.00	24.59	0.00	88.60	18.61	0.00	0.00	285.59

SCORE FUNDS/COST PER TON

N/A #VALUE!

Residue		
404	18,015	
358	15,180	
418	16,692	
436	18,574	
428	20,606	
568	26,793	
547	24,058	
520	21,988	
500	21,458	
431	17,509	
485	19,463	
497	20,443	% Residue
5,592	240,779	2.3%
2.80		

ANNUAL RECYCLING REPORT (RESIDENTIAL)  
CROW WING COUNTY  
2021  
WEIGHT IN TONS

Crosslake - Curbside

MONTH	OCC	NEWS	OFFICE PAPER	MAGS	MIXED PAPER	PHONE BOOKS	ALUM. CANS	TIN CANS	SCRAP METAL	GLASS	PLASTIC	FOOD WASTE	Electronics	TOTAL
(WASTE PARTNERS/Pine River Recycling Center)														
1/31/2021	3,247				6,501		1,443	6,060		17,602	2,885			37,738
2/28/2021	3,063				3,881		1,279	5,373		15,607	2,559			31,762
3/31/2021	3,741				2,141		1,494	6,277		18,232	2,989			34,874
4/30/2021	3,322				5,367		1,556	6,533		18,977	3,111			38,866
5/31/2021	7,054				6,528		1,529	6,421		18,651	3,057			43,240
6/30/2021	7,133				9,680		2,030	8,527		24,767	4,060			56,197
7/31/2021	9,022				3,446		1,954	8,208		23,843	3,909			50,382
8/31/2021	7,769				2,212		1,857	7,799		22,653	3,714			46,004
9/30/2021	7,640				2,627		1,786	7,500		21,786	3,571			44,910
10/31/2021	5,818				903		1,540	6,468		18,787	3,080			36,596
11/30/2021	5,680				1,365		1,733	7,279		21,143	3,466			40,666
12/30/2021	5,783				2,536		1,774	7,452		21,646	3,548			42,739
Subtotal LB	69,272	0	0	0	47,187	0	19,975	83,897	0	243,694	39,949	0	0	503,974
Subtotal TN	34.64	0.00	0.00	0.00	23.59	0.00	9.99	41.95	0.00	121.85	19.97	0.00	0.00	251.99
(WASTE MANAGEMENT/PELTZ, St Cloud, & LPI)														
1/31/2021	0				0		0	0		0	0			0
2/28/2021	0				0		0	0		0	0			0
3/31/2021	0				0		0	0		0	0			0
4/30/2021	0				0		0	0		0	0			0
5/31/2021	0				0		0	0		0	0			0
6/30/2021	0				0		0	0		0	0			0
7/31/2021	0				0		0	0		0	0			0
8/31/2021	0				0		0	0		0	0			0
9/30/2021	0				0		0	0		0	0			0
10/31/2021	0				0		0	0		0	0			0
11/30/2021	0				0		0	0		0	0			0
12/30/2021	0				0		0	0		0	0			0
Subtotal LB	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal TN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(PEQUOT LAKES SANITATION/Pine River Recycling Center)														
1/31/2021					0		0	0		0	0			0
2/28/2021					0		0	0		0	0			0
3/31/2021					0		0	0		0	0			0
4/30/2021					9,045		255	382		2,421	0			12,103
5/31/2021					9,111		257	385		2,438	0			12,190
6/30/2021					10,610		299	448		2,839	0			14,197
7/31/2021					11,053		311	467		2,958	0			14,790
8/31/2021					10,846		306	458		2,902	0			14,512
9/30/2021					11,491		324	486		3,075	0			15,375
10/31/2021					10,485		295	443		2,806	0			14,030
11/30/2021					9,818		277	415		2,627	0			13,137
12/30/2021					10,284		290	435		2,752	0			13,760
Subtotal LB	0	0	0	0	92,743	0	2,612	3,919	0	24,819	0	0	0	124,093
Subtotal TN	0.00	0.00	0.00	0.00	46.37	0.00	1.31	1.96	0.00	12.41	0.00	0.00	0.00	62.05
Total LB	69,272	0	0	0	139,930	0	22,587	87,816	0	268,513	39,949	0	0	628,067
Total TN	34.64	0.00	0.00	0.00	69.97	0.00	11.29	43.91	0.00	134.26	19.97	0.00	0.00	314.03
SCORE FUNDS/COST PER TON													\$0.00	\$0.00

Residue		
865	38,603	
768	32,530	
897	35,771	
933	39,799	
917	44,157	
1,218	57,415	
1,173	51,555	
1,114	47,118	
1,071	45,981	
924	37,520	
1,040	41,706	
1,065	43,804	% Residue
11,985	515,959	2.3%
5.99		

314.03      628,067

ANNUAL RECYCLING REPORT (RESIDENTIAL)  
CROW WING COUNTY

Ideal

(WASTE PARTNERS/Pine River Recycling Center)

2021

2021

WEIGHT IN TONS

MONTH	OCC	NEWS	OFFICE PAPER	MAGS	MIXED PAPER	PHONE BOOKS	ALUM. CANS	TIN CANS	SCRAP METAL	GLASS	PLASTIC	FOOD WASTE	OTHER	TOTAL
1/31/2021	6,352				2,280		247	1,037		9,644	494			20,054
2/28/2021	3,920				1,920		191	802		8,377	382			15,592
3/31/2021	6,203				4,140		301	1,264		11,883	602			24,393
4/30/2021	8,589				2,420		270	1,134		10,052	540			23,005
5/31/2021	13,207				3,600		279	1,172		11,003	558			29,819
6/30/2021	14,304				4,320		535	2,247		18,145	1,070			40,621
7/31/2021	15,034				4,360		2,135	8,955		11,822	4,270			46,576
8/31/2021	16,072				4,140		1,746	7,322		10,136	3,492			42,908
9/30/2021	12,768				3,080		1,415	5,935		12,074	2,830			38,102
10/31/2021	7,708				2,880		1,029	4,314		0	2,057			17,988
11/30/2021	6,720				3,300		954	3,999		0	1,907			16,880
12/30/2021	4,830				3,040		598	2,507		7,965	1,195			20,135
Subtotal LB	115,707	0	0	0	39,480	0	9,700	40,688	0	111,101	19,397	0	0	336,073
Subtotal TN	57.85	0.00	0.00	0.00	19.74	0.00	4.85	20.34	0.00	55.55	9.70	0.00	0.00	168.04

SCORE FUNDS/COST PER TON

\$37,200.00

\$221.38

Nisswa

(WASTE PARTNERS/Pine River Recycling Center)

MONTH	OCC	NEWS	OFFICE PAPER	MAGS	MIXED PAPER	PHONE BOOKS	ALUM. CANS	TIN CANS	SCRAP METAL	GLASS	PLASTIC	FOOD WASTE	OTHER	TOTAL
1/31/2021	25,444				11,000		1,414	5,925		18,738	2,821			65,342
2/28/2021	22,372				9,480		1,263	5,303		16,375	2,525			57,318
3/31/2021	22,018				15,700		1,519	6,379		20,065	3,037			68,718
4/30/2021	30,860				13,540		1,478	6,206		19,474	2,955			74,513
5/31/2021	44,112				12,740		1,691	7,101		21,871	3,381			90,896
6/30/2021	43,997				13,520		2,228	9,356		29,811	4,455			103,367
7/31/2021	55,760				14,360		2,975	12,494		39,058	5,949			130,596
8/31/2021	52,640				15,140		2,927	12,292		37,604	5,853			126,456
9/30/2021	46,368				12,220		2,270	9,533		29,725	4,539			104,655
10/31/2021	34,258				11,960		1,673	7,025		20,407	3,345			78,668
11/30/2021	37,727				13,740		1,740	7,307		21,224	3,479			85,217
12/30/2021	30,124				12,380		1,570	6,593		19,150	3,139			72,956
Subtotal LB	445,680	0	0	0	155,780	0	22,748	95,514	0	293,502	45,478	0	0	1,058,702
Subtotal TN	222.84	0.00	0.00	0.00	77.89	0.00	11.37	47.76	0.00	146.75	22.74	0.00	0.00	529.35

SCORE FUNDS/COST PER TON

\$90,750.00

\$171.44

Residue	
148	20,202
115	15,707
181	24,574
162	23,167
167	29,986
321	40,942
0	46,576
0	42,908
0	38,102
0	17,988
0	16,880
0	20,135 % Residue
1,094	337,167 0.3%
0.55	

Residue	
846	66,188
758	58,076
911	69,629
887	75,400
1,014	91,910
1,337	104,704
1,785	132,381
1,756	128,212
1,362	106,017
1,004	79,672
1,044	86,261
942	73,898 % Residue
13,646	1,072,348 1.3%
6.82	

ANNUAL RECYCLING REPORT (RESIDENTIAL)  
CROW WING COUNTY  
2021  
WEIGHT IN TONS

Pequot Lakes - Curbside

MONTH	OCC	NEWS	OFFICE PAPER	MAGS	MIXED PAPER	PHONE BOOKS	ALUM. CANS	TIN CANS	SCRAP METAL	GLASS	PLASTIC	FOOD WASTE	OTHER	TOTAL
(GARRISON/Pine River Recycling Center)														
1/31/2021					742		21	43		243	64			1,114
2/28/2021					376		11	22		123	32			565
3/31/2021					660		19	38		216	57			990
4/30/2021					749		21	43		245	65			1,123
5/31/2021					789		22	46		258	68			1,183
6/30/2021					867		25	50		284	75			1,300
7/31/2021					1,045		30	60		342	90			1,567
8/31/2021					1,262		36	73		413	109			1,893
9/30/2021					1,094		31	63		358	94			1,641
10/31/2021					967		28	56		317	83			1,450
11/30/2021					940		27	54		308	81			1,410
12/30/2021					833		24	48		273	72			1,249
Subtotal LB	0	0	0	0	10,324	0	294	596	0	3,382	890	0	0	15,486
Subtotal TN	0.00	0.00	0.00	0.00	5.16	0.00	0.15	0.30	0.00	1.69	0.44	0.00	0.00	7.74
(WASTE PARTNERS/Pine River Recycling Center)														
1/31/2021	1,389				2,782		617	2,593		7,532	1,235			16,148
2/28/2021	1,311				1,661		547	2,299		6,679	1,095			13,592
3/31/2021	1,601				916		640	2,686		7,802	1,279			14,924
4/30/2021	1,422				2,297		666	2,796		8,121	1,331			16,633
5/31/2021	3,019				2,793		654	2,748		7,981	1,308			18,503
6/30/2021	3,052				4,142		869	3,649		10,599	1,737			24,048
7/31/2021	3,861				1,475		836	3,513		10,203	1,673			21,561
8/31/2021	3,325				946		795	3,337		9,694	1,589			19,686
9/30/2021	3,269				1,124		764	3,209		9,323	1,528			19,217
10/31/2021	2,489				387		659	2,768		8,040	1,318			15,661
11/30/2021	2,431				584		742	3,115		9,048	1,483			17,403
12/30/2021	2,475				1,085		759	3,189		9,263	1,518			18,289
Subtotal LB	29,644	0	0	0	20,192	0	8,548	35,902	0	104,285	17,094	0	0	215,665
Subtotal TN	14.82	0.00	0.00	0.00	10.10	0.00	4.27	17.95	0.00	52.14	8.55	0.00	0.00	107.83
(PEQUOT LAKES SANITATION/Pine River Recycling Center)														
1/31/2021					18,389		518	777		4,921	1,295			25,900
2/28/2021					15,840		446	669		4,239	1,116			22,310
3/31/2021					17,516		493	740		4,687	1,234			24,670
4/30/2021					18,091		510	764		4,841	1,593			25,799
5/31/2021					18,221		513	770		4,876	1,604			25,985
6/30/2021					21,220		598	897		5,679	1,868			30,262
7/31/2021					22,107		623	934		4,396	1,557			29,616
8/31/2021					21,692		611	917		5,805	1,528			30,552
9/30/2021					22,981		647	971		6,150	1,618			32,368
10/31/2021					20,971		591	886		5,612	1,477			29,536
11/30/2021					19,636		553	830		5,255	1,383			27,656
12/30/2021					20,567		579	869		5,504	1,448			28,968
Subtotal LB	0	0	0	0	237,231	0	6,683	10,024	0	61,964	17,719	0	0	333,621
Subtotal TN	0.00	0.00	0.00	0.00	118.62	0.00	3.34	5.01	0.00	30.98	8.86	0.00	0.00	166.81
Total LB	29,644	0	0	0	267,747	0	15,524	46,522	0	169,631	35,703	0	0	564,772
Total TN	14.82	0.00	0.00	0.00	133.87	0.00	7.76	23.26	0.00	84.82	17.85	0.00	0.00	282.39

COST PER TONN/A#VALUE!

Residue		
166	1,280	
84	649	
148	1,138	
168	1,291	
177	1,360	
194	1,495	
234	1,801	
283	2,175	
245	1,886	
217	1,667	
211	1,621	
187	1,436	% Residue
2,314	17,800	13.0%
1.16		
Residue		
370	16,518	
328	13,920	
384	15,308	
399	17,032	
393	18,896	
521	24,569	
502	22,063	
477	20,163	
458	19,675	
395	16,056	
445	17,848	
456	18,745	% Residue
5,128	220,793	2.3%
2.56		

564,772

282.39

ANNUAL RECYCLING REPORT (RESIDENTIAL)  
CROW WING COUNTY  
2021  
WEIGHT IN TONS

Brainerd - Curbside

MONTH	OCC	NEWS	OFFICE PAPER	MAGS	MIXED PAPER	PHONE BOOKS	ALUM. CANS	TIN CANS	SCRAP METAL	GLASS	PLASTIC	FOOD WASTE	OTHER	TOTAL
(WASTE MANAGEMENT/PELTZ, St Cloud, & LPI)														
1/31/2021					20,448		1,363	2,045		9,202	1,022			34,080
2/28/2021					20,940		1,396	2,094		9,423	1,047			34,900
3/31/2021					21,420		1,428	2,142		9,639	1,071			35,700
4/30/2021					19,416		1,294	1,942		8,737	971			32,360
5/31/2021					18,600		1,240	1,860		8,370	930			31,000
6/30/2021					20,568		1,371	2,057		9,256	1,028			34,280
7/31/2021					11,652		777	1,165		5,243	583			19,420
8/31/2021					21,492		1,433	2,149		9,671	1,075			35,820
9/30/2021					23,424		1,562	2,342		10,541	1,171			39,040
10/31/2021					24,154		680	1,021		6,464	1,701			34,020
11/30/2021					27,264		768	1,152		7,296	1,920			38,400
12/30/2021					33,356		940	1,409		8,926	2,349			46,980
Subtotal LB	0	0	0	0	262,734	0	14,252	21,378	0	102,768	14,868	0	0	416,000
Subtotal TN	0.00	0.00	0.00	0.00	131.37	0.00	7.13	10.69	0.00	51.38	7.43	0.00	0.00	208.00
(GARRISON/Pine River Recycling Center)														
1/31/2021	0				7,424		211	429		2,432	640			11,136
2/28/2021	0				3,764		107	217		1,233	325			5,646
3/31/2021	0				6,603		188	381		2,163	569			9,904
4/30/2021	0				7,488		213	432		2,453	646			11,231
5/31/2021	0				7,888		224	456		2,584	680			11,832
6/30/2021	0				8,671		247	501		2,841	746			13,005
7/31/2021	0				10,449		450	450		3,423	901			15,672
8/31/2021	0				12,618		544	544		4,133	1,088			18,926
9/30/2021	0				10,942		472	472		3,584	943			16,412
10/31/2021	0				9,669		417	417		3,167	834			14,503
11/30/2021	0				9,402		405	405		3,080	811			14,103
12/30/2021	0				8,329		359	359		518	718			10,283
Subtotal LB	0	0	0	0	103,244	0	3,837	5,063	0	31,609	8,898	0	0	152,650
Subtotal TN	0.00	0.00	0.00	0.00	51.62	0.00	1.92	2.53	0.00	15.80	4.45	0.00	0.00	76.33
(WASTE PARTNERS/Pine River Recycling Center)														
1/31/2021	8,342				16,704		3,707	15,569		45,225	7,414			96,961
2/28/2021	7,871				9,972		3,287	13,806		40,101	6,574			81,611
3/31/2021	9,611				5,502		3,840	16,127		46,845	7,680			89,605
4/30/2021	8,536				13,789		3,997	16,786		48,759	7,993			99,860
5/31/2021	18,124				16,772		3,928	16,497		47,920	7,856			111,097
6/30/2021	18,326				24,871		5,216	21,908		63,637	10,432			144,390
7/31/2021	23,181				8,855		5,021	21,090		61,261	10,043			129,451
8/31/2021	19,962				5,683		4,771	20,037		58,204	9,542			118,199
9/30/2021	19,629				6,749		4,588	19,270		55,975	9,176			115,387
10/31/2021	14,947				2,321		3,957	16,618		48,272	7,913			94,028
11/30/2021	14,594				3,508		4,453	18,701		54,323	8,905			104,484
12/30/2021	14,859				6,516		4,559	19,146		55,616	9,117			109,813
Subtotal LB	177,982	0	0	0	121,242	0	51,324	215,555	0	626,138	102,645	0	0	1,294,886
Subtotal TN	88.99	0.00	0.00	0.00	60.62	0.00	25.66	107.78	0.00	313.07	51.32	0.00	0.00	647.44
Total LB	177,982	0	0	0	487,220	0	69,413	241,996	0	760,515	126,411	0	0	1,863,536
Total TN	88.99	0.00	0.00	0.00	243.61	0.00	34.71	121.00	0.00	380.26	63.21	0.00	0.00	931.77

Residue		
0	34,080	
0	34,900	
0	35,700	
0	32,360	
0	31,000	
0	34,280	
0	19,420	
0	35,820	
0	39,040	
0	34,020	
0	38,400	
0	Total Weight	% Residue
0	416,000	0.0%
0.00		
Residue		
1,664	12,800	
844	6,490	
1,480	11,384	
1,678	12,909	
1,768	13,600	
1,944	14,948	
2,342	18,014	
2,828	21,754	
2,452	18,864	
2,167	16,670	
2,107	16,210	
1,867	12,149	% Residue
23,139	175,789	13.2%
11.57	87.89	
Residue		
2,224	99,185	
1,972	83,583	
2,304	91,909	
2,398	102,258	
2,357	113,454	
3,130	147,520	
3,013	132,464	
2,862	121,061	
2,753	118,140	
2,374	96,402	
2,672	107,156	
2,735	112,548	% Residue
30,794	1,325,680	2.3%
15.40		

1,863,536  
931.77

ANNUAL RECYCLING REPORT (RESIDENTIAL)  
CROW WING COUNTY  
2021  
WEIGHT IN TONS

Baxter - curbside

MONTH	OCC	NEWS	OFFICE PAPER	MAGS	MIXED PAPER	PHONE BOOKS	ALUM. CANS	TIN CANS	SCRAP METAL	GLASS	PLASTIC	FOOD WASTE	OTHER	TOTAL
(WASTE MANAGEMENT/PELTZ, St Cloud & LPI)														
1/31/2021					12,184		214	439		3,973	955			17,765
2/28/2021					12,473		219	449		4,067	978			18,186
3/31/2021					12,761		224	460		4,162	1,001			18,608
4/30/2021					11,331		199	408		3,695	889			16,522
5/31/2021					10,867		191	391		3,544	852			15,845
6/30/2021					12,008		211	433		3,916	942			17,510
7/31/2021					6,638		116	239		2,165	521			9,679
8/31/2021					12,259		215	442		3,998	961			17,875
9/30/2021					13,351		234	481		4,354	1,047			19,467
10/31/2021					13,050		368	551		3,492	919			18,380
11/30/2021					14,740		415	623		3,944	1,038			20,760
12/30/2021					18,020		508	761		4,822	1,269			25,380
Subtotal LB	0	0	0	0	149,681	0	3,113	5,678	0	46,133	11,372	0	0	215,977
Subtotal TN	0.00	0.00	0.00	0.00	74.84	0.00	1.56	2.84	0.00	23.07	5.69	0.00	0.00	107.99
(GARRISON/Pine River Recycling Center)														
1/31/2021					6,682		190	386		2,189	576			10,022
2/28/2021					3,388		96	196		1,110	292			5,081
3/31/2021					5,943		169	343		1,947	512			8,914
4/30/2021					6,739		192	389		2,207	581			10,108
5/31/2021					7,099		202	410		2,326	612			10,649
6/30/2021					7,804		222	451		2,556	671			11,704
7/31/2021					9,404		405	405		3,080	810			14,105
8/31/2021					11,356		489	489		3,720	979			17,033
9/30/2021					9,847		411	411		3,226	849			14,743
10/31/2021					8,702		375	375		2,850	750			13,052
11/30/2021					8,462		365	365		2,772	729			12,692
12/30/2021					7,496		323	323		2,455	646			11,243
Subtotal LB	0	0	0	0	92,920	0	3,439	4,543	0	30,437	8,008	0	0	139,347
Subtotal TN	0.00	0.00	0.00	0.00	46.46	0.00	1.72	2.27	0.00	15.22	4.00	0.00	0.00	69.67
(WASTE PARTNERS/Pine River Recycling Center)														
1/31/2021	4,148				8,305		1,843	7,741		22,486	3,686			48,209
2/28/2021	3,913				4,958		1,634	6,864		19,938	3,269			40,576
3/31/2021	4,779				2,736		1,909	8,018		23,291	3,818			44,551
4/30/2021	4,244				6,856		1,987	8,346		24,243	3,974			49,650
5/31/2021	9,011				8,339		1,953	8,202		23,826	3,906			55,237
6/30/2021	9,112				12,366		2,593	10,892		31,640	5,187			71,790
7/31/2021	11,526				4,403		2,497	10,486		30,459	4,993			64,364
8/31/2021	9,925				2,825		2,372	9,963		28,939	4,744			58,768
9/30/2021	9,760				3,355		2,281	9,581		27,831	4,562			57,370
10/31/2021	7,432				1,154		1,967	8,262		24,000	3,934			46,749
11/30/2021	7,256				1,744		2,214	9,298		27,009	4,428			51,949
12/30/2021	7,388				3,240		2,267	9,520		27,652	4,533			54,600
Subtotal LB	88,494	0	0	0	60,281	0	25,517	107,173	0	311,314	51,034	0	0	643,813
Subtotal TN	44.25	0.00	0.00	0.00	30.14	0.00	12.76	53.59	0.00	155.66	25.52	0.00	0.00	321.91
Total LB	88,494	0	0	0	302,882	0	32,070	117,394	0	387,884	70,414	0	0	999,137
Total TN	44.25	0.00	0.00	0.00	151.44	0.00	16.03	58.70	0.00	193.94	35.21	0.00	0.00	499.57

SCORE FUNDS/COST PER TON

N/A

#VALUE!

0

0

Residue		
1,655	19,420	
1,694	19,880	
1,733	20,341	
1,539	18,061	
1,476	17,321	
1,631	19,141	
901	10,580	
1,665	19,540	
1,813	21,280	
1,700	20,080	
1,935	22,695	
2,234	27,614	% Residue
19,976	235,953	8.5%
9.99	117.98	
Residue		
1,498	11,520	
759	5,841	
1,332	10,246	
1,510	11,618	
1,591	12,240	
1,749	13,453	
2,107	16,212	
2,545	19,578	
2,207	16,950	
1,950	15,003	
1,896	14,589	
1,680	12,923	% Residue
20,825	160,172	13.0%
10.41	80.09	
Residue		
1,106	49,315	
981	41,557	
1,145	45,696	
1,192	50,842	
1,172	56,409	
1,556	73,346	
1,498	65,862	
1,423	60,191	
1,369	58,739	
1,180	47,929	
1,328	53,277	
1,360	55,960	% Residue
15,310	659,123	2.3%
7.66		

499.57

999,137

ANNUAL RECYCLING REPORT (RESIDENTIAL)  
CROW WING COUNTY  
2021  
WEIGHT IN TONS

Landfill (WASTE PARTNERS/Pine River Recycling Center)

MONTH	OCC	NEWS	OFFICE PAPER	MAGS	MIXED PAPER	PHONE BOOKS	ALUM. CANS	TIN CANS	SCRAP METAL	GLASS	PLASTIC	FOOD WASTE	OTHER	TOTAL
1/31/2021	11,100				6,160		424	1,779		8,447	847			28,757
2/28/2021	7,960				6,280		241	1,012		7,520	482			23,495
3/31/2021	13,180				12,460		417	1,751		14,167	834			42,809
4/30/2021	20,680				10,960		1,596	6,612		7,640	3,192			50,680
5/31/2021	25,940				12,380		932	3,863		8,820	1,865			53,800
6/30/2021	25,480				10,680		1,016	4,211		11,540	2,033			54,960
7/31/2021	25,580				10,760		1,333	5,522		13,540	2,666			59,401
8/31/2021	29,260				14,260		1,376	5,707		10,440	2,755			63,798
9/30/2021	20,780				10,540		1,266	5,255		10,620	2,537			50,998
10/31/2021	22,060				10,140		1,268	5,255		12,720	2,537			53,980
11/30/2021	15,480				11,300		876	3,631		0	1,753			33,040
12/30/2021	12,120				7,480		739	3,062		7,540	1,478			32,419
Subtotal LB	229,620	0	0	0	123,400	0	11,484	47,660	0	112,994	22,979	0	0	548,137
Subtotal TN	114.81	0.00	0.00	0.00	61.70	0.00	5.74	23.83	0.00	56.50	11.49	0.00	0.00	274.07

SCORE FUNDS/COST PER TON \$54,844.97 \$200.11

MONTH	OCC	NEWS	OFFICE PAPER	MAGS	MIXED PAPER	PHONE BOOKS	ALUM. CANS	TIN CANS	SCRAP METAL	GLASS	PLASTIC	FOOD WASTE	OTHER	TOTAL
	791,007	0	0	0	318,660	0	43,932	183,862	0	517,597	87,854	0	0	1,942,912
TOTAL TN	396	0	0	0	159	0	22	92	0	259	44	0	0	971.46
						554.83	- PAPER TOTAL		113.90	- METAL TOTAL				

SCORE FUNDS/COST PER TON \$182,794.97 \$188.17  
CURBSIDE PROGRAMS

MONTH	OCC	NEWS	OFFICE PAPER	MAGS	MIXED PAPER	PHONE BOOKS	ALUM. CANS	TIN CANS	SCRAP METAL	GLASS	PLASTIC	FOOD WASTE	OTHER	TOTAL
	407,262	0	0	0	1,467,159	0	160,385	563,006	0	1,822,151	319,263	0	0	4,739,226
TOTAL TN	203.63	0.00	0.00	0.00	733.58	0.00	80.19	281.50	0.00	911.08	159.63	0.00	0.00	2,369.61
						937.21	- PAPER TOTAL		361.70	- METAL TOTAL				

GRAND TOTAL

MONTH	OCC	NEWS	OFFICE PAPER	MAGS	MIXED PAPER	PHONE BOOKS	ALUM. CANS	TIN CANS	SCRAP METAL	GLASS	PLASTIC	FOOD WASTE	OTHER	TOTAL
	1,198,269	0	0	0	1,785,819	0	204,317	746,868	0	2,339,748	407,117	0	0	6,682,138
TOTAL TN	599.13	0.00	0.00	0.00	892.91	0.00	102.16	373.43	0.00	1,169.87	203.56	0.00	0.00	3,341.07
						1,492.04	- PAPER TOTAL		475.59	- METAL TOTAL				

Residue	
254	29,011
145	23,640
250	43,059
0	50,680
0	53,800
0	54,960
0	59,401
0	63,798
0	50,998
0	53,980
0	33,040
649	33,068

274.07 548,137 2.0%  
971.46 6,134,001 3,067.00  
3,341.07 6,682,138 3,341.07

## **APPENDIX H – 2021 SURVEY FORM**



December 13<sup>th</sup>, 2021

Re: 2021 Area Commercial, Industrial, and Institutional (CII) Recycling Data Collection

Due in part to your inputs from last year, the County was able to document exceeding the established recycling goal of 35% of our Waste Management stream as required by the State Legislature. If you provided us your recycling information last year, thank you for your cooperation! Your continual support and assistance are critical in tracking our recycling rate, and to ensure Crow Wing County will continually meet or exceed the established goal. I now ask for your cooperation in completing the enclosed questionnaires concerning your businesses 2021 efforts.

Many businesses in Crow Wing County recycle large quantities of many types of materials, using recycling services such as local garbage/recycling haulers. It is important that recycling totals are not duplicated. We receive information from the local haulers and recyclers listed on the top of the attached questionnaire, so we ask that you report tonnage information **ONLY** for materials that you market directly to an end-user, or for which you use a recycling collection firm other than the ones listed.

As in previous years, results of these questionnaires will be compiled in aggregate and used by our office to complete the required annual SCORE Report, which is sent to the Minnesota Pollution Control Agency.

A special concern is the disposal of electronic equipment and small quantities of hazardous waste. Additional information is enclosed to assist you in disposing of these items.

Please send the completed questionnaires back to my office by **February 1, 2022.**

If you would like to send us your information electronically, please scan your information, and e-mail to: [ryan.simonson@crowwing.us](mailto:ryan.simonson@crowwing.us)

Thank you for completing the attached questionnaires, and please call if you have questions or concerns.

Sincerely,  
*Ryan Simonson*

Ryan Simonson  
(218)824-1010  
Crow Wing County Environmental Services Supervisor

**Crow Wing County**  
**2021 Commercial, Industrial & Institutional (CII) Questionnaire**

Company Name: \_\_\_\_\_ Fax: \_\_\_\_\_  
Contact: \_\_\_\_\_ Phone: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_ Date: \_\_\_\_\_  
E-mail Address: \_\_\_\_\_

**PLEASE COMPLETE AND RETURN TO CROW WING COUNTY SOLID WASTE OFFICE AT 322 LAUREL STREET, BRAINERD  
MN 56401 BY February 1, 2022.**

The following is a listing of materials that are **banned** from being landfill. To ensure proper management of these items, please annotate how you dispose of these items. If you have any questions concerning the proper disposal of these items please contact my office at 218-824-1010 or the Regional office of the MPCA at 218-828-2492.

(Circle appropriate units)

1. Material: **Fluorescent/CFLs and/or HID Bulbs** \_\_\_\_\_  
Quantity: \_\_\_\_\_ per: \_\_\_\_\_ Delivered to/Picked up by: \_\_\_\_\_  
(Lbs, # of 4' bulbs, # 8' bulbs, # of bulbs) per: (week, month, quarter, year)
  
2. Material: **Lead Acid Batteries and/or Household Rechargeable Batteries**  
Quantity: \_\_\_\_\_ (lbs, tons, ea) Delivered to/Picked up by: \_\_\_\_\_  
per: (week, month, quarter, year)
  
3. Material: **Used Oil and/or Oil Filters** Delivered to/Picked up by: \_\_\_\_\_  
Quantity: \_\_\_\_\_ (lbs, gallons) per: (week, month, quarter, year)
  
4. Material: **Waste Tires** Delivered to/Picked up by: \_\_\_\_\_  
Quantity: \_\_\_\_\_ per: (week, month, quarter, year)  
(# car, # truck, lbs, tons)
  
5. Material: **Major Appliances** Delivered to/Picked up by: \_\_\_\_\_  
Quantity: \_\_\_\_\_ (lbs, tons, ea) per: (week, month, quarter, year)
  
6. Material: **Used Electronic Equipment** Delivered to/Picked up by: \_\_\_\_\_  
Quantity: \_\_\_\_\_ (lbs, tons, ea) per: (week, month, quarter, year)
  
7. Material: **Hazardous Waste** Delivered to/Picked up by: \_\_\_\_\_  
Quantity: \_\_\_\_\_ (lbs, tons, ea) per: (week, month, quarter, year)

**THANK YOU FOR YOUR TIME**

**Crow Wing County**  
**2021 Commercial, Industrial & Institutional (CII) Recycling Questionnaire**

Company Name: \_\_\_\_\_ Fax: \_\_\_\_\_  
Contact: \_\_\_\_\_ Phone: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_ Date: \_\_\_\_\_  
E-mail Address: \_\_\_\_\_

**PLEASE COMPLETE AND RETURN TO CROW WING COUNTY SOLID WASTE OFFICE BY FEBRUARY 1, 2022.**

Our organization recycles **YES NO** (Circle appropriately)

Do you recycle materials through any of the following businesses?

_____	Waste Management	_____	Waste Partners
_____	Nisswa/Garrison Disposal	_____	Crow Wing Recycling
_____	Crosslake Recycling	_____	Pequot Lakes Sanitation

Any materials that are recycled through the above businesses **DO NOT** need to be included in the amounts recycled below. **IF YOU RECYCLE MATERIALS ONLY THROUGH THE ABOVE BUSINESSES, STOP NOW WITH THIS QUESTIONNAIRE.**

The County needs to track the amount of materials leaving the County to document the proper tonnage of items being recycled. Example, you directly haul your cardboard to Minneapolis:

(Circle appropriate units)

1. Material: **Reuse Pallets**  
Quantity: \_\_\_\_\_ (lbs, tons, ea) per: (week, month, quarter, year)
2. Material: **Cardboard**  
Quantity: \_\_\_\_\_ (# Bales, lbs, tons) Delivered to: \_\_\_\_\_  
per: (week, month, quarter, year)  
(If bales, approximate weight of bale is: \_\_\_\_\_)
3. Material: **Scrap Metal**  
Quantity: \_\_\_\_\_ (lbs, tons) Delivered to: \_\_\_\_\_  
per: (week, month, quarter, year)
4. Material: **Textiles**  
Quantity: \_\_\_\_\_ (lbs, tons) Delivered to: \_\_\_\_\_  
per: (week, month, quarter, year)
5. Material: **Used Electronics**  
Quantity: \_\_\_\_\_ (lbs, tons) Delivered to: \_\_\_\_\_  
per: (week, month, quarter, year)

6. Material: **Food Donation/Grease** Delivered to: \_\_\_\_\_  
 Quantity: \_\_\_\_\_ (lbs, tons) per: (week, month, quarter, year)
7. Material: **Other**  
 Material: Paper - Delivered to: \_\_\_\_\_  
 (Type - Magazines, Office Paper, Etc.)  
 Quantity: \_\_\_\_\_ (lbs, tons) per: (week, month, quarter, year)
8. Material: \_\_\_\_\_ Delivered to \_\_\_\_\_  
 Quantity: \_\_\_\_\_ (lbs, tons) per: (week, month, quarter, year)

Does your business provide any recycling opportunities to the public concerning these materials? (Please Circle)

- |    |                                   |            |           |
|----|-----------------------------------|------------|-----------|
| 1. | Material: Recyclable Batteries    | Yes: _____ | No: _____ |
| 2. | Material: Car Batteries           | Yes: _____ | No: _____ |
| 3. | Material: Used Oil                | Yes: _____ | No: _____ |
| 4. | Material: Fluorescent Tubes/CFLs  | Yes: _____ | No: _____ |
| 5. | Material: Cell Phones/Electronics | Yes: _____ | No: _____ |

Other:

- |    |                 |            |           |
|----|-----------------|------------|-----------|
| 6. | Material: _____ | Yes: _____ | No: _____ |
| 7. | Material: _____ | Yes: _____ | No: _____ |

The information gathered from this questionnaire will be utilized to document the CII recycling effort within the County for the annual State SCORE report. Also, this information will be used for the County recycling report. **Please choose one of the following:**

**YES** My business can be identified by name in the County report.

**NO** Do not identify my business (All these efforts will be consolidated and listed under Proprietary).

Notes for completing this Questionnaire:

- Recycling quantities should not include materials recovered from other waste streams such as demolition debris.
- Do not include prepared or unprepared steel scrap such as I-beams, structural steel, heavy machinery, cast iron, automobile parts, or agricultural machinery under scrap metal.

**THANK YOU FOR YOUR TIME!**

## **ATTENTION CROW WING COUNTY BUSINESS DISPOSING OF HAZARDOUS WASTE (VSQG)**

**Crow Wing County has an agreement with Stearns County Environmental Services to take business waste.**

If your company needs to dispose of hazardous waste, you will need to contract Stearns County Environmental Services at 320.656.3613 or 800.450.0852. Point of Contact: Troy Freihammer.

If you have any questions concerning business hazardous waste, please contact my office at 218-824-1010 or the regional office of the MPCA at 218-828-2492.

## **ATTENTION CROW WING COUNTY BUSINESS USED ELECTRONIC EQUIPMENT DISPOSAL**

A special concern to MPCA is the disposal of electronic equipment. To ensure proper management of these items, the Crow Wing County Solid Waste Office will host two (2) one day collection events in 2022 – the third Wednesday of May and September for government/public entities. These events will be held at the Crow Wing County Landfill site.

You will be required to stop at the Landfill Office so your load can be weighed in on the landfill certified scale. You will then be directed to the drop-off area. Once you have been unloaded; you will then need to be reweighed at the Landfill Office to finalize your weight and billing.

Billing will be accomplished through the Landfill Office. Credit cards or checks will be accepted. The fee is due the day or the event or within 30 days of receipt of invoice for those business that already have a charge account at the Landfill.

Government agencies that are eligible for the State Contract rates will be handled differently. They will be billed directly by Dynamic Recycling. You will also need to stop at the Landfill Office. You will be receiving your weight of the material brought in. You will be receiving a bill from Dynamic Recycling.

1. If you are interested in participating, please send an e-mail to:  
[ryan.simonson@crowwing.us](mailto:ryan.simonson@crowwing.us) or call our office at: 218-824-1010.
2. **COSTS ARE CALCULATED BASED ON THE TYPE AND AMOUNT OF WASTE TO BE DISPOSED.** You will be responsible for paying for the disposal cost.
3. You will be responsible for transporting the waste to the County collection site.

## **APPENDIX I – COMMERCIAL RECYCLING PROGRAM SUMMARY**

ANNUAL RECYCLING REPORT (C/I)  
CROW WING COUNTY  
2021  
WEIGHT IN TONS

Waste Partners (In-County Hauler) Enter Commercial #'s from CWC Report

MONTH	OCC	NEWS	OFFICE PAPER	MAGS	MIXED PAPER	PHONE BOOKS	ALUM. CANS	SCRAP METAL	OIL FILTERS	GLASS	PLASTIC	FOOD WASTE	OTHER	TOTAL
1/31/2021	169,809				19,440					8,161			5,380	202,790
2/28/2021	160,224				17,680					11,403			500	189,307
3/31/2021	195,645				32,300					16,992			700	244,937
4/30/2021	173,763				16,580					15,096			1,260	205,439
5/31/2021	238,932				8,780					17,916			2,460	265,628
6/30/2021	241,596				18,640					27,249			2,740	290,225
7/31/2021	305,605				15,760					27,531			2,540	348,896
8/31/2021	263,164				12,140					23,606			2,160	301,070
9/30/2021	258,775				6,380					26,451			1,760	293,366
10/31/2021	197,053				11,560					16,621			660	225,894
11/30/2021	192,395				6,820					13,920			780	213,915
12/30/2021	195,894				7,180					18,683			520	221,757
Subtotal LB	2,592,855	0	0	0	173,260	0	0	0	0	223,629	0	0	21,460	3,003,224
Subtotal TN	1,296.43	0.00	0.00	0.00	86.63	0.00	0.00	0.00	0.00	111.81	0.00	0.00	10.73	1,501.61

2,989,744  
1,494.87

Waste Management (In-County Hauler)

MONTH	OCC	NEWS	OFFICE PAPER	MAGS	MIXED PAPER	PHONE BOOKS	ALUM. CANS	TIN CANS	SCRAP METAL	GLASS	PLASTIC	FOOD WASTE	OTHER	TOTAL
1/31/2021	123,340													123,340
2/28/2021	56,040													56,040
3/31/2021	83,920													83,920
4/30/2021	53,240													53,240
5/31/2021	63,060													63,060
6/30/2021	78,700													78,700
7/31/2021	80,900													80,900
8/31/2021	95,000													95,000
9/30/2021	90,540													90,540
10/31/2021	37,400													37,400
11/30/2021	57,440													57,440
12/30/2021	59,760													59,760
Subtotal LB	879,340	0	0	0	0	0	0	0	0	0	0	0	0	879,340
Subtotal TN	439.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	439.67

(Residential Recycling Programs subtracted out)

Subtotal LB	879,340	0	0	0	0	0	0	0	0	0	0	0	0	879,340	879,340
Subtotal TN	439.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	439.67	439.67
PG SUBTOTAL LB	3,472,195	0	0	0	173,260	0	0	0	0	223,629	0	0	0	3,869,084	3,869,084
PG SUBTOTAL TN	1,736.10	0.00	0.00	0.00	86.63	0.00	0.00	0.00	0.00	111.81	0.00	0.00	0.00	1,941.28	1,934.54

BUSINESS	OCC	News	Office Paper	Mags	Mixed Paper	Phone Books	Alum.	Tin Cans	Scrap Metal	Glass	Plastic	Food Waste	Other	Total			
PROPRIETARY (NAMES NOT LISTED IN REPORT)													Textile				
Subtotal LB	3,321,674	0	13,900	0	46,976,580	0	0	0	26,722,854	1,900	26,600	53,100	16,040	77,132,648		77,132,648	
Subtotal TN	1,660.84	0.00	6.95	0.00	23,488.29	0.00	0.00	0.00	13,361.43	0.95	13.30	26.55	8.02	38,566.32	38,566.32		
PG SUBTOTAL LB	3,321,674	0	13,900	0	46,976,580	0	0	0	26,722,854	1,900	26,600	53,100	16,040	77,132,648		77,132,648	77,132,648
PG SUBTOTAL TN	1,660.84	0.00	6.95	0.00	23,488.29	0.00	0.00	0.00	13,361.43	0.95	13.30	26.55	8.02	38,566.32	38,566.32	38,566.32	

ANNUAL RECYCLING REPORT (C/I)  
CROW WING COUNTY  
2021  
WEIGHT IN TONS

BUSINESS	OCC	News	Office Paper	Mags	Mixed Paper	Phone Books	Alum.	Tin Cans	Scrap Metal	Glass	Plastic	Food Waste	Other	Total
TOTAL LB	6,793,869	0	13,900	0	47,149,840	0	0	0	26,722,854	225,529	26,600	53,100	16,040	81,001,732
TOTAL TN	3,396.93	0.00	6.95	0.00	23,574.92	0.00	0.00	0.00	13,361.43	112.76	13.30	26.55	8.02	40,487.56

minus grease

## **APPENDIX J – HAZARDOUS WASTE PROGRAM**

## CROW WING COUNTY HAZARDOUS WASTE PROGRAM

	1990 - 2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	TOTAL	
Number of Households		26,193	26,271	26,399	26,484	26,577	26,877	27,096	27,313	27,532	27,532		
Assume an additional 30% nonresidents		34,051	34,152	34,319	34,429	34,550	34,940	35,225	35,507	35,792	35,792		
Households to Site	18,698	1,479	1,624	1,558	1,673	1,504	1,440	1,563	1,634	1,455	1,628	34,256	
Households Participating	21,754	1,686	1,830	1,737	1,875	1,656	1,572	1,730	1,813	1,591	1,705	38,949	
% Participation - residents		6.4%	7.0%	6.6%	7.1%	6.2%	5.8%	6.4%	6.6%	5.8%	6.2%		
Repeat User Rate		54%	54%	52%	55%	57%	58%	60%	61%	N/A	N/A		
Households (exclude repeat)	12,538	772	843	831	845	708	658	697	700	N/A	N/A	18,592	
Participating (Excluding repeat, including nonresidents)												52%	
Types of Waste													
Items bulked into 55-gallon drums													
						PaintCare			No longer bulking PaintCare				
Oil Base Paint (Non-PaintCare)	646	50	54	47	53	16	12	15	9	7	8	917	
Oil Base Paint (PaintCare)	N/A	N/A	N/A	N/A	N/A	26	27	29	12	11	10	115	
Latex Paint (PaintCare)	683	70	76	70	69	54	61	59	5	7	7	1,161	
Antifreeze	181	22	45	26	24	16	23	21	15	20	11	405	
Fuel Blend	153	11	8	8	7	5	6	8	7	8	8	229	
# of 55-gal drums	1,663	153	183	151	153	117	129	132	48	53	44	2,827	
Est Weight (Pounds)	877,910	80,520	94,820	79,310	80,740	62,066	67,795	69,621	23,980	26,070	22,110	1,484,943	
Est Weight PaintCare Latex/Oil base (tons)						22.9	25.3	25.2	4.6	4.9	4.7	742.5	
Items labpacked													
									Residential				
Latex (PC) - tote (lbs)	N/A	N/A	N/A	N/A	N/A	N/A	1,674	7,435	68,735	59,290	72,036	209,170	
Oil (PC) - tote (lbs)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	14,033	11,438	14,077	39,548	
Oil (PC) - 55 gal drum tote (lbs)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,170	913	1,145	3,228	
Flam Solids - tote (lb)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,002	1,002	
85-Gal Over Pack drum	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
55-Gal drum	189	3	3	6	4	5	6	6	8	5	10	245	
30-Gal drum	84	3	1	0	0	0	1	0	1	0	0	90	
17-Gal drum	48	0	0	0	0	0	0	0	0	0	0	48	
10-Gal drum	2	0	0	0	0	0	0	0	0	0	0	2	
5-Gal drum	27	3	0	1	1	2	8	11	7	0	1	61	
Weight Sub Total	46,901	1,440	851	1,984	1,486	1,926	4,338	9,932	87,375	73,583	92,077	321,894	
Est Weight PaintCare Latex (tons)		N/A	N/A	N/A	N/A	N/A	0.8	3.7	42.0	35.8	43.6	126.0	
SUBTOTAL WEIGHT (TONS)													
	462.41	40.98	47.84	40.65	41.11	32.00	36.07	39.78	55.68	49.83	57.09	903.4	
Waste Disposed per household (pounds)	43	49	53	49	46	40	48	47	63	65	70	48	
Waste Brought in per household (pounds)	50	59	65	61	58	58	70	69	76	79	81	58	
Product Exchange (Pounds)													
	147,047	16,965	21,903	21,811	22,015	30,115	34,512	37,240	24,044	21,235	18,142	395,029	
Cost Saving (Disposal & shipping)	\$58,942	\$5,355	\$8,386	\$8,392	\$9,113	\$8,963	\$9,881	\$11,156	\$9,658	\$10,397	\$7,096	\$147,339	
% Reused	13%	17%	18%	20%	20%	31%	32%	31%	17%	17%	13%	18%	
AG Pesticide Program (Pounds)													
- Farm	8,418	145	0	0	0	225	115	588	749	568	0	10,808	
- Household	18,371	1,122	1,379	3,405	3,591	1,957	2,764	2,205	3,170	4,533	5,378	47,875	
VSQG (Pounds)													
	47,671	40	4,580	6,269	6,975	190	N/A	N/A	N/A	N/A	N/A	65,725	
# of Businesses Participating		1	2	3	5	1	0	0	0	0	0		
Pharmaceuticals (Pounds)													
- DEA	N/A	84	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	84	
- County	N/A	N/A	680	800	1,400	2,040	2,540	2,120	1,980	2,040	1,160	14,760	
TOTAL Haz Waste HHW													
	573.2	50.2	62.1	56.8	58.1	49.3	56.0	60.9	70.6	64.0	69.4	1,170.6	
PaintCare - Commercial Sites (Pounds)													
Crosslake Ace Hardware	Oil-Base	N/A	N/A	N/A	N/A	N/A	1,217	1,156	1,912	1,832	1,414	1,795	9,326
	Latex	N/A	N/A	N/A	N/A	N/A	4,578	3,870	8,637	7,809	6,528	8,247	39,669
Hirshfields	Oil-Base	N/A	N/A	N/A	N/A	N/A	5,133	3,020	2,665	3,832	3,259	3,244	21,153
	Latex	N/A	N/A	N/A	N/A	N/A	19,309	10,109	12,037	16,335	15,050	14,908	87,748
Sherwin Williams	Oil-Base	N/A	N/A	N/A	N/A	N/A	4,653	3,995	3,462	2,611	4,019	2,793	21,533
	Latex	N/A	N/A	N/A	N/A	N/A	17,503	13,374	15,638	11,130	18,560	12,837	89,042
Emily Ace Hardware	Oil-Base	N/A	N/A	N/A	N/A	N/A	257	386	732	294	317	376	2,362
	Latex	N/A	N/A	N/A	N/A	N/A	969	1,293	3,304	1,251	1,462	1,727	10,006
Carlson Hardware of Nisswa	Oil-Base	N/A	N/A	N/A	N/A	N/A	1,908	1,435	1,211	1,025	1,091	1,607	8,277
	Latex	N/A	N/A	N/A	N/A	N/A	7,180	4,802	5,470	4,368	5,038	7,388	34,246
Oil- Base Est Weight (Pounds)		N/A	N/A	N/A	N/A	N/A	13,168	9,992	9,982	9,594	10,100	9,815	62,651
Latex Est Weight (Pounds)	(tons)	N/A	N/A	N/A	N/A	N/A	49,539	33,448	45,086	40,893	46,638	45,107	260,711
TOTAL Haz Waste PaintCare	N/A	N/A	N/A	N/A	N/A	N/A	31.4	21.7	27.5	25.2	28.4	27.5	161.7

	1990 - 2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	TOTAL	17 - 2021
													5-YEAR

[illegible][illegible][illegible][illegible][illegible]

TOTAL Haz Waste HHW	1,163.1	68.0	0.4	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	1,239.8	333.8
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<b>PaintCare - Commercial Sites</b>		(Pounds)											
Crosslake Ace Hardware	Oil-Base	9,326	0	0	0	0	0	0	0	0	0	9,326	6,953
	Latex	39,669	0	0	0	0	0	0	0	0	0	39,669	31,221
Hirshfields	Oil-Base	21,153	0	0	0	0	0	0	0	0	0	21,153	13,000
	Latex	87,748	0	0	0	0	0	0	0	0	0	87,748	58,330
Sherwin Williams	Oil-Base	21,533	0	0	0	0	0	0	0	0	0	21,533	12,885
	Latex	89,042	0	0	0	0	0	0	0	0	0	89,042	58,165
Emily Ace Hardware	Oil-Base	2,362	0	0	0	0	0	0	0	0	0	2,362	1,719
	Latex	10,006	0	0	0	0	0	0	0	0	0	10,006	7,744
Carlson Hardware of Nisswa	Oil-Base	8,277	0	0	0	0	0	0	0	0	0	8,277	4,934
	Latex	34,246	0	0	0	0	0	0	0	0	0	34,246	22,264
Oil- Base Est Weight (Pounds)		62,651	0	0	0	0	0	0	0	0	0	62,651	39,491
Latex Est Weight (Pounds)		260,711	0	0	0	0	0	0	0	0	0	260,711	177,724
<b>TOTAL Haz Waste PaintCare</b>		<b>161.7</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>161.7</b>	<b>108.6</b>

## **APPENDIX K – USED OIL SUMMARY**

	Site	2017			2018			2019			2020			2021		
		Used Oil (Gallons)	Antifreeze (Gallons)	Oil Filters 55-gal drum	Used Oil (Gallons)	Antifreeze (Gallons)	Oil Filters 55-gal drum	Used Oil (Gallons)	Antifreeze (Gallons)	Oil Filters 55-gal drum	Used Oil (Gallons)	Antifreeze (Gallons)	Oil Filters 55-gal drum	Used Oil (Gallons)	Antifreeze (Gallons)	Oil Filters 55-gal drum
1	Baxter	6,512	95	8.25	3,384	50	9.25	4,668	50	7.50	4,645	150	5.00	5,965	50	10.00
2	Brainerd	9,144	346	20.00	8,292	172	13.50	9,991	346	16.00	10,408	50	12.00	12,650	350	22.00
3	Crosby	3,592	213	8.25	2,615	72	6.00	3,624	86	9.00	3,389	50	7.00	4,146	50	9.00
4	Crosslake	2,323	36	6.00	1,981	36	4.50	2,095	50	3.00	1,801	0	2.00	3,122	0	7.00
5	Crow Wing Twnp	2,366	36	3.50	1,929	36	2.00	2,072	36	4.00	1,975	0	4.00	2,401	50	4.00
6	Emily	3,650	172	7.00	2,389	50	5.00	2,725	86	6.00	3,420	100	5.00	1,727	86	6.00
7	Garrison	1,395	0	2.00	1,193	36	2.00	1,663	86	3.00	2,518	0	2.00	3,348	0	1.00
8	Nisswa	2,702	0	5.50	2,929	36	6.50	3,754	86	6.50	4,382	0	9.00	3,788	136	7.00
9	Mission Twnp	949	0	2.00	1,128	0	2.00	832	0	1.00	448	0	1.00	1,257	50	2.00
10	Pequot Lake	4,307	54	6.00	3,564	86	6.00	3,271	36	3.50	4,554	50	4.00	2,698	91	5.00
11	Landfill Site	2,534	122	8.00	2,913	158	4.00	2,969	155	5.00	2,364	150	5.00	1,743	100	6.00
	Deerwood	0	N/A	0.00	0	N/A	0.00	0	N/A	0.00	0	N/A	0.00	0	N/A	0.00
	Pine Center	0	N/A	N/A	0	N/A	N/A	0	N/A	N/A	0	N/A	N/A	0	N/A	N/A
	TOTAL	39,474	1,074	76.50	32,317	732	60.75	37,664	1,017	64.50	39,904	550	56.00	42,845	963	79.00
	Estimated * Generated	258,068			259,900			261,096			262,428			264,760		
	% by DIY**	22%			22%			22%			22%			22%		
	% Handled	15.3%			12.4%			14.4%			15.2%			16.2%		

	Site	TOTAL (2002 - 2021)		
		Used Oil (Gallons)	Antifreeze (Gallons)	Oil Filters 55-gal drum
1	Baxter	91,560	2,359	170.50
2	Brainerd	178,791	5,583	325.00
3	Crosby	77,210	6,335	174.00
4	Crosslake	40,275	933	84.75
5	Crow Wing Twnp	29,469	785	42.00
6	Emily	48,455	1,517	115.00
7	Garrison	30,422	714	46.25
8	Nisswa	30,143	702	57.50
9	Mission Twnp	9,814	125	21.00
10	Pequot Lake	56,224	1,677	106.50
11	Landfill Site	60,511	4,007	119.25
Deerwood		0	N/A	12.00
Pine Center		2,454	N/A	N/A
TOTAL		655,328	24,737	1,273.75
Estimated *		5,001,604		
Generated				
% by DIY**		22%		
% Handled		13.1%		

\* Generation rate is 4 gallons/person/year

\*\* Do-it-yourselfers (DIY), Oil generated by this sector, goal is to reach this level

## **APPENDIX L – COUPON RECEIPTS**

**2021 Coupon Receipts**

Month	Demolition # Coupons	Demolition \$ Coupons	Garbage # Coupons	Garbage \$ Coupons	Furniture # Coupons	Furniture \$ Coupons	Mattress # Coupons	Mattress \$ Coupons	Appliance # Coupons	Appliance \$ Coupons	Electronics # Coupons	Electronics \$ Coupons	Oil Filter Coupons	\$ Coupons
January	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00
February	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00
March	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00
April	6	\$46.80	218	\$2,070.34	21	\$187.24	41	\$410.00	19	\$185.00	46	\$440.00	0	\$0.00
May	24	\$203.00	673	\$6,454.98	56	\$494.96	77	\$770.00	53	\$530.00	146	\$1,375.00	0	\$0.00
June	20	\$161.40	493	\$4,797.32	41	\$346.28	102	\$1,020.00	60	\$480.00	172	\$1,650.00	1	\$10.00
July	19	\$125.80	407	\$3,924.43	37	\$365.64	71	\$710.00	38	\$270.00	111	\$1,110.00	0	\$0.00
August	11	\$100.80	290	\$2,773.20	37	\$320.72	47	\$470.00	27	\$260.00	63	\$595.00	0	\$0.00
September	11	\$87.60	305	\$2,923.39	29	\$258.48	56	\$560.00	37	\$295.00	72	\$695.00	1	\$10.00
October	5	\$50.00	308	\$2,968.12	37	\$322.96	53	\$530.00	29	\$215.00	66	\$600.00	1	\$0.50
November	3	\$16.80	180	\$1,723.10	15	\$126.48	22	\$220.00	21	\$165.00	57	\$550.00	0	\$0.00
December	1	\$5.40	98	\$878.75	12	\$108.24	<b>10</b>	\$100.00	<b>10</b>	\$65.00	<b>56</b>	\$515.00	<b>2</b>	\$20.00
<b>Total</b>	100	\$797.60	2,972	\$28,513.63	285	\$2,531.00	479	\$4,790.00	294	\$2,465.00	789	\$7,530.00	5	\$40.50

Month	Tires # Coupons	# Tires	Tires \$ Coupons	Asbestos # Coupons	Asbestos \$ Coupons	Scrap Metal Coupons	\$ Coupons	Brush Coupons	\$ Coupons	Scale Coupon	\$ Coupons	Propane Tank Coupons	\$ Coupons	Total # Coupons	Total \$ Coupons
January	0	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00
February	0	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00
March	0	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00
April	11	102	\$102.00	0	\$0.00	13	\$102.00	2	\$15.00	0	\$0.00	0	\$0.00	377	\$3,558.38
May	34	336	\$336.00	0	\$0.00	16	\$160.00	5	\$50.00	2	\$5.50	0	\$0.00	1,086	\$10,379.44
June	25	247	\$249.50	0	\$0.00	14	\$132.00	0	\$0.00	0	\$0.00	0	\$0.00	928	\$8,846.50
July	18	171	\$181.00	1	\$10.00	10	\$92.00	1	\$10.00	1	\$5.00	0	\$0.00	714	\$6,803.87
August	12	118	\$118.00	0	\$0.00	12	\$119.00	0	\$0.00	0	\$0.00	0	\$0.00	499	\$4,756.72
September	15	134	\$136.50	0	\$0.00	25	\$247.00	2	\$20.00	0	\$0.00	0	\$0.00	553	\$5,232.97
October	22	0	\$160.50	0	\$0.00	35	\$240.00	3	\$20.00	0	\$0.00	0	\$0.00	559	\$5,107.08
November	18	0	\$140.00	0	\$0.00	23	\$169.00	0	\$0.00	0	\$0.00	0	\$0.00	339	\$3,110.38
December	<b>12</b>	0	\$80.00	0	\$0.00	<b>4</b>	\$34.00	0	\$0.00	0	\$0.00	0	\$0.00	205	\$1,806.39
<b>Total</b>	167	1,108	\$1,503.50	1	\$10.00	152	\$1,295.00	13	\$115.00	3	\$10.50	0	\$0.00	5,260	\$49,601.73

	<b>TOTAL</b>	<b>%</b>			
<b>Demolition</b>	\$797.60	2%	<b># send out</b>	33,744	
<b>MMSW</b>	\$31,065.13	63%	<b>Return Rate</b>	15.6%	5260
<b>SCORE</b>	\$17,739.00	36%			
<b>TOTAL</b>	\$49,601.73	100%			

## **APPENDIX M – PROHIBITED/SPECIAL WASTE**

