

Kootenai County Solid Waste Department 2023 Waste Analysis Report



Kootenai County Solid Waste Department
3650 N Ramsey Road
Coeur d'Alene, ID 83815
(208) 446-1430



2023 Waste Stream Analysis for Kootenai County Solid Waste

Introduction

The annual report is an important historical record and planning tool. Utilizing historical data, the Solid Waste Department can address current obligations while looking to the demands of the future.

You may view detailed reports and information at either the Idaho Department of Environmental Quality (DEQ) office in Coeur d'Alene, Idaho or in the administration office of the Kootenai County Solid Waste Department.

In 2023, the Solid Waste Department reached full staffing by the end of the year, which was a welcome change. Much of the department's focus, besides maintaining our sites and providing waste disposal for the people of Kootenai County, was on the future. We spent time planning and working with engineers for projects such as:

- A new cell at the landfill (construction starts in 2024)
- Waste water treatment for leachate (pilot program in 2024)
- Ramsey drop off area (construction starts in 2024)
- Additional rural site property (purchase in 2024)
- Athol paving (completed in 2023)

The Department managed 249,000 tons and served 793,582 customer site visits – an increase of 3.7% or 28,116 customer visits in one year. In 2023, the landfill managed 218,089 tons of material - an increase of 1.8% or 3,911 tons as compared to 2022.

The Solid Waste Department offers a variety of services and strives to implement best management practices in compliance with ever-changing regulatory requirements. We are committed to provide citizens with affordable and efficient waste disposal.

Summary

This section contains an overview of the solid waste system and some planning tools used to help meet the needs of Kootenai County residents relative to waste disposal.

The Department is an affordable asset to Kootenai County providing financial stability to the County's financial future. This enterprise-funded program is currently debt-free, managing assets appropriately, and maintaining fiscal responsibility for operations, development, equipment, expansion and future landfill closure and post-closure costs.

Kootenai County Solid Waste department consists of the following:

- Fighting Creek Farm Landfill – the active landfill open 6 days per week;
- Prairie Transfer Station – a full-service transfer station open 7 days per week;
- Ramsey Transfer Station – a full-service transfer station open 7 days per week;
- 12 Rural Residential Collection sites located throughout the County; and
- Granite & Ramsey Landfills both closed for waste disposal.

Flexibility is the key to success in managing solid waste and it takes many talents and skills to keep the department running smoothly. When fully staffed, the department has 65 full-time employees and additional seasonal staff for the summer months.

The Department is always researching alternative methods to maximize disposal space, alternative waste management methods, and disposal and management of leachate. In addition, material reuse or recycling is encouraged to reduce the amount of waste sent to the landfill.

Budget

The Solid Waste Department carefully plans activities to provide for the maximum benefit of available funding. As an enterprise fund, the solid waste program operates more like a business than the typical tax-based government entity and does not receive any support from tax dollars. Solid waste dollars are managed in the solid waste fund, which is restricted for solid waste operations, activities, capital improvements, and construction.

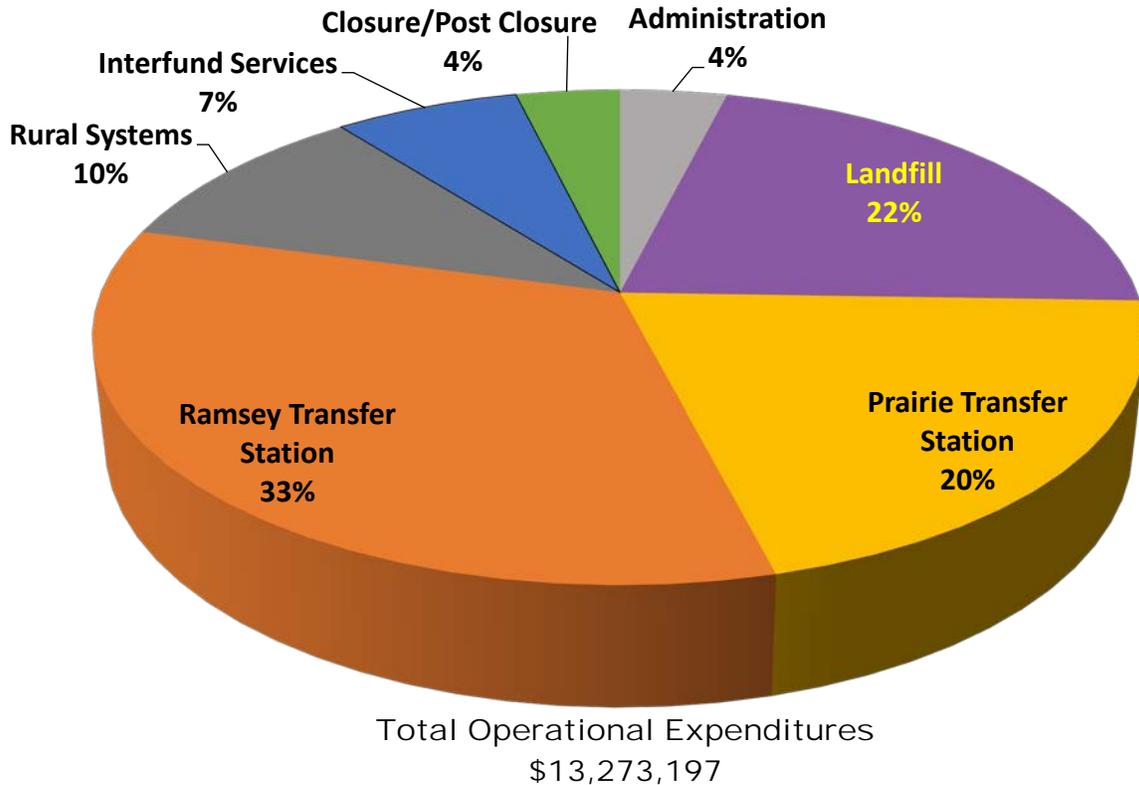
Idaho Code §39-7417 requires that financial assurance mechanisms are in place for landfill closure and post-closure expenditures. Kootenai County's policy is to set aside the calculated cost of the depletion of landfill airspace annually. The practice sets aside funds each year for future closure post-closure costs to close and maintain the closed landfill. This fairly allocates future costs to the current year's disposers and reduces the future need to come up with substantial funds for these required actions.

These funds are restricted and used for closure and post-closure expenses only. Each year the County Finance Director provides a letter to Idaho DEQ meeting this financial assurance requirement. As of September 30, 2023, a total of \$14,504,000 has been set aside for closure/post-closure expenditures. See Appendix A-4 for additional information.

For detailed information about the financial records, view the Comprehensive Annual Report prepared by Kootenai County Auditor's office on the County's website at: <https://www.kcgov.us/211/Financial-Reports>

The Department maintains strategic, long-term financial plans and works to finance the required operation and expansion of services within the solid waste system. Expenditures are broken down into the following categories: Administration, Closure/Post Closure funding, Interfund Services (payment to the general fund for services provided by other departments), Landfill, Prairie Transfer Station, Ramsey Transfer Station, and Rural Systems. In 2023, the Department expenditures were \$13,273,197. All salaries necessary to support these activities are contained within the budget categories.

Operational Expenditures



Fighting Creek Farm Landfill

Kootenai County owns and operates a fully permitted municipal solid waste landfill located approximately 16 miles south of Coeur d'Alene, Idaho. The Fighting Creek Farm Landfill includes over 500 acres of land, with approximately 115 acres permitted for active landfill. Recent estimations are that the currently constructed cells reach interim elevation by 2026. The additional cell developments and construction (E3/E4) will extend the landfill life to 2038, depending on waste growth.

The landfill was designed under 40 CFR 258, Federal Subtitle "D" regulations and complies with the Idaho Solid Waste Facilities Act, Idaho Code §39-7400. To meet these requirements, the landfill has been, and will continue to be, constructed with a fully developed liner, leachate collection system, and gas extraction system.

On September 9, 2022 the Department obtained a renewal of the Tier 1, Title V Air Quality Permit and has continuously maintained compliance with this permit. Copies of the semi-annual and annual reports to the EPA are included with the electronic version of this report. (See Appendix A-2)

The landfill is the cornerstone of the solid waste system in Kootenai County. The facility is open 307 days per year providing service 6-days per week (Monday through Saturday). The facility is not open to the public as processing of most waste is completed through the two transfer stations. The removal of recyclable and reusable materials from the waste stream at the transfer stations prior to landfilling is imperative to save landfill space.

The landfill received 218,089 tons of material in 2023 - an increase of 3,911 tons over the previous year. The waste going to the landfill has steadily increased each year since 2011. A life cycle analysis is a planning tool to help understand how well operators are doing in managing and disposing of waste within the landfill. Based on historical data, the overall long-term growth rate of waste to the landfill is 3%. The current life cycle analysis report uses a planning growth factor of 5% based on prior five-year's growth. This results in a planning strategy of design and build of the next landfill expansion.



Daily operations include placement/compaction of refuse and covering of these materials. Native clay soil is used for intermediate (or longer term) cover, as well as the application of Posi-Shell™ material as an approved ADC (alternative daily cover). ADCs conserve landfill space and generally allow for better landfill gas migration controls and gas recovery within the waste mass.

The original landfill footprint started fill placement in 1993 and reached interim closure elevation in August 2013 with approximately 2,350,597 tons of material in place. Placement of waste in Phase 1 of the East Cell began on August 5, 2013 and then shifted over to Phase 2 on June 14, 2016. Since the opening of the east cell footprint, a total of 1,842,625 tons of waste has been placed.

In 2019 the area between the original landfill footprint and the east cell development was developed into landfill space. This area, referred to as the “corridor” began waste placement on May 27, 2020. With the increased waste growth, the plans cell E3 were finalized this year and construction will begin in 2024.

Gas System

The landfill has a gas extraction system, which currently includes 218 active landfill gas wells. This extensive gas well and trenching system collects landfill gas and conveys it to a collection point that feeds two operational enclosed flares and a landfill gas to energy facility. This system is regularly monitored and adjusted to ensure compliance. Required reporting for this system is included with the Tier 1, Title V semi-annual and annual reports (See Appendix A-2)

In 1994, installation of the first blower/flare took place and the gas system activated in 1995. Installation of a second enclosed flare took place in 2000. Kootenai County continues to implement landfill-gas control devices well ahead of state and federal requirements.

In March 2012, a landfill gas to energy project with Kootenai Electric Cooperative for the utilization of landfill gas to generate electricity became operational. Since then this facility has generated approximately 156 million kilowatt hours of electricity.



Leachate

Leachate is a liquid by-product that results from the compaction of saturated refuse and/or the migration of natural precipitation through garbage. Under current rules, all landfill leachate must be treated and disposed. Leachate is not characterized as hazardous material, but does contain soluble suspended material that comes from the waste.

Not allowing storm water to contact garbage is the best way to minimize leachate production. In 2018, the department completed construction that consisted of covering approximately 16 acres of landfill with a liner material to minimize leachate production as much as possible. It is anticipated that approximately 6 of these acres of liner are temporary in nature. The remaining 10 acres of liner material may qualify as final cover for the landfill. The installation of this material has the potential of preventing millions of gallons of clean storm water from becoming leachate, thus reducing the quantity of leachate to manage on-site.

The landfill manages leachate in a variety of methods, with ultimate disposal handled one of three ways: recirculation, evaporation, or off-site delivery to a wastewater treatment facility. A total of 6 million gallons of leachate was handled through the on-site evaporation process and 1.9 million gallons of leachate was hauled off site. (See Appendix A-7)

The following represents the leachate processed utilizing the misting system over the last 5 seasons:

- April-November 2019 – 6.1 million gallons
- April-November 2020 – 3.6 million gallons
- April-November 2021 – 5.4 million gallons
- April-October 2022 – 4.2 million gallons
- April-October 2023 – 6 million gallons

Groundwater

The landfill operations permit requires a groundwater monitoring system. Nine (9) groundwater monitoring wells are sampled biannually on the property. The location of these monitoring wells are up gradient and down gradient from landfill operations. The positioning of these sampling points allows for comparative analysis to background conditions of natural groundwater. Results enable engineers to discern if any ground water degradation has occurred due to landfill operations.

As part of a community outreach program, sampling of four domestic wells (up from two previously) is completed at the same time as the semi-annual sampling events. To date, no landfill related degradation of ground water, at the landfill or the two domestic well sites, have been found. (See Appendix A-6)

Surface Water Monitoring - MSGP

The EPA and Idaho DEQ have established rules for surface water monitoring at the Fighting Creek landfill. Over time, the Department has established an extensive surface water infrastructure to assure any surface water leaving the site is clean.

A series of sedimentation ponds situated throughout the property accept run-off from all the local drainage areas. These ponds function mainly to aid in removing suspended solids. The design of each pond is for a specific retainage period to adequately control sedimentation. Cleaning of these ponds is done as necessary during the summer months, if silt has significantly reduced the holding capacity of water in the pond.



These ponds typically drain through large pre-designed vegetated drainages. This allows for natural filtration and aids in further cleaning the water. Within the drainage areas there also exists a series of rock “finishing dams” designed to slow down the run-off allowing more time for sediment to drop or filter out.

Enhanced wetland structures also help to remove solids and provide a robust microenvironment. These areas positively affect local wildlife. An abundance of ducks and geese migrate to these wetlands each year to nest.

The impact from efforts to maintain such clean water is also evident through sampling results. Typical data shows the surface water leaving this site to consistently be of higher quality than the surrounding receiving drainages. (See Appendix A-8)

Landfill Future Development

The Solid Waste Department regularly reviews/updates its development strategy. Planning for future work, including site development for future material sources for landfill cover, phases 3 and 4 landfill development, and south cell permitting/engineering is necessary and maintains our fiscal accountability.

The landfill property includes an area to the south and west of the original landfill footprint estimated to provide solid waste disposal needs for Kootenai County through 2052.

Closed Landfills

In addition to the landfill at Fighting Creek, the Department is responsible for two closed landfills.

The closed Ramsey landfill is located adjacent to the Ramsey transfer station in Coeur d'Alene, Idaho. The landfill portion of this complex stopped taking waste in 1993 upon the opening of the landfill at Fighting Creek. The Ramsey landfill utilizes an active gas extraction system combined within an impermeable cover. Landfill gas from this landfill is flared onsite. The older portion of this landfill (located on the west side of Ramsey Road) no longer produces measurable quantities of gas. See Appendix A-5 for additional Ramsey Gas System Reporting data.

The closed Granite landfill is located on the northern border of Kootenai County. This facility (shared between Kootenai and Bonner County) stopped accepting waste in the early 1990's. For many years, this location was far from dwellings. The sale of adjacent property and the establishment of rural residential development prompted the fencing of this property. A passive gas probe system was installed in 2008 to verify the absence of meaningful methane production at this location.

Complete landfill gas reports are available for review at the Idaho DEQ office in Coeur d'Alene or the administration office of the Solid Waste Department.

Customer Statistics – Transfer Stations

The Department is an affordable asset with a positive customer service reputation. The solid waste system in Kootenai County is owned by the citizens and exists solely for their use. A great deal of effort and funds are expended to provide safe and efficient service to citizens while working to deny access when out of county customers attempt to use the facilities.

In 2023, a total of 793,582 customer site visits (customers) occurred, an increase of 3.7% or 28,116 from 2022. This number does not take into account the ten unattended rural sites in the County.

Prairie customer site visits totaled 217,922 in 2023. These figures break down as follows:

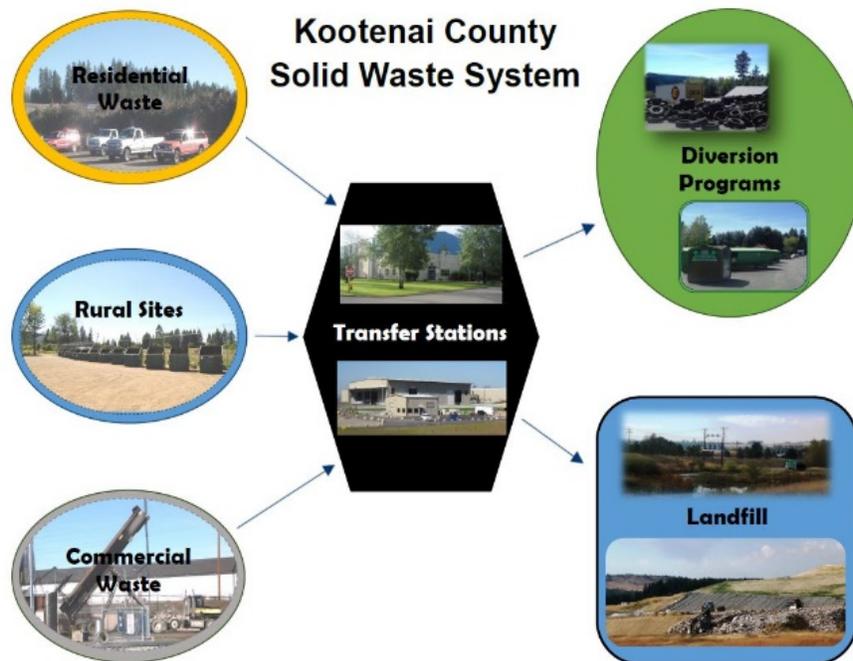
- Increase of 12,808 or 6.2% compared to 2022.
- Average of 607 per day.
- Saturday was the busiest averaging 759 per day.
- Thursday was the least busy averaging 523 per day.
- Low of 159 customers on February 22, 2023.
- High of 1,155 customers on April 30, 2023.
- Trivia note: From 2009 through 2023, there have been 2,399,486 customer site visits to the Prairie site.

Ramsey customer site visits totaled 375,272 in 2023. These figures break down as follows:

- Increase of 20,405 or 5.8% compared to 2022.
- Average of 1,045 per day.
- Saturday was the busiest averaging 1,244 per day.
- Thursday was the least busy averaging 970 per day.
- Low of 275 customers on December 24, 2023.
- High of 1,840 on April 30, 2023.
- Trivia note: Since opening in 1993, there have been 8,428,544 customer site visits to the Ramsey site.

The staffed rural sites at Athol and Chilco saw 200,387 customer site visits in 2023, a decrease of 4,798 or less 2.34% compared to 2022. This was partly due to a paving project at Athol that had the site closed from 6/12 – 7/6/2023.

See Appendix B for additional charts relating to customer statistics.



Waste Statistics

In 2023, the Department processed 249,000 tons. This represents an increase of 2.4% or 5,841 tons from 2022 for waste coming into the facilities.

Waste shipped to the landfill was 218,089 tons, which is up 1.8% or 3,911 tons from 2022. The landfill received 11,110 loaded trailers from the two transfer stations, which is an increase from the 10,940 loaded trailers in 2022. Kootenai County has seen a lot of growth in the construction of housing and people moving to the area. There are many things that contribute to the rise of solid waste, but the growth in our area is a factor to consider.

See Appendix C for waste statistics charts.

Prairie Transfer Station

The Prairie site received 95,562 tons of material in 2023. This represents 36% of the waste processed in Kootenai County and an increase of 2,293 tons or 2.5% from last year. The measurement of the waste stream from Prairie is the weight of all materials weighed into the facility during the calendar year.

- Average daily tons received was 266 (which is up from 260 last year).
- Heaviest tonnage day was May 30, 2023 with 550 tons.
- Lowest tonnage day was December 24, 2023 with 22 tons.
- Friday is the highest tonnage day of the week with an average of 342.
- Sunday is the lowest tonnage day with an average of 133.

After processing the waste for recyclables and removal of other materials, the Prairie site shipped 86,788 tons or 4,404 trailer loads of waste to the landfill. From 2009 through 2023, the Prairie site has processed 1,022,158 tons of material.



Ramsey Transfer Station

The Ramsey site received 147,601 tons of material in 2023. This represents 56% of the waste processed in Kootenai County. It is an increase of 5,157 tons or 3.6% from last year. The measurement of the waste stream from Ramsey is the weight of all materials entering into the facility during the calendar year.

- Average daily tons received was 411 (up from 397 last year).
- Heaviest tonnage day was May 30, 2023 with 753 tons.
- Lowest tonnage day was December 24, 2023 with 45 tons.
- Thursday is the highest tonnage day of the week with an average of 525.
- Sunday remains the lowest tonnage day with an average of 174.

After processing the waste for recyclables and removal of other materials, the Ramsey site shipped 125,470 tons or 6,706 trailer loads of waste to the landfill. From January 1992 through 2022, the Ramsey site has processed 4,171,477 tons of waste.



Direct Landfill Discharge

In 2023, over 5,800 tons (2% of the waste stream) of material were directly taken to the landfill in an effort to divert waste from the transfer stations from large construction/demolition projects. The contractors utilized the scales at the landfill for measurement and delivered the material to the working face of the landfill. This operational change reduces the number of large loads into the transfer station and provides a rate decrease to the contractor for direct haul to the landfill. These projects are by authorization of the Department only.

See Appendix C for additional charts regarding waste statistics.

Recycling

Kootenai County encourages waste diversion, reduction, reuse and recycling before material becomes part of the solid waste system, but does not mandate or control what is collected outside County operated sites.

A wide variety of reuse, reduction, and recycling programs are in place throughout the area operated by businesses or other entities independent of County programs. Material collected by the County and recycled include, single-stream material (cardboard, newspaper, plastics, and other segregated recyclables), textiles, automotive batteries, scrap metal, used oil, wood waste and other materials.

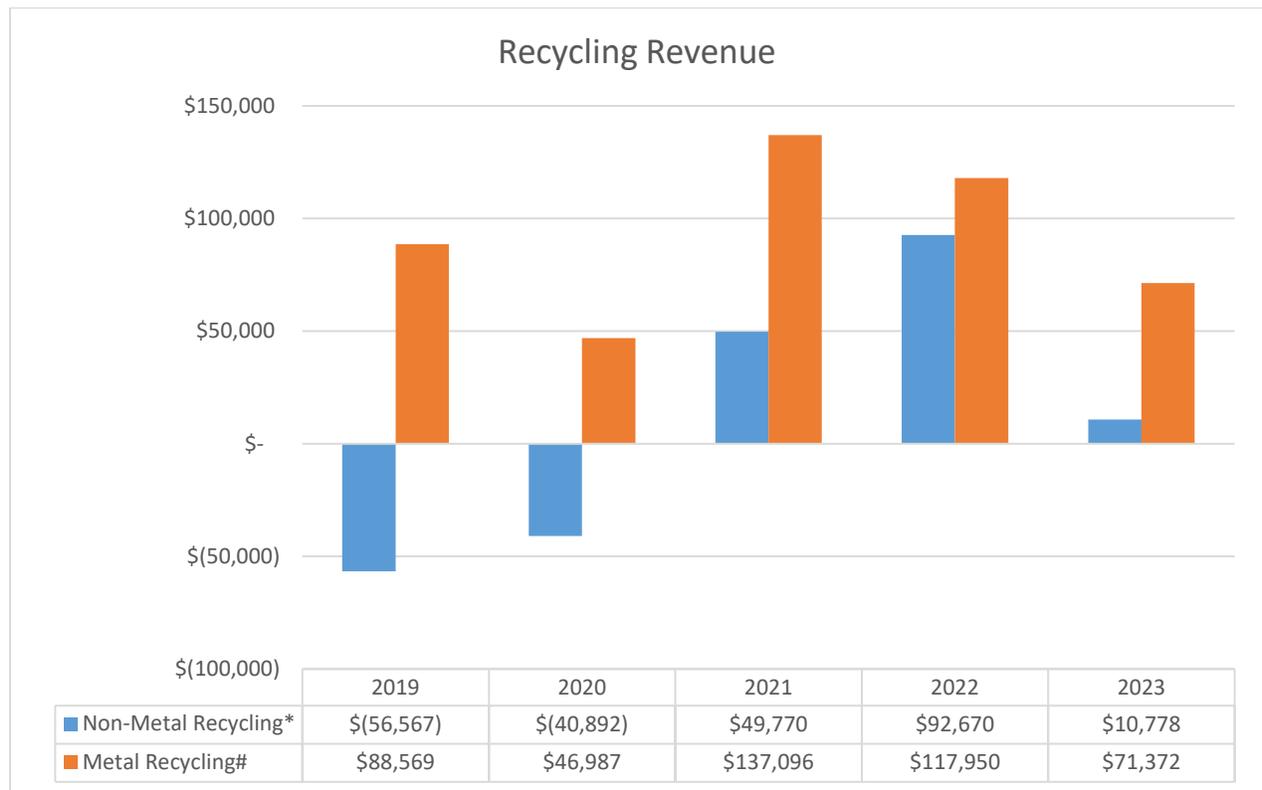


The Department offers recycling drop off stations at both transfer stations and some of the rural residential collection sites. These materials are modified dependent on current markets, challenges with marketing material, and problems with contamination of the recyclables.

There are significant issues facing recycling markets in the United States. The Department remains focused on providing as many opportunities to recycle as fiscally reasonable. Until there are significant changes made, recycling processing costs will continue. Working together with our recycling contractor, the Department has limited these costs, but the recycling markets are extremely volatile and unsteady, and will remain that way for several years.

Recycling can provide an effective means of conserving landfill space; however, it is not a free service. It takes funds to collect, sort, store, transport and manage these materials. If there is no end market for a particular material (i.e. plastics or glass) then these items may be removed from the offered recycling programs.

To help consumers understand the tough decisions made regarding recycling, we are providing revenue information regarding the two main components of the Department’s recycling programs: metal and non-metal recycling. The non-metal recycling figure includes revenue for the product less the processing costs charged by the broker. Non-metal materials consist of corrugated cardboard, mixed paper, mixed plastics, aluminum and tin cans.



In 2021, we made a few small changes that helped with the cost of non-metal recycling and the price of metals increased substantially.

The recycling programs managed by the Department diverted a total of 19,294 tons of material from the landfill in 2023. This includes all materials removed from the waste stream at transfer stations and rural sites. This represents an increase of 4.7% or 861 tons from last year. See Appendix D for additional data regarding recycling.

Rural Residential Collection System

There are 12 rural residential collection sites spread throughout the county, of which the County owns the property for four. There are two staffed sites in the northern portion of the County and 10 collection sites on the east and west side of Coeur d'Alene lake and in the southern portion of the county. The challenge is to keep this waste stream confined to household waste from Kootenai County residents. Over the years, changes implemented include staffing sites and increasing public awareness for unacceptable material at these sites. Another challenge is to restrict out of county/out of state use and ensure they are used by the citizens who pay for the system.

Rural sites received 14,393 tons of waste in 2023. This represents 6% of the waste processed in Kootenai County. The total waste was 1,643 tons less, or a 10% decrease than 2022. This change reflects the reduction of illegal disposal of waste being brought to our residential rural sites from out-of-county as well as commercially. Waste was also diverted to other locations while the Athol Rural Site was closed for paving from 6/12 – 7/6/2023. Customers removed 249 tons of cardboard by placing items into the recycling bins provided at these sites.

The two staffed northern sites are open the same hours and days as the transfer stations. These sites assisted 200,387 site visits in 2023. This is a decrease of 4,798 or less 2.3% from the total customers reported in 2022. These two staffed sites processed 6,907 tons of waste, which is down 509 tons or 7% from last year.

Ten other collection sites make up the remaining portions of the rural collection system. Waste collected from these other sites equaled 7,486 tons which is a decrease of 13% or 1,134 tons.

The Department focused on site surveillance beginning in 2021 and continued the efforts in 2023. We collaborate with the Kootenai County Sheriff's Office for additional patrolling of the rural sites by funding a full-time officer position. Improvements have also been made to our video surveillance at locations that are not staffed.

Newly paved Athol Rural Site.



Household Hazardous Waste (HHW)

Both transfer stations operate year-round HHW collection facilities. The Ramsey site is open Wednesdays and Saturdays from 8:00 a.m. to 4:00 p.m. The Prairie site is open on Fridays and Saturdays at the same hours. These facilities accept up to ten (10) gallons from residential customers only. Commercial hazardous waste is not accepted at any County sites.

Most communities offer limited HHW collection (some only a few days per year). The Department offers these services over 200 days per year. Limiting days is necessary as trained and certified technicians are responsible for safe identification, acceptance, material handling, packaging, shipping, etc. to avoid spills, contaminations, injuries, or improper storage of materials.

Only household hazardous waste is accepted. There are restrictions on types and volumes of materials set forth in the Panhandle Health District Critical Materials Regulation/Certification and the facility operating permit. Transfer stations are Tier II facilities which are permitted to accept municipal solid waste and no industrial or commercial hazardous waste.

The Department processed approximately 265 tons of special waste through the HHW program. See Appendix D for the breakdown of these materials.



All paint is collected in the HHW programs at the transfer stations. Staff sort and separate the paint and set aside latex paint for shipment to the landfill. Landfill staff mix the latex paint with a Posi-shell© material and spray it over the face of the landfill as daily cover. This unique approach provides the department with a cost-effective and environmentally safe alternative cover and reduces expenses for transportation of HHW disposal. This cover system also saves very valuable landfill air space.

A large time component in processing special waste each day is the removal of refrigerants from units (refrigerators, freezers, AC units) brought into the transfer station. The number of units processed by the staff in 2023 was 5,550, which is 13 more units than in 2022. Within the last 5-years, the department has decommissioned almost 26,000 units.

See Appendix E for additional data relating to HHW collection.

Index to Appendix “A” DEQ Reporting Requirements

In May 2009, Idaho Department of Environmental Quality terminated the Conditional Use Permit and Consent Order for the Kootenai County Farm Landfill. DEQ requires that the following reports and documents are included in the department’s annual report each year.

The following is a summary of the information provided to Idaho Department of Environmental Quality (DEQ) and Idaho Panhandle Health District (PHD) with this annual report.

A-1 Inspections and Reports: Annual report for 2022 was submitted to DEQ and PHD in April 2023. In July 2023 the department finalized a Landfill Operations Plan 2023 Update. Idaho DEQ conducted a Tier 1 Air Quality inspection at the landfill in October 2023. A Landfill Closure and Post-Closure analysis was completed.

A-2 Tier 1 Operating Air Quality Permit: Copies of all Tier 1, Title V Air Quality Permit documents and reports have been provided and can be viewed at the Idaho DEQ office in Coeur d’Alene.

A-3 Closure and Post-Closure Plan: There were no changes or modifications to the Closure Plan in 2023.

A-4 Financial Assurance Plan (FAP): Updated information regarding monies spent and set aside to fund future closure and post-closure requirements per §39-7417 of Idaho Code has been included in the electronic version of this report. A copy of the letter from Kootenai County Finance Director, Brandi Falcon, is included herein.

A-5 Landfill Gas Reporting: Fighting Creek gas system reports were included in the required reporting to the EPA, a copy of which is included in the electronic version of this report. The Ramsey gas system report is included in the electronic version of this annual report.

A-6 Ground Water Summary: The electronic reports and data from bi-annual ground water monitoring as described in the Ground Water Monitoring Plan is included in the electronic version of this report.

A-7 Leachate Report: A summary of the performance of the leachate treatment and disposal system during the preceding calendar year containing the same information as previously reported in the annual leachate report is included in the electronic version of this report.

A-8 Surface Water: The Department complied with the regulations of the EPA regarding MSGP and SWPPP. Copies of these reports have been provided, previously, to DEQ, but are included on the flash drive accompanying this report to DEQ.

A-9 Plans and Specifications: No construction completed in 2023 required approval of plans and specifications.

Appendix A-1: Inspections and Reports

Below are the inspections and/or reports completed during calendar year 2023:

- a) On April 10, 2023, the department submitted the 2023 Waste Stream Analysis Report to DEQ and Panhandle Health District.
- b) In July of 2023, the Kootenai County Farm Landfill Operations Plan 2023 Update was finalized and sent to PHD and DEQ.
- c) On October 5, 2023, Idaho DEQ conducted a Tier 1 Air Quality Inspection at the Fighting Creek Landfill.
- d) On December 28, 2023, Jacobs Engineering completed a Landfill Closure and Post-Closure Cost analysis and provided documentation with updated costs, this is provided in the electronic records that accompany this report.

Electronic records of these reports and inspections are on file with DEQ, Panhandle Health District and the Solid Waste Department.



KOOTENAI COUNTY

SOLID WASTE

07/31/2023

Panhandle Health District
8500 N. Atlas Rd
Hayden, ID 83835

Mr. Erik Ketner,

As required, Kootenai County Solid Waste is providing you this (3 year) operations plan up-date, specific to the operations of the Fighting Creek Landfill. The address for this facility is 22089 S. Hwy 95 Coeur d' Alene, Idaho 83814.

Kootenai County Solid Waste certifies, to the best of our knowledge, the provisions of section 39-7412 Idaho Code, have been complied with through the development of this plan.

I have included an electronic copy, of this updated operations plan, as well all corresponding appendices for your consideration and hopeful approval.

Please review the electronic documents at your earliest convenience.

Feel free to contact me with any questions or if you are in need of any additional information.

Thanks,

A handwritten signature in cursive script, appearing to read "John Phillips".

John Phillips "JP"
Director, KCSW
3650 N. Ramsey Road
Coeur d' Alene, ID 83814

208-446-1441 Office

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Appendix A-2: Tier 1 Operating Air Quality Permit

The Department has maintained compliance with the Tier 1, Title V Air Quality Permit. Copies of the semi-annual and annual reports to the EPA are included in the electronic version of this report.

Idaho DEQ approved a new Tier 1 Operating Permit effective September 9, 2022. The permit and reporting documents can be reviewed at the Idaho DEQ office in Coeur d'Alene, Idaho or at the administration office of the Solid Waste Department.

- a) The AQ-C4 for the reporting period of July 1, 2023 to December 31, 2023 is included herein.
- b) The AQ-C1 for the reporting period of July 1, 2022 to June 30, 2023 is included herein.

TIER I SEMIANNUAL REPORT

FORM AQ-C4

FACILITY INFORMATION

Facility/Permittee Name: Kootenai County Farm Landfill
Co-Permittee Name(s): _____
Facility Location: 22089 South Highway 95, Coeur d'Alene, Idaho 83814
AIRS Facility No.: EPA Plant ID: 110028125516 Idaho DEQ: 055-00044
Facility Contact: John Phillips Ph: 208-446-1430 Fax: 208-446-1431

PERMIT AND COMPLIANCE INFORMATION

Tier I Operating Permit No.: T1-2021.0006 Project 62583 Issuance Date: Sept 9, 2022
Tier I Operating Permit No.: _____ Issuance Date: _____
Compliance Reporting Period: From: July 1, 2023 To: Dec 31, 2023
Deviations Reported This Period? Yes No

List of Attachments:

<input checked="" type="checkbox"/> Semiannual Monitoring Table (Form AQ-C5)	No. of Pages: <u>5</u>
<input checked="" type="checkbox"/> Semiannual Deviation Summary Table (Form AQ-C3)	No. of Pages: <u>2</u>
<input checked="" type="checkbox"/> Other: <u>Surface Emission Summary - Sept & Nov 2023</u>	No. of Pages: <u>4</u>
<u>Deviation Reports (Forms AQ-C9 and AQ-C10)</u>	No. of Pages: <u>22</u>
<u>Odor Complaints</u>	No. of Pages: <u>5</u>
<u>Flare Facility Ledger</u>	No. of Pages: <u>2</u>
<u>Farm Landfill Gas Collection Report</u>	No. of Pages: <u>46</u>
_____	No. of Pages: _____

Certification of Truth, Accuracy, and Completeness (by Responsible Official)

I hereby certify that based on information and belief formed after reasonable inquiry, the statements and information contained in this and any attached and/or referenced document(s) are true, accurate, and complete in accordance with IDAPA 58.01.01.123-124.



Responsible Official Signature

Director

Responsible Official Title

01/29/2024

Date

John Phillips

Print or Type Responsible Official Name

Co-Permittee Responsible Official Signature

Co-Permittee Responsible Official Title

Date

Print or Type Co-Permittee Responsible Official Name

TIER I ANNUAL COMPLIANCE CERTIFICATION

FORM AQ-C1

FACILITY INFORMATION

Facility/Permittee Name: Kootenai County Farm Landfill
Co-Permittee Name(s): _____
Facility Location: 22089 South Highway 95
AIRS Facility No.: EPA Plant ID: 110028125516 Idaho DEQ: 055-00044
Facility Contact: John Phillips Ph: 208-446-1441 Fax: _____

PERMIT AND COMPLIANCE INFORMATION

Tier I Operating Permit No.: T1-2021.0006 Issuance Date: Sept 9, 2022
Tier I Operating Permit No.: _____ Issuance Date: _____
Compliance Reporting Period: From: July 1, 2022 To: June 30, 2023
Is This Intended To Be A Semiannual Report Also? Yes No
Deviations Reported This Period? Yes No

List of Attachments: Annual Compliance Certification Table (Form AQ-C2) No. of Pages: 9
 Semiannual Deviation Summary Table (Form AQ-C3) No. of Pages: 2
 Other: Flare Facility Ledger No. of Pages: 3
New Collector (Well/Trench) Ledger No. of Pages: 1
Farm Landfill Gas Collection Report No. of Pages: 107

Certification of Truth, Accuracy, and Completeness (by Responsible Official)
I hereby certify that based on information and belief formed after reasonable inquiry, the statements and information contained in this and any attached and/or referenced document(s) are true, accurate, and complete in accordance with IDAPA 58.01.01.123-124.

 Director July 27, 2023
Responsible Official Signature *Responsible Official Title* *Date*
John Phillips
Print or Type Responsible Official Name

Co-Permittee Responsible Official Signature *Co-Permittee Responsible Official Title* *Date*

Print or Type Co-Permittee Responsible Official Name

Appendix A-3: Kootenai County Farm Landfill Closure and Post-Closure Plan

We are still operating under the Closure and Post-Closure Plan that was set in 2010. We recently updated the plan in 2023 and intend to seek approval of the 2023 updated plan from Idaho DEQ in the near future. The current 2010 plan is available for inspection at the Idaho DEQ office in Coeur d'Alene and the administration office of the Kootenai County Solid Waste Department.

Appendix A-4: Financial Assurance for Closure and Post-Closure Activities

Enclosed is a letter of Financial Assurance from the Kootenai County Finance Director stating that Kootenai County meets the financial obligations of Closure and Post-Closure for the Fighting Creek Farm Landfill.



Kootenai County Auditor

Jennifer Locke - Clerk

451 Government Way · P.O. Box 9000 · Coeur d'Alene, ID 83816-9000

Phone (208)446-1650 · Fax (208)446-1662

<http://www.kcgov.us/departments/auditor> · Email kcauditor@kcgov.us

April 10, 2024

Idaho Department of Environmental Quality
Attn: Katy Baker-Casile, Engineering Manager
2110 Ironwood Parkway
Coeur d'Alene, ID 83814

RE: Kootenai County Farm Landfill - Closure and Post-Closure Funding

Dear Ms. Baker-Casile;

The financial liability associated with monitoring the closure and post-closure responsibilities, assumed by Kootenai County, is fully funded for the portion of the Kootenai County Farm Landfill (Fighting Creek) that has been depleted to date. The estimated liability at the end of our most recently completed fiscal year is defined and summarized on the attached schedule, which indicates an accrued obligation balance of \$14,504,000.

Additionally, this information will be included in our (Audited) Annual Comprehensive Financial Report for Kootenai County, Idaho for the year ending September 30, 2023. The restricted cash balance for closure and post-closure will be displayed in the Business-type Activities column under the Assets section of the report and will support or exceed the total noted above.

Please contact me for further questions or additional assistance. I can be reached at the address above, or by phone at (208) 446-1665.

Sincerely,

Brandi
Falcon

Brandi Falcon
Finance Director

Digitally signed by
Brandi Falcon
Date: 2024.04.10
16:29:37 -07'00'

cc: Solid Waste
BOCC

Attachment

Appendix A-5 Landfill Gas Reports for Ramsey and Fighting Creek Farm Landfills

The Fighting Creek Farm Landfill is required to report to the EPA twice a year under the Tier 1 annual compliance requirements. Copies of these reports are attached to the electronic version of this report.

The gas system at the old Ramsey Landfill does not fall under the same reporting requirements. The annual gas system report for Ramsey is attached to the electronic version of this report. An excerpt from the report shows below.



March 8, 2024

Parametrix No. 373-1660-047 (03.02)

John Phillips, Director
Kootenai County Solid Waste Department
3650 N. Ramsey Road
Coeur d'Alene, ID 83815

Re: The Ramsey Road Landfill Gas Control Annual Report for 2023

Dear JP:

This letter is an annual summary of the landfill gas monitoring and landfill gas management activities performed at the Ramsey Road Landfill in 2023. It is specific only to the landfill gas control system. This letter can be forwarded to Idaho Department of Environmental Quality and Panhandle Health District to communicate gas information and evaluations.

The annual letter report includes the follow sections:

- Introduction
- Description of Facilities
- System Monitoring Results
- Conclusions
- Recommendations

Introduction

The Ramsey Road Landfill is owned by Kootenai County (County) and is located at 3650 N. Ramsey Road, Coeur d'Alene, Idaho 83815. Ramsey Road divides the site into east and west areas. The landfill, which was a municipal solid waste landfill, is now closed. The landfill began accepting waste in 1963 and closed in 1993.

During the summers of 1992 and 1993, a gas control system was installed at the site in both the east and west areas. The gas control system consists of in-refuse wells, perimeter (native soil) wells, horizontal trenches, collection manifold and laterals, condensate traps, and a blower/flare station. Landfill settlement throughout the landfill made it difficult to locate and repair all the pipe failures, resulting in low methane and high oxygen concentrations. Consequently, in December 2002 and January 2003, the buried polyvinyl chloride (PVC) manifold and lateral piping was replaced with high-density polyethylene (HDPE) by the County. In May 2006, four additional shallow gas wells (ER-12 through ER-15) were installed by the County to increase landfill gas collection along the east side to help eliminate methane levels in GP-6 and 7, which are located just outside of the landfill footprint. A down-sized open flare was installed at the blower/flare facility (October 2007) to better handle the low landfill gas stream from the landfill. Two additional gas probes (GP-6A and 7A) were installed June 2008 between the landfill and proposed development projects on the east side to monitor potential impacts to human health since there has been evidence of subsurface migration in the past.

Appendix A-6: Ground Water Summary

The bi-annual monitoring requirements for ground water were completed as required in 2023.

The following is an excerpt from the 2023 Ground Water Monitoring Report prepared for Kootenai County Farm Landfill by the Engineering Firm of Parametrix. The full reports are available for review at the Idaho DEQ office in Coeur d'Alene and the administration office of the Solid Waste Department.

Ground water quality results as stated in Sections 2.4 and 2.3.2 of the Summary Report were below primary state or federal groundwater quality criteria.

2.4 Summary and Conclusions

The groundwater quality results for downgradient monitoring wells were below primary state and federal groundwater quality criteria. No VOCs were detected in any of the landfill monitoring wells.

Nitrate concentrations have increased in some wells over the history of monitoring but remain substantially below the groundwater quality criteria. Concentrations in M-9 and M-17 continued to be above the UPL, but the April and October 2023 concentrations in M-16 were below the UPL as they were in 2022. Since nitrate concentrations have also shown increases in East Expansion Landfill upgradient well M-15, it is recommended that continued monitoring of nitrate without verification resampling be conducted at these wells per agreement with IDEQ (IDEQ 2004).

The April 2023 chloride concentration in well M-16 continued to be above the seasonally adjusted UPL, as previously observed beginning in April 2017, but the October 2023 chloride concentration was below the seasonally adjusted UPL as was the October 2022 concentration. Overall concentrations in M-16 appear to have stabilized since October 2018, and the 2023 concentrations remained substantially below the secondary MCL of 250 mg/L. Therefore, it is recommended that continued monitoring of chloride without verification resampling be conducted at well M-16.

The April 2023 chloride concentration in M-17 was above the UPL, while the October 2023 concentration was below the UPL. Both these concentrations were substantially below primary State of Idaho or Federal GW quality criteria.

Trends in ammonia concentrations are continuing to be monitored. Concentrations of other leachate indicator parameters in downgradient wells did not show evidence of landfill impacts.

Kootenai County Farm Landfill
2023 Groundwater Monitoring Summary
Kootenai County Solid Waste Department

2.3.2 Comparison to Quality Criteria

The groundwater data (Tables A-1 through A-4) were compared to applicable state and federal groundwater quality criteria. Applicable criteria are Federal Maximum Contaminant Levels (MCLs), Idaho Rules for Public Drinking Water Systems (IDAPA 58.01.08 et seq.), and Idaho Groundwater Quality Rules (IDAPA 58.01.11).

In the active landfill monitoring wells, the results were all below primary and secondary groundwater quality criteria. No VOCs were detected.

The remaining East Expansion Landfill wells are being sampled to collect background data prior to construction of future cells. The results were all below primary and secondary groundwater quality criteria. No VOCs were detected.

Appendix A-7: Kootenai County Farm Landfill Leachate Report

A copy of the report to Idaho DEQ outlining the volume of leachate processed in 2023 and the methods used is attached in the electronic version of this report. In 2023 a total leachate processed was 7,871,362 gallons.



KOOTENAI COUNTY

SOLID WASTE

March 27, 2023

Ms. Katy Baker-Casile, P.E.
%Division of Environmental Quality
2110 Ironwood Parkway
Coeur d'Alene, ID 83814

Re: 2023 Annual Leachate Report – Fighting Creek Farm Landfill

Dear Ms. Baker-Casile,

Attached you will find a spreadsheet that lays out how the Solid Waste Department managed leachate during the 2023 season. The Department processed a total of 7,871,362 gallons of leachate. During the 2023 season we utilized the misting system for processing leachate and and 1,866,800 gallons of leachate was hauled offsite to the Hayden Area Regional Sewer District.

We consult with Drew Norton of the engineering firm, Parametrix, to review the results of our leachate and gas systems. Mr. Norton will continue to look for any inconsistencies or trends appearing from the data collected at the landfill. Leachate quality data will be included within the semiannual and annual groundwater reports.

Please let me know if you have any questions or concerns about this information.

Sincerely,

A handwritten signature in blue ink that reads "Doug Goodwin".

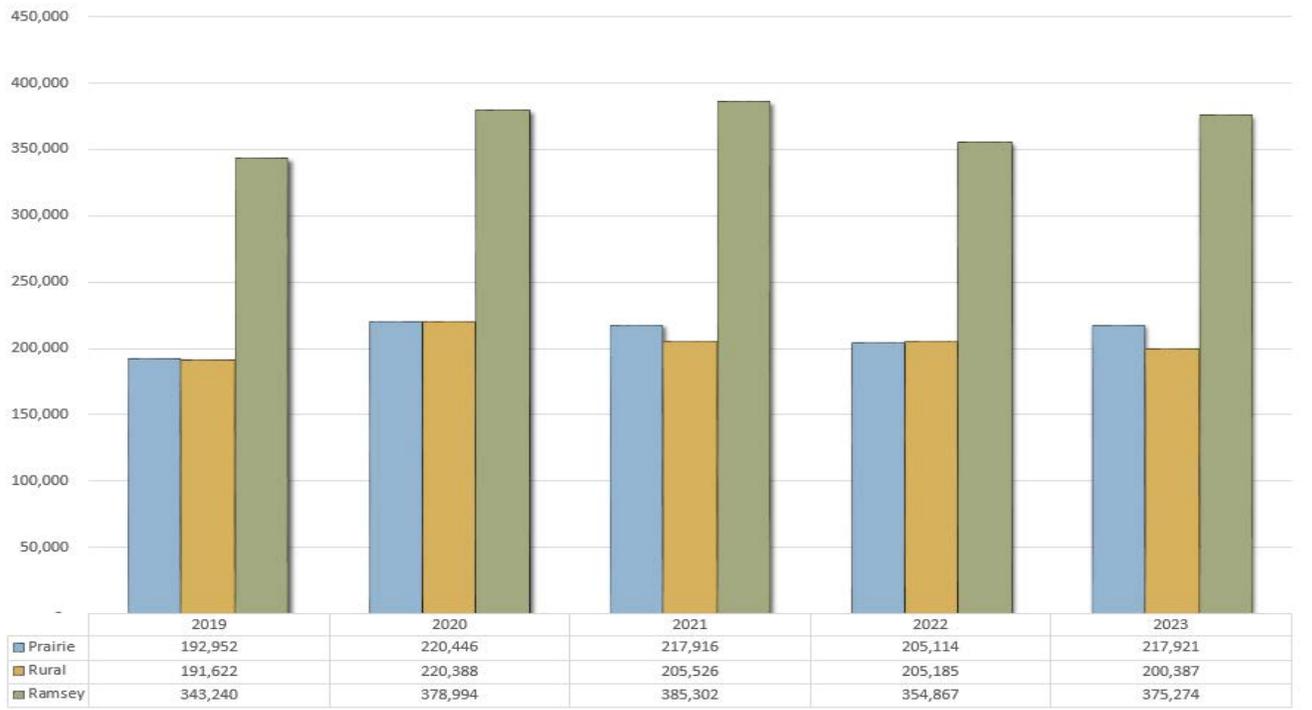
Doug Goodwin
Operations Manager

Appendix A-9: Plans & Specifications

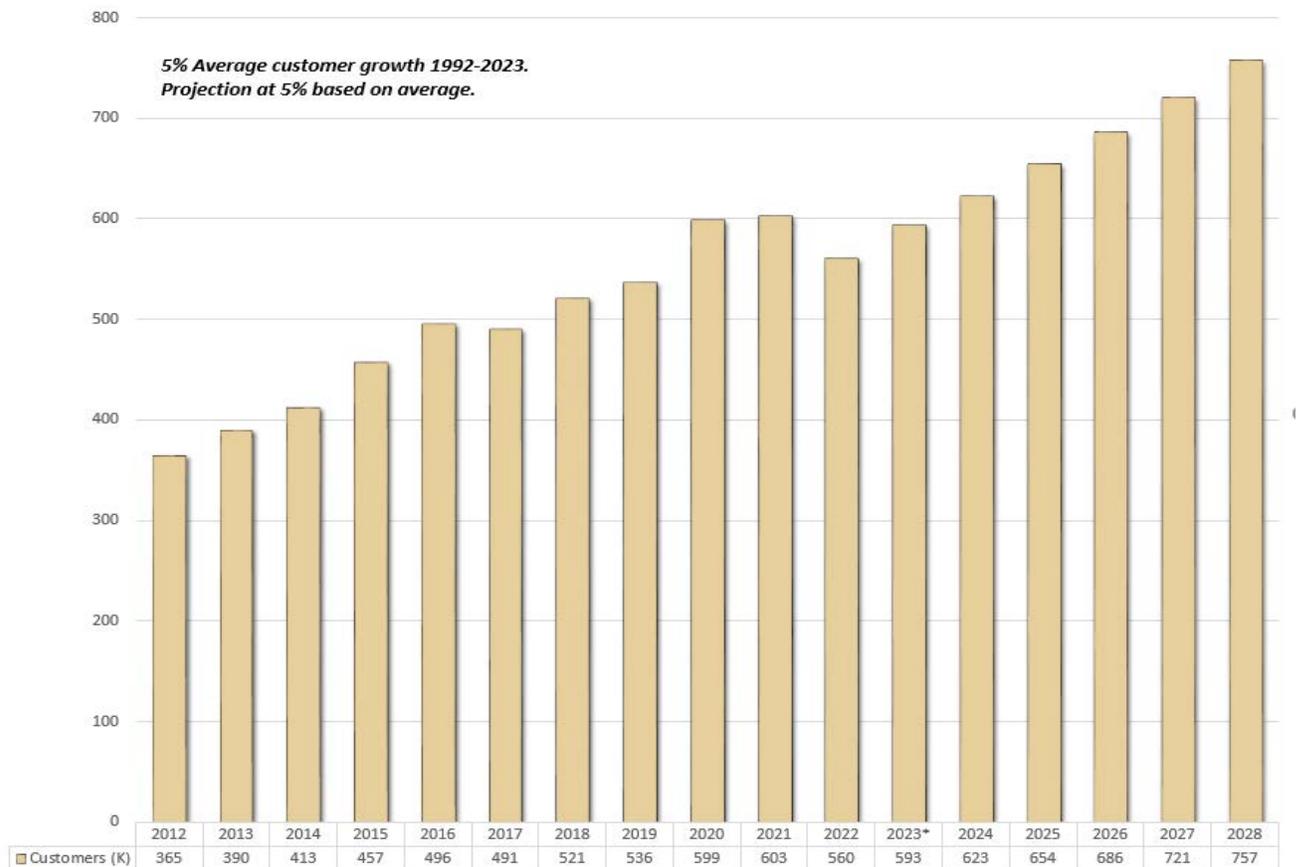
No construction projects or plans completed in 2023 required submittal as part of current permits.

Appendix “B” Customer Statistics

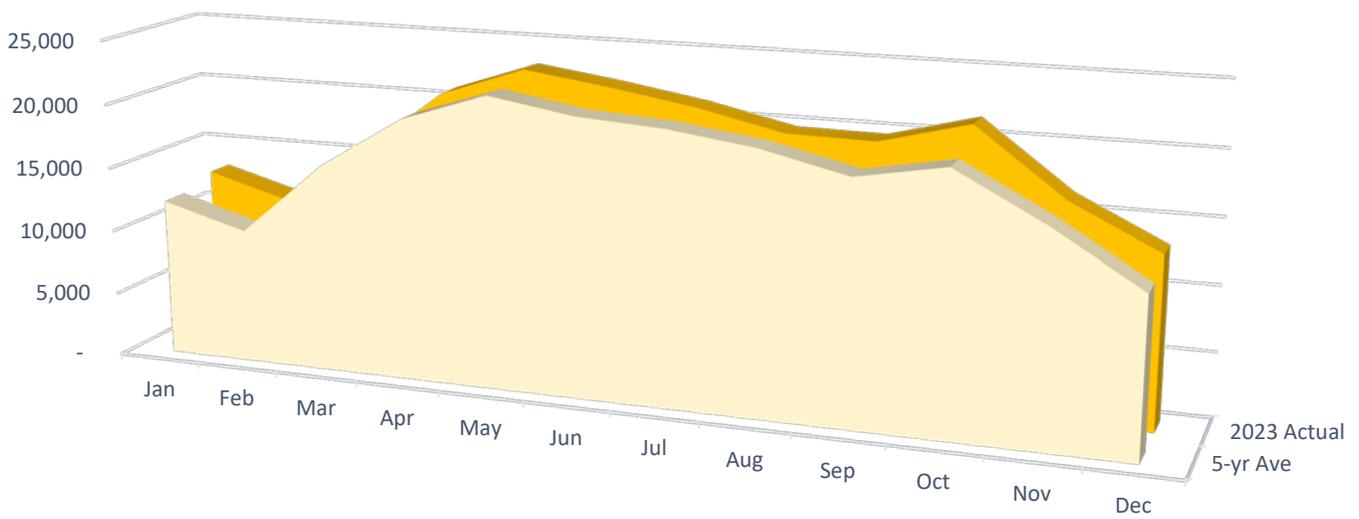
Total Department Customers Total 793,582



Transfer Stations - Customer History

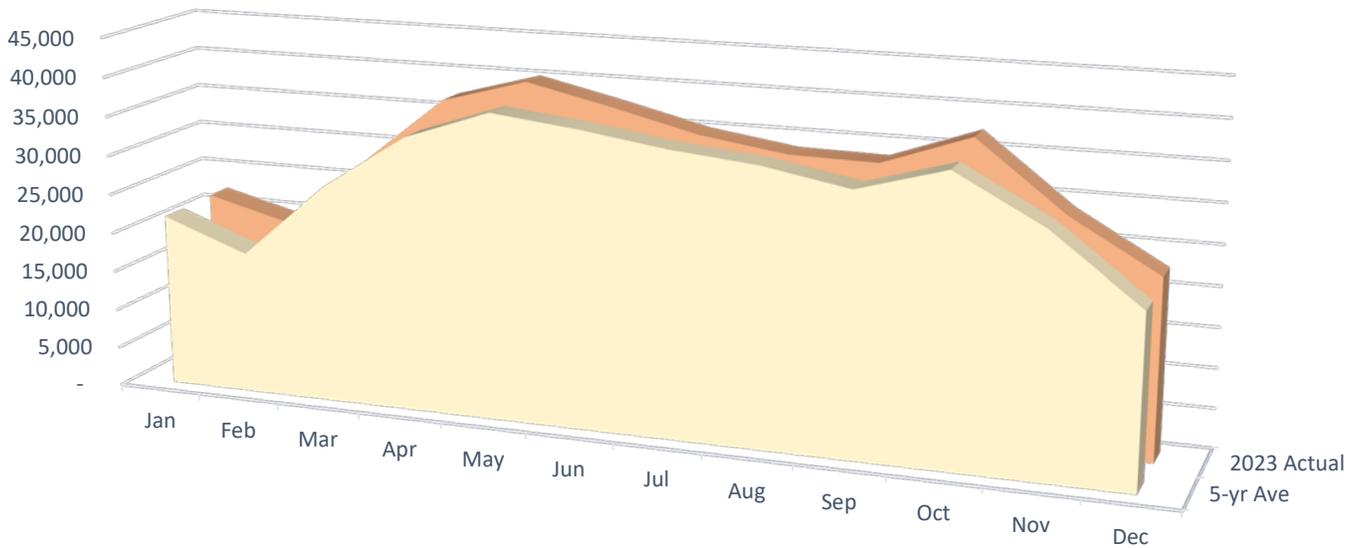


Prairie Monthly Customers 2023 Actual v. 5-Year Average



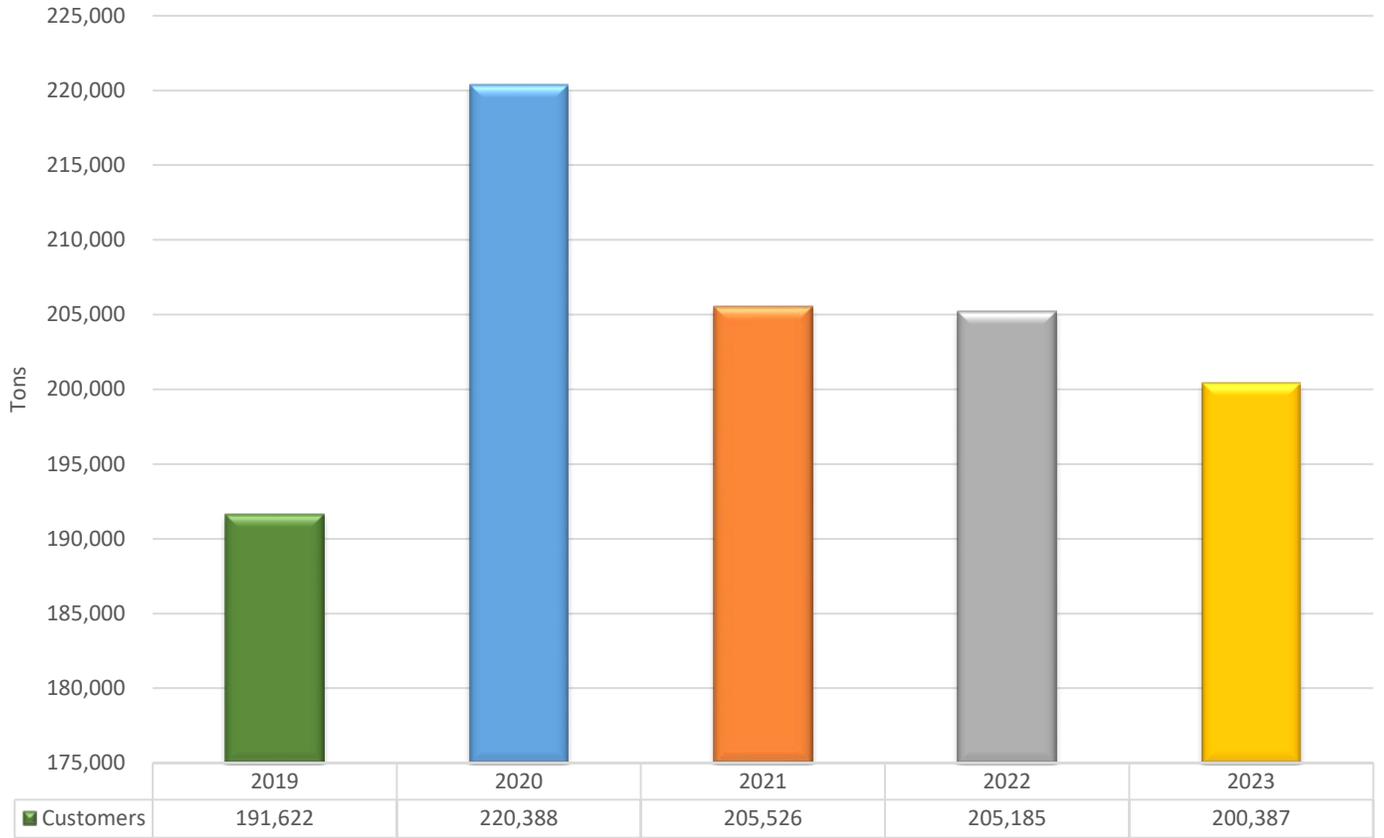
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
5-yr Ave	12,172	10,384	16,086	20,205	22,430	21,361	20,950	20,067	18,537	19,777	16,252	12,186
2023 Actual	13,041	11,268	15,851	20,850	23,153	22,251	21,176	19,717	19,644	21,423	16,418	13,129

Ramsey Monthly Customers 2023 Actual v. 5-Year Average

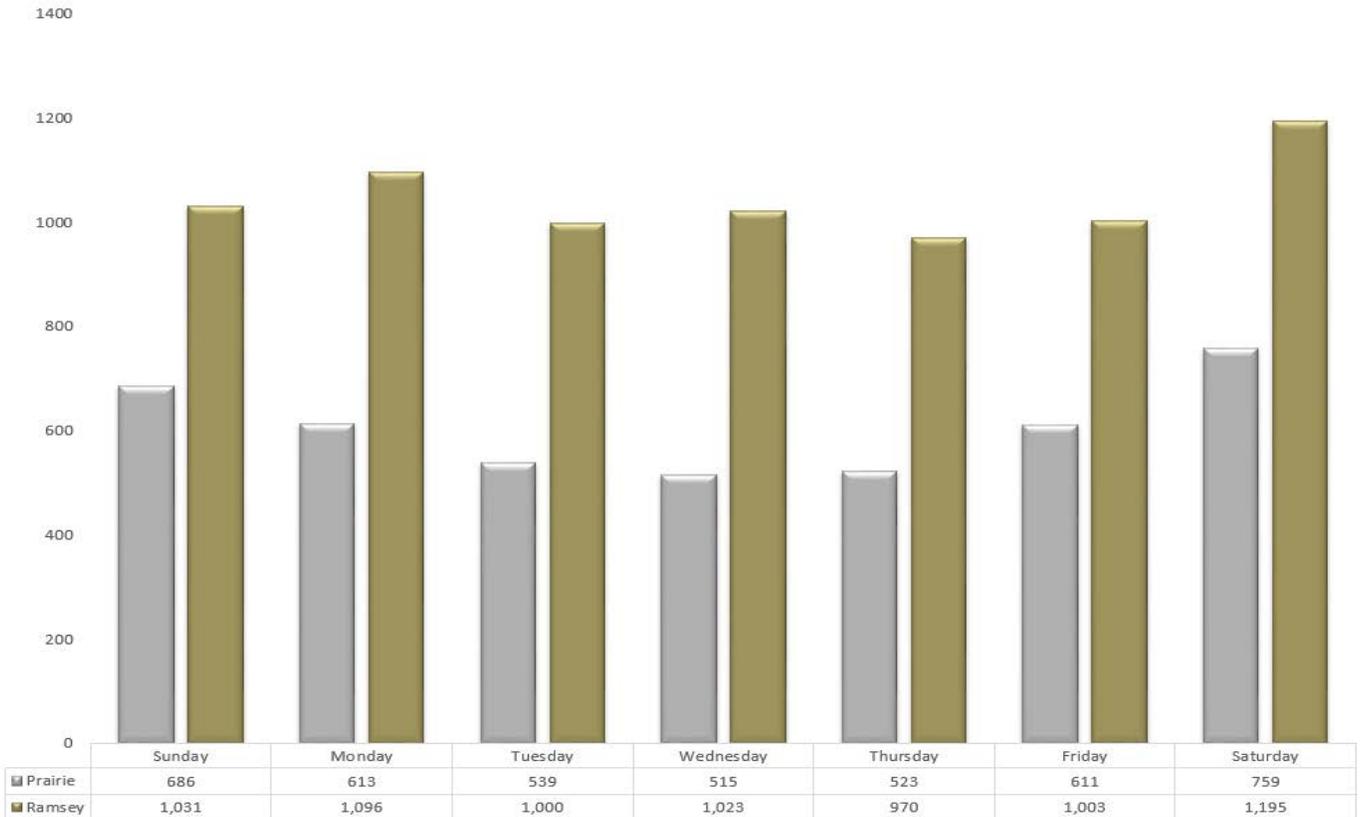


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
5-yr Ave	21,853	17,951	27,484	34,574	38,389	37,175	35,616	34,564	32,623	35,793	29,931	21,582
2023 Actual	22,115	19,403	28,288	37,060	40,110	37,708	35,080	33,498	33,337	37,298	28,834	22,543

Rural Staffed Site Customers

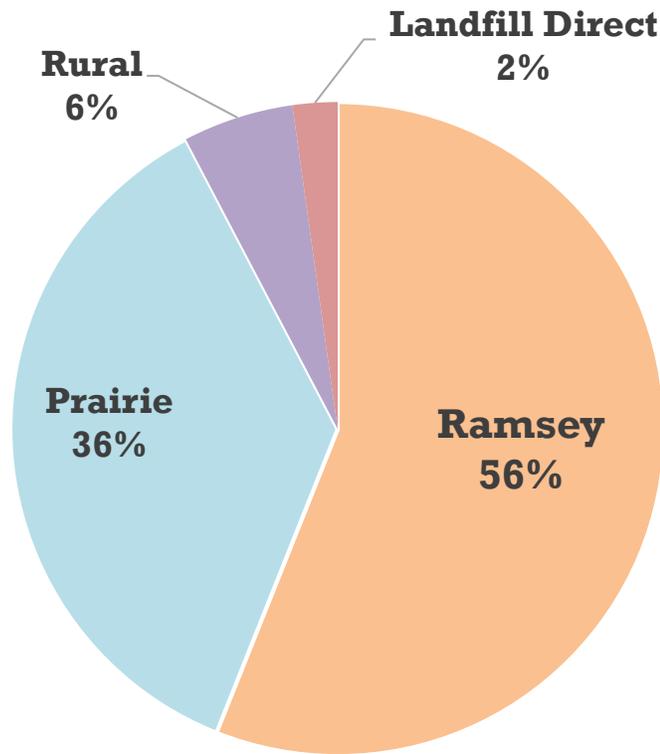


Transfer Station Average Daily Customers

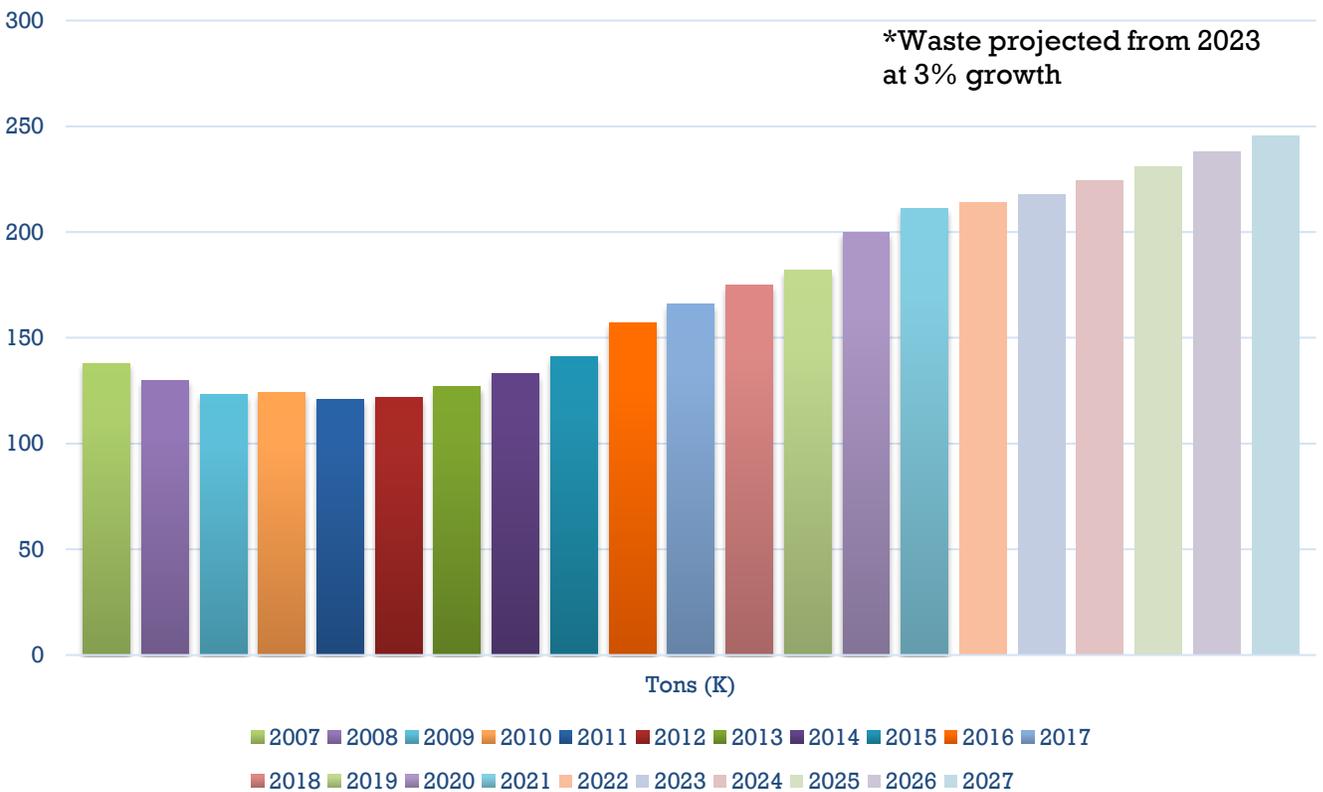


Appendix “C”
Waste Statistics

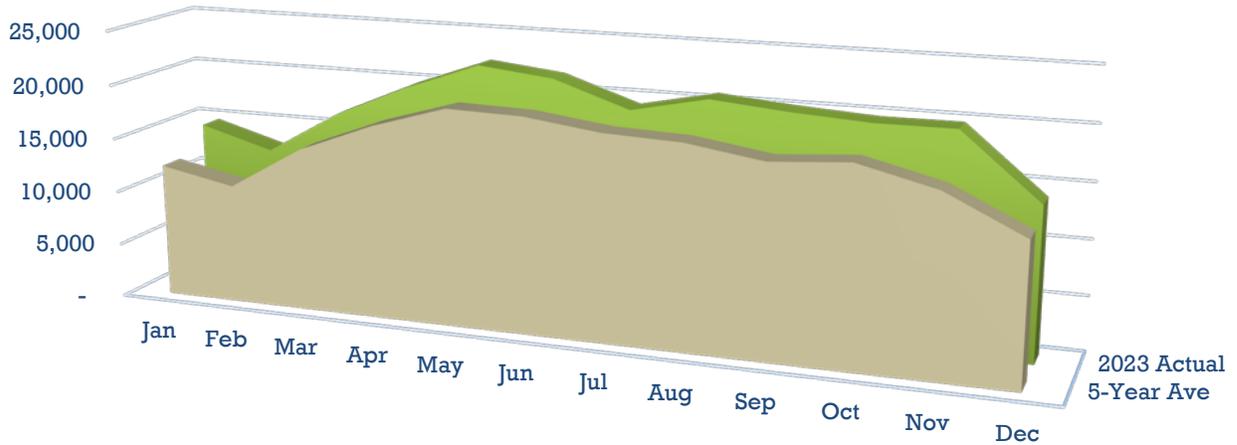
Waste Stream by Location



Landfilled Waste History & Projection*

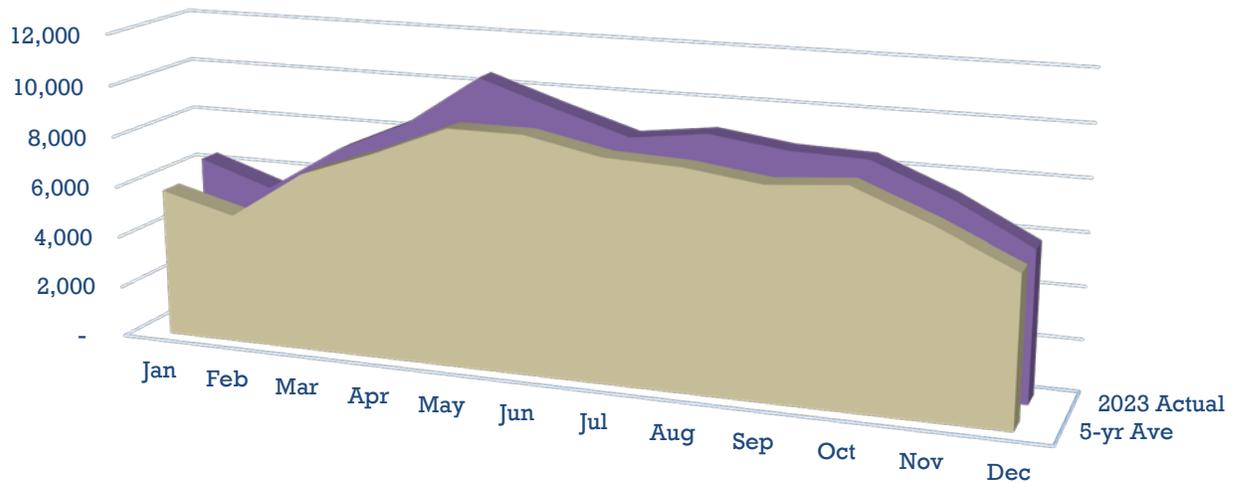


Landfill Monthly Tons 2023 Actual v. 5-Year Average



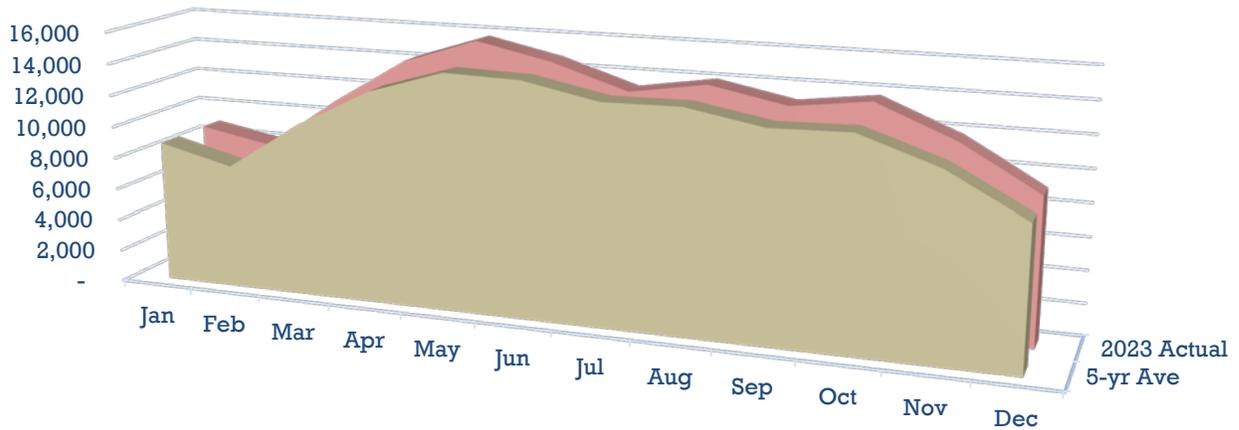
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
■ 5-Year Ave	12,272	10,934	14,979	17,661	19,752	19,589	18,699	18,438	17,394	17,931	16,234	12,856
■ 2023 Actual	14,645	12,742	16,751	19,760	22,287	21,545	19,233	20,714	20,103	19,690	19,736	13,882

Prairie Monthly Tons 2023 v. 5-Year Average



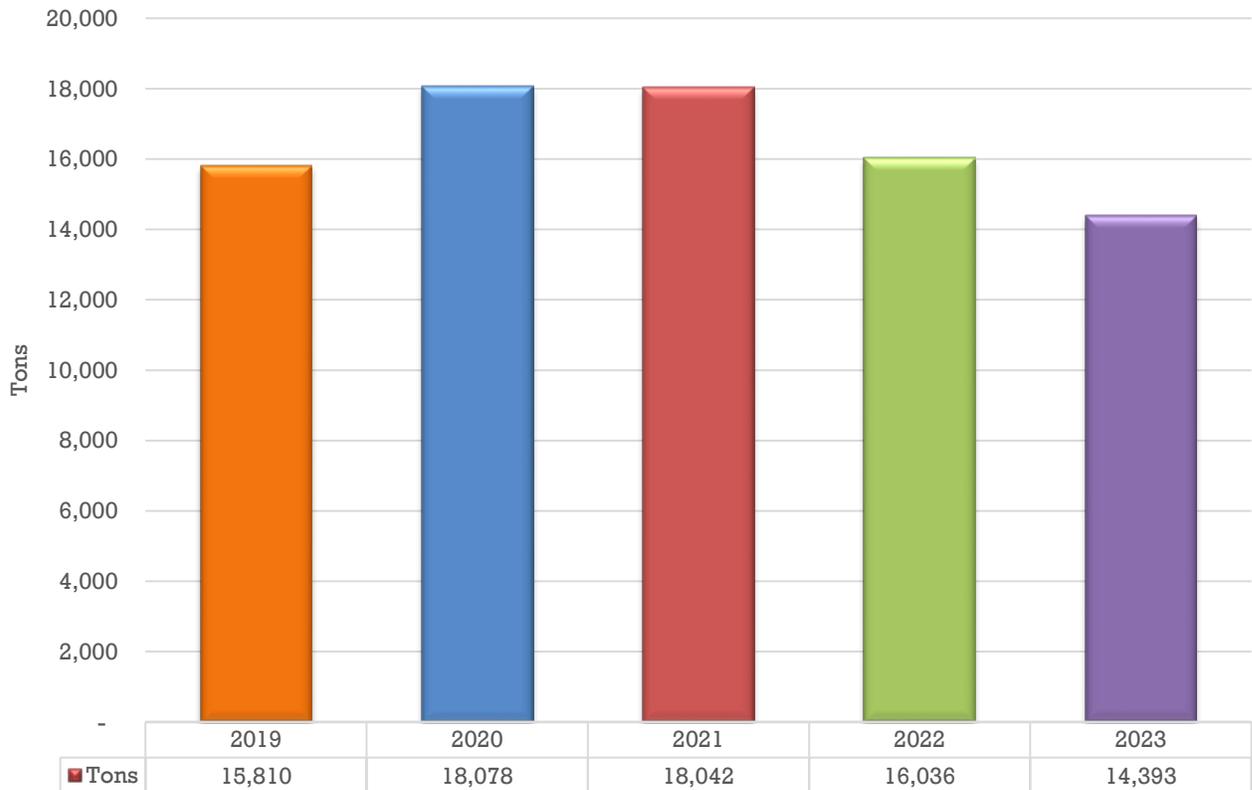
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
■ 5-yr Ave	5,780	5,040	6,934	7,967	9,157	9,147	8,549	8,429	8,046	8,281	7,098	5,730
■ 2023 Actual	6,392	5,443	7,232	8,524	10,501	9,546	8,647	9,019	8,621	8,529	7,320	5,788

Ramsey Monthly Tons 2023 Actual v. 5-year Average



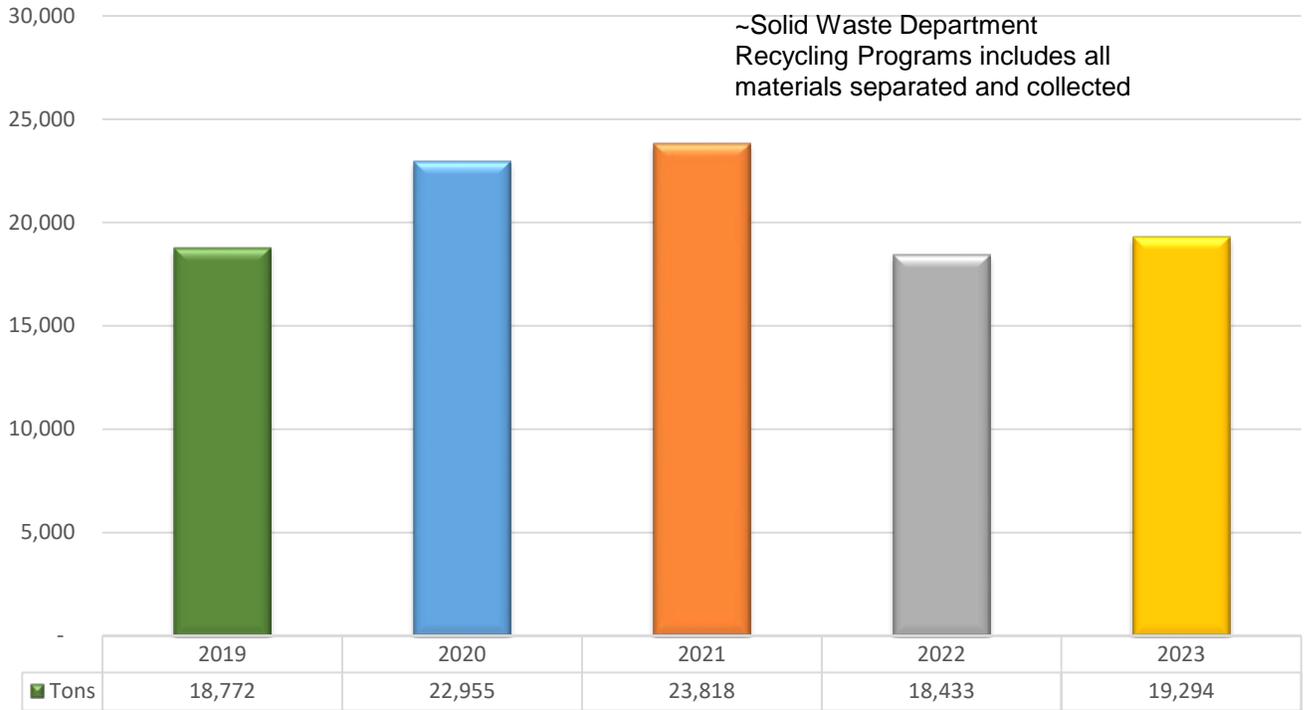
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
5-yr Ave	8,859	7,732	10,750	13,168	14,625	14,509	13,571	13,645	12,805	12,930	11,319	8,756
2023 Actual	8,886	8,047	11,289	14,160	15,723	14,729	13,239	14,000	13,075	13,690	11,740	9,027

Rural Systems Tons 2019 - 2023

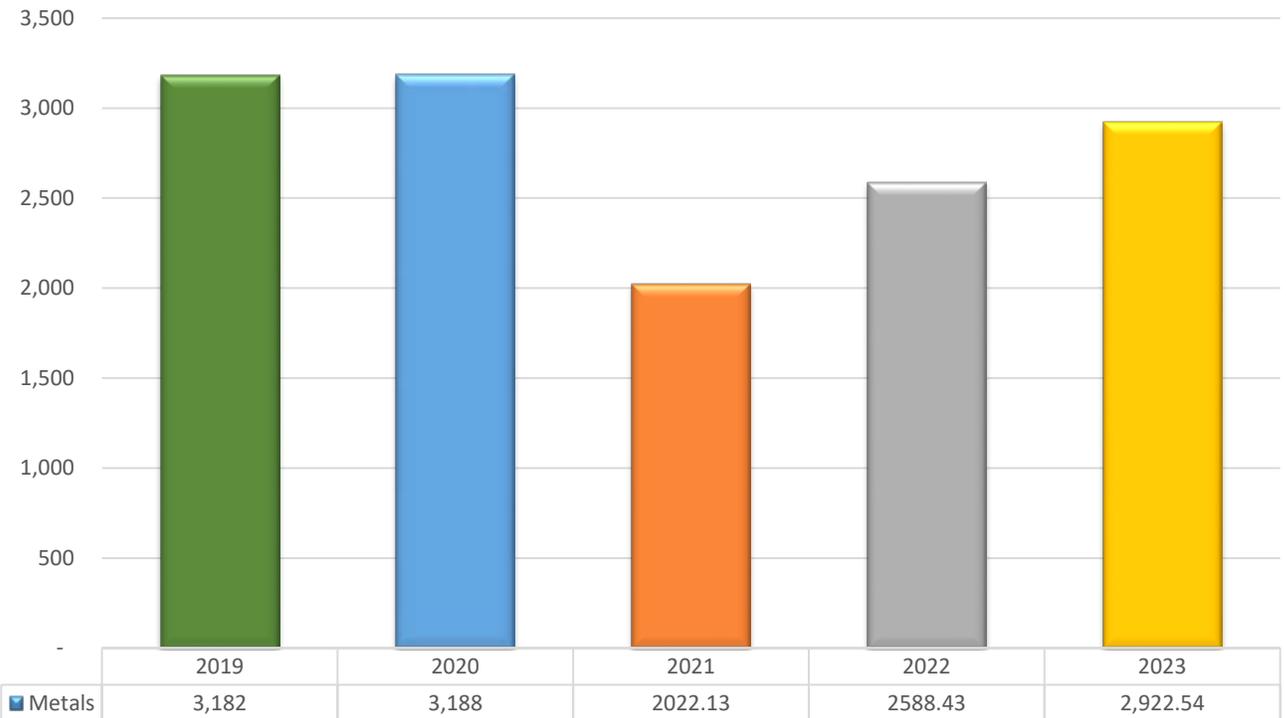


Appendix “D” Recycling

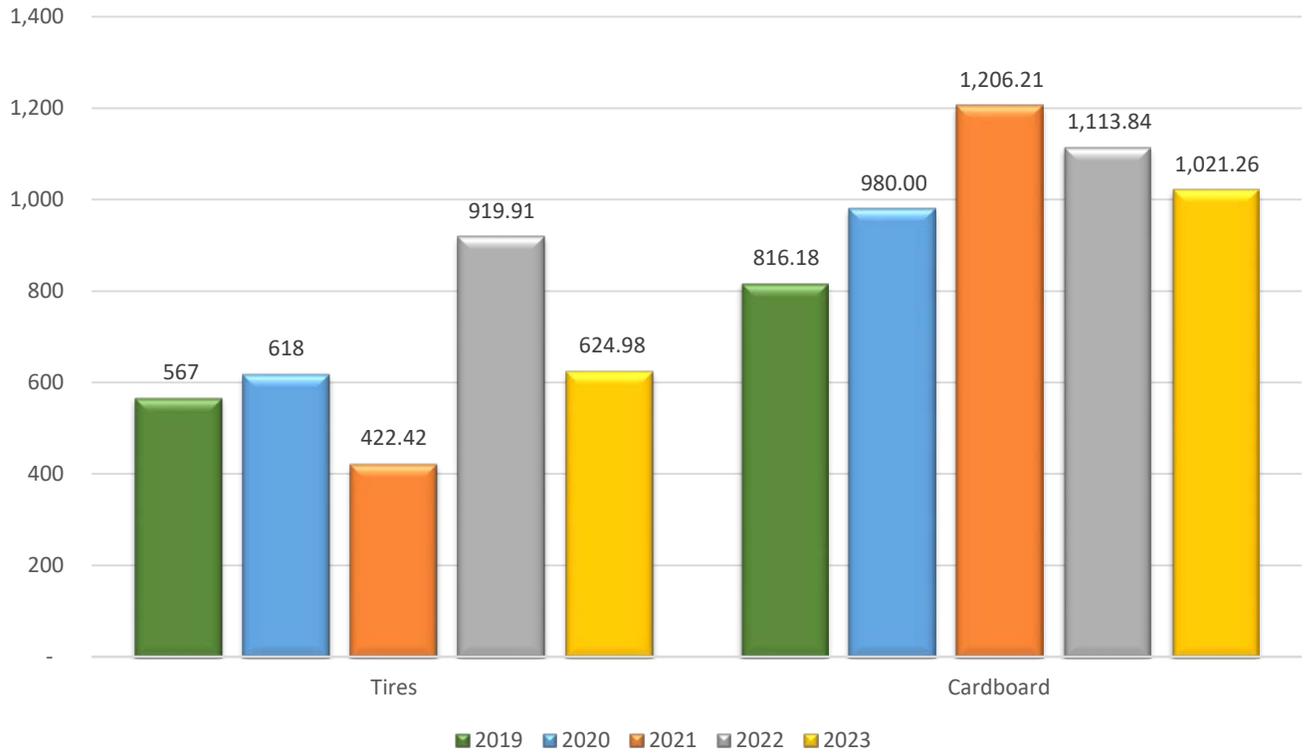
Solid Waste Department Recycling Programs~



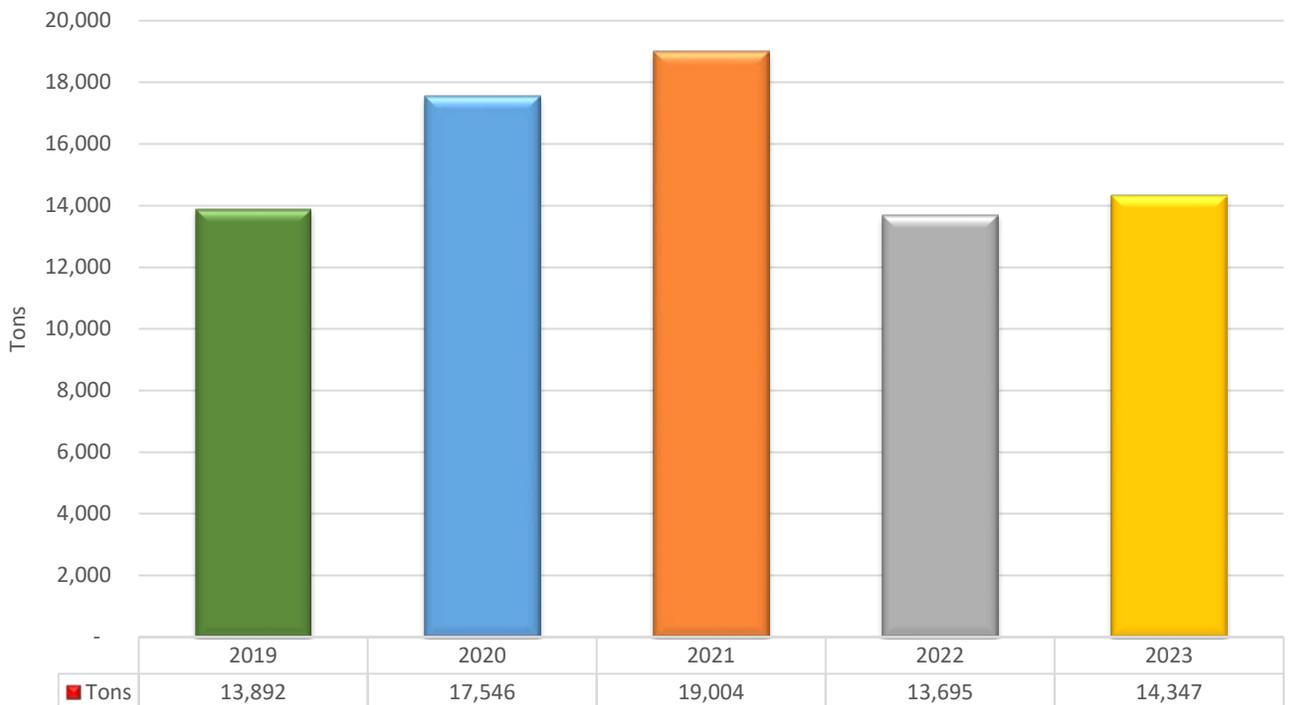
Metals Recycling



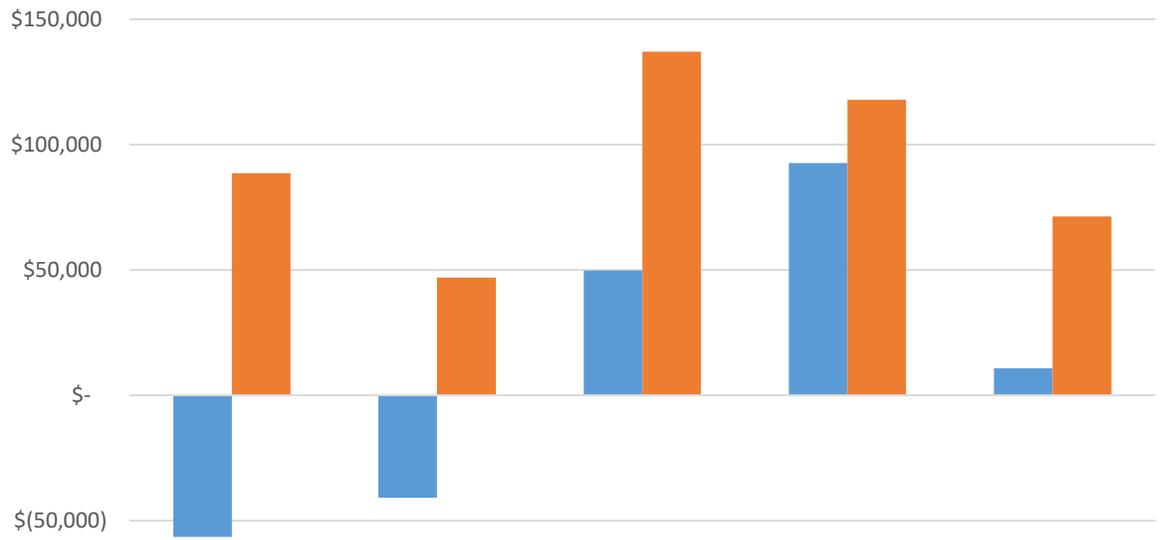
Tires & Cardboard Recycling



Wood Recycling



Recycling Revenue

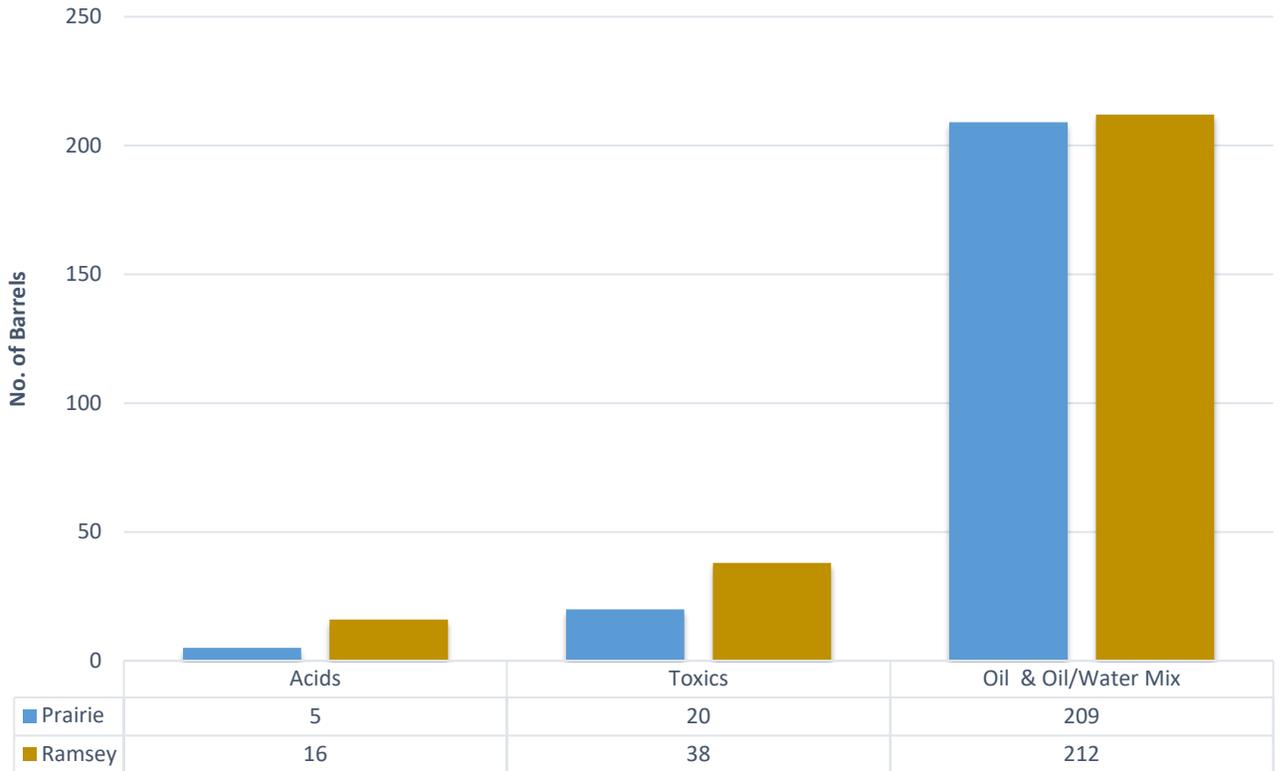


\$(100,000)

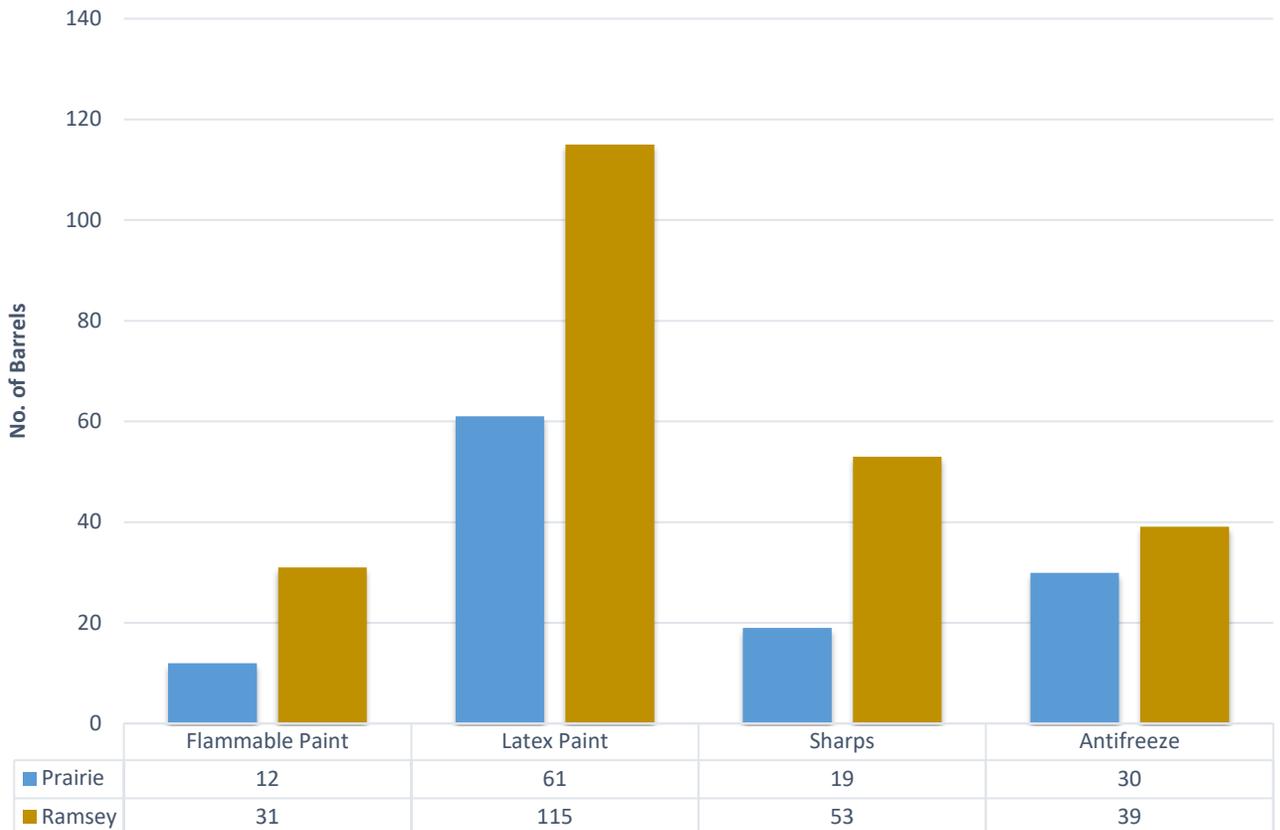
	2019	2020	2021	2022	2023
■ Non-Metal Recycling*	\$(56,567)	\$(40,892)	\$49,770	\$92,670	\$10,778
■ Metal Recycling#	\$88,569	\$46,987	\$137,096	\$117,950	\$71,372

Appendix “E”
Household Hazardous Waste (HHW)

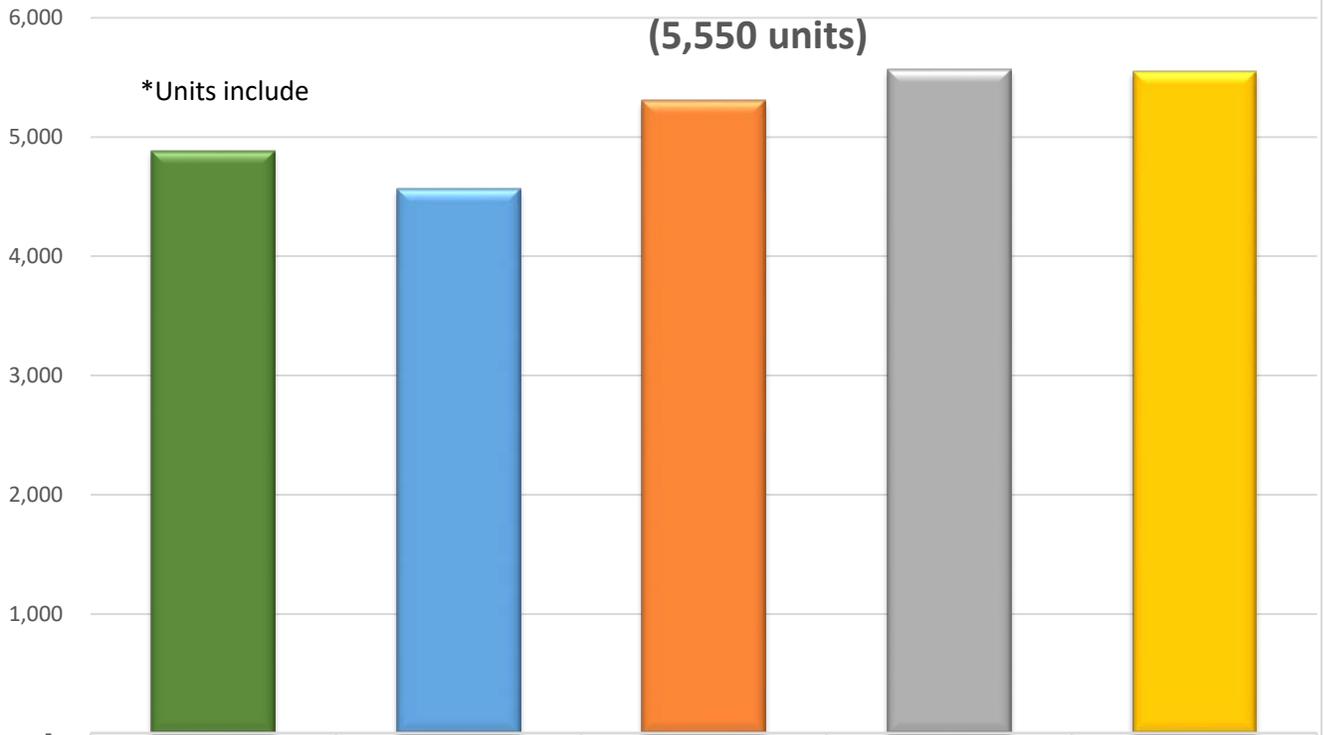
HHW Processed - Acids, Toxics and Oil



HHW Processed - Paint, Sharps and Antifreeze



CFC Units* Processed (5,550 units)



■ CFC

2019

2020

2021

2022

2023

4,883

4,562

5,306

5,563

5,550

