Kootenai County Solid Waste Department

2015 Solid Waste Analysis

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

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KOOTENAI COUNTY

SOLID WASTE

April 21, 2016

I am pleased to present the 2015 Solid Waste Report for Kootenai County. 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.

Detailed reports and information can be viewed at the Idaho DEQ office in Coeur d'Alene or the Administration Office of the Kootenai County Solid Waste Department.

In 2015, the solid waste facilities experienced a jump in overall waste generation and customer counts attributed to the growing local economy.

The transfer facilities and staffed rural sites served 635,669 customers – an increase of 35,344 customers in one year with an overall 24.66% or 90,349 more customers in five years. The landfill realized a 5.8% tonnage increase and managed a total of 140,722 tons in one year with substantial volume increases during the last three years.

The County-owned and operated landfill is the cornerstone of the solid waste system and as waste volumes grow, it is critical to carefully plan and implement innovative cost-saving procedures. Although changes are on-going, the key innovative project in 2014-2015 included the construction and successful operation of a leachate (water that passes through the waste) evaporation system.

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

The Department realized a fund balance reduction due to the reclassification of $5.9 million in interest earnings from the Solid Waste Fund to the County General Fund. Upon recommendation of the County Treasurer, the Board of County Commissioners determined that interest earnings should have been retained in the General Fund.

If you have any questions, please do not hesitate to contact us.

Sincerely,

Cathy Mayer

Cathy Mayer
Solid Waste Director

3650 N Ramsey Road • Coeur d'Alene, Idaho 83815
Phone: 208-446-1430 • Fax: 208-446-1432 • Email: kcsw@kcgov.us

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Summary

2015 Waste Stream Analysis

This section contains an overview of the Solid Waste System and some of the planning tools used to help meet the needs of Kootenai County residents.

The Solid Waste Department is committed to provide our citizens with affordable and efficient waste disposal. The Solid Waste Department is an affordable asset to Kootenai County providing financial stability to the County in that we generate revenue and are fiscally responsible.

The Solid Waste Department consists of the following:

- Fighting Creek Farm Landfill (open 6 days a week)
- Ramsey Transfer Station (open 7 days a week) and closed landfill
- Granite Landfill (Closed)
- Prairie Transfer Station (open 7 days a week)
- 13 Rural Residential Collection Sites

Flexibility is the key to success. It takes many talents and skills to keep the Department running smoothly and successfully. There are a total of 59 full-time employees, with additional seasonal staff for the summer months.

The County owned and operated landfill is the key to this goal and the department is always researching alternative methods of disposal and management of leachate. In addition, material reuse or recycling is encouraged to reduce the amount landfilled.

BUDGET

The Solid Waste Department carefully plans all activities to provide for the maximum benefit of available funding which is critical in today's economy. As an enterprise fund, the solid waste program is operated more like a business than the typical tax based government entity. Solid waste dollars are acquired through fees and kept in a Solid Waste Fund. Since dollars are through fees, the Department does not compete for tax dollars. For detailed information about the financial records of the Department, you may view the Comprehensive Annual Report prepared by the Auditor's office on the Kootenai County website: http://www.kcgov.us/departments/auditor/financials/downloads.asp

The Department maintains strategic long-term financial plans and works to finance the required operation and expansion of services within the solid waste system in Kootenai County.

As an enterprise fund, other County departments are paid for the services they provide. In 2015, the Solid Waste Department paid $ 670,128 to Kootenai County for services provided by other departments.

Operational expenditures are broken down into the following categories. ***Please note that construction and capital projects are not included in this chart.*** All salaries necessary to support these activities are contained within these budget categories.

Activity	Budget
Administration	$ 333,809
Ramsey Transfer Station	$ 2,610,772
Prairie Transfer Station	$ 1,821,275
Rural Systems	$ 890,215
Landfill	$ 2,790,593
Interfund Services*	$ 6,601,691
Closure/Post Closure	$ 145,000
Total Budget	$ 15,193,354

** Interfund Services includes reclassification of $5.9 M in interest revenue from the past 10 years.*

The Department realized a fund balance reduction due to the reclassification of 5,931,563 in interest earnings from the Solid Waste Fund to the County General Fund. The County Treasurer recommended the retroactive recognition of interest earned from October 1, 2003 through September 31, 2014 and the reclassification to the General Fund. The Board of County Commissioners agreed with the recommendation and it was determined that these past interest earnings as well as any future interest earnings be retained in the General Fund and not the Solid Waste Fund.

The Department has also realized a decline in revenue from all recycling commodities and anticipates that the cost of recycling will continue to increase due to decline in markets and charging by recycling receiving facilities. More details are provided in the Recycling section of this report.

Kootenai County
Mission Statement

It is the mission of Kootenai County Government to provide professional service with regard to public safety, essential service, preservation of natural resources and the responsible management of public assets for the common well-being of our citizens.

Vision Statement

An innovative, cost effective government the community can be proud of, committed to a high quality of life and excellence in public service.

Values and Operating Principles

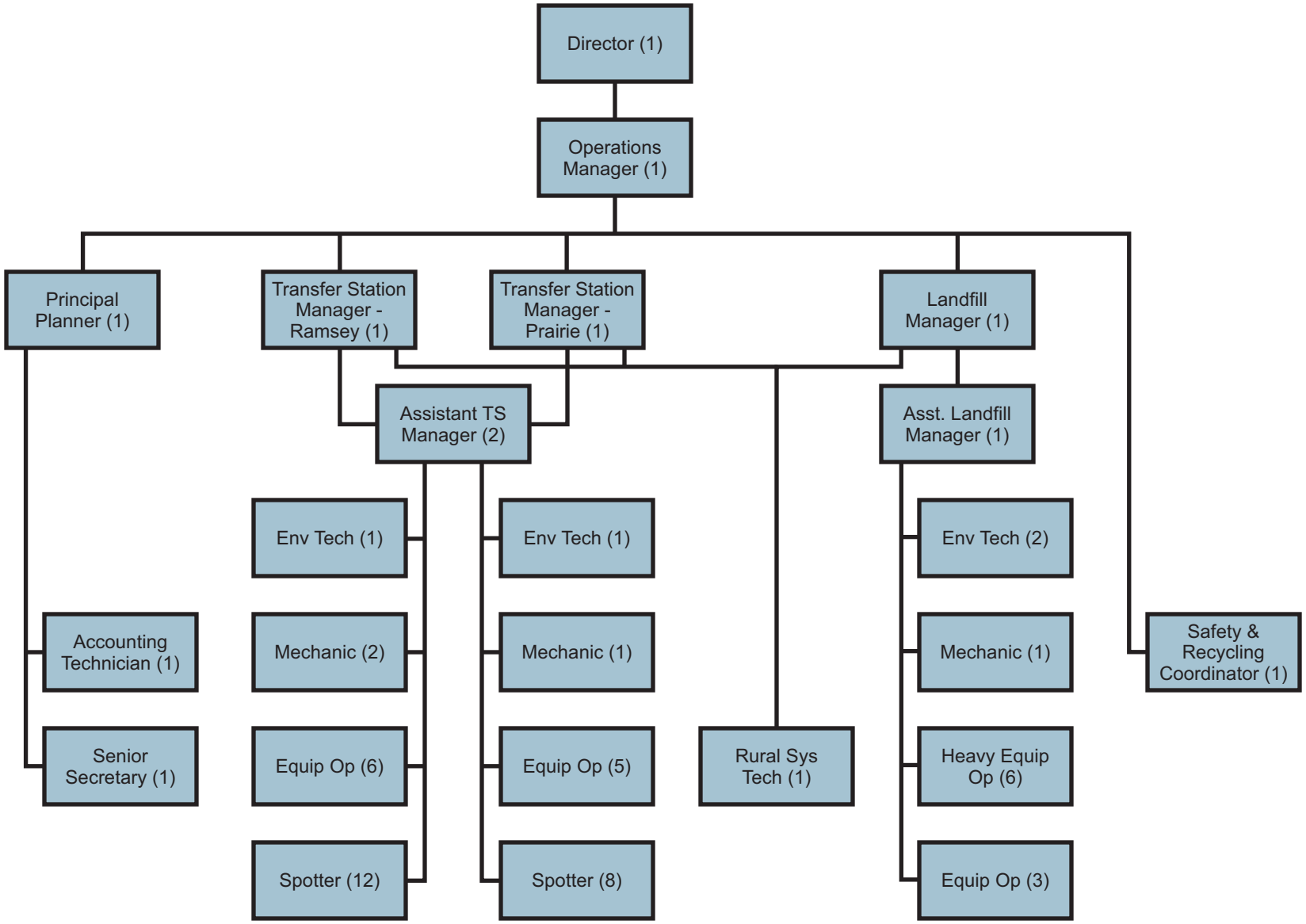
- **Customer Focus**
  - Responsive, Prompt, Compassionate, Quality Service
- **Accountability**
  - Responsible, Cost Effective Use of Public Resources
- **Teamwork**
  - Creative Cooperation
- **Communication**
  - Open and Honest Sharing of Information and Ideas
- **Professionalism**
  - Innovative, Qualified, Honesty, Integrity, Personal Excellence

Kootenai County Solid Waste Department
Mission Statement

It is the mission of the Kootenai County Solid Waste Department to:

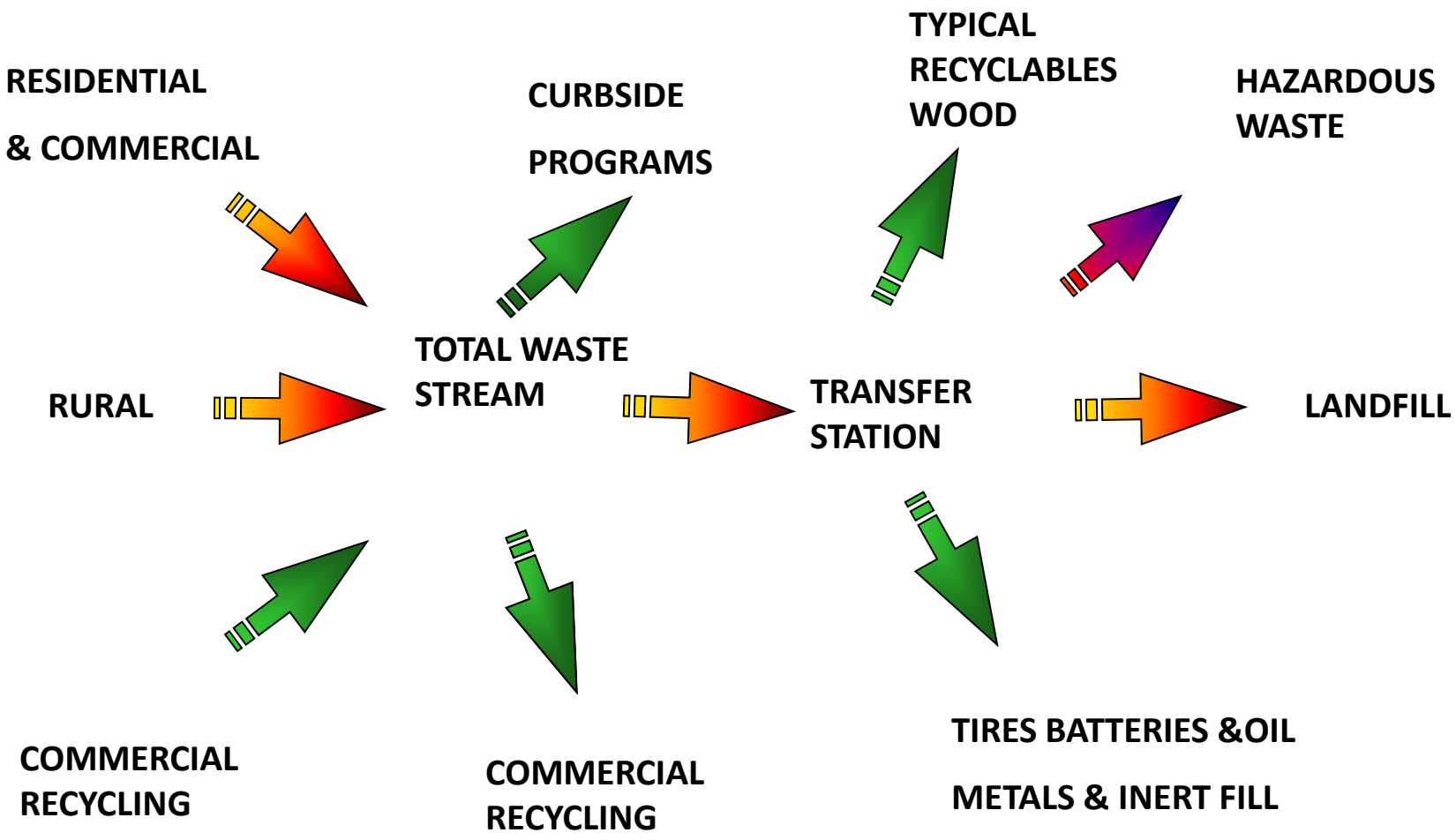
- Protect the public health and well being for all citizens affected directly and indirectly, now and in the future.
- Provide environmentally sound facilities and operations before, during and after dispose of solid waste
- Provide effective and efficient means of solid waste disposal to the citizens of Kootenai County
- Insure the equity of solid waste disposal costs among all citizens

Solid Waste Department

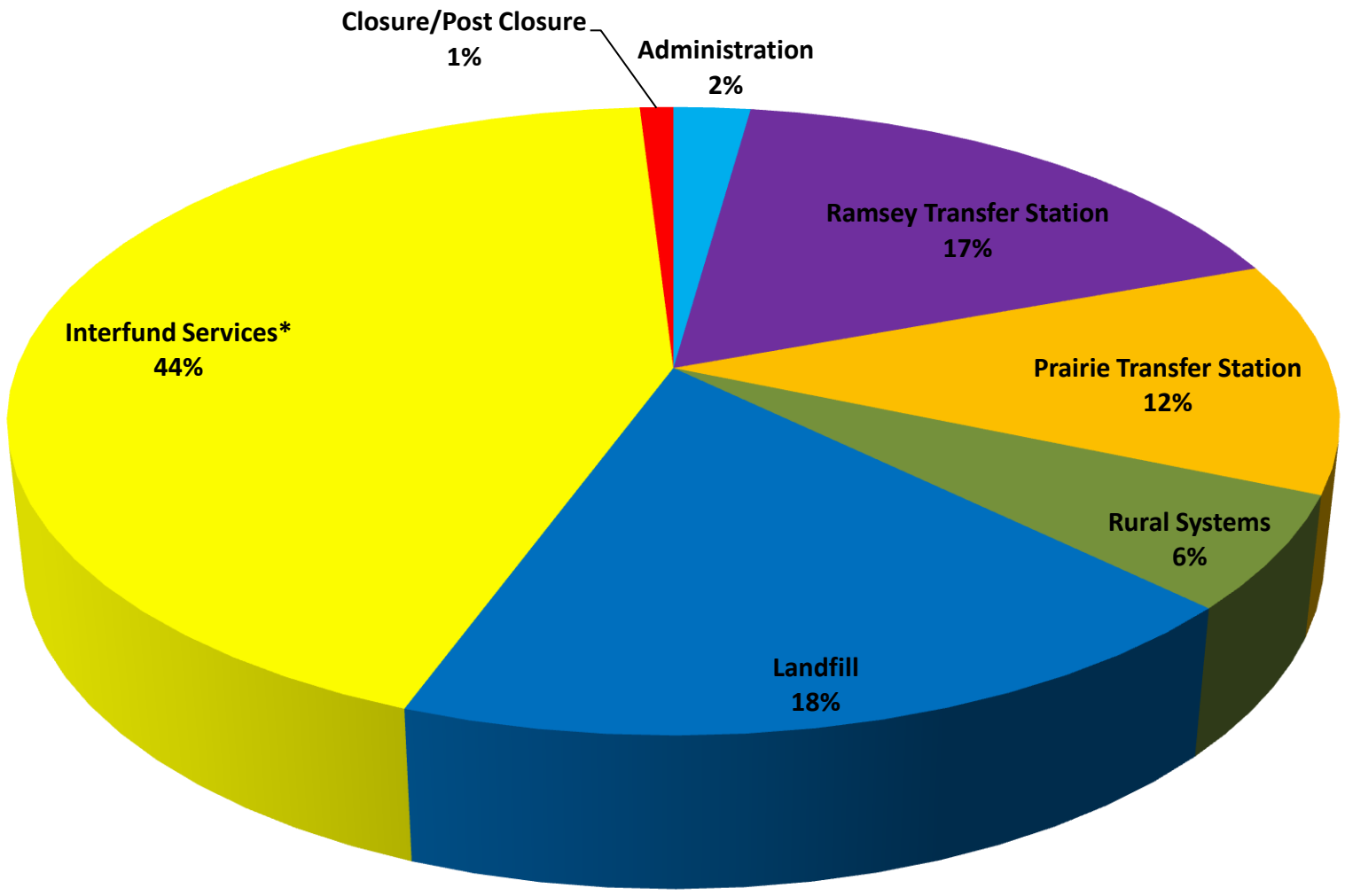


Feb 2015

KOOTENAI COUNTY SOLID WASTE SYSTEM



Operational Expenditures



Total Operational Expenditures
$15,193,354

* *Interfund Services includes reclassification of $5.9 M in interest revenue from the past 10 years.*

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LANDFILL
2015

Kootenai County owns and operates a fully permitted municipal solid waste landfill. The Kootenai County Farm Landfill at Fighting Creek, also referred to as the Fighting Creek Landfill, is located approximately 16 miles south of the city limits of Coeur d' Alene. Over 450 acres are owned by the County with a portion dedicated for landfill. The life cycle of the current permitted area is estimated through 2041-2042.

The landfill was designed under 40 CFR 258, Federal Subtitle 'D' regulations and complies with the Idaho Solid Waste Facilities Act, 39-7400. To meet the above requirements, the landfill has a fully developed liner, leachate collection system and gas extraction system.

The landfill is the cornerstone of the solid waste system in Kootenai County. The landfill operates 6-days a week, Monday through Saturday. The general public must use the Transfer Stations or the rural residential collection locations as waste from individual public loads are not accepted at the landfill. The removal of materials from the waste stream prior to landfill is imperative to save landfill space. The Fighting Creek Landfill received a total of 140,722 tons of material during the calendar year of 2015. This was an increase of 5.8% or 7,444 tons over 2014.

The *Kootenai County Farm Landfill 2015 Life Cycle Update,* prepared by the engineering firm of CH2M Hill, states that the effective waste density for Cell E1 is 1,200 pounds per cubic yard (lb/cy) average. The density estimate is down from 1,384 lb/cy from start of filling in 1993 to August of 2013 when filling of the new East Cell commenced. Filling in the E1 of the East Cell included a "fluff" layer to prevent damage to the bottom liner. This waste is less dense than the original landfill that was over 150' deep with 20 years of fill. As the new areas fill, density will increase as waste is consolidated and compacted and depth of waste increases.

In August 2013 the original footprint of the landfill reached interim closure elevation and all operations were shifted to Phase 1 of the East Cell. As of December 31, 2015, placement of over 318,000 tons of waste has gone in this section of the landfill.

The Life Cycle Update is a planning tool to help understand how well we are doing in managing and disposing of waste within the landfill. Based on these tools, we have determined that our overall growth rate for planning is 3%. The Life Cycle Update of 2015 estimates that the original footprint and the East Cell of the Landfill will reach final closure capacity in 2041-2042.

Daily operations include compaction and cover with an alternative daily cover material and clay. An extensive storm water diversion program is in place to minimize the amount of precipitation entering the waste and requiring treatment as leachate.

LEACHATE

Leachate is the liquid that results from the compaction of, and/or the filtering of natural occurring precipitation through garbage. Under current rules, we must treat and dispose of all leachate that is produced at the Fighting Creek Landfill. Leachate is not hazardous but does contain soluble, suspended material that is from the waste.

Leachate has been managed by a variety of methods with disposal by one of three alternatives: recirculation, evaporation or off-site delivery to a waste water treatment facility. Hauling waste to an off-site wastewater facility is Spokane is not an alternative and water disposal MUST be managed onsite.

Landfill staff remain focused on solutions to leachate management. A misting basin, designed and constructed by County personnel, was constructed. The basin is comprised of a 302' x 538' area lined with 30 mil reinforced polyethylene; pipe system with over 892 spray heads; three 50 HP pumps to transfer leachate from the holding ponds to the basin; water system return to the leachate pond; and electrical upgrades.

The misting system began operation in July 2014. It is closely monitored and not operated on windy days or during high humidity and/or rainy times. From July-September 2014, over 5 million gallons of leachate was disposed and from April-August 2015, over 5.7 million gallons was disposed using this system.

Permits require wastewater holding and treatment to process the leachate from the Fighting Creek Landfill. Currently four leachate collection ponds are operational with over 7 million gallons of capacity.

Leachate from the landfill is conveyed to the leachate ponds through a system of gravity feed pipes located in the bottom of the landfill. A lift station moves leachate from the new east landfill cell to the leachate pond system.

The ponds are aerated through mechanical injection of air into the ponds which keeps dissolved oxygen levels high to control odors and promote natural evaporation.

Evaporation consists of naturally occurring or by mechanically induced means. In the mechanically induced process, leachate is pumped to the evaporator, where it is superheated. As the leachate heats, it gives off water vapor that is then injected into a gas flare where it is destroyed. This process requires the use of methane gas to power the leachate evaporator. In 2014, 1,857,290 gallons were disposed of using this technique. This system was taken offline in September, 2014 in order to turn over all methane gas production to the landfill gas to energy facility. The evaporator was operated briefly in 2015 with 136,260 gallons processed.

GAS SYSTEM

The Fighting Creek Landfill has a fully operational gas extraction system, which currently includes over 250 landfill gas wells. This extensive gas well and trench system collects gas and conveys it to a collection point that feeds two operational ground flares, a leachate evaporator and a landfill gas to energy facility. This system is monitored and adjusted weekly to ensure compliance.

The first blower/flare was installed in 1994 and the gas system activated in 1995. A second enclosed flare was installed in 2000.

In March 2012, the Landfill Gas to Energy Project between the Solid Waste Department and Kootenai Electric Cooperative became operational. Kootenai Electric Cooperative built the facility at a cost of approximately $7 million. At full production, the facility will produce 3.2 MW of power sufficient to service approximately 2,000 homes. Over 1 million KWh of electricity was generated in November and December 2014 following taking the evaporator offline. In 2015, landfill gas declined due to a reduction of “old” gas from the original landfill and the low production of gas from the “new” portion of the East Cell. As the new waste ages, gas production will increase. It is anticipated that the department will receive over $60,000 in revenue from the sale of methane gas in 2016.

In addition to the Fighting Creek Farm Landfill, the department is responsible for two closed landfills. The Ramsey Road Landfill is located adjacent to the Ramsey Transfer Station in Coeur d’ Alene. The landfill portion of this facility was closed in 1993 upon the opening of the Fighting Creek Landfill. The Ramsey Landfill has a gas extraction system and an impermeable cover as part of the closure action. The gas production from the Ramsey Landfill as well as the old Coeur d’ Alene Landfill is processed through the Ramsey Gas System. In 2007, it became necessary to downsize the candle flare at the Ramsey facility because the generation of gas decreased to the point the larger flare could no longer operate efficiently. The gas system under a complex of several baseball fields is now extinct as gas production has ceased.

An older landfill is located on the northern border of Kootenai County (Granite Landfill) that was shared between Kootenai County and Bonner County. This facility ceased taking waste in the 80’s. For many years, this location was far from any dwelling. The sale of adjacent property and the establishment of a rural

residential development required us to fence this facility. A passive gas probe system was installed in 2008 to verify the absence of meaningful methane production on this site.
Complete gas reports for the Ramsey and Fighting Creek systems are available for review at the Idaho DEQ, Coeur d' Alene Office or the Kootenai County Solid Waste Department.

WATER

There are two water monitoring systems at the Fighting Creek Landfill. These reports provide an extract from each of our water monitoring programs. The full report is maintained on file at the local DEQ Office or at the Solid Waste Department Administrative Office.

SURFACE WATER

The Idaho Department of Environmental Quality has established rules for surface water monitoring at the Fighting Creek Landfill. Over time, an extensive surface water treatment infrastructure has been established to assure that the water leaving the site is clean.

A series of sedimentation ponds have been established throughout the landfill to accept run-off from all of the local drainage areas. These ponds function in pairs to aid in removing suspended solids. Each pond in the set is designed for a minimum of four hours of retention time. The ponds are cleaned during the summer months when it is determined the silt has significantly reduced the holding capacity of water in the pond.

Water leaving the ponds is then conveyed through a large vegetated, bio-mass drainage that filters the runoff using natural processes. This biomass or vegetative drainage continues to clean the water. Within the drainage there are a series of "finishing dams" working in concert with the vegetative filters to aid in the cleansing process. The "finishing dams" aid in slowing down the run-off water thus allowing time for the vegetation to filter out sediment.

Enhanced wetland structures also help to remove solids and provide a robust microenvironment that positively affects local wildlife by providing valuable nesting and forage areas as well as other important habitat. We have an abundance of geese and ducks that migrate to our wetlands each year to give birth to their offspring.

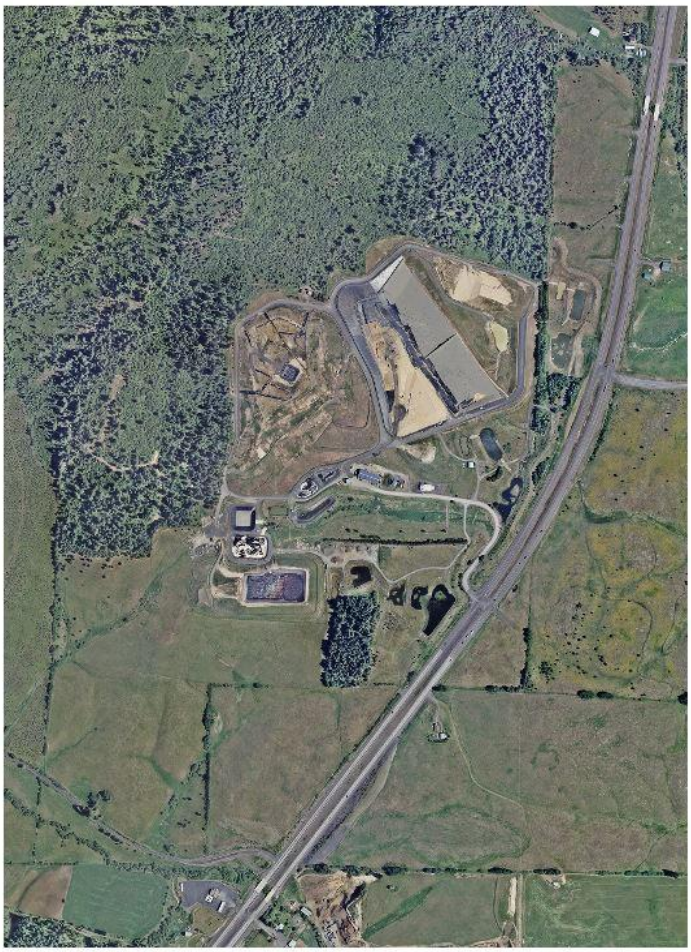
The impact from our efforts is the water leaving the site is clean and is consistently of higher quality than the receiving drainages the water flows into.

GROUND WATER

The landfill operating permit requires us to establish and operate a groundwater monitoring system. The original landfill footprint has seven ground water monitoring points. These have been sampled from approximately 1991 until the present. In 2005, there were six additional ground water monitoring wells established to support the new East landfill. As part of a community outreach program, two domestic wells are also sampled during the semi-annual sampling events.

These 13 ground water monitoring wells are sampled twice a year. The location of the wells are both up gradient and down gradient from the landfill portion of the property to allow for a comparative analysis to determine if any ground water degradation has occurred as a result of landfill operations. To date, no degradation to ground water at the landfill or the domestic well sites has been found.

LANDFILL FUTURE DEVELOPMENT



In 2016, the Solid Waste Department will commence planning for long-term development. The landfill property includes an area to the South and West of the original landfill and site development options are needed to ensure proper planning, permitting, design and financing. This area will provide for solid waste disposal needs for Kootenai County through approximately 2070.

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Customer Service – Collection Sites
2015

CUSTOMERS

The Kootenai County Solid Waste System is totally owned by the citizens of Kootenai County and exists solely for their use. The Solid Waste Department is an affordable asset to Kootenai County with a positive customer service reputation. 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 2015, staff assisted a total of 635,669 customers – an increase of 35,344 customers from last year. The Ramsey Transfer Station served 308,047 customers, Prairie 148,617 customers, and staffed rural sites 179,005 customers. These totals do not take into account the eleven other rural sites that are being used throughout the County.

The Ramsey Transfer Station saw an increase in customers served of 26,295 or 9.3% over last year. An average of 859 customers per day were served with the Saturday being the busiest day of the week with an average of 1,041 customers and Thursday the lowest with an average of 764 customers. The lowest customer day was December 24, 2015 with 307 customers and highest on November 18, 2015 with 1,632 customers. May was the busiest customer month with 31,262 and the lightest customer month was January with 16,546.

The Prairie Transfer Station saw an increase in customers served of 17,636 or 13.46% over last year. An average of 414 customers per day were served with Saturday being the busiest day of the week with an average of 568 customers and Thursday the lowest with an average of 337 customers. The lowest customer day was December 24, 2015 with 123 customers and highest on April 18, 2015 with 801 customers. May was the busiest customer month with 14,927 with the lightest month being January with 7,760.

On November 17, 2015, North Idaho experienced a severe windstorm resulting in increased customers at the Ramsey and Prairie Transfer Stations disposing of wood debris. The customer counts jumped in late November and early December to reflect a higher monthly increase in customers than prior months.

In addition to the two transfer stations, Kootenai County has 13 rural residential collection sites. In October, 2014 the Twin and Garwood sites were permanently closed and the new site at Chilco Road opened. The Chilco and Athol sites in the north are staffed for safety and assistance. The Department will continue to plan and prepare to purchase additional property and staff the rural sites that are provided by Kootenai County and consolidate or expand services in the coming years.

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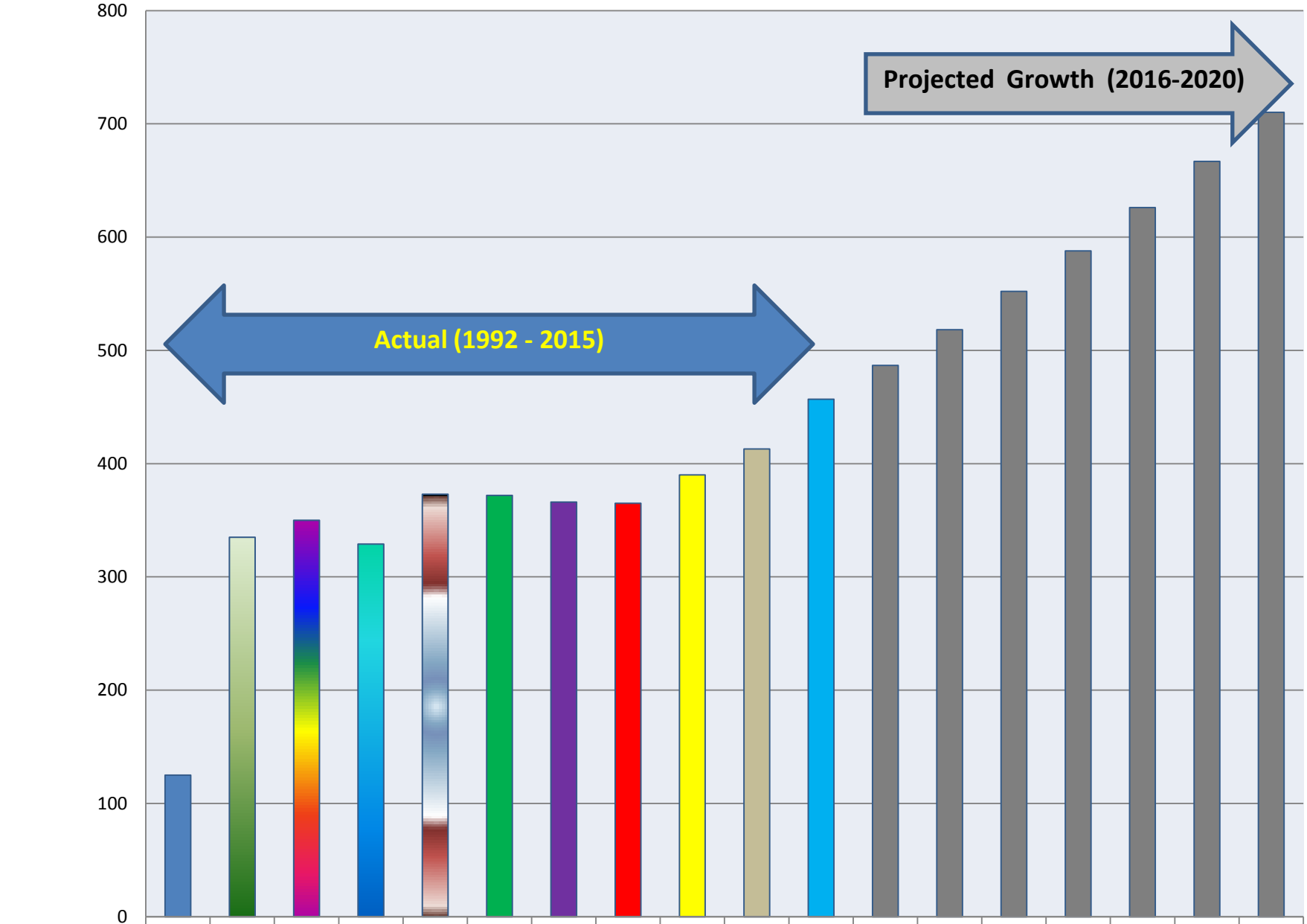
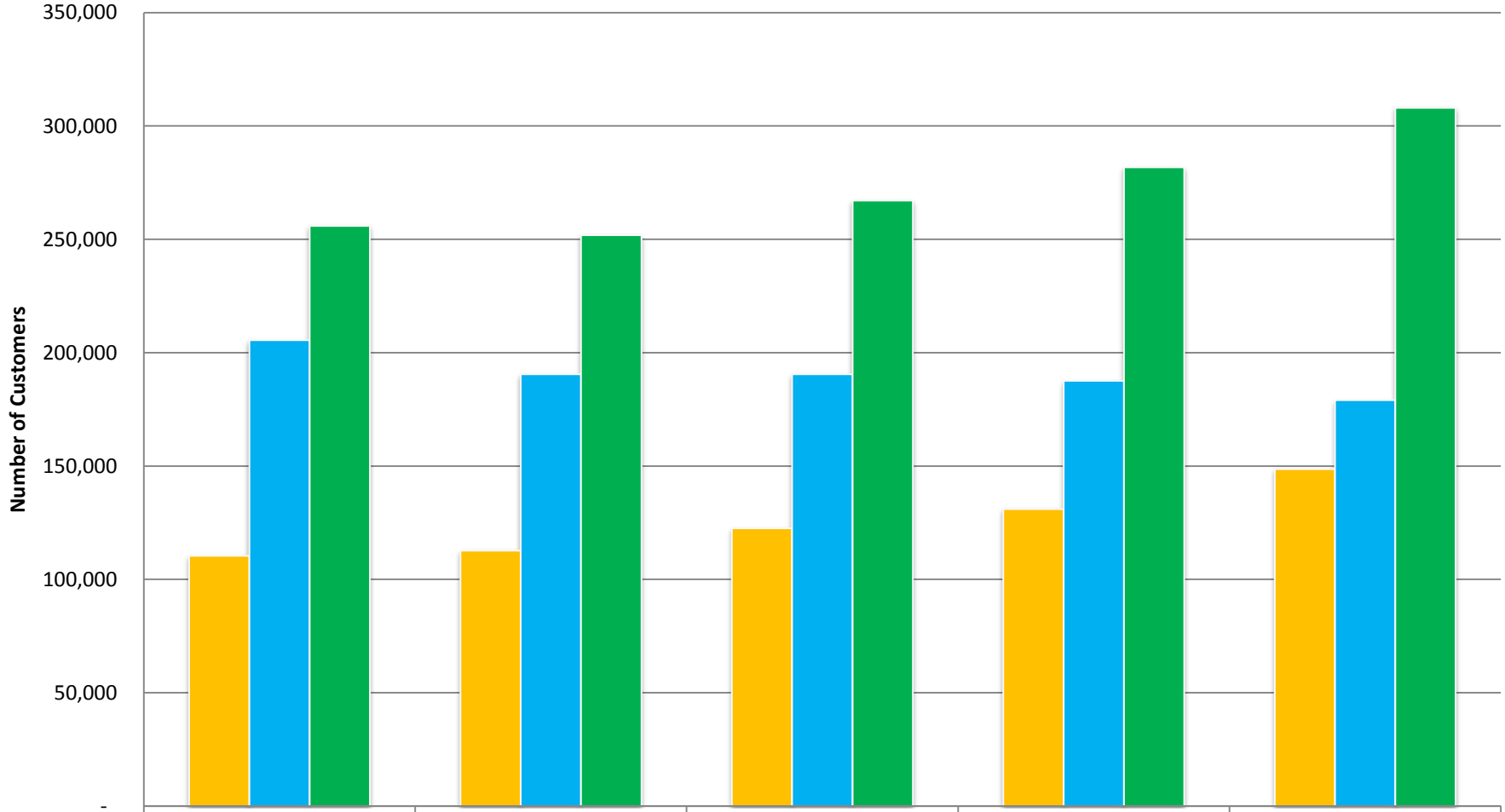
Transfer Stations - Customer History



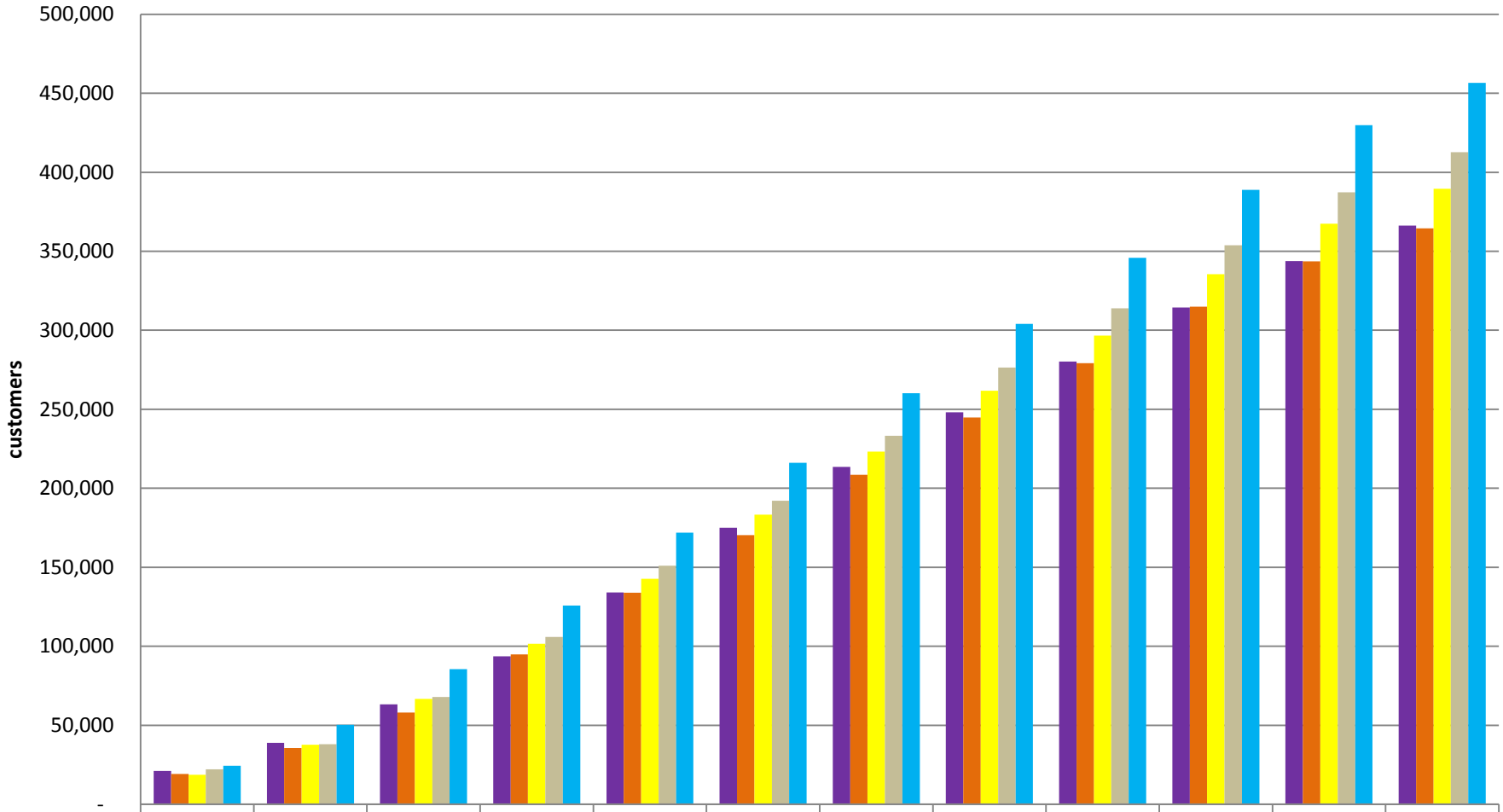
	1992	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Customers (K)	125	335	350	329	373	372	366	365	390	413	457	487	518	552	588	626	667	710

Total Department Customers
Total 635,669



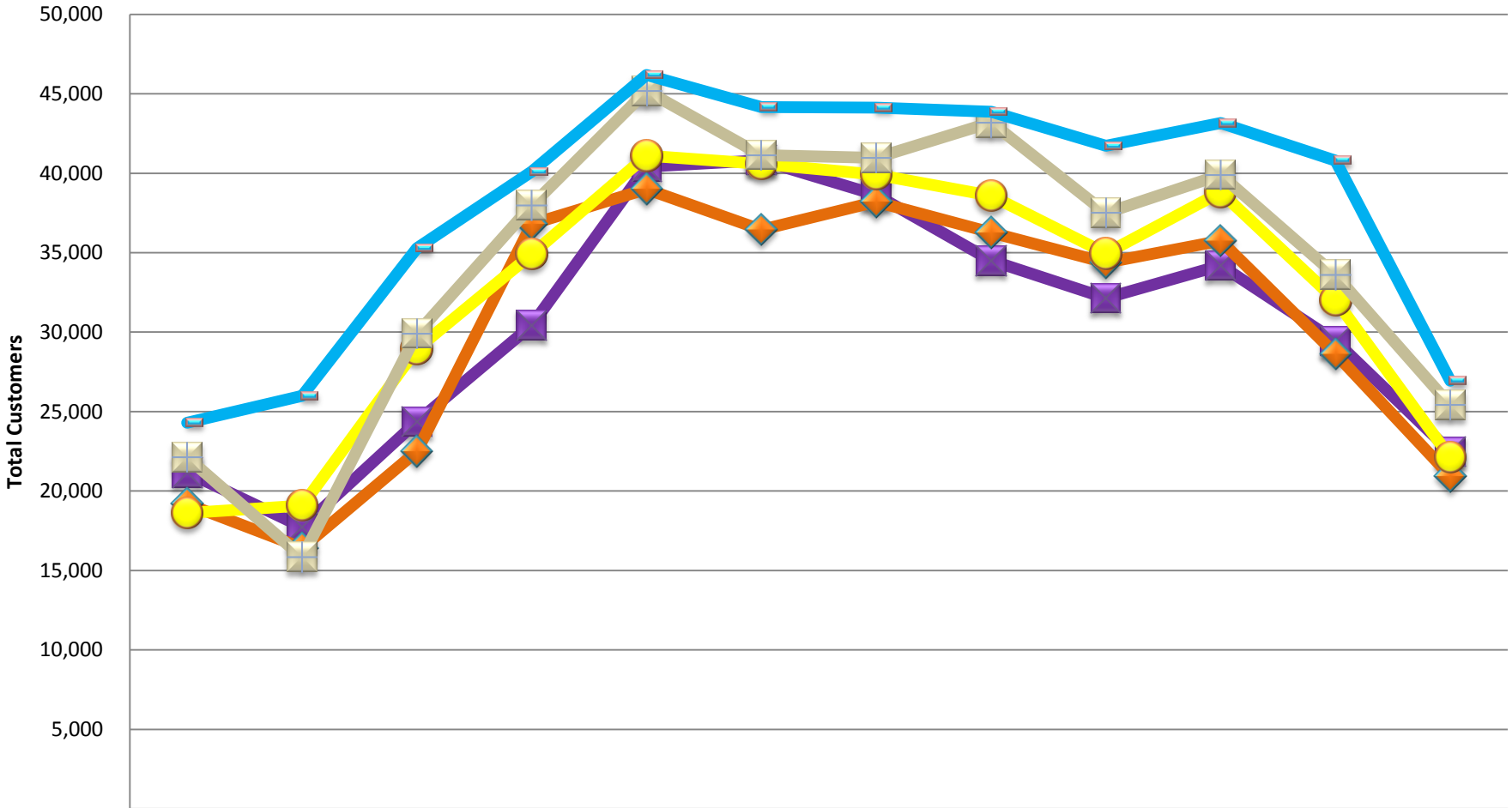
	2011	2012	2013	2014	2015
Prairie	110,405	112,703	122,575	130,981	148,617
Rural	205,532	190,423	190,541	187,592	179,005
Ramsey	255,910	251,821	267,052	281,752	308,047

Monthly Cumulative Customers - Transfer Stations



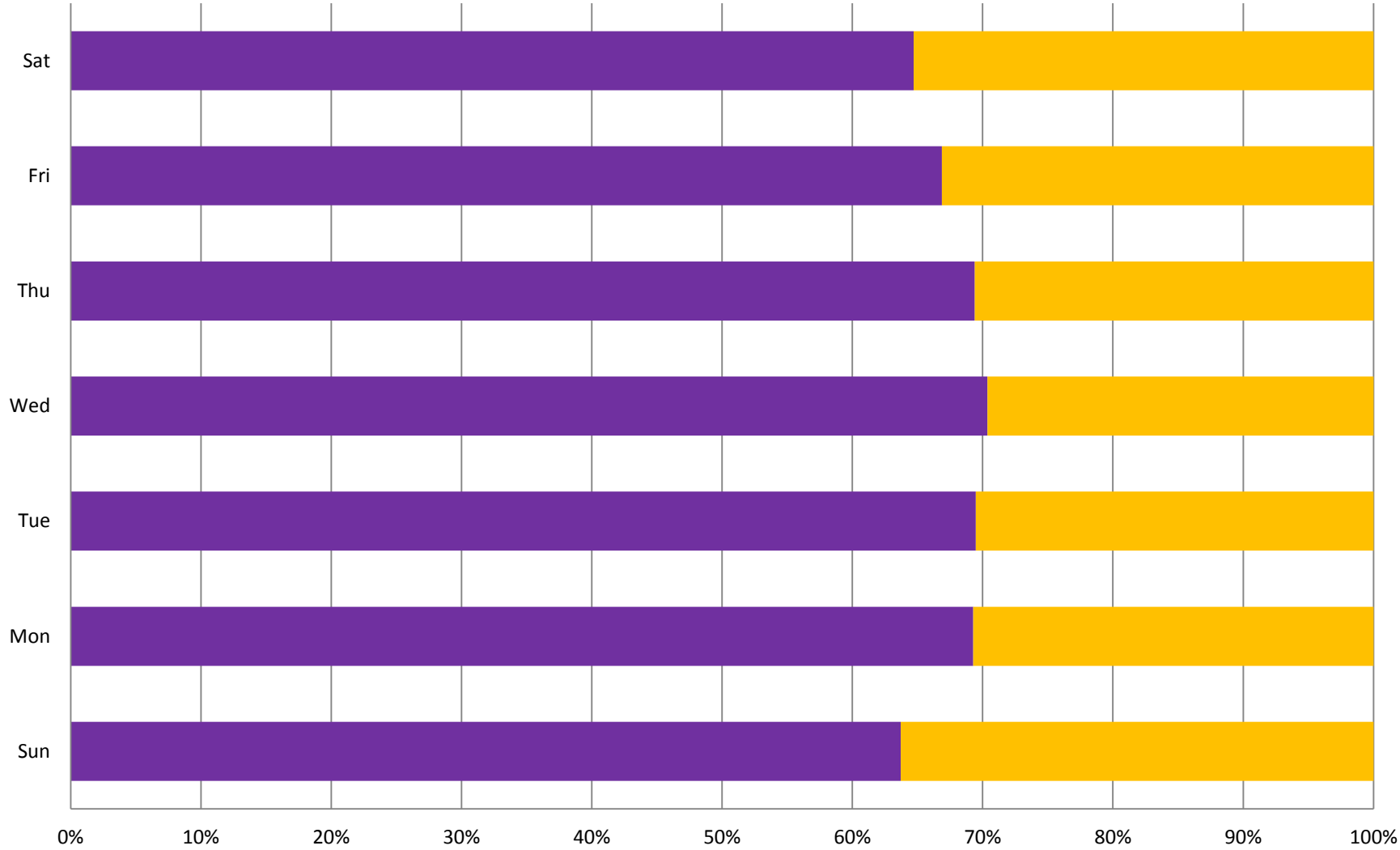
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2011	21,164	38,903	63,261	93,690	134,107	174,924	213,564	248,068	280,201	314,396	343,838	366,315
2012	19,192	35,609	58,115	94,917	133,921	170,363	208,567	244,843	279,210	314,953	343,584	364,524
2013	18,607	37,689	66,637	101,545	142,649	183,231	223,146	261,736	296,686	335,502	367,514	389,627
2014	22,122	37,959	67,871	105,850	151,031	192,180	233,145	276,333	313,829	353,733	387,332	412,743
2015	24,306	50,302	85,593	125,697	171,886	216,042	260,169	304,044	345,767	388,927	429,728	456,664

Customers by Month - Transfer Stations



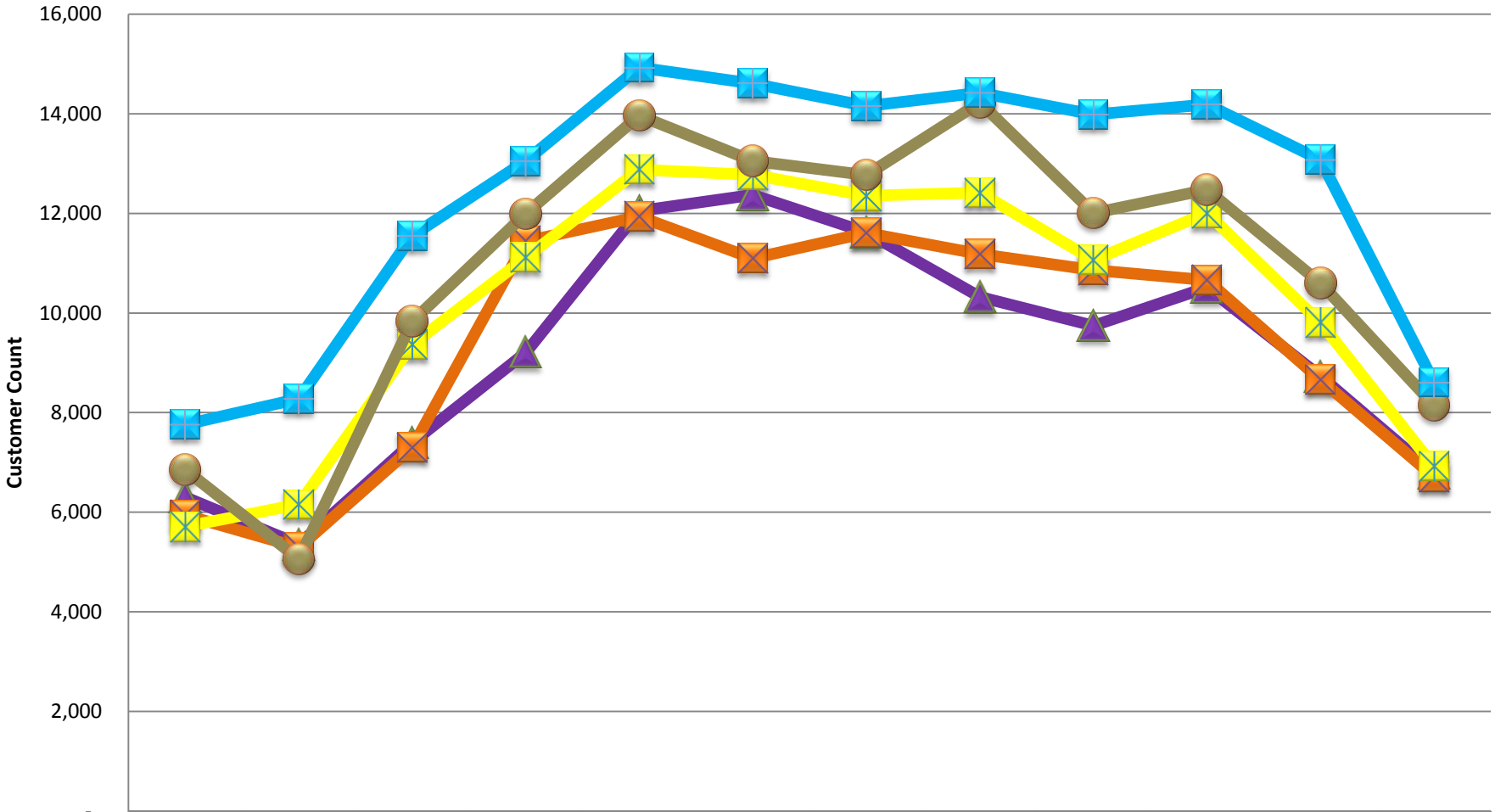
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2011	21,164	17,739	24,358	30,429	40,417	40,817	38,640	34,504	32,133	34,195	29,442	22,477
2012	19,192	16,417	22,506	36,802	39,004	36,442	38,204	36,276	34,367	35,743	28,631	20,940
2013	18,607	19,082	28,948	34,908	41,104	40,582	39,915	38,590	34,950	38,816	32,012	22,113
2014	22,122	15,837	29,912	37,979	45,181	41,149	40,965	43,188	37,496	39,904	33,599	25,411
2015	24,306	25,996	35,291	40,104	46,189	44,156	44,127	43,875	41,723	43,160	40,801	26,936

Average Daily Customers - Transfer Stations

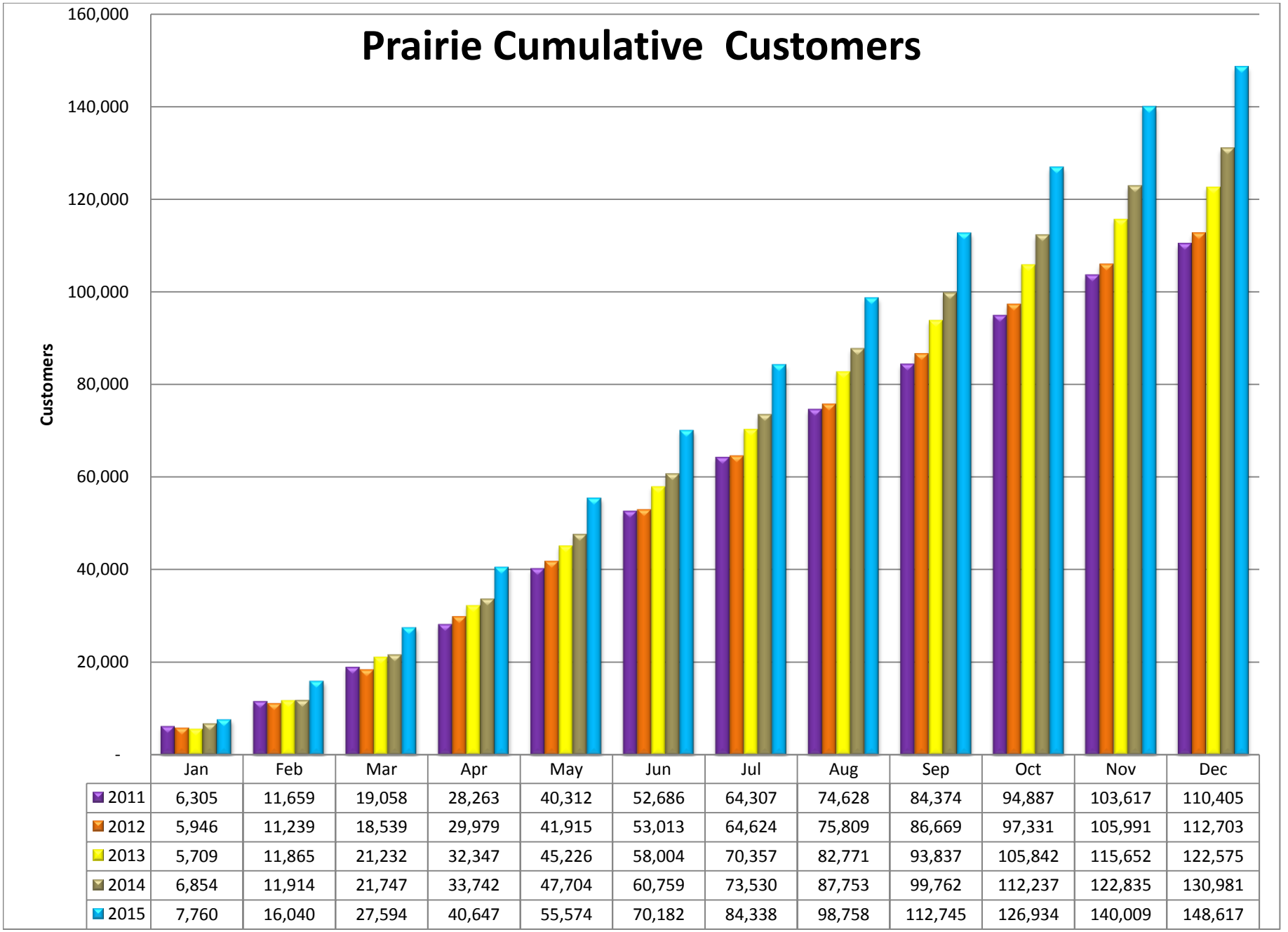


	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Ramsey	857	891	790	824	764	844	1041
Prairie	488	395	347	347	337	418	568

Prairie Customers By Month

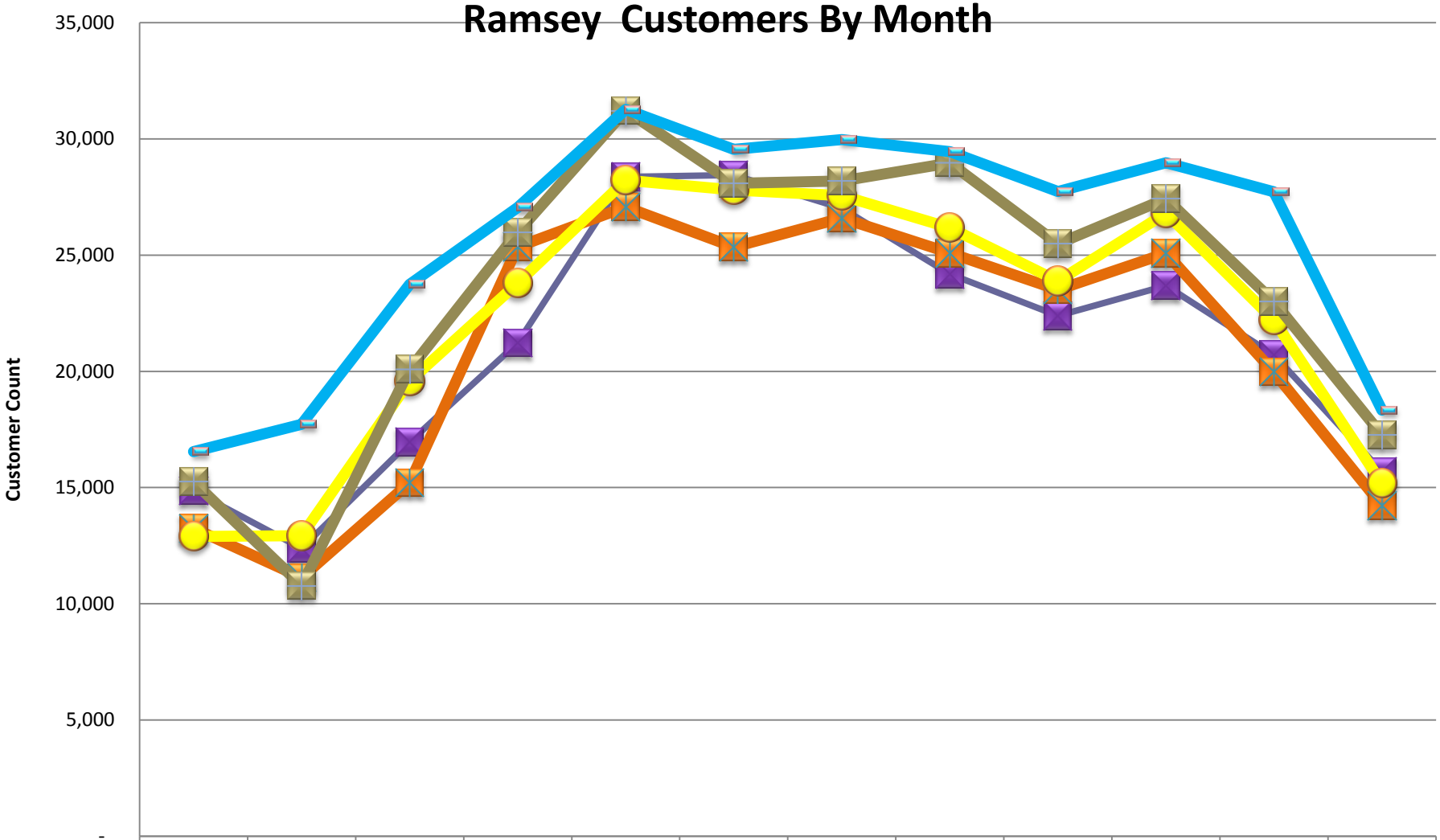


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2011	6,305	5,354	7,399	9,205	12,049	12,374	11,621	10,321	9,746	10,513	8,730	6,788
2012	5,946	5,293	7,300	11,440	11,936	11,098	11,611	11,185	10,860	10,662	8,660	6,712
2013	5,709	6,156	9,367	11,115	12,879	12,778	12,353	12,414	11,066	12,005	9,810	6,923
2014	6,854	5,060	9,833	11,995	13,962	13,055	12,771	14,223	12,009	12,475	10,598	8,146
2015	7,760	8,280	11,554	13,053	14,927	14,608	14,156	14,420	13,987	14,189	13,075	8,608



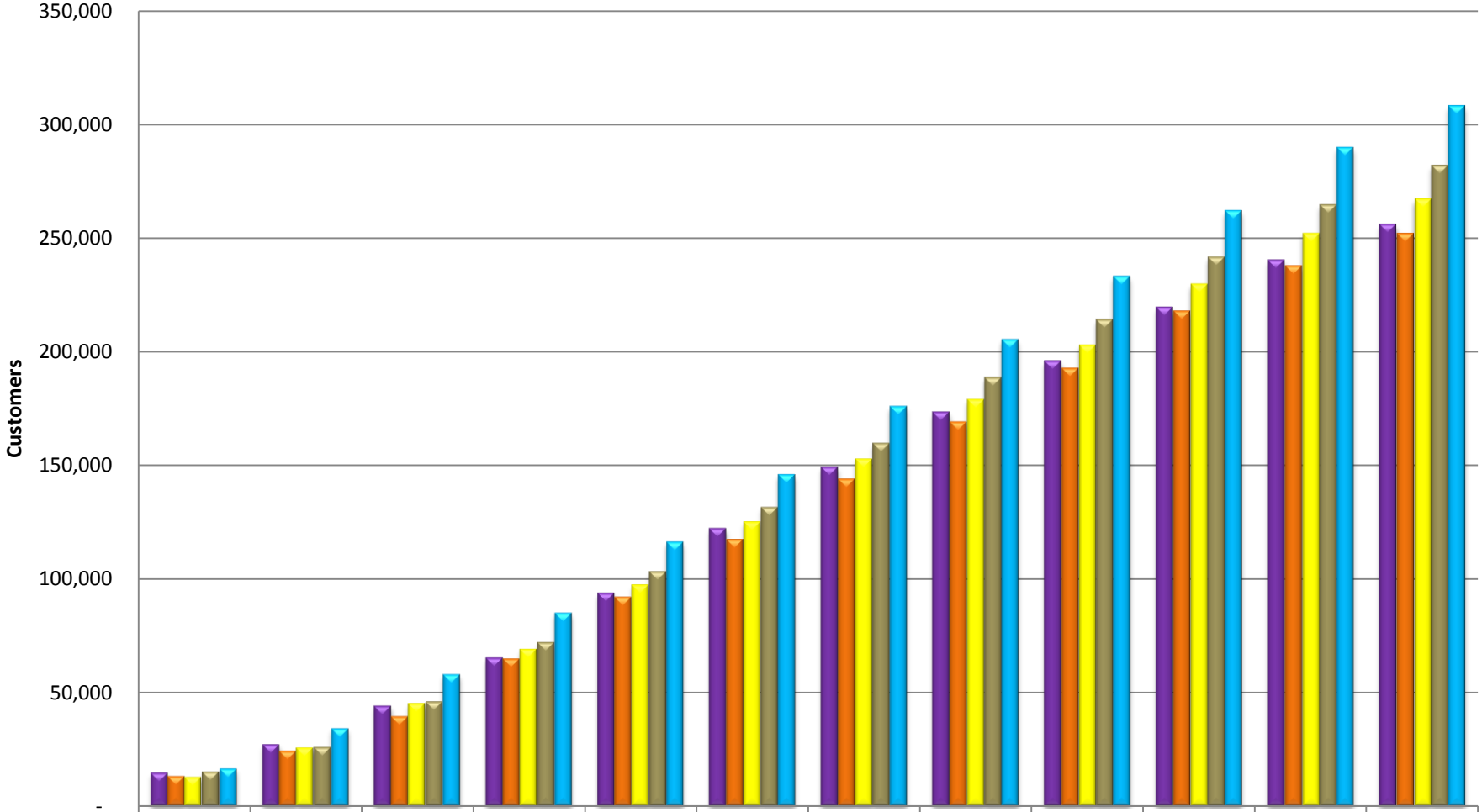
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2011	6,305	11,659	19,058	28,263	40,312	52,686	64,307	74,628	84,374	94,887	103,617	110,405
2012	5,946	11,239	18,539	29,979	41,915	53,013	64,624	75,809	86,669	97,331	105,991	112,703
2013	5,709	11,865	21,232	32,347	45,226	58,004	70,357	82,771	93,837	105,842	115,652	122,575
2014	6,854	11,914	21,747	33,742	47,704	60,759	73,530	87,753	99,762	112,237	122,835	130,981
2015	7,760	16,040	27,594	40,647	55,574	70,182	84,338	98,758	112,745	126,934	140,009	148,617

Ramsey Customers By Month



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2011	14,859	12,385	16,959	21,224	28,368	28,443	27,019	24,183	22,387	23,682	20,712	15,689
2012	13,246	11,124	15,206	25,362	27,068	25,344	26,593	25,091	23,507	25,081	19,971	14,228
2013	12,898	12,926	19,581	23,793	28,225	27,804	27,562	26,176	23,884	26,811	22,202	15,190
2014	15,258	10,777	20,079	25,984	31,219	28,094	28,194	28,965	25,487	27,429	23,001	17,265
2015	16,546	17,716	23,737	27,051	31,262	29,548	29,971	29,455	27,736	28,971	27,726	18,328

Ramsey Cumulative Customers



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2011	14,859	27,244	44,203	65,427	93,795	122,238	149,257	173,440	195,827	219,509	240,221	255,910
2012	13,246	24,370	39,576	64,938	92,006	117,350	143,943	169,034	192,541	217,622	237,593	251,821
2013	12,898	25,824	45,405	69,198	97,423	125,227	152,789	178,965	202,849	229,660	251,862	267,052
2014	15,258	26,035	46,114	72,098	103,317	131,411	159,605	188,570	214,057	241,486	264,487	281,752
2015	16,546	34,262	57,999	85,050	116,312	145,860	175,831	205,286	233,022	261,993	289,719	308,047

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WASTE STREAM
2015

In 2015 the Solid Waste System processed a total of 171,068 tons through the two transfer stations. This represents an increase of 7.4% (11,760 tons) over the 2014 figures for waste coming into the facilities. We then remove recyclable materials from the waste stream to reduce what goes into the landfill.

Waste shipped to the landfill in 2014 was 140,722 tons, which is up 6% or (7,744 tons) from the 2014 figures. We believe the increase in waste is due to the upturn in the economy with additional construction and new business opportunities in Kootenai County. This is evidenced by the charts showing an increase in Construction/Demolition and Inert materials.

A chart is included depicting the waste stream by source. This shows that 64% of the waste through the transfer stations comes from residential use, 28% from commercial activity and 8% from the rural systems. An interesting footnote is that 51% of the residential waste is brought to the transfer station by individual vehicles.

PRAIRIE TRANSFER STATION

The Prairie Transfer Station received 58,908 tons of material in 2015. This represents an increase of 4,501 tons or 8.27% from 2014. The measurement of the Prairie Waste Stream is the weight of all commodities that entered the Prairie Transfer Station during the calendar year.

The average tons received daily was 164. The heaviest tonnage day was April 20, 2015 with 470.9 tons. The lowest tonnage day was February 1, 2015 with 20.5. May was the highest month with 5,848 tons received and February the lowest with 3,367 tons received. Friday was the highest average day with 211 tons and Sunday being the lowest average at 85 tons.

RAMSEY TRANSFER STATION

The Ramsey Transfer Station received 112,160 tons of material in 2015. This represents an increase of 7,259 tons or 6.92% from last year. The measurement of the Ramsey Waste Stream is the weight of all commodities that entered the Ramsey Transfer Station during the calendar year.

The average tons received daily was 311. The heaviest tonnage day was May 26, 2015 with 570 tons. The lowest tonnage day was January 4, 2015 with 45.3 tons. July was the highest month with 11,272 tons and January the lowest month with 6,336 tons received. Monday was the highest average day of the week with 386 tons and Sunday is the lowest with 148 tons.

Although Ramsey is the oldest of the transfer stations, it still processes 64% of the waste in Kootenai County.

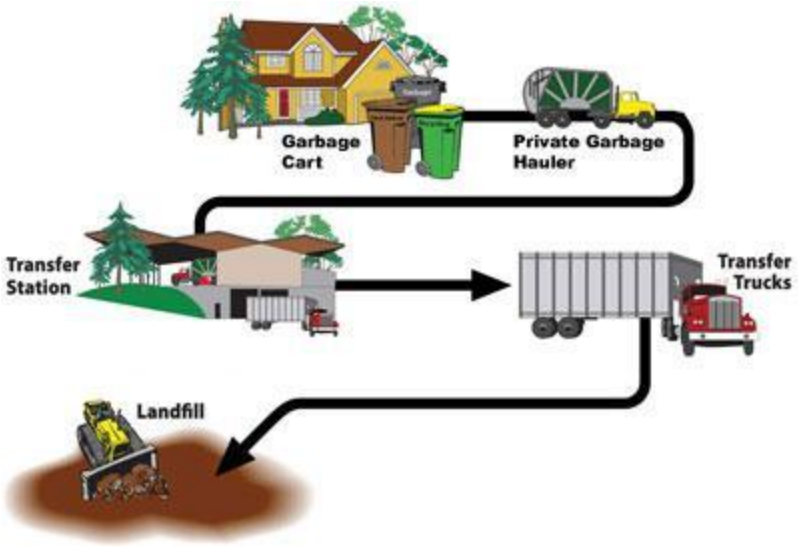
FIGHTING CREEK LANDFILL

We operate a fully permitted and environmentally safe landfill. This facility is the key to keeping customer costs to a minimum. The Fighting Creek Landfill received 140,722 tons of refuse in 2015. This reflects an increase of 7,744 tons or 6% of waste placed into the landfill from 2014.

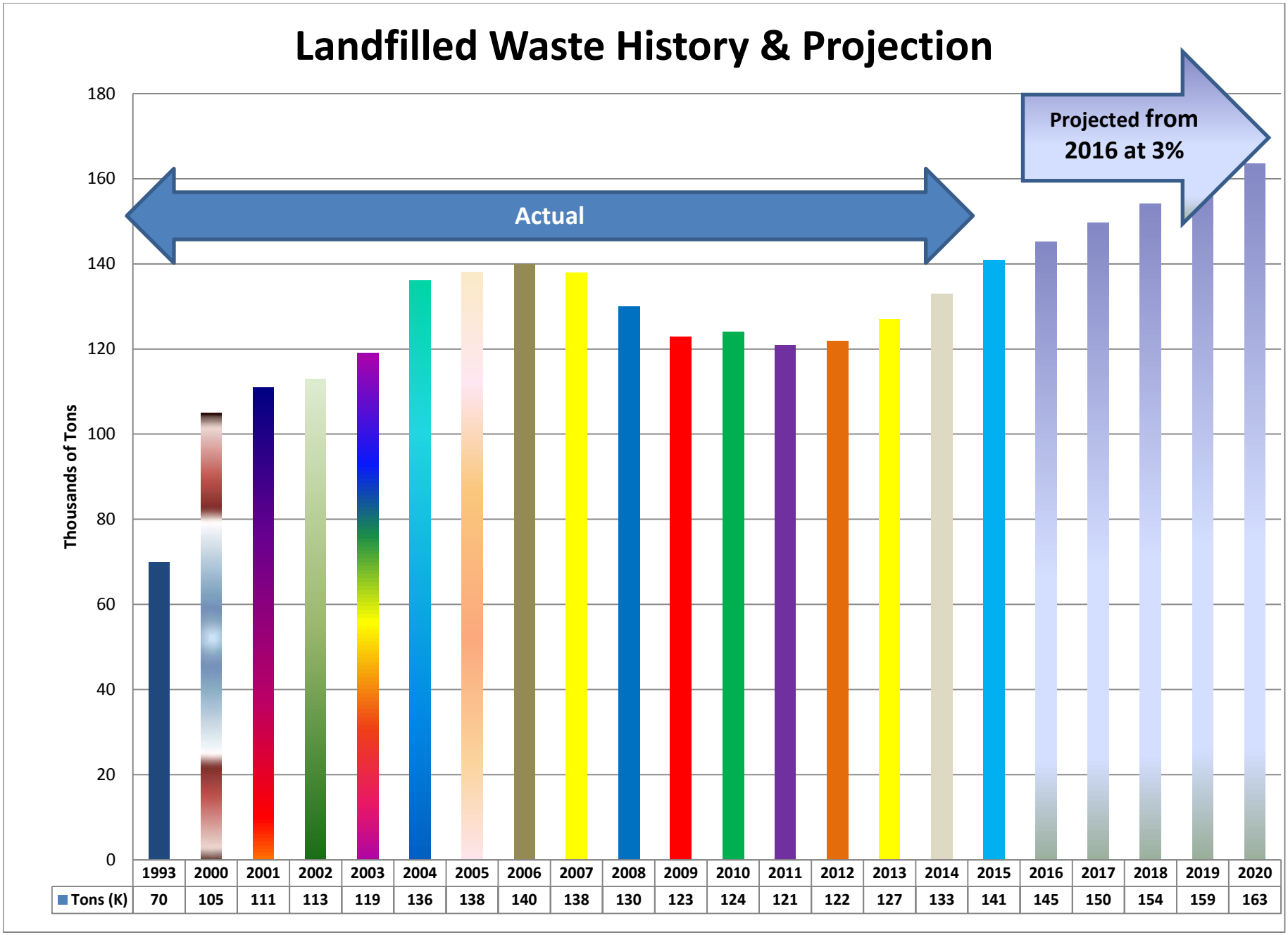
There has been a steady increase in waste going to the landfill for the last 4 years. This year, however, it has surpassed the 2007 record of 138,000 tons. The 2015 Life Cycle Analysis used a growth figure of 3% for historic average growth. Although for the last several years the Department has experienced an increase greater than 3%, the overall growth has not exceeded this planning standard. These figures will be examined again in three years upon completion of the next landfill life cycle analysis.

On August 5, 2013 placement of waste in Phase E1 of the East Cell of the landfill began. As of December 31, 2015, the Department has placed 318,267 tons of waste into this phase of the landfill. It is estimated that the Department will begin placing waste into the second phase of the East Cell (E2) in late 2016.

The Solid Waste Department is always looking at ways to decrease the amount of waste placed to extend the life expectancy of the landfill.

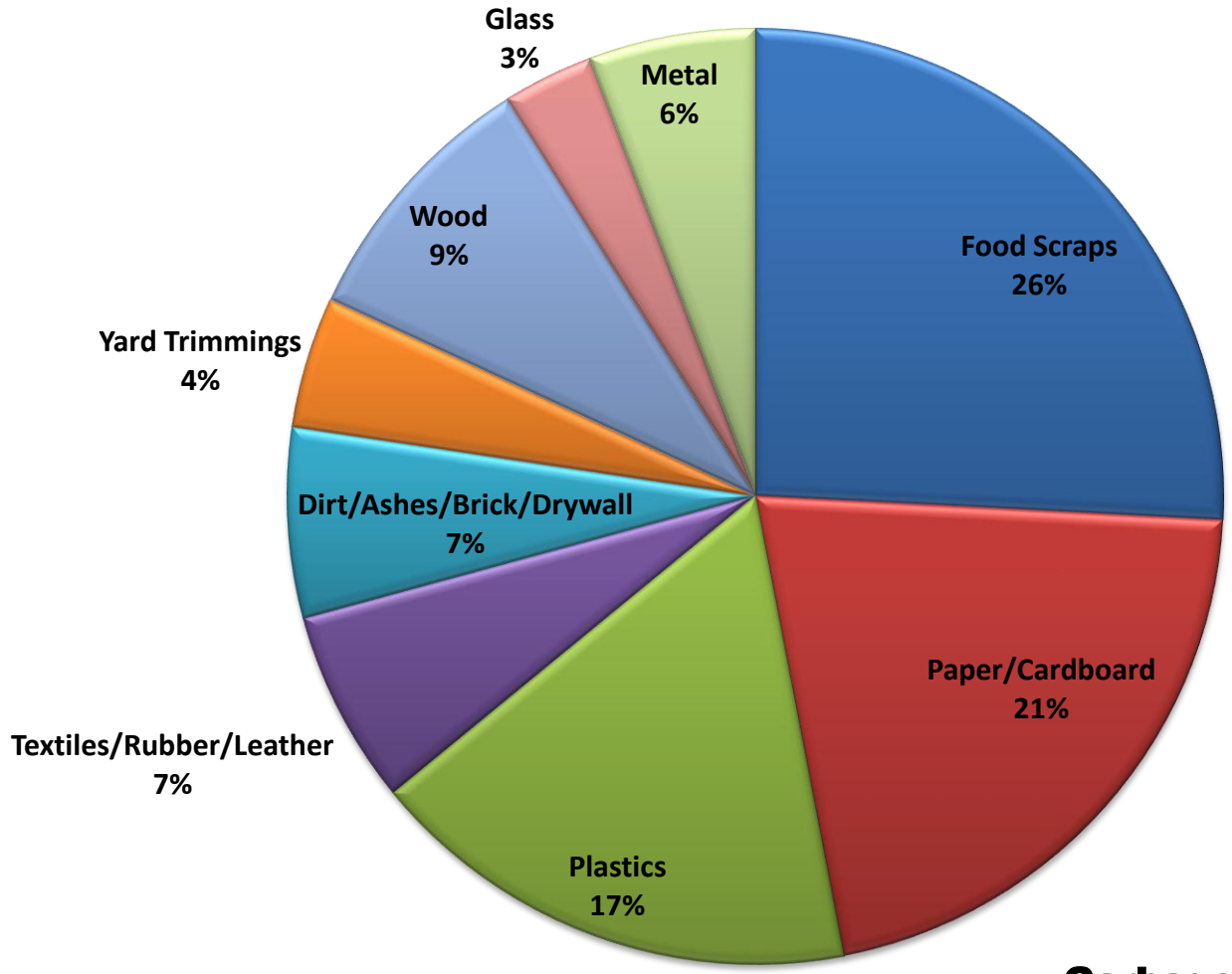


Landfilled Waste History & Projection



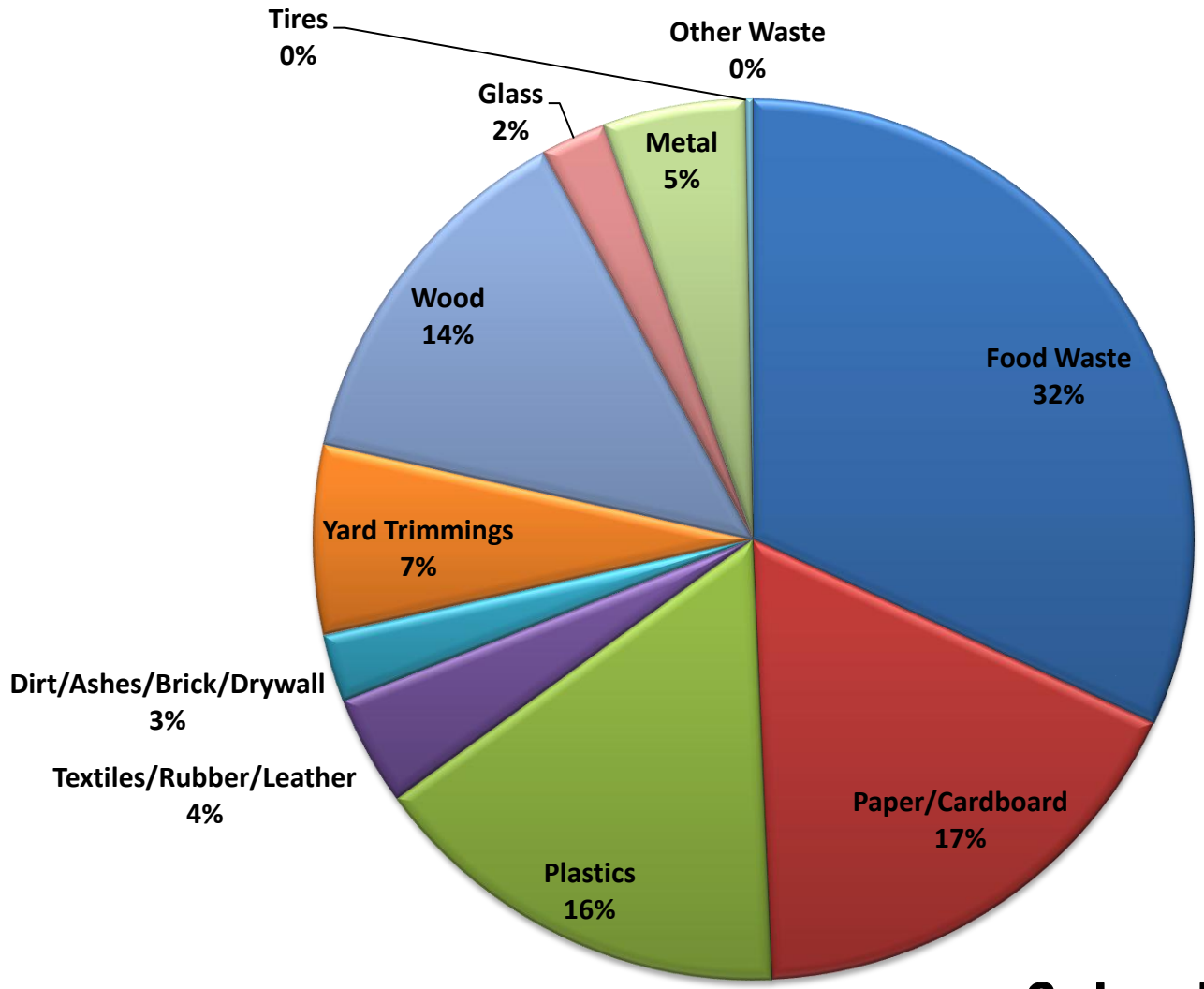
	1993	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Tons (K)	70	105	111	113	119	136	138	140	138	130	123	124	121	122	127	133	141	145	150	154	159	163

Waste Stream Characterization
Prairie Transfer Station



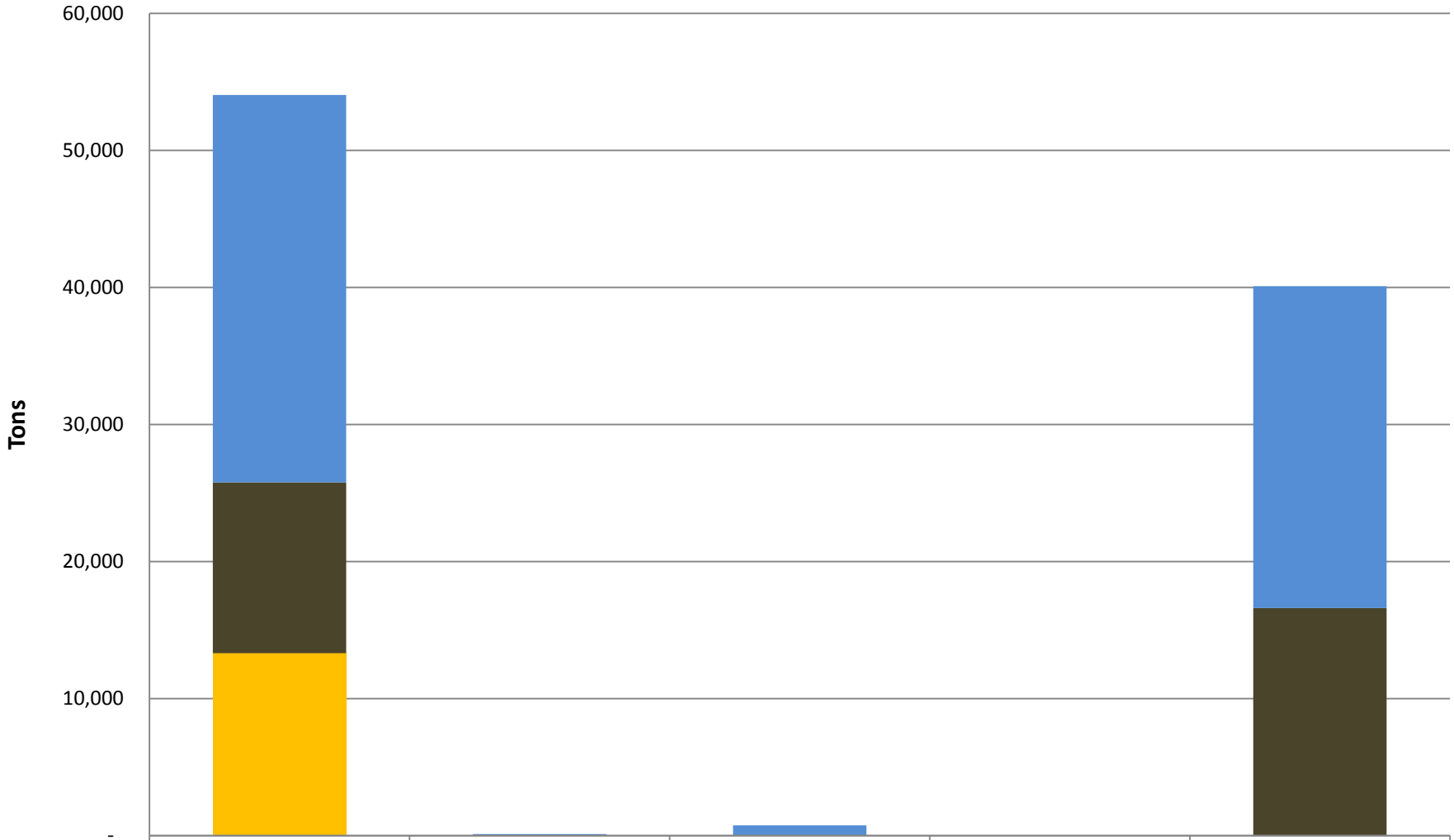
Garbage Truck Loads Only

Waste Stream Characterization
Ramsey Transfer Station



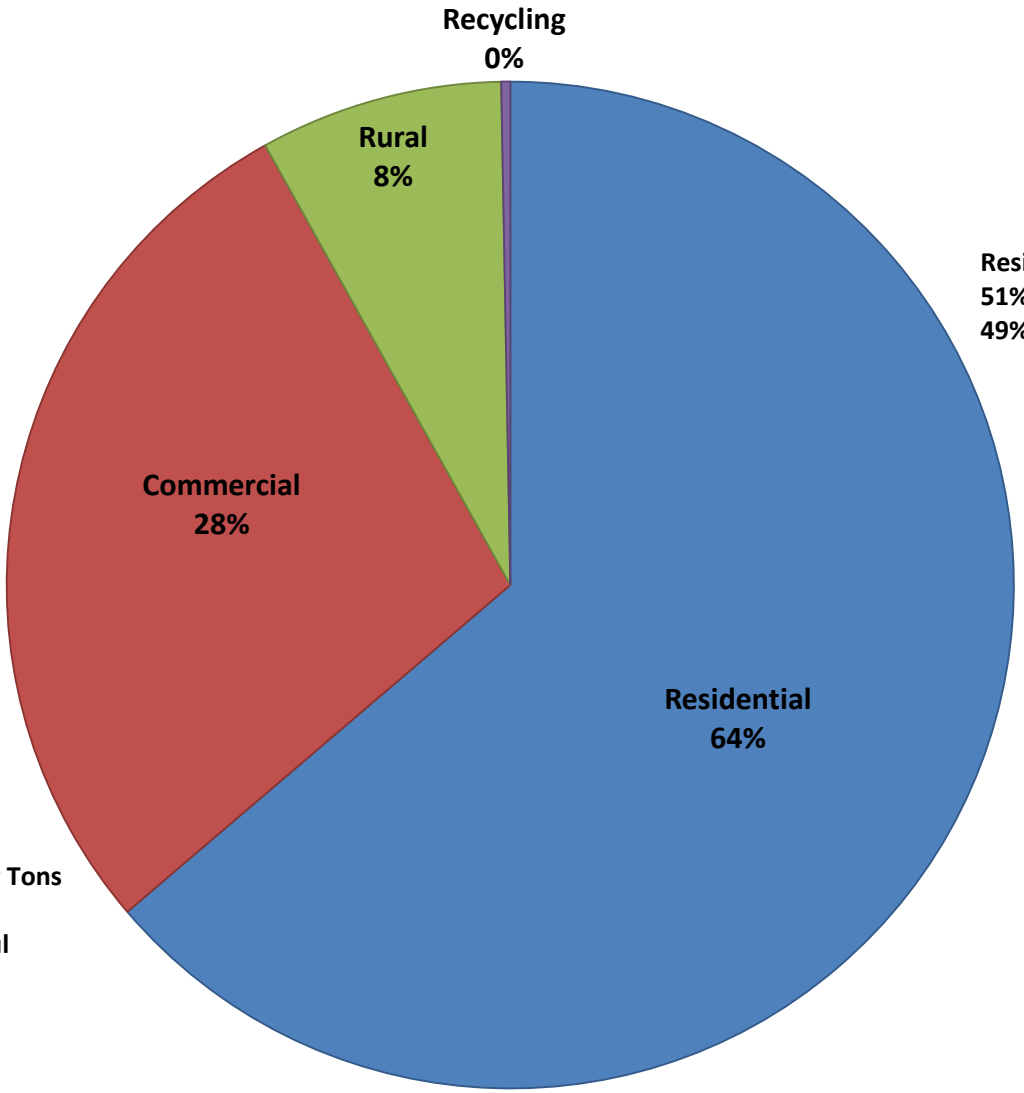
Garbage Truck Loads Only

Breakdown by Hauler



	Cda Garbage	Harrison	Panhandle	South Lakes	Waste Mgmt
Residential	28,272	114	745	-	23,495
Commercial	12,463	-	-	11	16,601
Rural	13,308	-	-	-	-

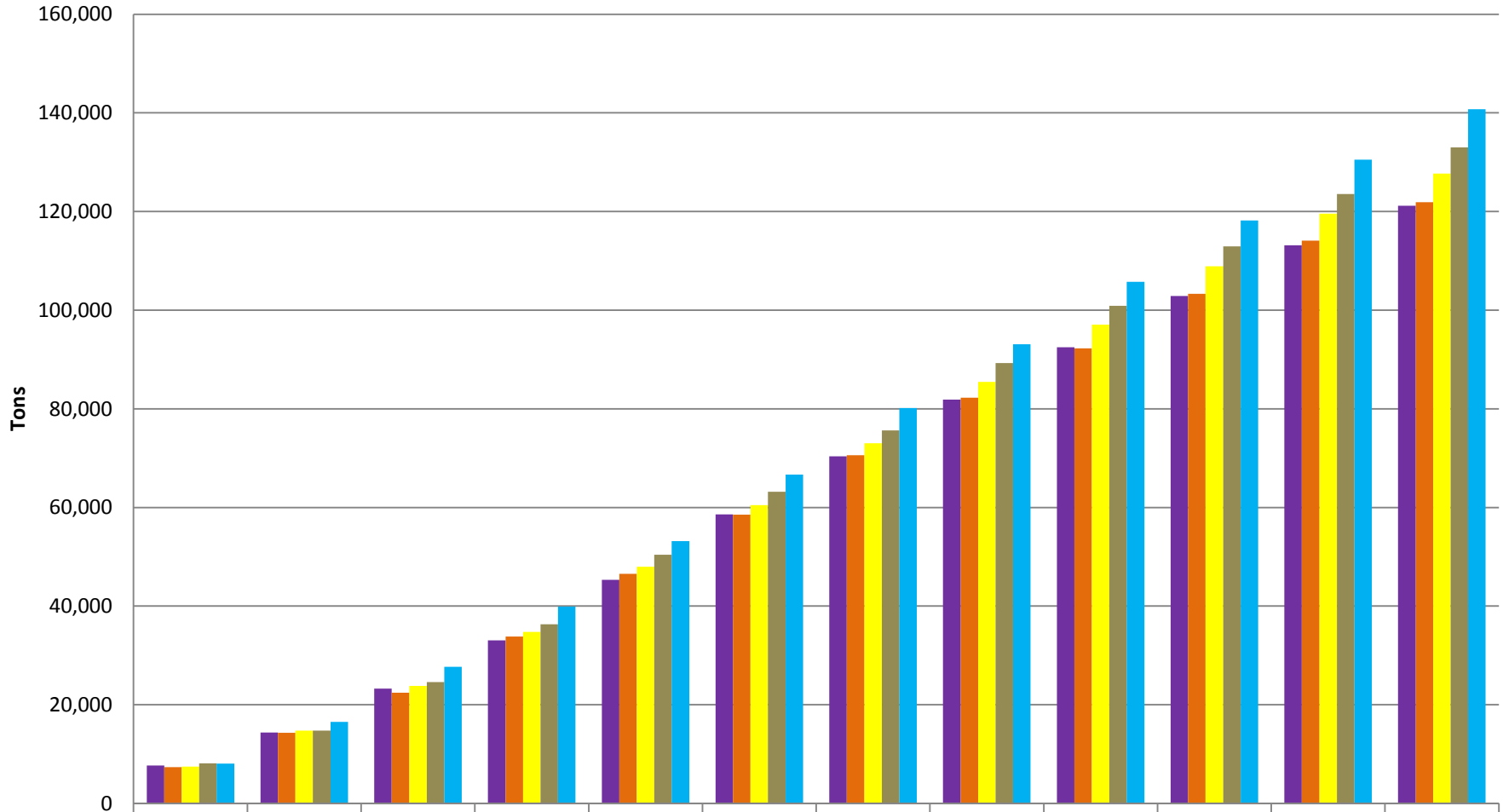
Waste Stream by Source



Residential Breakdown by Tons
51% = self haul
49% = garbage haulers

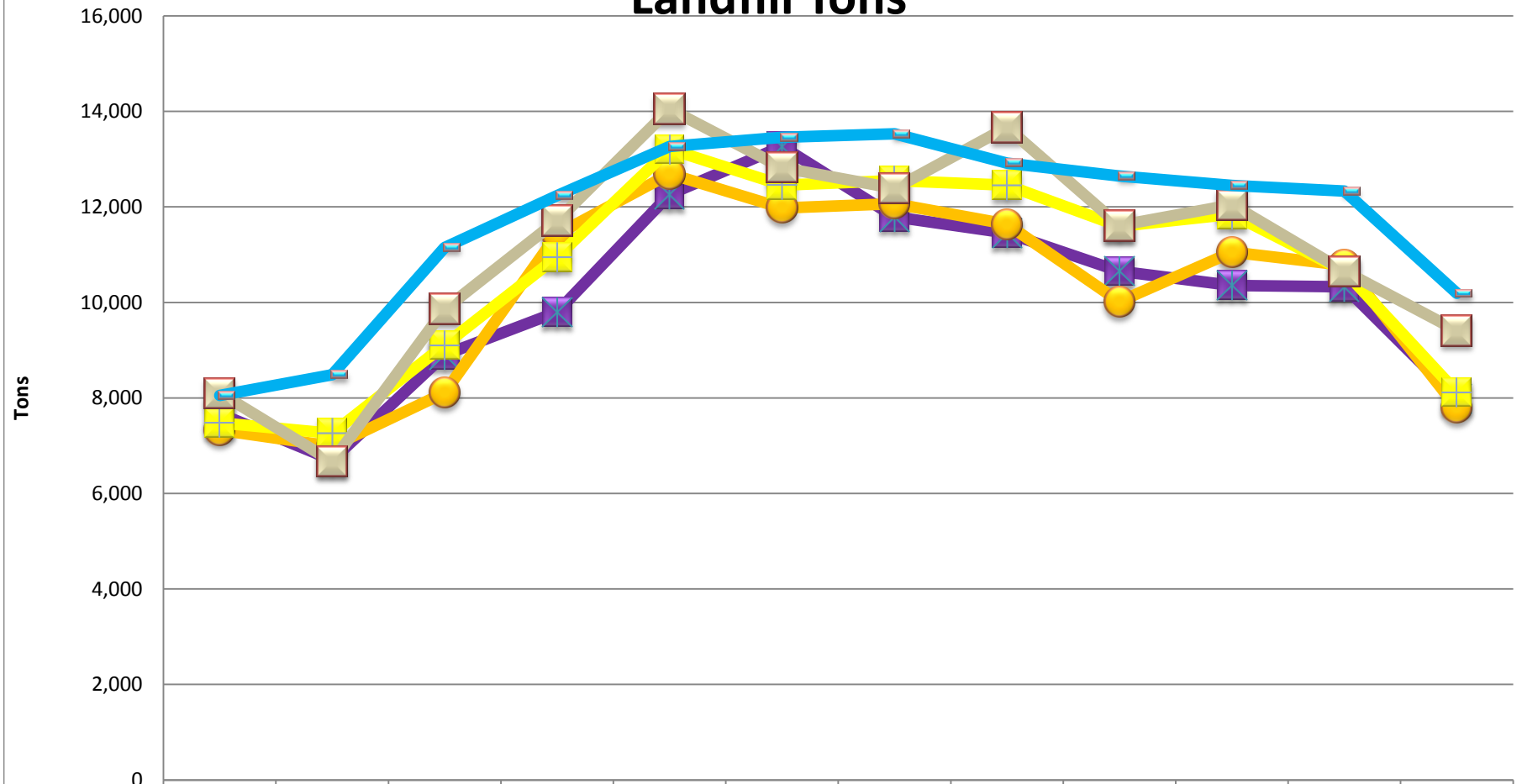
Commercial Breakdown by Tons
61% = garbage haulers
32% = commercial self haul
7% = residential self haul

Total Cumulative Tons - Landfill



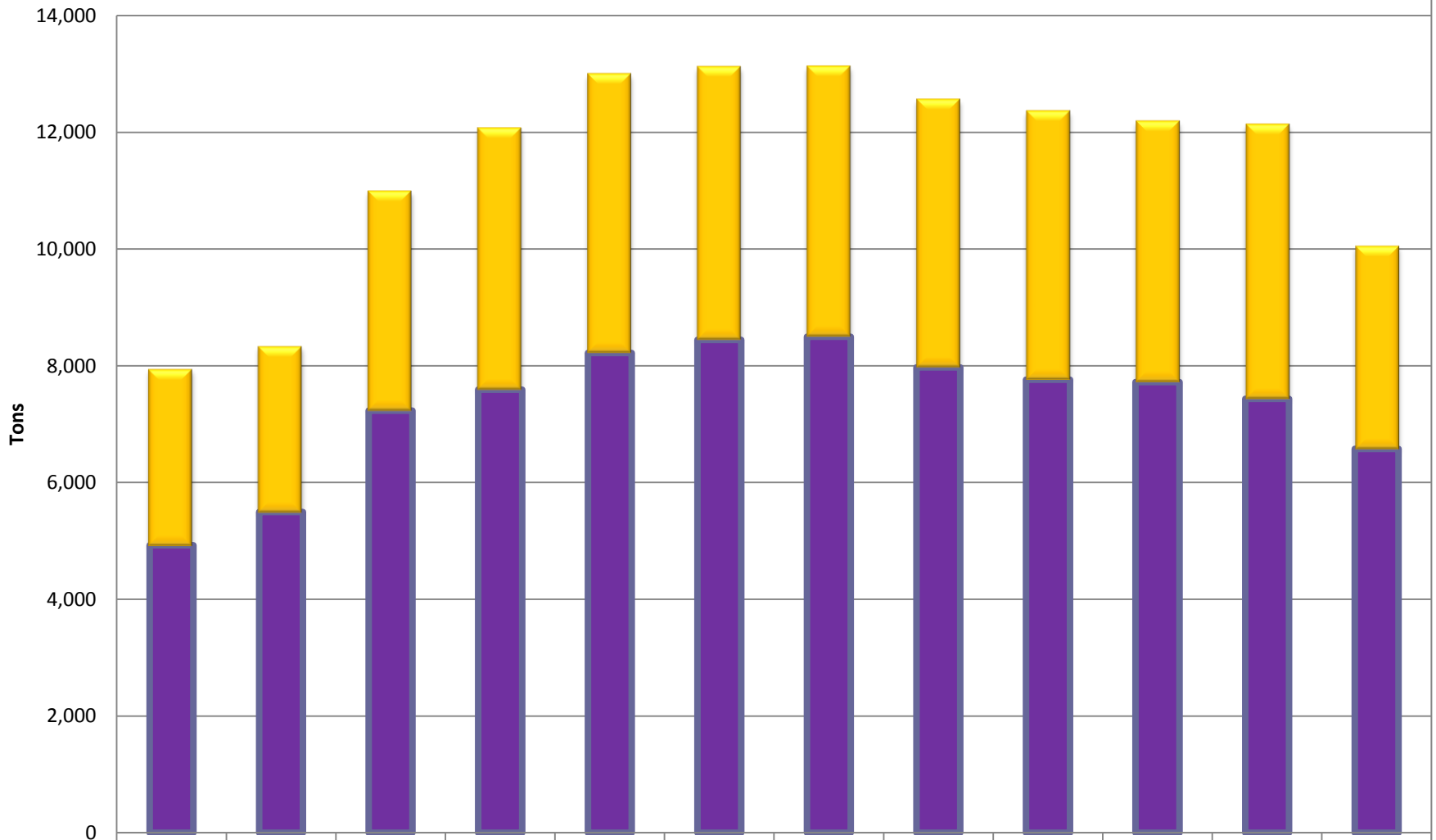
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2011	7,671	14,373	23,277	33,073	45,335	58,600	70,394	81,847	92,503	102,859	113,186	121,172
2012	7,328	14,317	22,428	33,853	46,544	58,524	70,594	82,233	92,249	103,302	114,082	121,873
2013	7,477	14,736	23,845	34,795	48,004	60,461	73,012	85,465	97,062	108,907	119,560	127,683
2014	8,101	14,766	24,627	36,339	50,389	63,212	75,599	89,264	100,873	112,917	123,570	132,978
2015	8,052	16,541	27,693	39,929	53,194	66,652	80,181	93,101	105,751	118,202	130,531	140,722

Monthly Landfill Tons



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2011	7,671	6,702	8,904	9,796	12,262	13,265	11,794	11,453	10,656	10,356	10,327	7,986
2012	7,328	6,989	8,111	11,425	12,691	11,980	12,070	11,639	10,016	11,053	10,780	7,791
2013	7,477	7,259	9,109	10,950	13,209	12,457	12,551	12,453	11,597	11,845	10,653	8,123
2014	8,101	6,665	9,861	11,712	14,050	12,823	12,387	13,665	11,609	12,044	10,653	9,408
2015	8,052	8,489	11,152	12,236	13,265	13,458	13,529	12,920	12,649	12,452	12,329	10,191

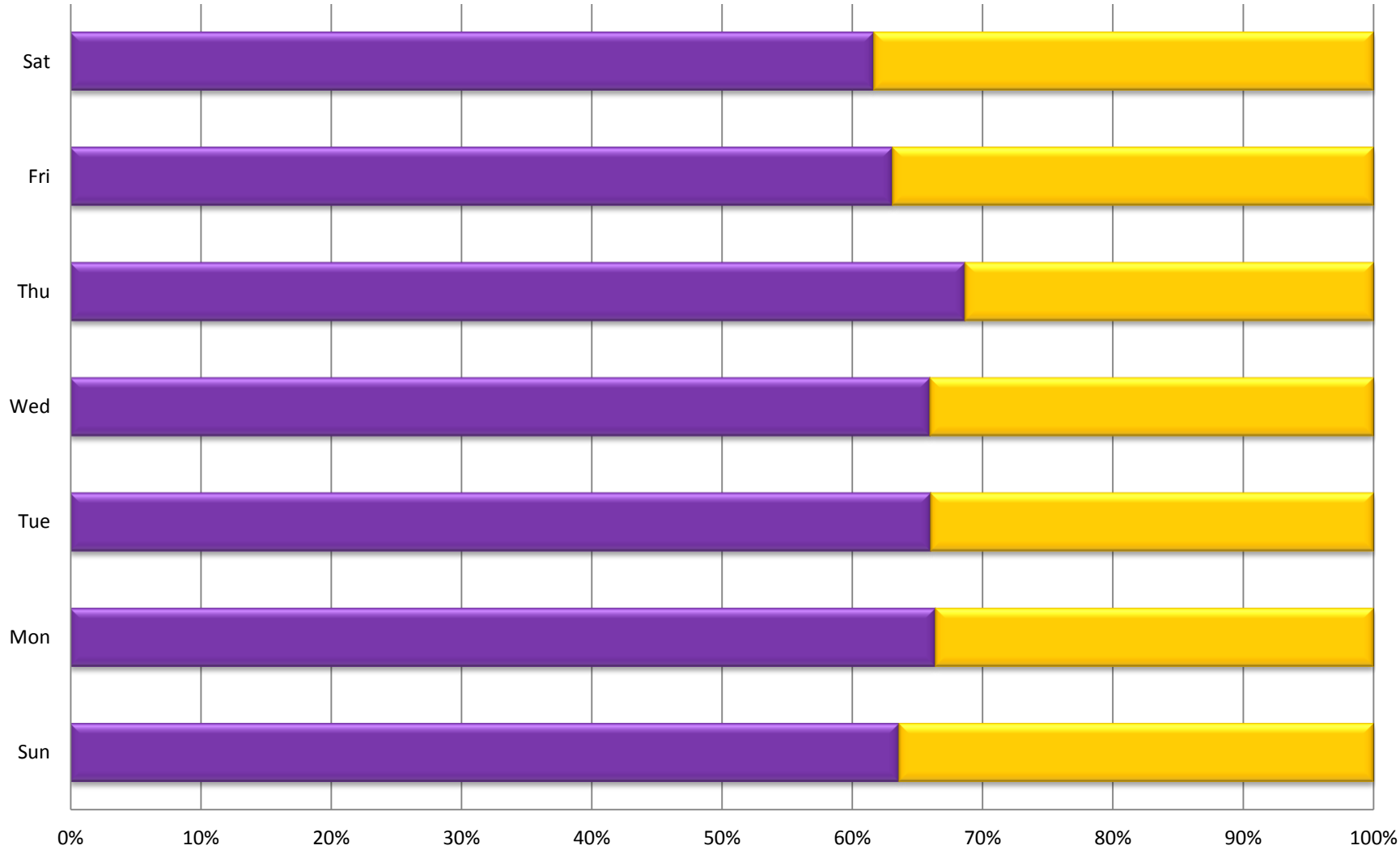
Waste to Landfill by Transfer Station



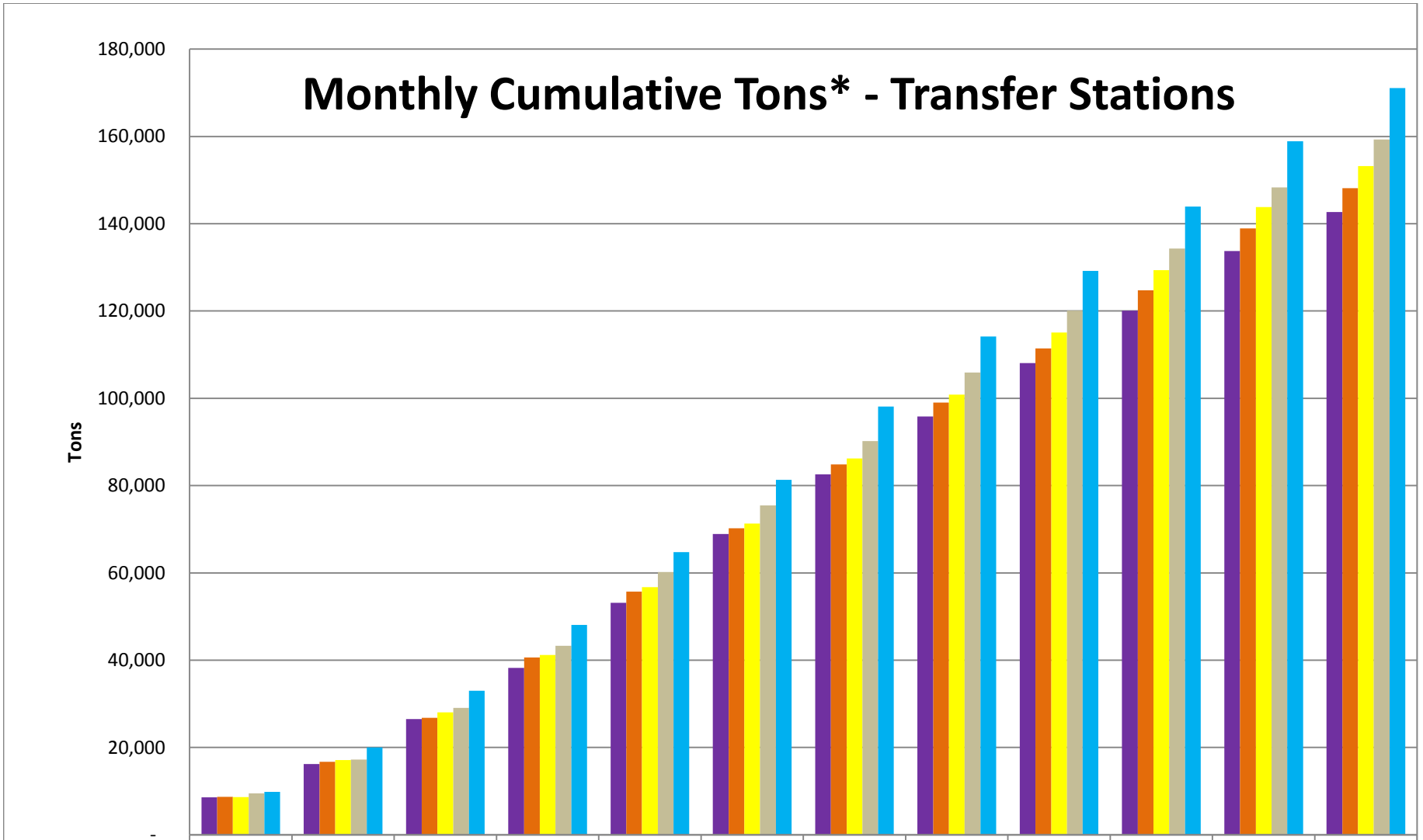
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Prairie	3,020	2,845	3,761	4,479	4,773	4,672	4,628	4,587	4,601	4,466	4,702	3,475
Ramsey	4,925	5,493	7,232	7,591	8,221	8,444	8,497	7,974	7,761	7,722	7,433	6,576

Prairie Total = 54,711 tons
Ramsey Total = 87,869 tons

Average Daily Tons - Transfer Stations

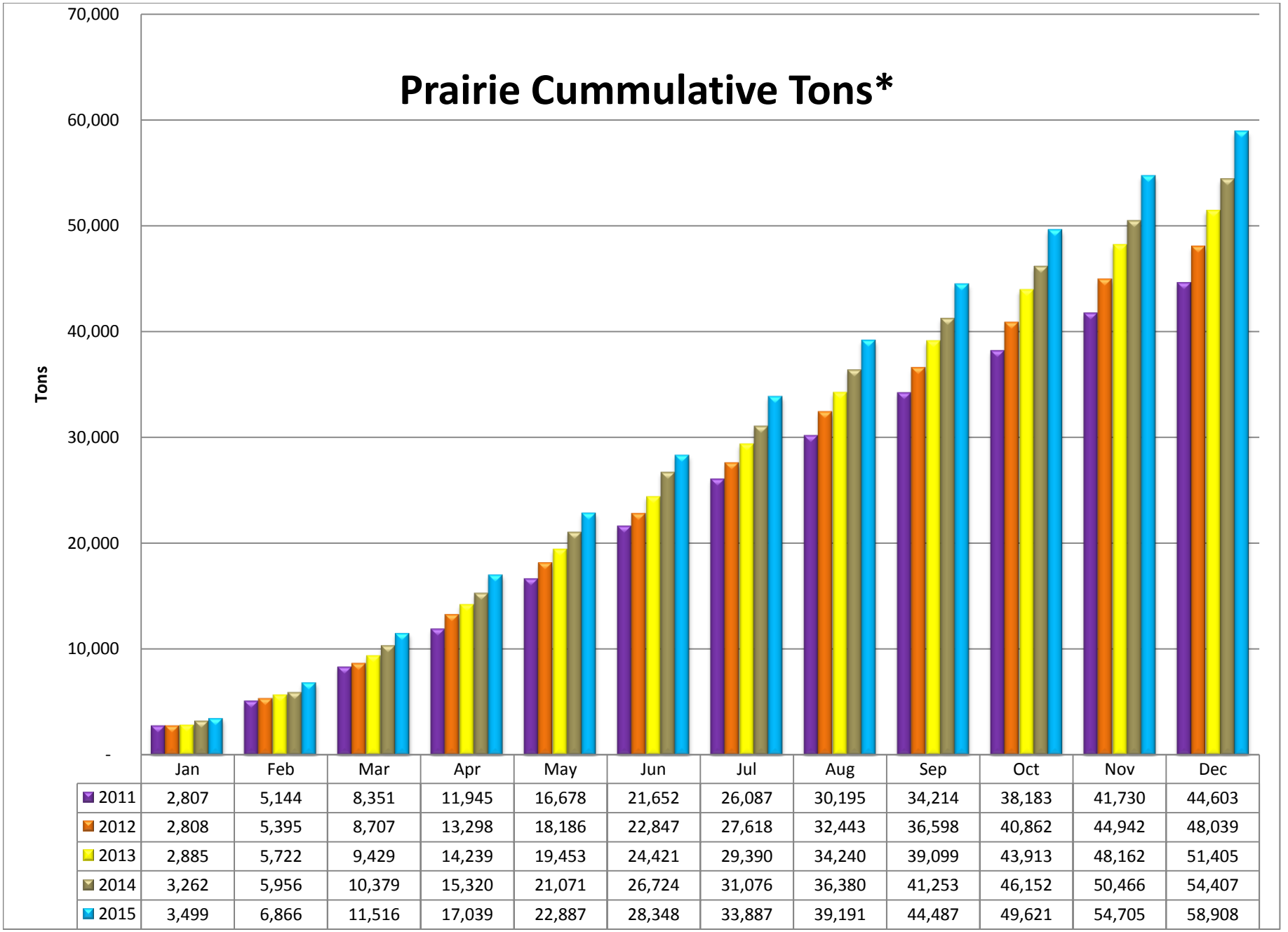


	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Ramsey	148	386	367	359	374	361	188
Prairie	85	195	188	185	170	211	116



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2011	8,563	16,214	26,531	38,229	53,146	68,929	82,580	95,848	108,047	120,103	133,726	142,677
2012	8,677	16,698	26,764	40,644	55,729	70,244	84,850	99,025	111,427	124,744	138,924	148,141
2013	8,651	17,109	28,066	41,214	56,752	71,326	86,184	100,852	115,058	129,331	143,828	153,203
2014	9,502	17,209	29,068	43,304	60,213	75,473	90,206	105,887	120,103	134,329	148,319	159,308
2015	9,835	20,016	32,982	48,071	64,758	81,294	98,105	114,136	129,194	143,903	158,885	171,068

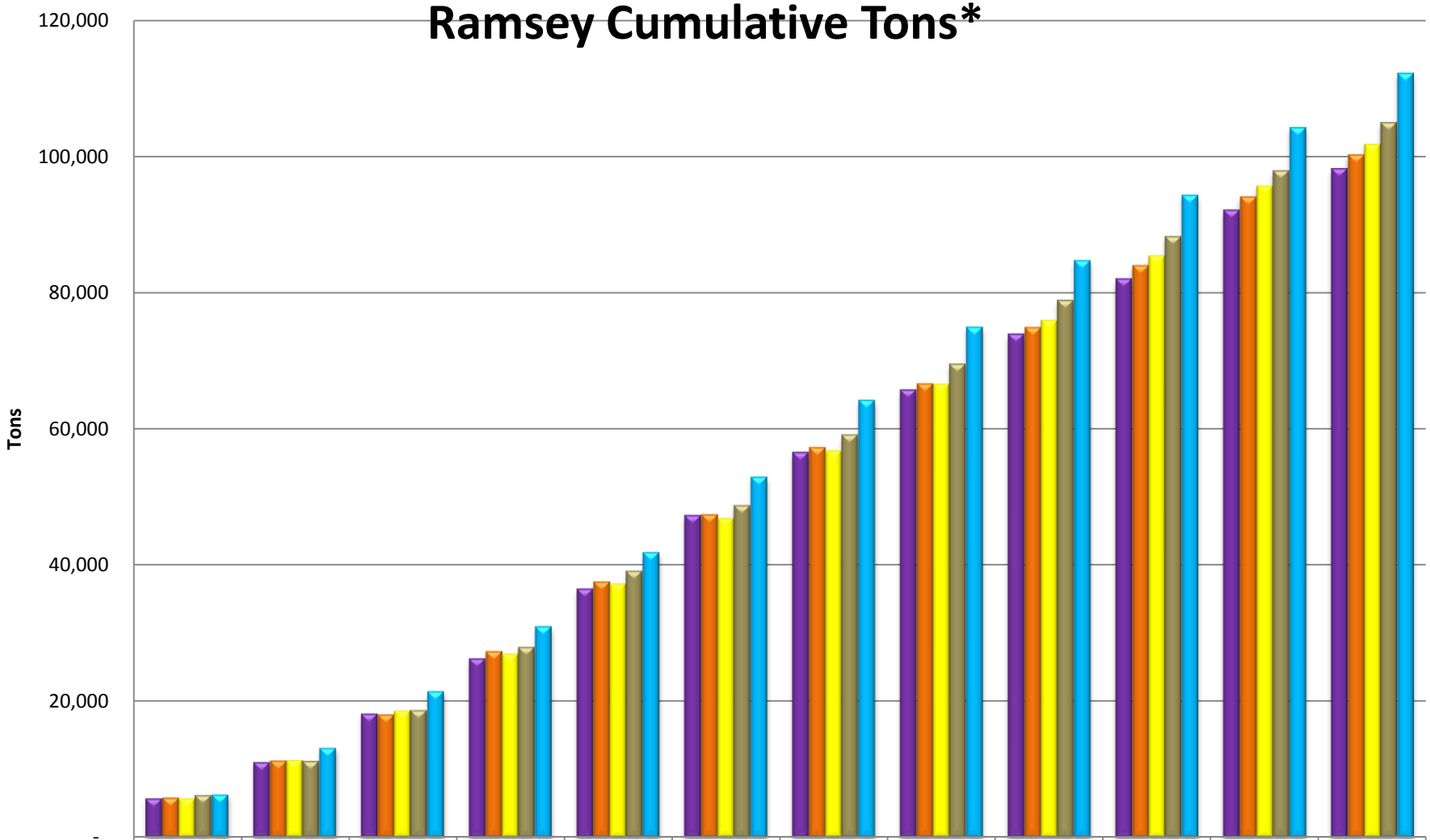
*Tons In - Before Recycling



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2011	2,807	5,144	8,351	11,945	16,678	21,652	26,087	30,195	34,214	38,183	41,730	44,603
2012	2,808	5,395	8,707	13,298	18,186	22,847	27,618	32,443	36,598	40,862	44,942	48,039
2013	2,885	5,722	9,429	14,239	19,453	24,421	29,390	34,240	39,099	43,913	48,162	51,405
2014	3,262	5,956	10,379	15,320	21,071	26,724	31,076	36,380	41,253	46,152	50,466	54,407
2015	3,499	6,866	11,516	17,039	22,887	28,348	33,887	39,191	44,487	49,621	54,705	58,908

*Tons In - Before Recycling

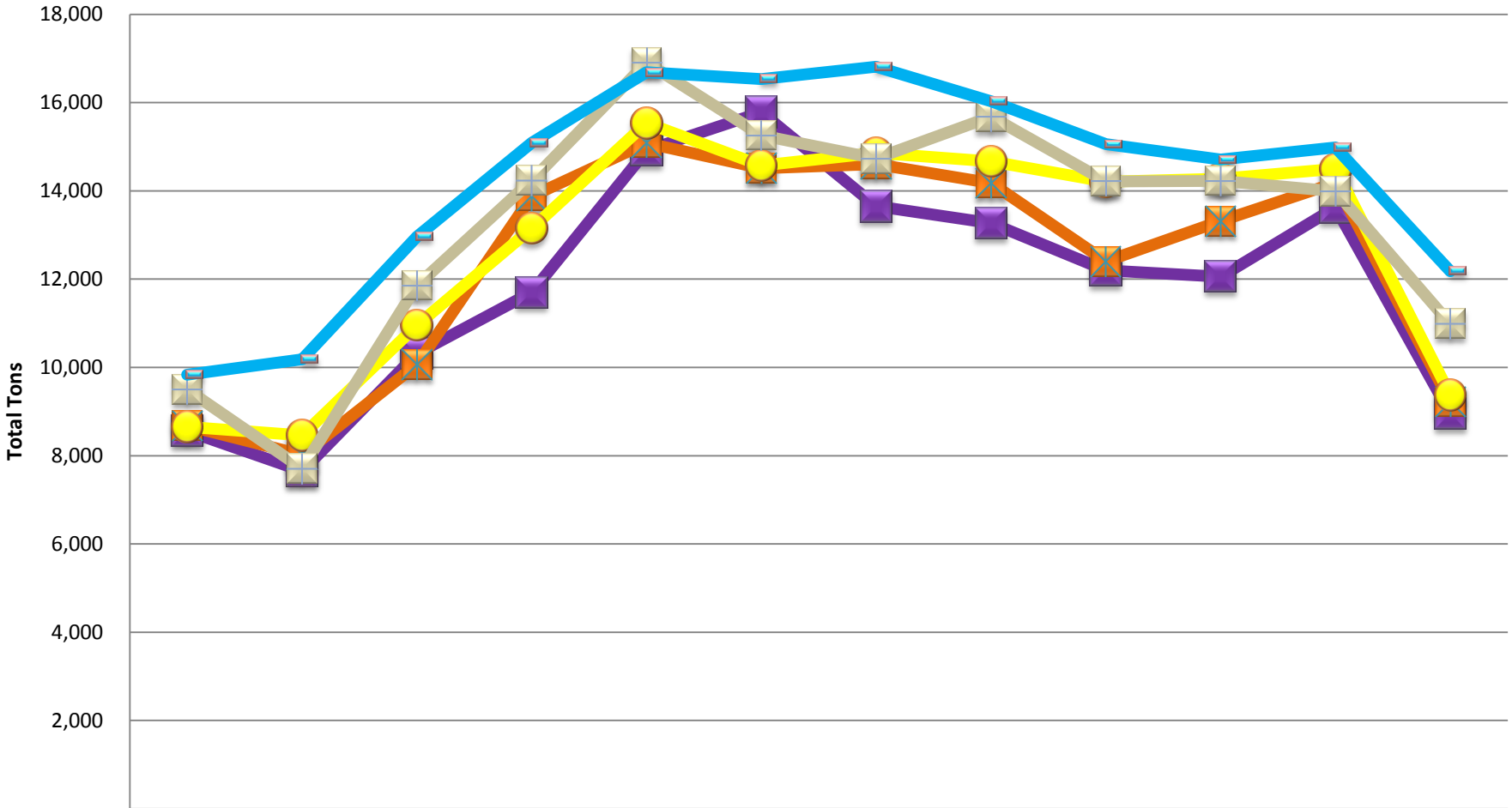
Ramsey Cumulative Tons*



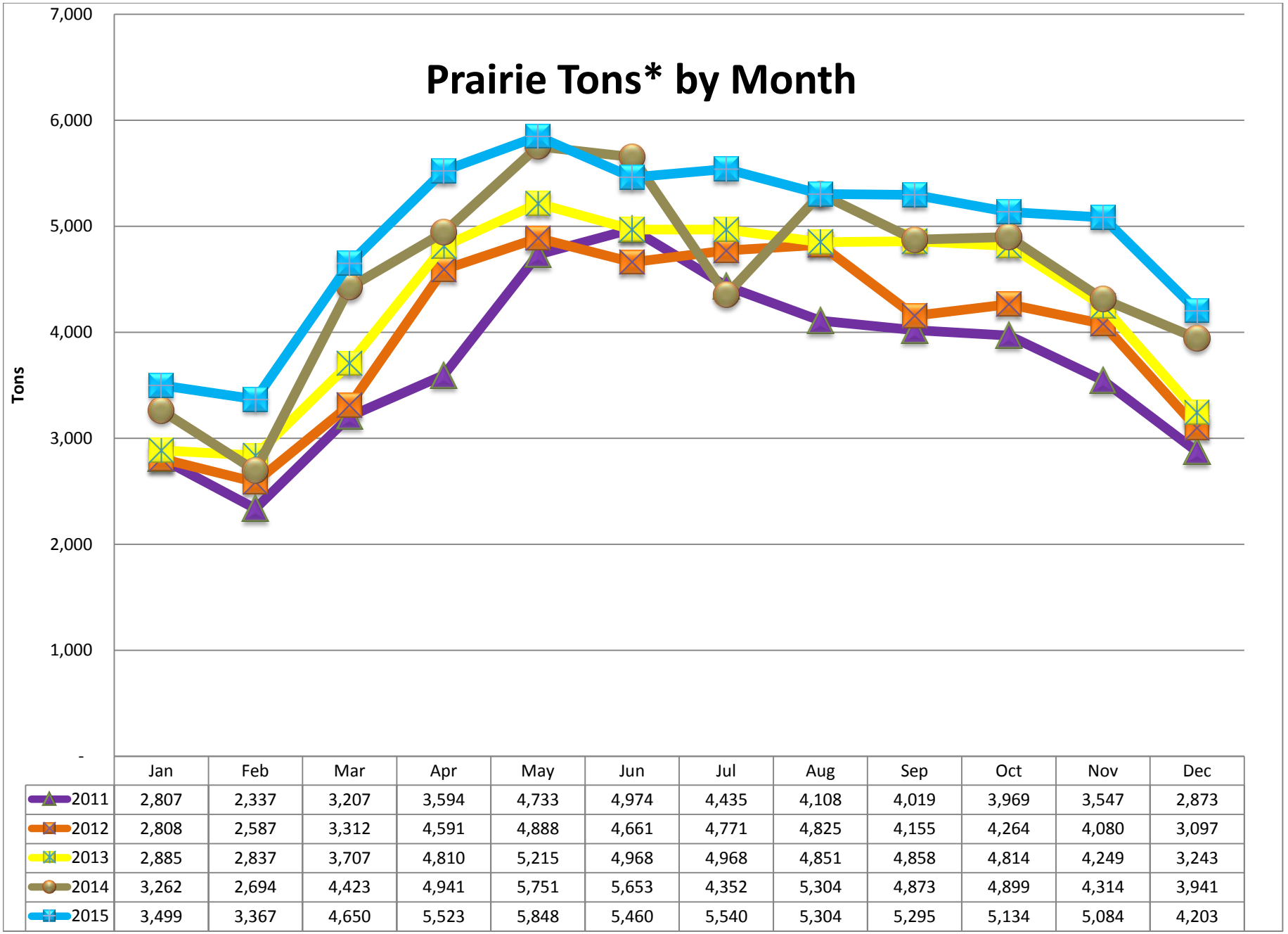
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2011	5,756	11,070	18,180	26,284	36,468	47,277	56,493	65,653	73,833	81,920	91,996	98,074
2012	5,869	11,303	18,057	27,346	37,543	47,397	57,232	66,582	74,829	83,882	93,982	100,102
2013	5,766	11,388	18,637	26,975	37,297	46,903	56,793	66,610	75,958	85,417	95,666	101,797
2014	6,240	11,253	18,689	27,984	39,142	48,749	59,129	69,506	78,849	88,176	97,852	104,901
2015	6,336	13,151	21,466	31,032	41,870	52,946	64,218	74,944	84,708	94,282	104,181	112,160

*Tons In - Before Recycling

Tons by Month - Transfer Stations



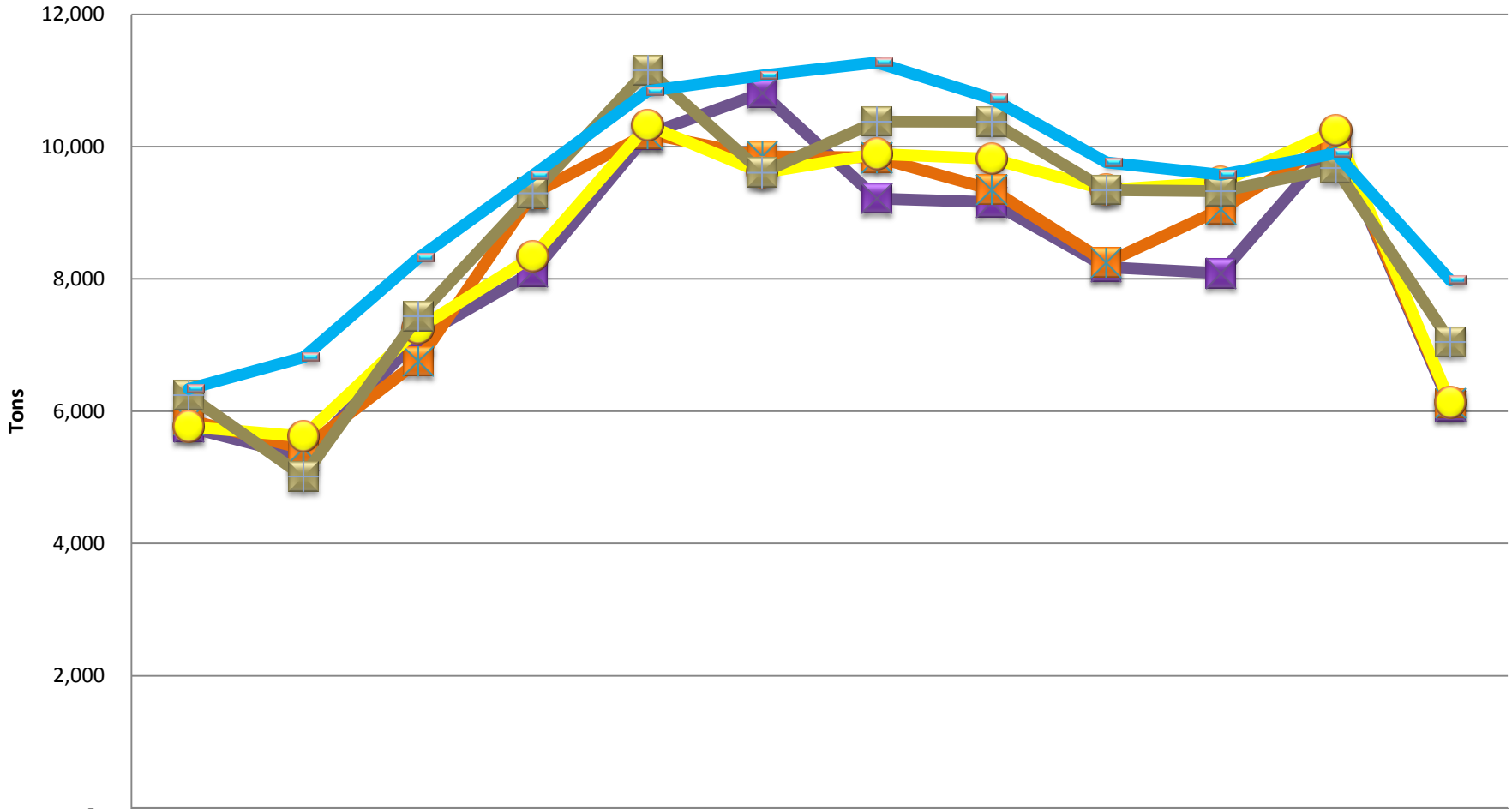
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2011	8,563	7,651	10,317	11,698	14,917	15,783	13,651	13,268	12,199	12,056	13,623	8,951
2012	8,677	8,021	10,066	13,880	15,085	14,515	14,606	14,175	12,402	13,317	14,180	9,217
2013	8,651	8,458	10,957	13,148	15,538	14,574	14,858	14,668	14,206	14,273	14,497	9,375
2014	9,502	7,707	11,859	14,236	16,909	15,260	14,733	15,681	14,216	14,226	13,990	10,989
2015	9,835	10,181	12,966	15,089	16,687	16,536	16,811	16,031	15,058	14,709	14,982	12,183



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2011	2,807	2,337	3,207	3,594	4,733	4,974	4,435	4,108	4,019	3,969	3,547	2,873
2012	2,808	2,587	3,312	4,591	4,888	4,661	4,771	4,825	4,155	4,264	4,080	3,097
2013	2,885	2,837	3,707	4,810	5,215	4,968	4,968	4,851	4,858	4,814	4,249	3,243
2014	3,262	2,694	4,423	4,941	5,751	5,653	4,352	5,304	4,873	4,899	4,314	3,941
2015	3,499	3,367	4,650	5,523	5,848	5,460	5,540	5,304	5,295	5,134	5,084	4,203

*Tons In - Before Recycling

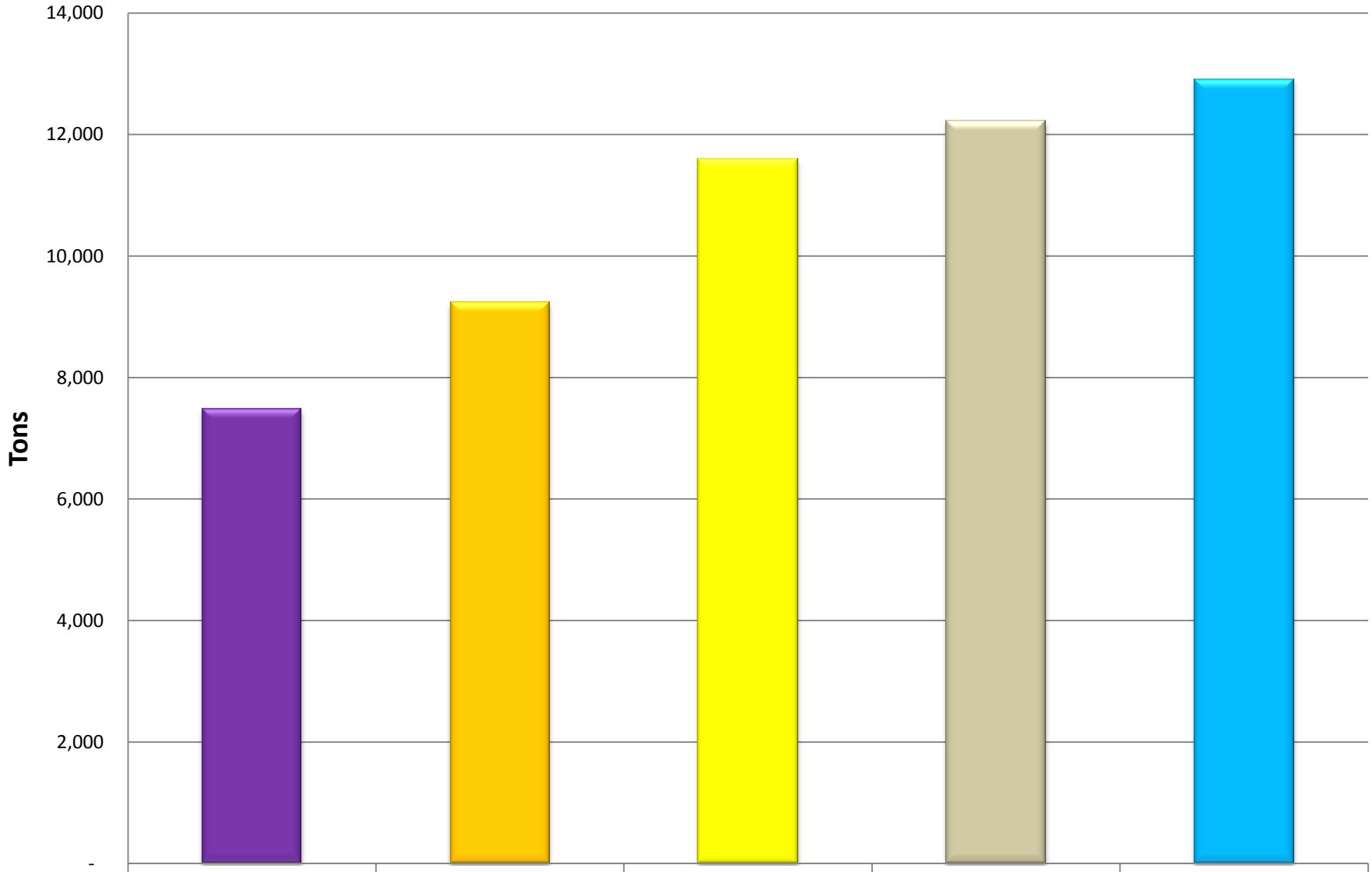
Ramsey Tons* by Month



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2011	5,756	5314	7,110	8,104	10,184	10,809	9,216	9,160	8,180	8,087	10,076	6,078
2012	5,869	5,434	6,754	9,289	10,197	9,854	9,835	9,350	8,247	9,053	10,100	6,120
2013	5,766	5,621	7,250	8,338	10,323	9,606	9,890	9,817	9,348	9,459	10,248	6,132
2014	6,240	5,013	7,436	9,295	11,158	9,607	10,381	10,377	9,343	9,327	9,676	7,048
2015	6,336	6,815	8,315	9,566	10,838	11,076	11,272	10,726	9,763	9,574	9,899	7,980

*Tons In - Before Recycling

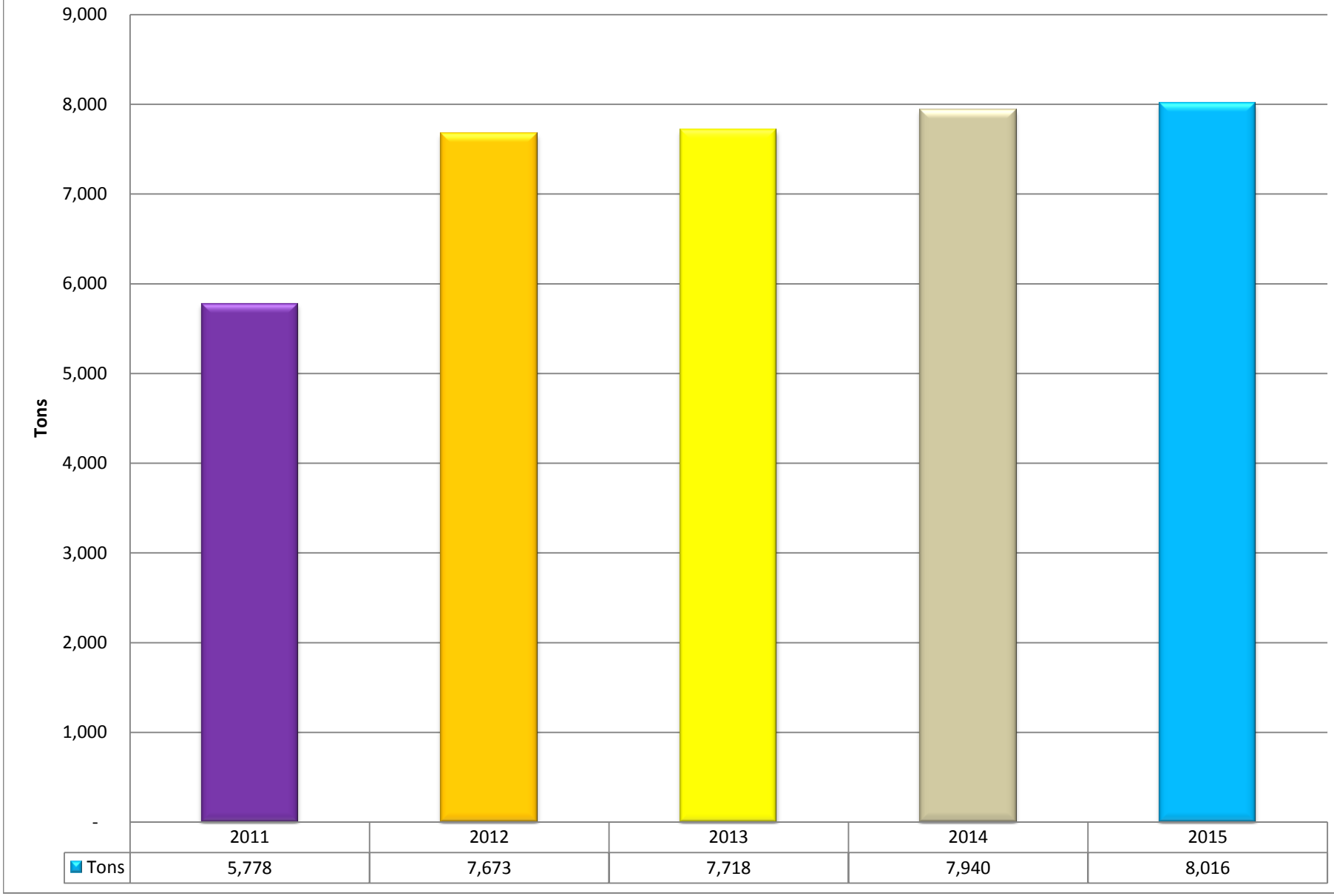
Demolition Waste*



	2011	2012	2013	2014	2015
Tons	7,479	9,239	11,594	12,217	12,908

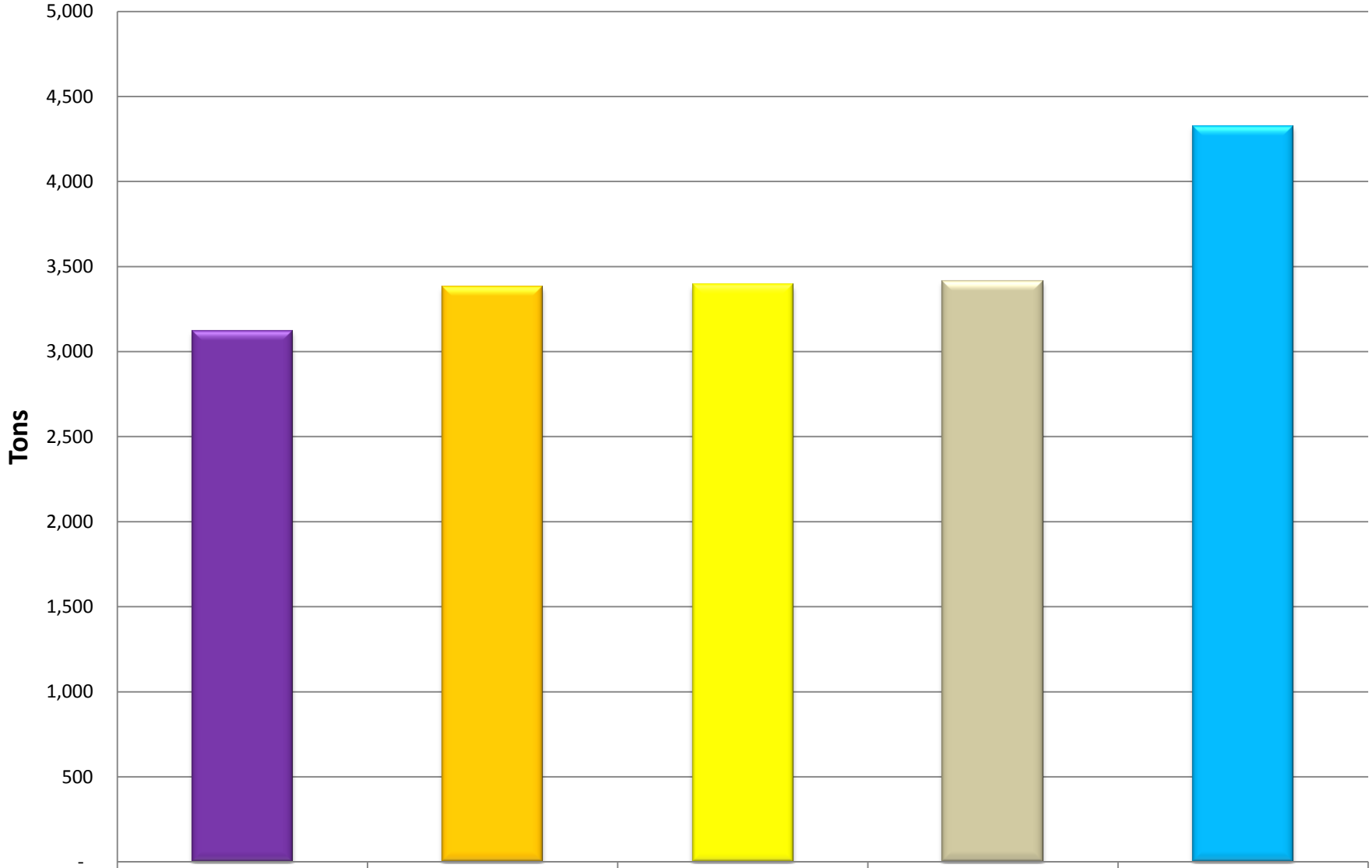
*Includes Construction/Demolition, Mixed Demolition, and Roofing

Yard Debris



	2011	2012	2013	2014	2015
Tons	5,778	7,673	7,718	7,940	8,016

Inert Material*



*Inert Material includes Inert Material and Cover Material

RECYCLING
2015

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

A wide variety of reuse, reduction, and recycling programs are in place throughout the area operated by business or other entity independent of County programs. Material collected and recycled include, but are not limited to, single-stream material; cardboard, newspaper, plastics and other segregated recyclables; textiles; automotive batteries; scrap metal; used oil; electronics; wood waste and other material.

The County offers recycling drop-off stations at the Ramsey and Prairie Transfer sites and some rural residential solid waste sites. These facilities are owned and operated as part of the County system and self-haulers (generators) deliver the segregated material directly to the County drop-off stations. Materials accepted at the Ramsey and Prairie Transfer Stations include:

Cardboard	Newspaper	Mixed Paper	Mixed Plastic
Plastic Bags	Aluminum Cans	Tin Cans	Scrap Metal
Automotive Batteries	Tires	Used Oil	Textiles

The program is modified dependent on current markets, challenges with marketing material, and problems with contamination of the material when disposers throw prohibited items in the bins.

During 2015, there was a dramatic drop in commodity prices. Recycling is influenced by domestic and international markets for recycled materials and the economics of recycling has been impacted by many factors including the slowing economic growth in other countries reducing demand for used paper and other commodities; sharp decline in used plastics market prices attributed in part to lower crude oil prices, which pushed down cost of new plastic production since it is less expensive for manufacturers to work with virgin material instead of recycled material.

In response to this decline, receiving and processing facilities sharply reduced and/or eliminated payment for recyclables. Additionally, the primary receiving facility commenced charging fees for recyclables in mid-March. Payment or charging for recyclables is based on commodity prices, processing costs to sort material, availability of markets, as well as other factors.

Private haulers and cities have also been impacted by processing facility fees. The haulers collect single-stream mixed recycling which requires extensive sorting and is more costly to manage than the segregated material that is collected at County sites.

Recycling can provide an effective means of reducing landfill space. However, recycling is not a free service as it takes money to collect, sort, transport, and manage

the material and these costs are volatile and dependent on markets to receive, and pay, for the material. The programs must be economically and environmentally sustainable.

The Solid Waste Department system is supported by solid waste fees charged to property owners and fees at transfer sites. Waste and recycling programs offered by private businesses are not a County function; however, the County recognizes savings in landfill space and is developing a rebate program to provide some financial support to encourage continued collection of the single-stream residential material.

The wood processing and recycling contract realized a minor price decrease per ton. However, this savings has been offset by an increase in the amount of wood requiring processing due to the November 2015 windstorm that resulted in a substantial amount of wood waste requiring management.

The bright side of recycling was the successful marketing of electronics with an overall drop in cost to transport the material to market.

The table below provides a breakout of recycling efforts for Kootenai County and local haulers. Further details are provided in this section.

	WMI Curbside*	**CG Curbside^**	**Rural Sites+**	**Solid Waste~**
2011	2,046	681	753	15,086
2012	2,161	1,751	654	15,066
2013	2,341	1,077	542	14,862
2014	2,286	2,007	472	15,110
2015	2,320	1,926	442	16,524
Totals	11,154	7,442	2,863	76,648

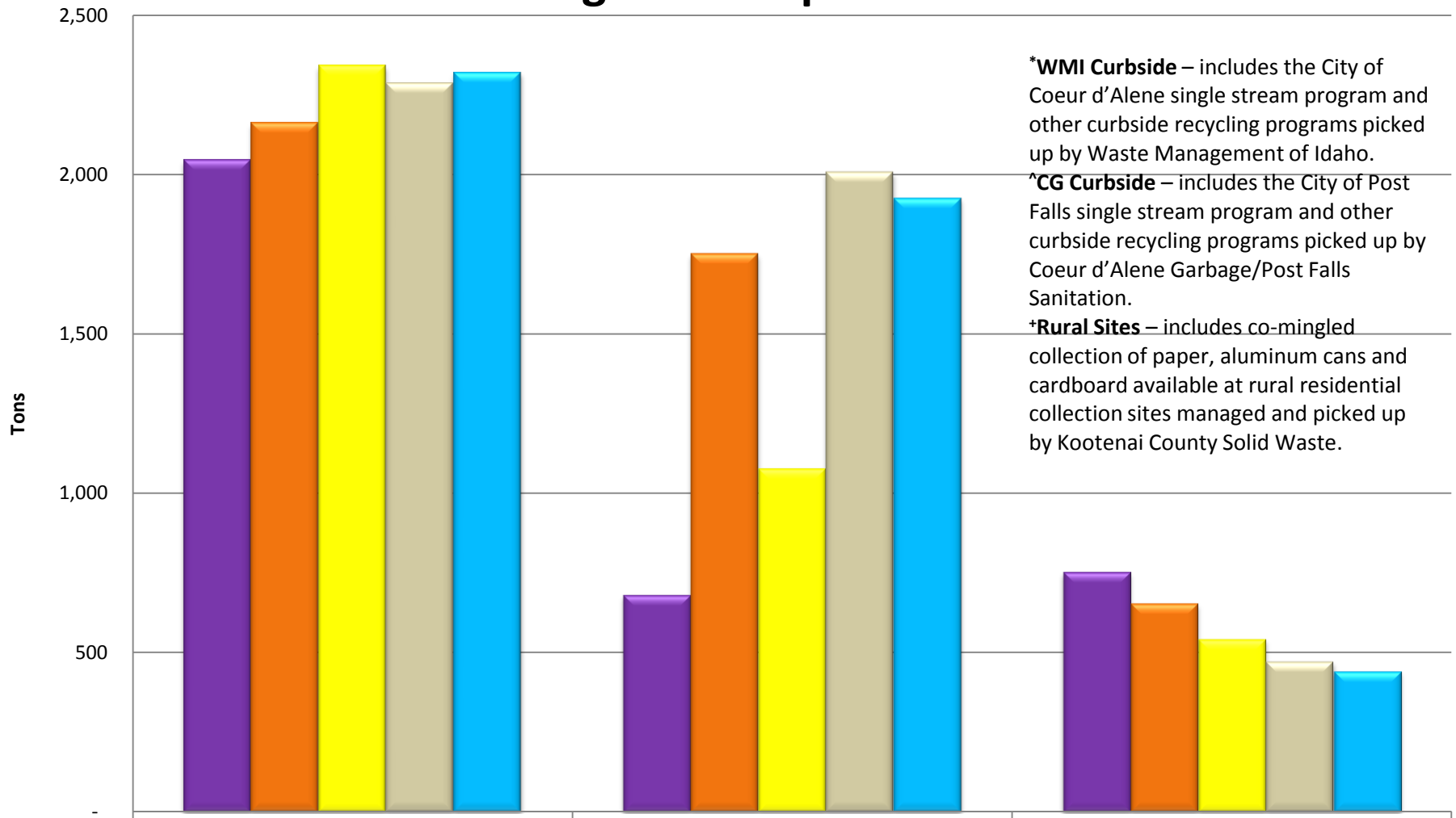
*__WMI Curbside__ – includes the City of Coeur d'Alene single stream program and other curbside recycling programs picked up by Waste Management of Idaho.

^__CG Curbside__ – includes the City of Post Falls single stream program and other curbside recycling programs picked up by Coeur d'Alene Garbage/Post Falls Sanitation.

+__Rural Sites__ – includes co-mingled collection of paper, aluminum cans and cardboard available at rural residential collection sites managed and picked up by Kootenai County Solid Waste.

~Solid Waste – includes all materials collected at the Ramsey and Prairie transfer stations.

Kootenai County Public Recycling Program Comparison



*WMI Curbside – includes the City of Coeur d'Alene single stream program and other curbside recycling programs picked up by Waste Management of Idaho.

^CG Curbside – includes the City of Post Falls single stream program and other curbside recycling programs picked up by Coeur d'Alene Garbage/Post Falls Sanitation.

+Rural Sites – includes co-mingled collection of paper, aluminum cans and cardboard available at rural residential collection sites managed and picked up by Kootenai County Solid Waste.

	WMI Curbside*	CG Curbside^	Rural Sites+
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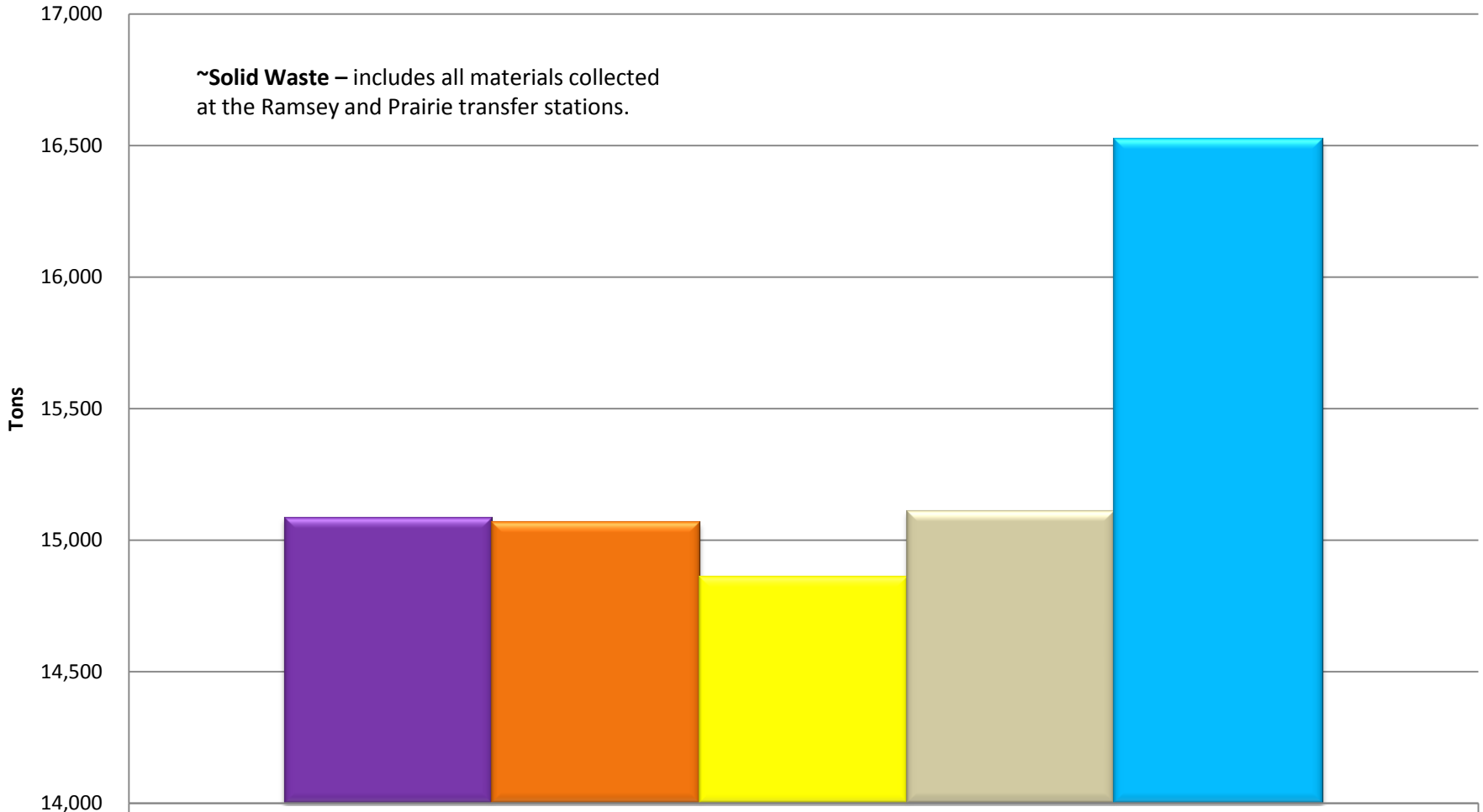
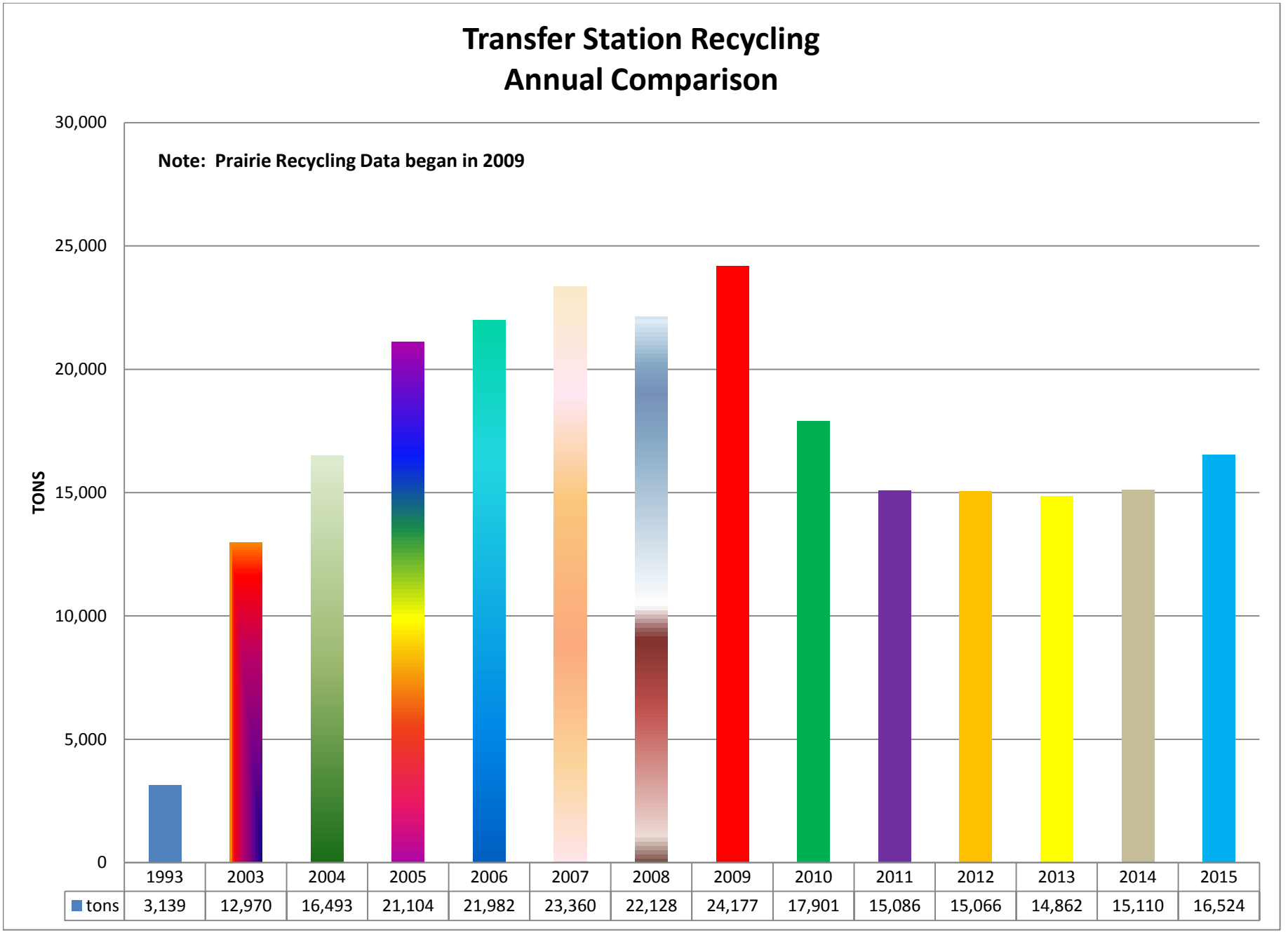
2012	2,161	1,751	654
2013	2,341	1,077	542
2014	2,286	2,007	472
2015	2,320	1,926	442

Solid Waste Transfer Station Recycling



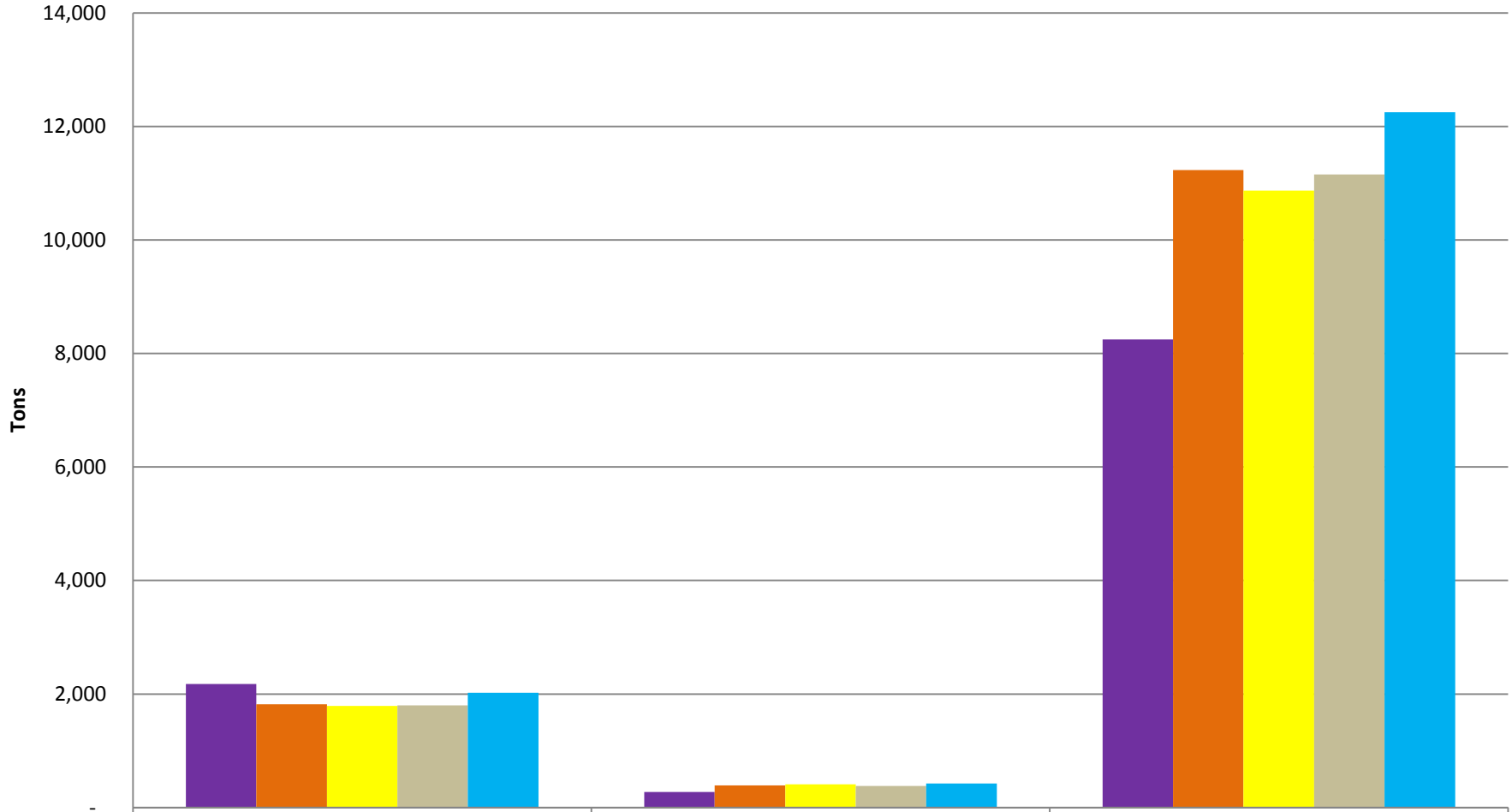
	Tons Recycled
2011	15,086
2012	15,066
2013	14,862
2014	15,110
2015	16,524

Transfer Station Recycling
Annual Comparison



	1993	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
tons	3,139	12,970	16,493	21,104	21,982	23,360	22,128	24,177	17,901	15,086	15,066	14,862	15,110	16,524

Metals, Tires & Wood Recycling



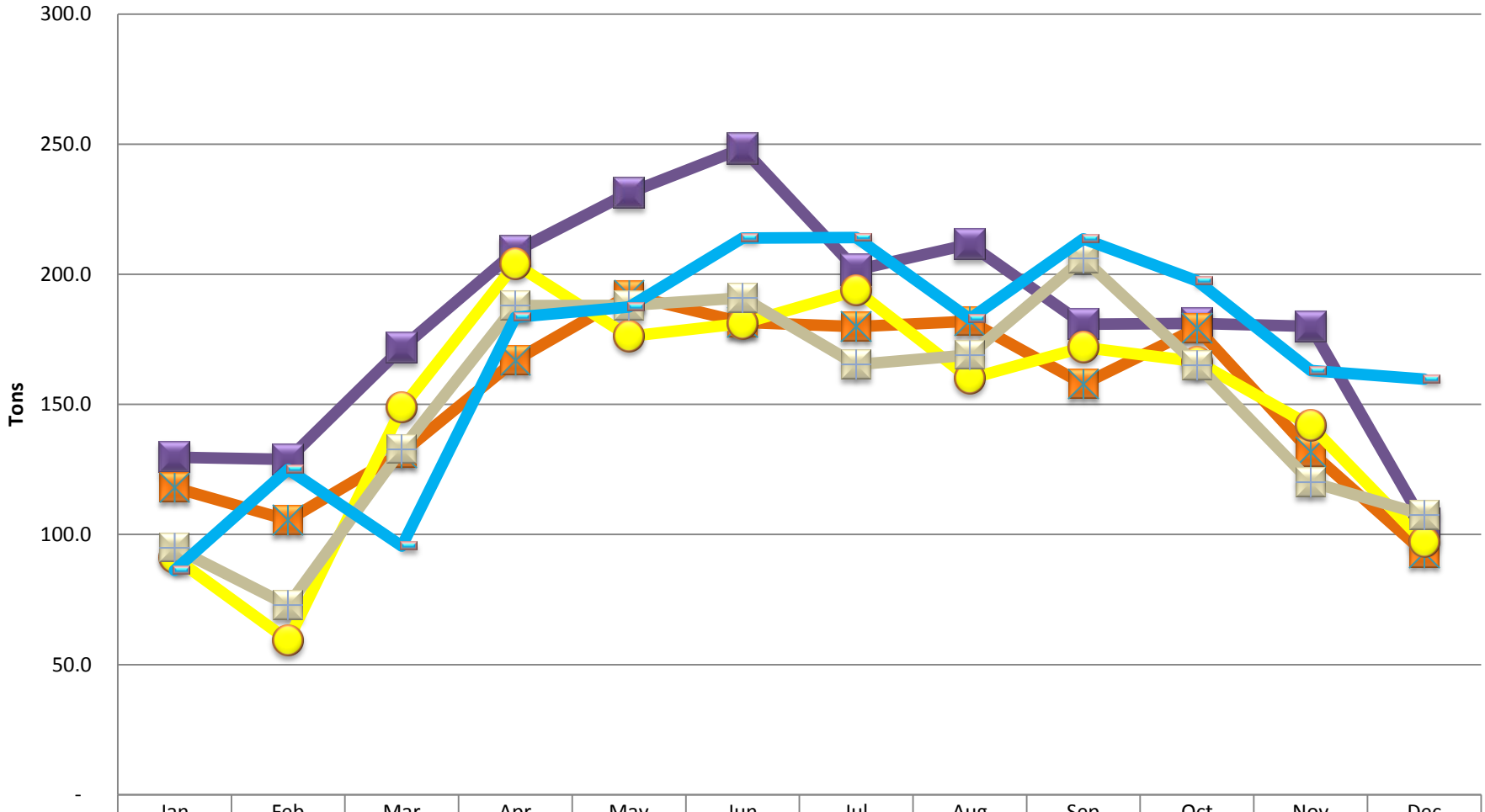
	Loose Metals*	Tires^	Wood+
2011	2,178	272	8,248
2012	1,819	391	11,233
2013	1,791	408	10,870
2014	1,801	381	11,156
2015	2,023	423	12,251

*Loose Metals - Prairie 738 tons and Ramsey 1,285 tons

^Tires - Prairie 155 tons and Ramsey 268 tons

+Wood - Prairie 4,186 tons and Ramsey 8,065

Loose Metals Recycling - Monthly

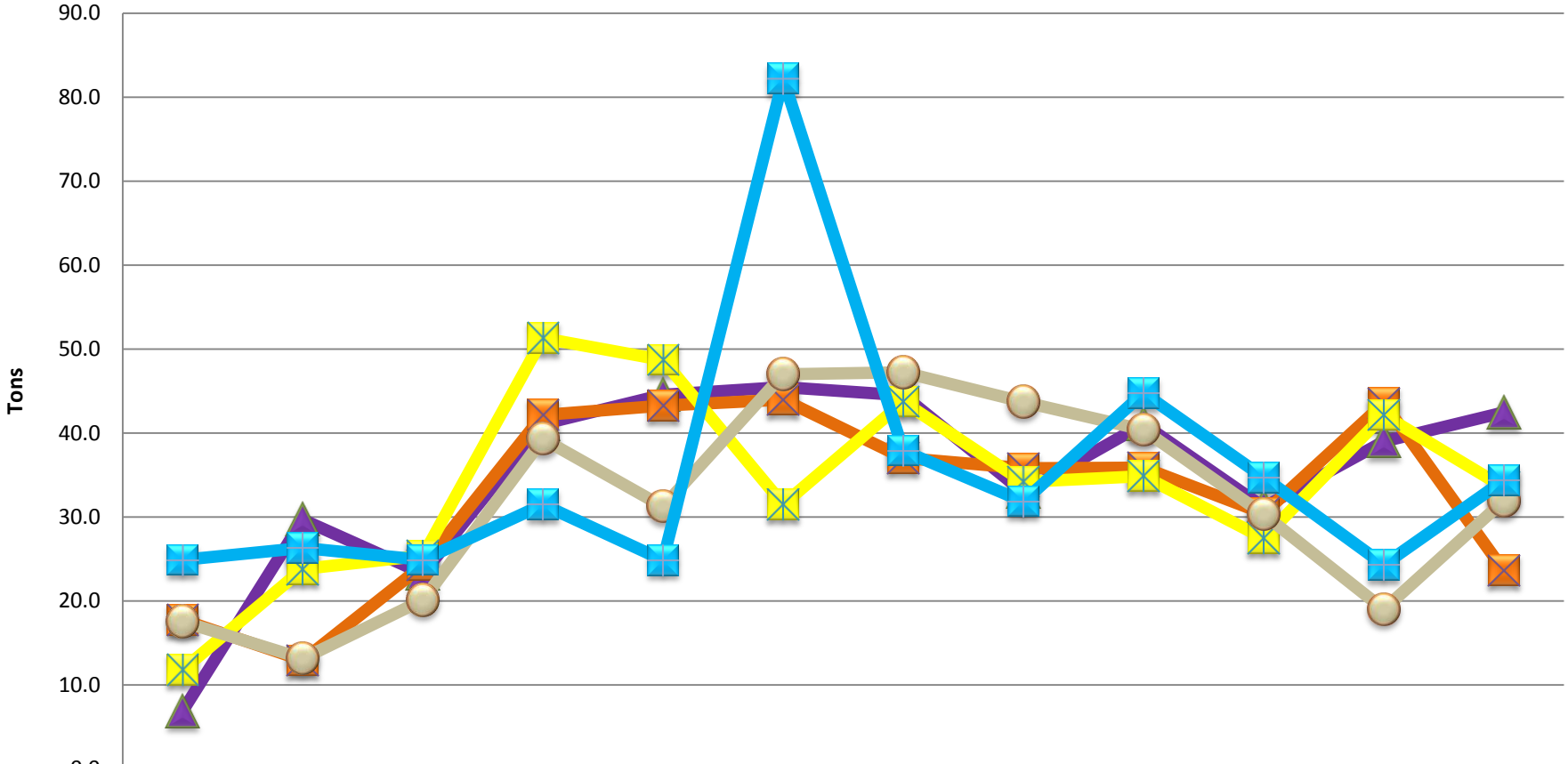


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2011	129.7	128.8	171.8	208.9	231.3	248.4	201.8	211.6	180.8	181.2	179.9	104.1
2012	118.0	105.6	131.3	166.9	192.0	181.5	179.9	182.0	157.8	179.3	131.7	93.0
2013	91.1	59.3	148.8	203.9	176.2	181.1	193.7	159.9	171.9	166.4	141.8	97.0
2014	94.9	72.8	132.8	187.9	188.0	191.0	165.3	169.0	206.0	165.2	120.2	107.5
2015	86.2	125.0	95.6	183.5	187.4	213.9	214.2	182.9	213.6	197.5	163.0	159.7

Prairie total 738 tons

Ramsey total 1,285 tons

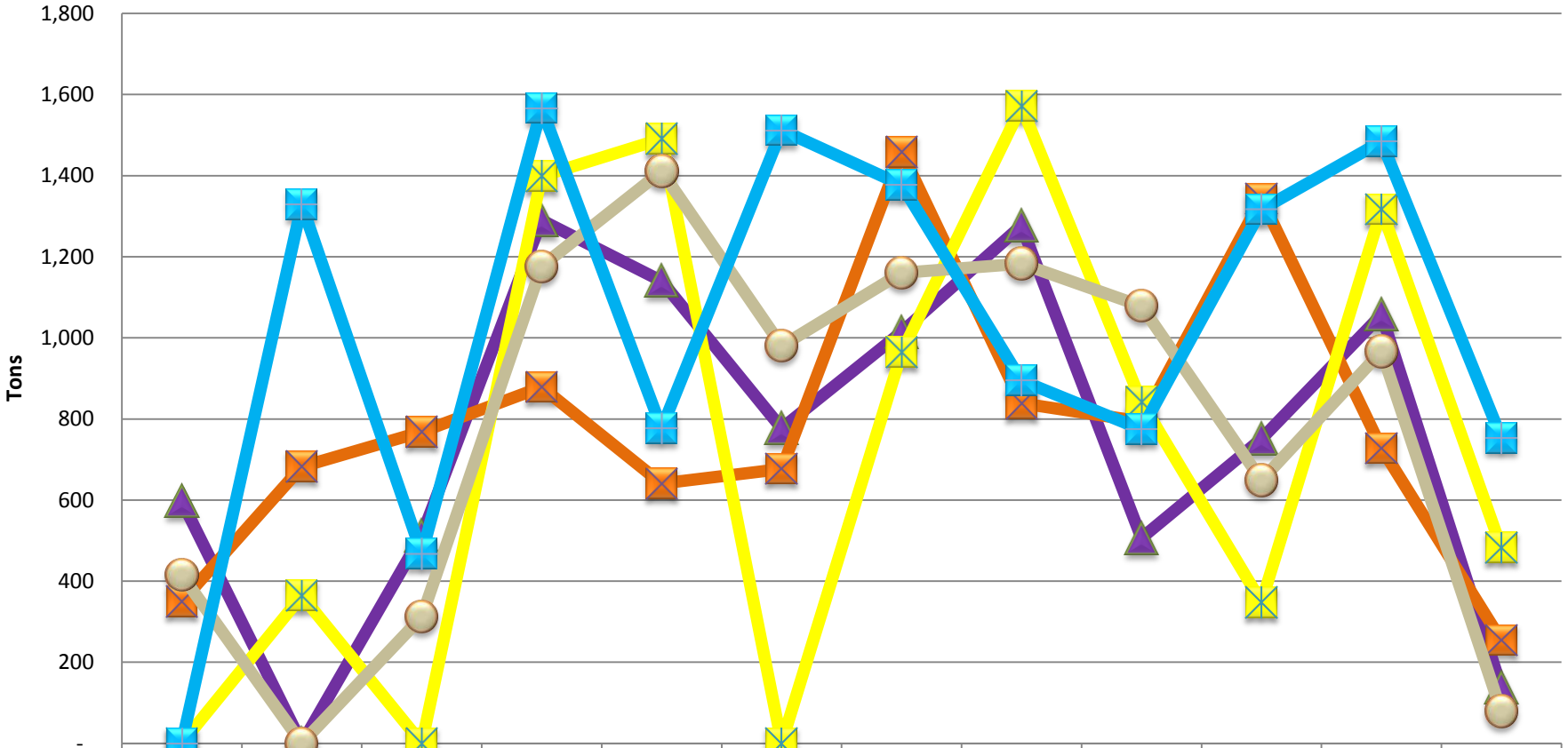
Tire Recycling - Totals
2015 (423 tons)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2011	6.9	29.7	23.3	41.1	44.6	45.5	44.5	33.0	41.1	31.2	39.0	42.5
2012	17.7	12.9	24.2	42.2	43.3	44.0	37.0	35.8	35.9	30.4	43.6	23.6
2013	11.8	23.8	25.4	51.3	48.7	31.5	43.7	34.2	34.9	27.5	42.1	33.6
2014	17.5	13.1	20.1	39.3	31.2	47.0	47.2	43.7	40.4	30.3	19.0	31.9
2015	24.9	26.3	24.9	31.5	24.9	82.2	37.9	31.9	44.7	34.7	24.3	34.4

Prairie 155 tons
Ramsey 268 tons

Wood Recycling - Totals
2015* (12,251 tons)



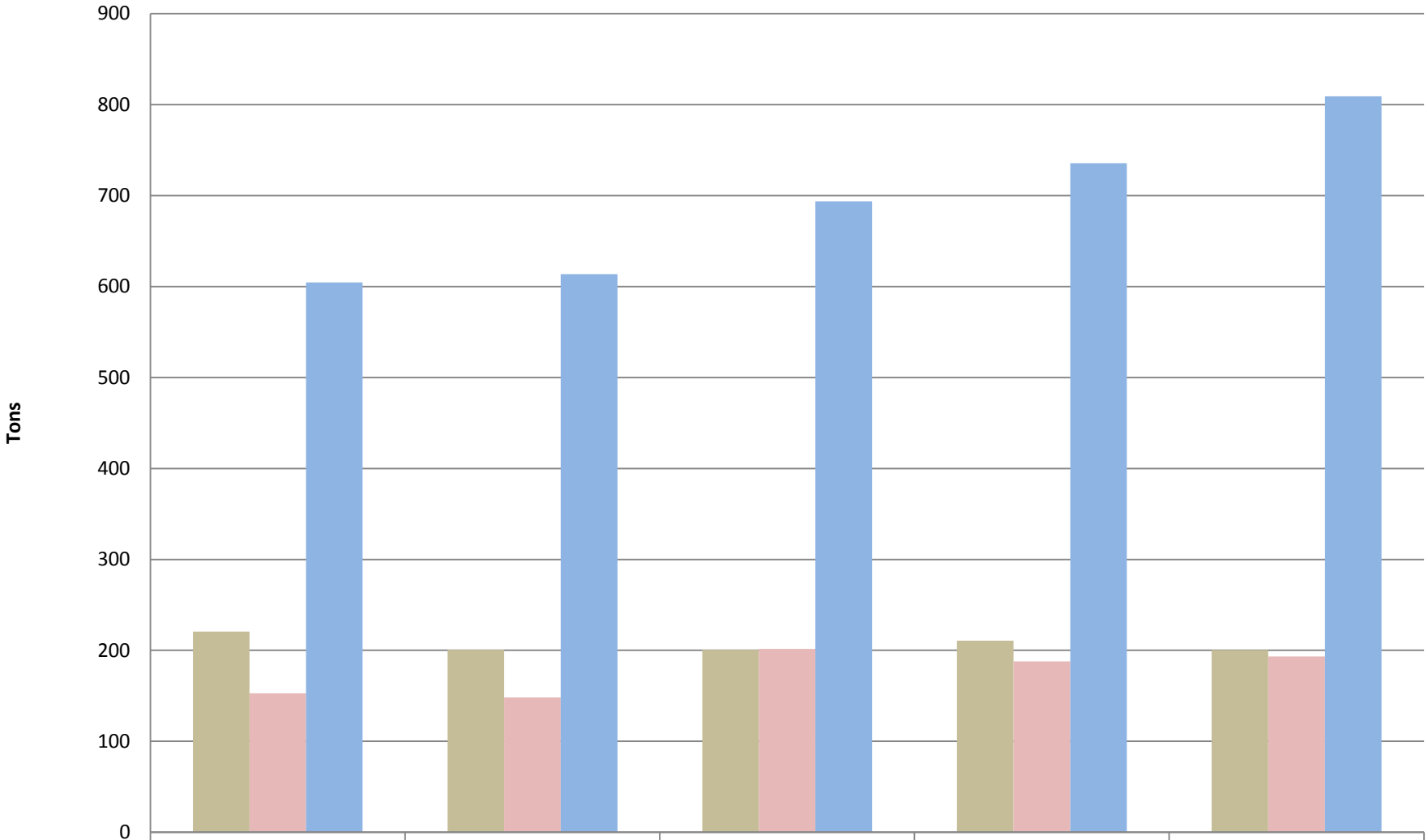
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2011	597	-	513	1,290	1,140	777	1,014	1,277	506	751	1,057	138
2012	350	682	768	878	641	677	1,458	838	794	1,343	728	254
2013	-	364	-	1,399	1,491	-	964	1,571	841	348	1,317	483
2014	415	-	312	1,176	1,411	980	1,160	1,183	1,078	649	967	79
2015	-	1,329	467	1,567	776	1,512	1,377	895	774	1,317	1,484	754

* ***2015 figures reflect the City of Coeur d'Alene no longer bringing the leaves through the transfer station for processing.***

Prairie 4,186 tons

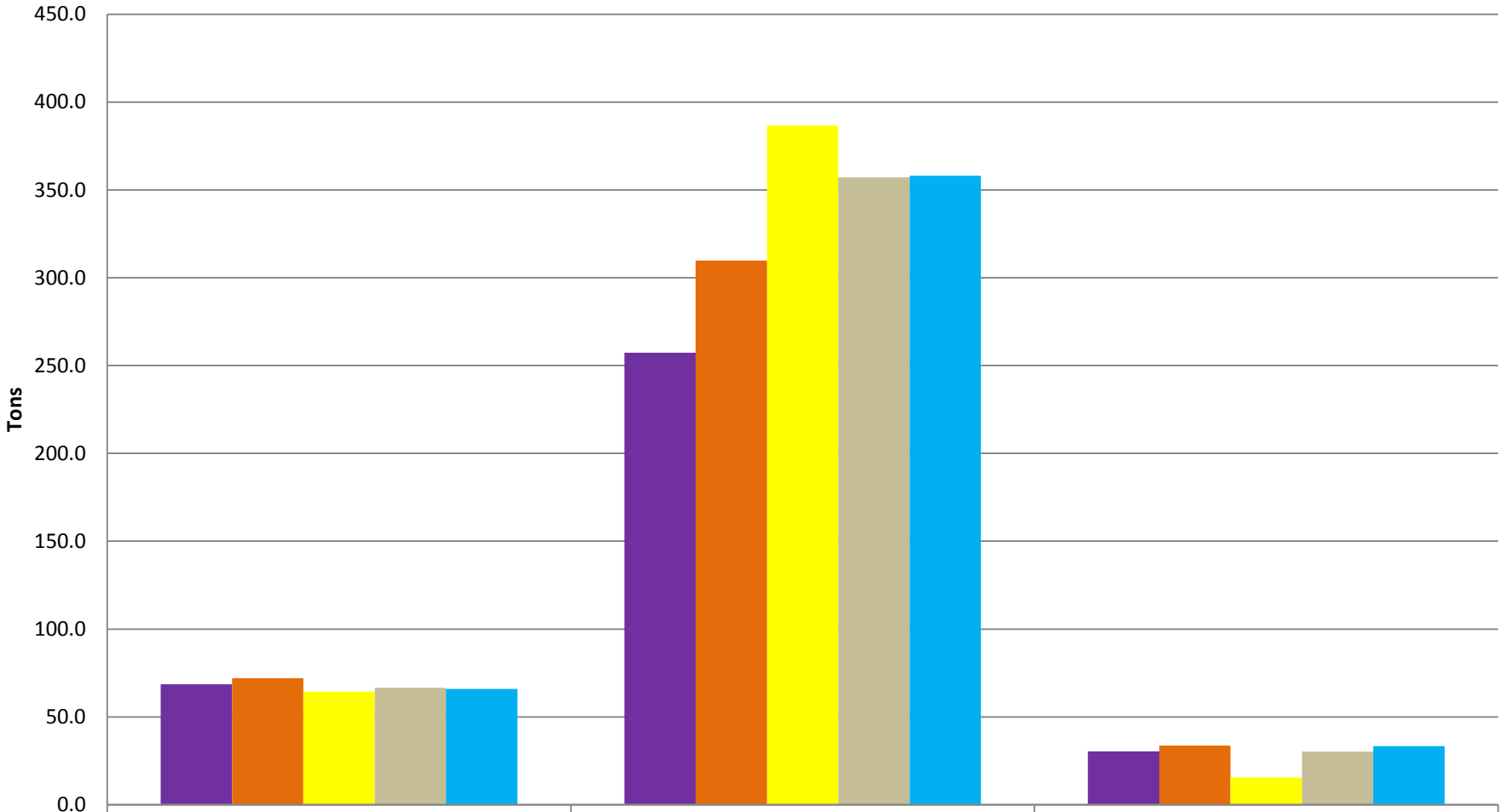
Ramsey 8,065 tons

Paper Recycling - Totals



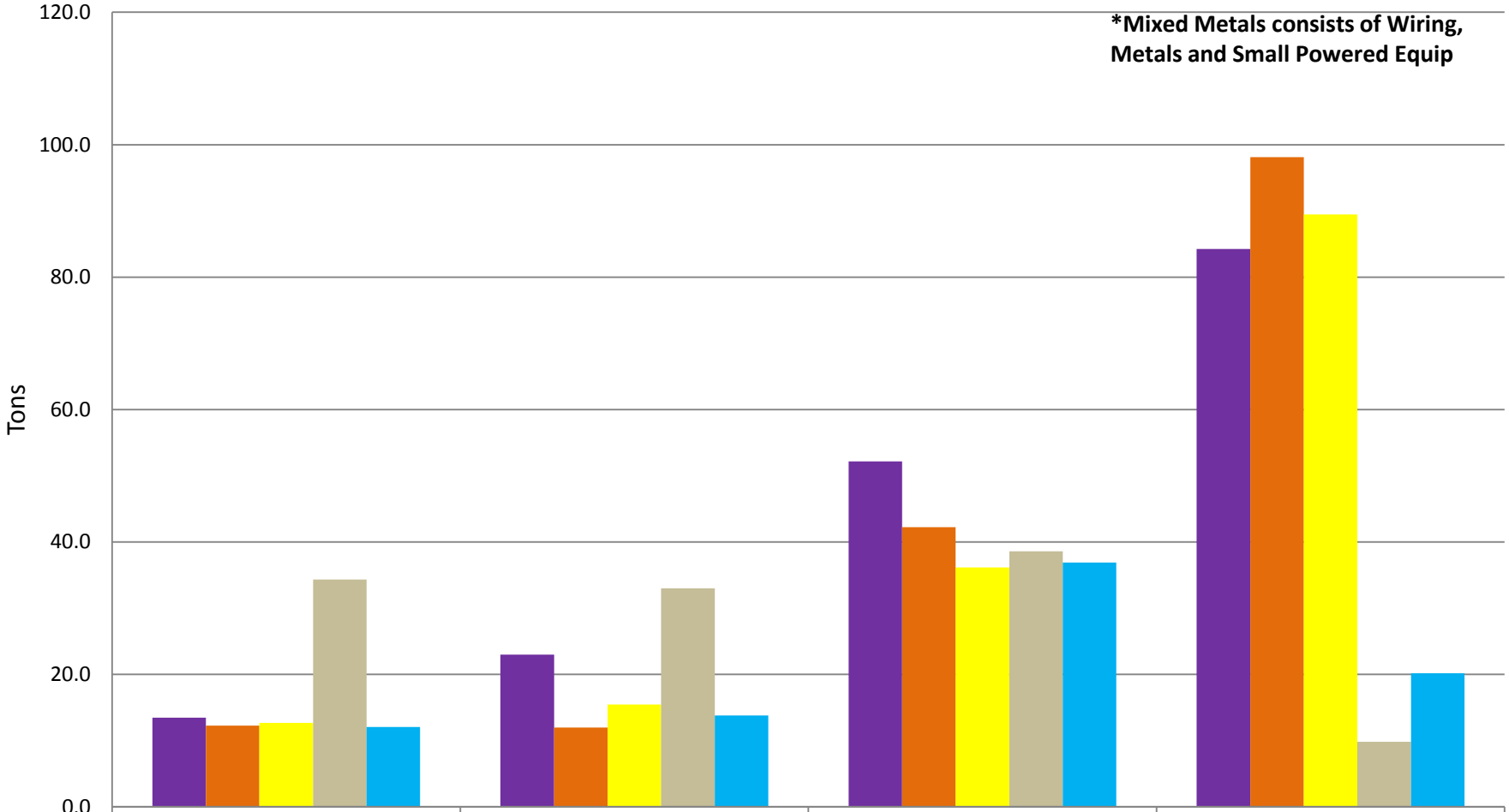
	2011	2012	2013	2014	2015
Mixed Paper	221	201	201	211	200
Newspaper	153	148	202	188	193
Cardboard	605	614	694	735	809

Misc Recycling Totals



	Mixed Plastics	Electronics	Textiles
2011	68.6	257.3	30.5
2012	72.0	309.8	33.7
2013	64.3	386.6	15.6
2014	66.6	357.1	30.2
2015	66.0	358.0	33.3

Mixed Metals Recycling Totals



	Tin	Aluminum	Batteries	Mixed Metals*
2011	13.5	23.0	52.2	84.2
2012	12.3	12.0	42.2	98.1
2013	12.7	15.5	36.2	89.5
2014	34.4	33.0	38.6	9.8
2015	12.1	13.8	36.9	20.2

RURAL RESIDENTIAL COLLECTION SYSTEM
2015

There are 13 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 11 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 residential household waste and over the years the Department has implemented changes to meet this challenge by staffing sites and increasing public awareness as to what can and cannot be accepted at these sites. Another challenge is to restrict out of county/out of state use at these facilities and ensure they are used only by the citizens who pay for the system.

A total of 13,218 tons of garbage was collected from the rural sites in 2015. This is a slight decrease of 86 tons from the 2014 totals.

NORTH RURAL SYSTEM

There are two staffed rural sites (Athol and Chilco) in the northern portion of Kootenai County. The staffed sites are open the same hours and days as the transfer stations. The Department added taller privacy fence to the Chilco site in 2015 to provide a visual screen from adjacent property.

The staffed sites assisted a total of 187,592 customers in 2015. This is a decrease of 2,949 customers served in 2014. There was a total of 7,561 tons of waste collected at the north rural sites in 2015, which is 204 tons less than 2014.

SOUTH RURAL SYSTEM

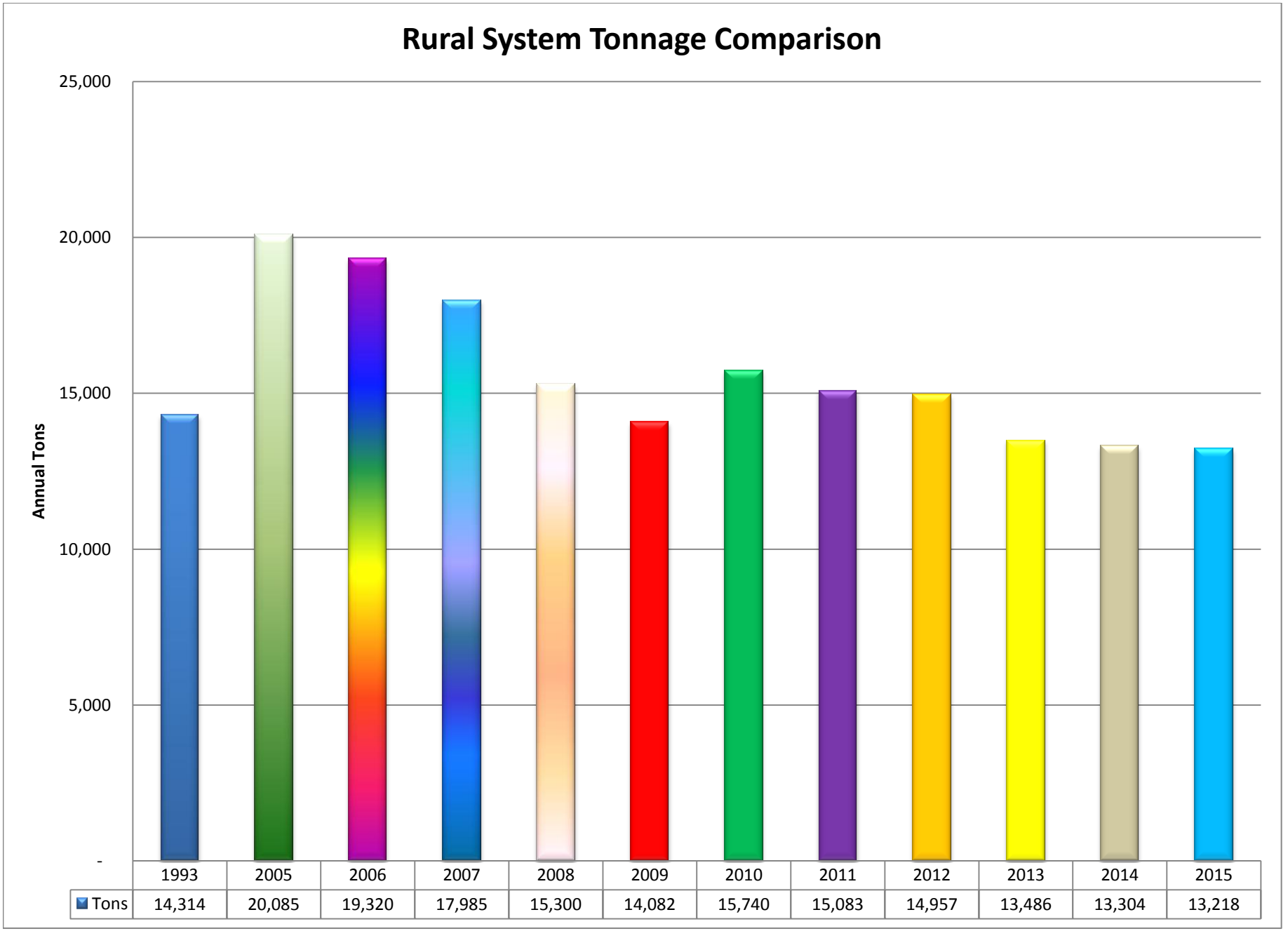
The south rural routes have two subsets, Harrison and Worley. There was 5,743 tons of garbage collected at these 11 sites which is a slight increase (22 tons) from 2014.

The Harrison Route is on the eastern side of Coeur d' Alene Lake and bounded by Shoshone County to the east and Benewah County to the south. There are eight collections sites on this route. The Worley Route has three collection sites. This route is on the western side of Coeur d' Alene Lake, south of Coeur d' Alene and bounded on the south by Benewah County and Washington on the west.

The Department has been actively working to acquire permanent County-owned parcels to develop (relocate) collection sites in the Rose Lake area as well as Wolf Lodge. The Wolf Lodge location is most critical as the State of Idaho will be replacing the bridge over I-90 during the summer of 2016 which will impact the current containers located in State right-of-way adjacent to the bridge.

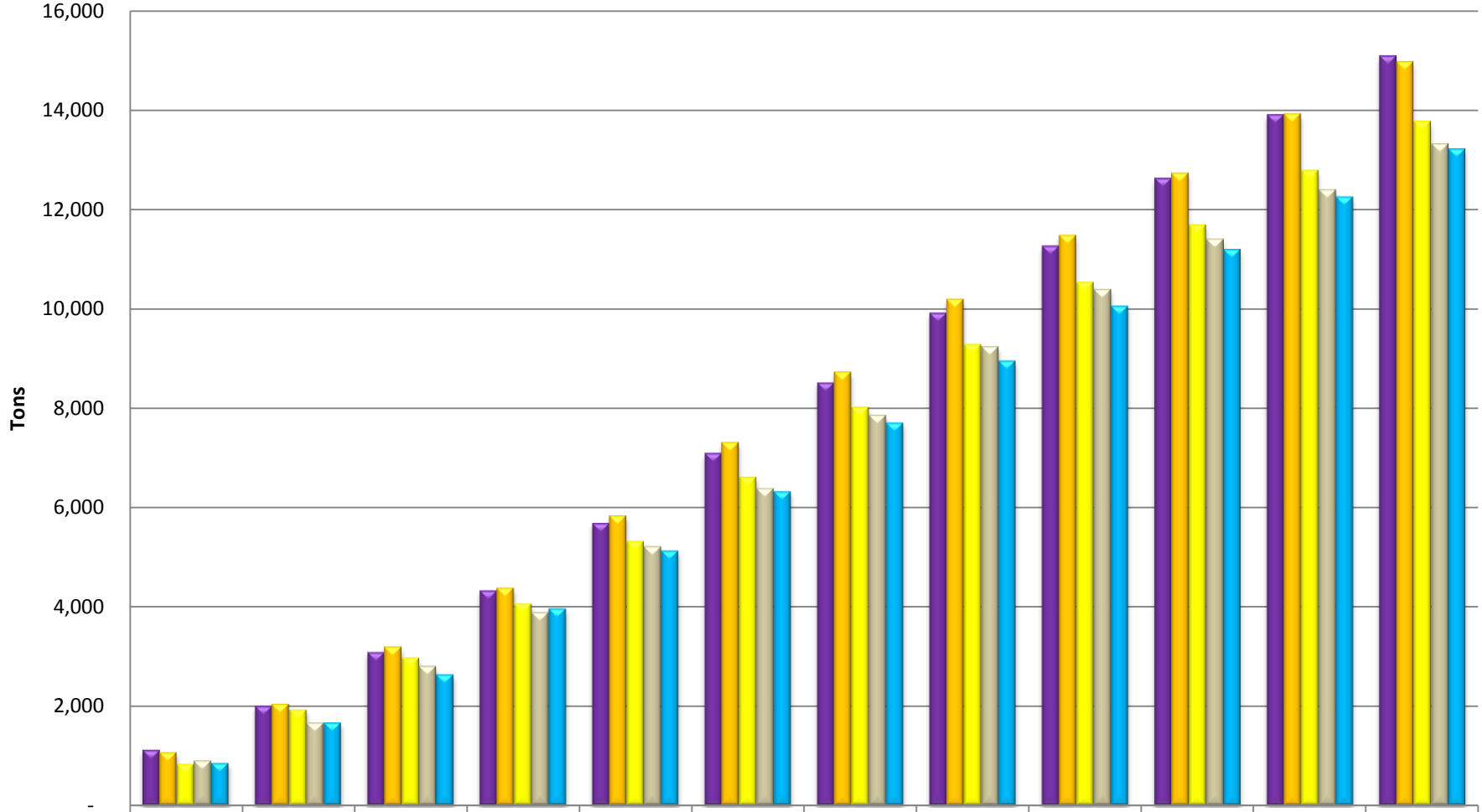
The Department, along with the contracted hauling company, spends a significant amount of time and effort to maintaining the rural residential collection sites. Several times a week the Department removes improperly disposed items from these sites. These sites are for residential waste only, large bulky items such as appliances, furniture, tires, remodel waste and yard debris must be taken to a transfer station for proper disposal. The photos show improper disposal that required clean up by the Department.

Rural System Tonnage Comparison



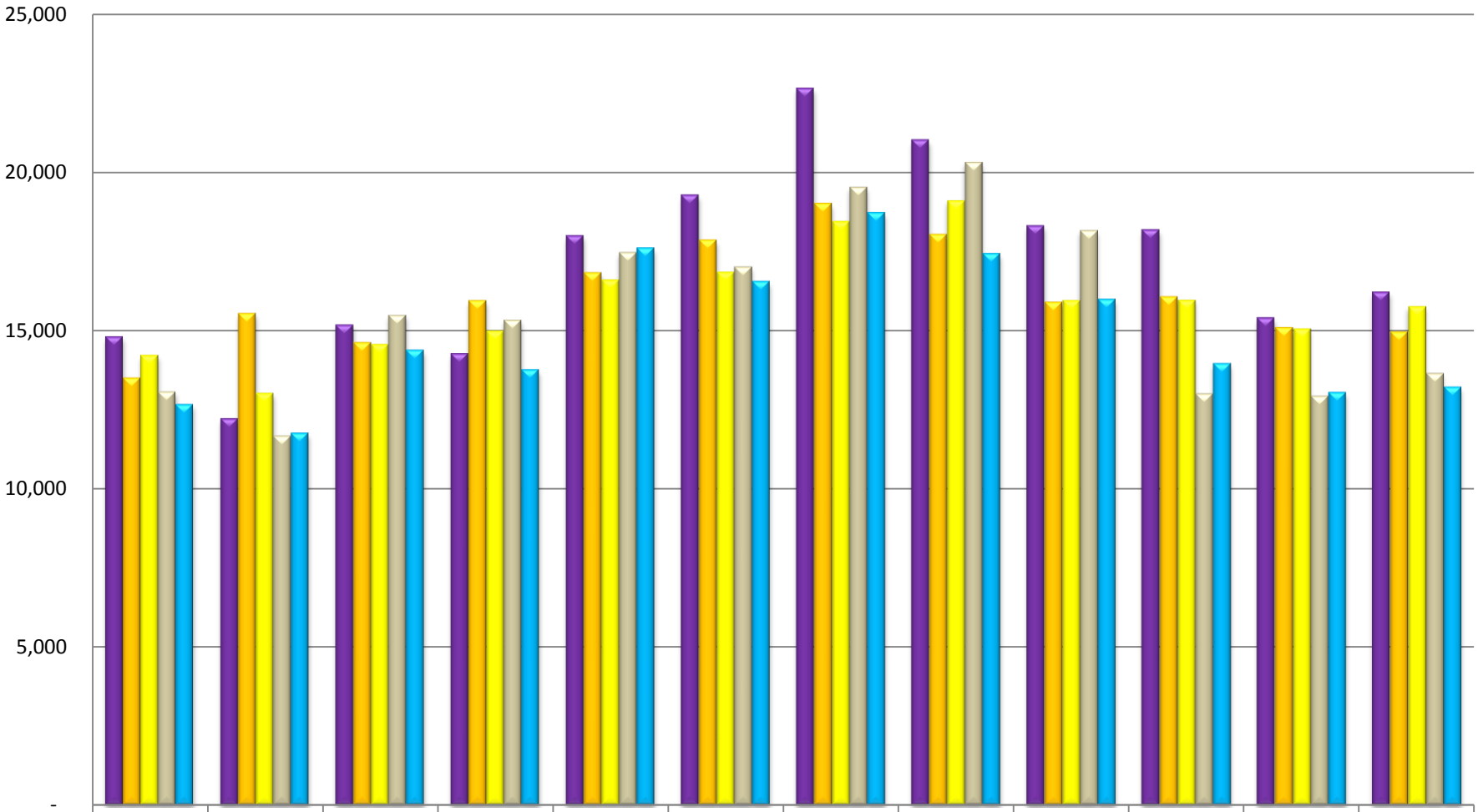
	1993	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Tons	14,314	20,085	19,320	17,985	15,300	14,082	15,740	15,083	14,957	13,486	13,304	13,218

Rural Systems Cumulative Tons



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2011	1,116	2,003	3,085	4,325	5,681	7,093	8,506	9,910	11,262	12,625	13,901	15,083
2012	1,071	2,043	3,194	4,376	5,829	7,300	8,717	10,182	11,469	12,716	13,907	14,957
2013	831	1,924	2,969	4,057	5,317	6,605	8,009	9,271	10,520	11,676	12,771	13,760
2014	904	1,663	2,803	3,885	5,207	6,373	7,849	9,223	10,377	11,387	12,378	13,305
2015	853	1,669	2,638	3,962	5,123	6,319	7,704	8,950	10,051	11,189	12,250	13,218

Rural Systems Cumulative Customers



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2011	14,808	12,219	15,176	14,271	17,997	19,277	22,651	21,019	18,313	18,182	15,402	16,217
2012	13,486	15,525	14,604	15,926	16,805	17,840	18,990	18,013	15,877	16,048	15,073	14,936
2013	14,218	13,024	14,570	14,989	16,606	16,848	18,454	19,106	15,950	15,960	15,057	15,759
2014	13,063	11,669	15,484	15,325	17,461	17,005	19,527	20,314	18,157	13,007	12,929	13,651
2015	12,662	11,760	14,372	13,756	17,600	16,543	18,712	17,424	15,981	13,949	13,037	13,209

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HOUSEHOLD HAZARDOUS WASTE
2015

The Kootenai County Solid Waste Department operates year-round Household Hazardous Waste (HHW) collection facilities at the Ramsey and Prairie Transfer Stations. The Ramsey (HHW) facility is opened from 8:00 a.m. until 4:00 p.m. Wednesday and Saturday. The Prairie Transfer Station has the same hours of operations but operates on Friday and Saturday. These facilities accept up to five liquid gallons from residential customers. It does not accept any commercial hazardous waste.

Most communities offer limited HHW collection days (some only a few days annually). Kootenai County Solid Waste Department offers over 200 days/year. Limiting days is necessary as trained and certified technicians are responsible for safe identification, acceptance, material handling, packaging, shipping, etc. to avoid spills, explosions, contaminations or injury.

Only HHW can be accepted and there are also restrictions on type and volume of material as called out in the Panhandle Health District Critical Materials Regulation/Certification and facility operating permit. Transfer stations are Tier II Facilities - permitted to accept municipal solid waste and no industrial or commercial hazardous waste.

During the summer of 2015, the Ramsey Transfer Station offered an additional day per week (Friday) for acceptance of HHW. Additionally, the five gallons limit was increased to ten gallons at both collection locations. It is anticipated that the additional day will be added during the summer of 2016 and the increased limits maintained at ten gallons.

The Ramsey collection “shed” is outdated and has limited functionality and very restricted traffic and user drop off areas/lanes. During 2016, options to develop a new special/hazardous waste structure or expand the current collection area will be conducted.

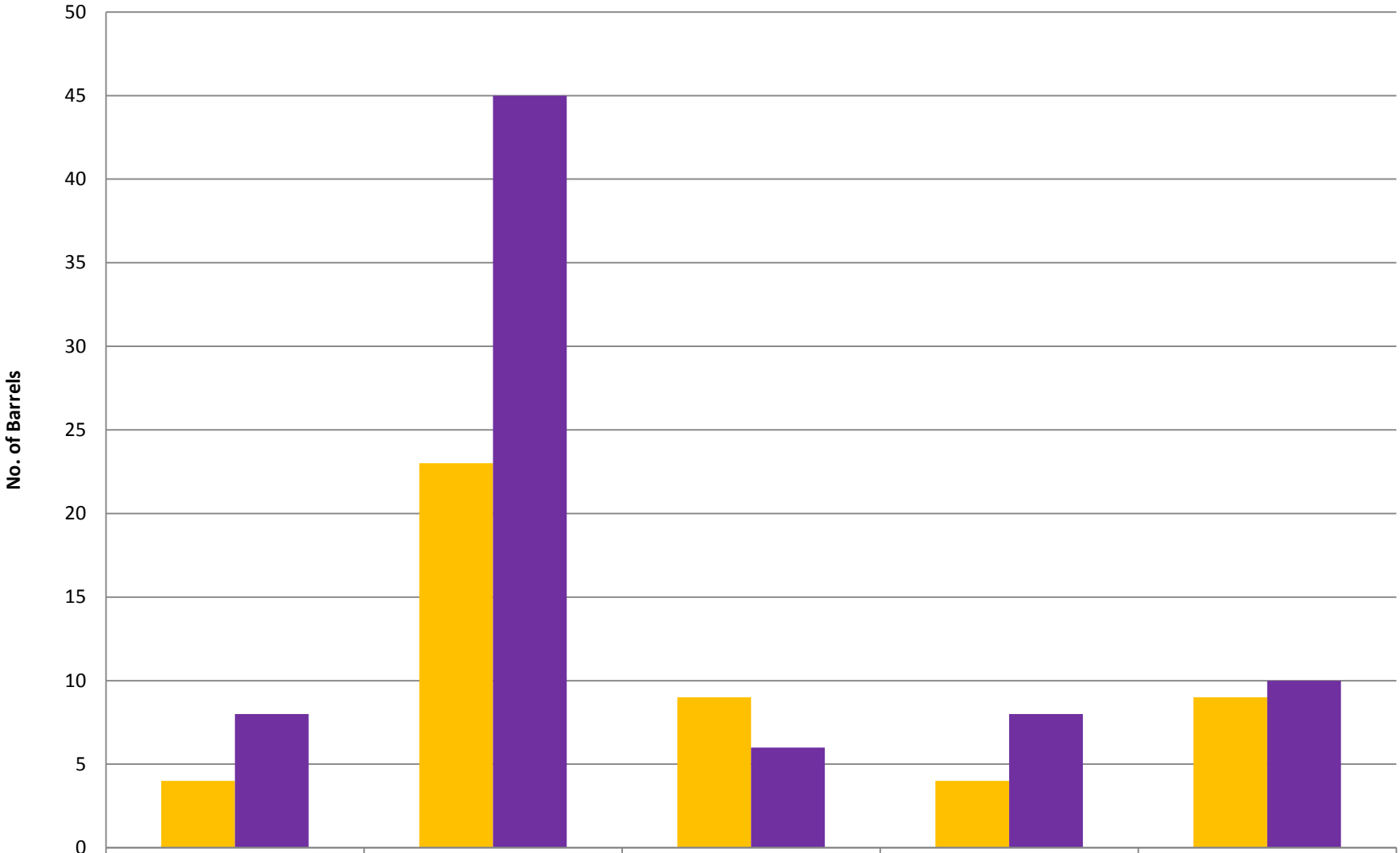
A valuable exchange program, which addresses the growing awareness of the problems of household hazardous waste in the environment, is also offered. By signing off on a release of liability form, customers may shop at the exchange cart for items such as pesticides, herbicides, paint, and many other household products. Department staff tries to ensure that the containers with product are labeled, but we are unable to guarantee the product, thus the liability waiver.

The Department continues to use mixed latex paint as an additive to the existing alternative daily cover for the landfill. All paint possible is collected in the HHW programs at the transfer stations. Staff sorts and separates the paint collected and set aside latex paint for shipment to the landfill. Landfill staff mixes the latex paint with a Posi-Shell® material and sprays it over the working 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.

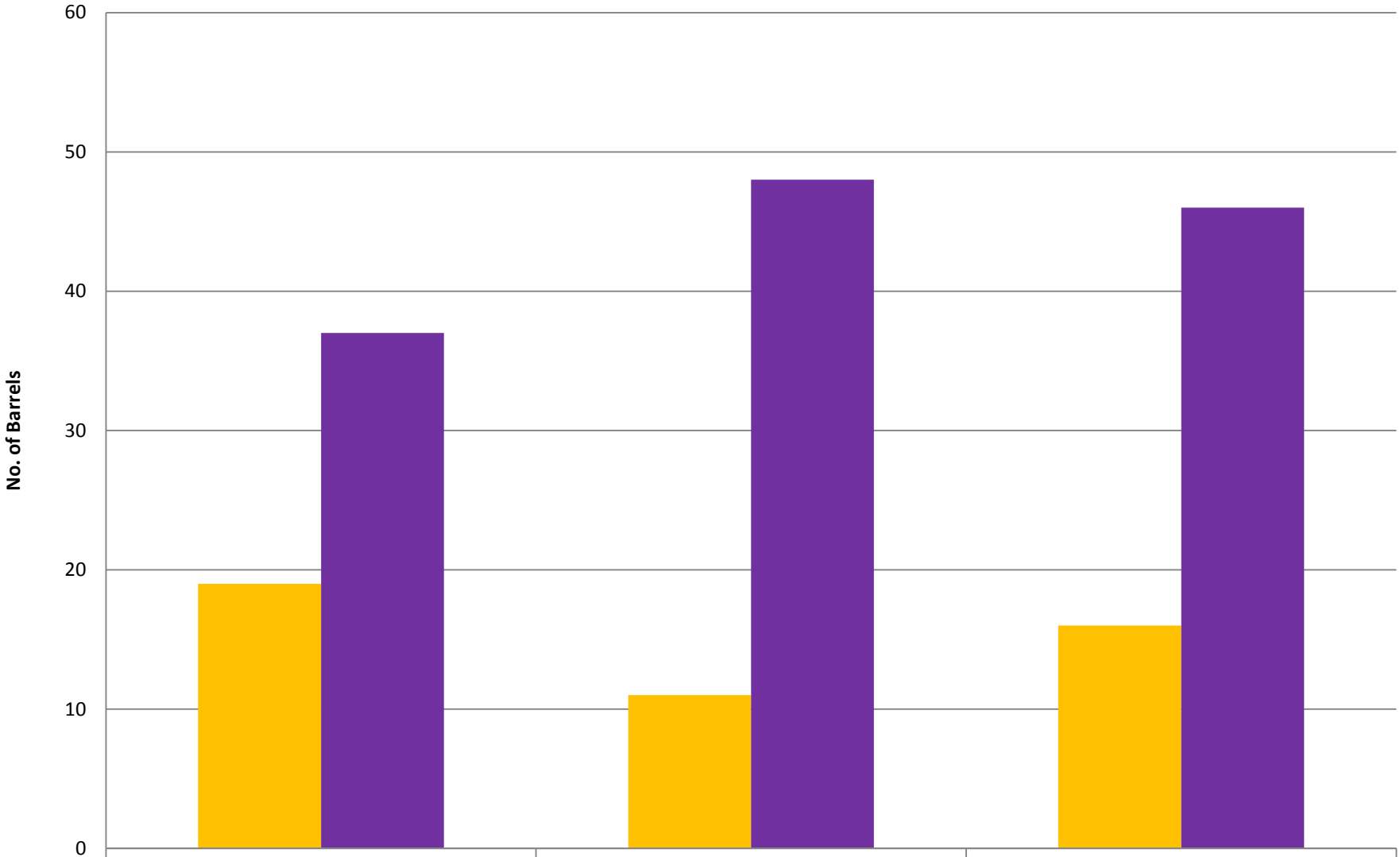
A chart is included demonstrating the program for reuse of used waste oil throughout facilities. The chart shows the amount of waste oil used in heating maintenance shops at Ramsey, Prairie and Fighting Creek. The excess waste oil brought into the facilities is then shipped out to be reused elsewhere as fuel, asphalt emulsion, and other uses.

Household Hazardous Waste - Processed



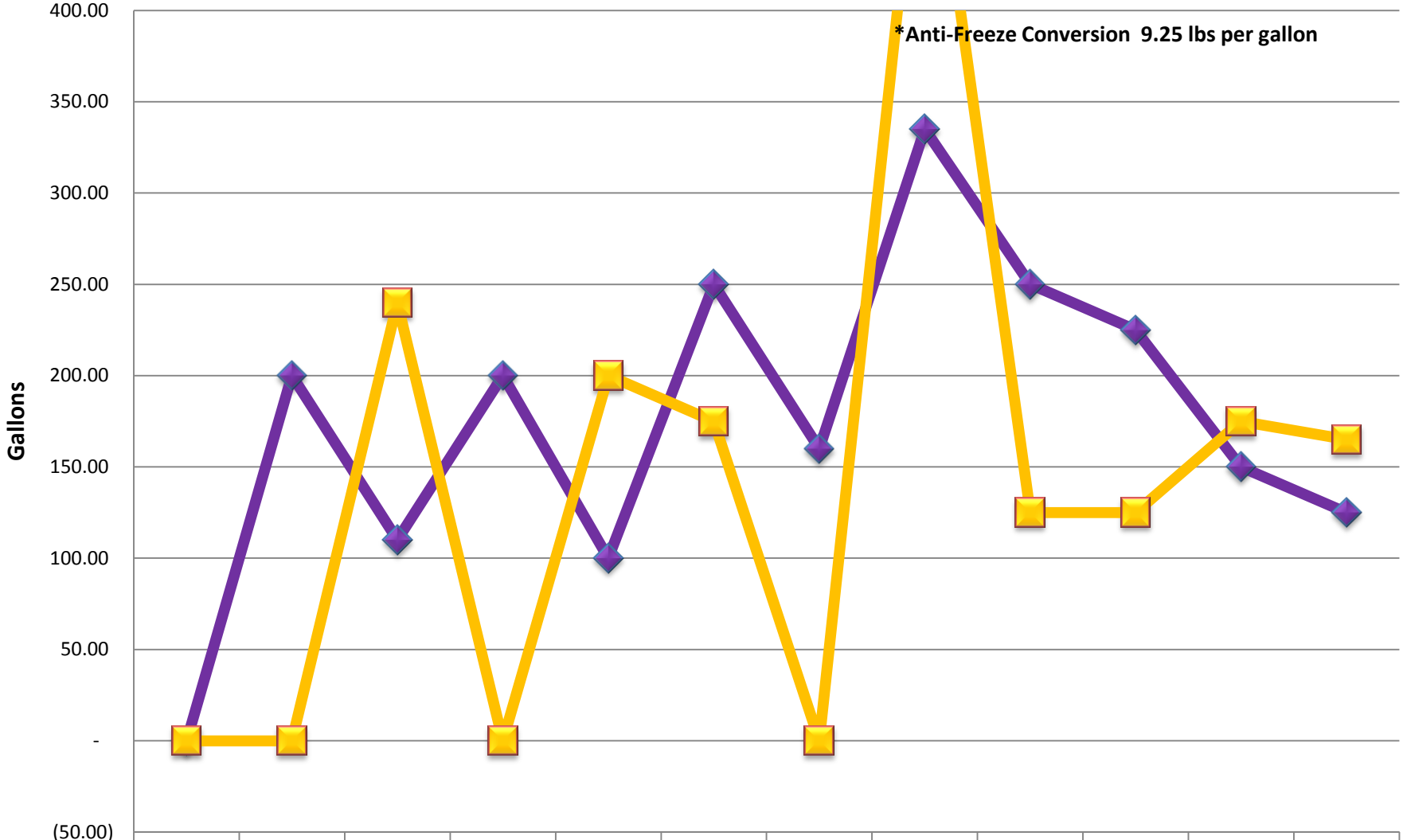
	Acids	Toxics	Oxidizers	Strong Bases	Mixed Fuel
Prairie	4	23	9	4	9
Ramsey	8	45	6	8	10

Household Hazardous Waste - Paint/Sharps

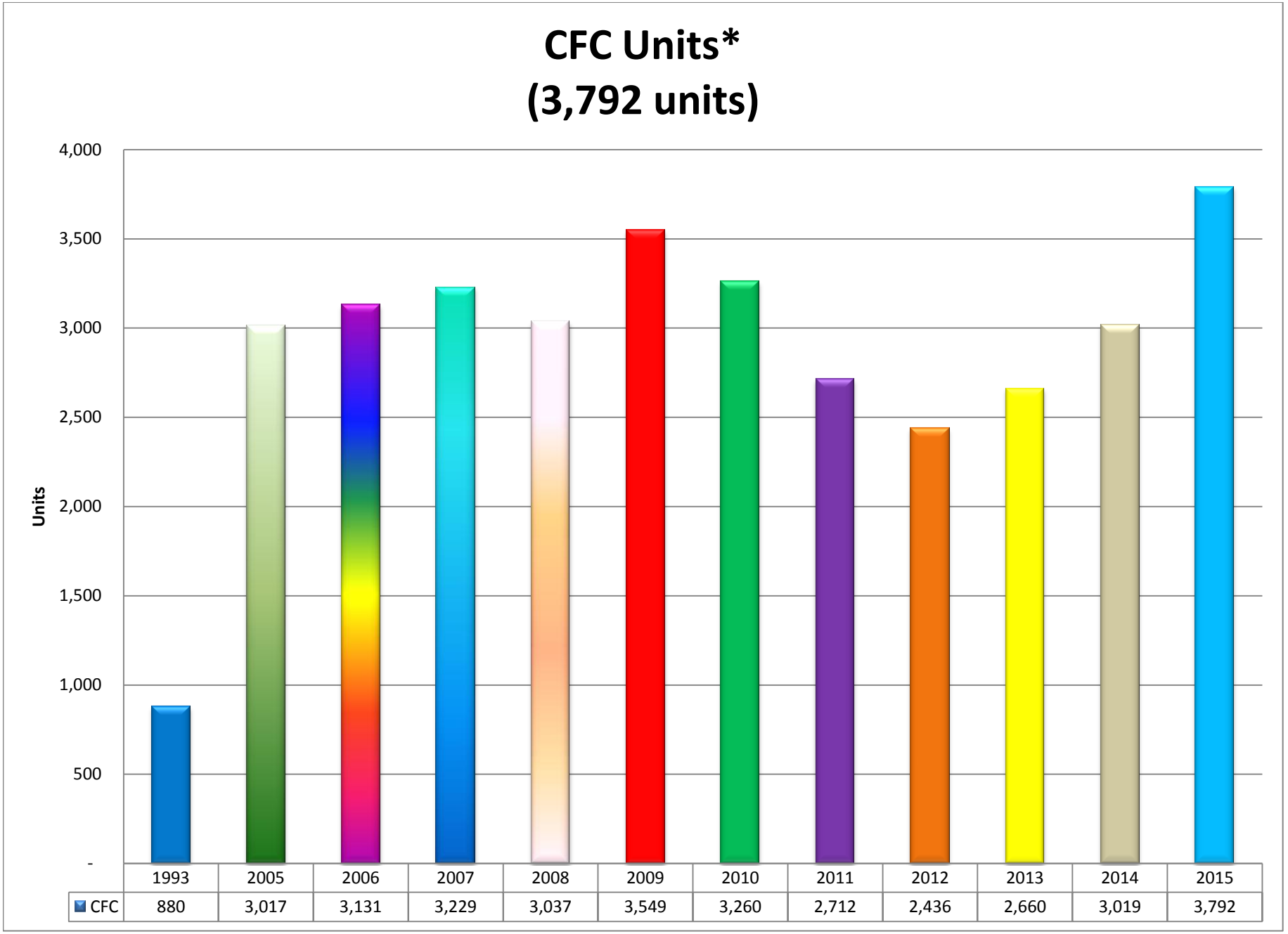


	Flammable Paint	Mixed Paint	Sharps
Prairie	19	11	16
Ramsey	37	48	46

Anti-Freeze
(17.81 tons*)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Ramsey	-	200.00	110.00	200.00	100.00	250.00	160.00	335.00	250.00	225.00	150.00	125.00
Prairie	-	-	240.00	-	200.00	175.00	-	540.00	125.00	125.00	175.00	165.00



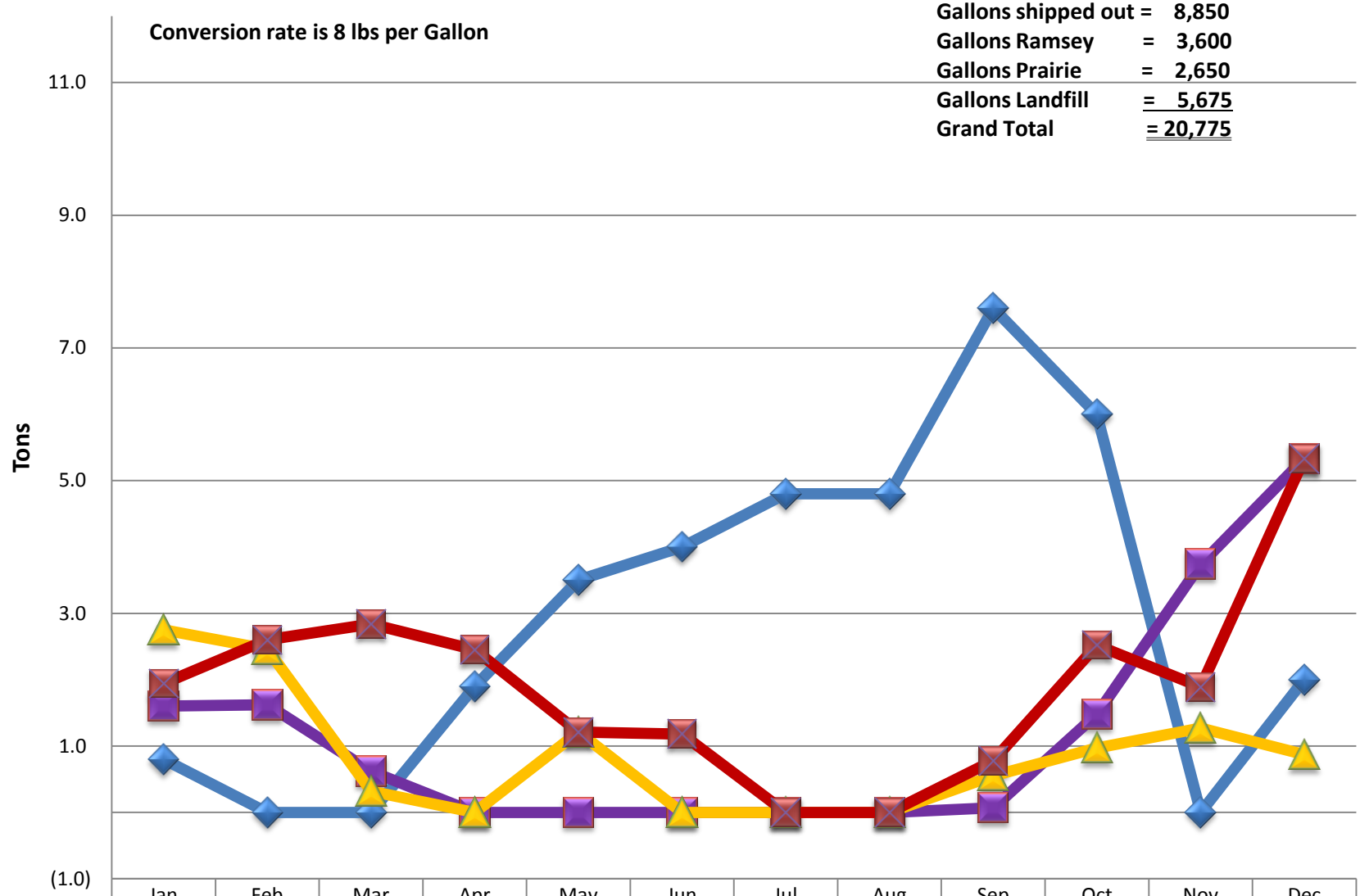
*includes Refrigerators, Freezers, AC Units, etc.

Used Motor Oil

2015 Totals

Gallons shipped out = 8,850
Gallons Ramsey = 3,600
Gallons Prairie = 2,650
Gallons Landfill = 5,675
Grand Total = 20,775

Conversion rate is 8 lbs per Gallon



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Shipped	0.8	-	-	1.9	3.5	4.0	4.8	4.8	7.6	6.0	-	2.0
Ramsey	1.6	1.6	0.6	-	-	-	-	-	0.1	1.5	3.7	5.3
Prairie	2.8	2.5	0.3	-	1.2	-	-	-	0.6	1.0	1.3	0.9
Fighting Creek	1.9	2.6	2.8	2.5	1.2	1.2	-	-	0.8	2.5	1.9	5.3

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Department of Environmental Quality Reporting

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

A. **Inspections and Reports:** The 2015 Waste Stream Analysis is attached hereto and incorporated herein by reference. All required documents relevant to this annual report are included on a CD saved as PDF documents and provided to Idaho Department of Environmental Quality (DEQ) and Idaho Panhandle Health District (PHD) each year.
B. **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.
C. **Closure and Post-Closure Plan:** There were no changes or modifications to the Closure Plan in 2015.
D. **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 and supporting documents from Kootenai County, Finance Director, Sondra Emerson, is attached hereto and incorporated herein by reference. A copy of this same information is included as a PDF document in the electronic version of this report.
E. **Landfill Gas Reporting**: Fighting Creek gas system reports are included in the Greenhouse Gas Reporting to 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.
F. **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.
G. **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.
H. **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 in the CD accompanying this report to DEQ.
I. **Plans and Specifications**: No new construction was completed in 2015 that required approval of plans and specifications.

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Inspections and Reports

1. Idaho DEQ approved the 2014 Solid Waste Analysis on March 1, 2016. A copy of said approval is attached hereto and incorporated herein by reference.

State of Idaho
Department of
Environmental Quality

2110 Ironwood Parkway • Coeur d'Alene, ID 83814 • (208) 769-1422

C. L. "Butch" Otter, Governor
John H. Tippets, Director

March 1, 2016

Cathy Mayer
Kootenai County Solid Waste Department
3650 N. Ramsey Road
Coeur d'Alene, ID 83815
cmayer@kcgov.us

Subject: Kootenai County Solid Waste – 2014 Solid Waste Analysis

Dear Ms. Mayer:

On February 25, 2015, the Department of Environmental Quality (DEQ) received the Kootenai County Solid Waste Department 2014 Solid Waste Analysis. This report contains an overview of the Kootenai County Solid Waste facilities and operations. Included with the analysis are the Tier 1 Semi-Annual Report, 2014 Financial Assurance, the Ramsey Landfill Gas Control Annual Report, the 2014 Semi-annual Groundwater Monitoring Reports, stormwater monitoring and reporting information, and the Leachate Report.

DEQ has reviewed the Analysis and finds it to be acceptable. Thank you for providing this report. If you should have any questions, please contact me at 208-666-4622.

Sincerely,

Matt Plaisted, P.E.
Engineering Manager
Matthew.Plaisted@deq.idaho.gov

c: Erik Ketner, eketner@phd1.idaho.gov
Rob Eachon, Robert.eachon@deq.idaho.gov
Laureen Chaffin, lchaffin@kcgov.us
File: TRIM_Kootenai County Landfill (2011BAZ2174)

Attachment "A"

Tier 1 Operating Air Quality Permit

- On August 3, 2015, the Department submitted a Tier I operating permit application to Idaho DEQ. The application was declared complete on September 30, 2015. The application can be viewed at the Idaho DEQ office in Coeur d'Alene, Idaho.

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 North Hilton Street, Boise, ID 83706 - (208) 373-0502

C. L. "Butch" Otter, Governor
John H. Tippets, Director

September 30, 2015

VIA E-MAIL

Cathy Mayer
Director
Kootenai County Farm Landfill
3650 North Ramsey Road
Coeur d'Alene, Idaho 84815

RE: Facility ID No. 055-00044, Kootenai County Farm Landfill, Coeur d'Alene
Completeness Determination of Tier I Operating Permit Application

Dear Ms. Mayer:

On August 3, 2015, the Department of Environmental Quality (DEQ) received a Tier I operating permit application from Kootenai County Farm Landfill located in Coeur d'Alene. The application materials have been reviewed and determined complete. Therefore, DEQ will proceed with the processing of this application, in accordance with IDAPA 58.01.01.360, Rules for the Control of Air Pollution in Idaho (Rules).

Although this application has been declared complete, it may be necessary to request additional information to complete our review. Requested information must be submitted as provided in IDAPA 58.01.01.314-315 (Rules).

If you have any questions about this letter or about the permitting process, please contact me at (208) 373-0502 or thomas.dalzell@deq.idaho.gov.

Sincerely,

Thomas Dalzell

Thomas Dalzell
Permit Writer
Air Quality Division

Permit No. T1-2015-0038 PROJ 61569

Attachment "B"

Kootenai County Farm Landfill Closure and Post-Closure Plan

- No changes were made to the Closure and Post-Closure Plan since September 16, 2010. Copies of this report were provided to Idaho DEQ and Idaho Panhandle Health District.
- Complete copies of the Closure and Post Closure plan are available for inspection at Idaho DEQ and the Administration office at Kootenai County Solid Waste.

Attachment "C"

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
Jim Brannon · 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

January 25, 2016

Idaho Department of Environmental Quality
Attn: Matt Plaisted, Technical Engineer
2110 Ironwood Parkway
Coeur d'Alene, ID 83814

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

Dear Mr. Plaisted;

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 $7,164,000.

Additionally, this information will be included in our (Audited) Comprehensive Annual Financial Report for Kootenai County, Idaho for the year ending September 30, 2015. 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 446-1668.

Sincerely,

Sondra Emerson
Finance Director

cc: Solid Waste
BOCC

Attachment

Attachment "D"

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. 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.

Parametrix
ENGINEERING . PLANNING . ENVIRONMENTAL SCIENCES

719 2ND AVENUE, SUITE 200 | SEATTLE, WA 98104 | P 206.394.3700

January 20, 2016
Parametrix No. 553-1660-038 (02/02)

Cathy Mayer, 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 2015

Dear Cathy:

This letter is an annual summary of the landfill gas monitoring and landfill gas management activities performed at the Ramsey Road Landfill in 2015. It is specific only to the landfill gas control system. This letter can be forwarded to Division of Environmental Quality and Panhandle District Health Department 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 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 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.

Attachment "E"

Ground Water Summary

- The bi-annual monitoring requirements for ground water were completed as required in 2015.
- The following is an excerpt from the 2015 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 Solid Waste Administration Office.
- Groundwater quality results as stated in Section 2.5 of the Summary Report were below primary state or federal groundwater quality criteria.

2.4 Surface Water Quality Results

The results of the semiannual surface water sampling of surface water station SW-2 conducted on April 14, 2015 are summarized in Table A-1 (Appendix A). Laboratory reports and field data were presented in the semiannual groundwater monitoring report (Parametrix 2015b). Analysis of the surface water results will also be presented in the Annual Surface Water Monitoring Report for 2015. No surface water samples were collected in October 2015 because the station was dry.

2.5 Summary and Conclusions

Groundwater quality results were below primary state or federal groundwater quality criteria. Volatile organic compounds were not detected in any of the landfill wells. Nitrate concentrations have increased in well M-9 over the past few years but remain well below the groundwater 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.

- "Domestic" Water Well Monitoring results as stated in Section 3.2 of the Summary Report indicate that the concentrations of iron and manganese in the Brand well were above secondary state and federal drinking water criteria. These parameters have regularly exceeded water quality criteria during previous sampling events which is a reflection of natural occurrence of these minerals in groundwater. Iron and manganese concentrations in the Shriner well have fluctuated over the past few years, and were above the criteria in April 2015.

3.2 Groundwater Quality Results

The analytical data for 2015 are summarized in Table A-5 (Appendix A). For the October 2015 monitoring event, the laboratory reports and chain-of-custody forms are provided in Appendix B, and field data are provided in Appendix C. The April 2015 laboratory and field data were presented in the semiannual groundwater monitoring report (Parametrix 2015b). A review of the laboratory data was conducted including a check of holding times, method blanks, and trip blanks. No data were qualified as a result of this review.

Time-series plots for parameters that were detected in the domestic wells during the last few years are presented in Appendix D-2. The plots also include data for original landfill upgradient and downgradient monitoring wells and the MCL, if applicable.

The data collected from the domestic wells indicate that the concentrations of iron and manganese in the Brand well were above secondary state and federal drinking water criteria. These parameters have regularly exceeded water quality criteria in both wells during previous sampling events, which is a reflection of natural occurrence of these minerals in groundwater. Iron and manganese concentrations in the Shriner well have fluctuated over the past few years, and were above the criteria in April 2015.

For the Brand well, the time-series plots show upward trends in some parameters (including conductivity, chloride, sulfate, iron, and manganese) in the last several years. These trends are not attributed to the landfill, since similar increases have not been observed in the landfill monitoring wells.

Attachment "F"

Kootenai County Farm Landfill Leachate Report

A copy of the report to Idaho DEQ outlining the volume of leachate processed in 20154 and the methods used to process the leachate is attached in the electronic version of this report. The total of 5,837,220 gallons leachate were processed in 2015.

KOOTENAI COUNTY

SOLID WASTE

February 3, 2016

Mr. Matt Plaisted, P.E.
%Division of Environmental Quality
2110 Ironwood Parkway
Coeur d'Alene, ID 83814

Re: 2015 Annual Leachate Report – Fighting Creek Farm Landfill

Dear Mr. Plaisted,

Attached you will find a spreadsheet that lays out how the Solid Waste Department managed leachate during the 2015 season. During the 2015 season, the amount of leachate processed was 5,837,220 gallons.

During this season we used two different methods to control and remove leachate from the landfill. I have listed below the methods and amount(s) of leachate processed.

1. Misting 5,700,960 gallons
2. Evaporator 136,260 gallons

Total 5,837,220 gallons

We continue to consult with Steve Emge of the engineering firm, Parametrix, to review the results of our leachate and gas systems. Mr. Emge 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,

Rick Bishop
Operations Manager

cc: Cathy Mayer Solid Waste Director;
Eric Ketner, PHD
Steve Emge, Parametrix;

Attachment "G"

Kootenai County Farm Surface Water

The Solid Waste Department complied with the regulations of the EPA regarding MSGP and SWPPP. Copies of these reports were provided to Idaho DEQ at the time they were submitted. Courtesy copies of the submittals have been included on the CD provided to Idaho DEQ with this report.

NPDES Permit Tracking No.: IDR05C356

EPA — UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC 20460

Annual Reporting Form

A. GENERAL INFORMATION

1. Facility Name: Kootenai County Farm Landfill
2. NPDES Permit Tracking No.: IDR05C356
3. Facility Physical Address:
   a. Street: 2209 S. HWY 95
   b. City: Coeur D Alene c. State: ID d. Zip Code: 83814-
4. Lead Inspectors Name: Rick Bishop Title: Operations Manager
   Additional Inspectors Name(s): John Phillips Jim Hagenbarth
5. Contact Person: Cathy Mayer Title: Director
   Phone: 208-446-1444 Ext. E-mail: cmayer@kcgov.us
6. Inspection Date: 09/17/2015

B. GENERAL INSPECTION FINDINGS

1. As part of this comprehensive site inspection, did you inspect all potential pollutant sources, including areas where industrial activity may be exposed to stormwater? ☑ YES ☐ NO

   If NO, describe why not:

NOTE: Complete Section C of this form for each industrial activity area inspected and included in your SWPPP or as newly identified in B.2 or B.3 below where pollutants may be exposed to stormwater.

2. Did this inspection identify any stormwater or non-stormwater outfalls not previously identified in your SWPPP? ☐ YES ☑ NO

   If YES, for each location, describe the sources of those stormwater and non-stormwater discharges and any associated control measures in place:

Attachment "H"

Kootenai County Farm Plans & Specifications

No constructions projects or plans were completed in 2015.

Attachment "I"