

FLOW AND STRENGTH PROJECTIONS

MONTH: March 2023

	<u>PROJECTED</u>	<u>ACTUAL</u>	<u>DIFFERENCE</u>	<u>PROJECTED INCOME FOR MONTH</u>	<u>ACTUAL INCOME FOR MONTH</u>	<u>SURPLUS OR DEFICIT</u>
FLOW (GALLONS)	272,496,100	356,141,000	83,644,900	\$ 192,109.75	\$ 251,079.41	\$ 58,969.65
B.O.D. (#s)	491,316	609,201	117,885	\$ 86,471.62	\$ 107,219.38	\$ 20,747.76
S. SOLIDS (#s)	447,916	487,793	39,877	\$ 106,604.01	\$ 116,094.73	\$ 9,490.73
PHOSPHORUS (#s)	8,271	9,690	1,419	\$ 52,752.44	\$ 61,802.82	\$ 9,050.38
AMMONIA-N (#s)	57,055	56,190	-865	\$ 62,189.95	\$ 61,247.10	\$ (942.85)
CHLORIDES (#s)	1,192,964	1,411,931	218,967	\$ 3,578.89	\$ 4,235.79	\$ 656.90
			TOTAL:	\$ 503,706.65	\$ 601,679.23	\$ 97,972.57

(THRU MARCH 2023)

PROJECTED FOR 2023

	<u>END OF YEAR PROJECTED</u>	<u>YEAR TO DATE SURPLUS/ DEFICIT</u>	<u>YEAR TO DATE SURPLUS/ DEFICIT \$\$</u>
FLOW (GALLONS)	2,301,369,933	181,690,833	\$ 128,092.04
B.O.D. (#s)	5,484,285	240,864	\$ 42,392.06
S. SOLIDS (#s)	4,877,973	119,150	\$ 28,357.70
PHOSPHORUS (#s)	94,940	3,282	\$ 20,932.60
AMMONIA-N (#s)	666,440	-884	\$ (963.56)
CHLORIDES (#s)	11,252,829	568,044	\$ 1,704.13
		TOTAL:	\$ 220,514.97

RAW INFLUENT STRENGTH (Heart of the Valley Metropolitan Sewerage Facility)

March 2023

MONTH	FLOW		TSS			BOD			TOTAL PHOSPHORUS			AMMONIA			CHLORIDE		
	Million * Gallons	Avg MGD	Avg mg/L	Avg #/day	Total #/Month	Avg mg/L	Avg #/day	Total # Month	Avg mg/L	Avg #/day	Total # Month	Avg mg/L	Avg #/day	Total # Month	Avg mg/L	Avg #/day	Total # Month
Jan	200.1	6.5	187	10,014	310,440	249	13,373	414,561	4.70	250	7,740	31.4	1653	51,242	625	32,183	997,678
Feb	152.9	5.5	214	9,476	265,340	273	12,145	340,058	5.08	228	6,374	35.4	1571	43,979	683	30,731	860,461
Mar	343.7	11.1	113	10,304	319,433	178	16,254	503,869	3.12	294	9,105	18.8	1759	54,543	489	44,804	1,388,909
Apr																	
May																	
Jun																	
Jul																	
Aug																	
Sep																	
Oct																	
Nov																	
Dec																	
Average	232.2	7.7	171	9,932	298,404	233	13,924	419,496	4.30	257	7,739	28.5	1,661	49,921	599	35,906	1,082,349
Yearly Total	696.7				895,212			1,258,489			23,218			149,764			3,247,048

*Includes Hauled Waste
 [Plant Design Capacity] = 8.5
 [Hauled Waste Gallons]= 237,130
 [Max Design Capacity] = 11.9
 March % of Capacity = 93%
 March Max Daily Flow = 16.23

	13,565	12,209	339	1,600
	16,278	14,651	407	1,920
	63%	111%	72%	92%

EFFLUENT QUALITY

MONTH	FLOW		TSS			BOD			TOTAL PHOSPHORUS			AMMONIA			CHLORIDE
	Million Gallons	Avg MGD	Avg mg/L	Avg #/day	Total #/Month	Avg mg/L	Avg #/day	Total # Month	Avg mg/L	Avg #/day	Total # Month	Avg mg/L	Avg #/day	Total # Month	Avg mg/L
Jan	115.9	3.7	8.0	251	7,792	8.0	248	7,703	0.23	7.1	220	0.43	13.7	425	616
Feb	75.3	2.7	10.1	223	6,253	7.9	175	4,887	0.24	5.1	144	0.25	5.3	147	706
Mar	254.1	8.2	19.6	1,345	41,700	11.9	817	25,315	0.36	24.5	760	0.29	21.1	653	505
Apr															
May															
Jun															
Jul															
Aug															
Sep															
Oct															
Nov															
Dec															
Average	148.4	4.9	12.5	607	18,582	9.2	413.2	12,635	0.27	12.2	374.4	0.32	13.4	408.6	609
Yearly Total	445.2				55,746			37,905			1,123			1,225.9	

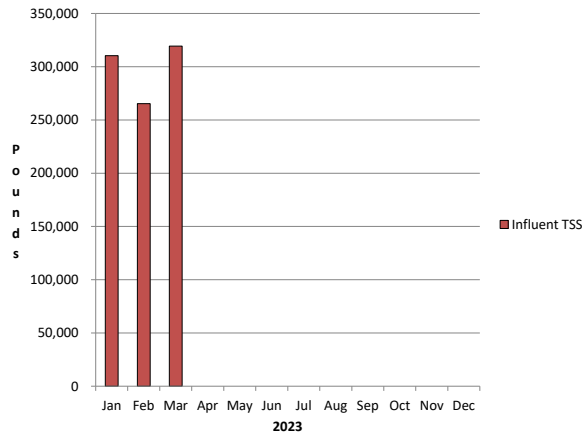
	Monthly Avg Limit
Jan- Marc	10 mg/L
April-May	11 mg/L
June-Sept	4.4 mg/L
Oct- Dec	18 mg/L

Effluent Gallons to Fox Energy (March)	
77.67	51%

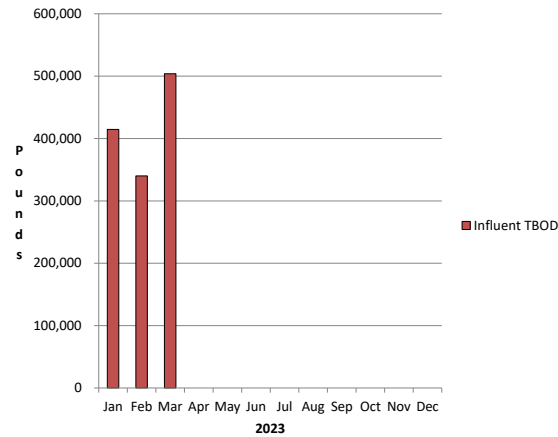
March	Avg #'s
WEEK 1	754
WEEK 2	891
WEEK 3	1485
WEEK 4	1566

6 mo. Avg #'s 11.61 Nov-April

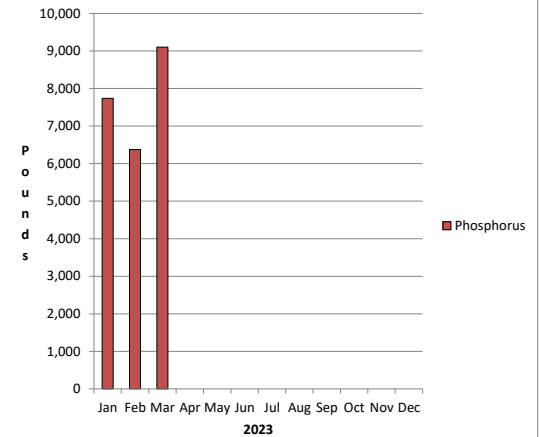
Influent TSS Total Pounds/Mo.



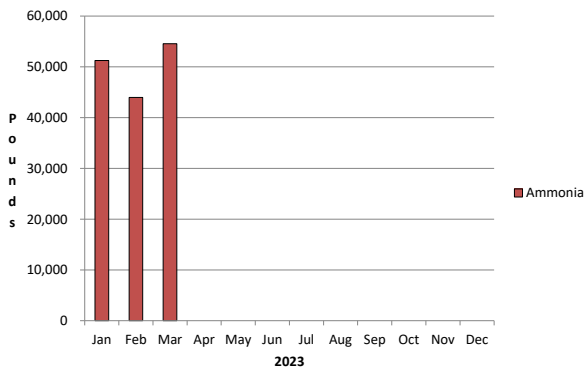
Influent BOD Total Pounds / Mo.



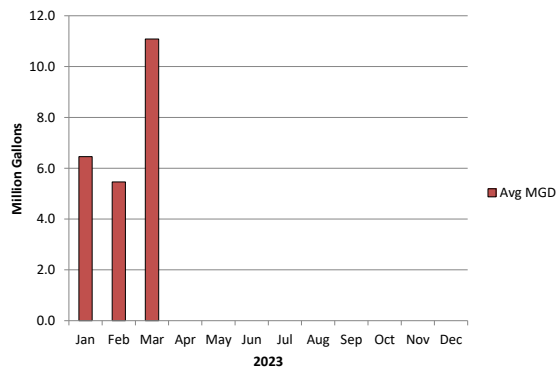
Influent Phosphorus Total Pounds/Mo.



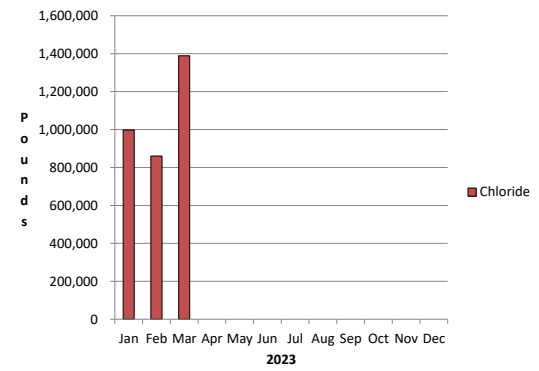
Influent Ammonia Total Pounds/Mo.



Avg Influent MGD/Mo.

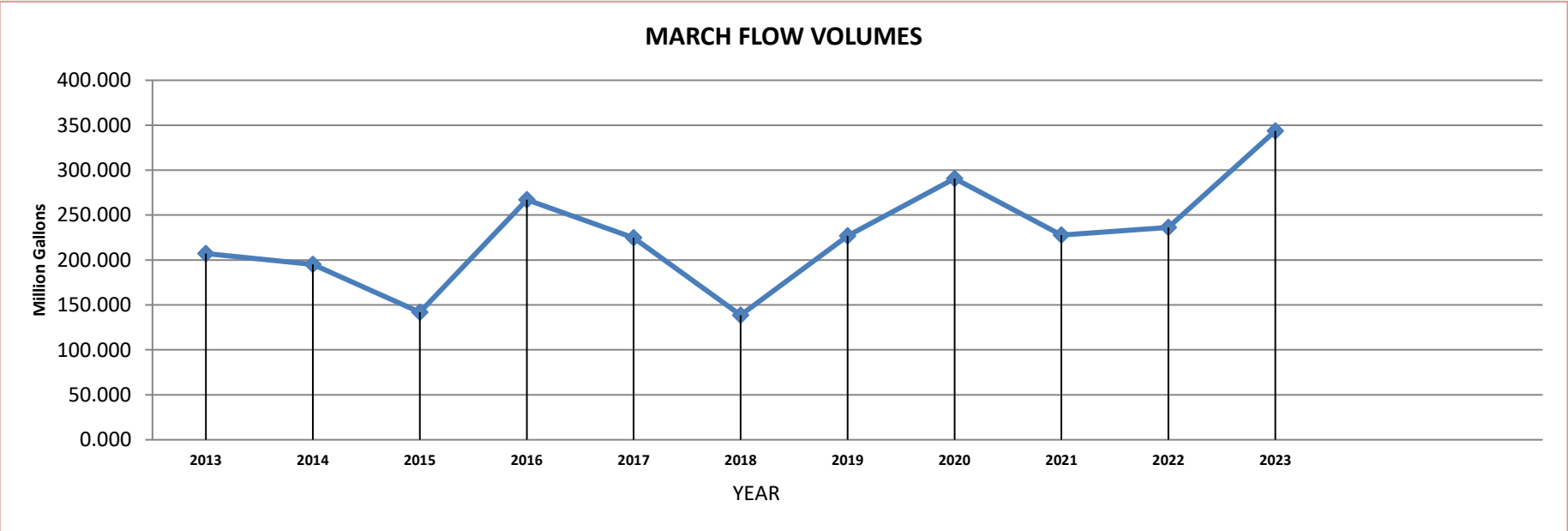


Influent Chloride Total Pounds/Mo.



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

<u>Year</u>	<u>March Flow Million Gallons</u>	<u>Precipitation Inches</u>
2013	207.339	1.26
2014	195.096	1.49
2015	141.868	0.90
2016	266.917	2.82
2017	224.799	1.67
2018	138.664	0.63
2019	226.921	1.72
2020	290.643	4.17
2021	227.688	1.79
2022	236.184	5.46
2023	343.638	3.70



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

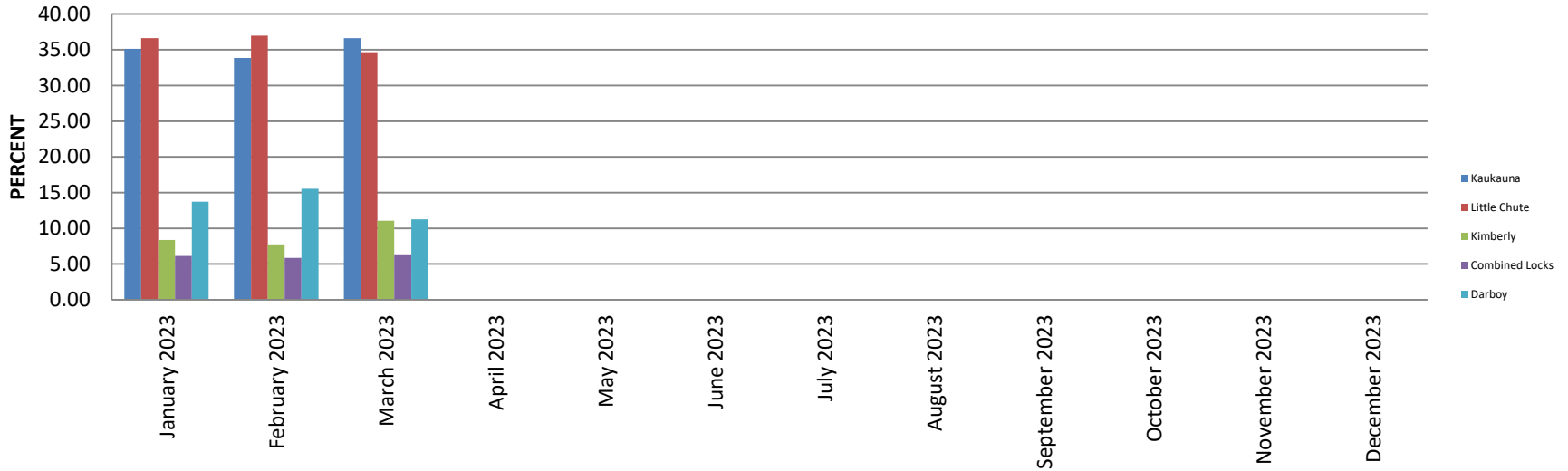
% CONTRIBUTION BY COMMUNITY - FLOW GALLONS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>	<u>Rainfall - Inches</u>
January 2023	35.10	36.64	8.37	6.15	13.74	
February 2023	33.85	36.98	7.74	5.87	15.55	
March 2023	36.64	34.65	11.08	6.36	11.27	
April 2023						
May 2023						
June 2023						
July 2023						
August 2023						
September 2023						
October 2023						
November 2023						
December 2023						

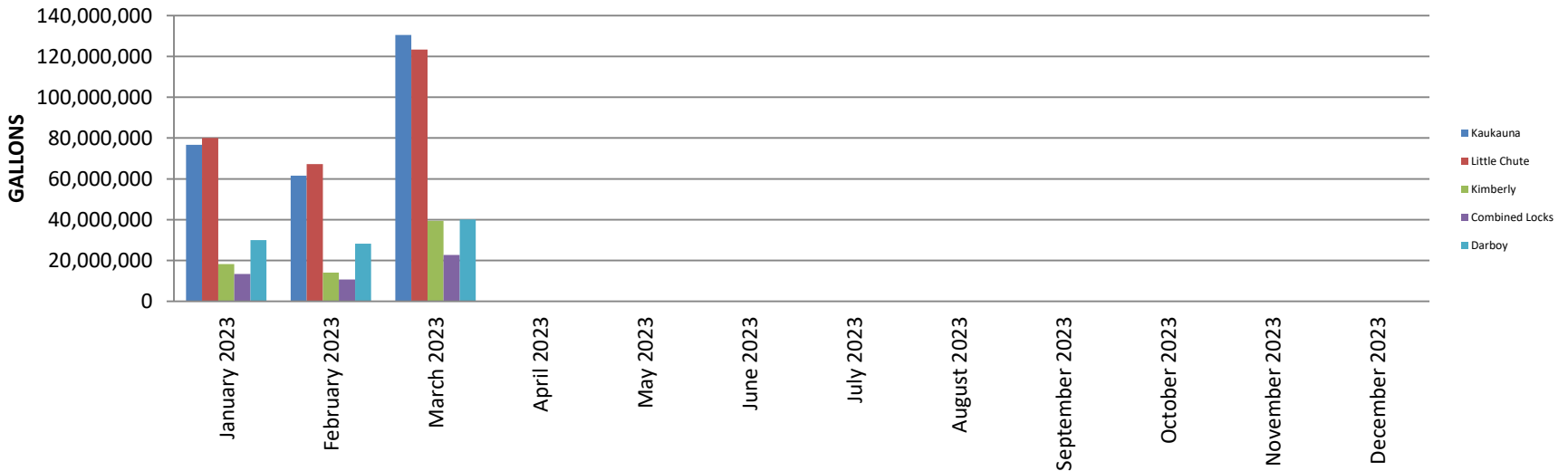
GALLONS CONTRIBUTION BY COMMUNITY - FLOW GALLONS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2023	76,627,000	79,990,000	18,278,000	13,428,000	30,004,000
February 2023	61,513,000	67,194,000	14,068,000	10,673,000	28,250,000
March 2023	130,492,000	123,418,000	39,467,000	22,642,000	40,122,000
April 2023					
May 2023					
June 2023					
July 2023					
August 2023					
September 2023					
October 2023					
November 2023					
December 2023					

% CONTRIBUTION BY COMMUNITY - FLOW GALLONS



GALLONS CONTRIBUTION BY COMMUNITY - FLOW GALLONS



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

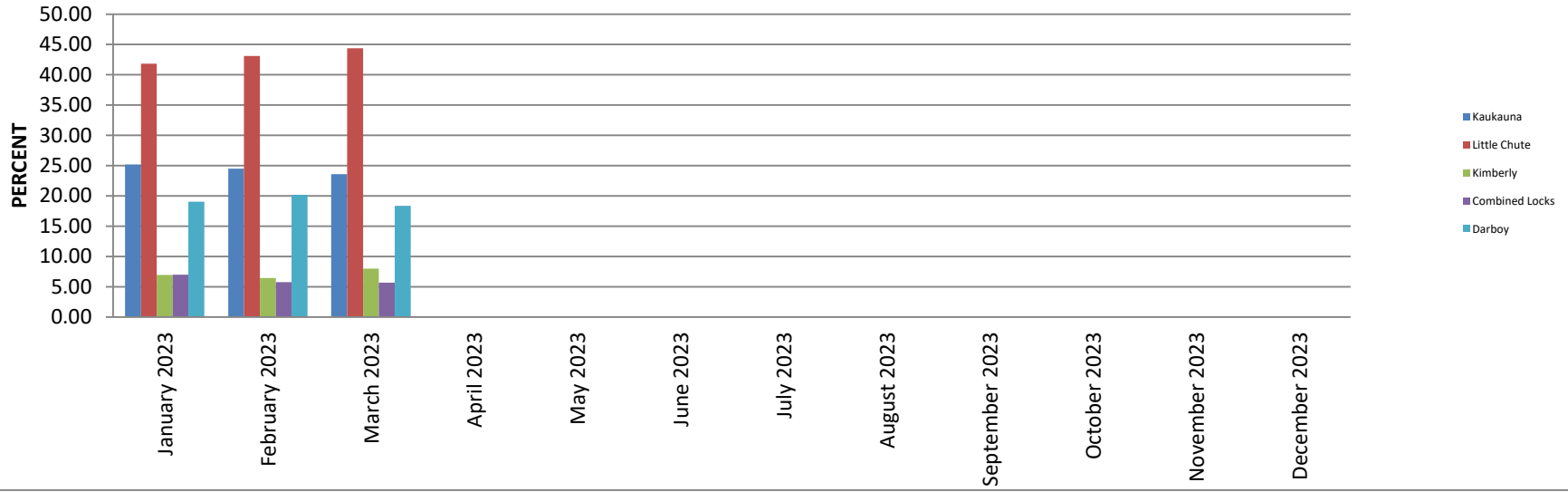
% CONTRIBUTION BY COMMUNITY - B.O.D. POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2023	25.17	41.83	6.96	7.01	19.03
February 2023	24.49	43.10	6.43	5.78	20.20
March 2023	23.59	44.37	8.00	5.67	18.37
April 2023					
May 2023					
June 2023					
July 2023					
August 2023					
September 2023					
October 2023					
November 2023					
December 2023					

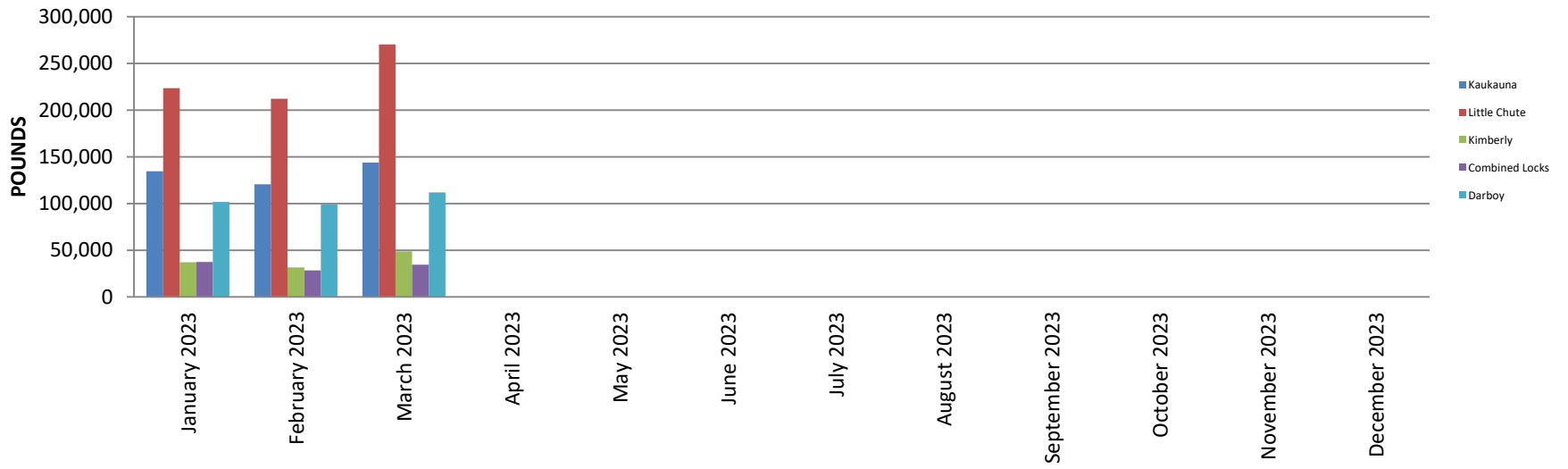
POUNDS CONTRIBUTION BY COMMUNITY - B.O.D. POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2023	134,417	223,380	37,167	37,435	101,643
February 2023	120,535	212,140	31,664	28,427	99,442
March 2023	143,738	270,282	48,712	34,533	111,936
April 2023					
May 2023					
June 2023					
July 2023					
August 2023					
September 2023					
October 2023					
November 2023					
December 2023					

% CONTRIBUTION BY COMMUNITY - B.O.D. POUNDS



POUNDS CONTRIBUTION BY COMMUNITY - B.O.D. POUNDS



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

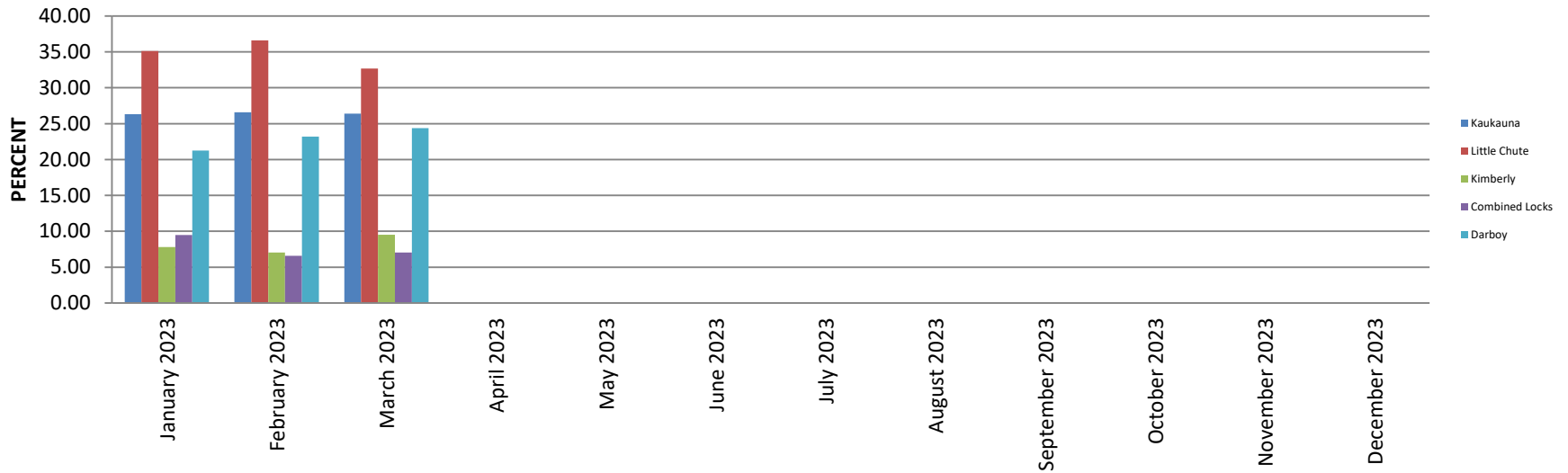
% CONTRIBUTION BY COMMUNITY -TOTAL SUSPENDED SOLIDS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2023	26.33	35.11	7.82	9.49	21.24
February 2023	26.58	36.61	7.03	6.59	23.20
March 2023	26.39	32.68	9.52	7.05	24.36
April 2023					
May 2023					
June 2023					
July 2023					
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November 2023					
December 2023					

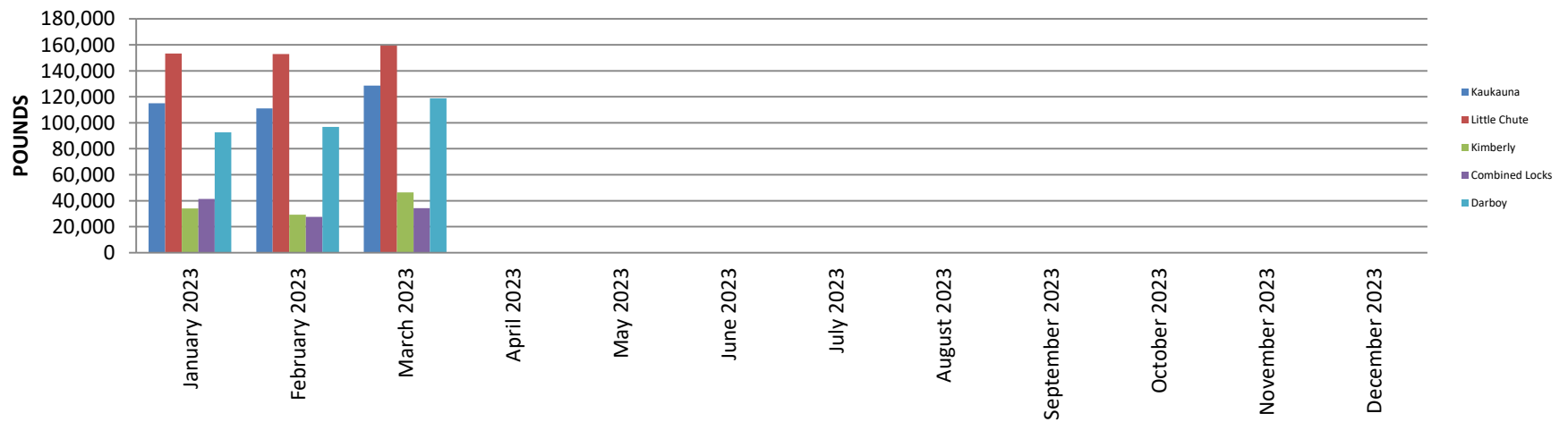
POUNDS CONTRIBUTION BY COMMUNITY - TOTAL SUSPENDED SOLIDS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2023	114,976	153,300	34,163	41,452	92,726
February 2023	111,023	152,901	29,366	27,510	96,901
March 2023	128,722	159,420	46,446	34,391	118,815
April 2023					
May 2023					
June 2023					
July 2023					
August 2023					
September 2023					
October 2023					
November 2023					
December 2023					

% CONTRIBUTION BY COMMUNITY -TOTAL SUSPENDED SOLIDS POUNDS



POUNDS CONTRIBUTION BY COMMUNITY - TOTAL SUSPENDED SOLIDS POUNDS



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

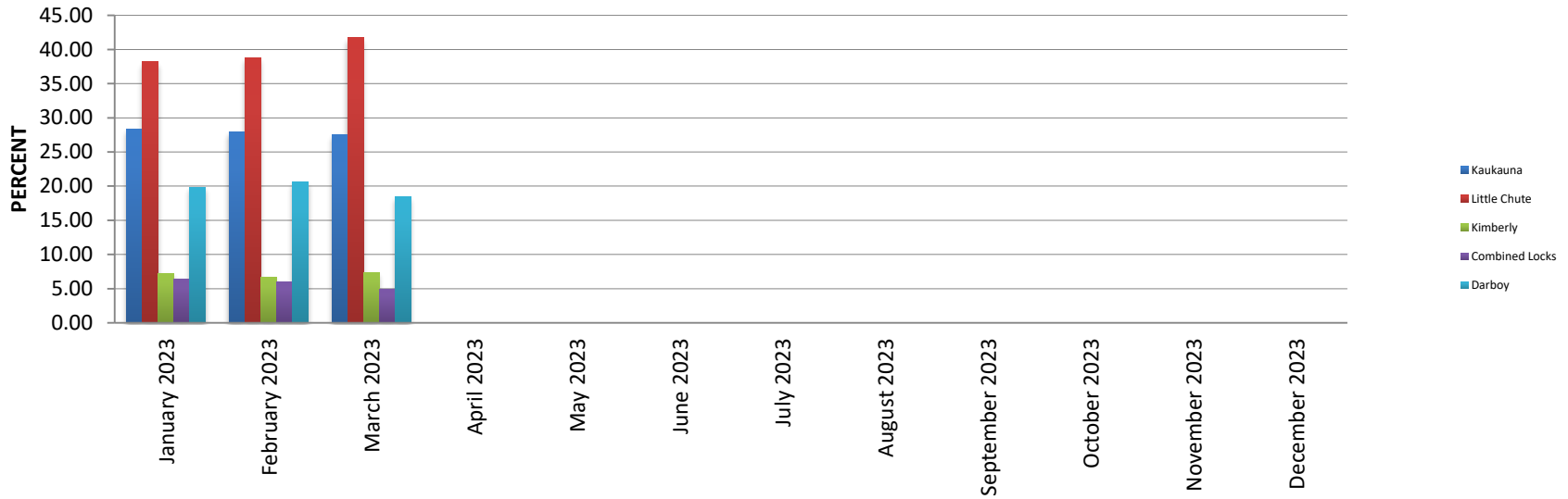
% CONTRIBUTION BY COMMUNITY - PHOSPHORUS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2023	28.38	38.18	7.20	6.39	19.84
February 2023	27.92	38.79	6.66	5.97	20.66
March 2023	27.55	41.70	7.39	4.91	18.46
April 2023					
May 2023					
June 2023					
July 2023					
August 2023					
September 2023					
October 2023					
November 2023					
December 2023					

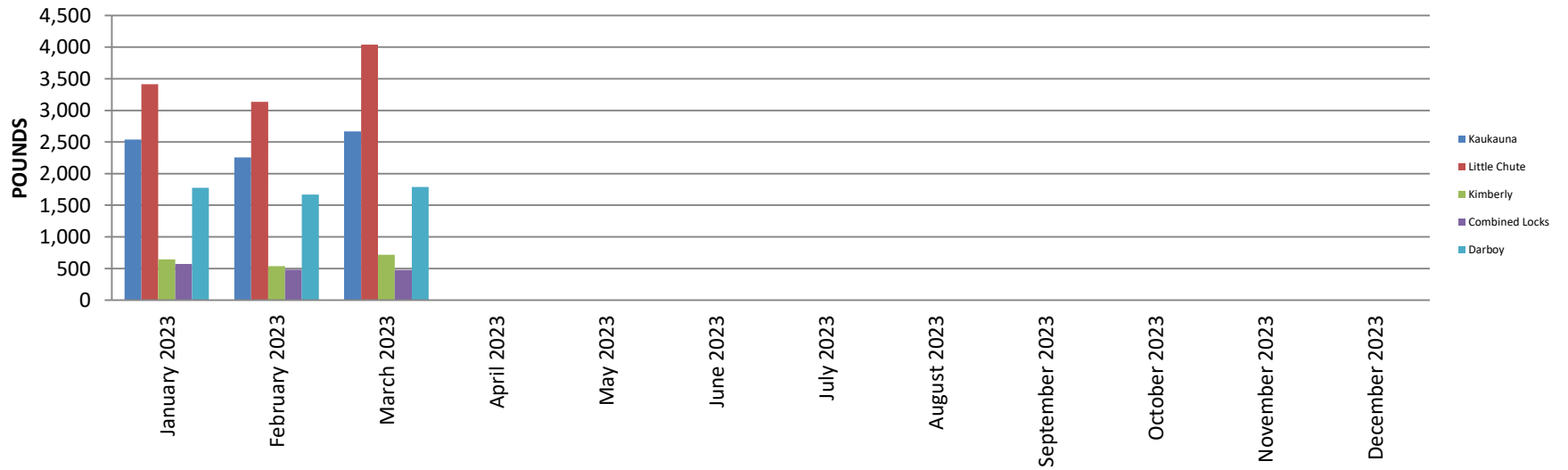
POUNDS CONTRIBUTION BY COMMUNITY - PHOSPHORUS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2023	2,538	3,415	644	572	1,775
February 2023	2,257	3,137	539	483	1,670
March 2023	2,669	4,040	716	476	1,789
April 2023					
May 2023					
June 2023					
July 2023					
August 2023					
September 2023					
October 2023					
November 2023					
December 2023					

% CONTRIBUTION BY COMMUNITY - PHOSPHORUS POUNDS



POUNDS CONTRIBUTION BY COMMUNITY - PHOSPHORUS POUNDS



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

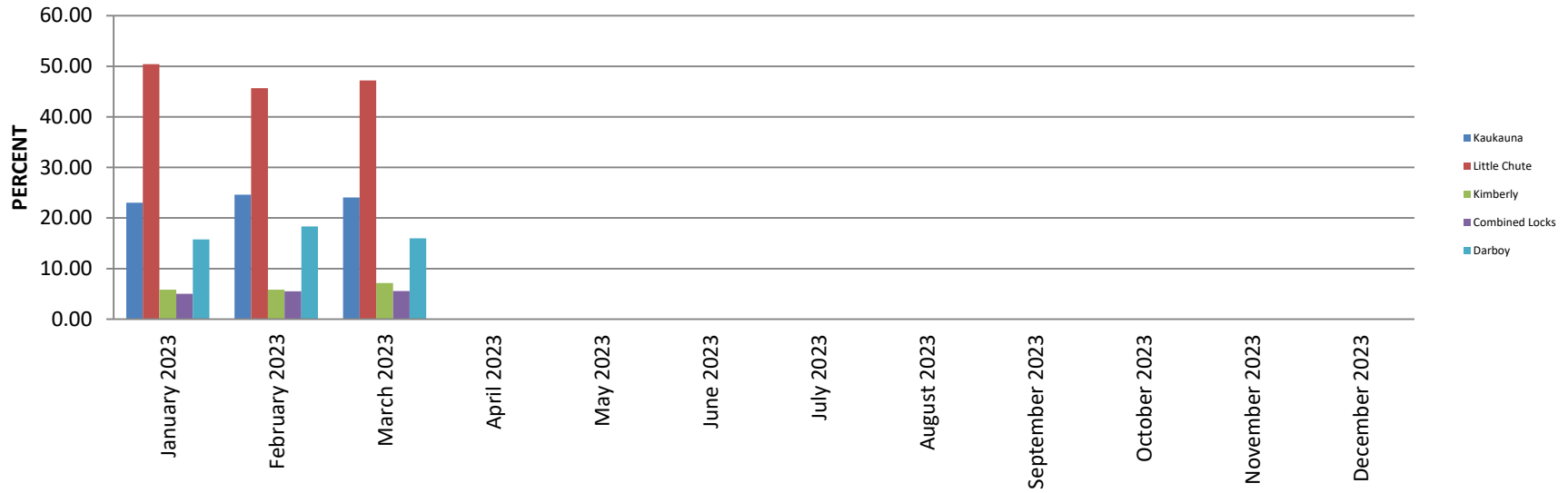
% CONTRIBUTION BY COMMUNITY - AMMONIA POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2023	23.02	50.41	5.82	5.00	15.74
February 2023	24.61	45.65	5.86	5.52	18.35
March 2023	24.08	47.21	7.17	5.58	15.96
April 2023					
May 2023					
June 2023					
July 2023					
August 2023					
September 2023					
October 2023					
November 2023					
December 2023					

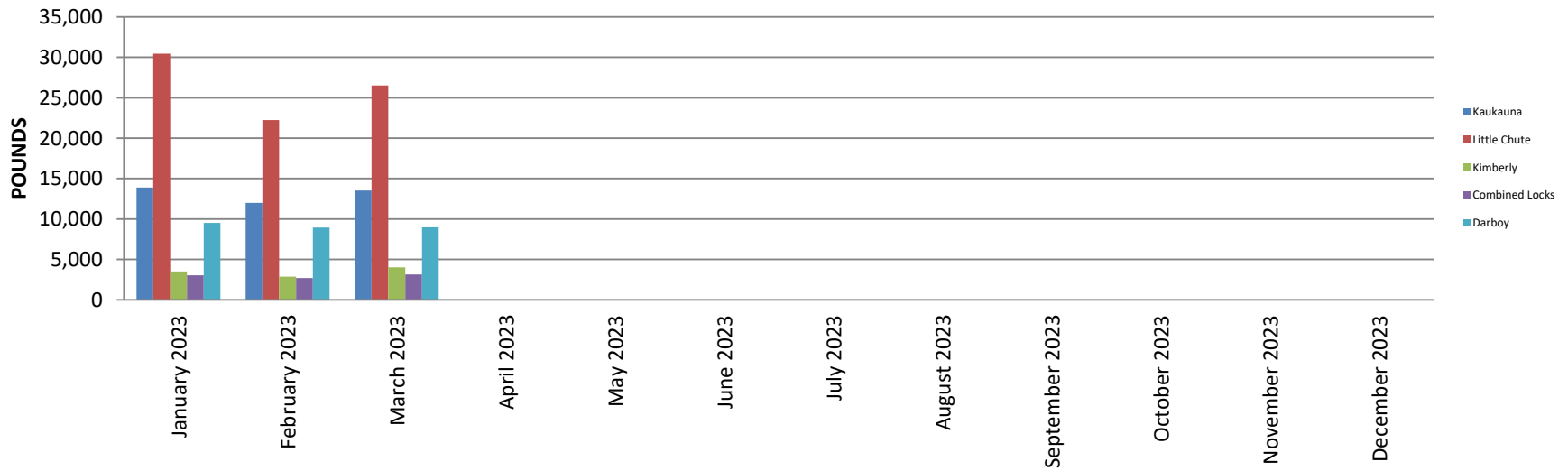
POUNDS CONTRIBUTION BY COMMUNITY - AMMONIA POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2023	13,909	30,459	3,515	3,024	9,511
February 2023	11,990	22,239	2,857	2,691	8,942
March 2023	13,528	26,528	4,028	3,136	8,970
April 2023					
May 2023					
June 2023					
July 2023					
August 2023					
September 2023					
October 2023					
November 2023					
December 2023					

% CONTRIBUTION BY COMMUNITY - AMMONIA POUNDS



POUNDS CONTRIBUTION BY COMMUNITY - AMMONIA POUNDS



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

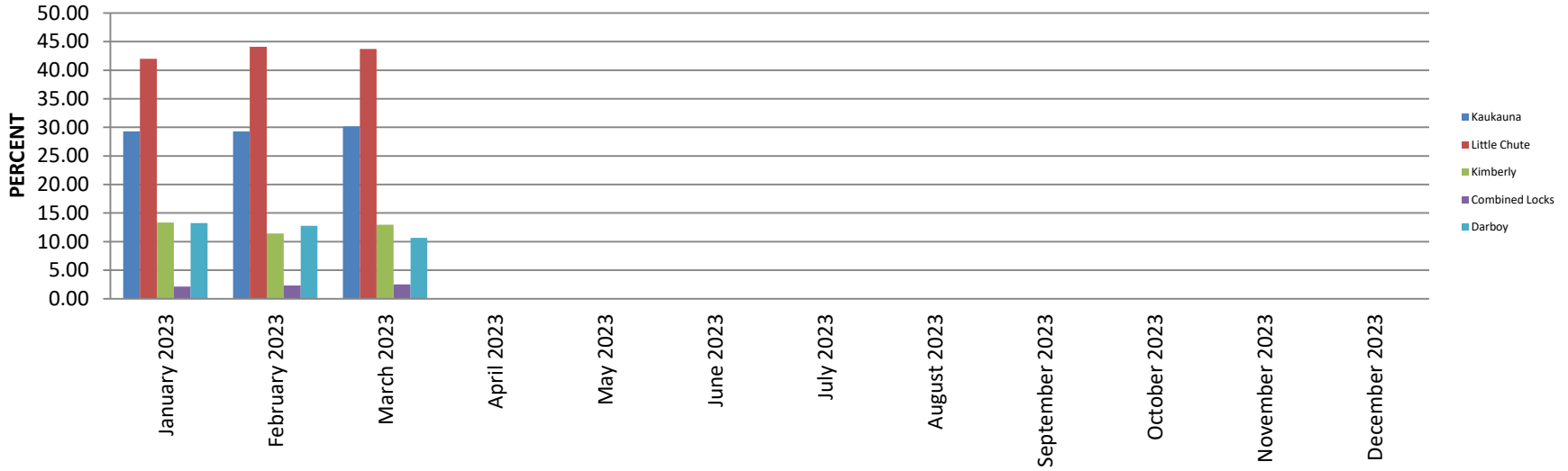
% CONTRIBUTION BY COMMUNITY - CHLORIDE POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2023	29.28	41.98	13.33	2.15	13.27
February 2023	29.30	44.12	11.44	2.35	12.79
March 2023	30.17	43.70	12.96	2.53	10.64
April 2023					
May 2023					
June 2023					
July 2023					
August 2023					
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November 2023					
December 2023					

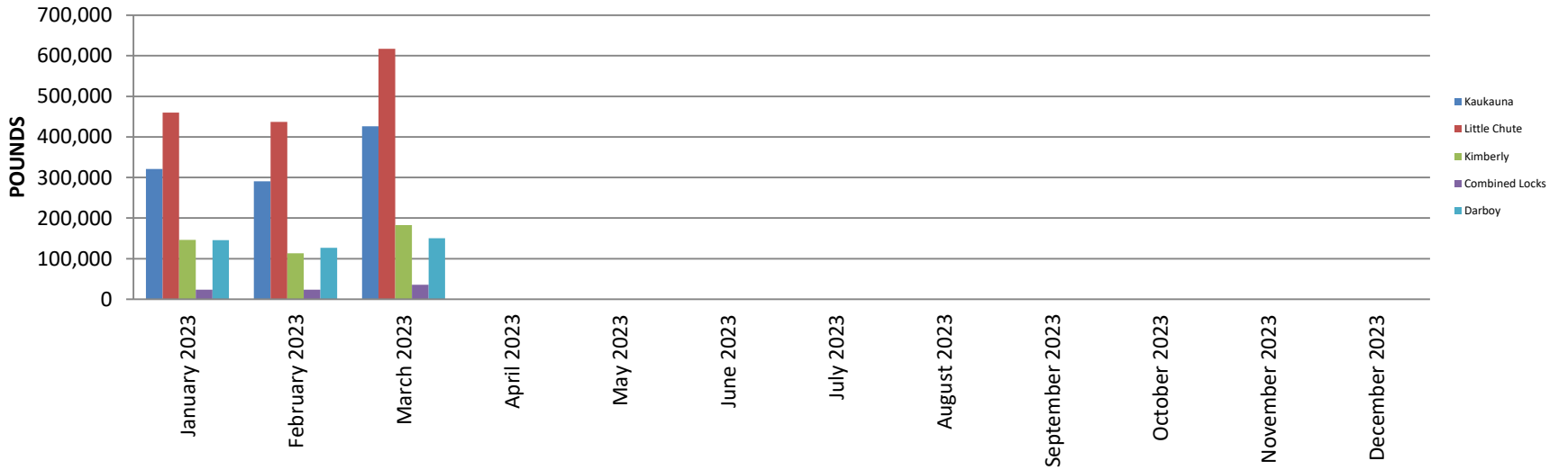
POUNDS CONTRIBUTION BY COMMUNITY - CHLORIDE POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2023	321,036	460,286	146,148	23,524	145,533
February 2023	290,450	437,395	113,420	23,313	126,799
March 2023	425,992	617,025	182,965	35,759	150,191
April 2023					
May 2023					
June 2023					
July 2023					
August 2023					
September 2023					
October 2023					
November 2023					
December 2023					

% CONTRIBUTION BY COMMUNITY - CHLORIDE POUNDS

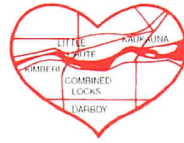


POUNDS CONTRIBUTION BY COMMUNITY - CHLORIDE POUNDS



DISTRICT DIRECTOR:

Brian M. Helminger



COMMISSIONERS:

David J. Casper, President
Bruce M. Siebers, Vice-Pres.
Patrick E. Hennessey, Secretary
Kevin P. Coffey
John W. Sundelius

SERVING:

Combined Locks
Kaukauna
Kimberly
Little Chute
Darboy S.D.

**Heart of the Valley
METROPOLITAN SEWERAGE DISTRICT**

801 THILMANY ROAD
KAUKAUNA, WISCONSIN 54130
(920) 766-5731 FAX (920) 766-5733
www.hvmsd.org

Facility: Wisconsin Public Service Corporation - Fox Energy Center
P.O. Box 5651
Bismarck, ND 58506

Attn: Account # N2310E

Month: March

Year: 2023

Gallons of Final Effluent Purchased (Billing)

<u>Date</u>	<u>Gallons</u>	<u>Date</u>	<u>Gallons</u>
3/1/2023	2,836,000	3/21/2023	3,334,000
3/2/2023	2,826,000	3/22/2023	2,559,000
3/3/2023	2,783,000	3/23/2023	3,279,000
3/4/2023	3,111,000	3/24/2023	3,373,000
3/5/2023	3,024,000	3/25/2023	3,184,000
3/6/2023	2,592,000	3/26/2023	2,679,000
3/7/2023	2,958,000	3/27/2023	2,768,000
3/8/2023	3,107,000	3/28/2023	3,013,000
3/9/2023	3,105,000	3/29/2023	2,256,000
3/10/2023	2,966,000	3/30/2023	2,882,000
3/11/2023	2,713,000	3/31/2023	3,365,000
3/12/2023	2,834,000		
3/13/2023	2,663,000		
3/14/2023	2,773,000		
3/15/2023	3,103,000		
3/16/2023	3,111,000		
3/17/2023	2,955,000		
3/18/2023	2,267,000		
3/19/2023	2,667,000		
3/20/2023	2,556,000		
		Total:	89,642,000

Facility: Wisconsin Public Service Corporation - Fox Energy Center
P.O. Box 5651
Bismarck, ND 58506

Attn: Account # N2310E

MONTHLY BILLING

Month: March

Year: 2023

GALLONS PURCHASED: 89,642,000

BILLING RATE: \$0.1730911 PER 1000 GALLONS

TOTAL AMOUNT DUE: \$15,516.23

**Heart of the Valley
Metropolitan Sewerage District**

**Fox Energy Revenue
From the Sale of Final Effluent**

2023

Final Effluent Sent to Fox Energy Facility

Gallons: 251,503,500

Charge Per 1000 Gallons: **\$0.1730911** Per 1000 Gallons

Sale of Final Effluent (Revenue Collected): \$43,533.02