

FLOW AND STRENGTH PROJECTIONS

MONTH: March 2021

	<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)	245,237,578	232,427,000	-12,810,578	\$ 154,009.20	\$ 145,964.16	\$ (8,045.04)
B.O.D. (#s)	410,157	454,095	43,938	\$ 77,519.67	\$ 85,823.92	\$ 8,304.25
S. SOLIDS (#s)	378,154	413,817	35,663	\$ 90,000.65	\$ 98,488.45	\$ 8,487.79
PHOSPHORUS (#s)	7,482	7,699	217	\$ 46,784.95	\$ 48,140.35	\$ 1,355.40
AMMONIA-N (#s)	50,296	55,755	5,459	\$ 62,165.86	\$ 68,913.64	\$ 6,747.78
CHLORIDES (#s)	1,020,663	1,080,019	59,356	\$ 3,061.99	\$ 3,240.06	\$ 178.07
			TOTAL:	\$ 433,542.31	\$ 450,570.56	\$ 17,028.25

(THRU MARCH 2021)

PROJECTED FOR 2021

	<u>END OF YEAR PROJECTED</u>	<u>YEAR TO DATE SURPLUS/ DEFICIT</u>	<u>YEAR TO DATE SURPLUS/ DEFICIT \$\$</u>
FLOW (GALLONS)	2,053,099,003	-46,296,504	\$ (29,074.20)
B.O.D. (#s)	3,755,281	148,914	\$ 28,144.76
S. SOLIDS (#s)	3,909,560	51,913	\$ 12,355.27
PHOSPHORUS (#s)	80,410	421	\$ 2,629.45
AMMONIA-N (#s)	505,265	12,058	\$ 14,903.53
CHLORIDES (#s)	8,748,079	88,212	\$ 264.64
		TOTAL:	\$ 29,223.45

INFLUENT STRENGTH (Heart of the Valley Metropolitan Sewerage Facility)

March 2021

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	151.4	4.9	217	8,736	270,817	300	12,085	374,624	6.05	243	7,528	49.0	1961	60,780	702	28,228	875,077
Feb	135.2	4.8	231	8,334	258,362	311	12,383	346,731	5.91	235	6,583	46.4	1641	50,873	796	28,751	891,291
Mar	227.7	7.3	150	9,098	282,028	212	12,818	397,347	3.89	234	7,264	32.0	1,929	59,806	590	35,765	1,108,705
Apr																	
May																	
Jun																	
Jul																	
Aug																	
Sep																	
Oct																	
Nov																	
Dec																	
Yearly Average	171.4	5.7	199	8,723	270,402	274	12,429	372,901	5.28	237	7,125	42.5	1,844	57,153	696	30,915	958,358
Yearly Total	514.3				811,207			1,118,703			21,375			171,459			2,875,073

*Includes Hauled Waste
[Plant Design Capacity]

	8.5	13,565	12,209	339	1,600
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[Max Design Capacity]

	11.9	16,278	14,651	407	1,920
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March % of Capacity

	62%	56%	87%	58%	100%
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March Max Daily Flow

9.94

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	63.8	2.1	10.9	185	5,721	9.3	160	4,957	0.31	5.2	163	0.42	7.8	242	707
Feb	66.3	2.4	11	206	5,759	10	196	5,499	0.31	5.9	167	0.42	7.7	238	808
Mar	136.9	4.4	7.1	259	8,037	7.0	260	8,070	0.20	7.4	229	0.28	10.0	310	603
Apr															
May															
Jun															
Jul															
Aug															
Sep															
Oct															
Nov															
Dec															
Yearly Average	89.0	2.9	9.6	216	6,506	8.8	205.5	6,175	0.27	6.2	186	0.37	8.5	263.2	706
Yearly Total	267.1				19,517			18,526			558			789.6	

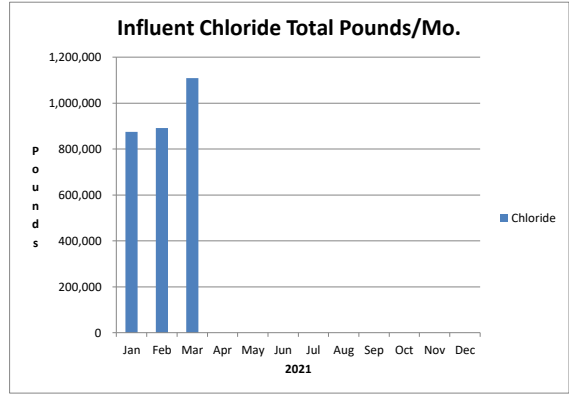
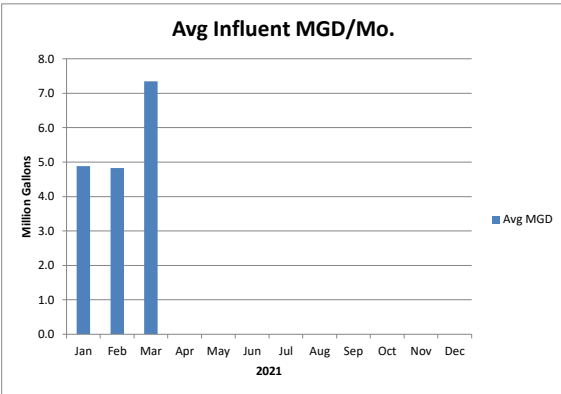
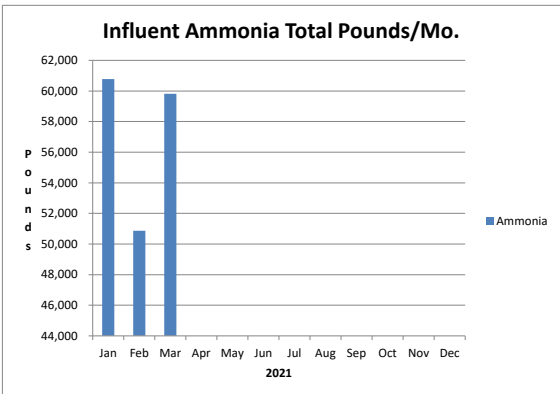
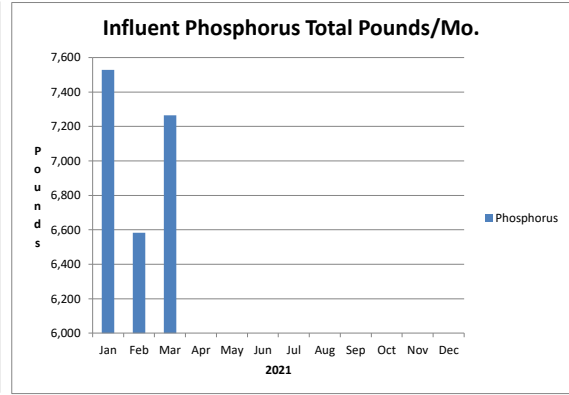
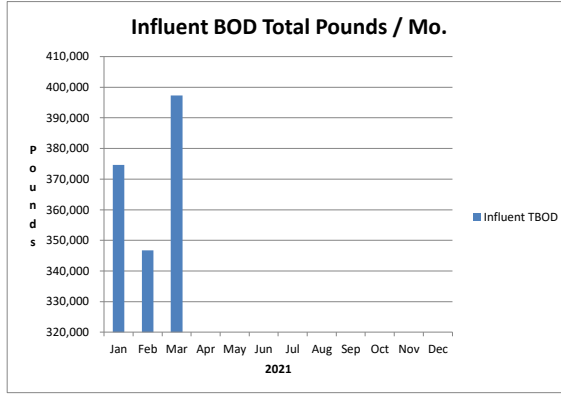
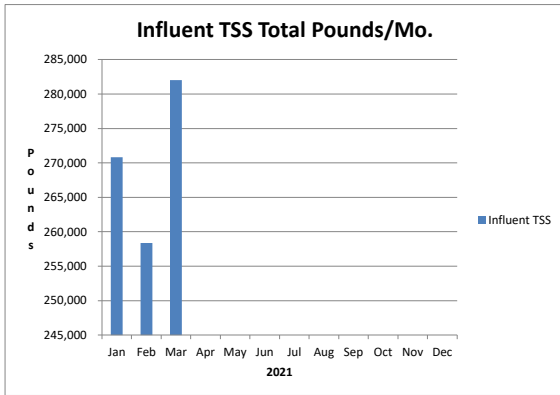
Monthly Avg Limit

Jan- March	10 mg/L
April-May	11 mg/L
June-Sept	4.4 mg/L
Oct- Dec	18 mg/L

{PERMIT LIMITS (WDNR)}	Monthly (Avg)	801#	Monthly Avg	30 mg/L	Monthly Avg	31.5#
	Weekly (Avg)	1345#	Weekly Avg	45 mg/L	6 mo Avg	10.5#
	Daily Max (mg/L)	30	WLA May-Oct		Daily Max mg/L	1.0

Effluent Gallons to Fox Energy	
(March)	
Million Gallons	% to Fox Energy
90.73	40%

March	Avg #'s	6 mo. Avg #	Nov-April
WEEK 1	213	6.05	
WEEK 2	260		
WEEK 3	268		
WEEK 4	215		



RAIN GAUGES

DAILY RAINFALL TOTALS (Includes Rain,Melted Snow)

MONTH: MARCH

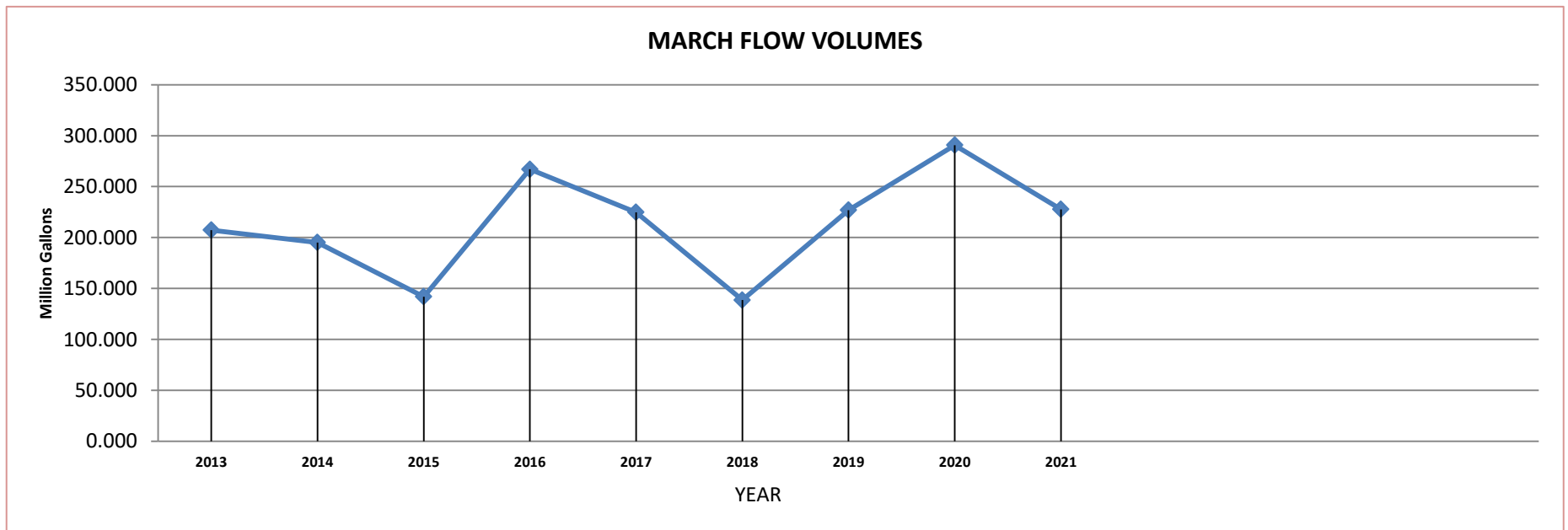
YEAR: 2021

NOAA Site Appleton

<u>DATE</u>	<u>PLANT INCHES</u>	<u>KAUKAUNA INCHES</u>	<u>LITTLE CHUTE INCHES</u>	<u>KIMBERLY INCHES</u>	<u>DARBOY INCHES</u>
1	0.00				
2	0.00				
3	0.00				
4	0.00				
5	0.00				
6	0.00				
7	0.00				
8	0.00				
9	0.00				
10	0.00				
11	0.41				
12	0.00				
13	0.00				
14	0.00				
15	0.00				
16	0.13				
17	0.00				
18	0.09				
19	0.00				
20	0.00				
21	0.00				
22	0.00				
23	0.00				
24	0.81				
25	0.03				
26	0.00				
27	0.00				
28	0.32				
29	0.00				
30	0.00				
31	0.00				
TOTAL:	1.79	0.00	0.00	0.00	0.00

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



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

% CONTRIBUTION BY COMMUNITY - FLOW GALLONS

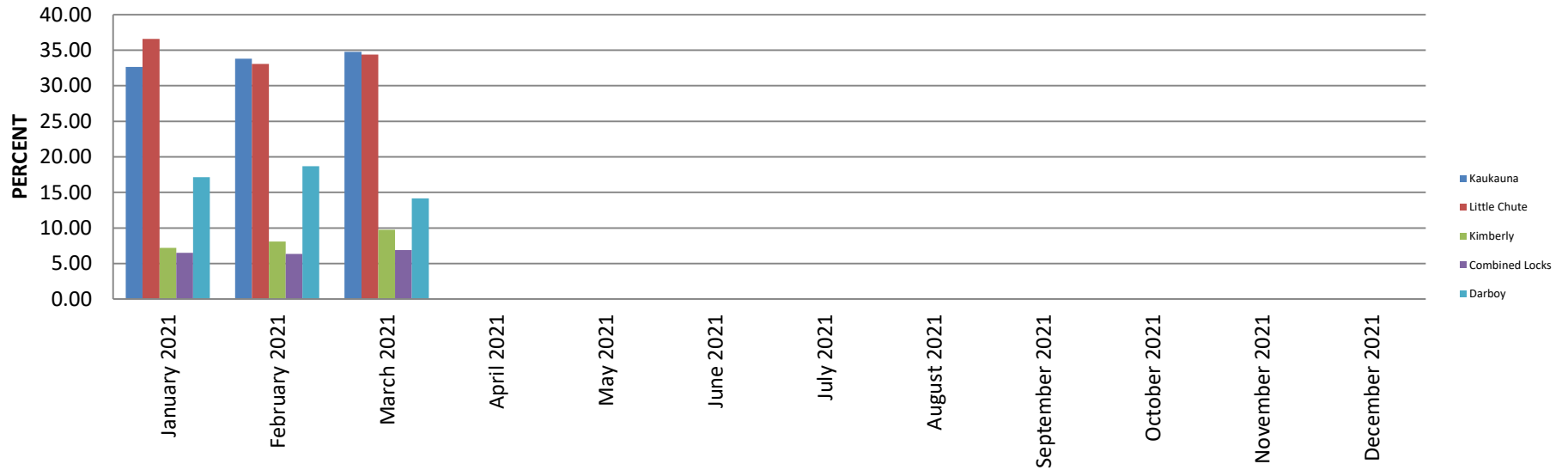
	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>	<u>Rainfall - Inches*</u>
January 2021	32.64	36.57	7.19	6.49	17.12	0.71
February 2021	33.80	33.06	8.11	6.34	18.68	1.29
March 2021	34.77	34.39	9.76	6.90	14.18	1.79
April 2021						
May 2021						
June 2021						
July 2021						
August 2021						
September 2021						
October 2021						
November 2021						
December 2021						

* Nov-March=Rain,Melted Snow, Etc (in.)

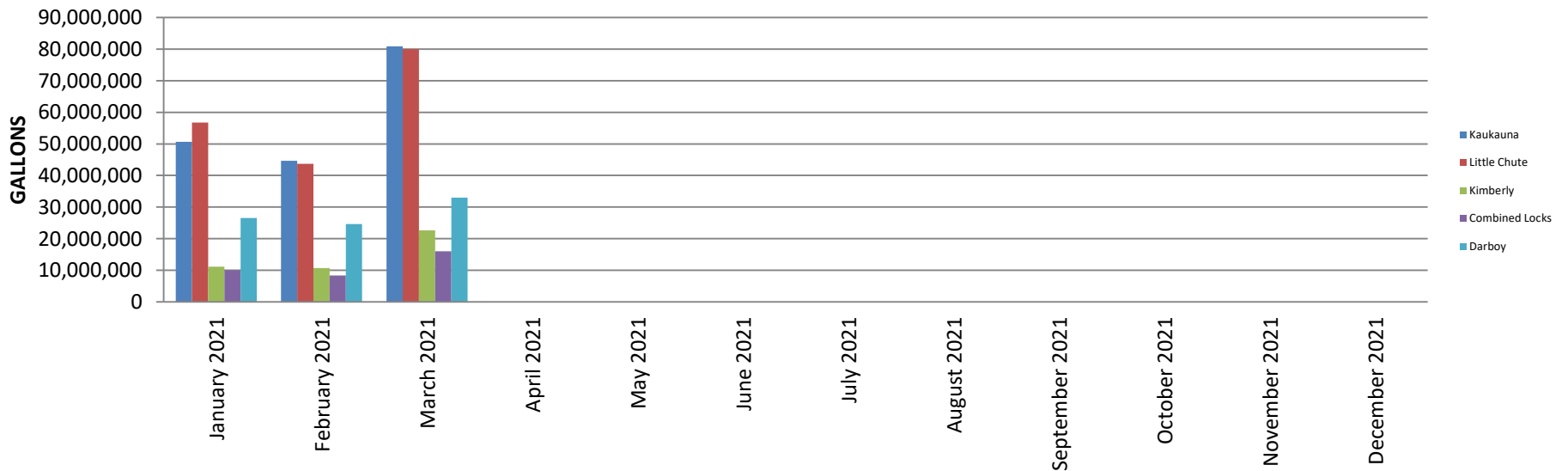
GALLONS CONTRIBUTION BY COMMUNITY - FLOW GALLONS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2021	50,653,000	56,758,000	11,153,000	10,069,000	26,563,000
February 2021	44,627,000	43,652,000	10,710,000	8,367,000	24,666,000
March 2021	80,825,000	79,925,000	22,677,000	16,031,000	32,969,000
April 2021					
May 2021					
June 2021					
July 2021					
August 2021					
September 2021					
October 2021					
November 2021					
December 2021					

% CONTRIBUTION BY COMMUNITY - FLOW GALLONS



GALLONS CONTRIBUTION BY COMMUNITY - FLOW GALLONS



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

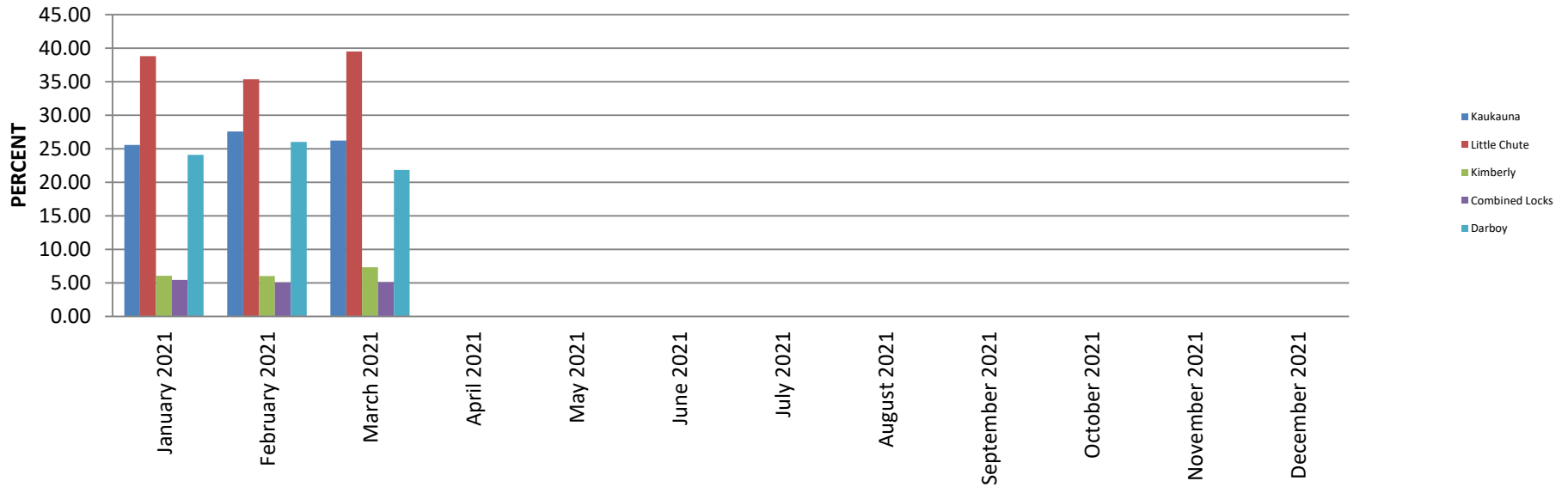
% CONTRIBUTION BY COMMUNITY - B.O.D. POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2021	25.57	38.82	6.06	5.46	24.09
February 2021	27.56	35.35	6.03	5.03	26.03
March 2021	26.22	39.50	7.33	5.10	21.85
April 2021					
May 2021					
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October 2021					
November 2021					
December 2021					

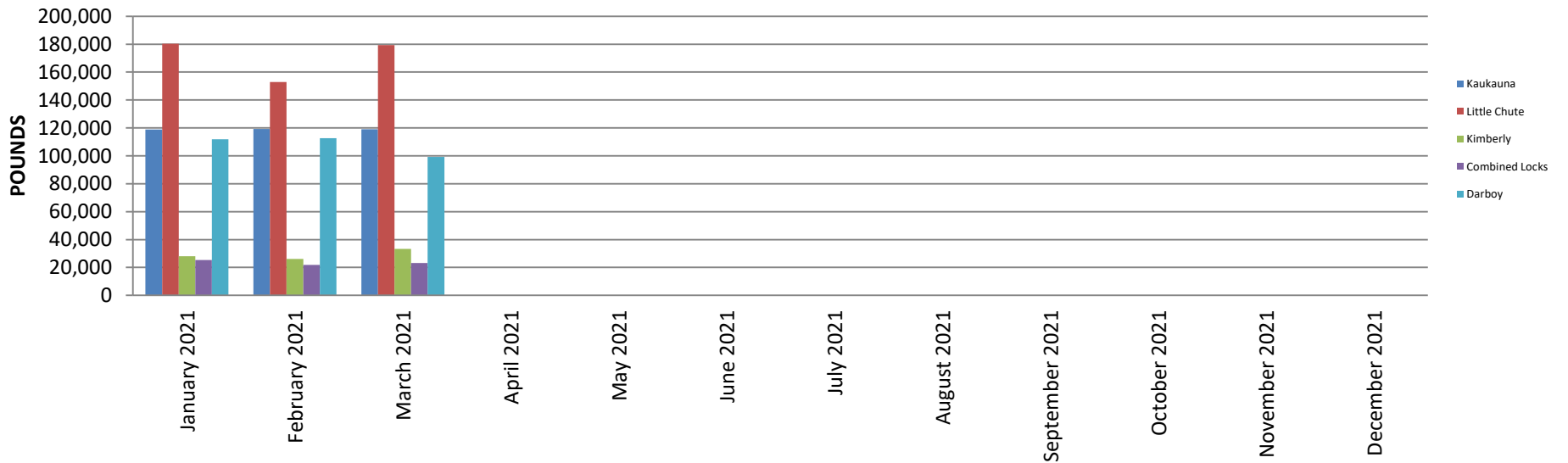
POUNDS CONTRIBUTION BY COMMUNITY - B.O.D. POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2021	118,779	180,309	28,143	25,348	111,869
February 2021	119,174	152,882	26,084	21,751	112,551
March 2021	119,072	179,382	33,269	23,166	99,206
April 2021					
May 2021					
June 2021					
July 2021					
August 2021					
September 2021					
October 2021					
November 2021					
December 2021					

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



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



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

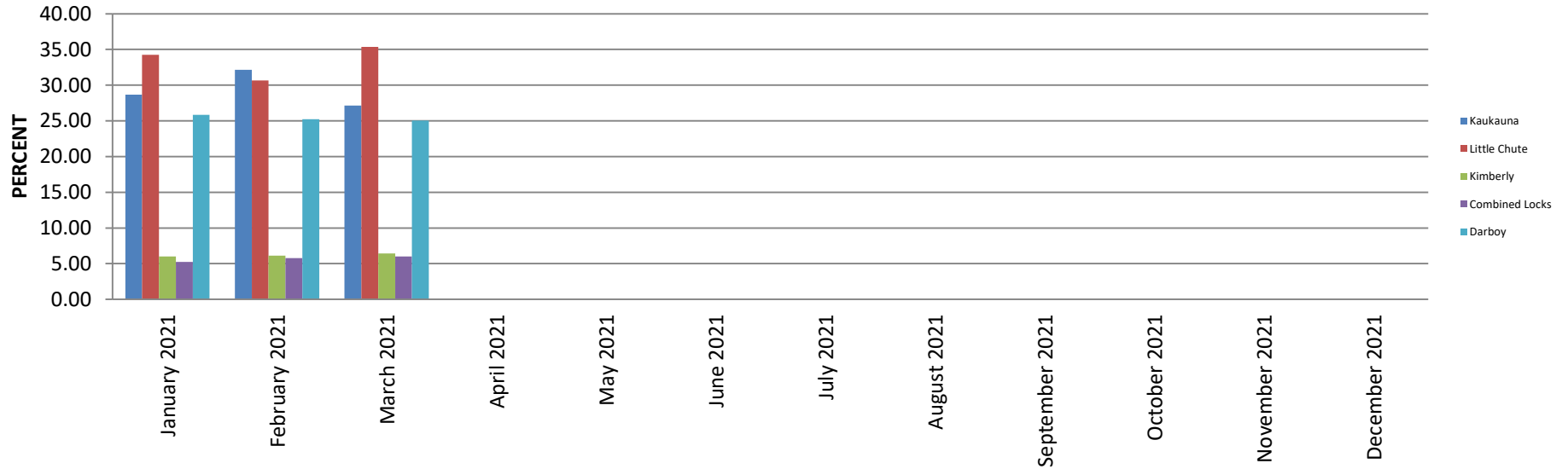
% CONTRIBUTION BY COMMUNITY -TOTAL SUSPENDED SOLIDS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2021	28.68	34.25	6.00	5.23	25.84
February 2021	32.17	30.68	6.13	5.80	25.22
March 2021	27.14	35.38	6.43	6.02	25.03
April 2021					
May 2021					
June 2021					
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August 2021					
September 2021					
October 2021					
November 2021					
December 2021					

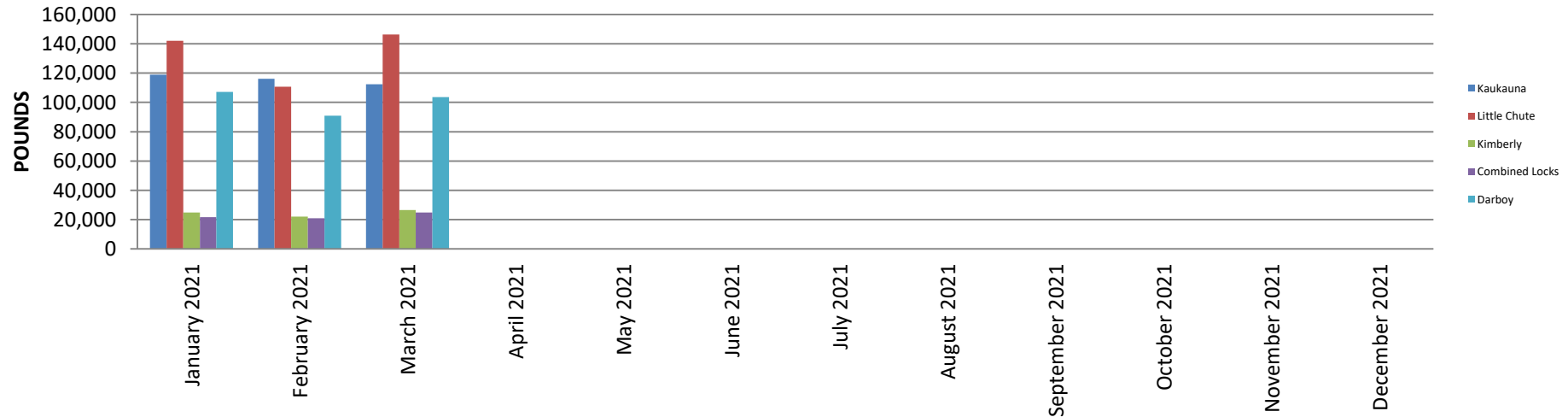
POUNDS CONTRIBUTION BY COMMUNITY - TOTAL SUSPENDED SOLIDS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2021	118,920	141,992	24,872	21,690	107,110
February 2021	116,061	110,689	22,100	20,913	90,998
March 2021	112,310	146,417	26,596	24,931	103,563
April 2021					
May 2021					
June 2021					
July 2021					
August 2021					
September 2021					
October 2021					
November 2021					
December 2021					

% CONTRIBUTION BY COMMUNITY -TOTAL SUSPENDED SOLIDS POUNDS



POUNDS CONTRIBUTION BY COMMUNITY - TOTAL SUSPENDED SOLIDS POUNDS



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

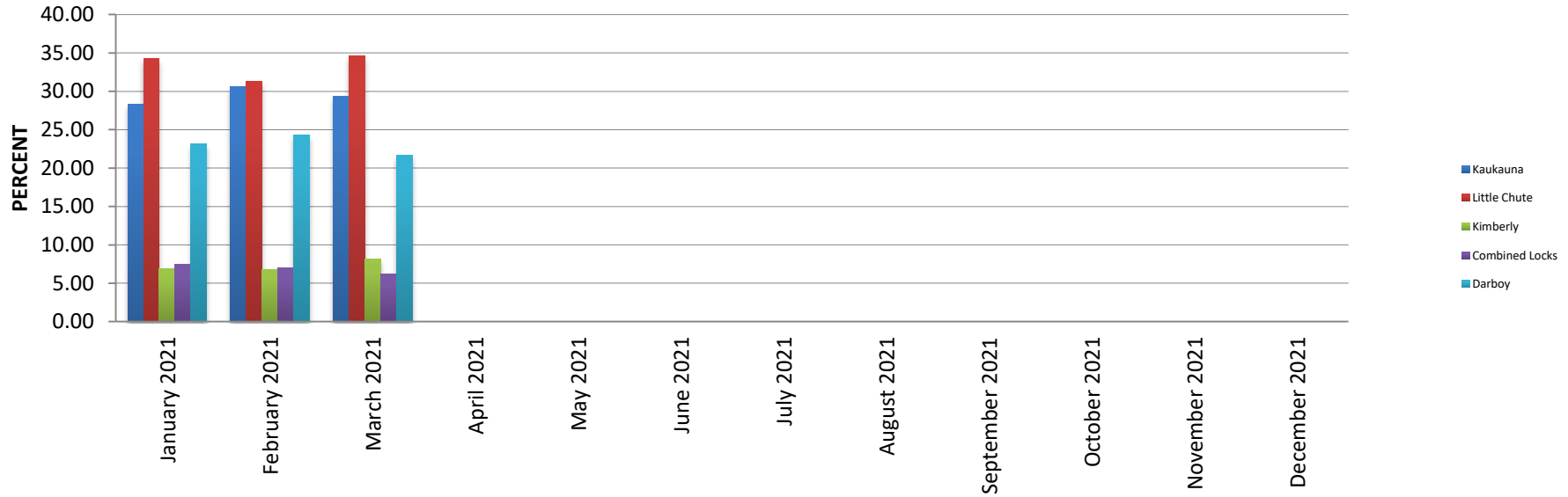
% CONTRIBUTION BY COMMUNITY - PHOSPHORUS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2021	28.27	34.26	6.86	7.47	23.14
February 2021	30.61	31.27	6.83	6.98	24.31
March 2021	29.31	34.64	8.20	6.16	21.69
April 2021					
May 2021					
June 2021					
July 2021					
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September 2021					
October 2021					
November 2021					
December 2021					

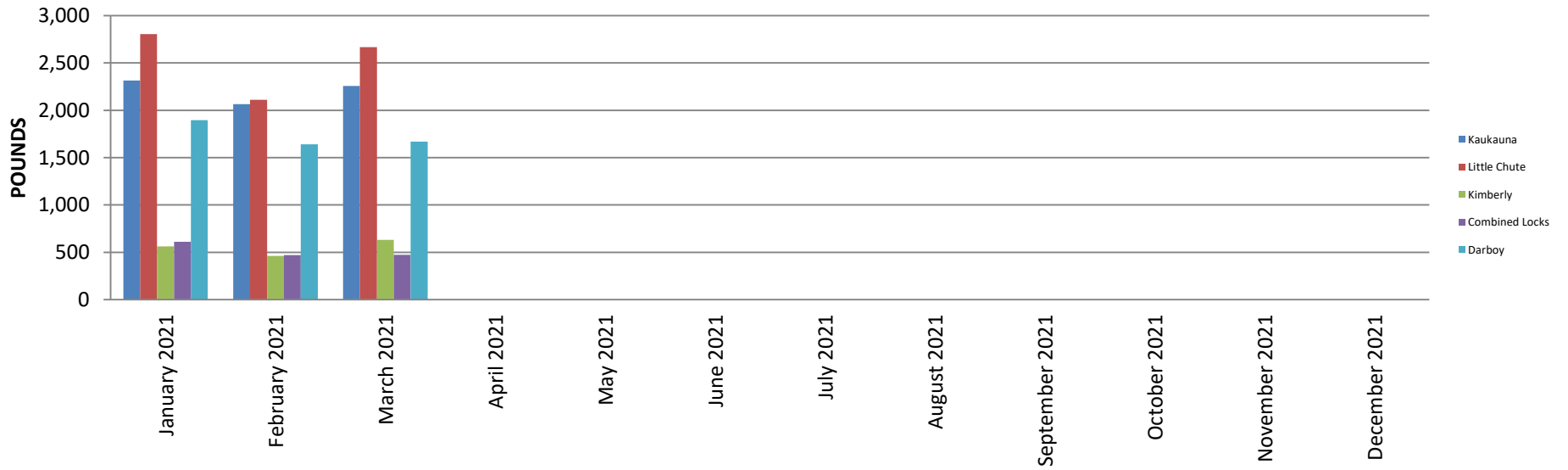
POUNDS CONTRIBUTION BY COMMUNITY - PHOSPHORUS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2021	2,314	2,805	561	611	1,894
February 2021	2,065	2,110	461	471	1,641
March 2021	2,257	2,667	632	474	1,670
April 2021					
May 2021					
June 2021					
July 2021					
August 2021					
September 2021					
October 2021					
November 2021					
December 2021					

% CONTRIBUTION BY COMMUNITY - PHOSPHORUS POUNDS



POUNDS CONTRIBUTION BY COMMUNITY - PHOSPHORUS POUNDS



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

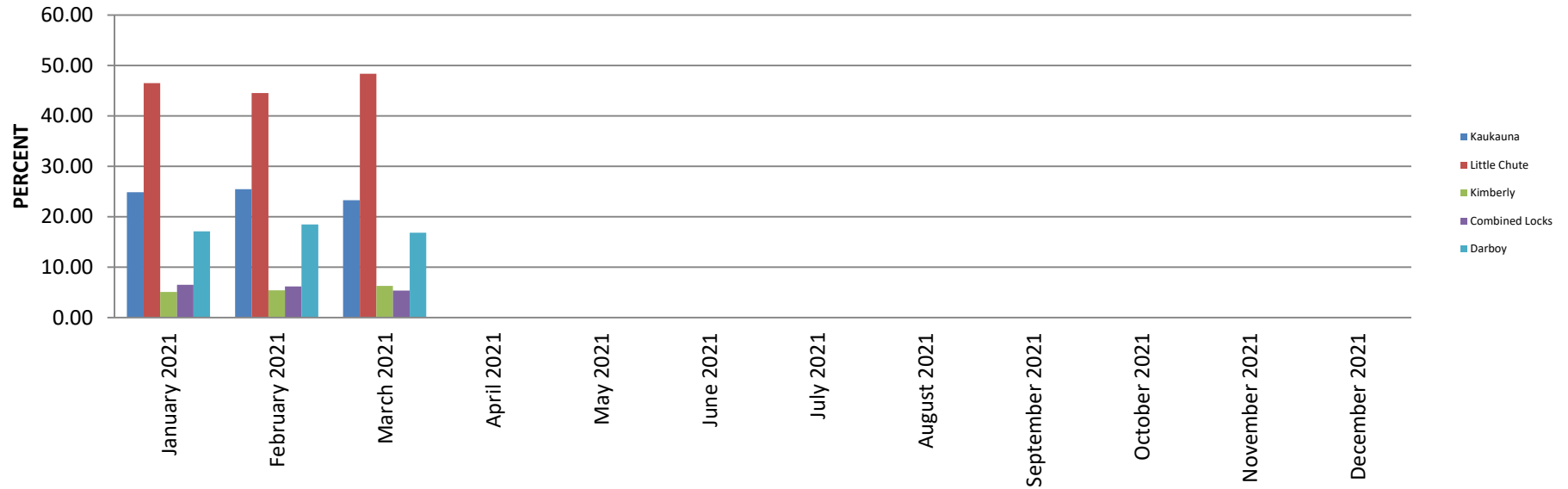
% CONTRIBUTION BY COMMUNITY - AMMONIA POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2021	24.85	46.49	5.08	6.49	17.09
February 2021	25.48	44.51	5.39	6.19	18.44
March 2021	23.25	48.34	6.26	5.35	16.81
April 2021					
May 2021					
June 2021					
July 2021					
August 2021					
September 2021					
October 2021					
November 2021					
December 2021					

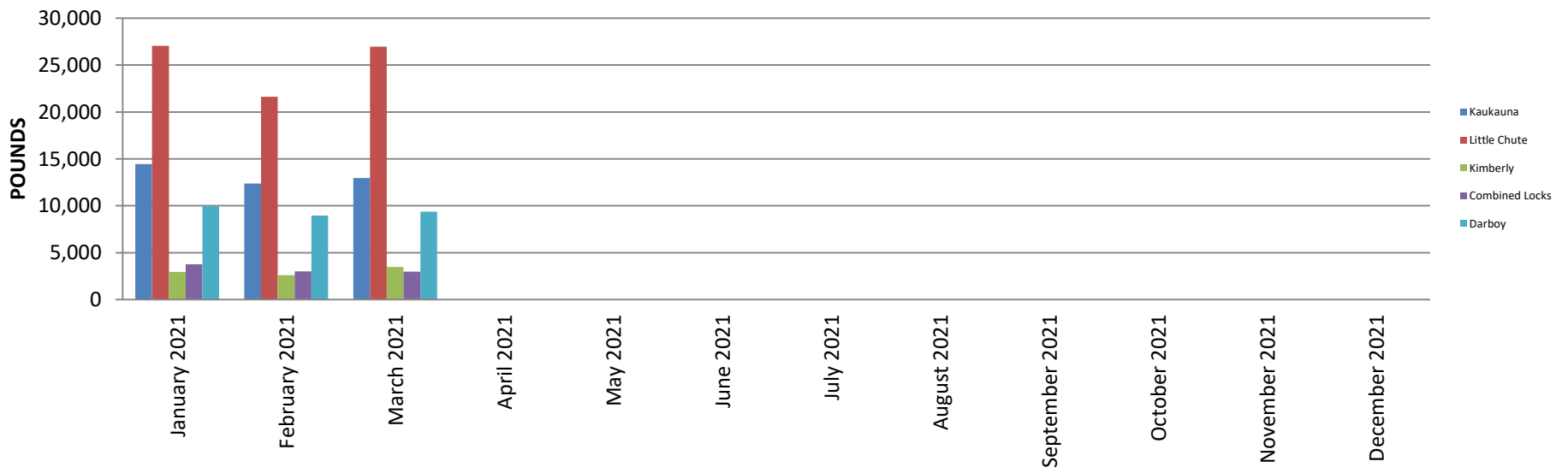
POUNDS CONTRIBUTION BY COMMUNITY - AMMONIA POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2021	14,449	27,032	2,951	3,776	9,940
February 2021	12,371	21,607	2,615	3,003	8,950
March 2021	12,960	26,953	3,488	2,980	9,373
April 2021					
May 2021					
June 2021					
July 2021					
August 2021					
September 2021					
October 2021					
November 2021					
December 2021					

% CONTRIBUTION BY COMMUNITY - AMMONIA POUNDS



POUNDS CONTRIBUTION BY COMMUNITY - AMMONIA POUNDS



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

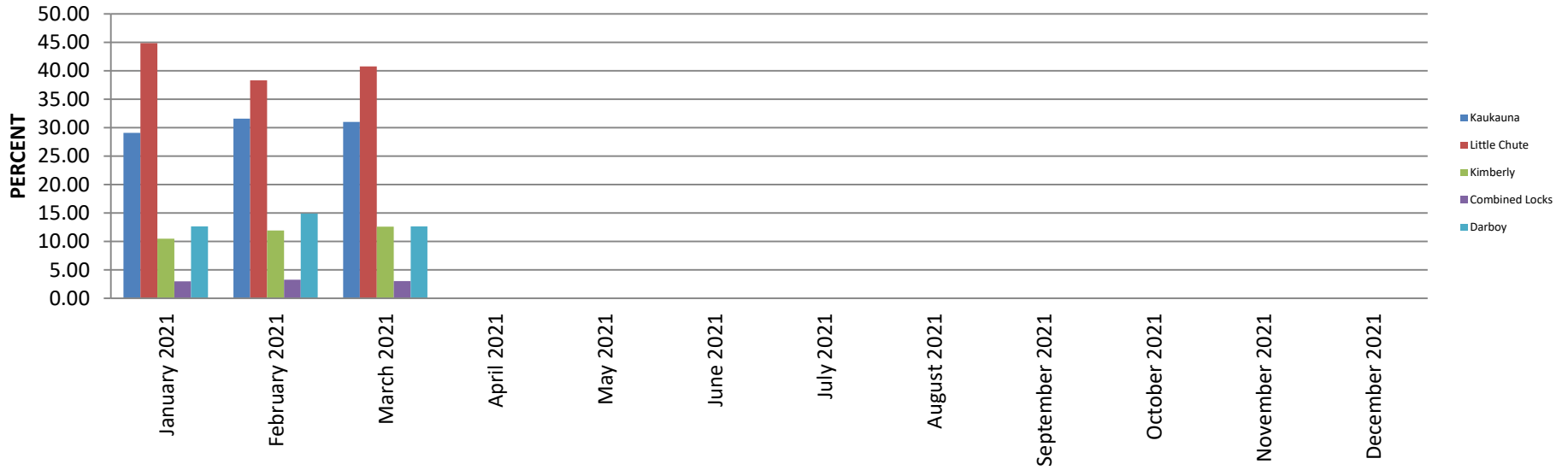
% CONTRIBUTION BY COMMUNITY - CHLORIDE POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2021	29.06	44.82	10.50	2.98	12.63
February 2021	31.59	38.33	11.91	3.26	14.91
March 2021	31.00	40.75	12.58	3.03	12.63
April 2021					
May 2021					
June 2021					
July 2021					
August 2021					
September 2021					
October 2021					
November 2021					
December 2021					

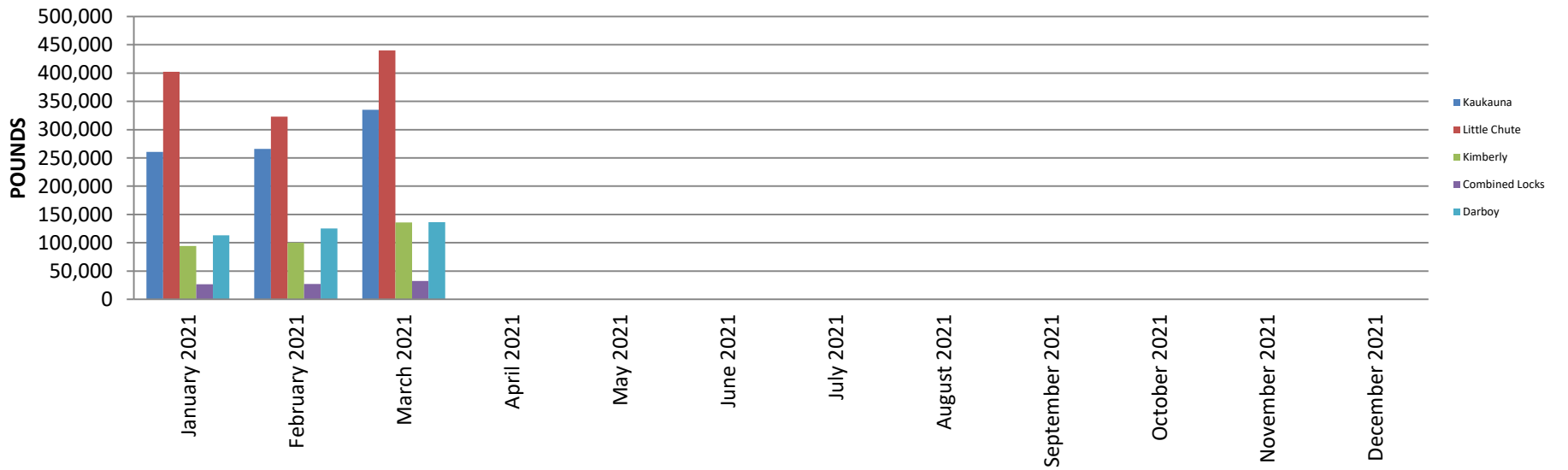
POUNDS CONTRIBUTION BY COMMUNITY - CHLORIDE POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2021	260,808	402,271	94,270	26,746	113,365
February 2021	266,097	322,891	100,337	27,435	125,551
March 2021	334,840	440,145	135,920	32,675	136,439
April 2021					
May 2021					
June 2021					
July 2021					
August 2021					
September 2021					
October 2021					
November 2021					
December 2021					

% CONTRIBUTION BY COMMUNITY - CHLORIDE POUNDS

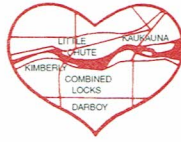


POUNDS CONTRIBUTION BY COMMUNITY - CHLORIDE POUNDS



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
 Darbo 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: 2021

Gallons of Final Effluent Purchased (Billing)

<u>Date</u>	<u>Gallons</u>	<u>Date</u>	<u>Gallons</u>
3/1/2021	3,062,000	3/21/2021	3,245,000
3/2/2021	2,921,000	3/22/2021	3,214,000
3/3/2021	2,938,000	3/23/2021	3,069,000
3/4/2021	2,615,000	3/24/2021	2,859,000
3/5/2021	3,106,000	3/25/2021	3,373,000
3/6/2021	2,738,000	3/26/2021	2,630,000
3/7/2021	2,882,000	3/27/2021	2,552,000
3/8/2021	2,955,000	3/28/2021	3,025,000
3/9/2021	3,061,000	3/29/2021	3,234,000
3/10/2021	3,064,000	3/30/2021	2,861,000
3/11/2021	3,116,000	3/31/2021	3,005,000
3/12/2021	3,023,000		
3/13/2021	2,968,000		
3/14/2021	2,833,000	Total:	90,727,000
3/15/2021	3,100,000		
3/16/2021	2,938,000		
3/17/2021	3,100,000		
3/18/2021	2,622,000		
3/19/2021	2,366,000		
3/20/2021	2,252,000		

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

Attn: Account # N2310E

MONTHLY BILLING

Month: March

Year: 2021

GALLONS PURCHASED: 90,727,000

BILLING RATE: \$0.1619962 PER 1000 GALLONS

TOTAL AMOUNT DUE: \$14,697.43

**Heart of the Valley
Metropolitan Sewerage District**

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

2021

Final Effluent Sent to Fox Energy Facility

Gallons: 247,213,000

Charge Per 1000 Gallons: \$0.1619962 Per 1000 Gallons

Sale of Final Effluent (Revenue Collected): \$40,047.57