

FLOW AND STRENGTH PROJECTIONS

MONTH: April 2018

	<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)	214,974,263	253,835,990	38,861,727	\$ 171,119.51	\$ 202,053.45	\$ 30,933.93
B.O.D. (#s)	295,018	366,425	71,407	\$ 77,294.72	\$ 96,003.23	\$ 18,708.52
S. SOLIDS (#s)	341,313	347,347	6,034	\$ 90,789.26	\$ 92,394.30	\$ 1,605.04
PHOSPHORUS (#s)	7,075	6,376	-699	\$ 44,501.75	\$ 40,106.99	\$ (4,394.76)
AMMONIA-N (#s)	39,314	41,742	2,428	\$ 58,931.69	\$ 62,571.23	\$ 3,639.54
CHLORIDES (#s)	755,887	826,312	70,425	\$ 3,779.44	\$ 4,131.56	\$ 352.13
			TOTAL:	\$ 446,416.36	\$ 497,260.76	\$ 50,844.40

(THRU APRIL 2018)

PROJECTED FOR 2018

	<u>END OF YEAR PROJECTED</u>	<u>YEAR TO DATE SURPLUS/ DEFICIT</u>	<u>YEAR TO DATE SURPLUS/ DEFICIT \$\$</u>
FLOW (GALLONS)	1,947,278,400	-51,228,046	\$ (40,777.52)
B.O.D. (#s)	3,292,724	110,431	\$ 28,932.88
S. SOLIDS (#s)	3,957,399	-99,000	\$ (26,333.98)
PHOSPHORUS (#s)	83,650	-4,427	\$ (27,847.21)
AMMONIA-N (#s)	464,411	10,828	\$ 16,230.48
CHLORIDES (#s)	7,768,031	138,187	\$ 690.94
		TOTAL:	\$ (49,104.42)

HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

MONTH: APRIL 2018

HYDRAULIC AND ORGANIC LOADINGS DATA

INFLUENT*

TOTAL FLOW TO PLANT: 250,232,000 GALLONS
 AVERAGE B.O.D. : 161 mg/L
 AVERAGE SUSPENDED SOLIDS : 136 mg/L
 AVERAGE PHOSPHORUS : 3.33 mg/L
 AVERAGE AMMONIA-N : 24.12 mg/L
 AVERAGE CHLORIDES : 491.54 mg/L

MAXIMUM DAILY FLOW TO PLANT:
17,058,000

PERCENT (%) BY COMMUNITY OF TOTAL MONTHLY VOLUME TREATED AT WWTP

<u>COMMUNITY</u>	<u>FLOW</u>	<u>BOD</u>	<u>TSS</u>	<u>PHOSPHORUS</u>	<u>AMMONIA</u>	<u>CHLORIDES</u>
KAUKAUNA	38.85	30.40	30.25	31.70	26.73	34.09
LITTLE CHUTE	26.62	29.35	28.41	26.02	37.94	30.08
KIMBERLY	15.77	15.53	16.15	13.19	9.69	16.81
COMBINED LOCKS	6.25	5.29	6.69	6.36	5.78	2.81
DARBOY	12.51	19.42	18.50	22.73	19.86	16.21

AVERAGE DAILY INFLUENT LOADINGS

FLOW : 8,341,067 GALLONS
 B.O.D. : 10,842 POUNDS
 SUSPENDED SOLIDS : 9,156 POUNDS
 PHOSPHORUS : 224 POUNDS
 AMMONIA-N : 1,623 POUNDS
 CHLORIDES : 33,091 POUNDS

%

70.1
74.0
56.2
55.1
84.6

PLANT DESIGN CRITERIA

11,900,000 GALLONS/DAY
 14,651 POUNDS/DAY
 16,278 POUNDS/DAY
 407 POUNDS/DAY
 1,920 POUNDS/DAY

FINAL EFFLUENT

	<u>MONTHLY AVERAGE</u>	<u>%</u>	<u>MONTHLY AVG PERMIT LIMIT</u>	
FLOW:	7,185,300			
SUSPENDED SOLIDS :	9.68	32.3	30	mg/L
SUSPENDED SOLIDS :	641.49	80.1	801	lbs
cB.O.D. :	5.37	21.5	25	mg/L
PHOSPHORUS :	0.20	19.6	1	mg/L
AMMONIA-N :	0.17	1.7	10	mg/L
CHLORIDES :	475.38			mg/L

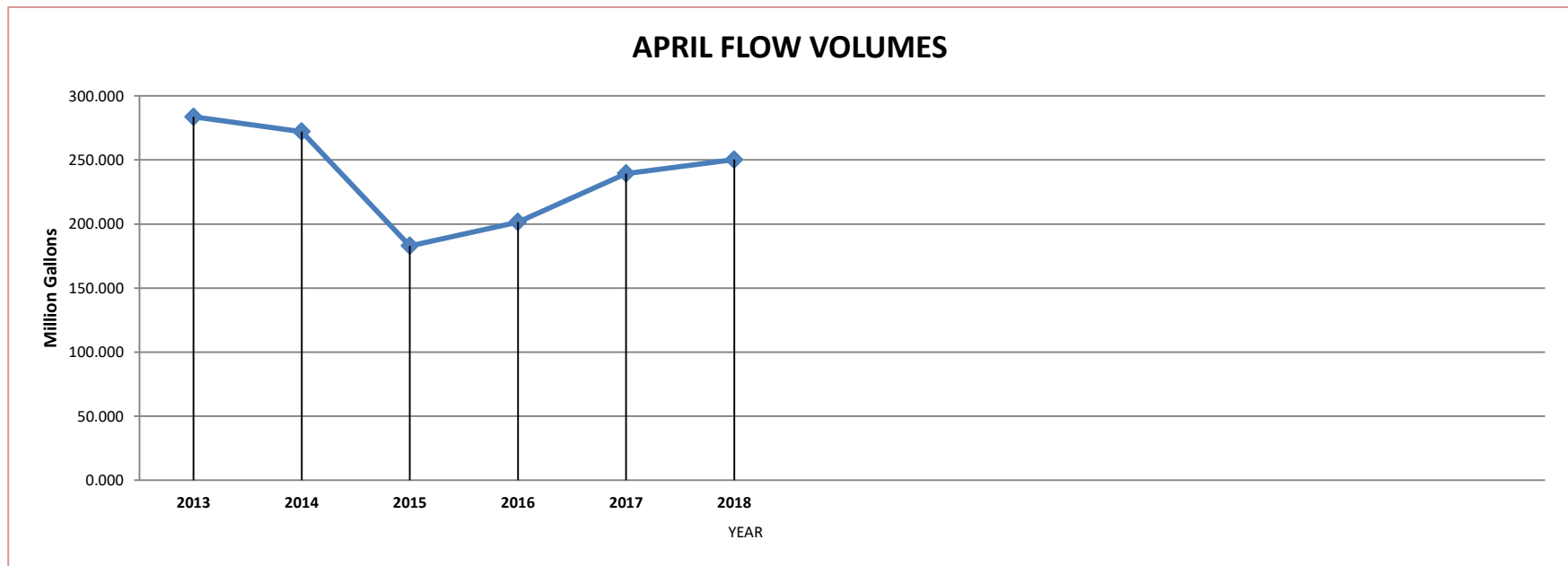
FOX ENERGY CENTER PUMPED: 34,673,000 GALLONS

Effluent to Fox Energy
14%

* INCLUDES HAULED WASTE

HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

<u>Year</u>	<u>April Flow</u> <u>Million Gallons</u>	<u>Precipitation</u> <u>Inches</u>
2013	283.615	3.19
2014	272.038	4.08
2015	182.911	1.91
2016	201.541	0.89
2017	239.329	3.44
2018	250.232	1.02



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

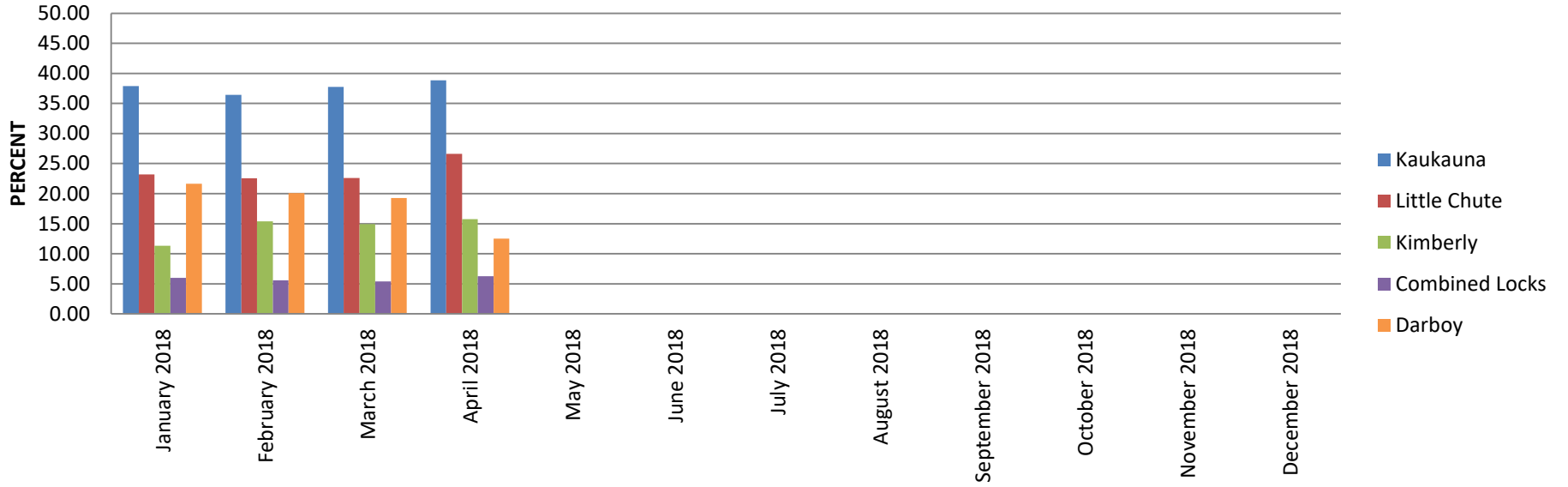
% CONTRIBUTION BY COMMUNITY - FLOW GALLONS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>	<u>Rainfall - Inches</u>
January 2018	37.87	23.18	11.32	5.97	21.65	0.60
February 2018	36.41	22.54	15.39	5.58	20.08	0.00
March 2018	37.77	22.61	14.95	5.41	19.26	0.63
April 2018	38.85	26.62	15.77	6.25	12.51	1.02
May 2018						
June 2018						
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December 2018						

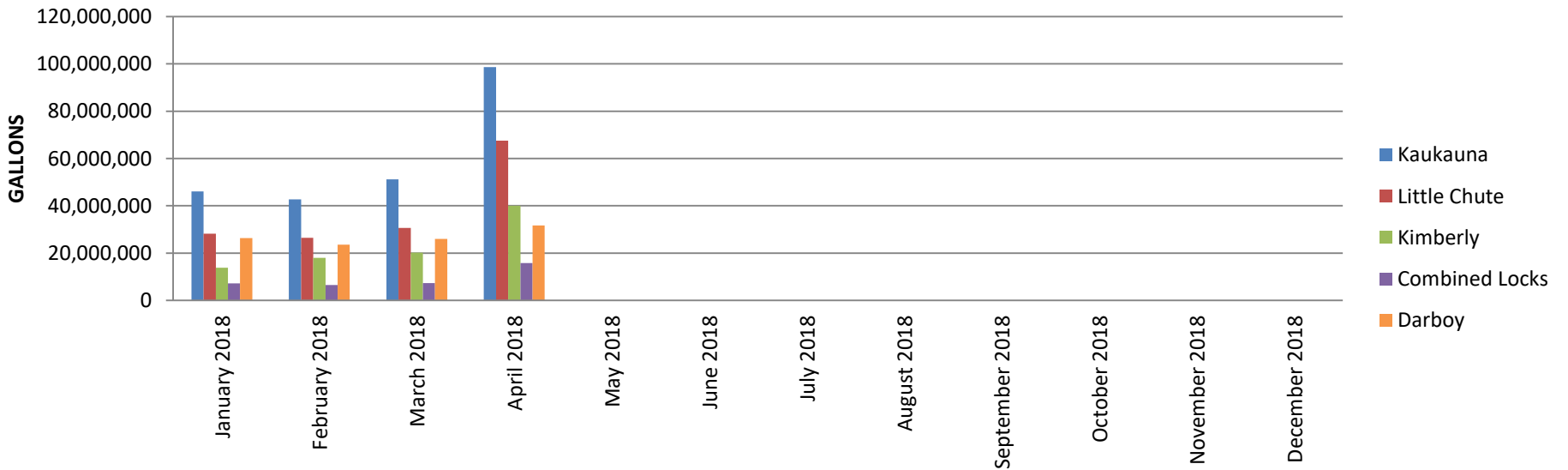
GALLONS CONTRIBUTION BY COMMUNITY - FLOW GALLONS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2018	46,099,140	28,215,000	13,781,000	7,268,000	26,355,000
February 2018	42,761,360	26,468,000	18,068,000	6,547,000	23,585,000
March 2018	51,131,810	30,606,000	20,240,000	7,321,000	26,073,000
April 2018	98,618,990	67,582,000	40,021,000	15,865,000	31,749,000
May 2018					
June 2018					
July 2018					
August 2018					
September 2018					
October 2018					
November 2018					
December 2018					

% CONTRIBUTION BY COMMUNITY - FLOW GALLONS



GALLONS CONTRIBUTION BY COMMUNITY - FLOW GALLONS



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

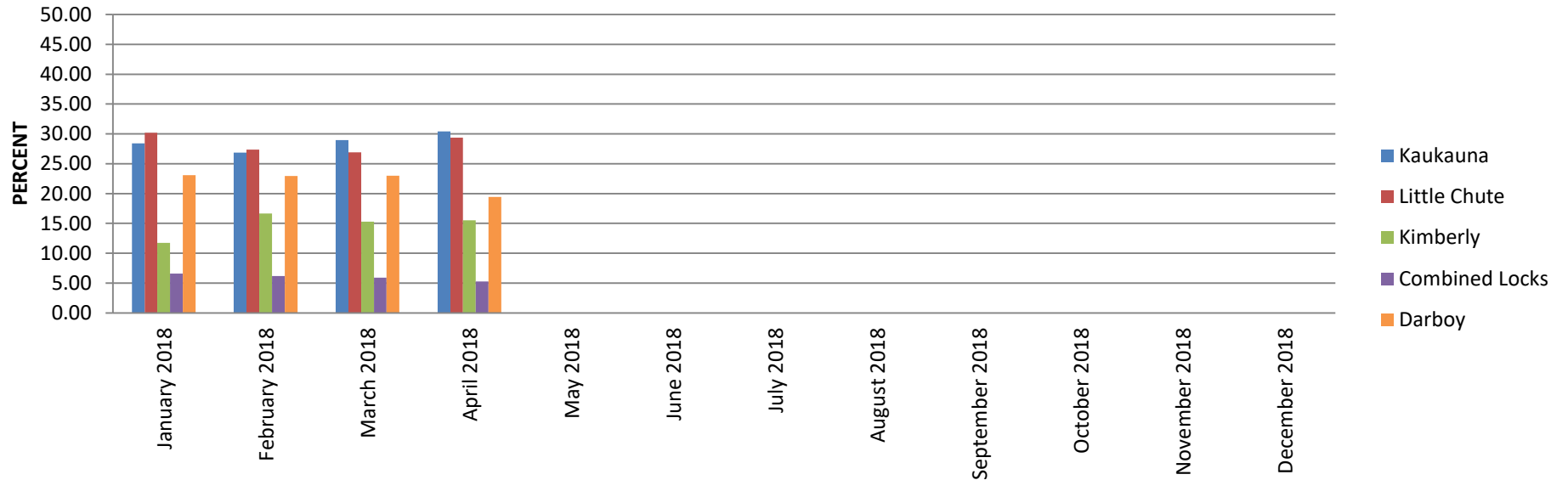
% CONTRIBUTION BY COMMUNITY - B.O.D. POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2018	28.42	30.18	11.73	6.60	23.07
February 2018	26.85	27.36	16.67	6.19	22.93
March 2018	28.94	26.89	15.29	5.90	22.98
April 2018	30.40	29.35	15.53	5.29	19.42
May 2018					
June 2018					
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October 2018					
November 2018					
December 2018					

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 2018	83,358	88,512	34,420	19,362	67,661
February 2018	75,247	76,661	46,699	17,352	64,259
March 2018	87,606	81,400	46,292	17,857	69,552
April 2018	111,405	107,553	56,921	19,377	71,170
May 2018					
June 2018					
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November 2018					
December 2018					

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



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



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

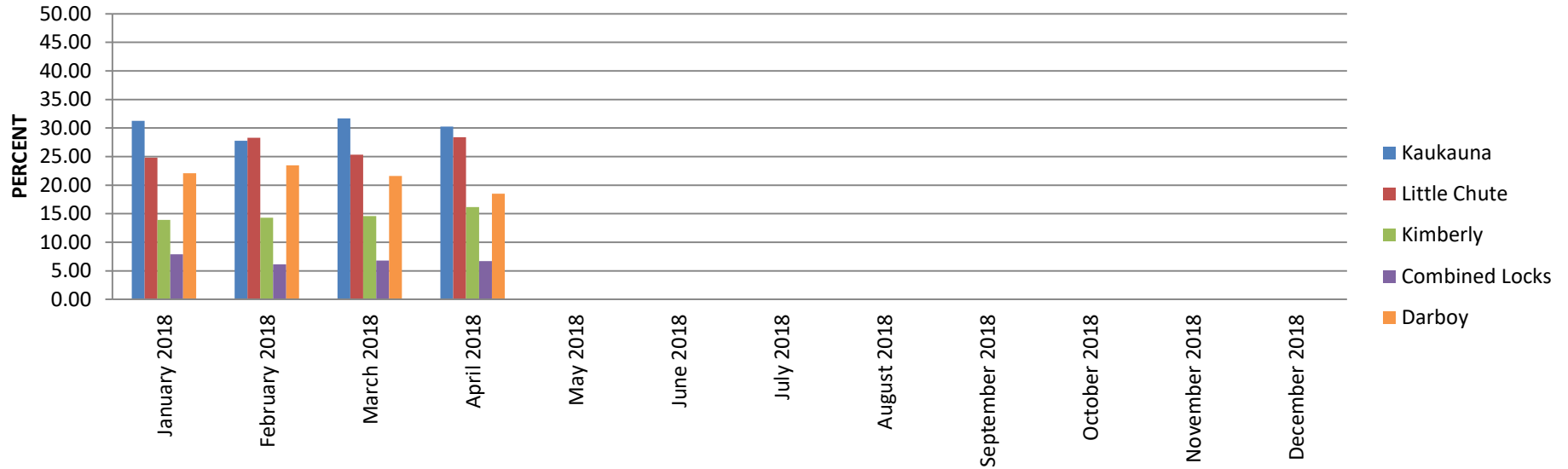
% CONTRIBUTION BY COMMUNITY -TOTAL SUSPENDED SOLIDS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2018	31.24	24.81	13.94	7.91	22.10
February 2018	27.78	28.30	14.32	6.15	23.45
March 2018	31.67	25.34	14.58	6.82	21.59
April 2018	30.25	28.41	16.15	6.69	18.50
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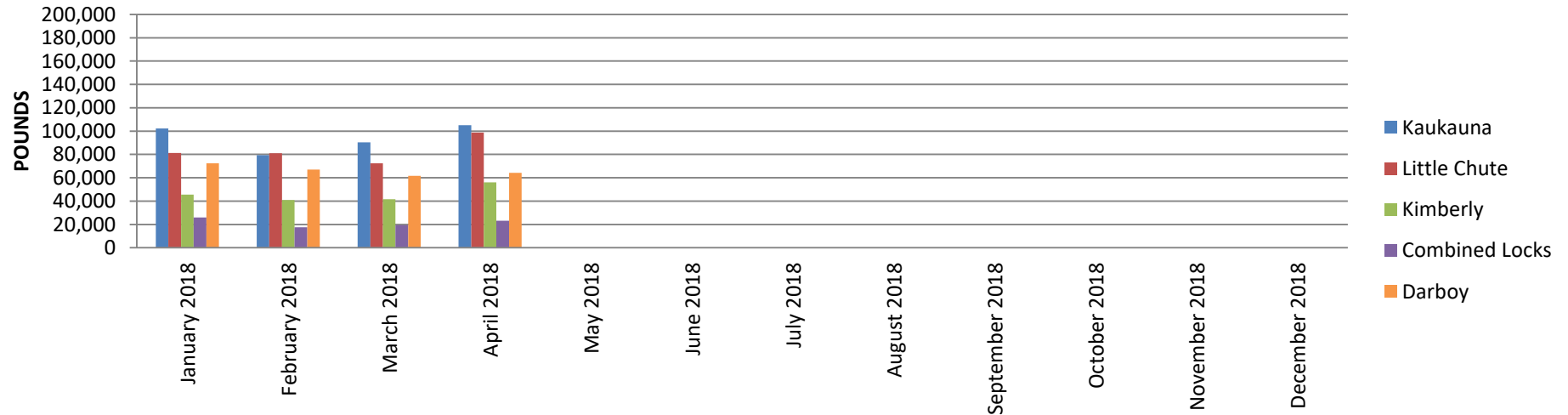
POUNDS CONTRIBUTION BY COMMUNITY - TOTAL SUSPENDED SOLIDS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2018	102,297	81,227	45,639	25,895	72,372
February 2018	79,448	80,940	40,972	17,598	67,074
March 2018	90,343	72,301	41,602	19,470	61,582
April 2018	105,064	98,675	56,092	23,255	64,262
May 2018					
June 2018					
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December 2018					

% CONTRIBUTION BY COMMUNITY -TOTAL SUSPENDED SOLIDS POUNDS



POUNDS CONTRIBUTION BY COMMUNITY - TOTAL SUSPENDED SOLIDS POUNDS



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

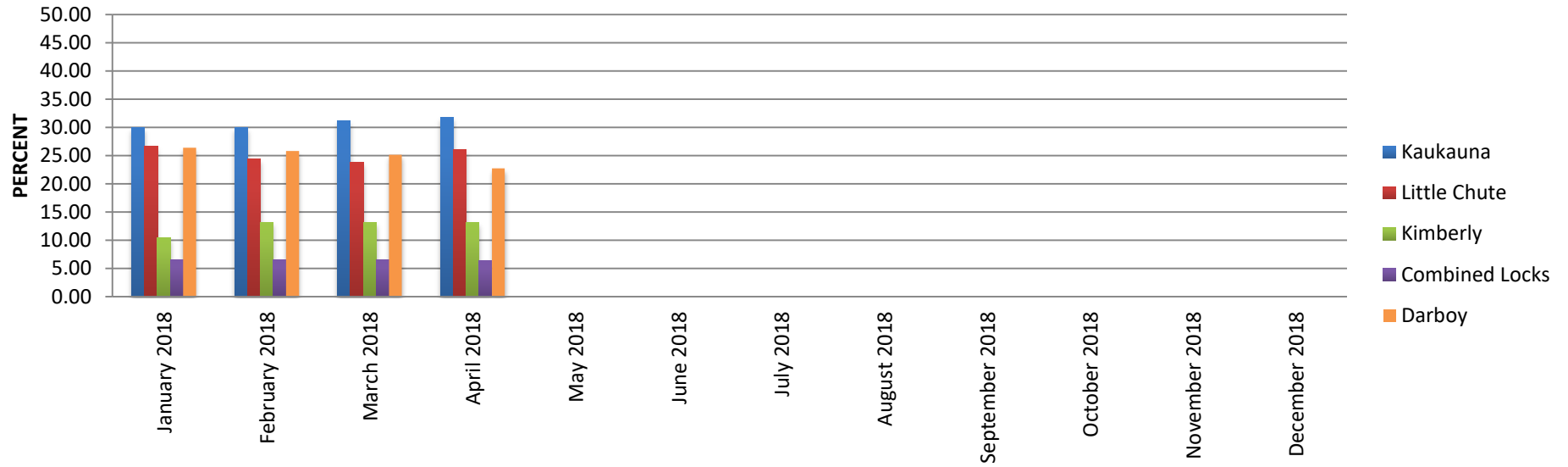
% CONTRIBUTION BY COMMUNITY - PHOSPHORUS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2018	29.96	26.61	10.44	6.60	26.40
February 2018	29.98	24.42	13.22	6.58	25.80
March 2018	31.22	23.87	13.16	6.59	25.16
April 2018	31.70	26.02	13.19	6.36	22.73
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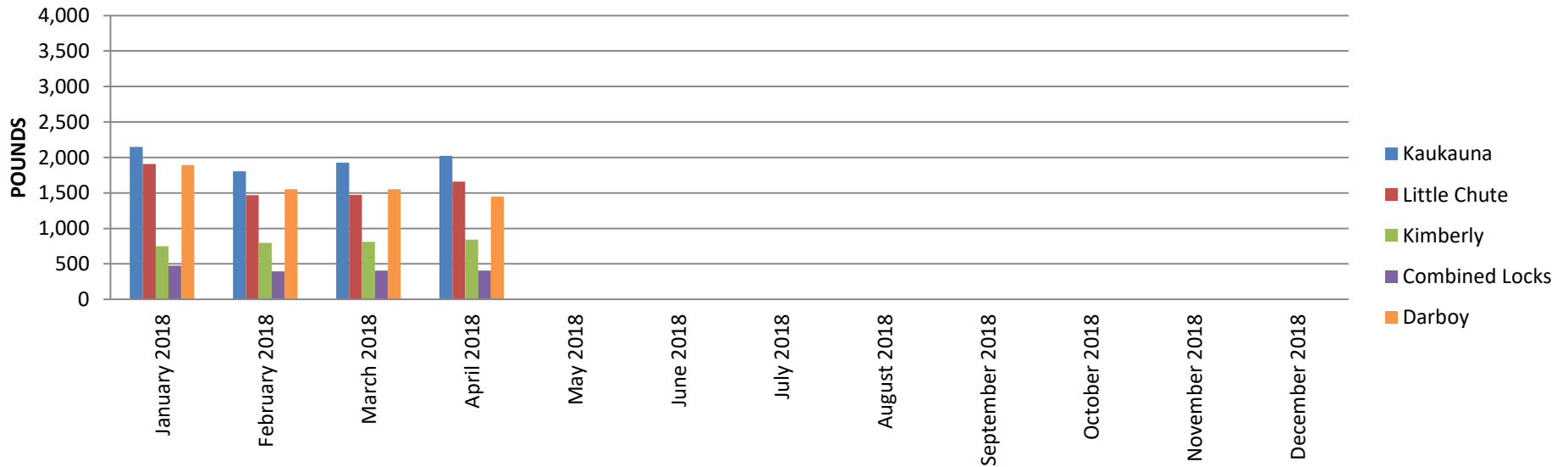
POUNDS CONTRIBUTION BY COMMUNITY - PHOSPHORUS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2018	2,150	1,910	749	474	1,895
February 2018	1,805	1,470	796	396	1,553
March 2018	1,927	1,474	812	407	1,553
April 2018	2,021	1,659	841	406	1,449
May 2018					
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November 2018					
December 2018					

% CONTRIBUTION BY COMMUNITY - PHOSPHORUS POUNDS



POUNDS CONTRIBUTION BY COMMUNITY - PHOSPHORUS POUNDS



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

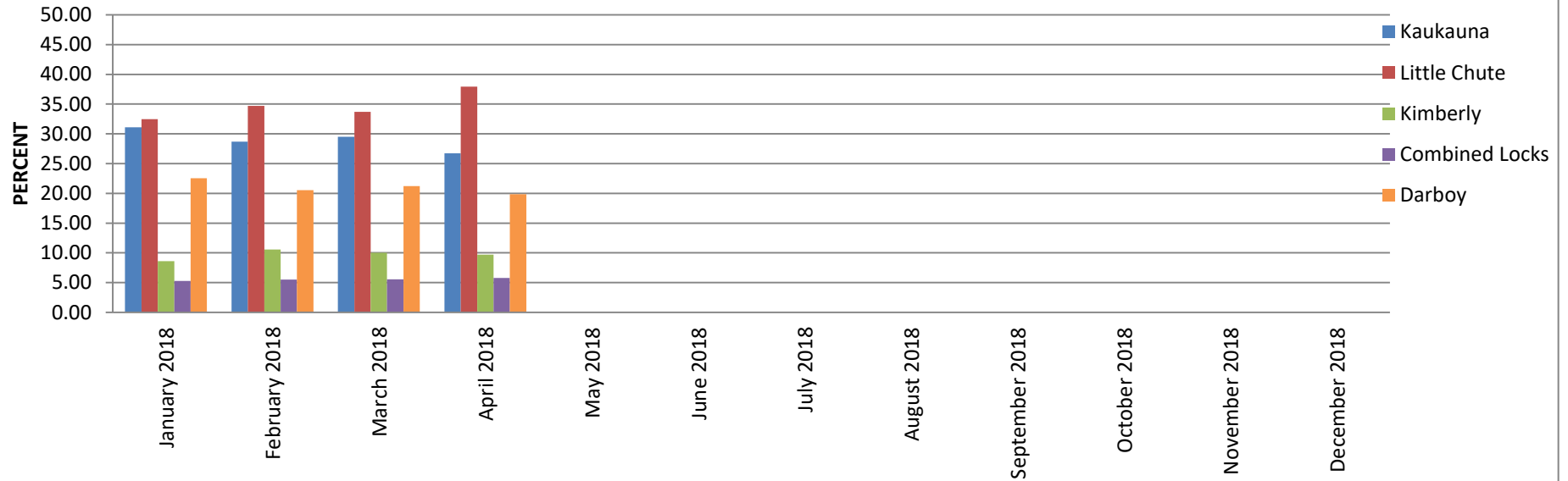
% CONTRIBUTION BY COMMUNITY - AMMONIA POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2018	31.10	32.48	8.61	5.26	22.55
February 2018	28.69	34.71	10.57	5.49	20.54
March 2018	29.51	33.70	10.03	5.56	21.20
April 2018	26.73	37.94	9.69	5.78	19.86
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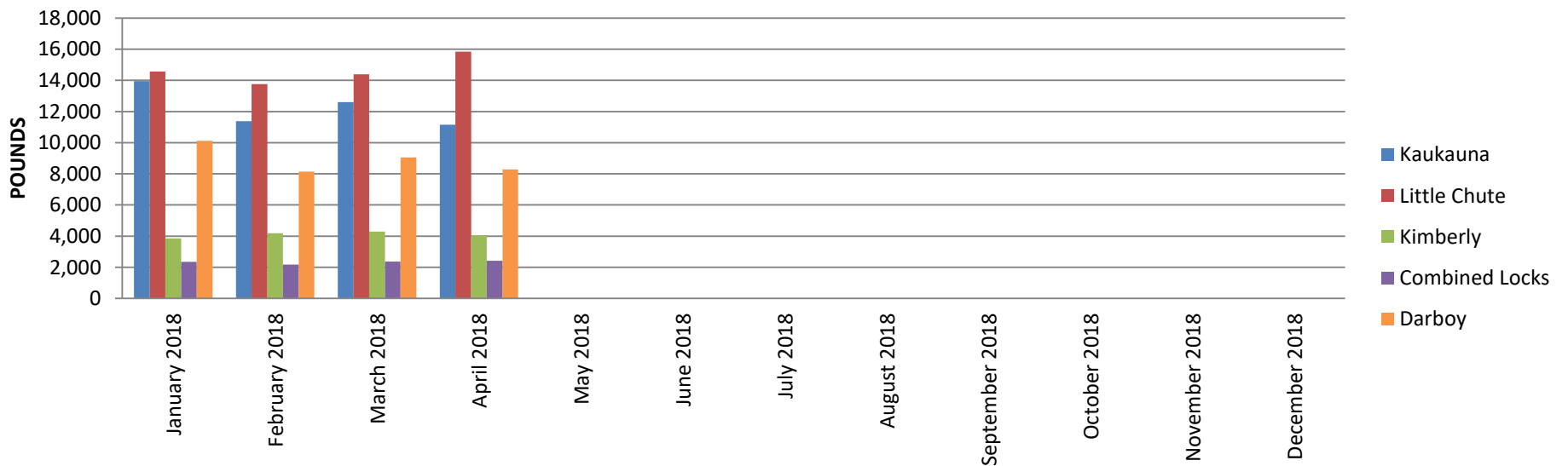
POUNDS CONTRIBUTION BY COMMUNITY - AMMONIA POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2018	13,947	14,563	3,860	2,358	10,111
February 2018	11,375	13,761	4,191	2,176	8,142
March 2018	12,606	14,396	4,286	2,373	9,054
April 2018	11,159	15,835	4,044	2,413	8,291
May 2018					
June 2018					
July 2018					
August 2018					
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October 2018					
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% CONTRIBUTION BY COMMUNITY - AMMONIA POUNDS



POUNDS CONTRIBUTION BY COMMUNITY - AMMONIA POUNDS



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

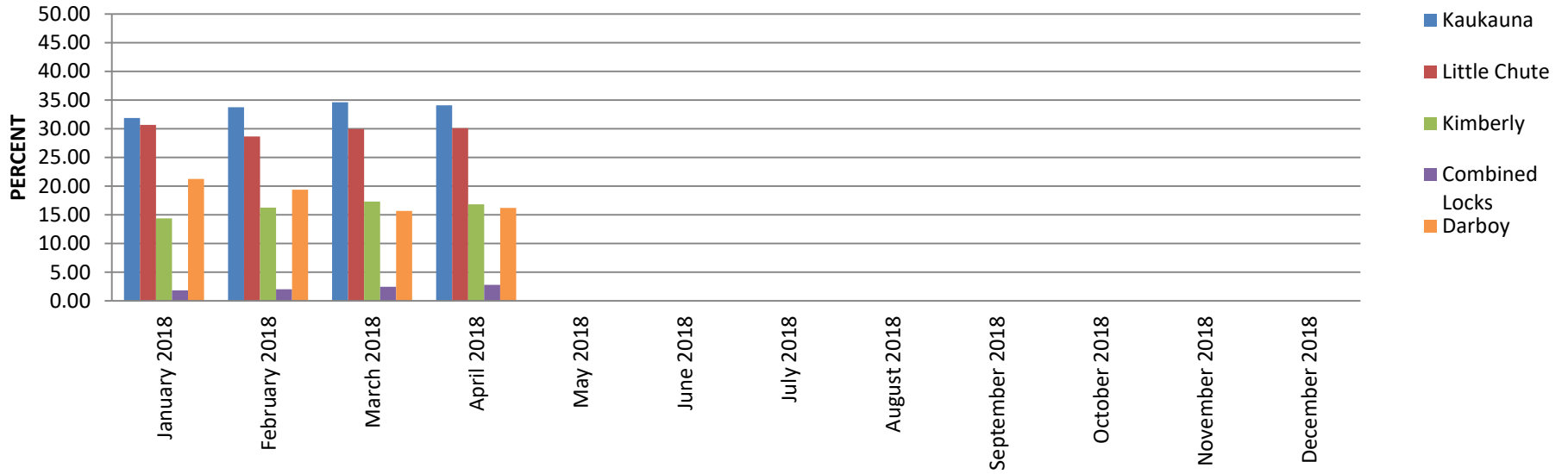
% CONTRIBUTION BY COMMUNITY - CHLORIDE POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2018	31.85	30.69	14.39	1.82	21.26
February 2018	33.73	28.65	16.24	2.03	19.36
March 2018	34.62	29.96	17.30	2.45	15.66
April 2018	34.09	30.08	16.81	2.81	16.21
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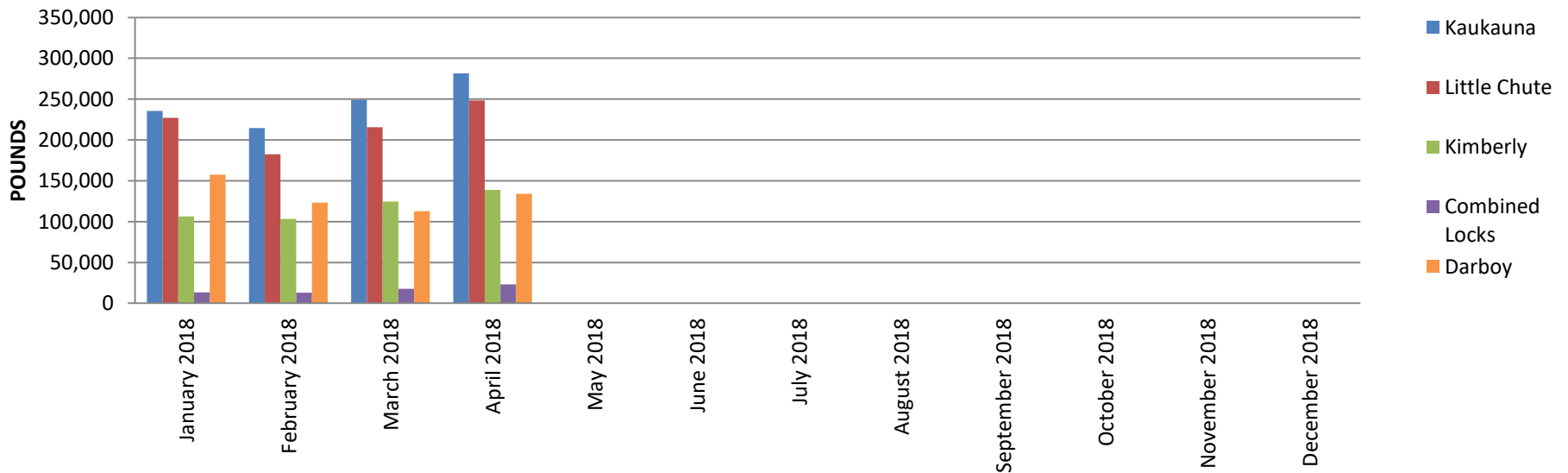
POUNDS CONTRIBUTION BY COMMUNITY - CHLORIDE POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2018	235,615	226,992	106,418	13,443	157,237
February 2018	214,675	182,327	103,385	12,914	123,204
March 2018	249,175	215,698	124,537	17,668	112,756
April 2018	281,686	248,544	138,915	23,201	133,966
May 2018					
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December 2018					

% CONTRIBUTION BY COMMUNITY - CHLORIDE POUNDS

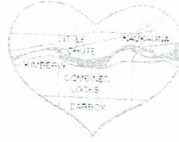


POUNDS CONTRIBUTION BY COMMUNITY - CHLORIDE POUNDS



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: April

Year: 2018

Gallons of Final Effluent Purchased (Billing)

<u>Date</u>	<u>Gallons</u>	<u>Date</u>	<u>Gallons</u>
4/1/2018	2.716.000	4/21/2018	0
4/2/2018	2.726.000	4/22/2018	0
4/3/2018	2.727.000	4/23/2018	0
4/4/2018	2.724.000	4/24/2018	0
4/5/2018	2.729.000	4/25/2018	0
4/6/2018	2.722.000	4/26/2018	50.000
4/7/2018	2.674.000	4/27/2018	0
4/8/2018	2.173.000	4/28/2018	0
4/9/2018	2.666.000	4/29/2018	0
4/10/2018	3.028.000	4/30/2018	0
4/11/2018	3.020.000		
4/12/2018	2.940.000		
4/13/2018	1.778.000		
4/14/2018	0		
4/15/2018	0		
4/16/2018	0		
4/17/2018	0		
4/18/2018	0		
4/19/2018	0		
4/20/2018	0		
		Total:	34.673.000

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

Attn: Account # N2310E

MONTHLY BILLING

Month: April

Year: 2018

GALLONS PURCHASED: 34,673,000

BILLING RATE: \$0.1532146 PER 1000 GALLONS

TOTAL AMOUNT DUE: \$5,312.41

**Heart of the Valley
Metropolitan Sewerage District**

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

2018

Final Effluent Sent to Fox Energy Facility

Gallons: 245,947,000

Charge Per 1000 Gallons: \$0.1532146 Per 1000 Gallons

Sale of Final Effluent (Revenue Collected): \$37,682.67