

FLOW AND STRENGTH PROJECTIONS

MONTH: March 2019

	<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)	213,617,380	235,837,700	22,220,320	\$ 157,008.77	\$ 173,340.71	\$ 16,331.94
B.O.D. (#s)	300,330	407,724	107,394	\$ 71,478.54	\$ 97,038.28	\$ 25,559.74
S. SOLIDS (#s)	341,573	344,945	3,372	\$ 87,101.12	\$ 87,961.10	\$ 859.98
PHOSPHORUS (#s)	6,939	7,248	309	\$ 43,292.42	\$ 45,220.27	\$ 1,927.85
AMMONIA-N (#s)	42,549	44,978	2,429	\$ 56,334.88	\$ 59,551.18	\$ 3,216.30
CHLORIDES (#s)	828,995	1,030,031	201,036	\$ 3,315.98	\$ 4,120.12	\$ 804.14
			TOTAL:	\$ 418,531.71	\$ 467,231.66	\$ 48,699.96

(THRU MARCH 2019)

PROJECTED FOR 2019

	<u>END OF YEAR PROJECTED</u>	<u>YEAR TO DATE SURPLUS/ DEFICIT</u>	<u>YEAR TO DATE SURPLUS/ DEFICIT \$\$</u>
FLOW (GALLONS)	1,956,827,410	36,475,210	\$ 26,809.28
B.O.D. (#s)	3,407,824	300,162	\$ 71,438.44
S. SOLIDS (#s)	3,855,538	107,359	\$ 27,376.60
PHOSPHORUS (#s)	80,086	171	\$ 1,068.24
AMMONIA-N (#s)	481,498	11,284	\$ 14,940.61
CHLORIDES (#s)	8,235,342	435,866	\$ 1,743.47
		TOTAL:	\$ 143,376.64

HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

MONTH: MARCH 2019

HYDRAULIC AND ORGANIC LOADINGS DATA

INFLUENT*

TOTAL FLOW TO PLANT: 226,921,000 GALLONS
 AVERAGE B.O.D. : 209 mg/L
 AVERAGE SUSPENDED SOLIDS : 160 mg/L
 AVERAGE PHOSPHORUS : 4.09 mg/L
 AVERAGE AMMONIA-N : 25.52 mg/L
 AVERAGE CHLORIDES : 564.62 mg/L

MAXIMUM DAILY FLOW TO PLANT: 23,696,000
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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	39.12	28.63	34.85	30.71	27.21	32.63
LITTLE CHUTE	26.86	36.59	30.16	25.84	37.70	31.33
KIMBERLY	13.66	10.37	10.10	12.03	9.69	15.62
COMBINED LOCKS	6.34	5.69	6.29	6.73	6.28	2.97
DARBOY	14.02	18.72	18.59	24.68	19.12	17.45

AVERAGE DAILY INFLUENT LOADINGS

FLOW : 4,730,679 GALLONS
 B.O.D. : 14,099 POUNDS
 SUSPENDED SOLIDS : 9,744 POUNDS
 PHOSPHORUS : 249.81 POUNDS
 AMMONIA-N : 1,558 POUNDS
 CHLORIDES : 34,469 POUNDS

PLANT DESIGN CRITERIA

<u>%</u>	<u>MAX</u>		<u>AVG</u>	<u>%</u>
39.8	11,900,000	GALLONS/DAY	8,500,000	55.66
96.2	14,651	POUNDS/DAY	12,209	115.48
59.9	16,278	POUNDS/DAY	13,565	71.83
61.4	407	POUNDS/DAY	339	73.69
81.2	1,920	POUNDS/DAY	1,600	97.39

FINAL EFFLUENT

<u>MONTHLY AVERAGE</u>	<u>MONTHLY AVG PERMIT LIMIT</u>
FLOW: 4,815,000	
SUSPENDED SOLIDS : 10.46 mg/L	34.9 30 mg/L
SUSPENDED SOLIDS : 590.91 lbs	73.8 801 lbs
B.O.D. : 9.51 mg/L	38.0 25 mg/L
PHOSPHORUS : 0.29 mg/L	29.2 1 mg/L
AMMONIA-N : 0.46 mg/L	4.2 11 mg/L
CHLORIDES : 595.38 mg/L	

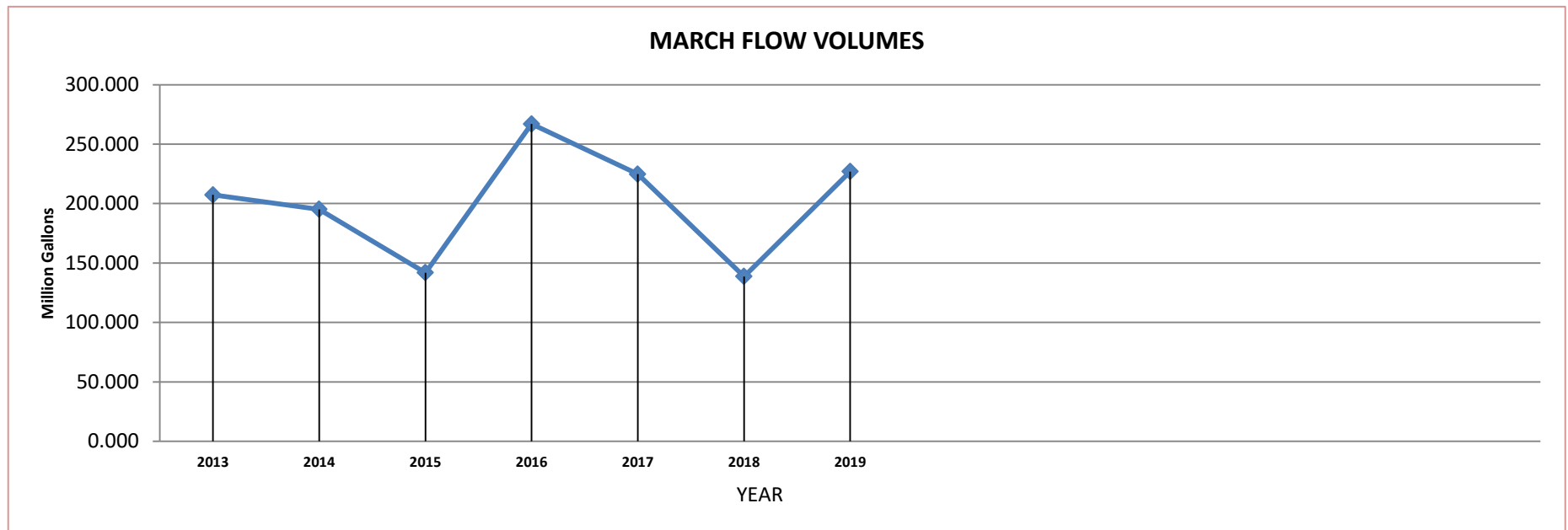
FOX ENERGY CENTER PUMPED: 77,656,000 GALLONS

Effluent to Fox Energy
34%

* INCLUDES HAULED WASTE

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

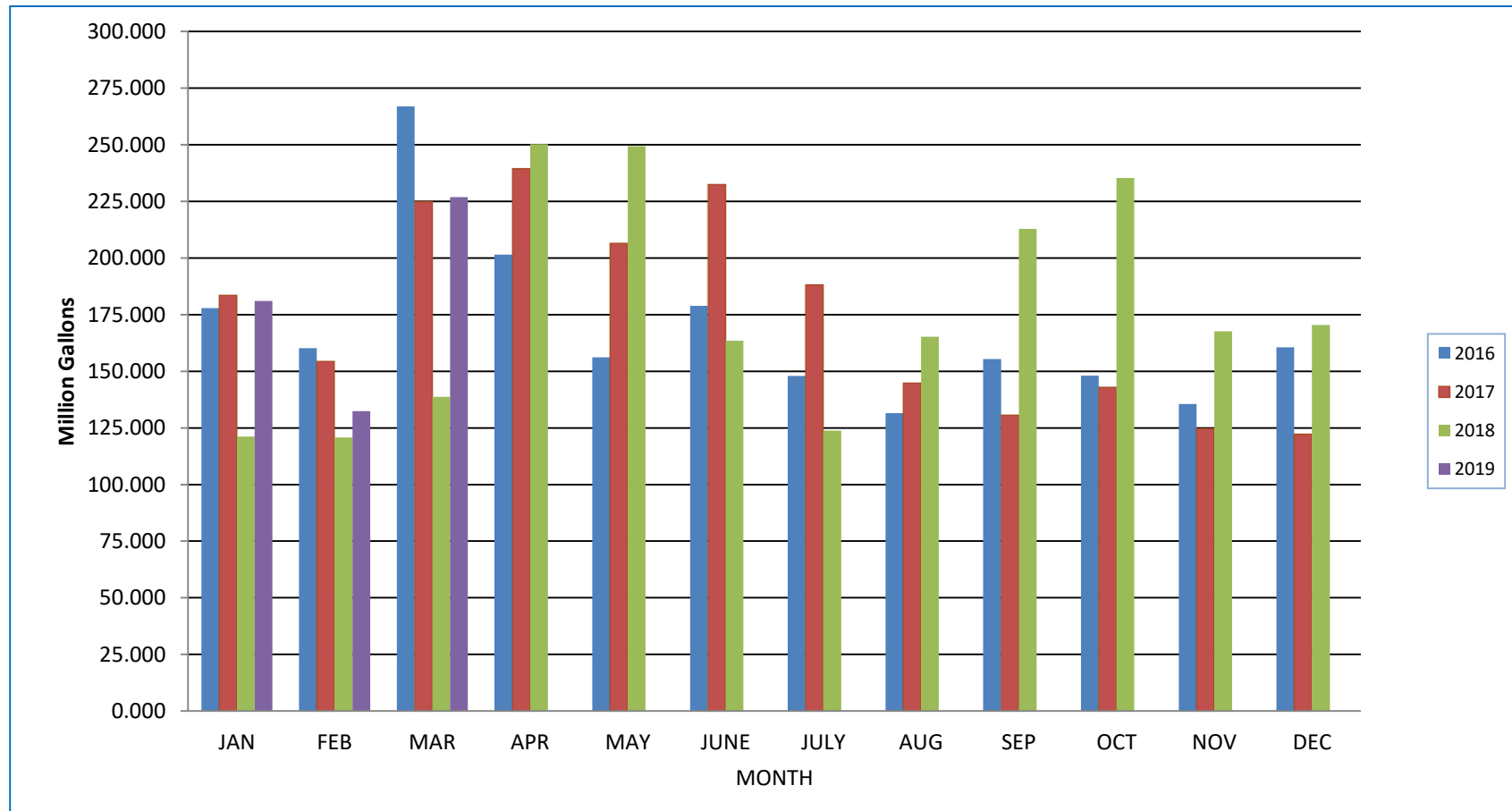


HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

	<u>JAN</u>	<u>FEB</u>	<u>MAR</u>	<u>APR</u>	<u>MAY</u>	<u>JUNE</u>	<u>JULY</u>	<u>AUG</u>	<u>SEP</u>	<u>OCT</u>	<u>NOV</u>	<u>DEC</u>
2016	177.906	160.230	266.917	201.541	156.148	178.887	147.968	131.529	155.337	148.008	135.607	160.593
2017	183.493	154.391	224.799	239.329	206.521	232.395	188.142	144.717	130.601	143.016	124.659	122.136
2018	121.122	120.841	138.664	250.232	249.379	163.461	123.780	165.254	212.799	235.273	167.657	170.368
2019	181.037	132.459	226.921									

*** FLOW VOLUMES REPORTED IN MILLION GALLONS ***

MONTHLY FLOW VOLUMES



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

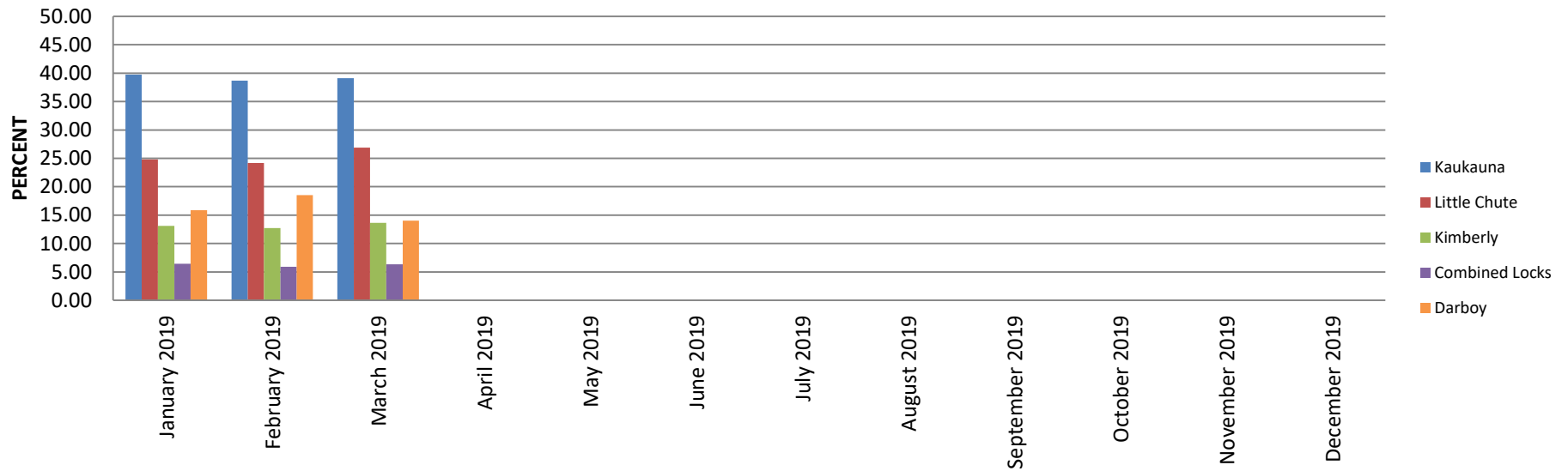
% CONTRIBUTION BY COMMUNITY - FLOW GALLONS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>	<u>Rainfall - Inches</u>
January 2019	39.75	24.79	13.13	6.46	15.87	2.36
February 2019	38.68	24.19	12.71	5.92	18.50	2.81
March 2019	39.12	26.86	13.66	6.34	14.02	1.73
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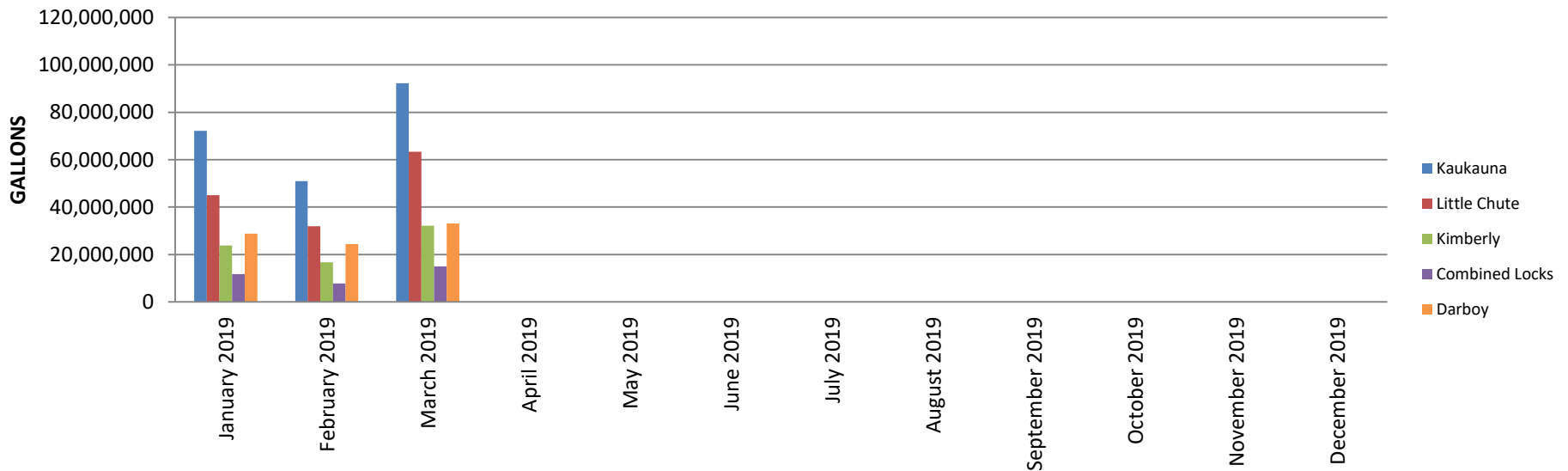
GALLONS CONTRIBUTION BY COMMUNITY - FLOW GALLONS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2019	72,170,800	45,016,000	23,842,000	11,739,000	28,816,000
February 2019	50,983,600	31,885,000	16,748,000	7,799,000	24,387,000
March 2019	92,260,700	63,337,000	32,212,000	14,955,000	33,073,000
April 2019					
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July 2019					
August 2019					
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% CONTRIBUTION BY COMMUNITY - FLOW GALLONS



GALLONS CONTRIBUTION BY COMMUNITY - FLOW GALLONS



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

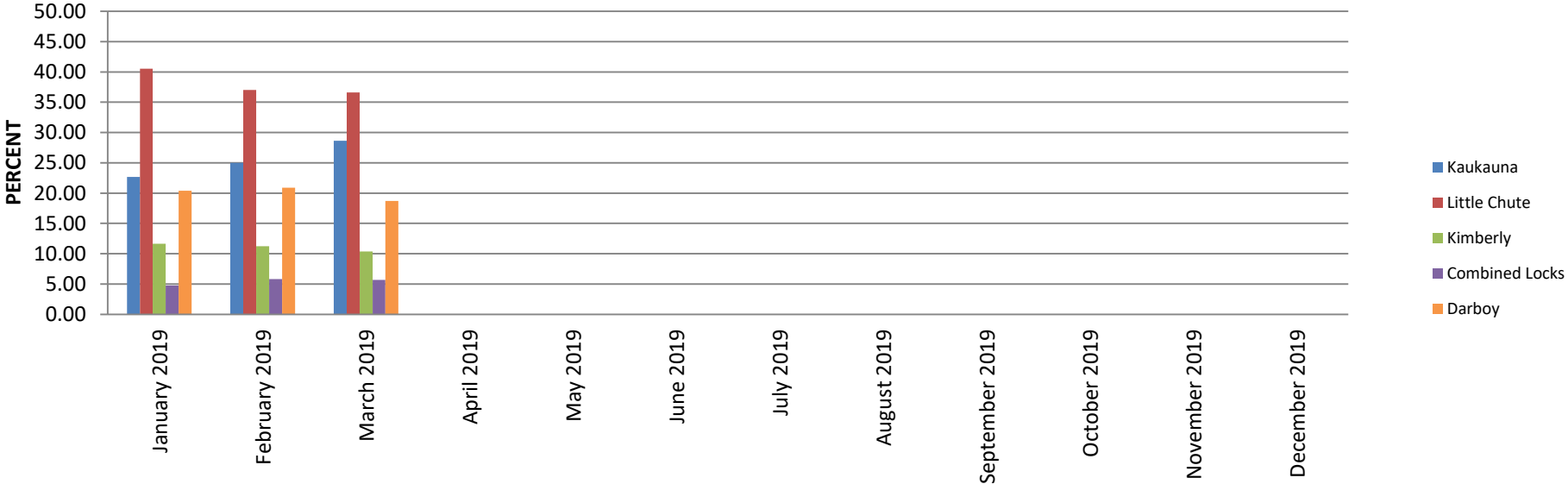
% CONTRIBUTION BY COMMUNITY - B.O.D. POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2019	22.67	40.53	11.65	4.76	20.40
February 2019	25.01	37.02	11.23	5.83	20.91
March 2019	28.63	36.59	10.37	5.69	18.72
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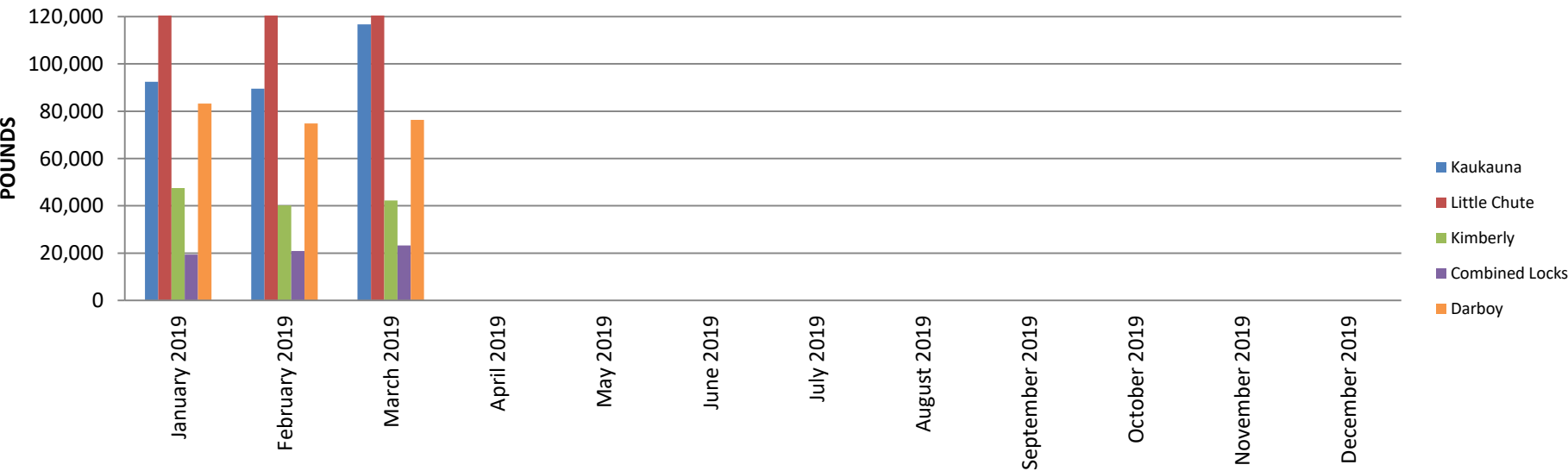
POUNDS CONTRIBUTION BY COMMUNITY - B.O.D. POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2019	92,486	165,332	47,538	19,408	83,208
February 2019	89,525	132,504	40,213	20,875	74,829
March 2019	116,749	149,167	42,286	23,194	76,327
April 2019					
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November 2019					
December 2019					

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



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



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

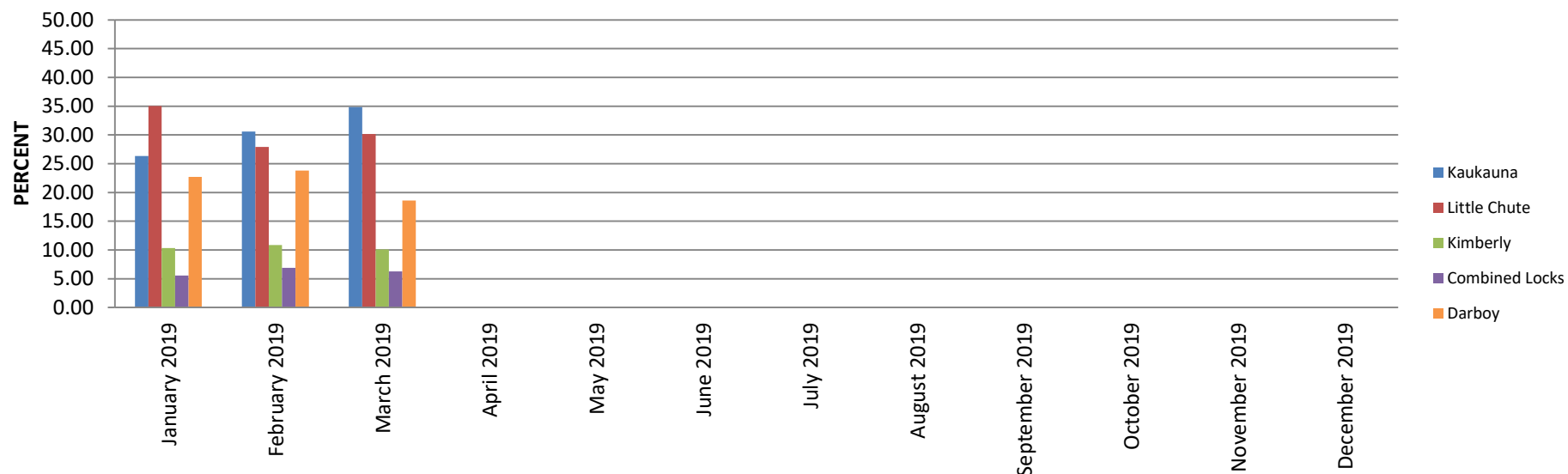
% CONTRIBUTION BY COMMUNITY -TOTAL SUSPENDED SOLIDS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2019	26.35	35.02	10.33	5.57	22.73
February 2019	30.57	27.90	10.85	6.88	23.80
March 2019	34.85	30.16	10.10	6.29	18.59
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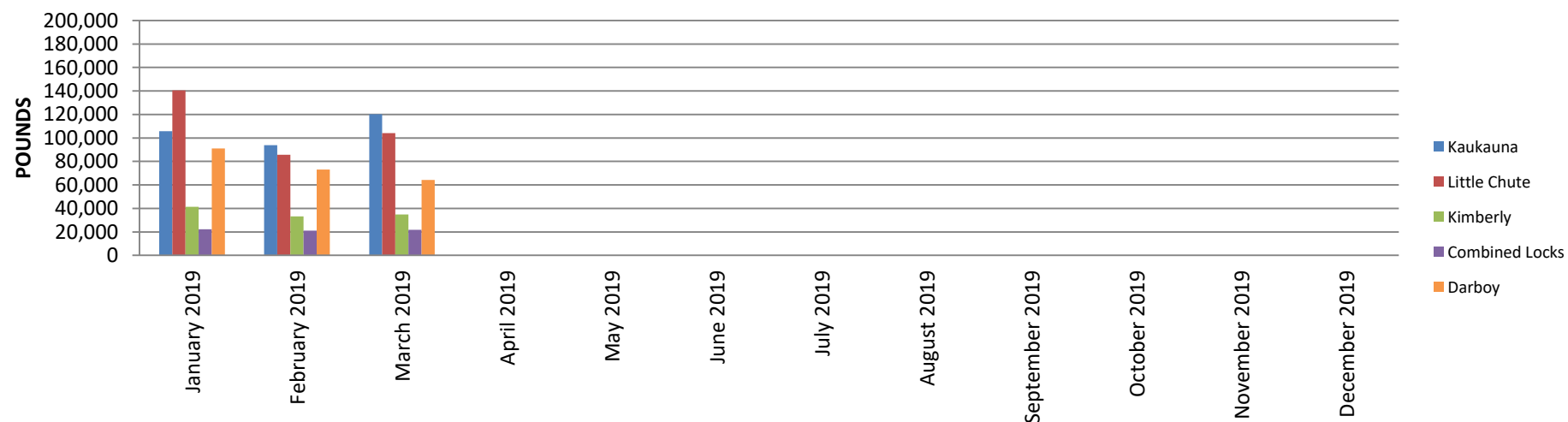
POUNDS CONTRIBUTION BY COMMUNITY - TOTAL SUSPENDED SOLIDS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2019	105,658	140,432	41,434	22,346	91,142
February 2019	93,784	85,604	33,280	21,109	73,019
March 2019	120,230	104,037	34,856	21,688	64,136
April 2019					
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December 2019					

% CONTRIBUTION BY COMMUNITY -TOTAL SUSPENDED SOLIDS POUNDS



POUNDS CONTRIBUTION BY COMMUNITY - TOTAL SUSPENDED SOLIDS POUNDS



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

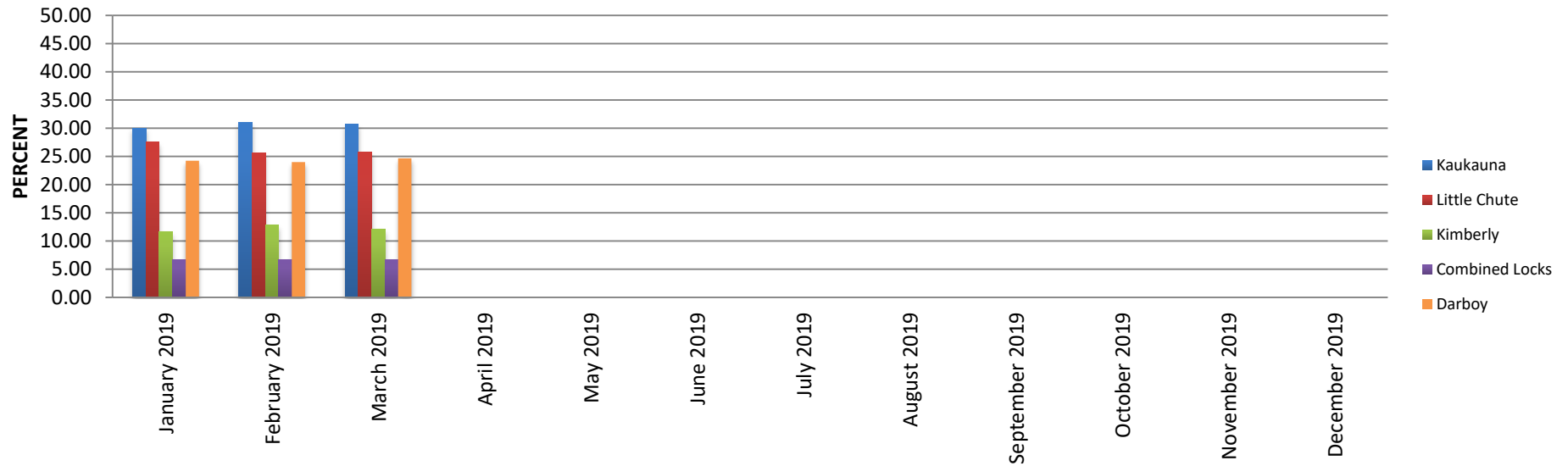
% CONTRIBUTION BY COMMUNITY - PHOSPHORUS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2019	30.04	27.50	11.59	6.66	24.21
February 2019	30.97	25.56	12.85	6.64	23.98
March 2019	30.71	25.84	12.03	6.73	24.68
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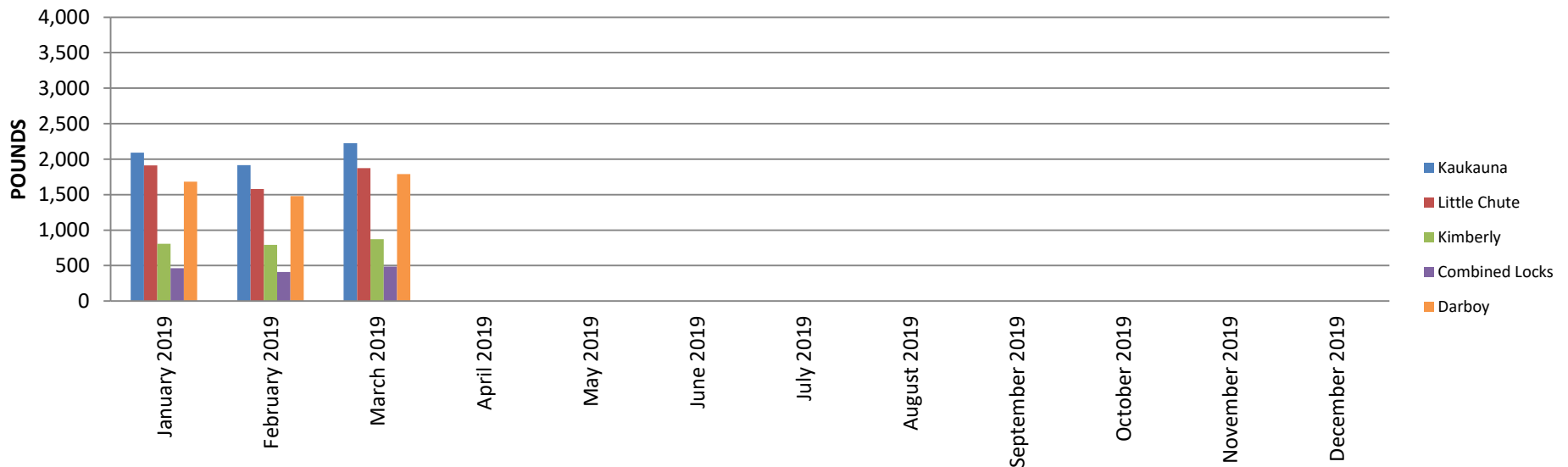
POUNDS CONTRIBUTION BY COMMUNITY - PHOSPHORUS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2019	2,090	1,913	806	464	1,684
February 2019	1,914	1,579	794	410	1,482
March 2019	2,226	1,873	872	488	1,789
April 2019					
May 2019					
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December 2019					

% CONTRIBUTION BY COMMUNITY - PHOSPHORUS POUNDS



POUNDS CONTRIBUTION BY COMMUNITY - PHOSPHORUS POUNDS



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

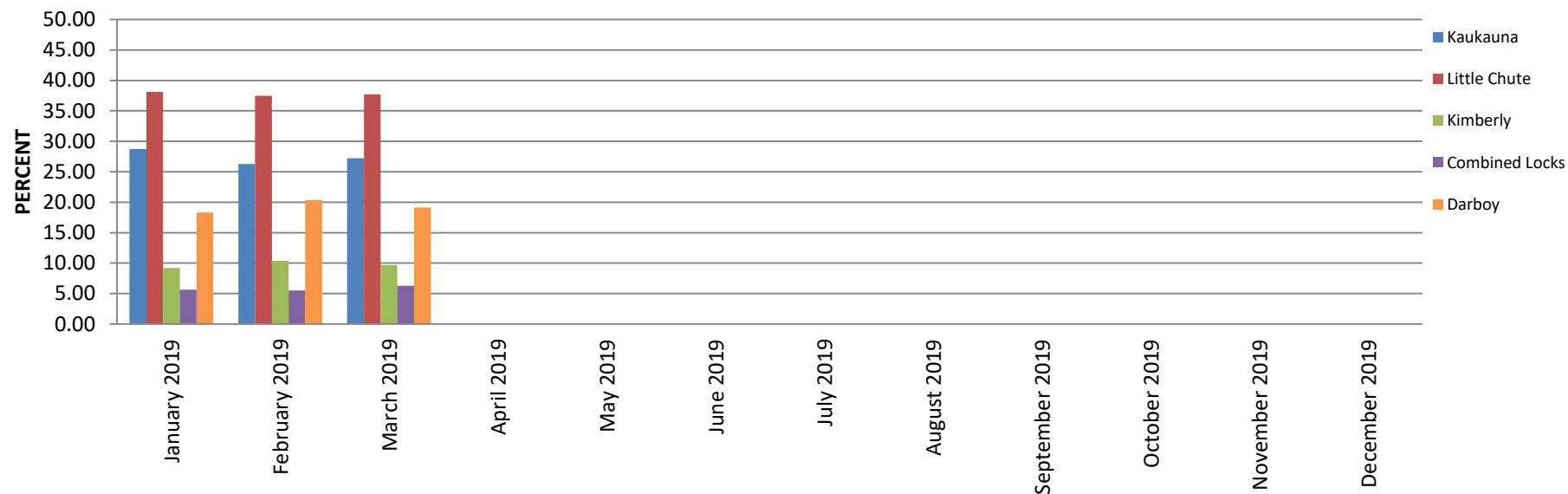
% CONTRIBUTION BY COMMUNITY - AMMONIA POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2019	28.75	38.11	9.20	5.63	18.32
February 2019	26.27	37.48	10.36	5.51	20.37
March 2019	27.21	37.70	9.69	6.28	19.12
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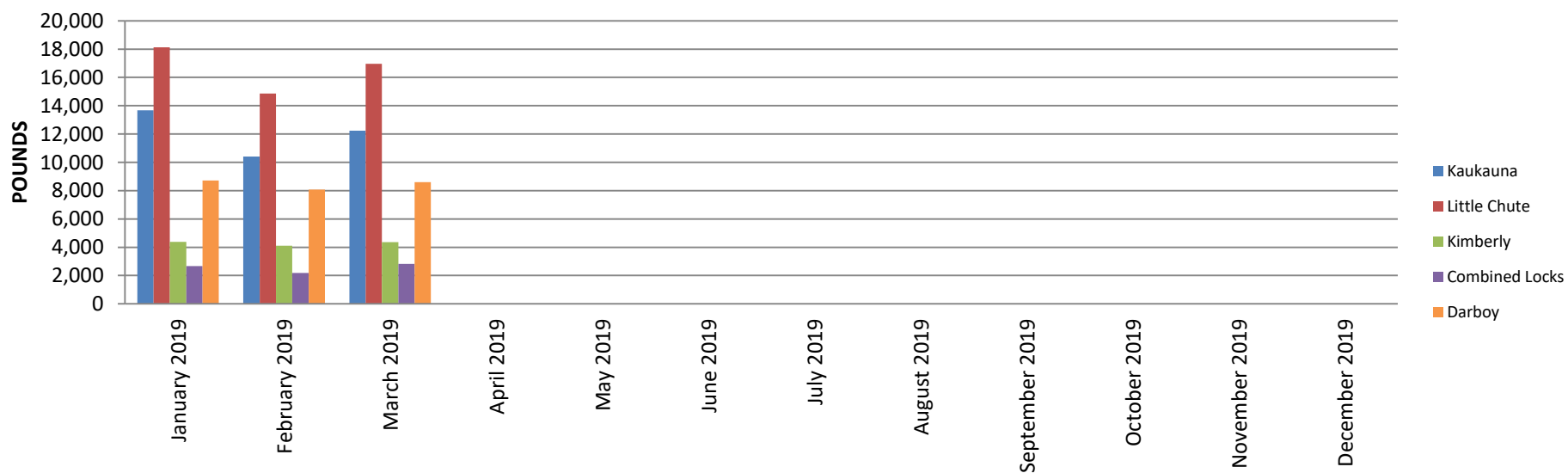
POUNDS CONTRIBUTION BY COMMUNITY - AMMONIA POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2019	13,672	18,124	4,373	2,676	8,712
February 2019	10,415	14,862	4,109	2,185	8,078
March 2019	12,240	16,957	4,356	2,826	8,599
April 2019					
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% CONTRIBUTION BY COMMUNITY - AMMONIA POUNDS



POUNDS CONTRIBUTION BY COMMUNITY - AMMONIA POUNDS



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

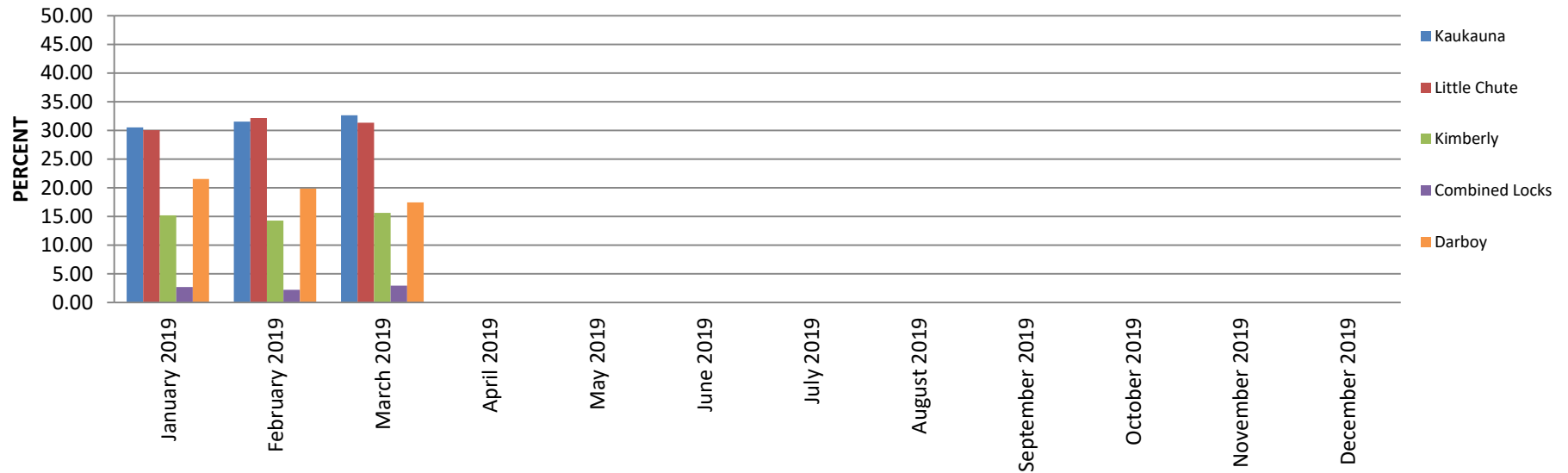
% CONTRIBUTION BY COMMUNITY - CHLORIDE POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2019	30.52	30.05	15.22	2.69	21.52
February 2019	31.51	32.14	14.29	2.22	19.85
March 2019	32.63	31.33	15.62	2.97	17.45
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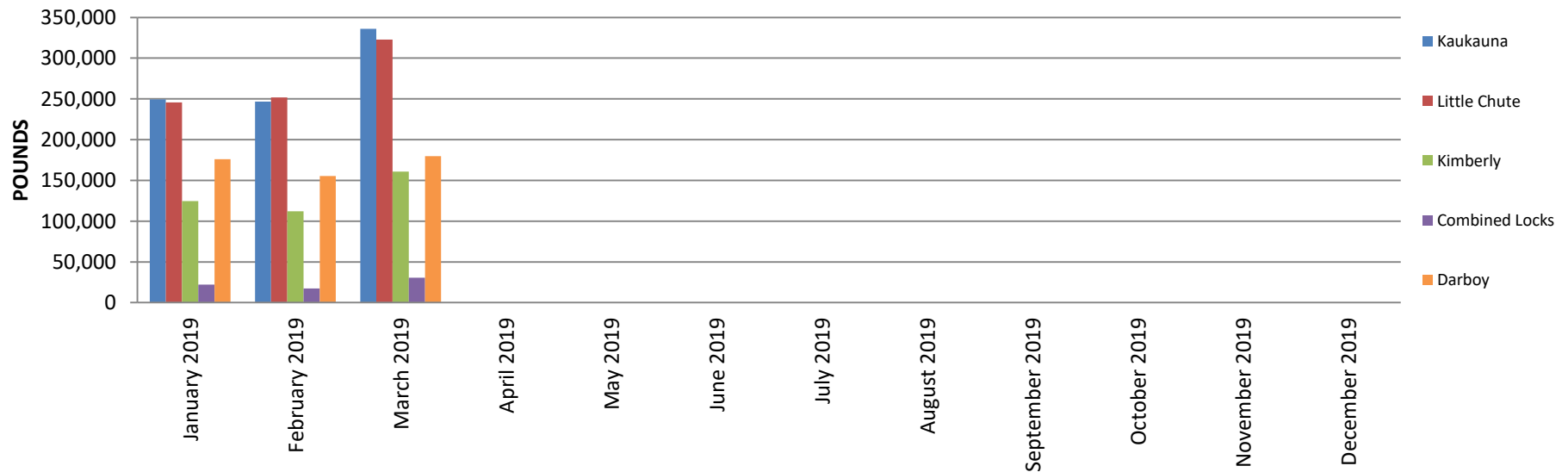
POUNDS CONTRIBUTION BY COMMUNITY - CHLORIDE POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2019	249,568	245,742	124,501	21,975	176,010
February 2019	246,779	251,752	111,914	17,355	155,435
March 2019	336,109	322,683	160,936	30,569	179,734
April 2019					
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% CONTRIBUTION BY COMMUNITY - CHLORIDE POUNDS



POUNDS CONTRIBUTION BY COMMUNITY - CHLORIDE POUNDS

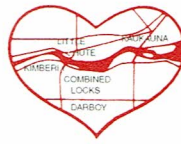


DISTRICT DIRECTOR:

Brian M. Helminger

SERVING:

Combined Locks
Kaukauna
Kimberly
Little Chute
Darboy S.D.

**COMMISSIONERS:**

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

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: 2019

Gallons of Final Effluent Purchased (Billing)

<u>Date</u>	<u>Gallons</u>	<u>Date</u>	<u>Gallons</u>
3/1/2019	1,802,000	3/21/2019	2,859,000
3/2/2019	2,102,000	3/22/2019	2,835,000
3/3/2019	1,690,000	3/23/2019	2,847,000
3/4/2019	1,407,000	3/24/2019	2,851,000
3/5/2019	1,420,000	3/25/2019	2,850,000
3/6/2019	2,120,000	3/26/2019	2,851,000
3/7/2019	2,138,000	3/27/2019	2,898,000
3/8/2019	2,584,000	3/28/2019	2,851,000
3/9/2019	2,506,000	3/29/2019	2,753,000
3/10/2019	2,914,000	3/30/2019	2,753,000
3/11/2019	2,975,000	3/31/2019	2,758,000
3/12/2019	2,739,000		
3/13/2019	2,247,000		
3/14/2019	1,998,000	Total:	77,656,000
3/15/2019	2,829,000		
3/16/2019	2,632,000		
3/17/2019	2,593,000		
3/18/2019	2,595,000		
3/19/2019	2,601,000		
3/20/2019	2,658,000		

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

Attn: Account # N2310E

MONTHLY BILLING

Month: March

Year: 2019

GALLONS PURCHASED: 77,656,000

BILLING RATE: \$0.1559218 PER 1000 GALLONS

TOTAL AMOUNT DUE: \$12,108.26

**Heart of the Valley
Metropolitan Sewerage District**

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

2019

Final Effluent Sent to Fox Energy Facility

Gallons: 209,029,000

Charge Per 1000 Gallons: \$0.1559218 Per 1000 Gallons

Sale of Final Effluent (Revenue Collected): \$32,592.18