

FLOW AND STRENGTH PROJECTIONS

MONTH: April 2016

	<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)	244,196,473	198,108,220	-46,088,253	\$ 192,915.21	\$ 156,505.49	\$ (36,409.72)
B.O.D. (#s)	319,603	280,925	-38,678	\$ 81,179.16	\$ 71,355.02	\$ (9,824.15)
S. SOLIDS (#s)	463,186	298,241	-164,945	\$ 101,437.73	\$ 65,314.86	\$ (36,122.88)
PHOSPHORUS (#s)	8,040	6,900	-1,140	\$ 46,004.88	\$ 39,483.57	\$ (6,521.31)
AMMONIA-N (#s)	35,708	39,700	3,992	\$ 60,560.77	\$ 67,331.30	\$ 6,770.53
CHLORIDES (#s)	784,647	694,991	-89,656	\$ 3,923.24	\$ 3,474.96	\$ (448.28)
			TOTAL:	\$ 486,020.99	\$ 403,465.20	\$ (82,555.80)

(THRU APRIL 2016)

PROJECTED FOR 2016

	<u>END OF YEAR PROJECTED</u>	<u>YEAR TO DATE SURPLUS/ DEFICIT</u>	<u>YEAR TO DATE SURPLUS/ DEFICIT \$\$</u>
FLOW (GALLONS)	1,924,757,830	76,148,387	\$ 60,157.23
B.O.D. (#s)	3,352,026	-18,211	\$ (4,625.60)
S. SOLIDS (#s)	4,647,790	-454,296	\$ (99,490.78)
PHOSPHORUS (#s)	90,738	-5,429	\$ (31,064.62)
AMMONIA-N (#s)	402,396	23,738	\$ 40,259.31
CHLORIDES (#s)	7,179,135	423,294	\$ 2,116.47
		TOTAL:	\$ (32,647.99)

HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

MONTH: APRIL 2016

HYDRAULIC AND ORGANIC LOADINGS DATA

INFLUENT

TOTAL FLOW TO PLANT: 201,541,000 GALLONS
 AVERAGE B.O.D. : 172 mg/L
 AVERAGE SUSPENDED SOLIDS : 164 mg/L
 AVERAGE PHOSPHORUS : 4.12 mg/L
 AVERAGE AMMONIA-N : 23.51 mg/L
 AVERAGE CHLORIDES : 462.50 mg/L

MAXIMUM DAILY FLOW TO PLANT:
10,628,000 GALLONS

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	40.57	27.58	29.53	27.89	31.55	34.17
LITTLE CHUTE	24.95	28.12	24.86	30.08	29.10	30.56
KIMBERLY	13.49	14.93	17.12	14.18	11.75	16.60
COMBINED LOCKS	6.28	6.38	6.90	6.54	7.10	2.37
DARBOY	14.71	22.99	21.60	21.31	20.50	16.29

AVERAGE DAILY INFLUENT LOADINGS

FLOW : 6,718,033 GALLONS
 B.O.D. : 9,635 POUNDS
 SUSPENDED SOLIDS : 9,174 POUNDS
 PHOSPHORUS : 231 POUNDS
 AMMONIA-N : 1,317 POUNDS
 CHLORIDES : 25,913 POUNDS

%

56.5
65.8
56.4
56.7
68.6

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

MONTHLY AVERAGE

cB.O.D. : 4.78 mg/L
 SUSPENDED SOLIDS : 9.51 mg/L
 PHOSPHORUS : 0.22 mg/L
 AMMONIA-N : 0.35 mg/L
 CHLORIDES : 447.50 mg/L

%

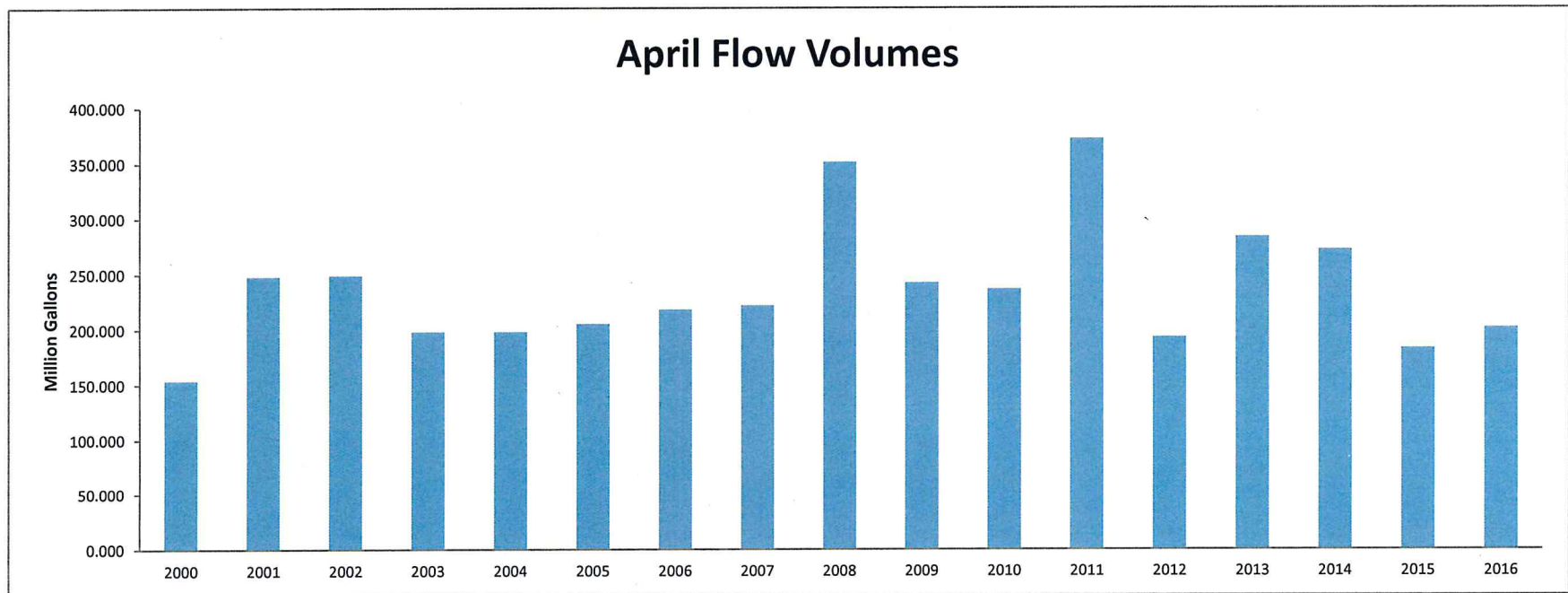
19.1
31.7
21.7

PERMIT LIMIT

25 mg/L
 30 mg/L
 1 mg/L

HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

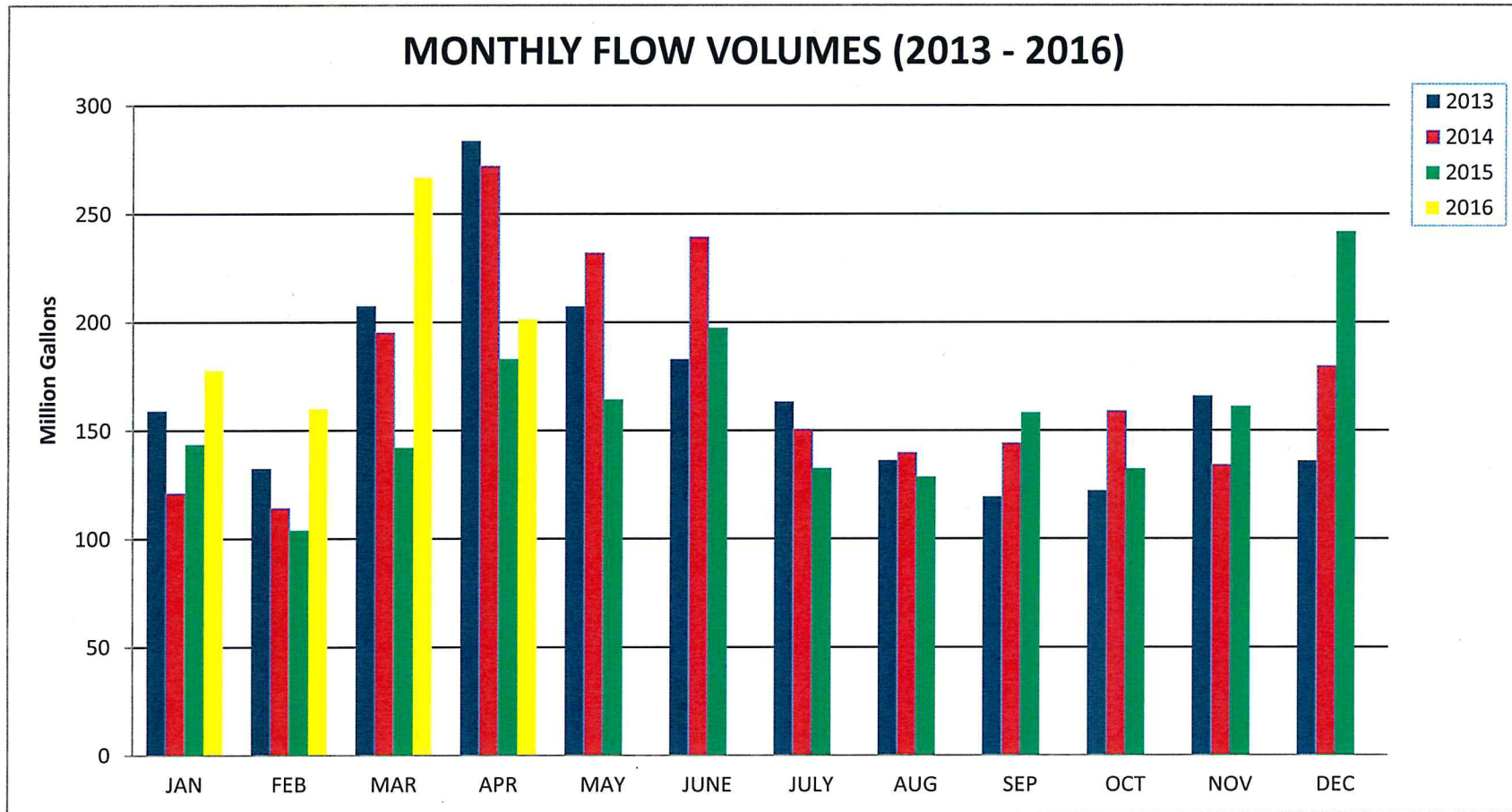
<u>Year</u>	<u>April Flow Million Gallons</u>	<u>Precipitation Inches</u>
2000	153.780	0.96
2001	247.966	3.31
2002	248.941	4.85
2003	197.957	1.33
2004	197.883	0.96
2005	204.980	1.25
2006	218.161	1.64
2007	221.613	1.06
2008	351.266	3.81
2009	242.120	1.86
2010	236.390	3.03
2011	372.277	4.39
2012	192.940	2.14
2013	283.615	3.19
2014	272.038	4.08
2015	182.911	1.91
2016	201.541	0.89



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>
2013	159.014	132.251	207.339	283.615	207.246	182.739	163.201	135.948	119.210	122.015	165.861	135.674
2014	120.943	114.081	195.096	272.038	231.951	239.160	150.335	139.604	143.973	158.887	133.835	179.535
2015	143.460	103.918	141.868	182.911	164.246	197.337	132.478	128.427	158.179	132.217	161.094	241.853
2016	177.906	160.230	266.917	201.541								

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



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

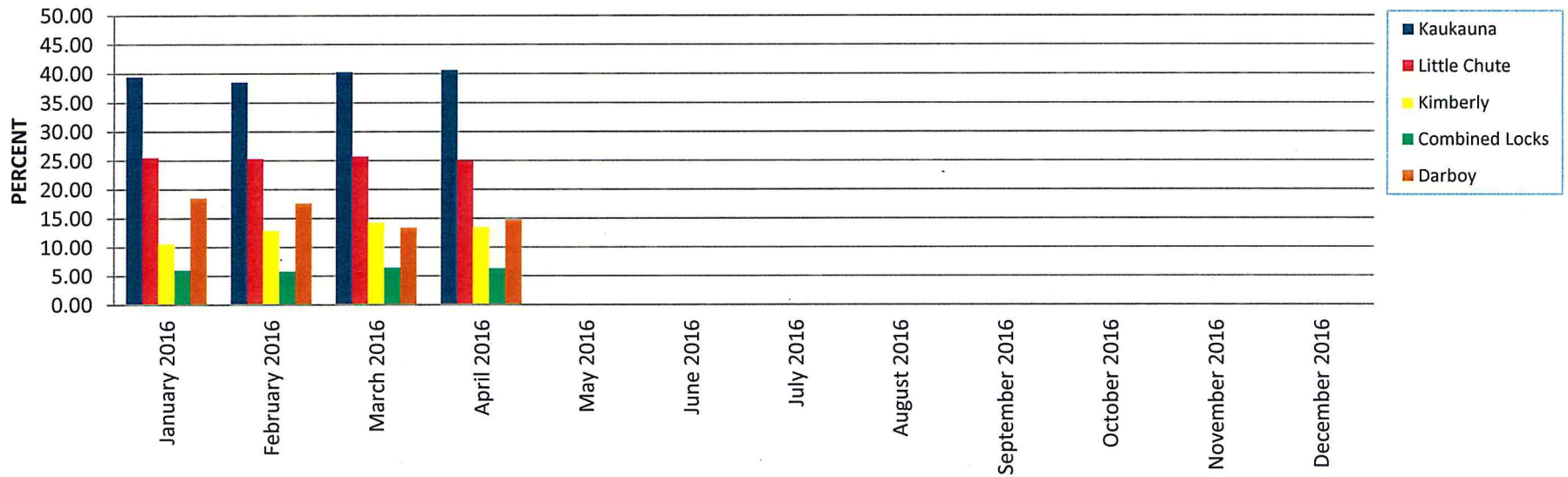
% CONTRIBUTION BY COMMUNITY - FLOW GALLONS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>	<u>Rainfall - Inches</u>
January 2016	39.42	25.45	10.65	6.00	18.48	1.53
February 2016	38.50	25.23	12.94	5.76	17.56	1.13
March 2016	40.24	25.63	14.31	6.46	13.37	2.82
April 2016	40.57	24.95	13.49	6.28	14.71	0.89
May 2016						
June 2016						
July 2016						
August 2016						
September 2016						
October 2016						
November 2016						
December 2016						

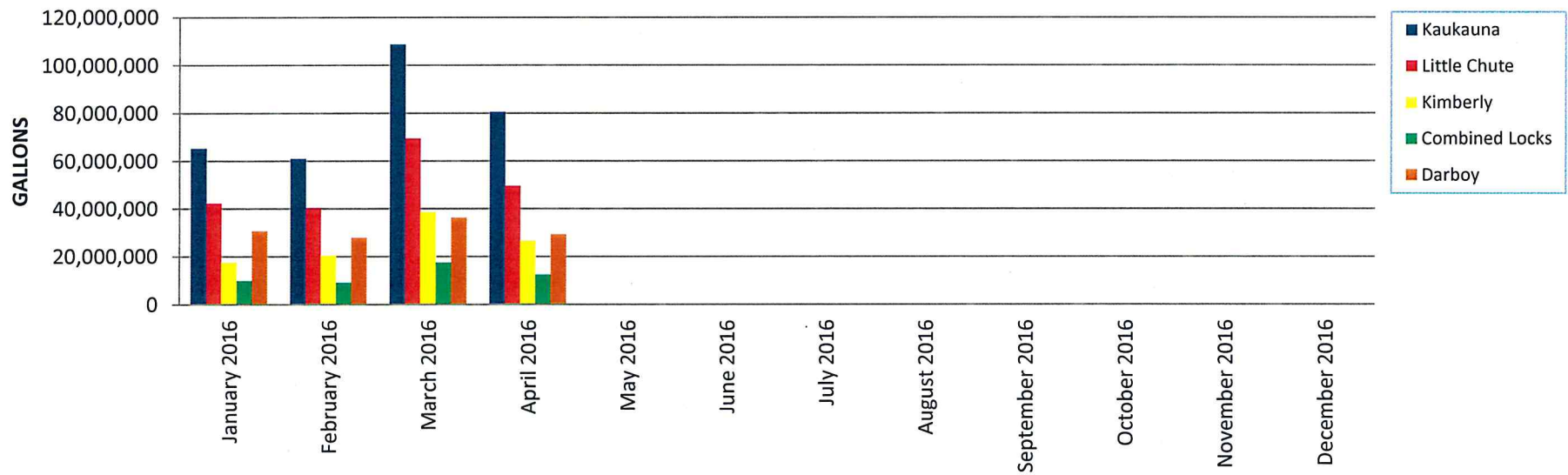
GALLONS CONTRIBUTION BY COMMUNITY - FLOW GALLONS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2016	65,220,640	42,115,000	17,613,000	9,929,000	30,576,000
February 2016	60,936,840	39,936,000	20,481,000	9,116,000	27,791,000
March 2016	108,697,400	69,221,000	38,650,000	17,438,000	36,111,000
April 2016	80,370,220	49,428,000	26,732,000	12,434,000	29,144,000
May 2016					
June 2016					
July 2016					
August 2016					
September 2016					
October 2016					
November 2016					
December 2016					

FLOW PERCENT CONTRIBUTED BY COMMUNITY



FLOW GALLONS CONTRIBUTED BY COMMUNITY



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

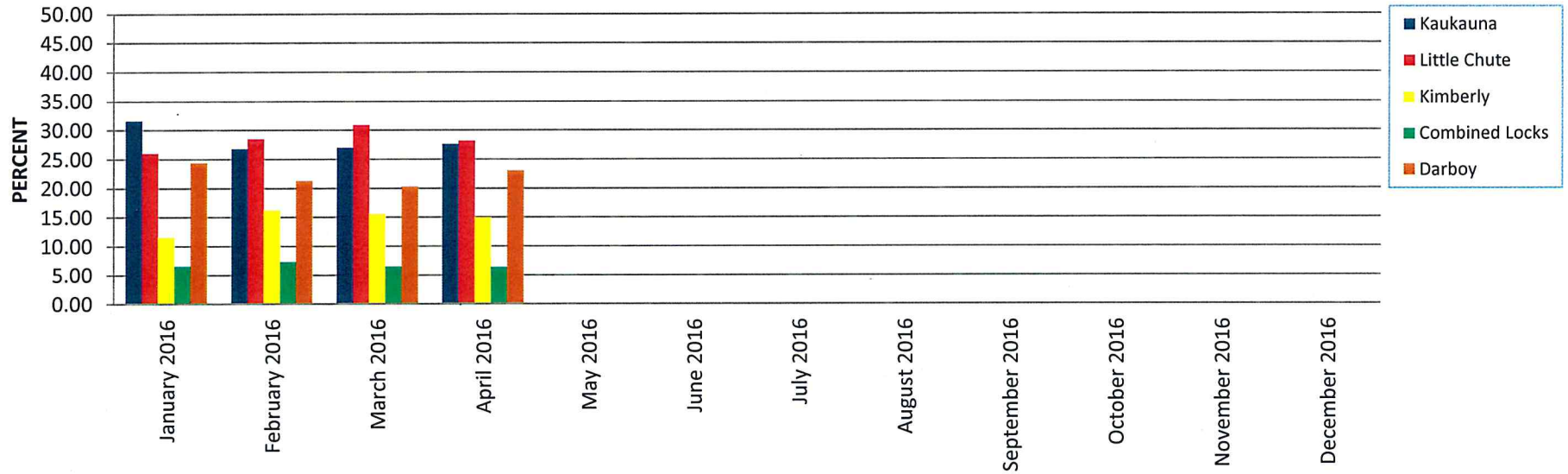
% CONTRIBUTION BY COMMUNITY - B.O.D. POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2016	31.61	25.94	11.56	6.56	24.32
February 2016	26.78	28.46	16.25	7.27	21.24
March 2016	26.94	30.84	15.58	6.45	20.20
April 2016	27.58	28.12	14.93	6.38	22.99
May 2016					
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October 2016					
November 2016					
December 2016					

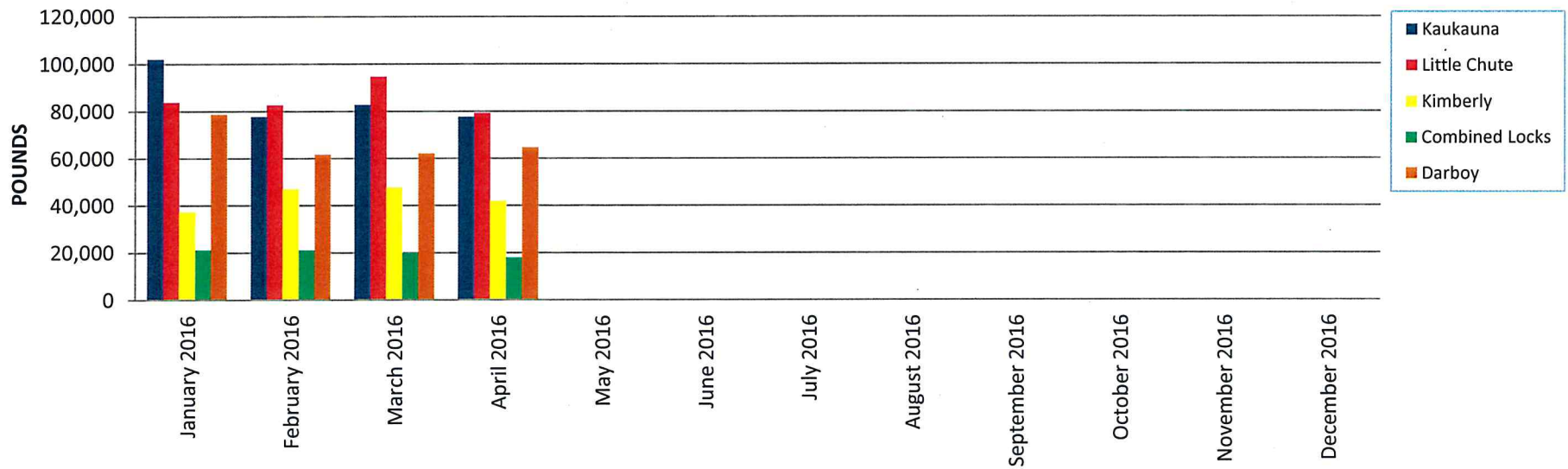
POUNDS CONTRIBUTION BY COMMUNITY - B.O.D. POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2016	102,026	83,715	37,314	21,186	78,503
February 2016	77,616	82,483	47,098	21,080	61,548
March 2016	82,595	94,529	47,752	19,761	61,926
April 2016	77,474	78,994	41,949	17,914	64,593
May 2016					
June 2016					
July 2016					
August 2016					
September 2016					
October 2016					
November 2016					
December 2016					

B.O.D. PERCENT CONTRIBUTED BY COMMUNITY



B.O.D. POUNDS CONTRIBUTED BY COMMUNITY



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

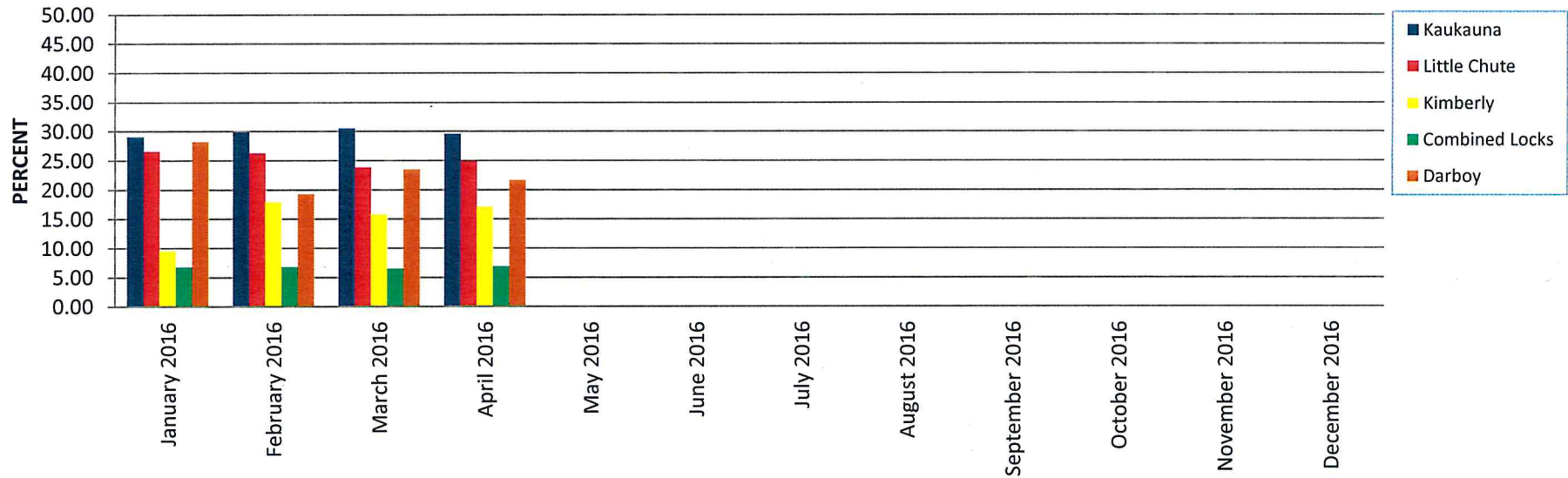
% CONTRIBUTION BY COMMUNITY -TOTAL SUSPENDED SOLIDS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2016	29.01	26.50	9.55	6.78	28.16
February 2016	29.88	26.17	17.94	6.81	19.20
March 2016	30.50	23.75	15.83	6.52	23.40
April 2016	29.53	24.86	17.12	6.90	21.60
May 2016					
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October 2016					
November 2016					
December 2016					

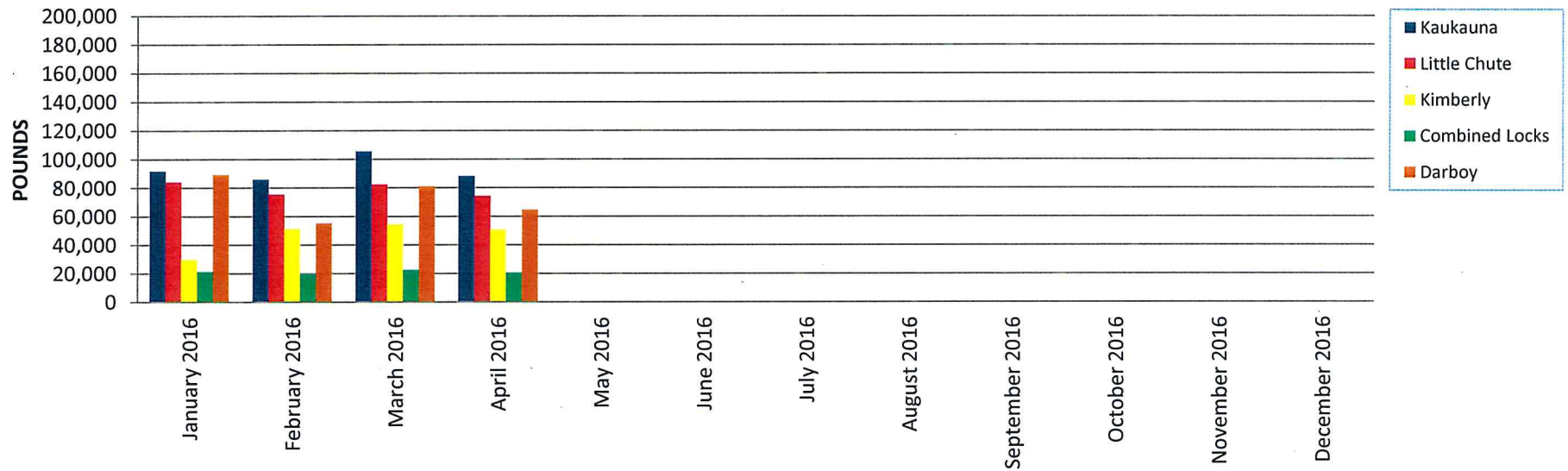
POUNDS CONTRIBUTION BY COMMUNITY - TOTAL SUSPENDED SOLIDS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2016	91,773	83,828	30,192	21,454	89,055
February 2016	85,783	75,143	51,491	19,546	55,121
March 2016	105,329	82,029	54,650	22,509	80,806
April 2016	88,067	74,142	51,054	20,567	64,411
May 2016					
June 2016					
July 2016					
August 2016					
September 2016					
October 2016					
November 2016					
December 2016					

TSS PERCENT CONTRIBUTED BY COMMUNITY



TSS POUNDS CONTRIBUTED BY COMMUNITY



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

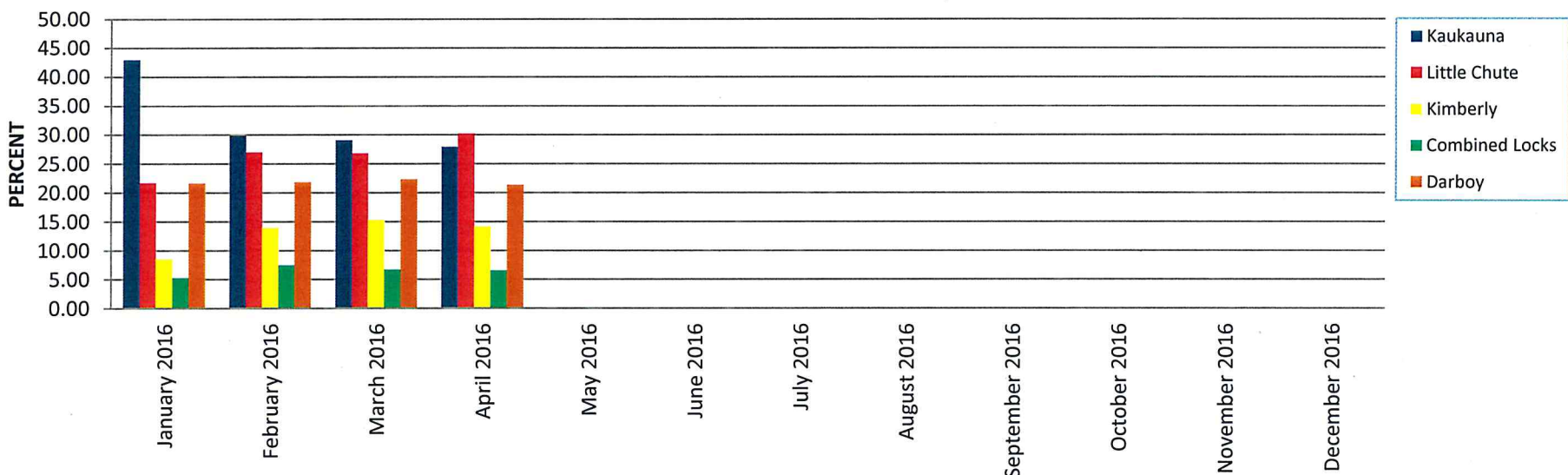
% CONTRIBUTION BY COMMUNITY - PHOSPHORUS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2016	42.93	21.63	8.59	5.26	21.59
February 2016	29.87	26.92	13.99	7.44	21.77
March 2016	29.03	26.72	15.32	6.69	22.24
April 2016	27.89	30.08	14.18	6.54	21.31
May 2016					
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September 2016					
October 2016					
November 2016					
December 2016					

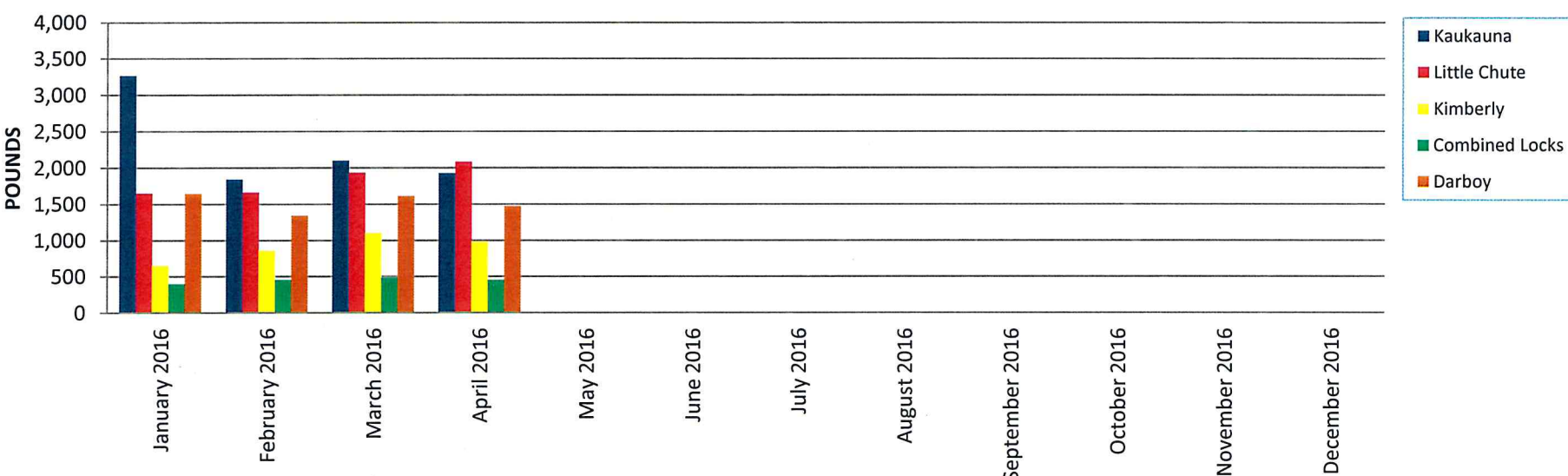
POUNDS CONTRIBUTION BY COMMUNITY - PHOSPHORUS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2016	3,265	1,645	654	400	1,642
February 2016	1,838	1,656	861	458	1,340
March 2016	2,096	1,929	1,106	483	1,605
April 2016	1,925	2,075	979	451	1,471
May 2016					
June 2016					
July 2016					
August 2016					
September 2016					
October 2016					
November 2016					
December 2016					

PHOSPHORUS PERCENT CONTRIBUTED BY COMMUNITY



PHOSPHORUS POUNDS CONTRIBUTED BY COMMUNITY



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

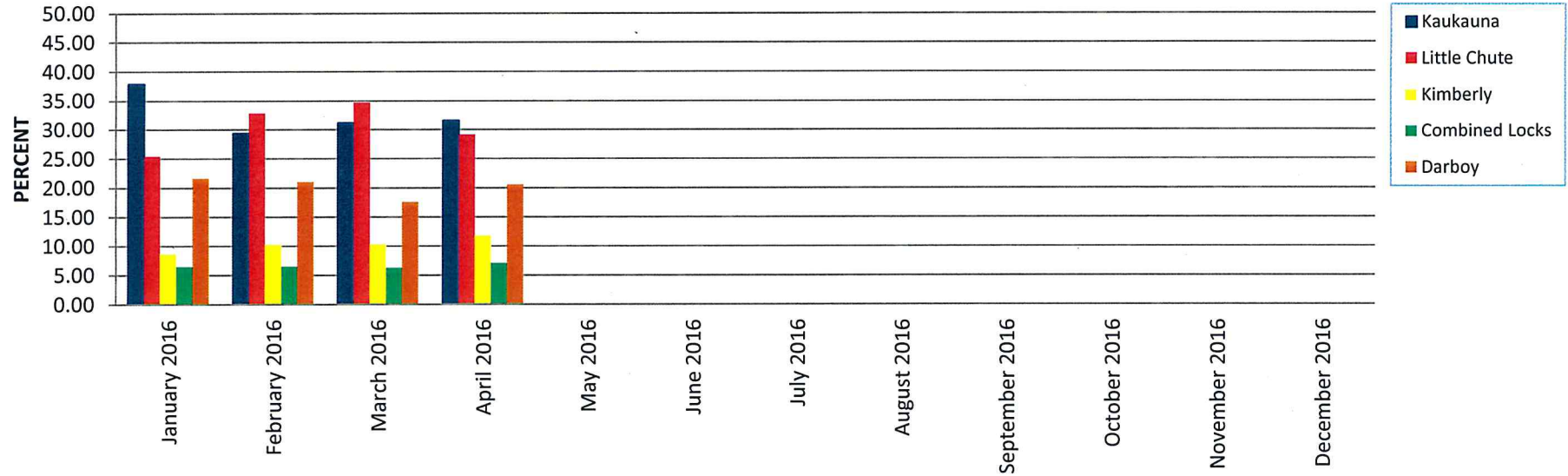
% CONTRIBUTION BY COMMUNITY - AMMONIA POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2016	37.92	25.36	8.64	6.45	21.63
February 2016	29.38	32.85	10.30	6.49	20.98
March 2016	31.18	34.70	10.34	6.25	17.53
April 2016	31.55	29.10	11.75	7.10	20.50
May 2016					
June 2016					
July 2016					
August 2016					
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November 2016					
December 2016					

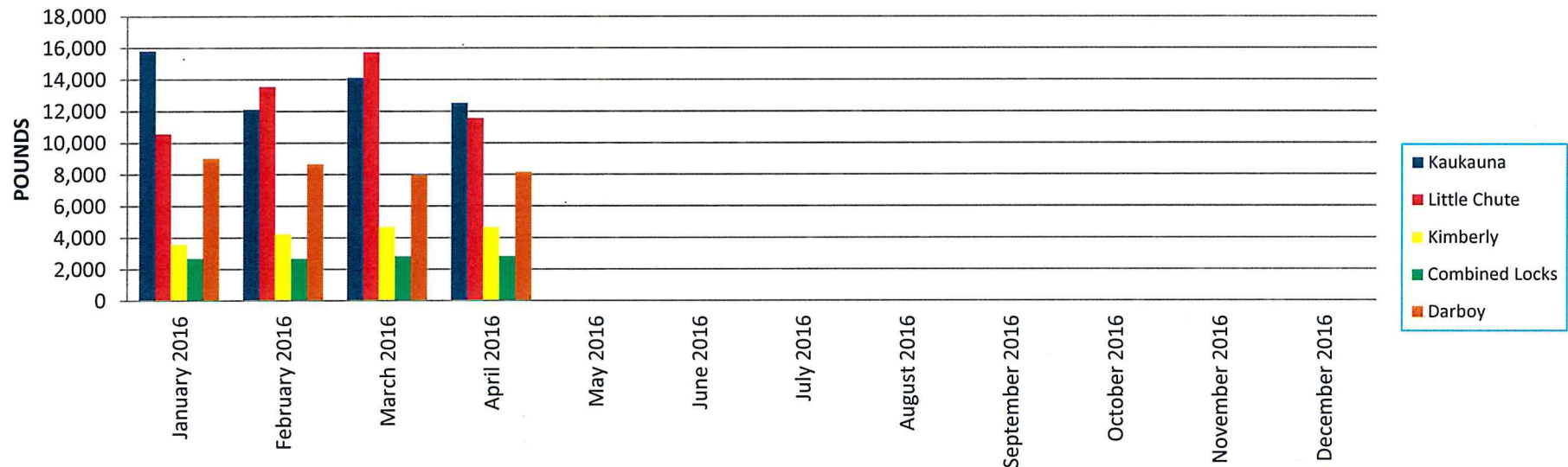
POUNDS CONTRIBUTION BY COMMUNITY - AMMONIA POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2016	15,793	10,560	3,597	2,685	9,009
February 2016	12,105	13,533	4,241	2,674	8,643
March 2016	14,101	15,694	4,677	2,827	7,927
April 2016	12,525	11,552	4,666	2,819	8,138
May 2016					
June 2016					
July 2016					
August 2016					
September 2016					
October 2016					
November 2016					
December 2016					

AMMONIA PERCENT CONTRIBUTED BY COMMUNITY



AMMONIA POUNDS CONTRIBUTED BY COMMUNITY



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

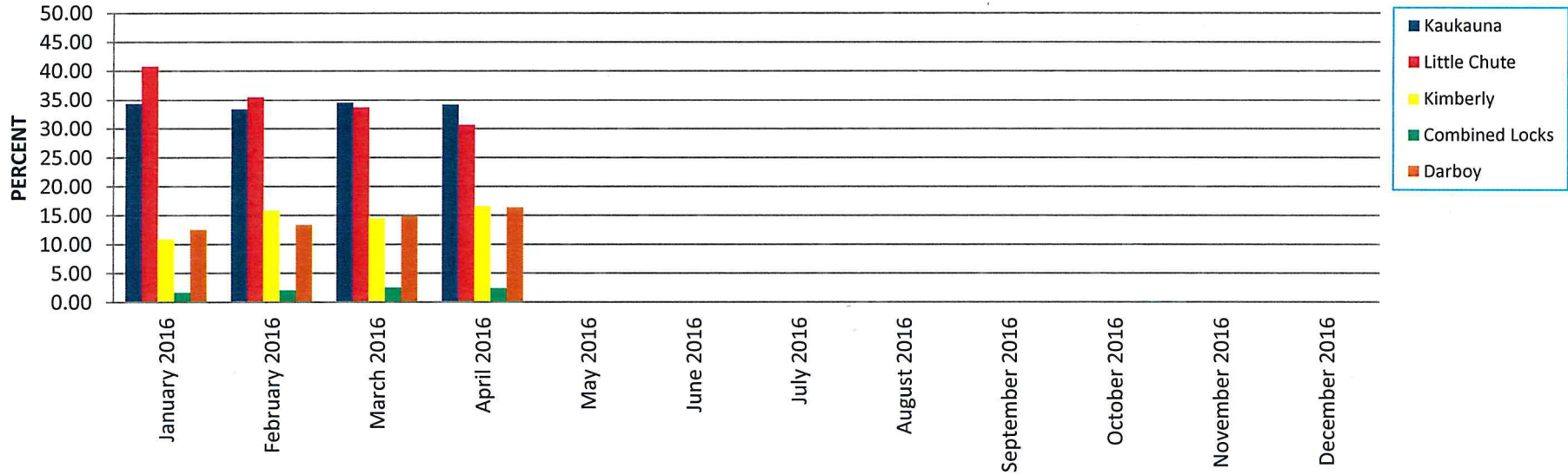
% CONTRIBUTION BY COMMUNITY - CHLORIDE POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2016	34.32	40.69	10.91	1.64	12.44
February 2016	33.35	35.43	15.88	2.04	13.31
March 2016	34.50	33.63	14.54	2.50	14.83
April 2016	34.17	30.56	16.60	2.37	16.29
May 2016					
June 2016					
July 2016					
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October 2016					
November 2016					
December 2016					

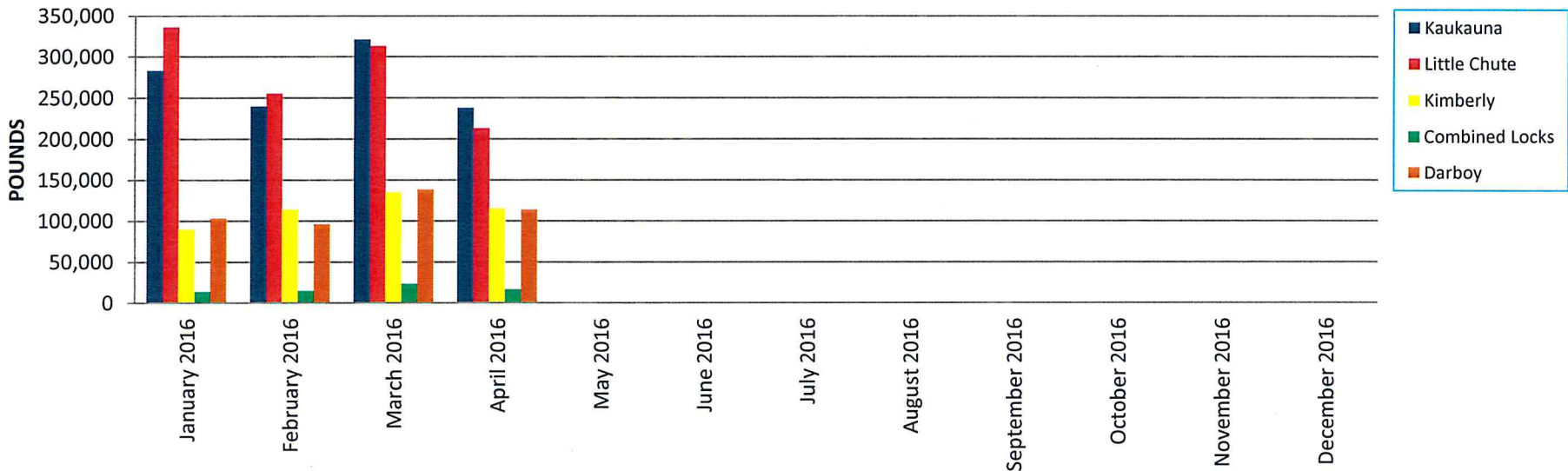
POUNDS CONTRIBUTION BY COMMUNITY - CHLORIDE POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2016	283,016	335,506	89,944	13,504	102,591
February 2016	239,748	254,722	114,133	14,653	95,661
March 2016	320,719	312,610	135,135	23,269	137,841
April 2016	237,464	212,422	115,374	16,506	113,225
May 2016					
June 2016					
July 2016					
August 2016					
September 2016					
October 2016					
November 2016					
December 2016					

CHLORIDE PERCENT CONTRIBUTED BY COMMUNITY



CHLORIDE POUNDS CONTRIBUTED BY COMMUNITY

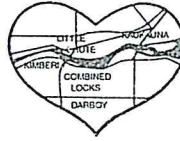


DISTRICT DIRECTOR:

Glen H. Geurts

SERVING:

Combined Locks
 Kaukauna
 Kimberly
 Little Chute
 Darboy S.D.

**COMMISSIONERS:**

David J. Casper, President
 Bruce M. Siebers, Vice-Pres.
 Kevin P. Coffey, Secretary
 Patrick E. Hennessey
 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 19800
 Green Bay, WI 54307-9004

Attn: Account # N2310E**Month:** April**Year:** 2016**Gallons of Final Effluent Purchased (Billing)**

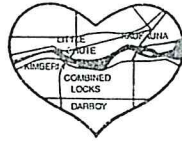
<u>Date</u>	<u>Gallons</u>	<u>Date</u>	<u>Gallons</u>
4/1/2016	1,185,000	4/21/2016	0
4/2/2016	361,000	4/22/2016	0
4/3/2016	910,000	4/23/2016	165,000
4/4/2016	2,286,000	4/24/2016	851,000
4/5/2016	2,310,000	4/25/2016	1,735,000
4/6/2016	1,803,000	4/26/2016	1,918,000
4/7/2016	1,731,000	4/27/2016	2,164,000
4/8/2016	1,728,000	4/28/2016	2,491,000
4/9/2016	735,000	4/29/2016	1,148,000
4/10/2016	0	4/30/2016	307,000
4/11/2016	0		
4/12/2016	0		
4/13/2016	0		
4/14/2016	0		
4/15/2016	0		
4/16/2016	0		
4/17/2016	0		
4/18/2016	0		
4/19/2016	57,000		
4/20/2016	0		
		Total:	23,885,000

DISTRICT DIRECTOR:

Glen H. Geurts

SERVING:

Combined Locks
Kaukauna
Kimberly
Little Chute
Darboy S.D.



COMMISSIONERS:

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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 19800
Green Bay, WI 54307-9004

Attn: Account # N2310E

MONTHLY BILLING

Month: April

Year: 2016

GALLONS PURCHASED: 23,885,000

BILLING RATE: \$0.1552173 PER 1000 GALLONS

TOTAL AMOUNT DUE: \$3,707.37

**Heart of the Valley
Metropolitan Sewerage District**

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

2016

Final Effluent Sent to Fox Energy Facility

Gallons: 249,509,000

Charge Per 1000 Gallons: \$0.1552173 Per 1000 Gallons

Sale of Final Effluent (Revenue Collected): \$38,728.11