

## FLOW AND STRENGTH PROJECTIONS

MONTH: February 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)	127,194,610	158,260,840	31,066,230	\$ 100,483.74	\$ 125,026.06	\$ 24,542.32
B.O.D. (#s)	266,452	289,825	23,373	\$ 67,678.81	\$ 73,615.48	\$ 5,936.67
S. SOLIDS (#s)	355,978	287,084	-68,894	\$ 77,959.18	\$ 62,871.50	\$ (15,087.68)
PHOSPHORUS (#s)	8,898	6,152	-2,746	\$ 50,914.36	\$ 35,204.09	\$ (15,710.27)
AMMONIA-N (#s)	33,383	41,196	7,813	\$ 56,617.57	\$ 69,868.55	\$ 13,250.98
CHLORIDES (#s)	568,671	718,917	150,246	\$ 2,843.36	\$ 3,594.59	\$ 751.23
			<b>TOTAL:</b>	<b>\$ 356,497.01</b>	<b>\$ 370,180.27</b>	<b>\$ 13,683.26</b>

(THRU FEBRUARY 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	57,831,727	\$ 45,687.06
B.O.D. (#s)	3,352,026	58,650	\$ 14,897.02
S. SOLIDS (#s)	4,647,790	-148,909	\$ (32,611.16)
PHOSPHORUS (#s)	90,738	-2,877	\$ (16,462.42)
AMMONIA-N (#s)	402,396	12,869	\$ 21,825.15
CHLORIDES (#s)	7,179,135	360,513	\$ 1,802.57
		<b>TOTAL:</b>	<b>\$ 35,138.22</b>

# HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

MONTH: FEBRUARY 2016

## HYDRAULIC AND ORGANIC LOADINGS DATA

### INFLUENT

<b>TOTAL FLOW TO PLANT:</b> 160,230,000 GALLONS	
<b>AVERAGE B.O.D. :</b> 199 mg/L	<b>MAXIMUM DAILY FLOW TO PLANT:</b>
<b>AVERAGE SUSPENDED SOLIDS :</b> 169 mg/L	9,730,000 Gallons
<b>AVERAGE PHOSPHORUS :</b> 4.46 mg/L	
<b>AVERAGE AMMONIA-N :</b> 30.57 mg/L	
<b>AVERAGE CHLORIDES :</b> 577.69 mg/L	

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

COMMUNITY	FLOW	BOD	TSS	PHOSPHORUS	AMMONIA	CHLORIDES
KAUKAUNA	38.50	26.78	29.88	29.87	29.38	33.35
LITTLE CHUTE	25.23	28.46	26.17	26.92	32.85	35.43
KIMBERLY	12.94	16.25	17.94	13.99	10.30	15.88
COMBINED LOCKS	5.76	7.27	6.81	7.44	6.49	2.04
DARBOY	17.56	21.24	19.20	21.77	20.98	13.31

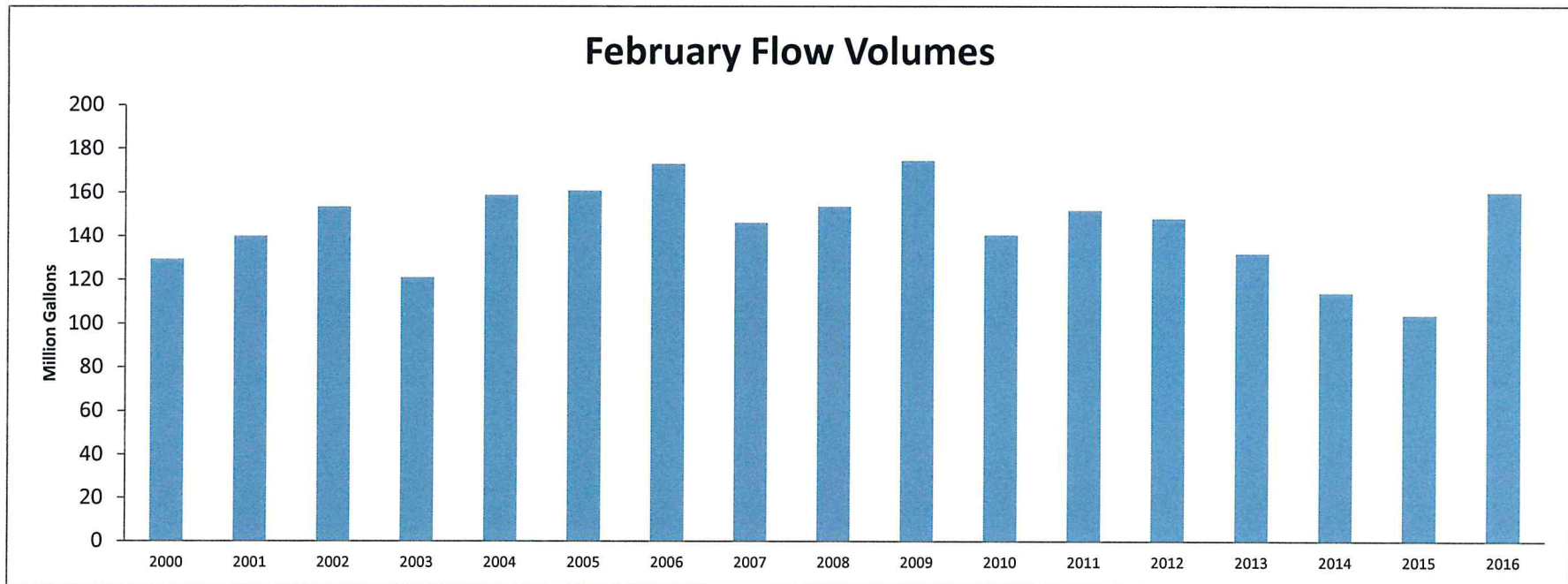
AVERAGE DAILY INFLUENT LOADINGS	%	PLANT DESIGN CRITERIA
<b>FLOW :</b> 5,525,172 GALLONS	46.4	11,900,000 GALLONS/DAY
<b>B.O.D. :</b> 9,156 POUNDS	62.5	14,651 POUNDS/DAY
<b>SUSPENDED SOLIDS :</b> 7,799 POUNDS	47.9	16,278 POUNDS/DAY
<b>PHOSPHORUS :</b> 206 POUNDS	50.5	407 POUNDS/DAY
<b>AMMONIA-N :</b> 1,409 POUNDS	73.4	1,920 POUNDS/DAY
<b>CHLORIDES :</b> 26,620 POUNDS		

### FINAL EFFLUENT

	MONTHLY AVERAGE	%	PERMIT LIMIT
<b>cB.O.D. :</b>	6.88 mg/L	27.5	25 mg/L
<b>SUSPENDED SOLIDS :</b>	14.11 mg/L	47.0	30 mg/L
<b>PHOSPHORUS :</b>	0.40 mg/L	40.2	1 mg/L
<b>AMMONIA-N :</b>	0.20 mg/L		
<b>CHLORIDES :</b>	577.69 mg/L		

# HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

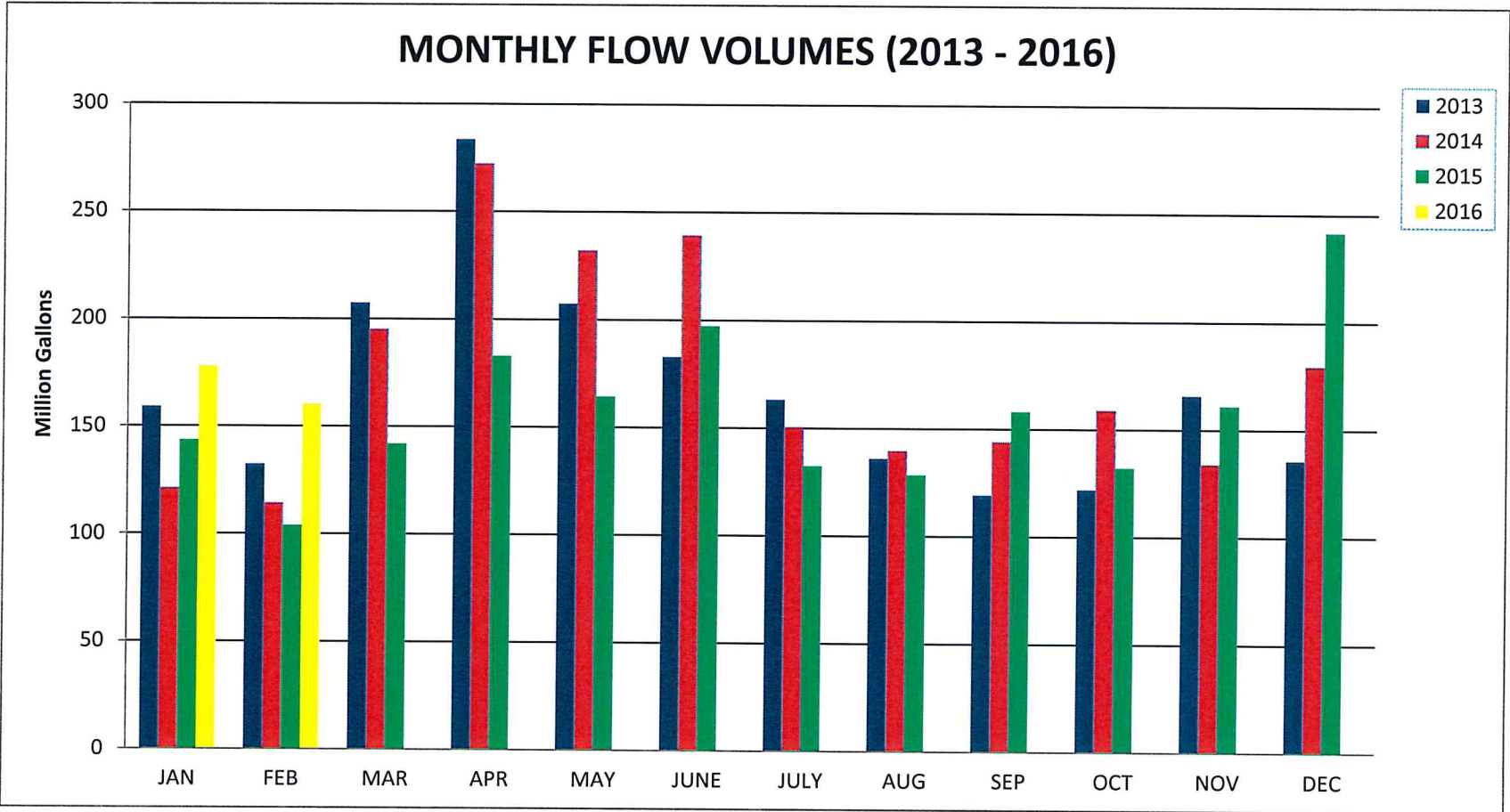
<u>Year</u>	<u>February Flow Million Gallons</u>	<u>Precipitation Inches</u>
2000	129.586	0.67
2001	140.074	1.62
2002	153.353	1.70
2003	121.059	1.02
2004	158.721	0.95
2005	160.749	1.24
2006	173.002	1.14
2007	146.161	1.05
2008	153.599	1.70
2009	174.635	1.45
2010	140.634	0.90
2011	151.818	1.24
2012	148.063	0.91
2013	132.251	1.22
2014	114.081	1.74
2015	103.918	0.52
2016	160.230	1.13



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

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



# HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

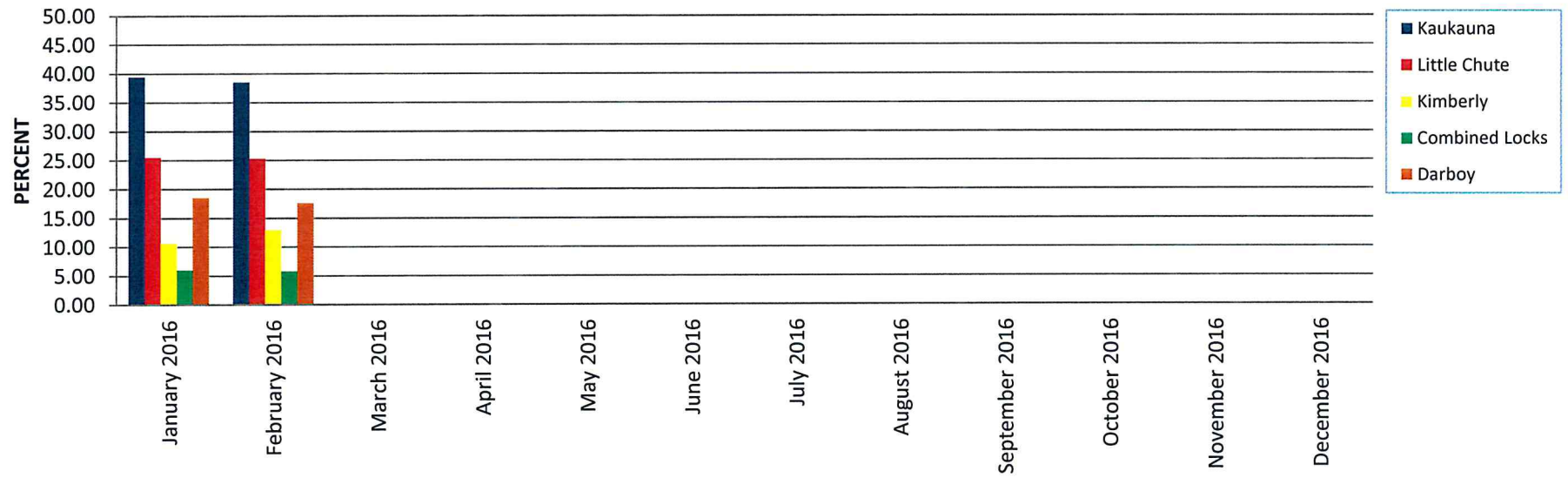
## % CONTRIBUTION BY COMMUNITY - FLOW GALLONS

	<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						
April 2016						
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December 2016						

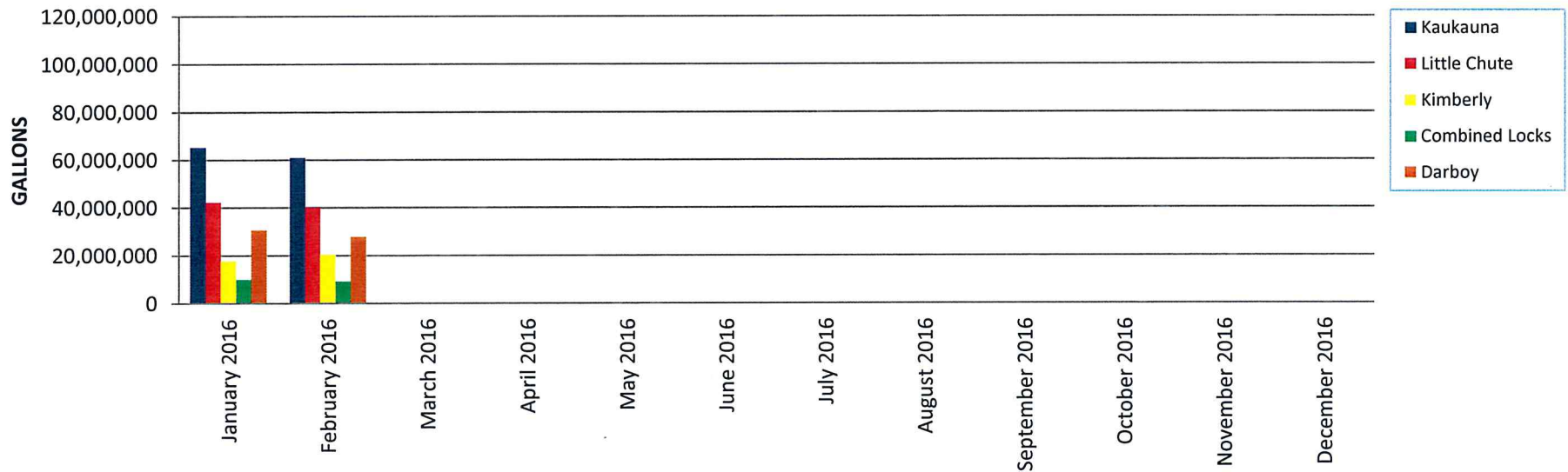
## GALLONS CONTRIBUTION BY COMMUNITY - FLOW GALLONS

	<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					
April 2016					
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

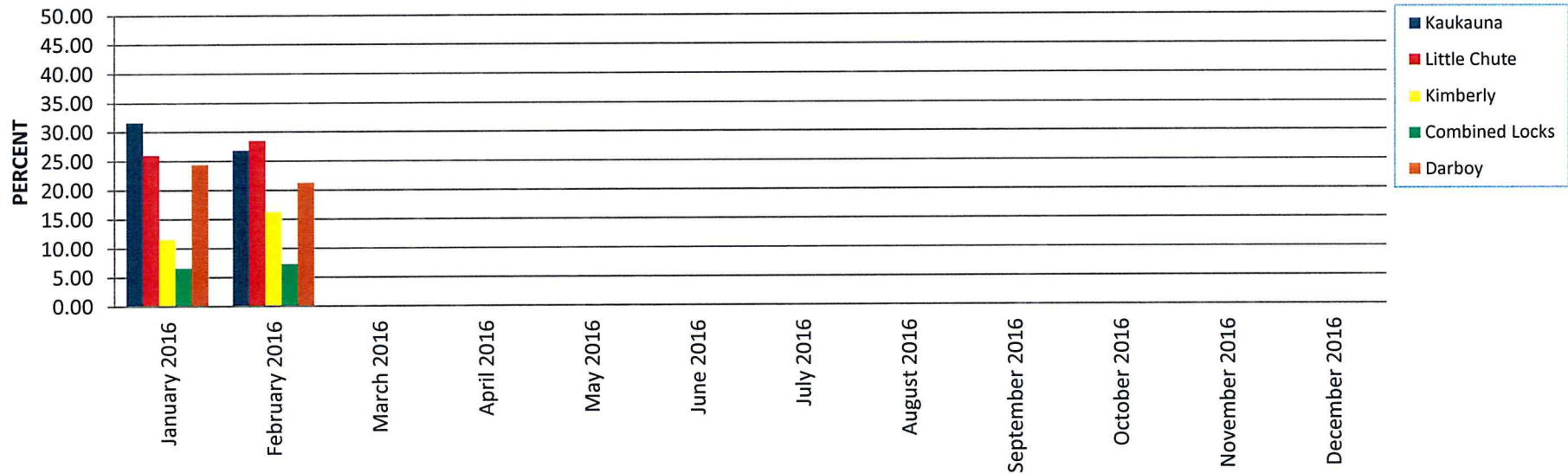
## % CONTRIBUTION BY COMMUNITY - B.O.D. POUNDS

	<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					
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October 2016					
November 2016					
December 2016					

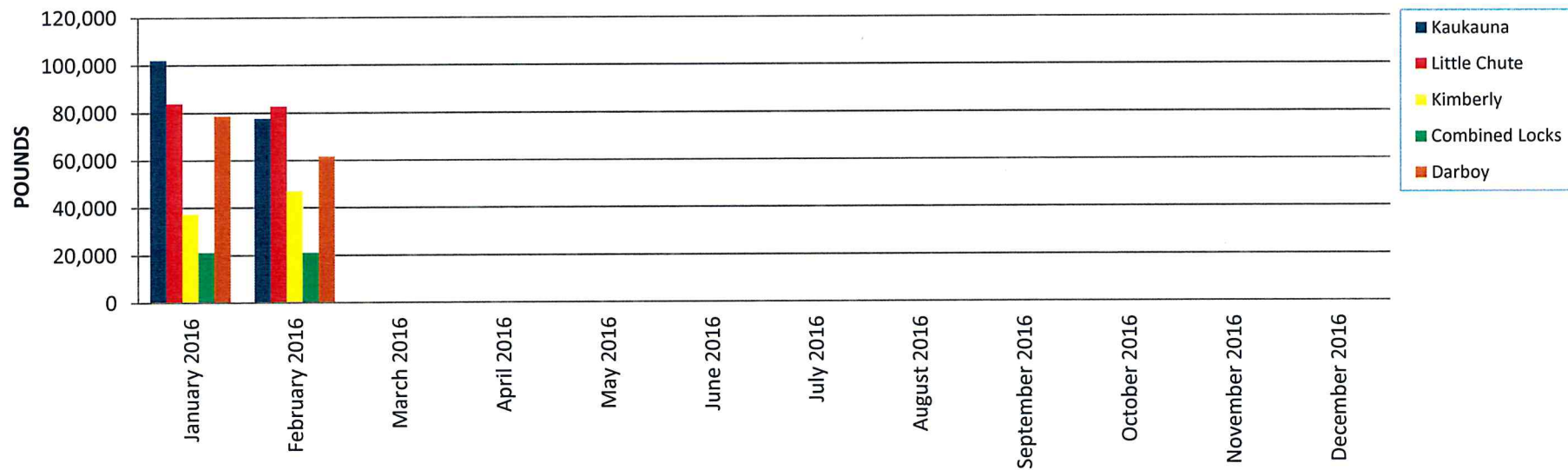
## POUNDS CONTRIBUTION BY COMMUNITY - B.O.D. POUNDS

	<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					
April 2016					
May 2016					
June 2016					
July 2016					
August 2016					
September 2016					
October 2016					
November 2016					
December 2016					

## B.O.B. PERCENT CONTRIBUTED BY COMMUNITY



## B.O.D. POUNDS CONTRIBUTED BY COMMUNITY





# HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

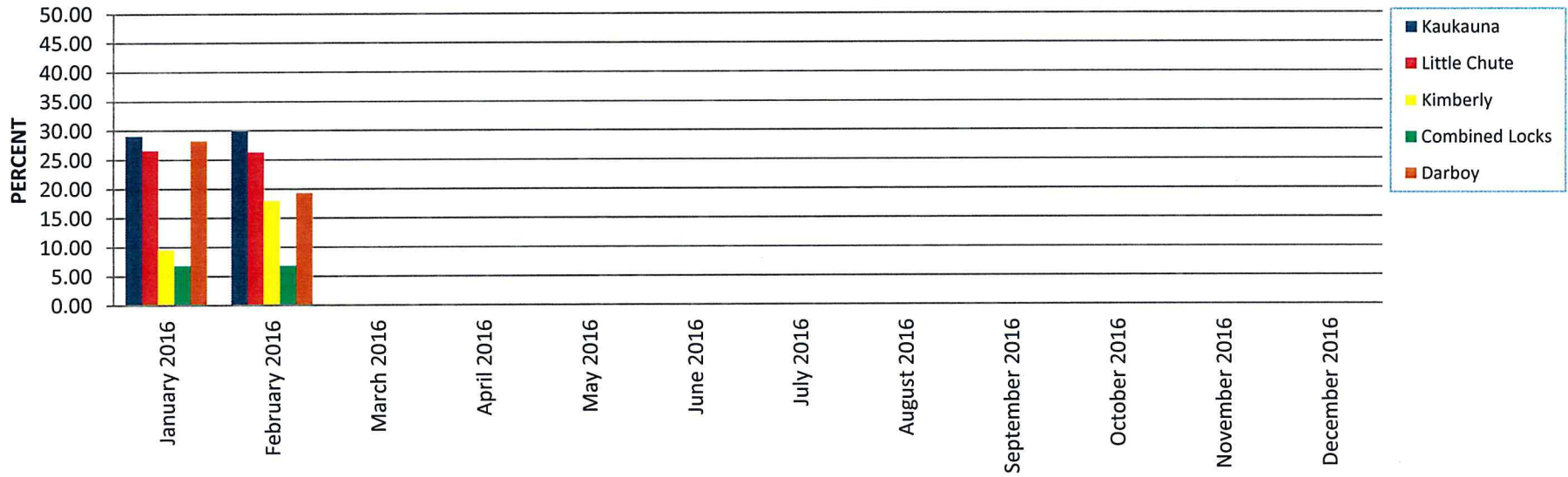
## % CONTRIBUTION BY COMMUNITY -TOTAL SUSPENDED SOLIDS POUNDS

	<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					
April 2016					
May 2016					
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October 2016					
November 2016					
December 2016					

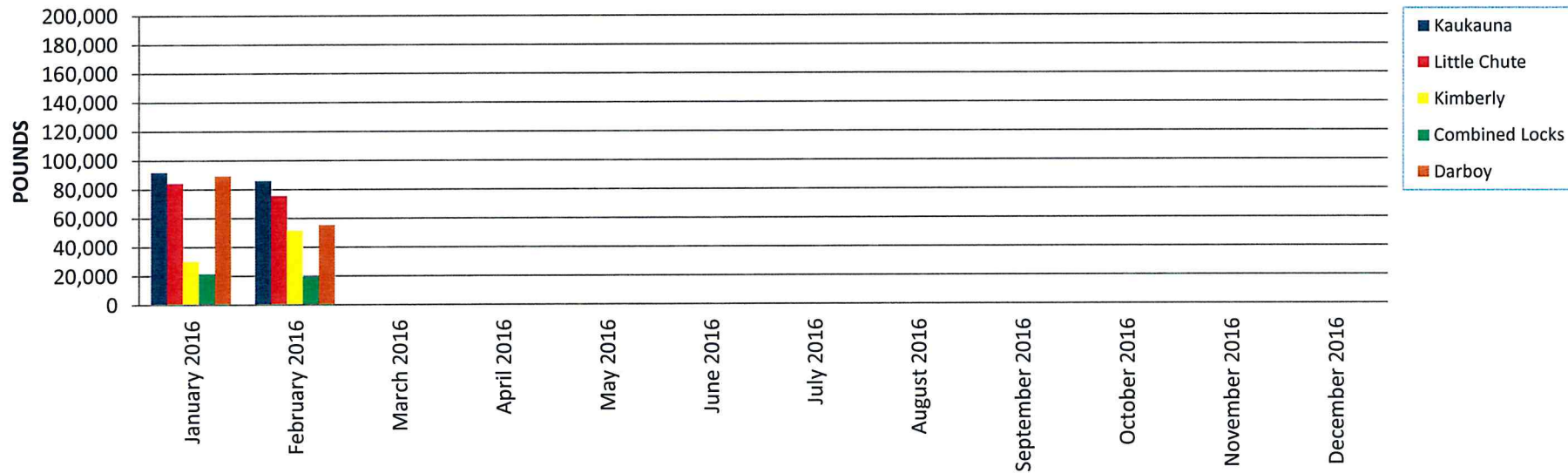
## POUNDS CONTRIBUTION BY COMMUNITY - TOTAL SUSPENDED SOLIDS POUNDS

	<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					
April 2016					
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

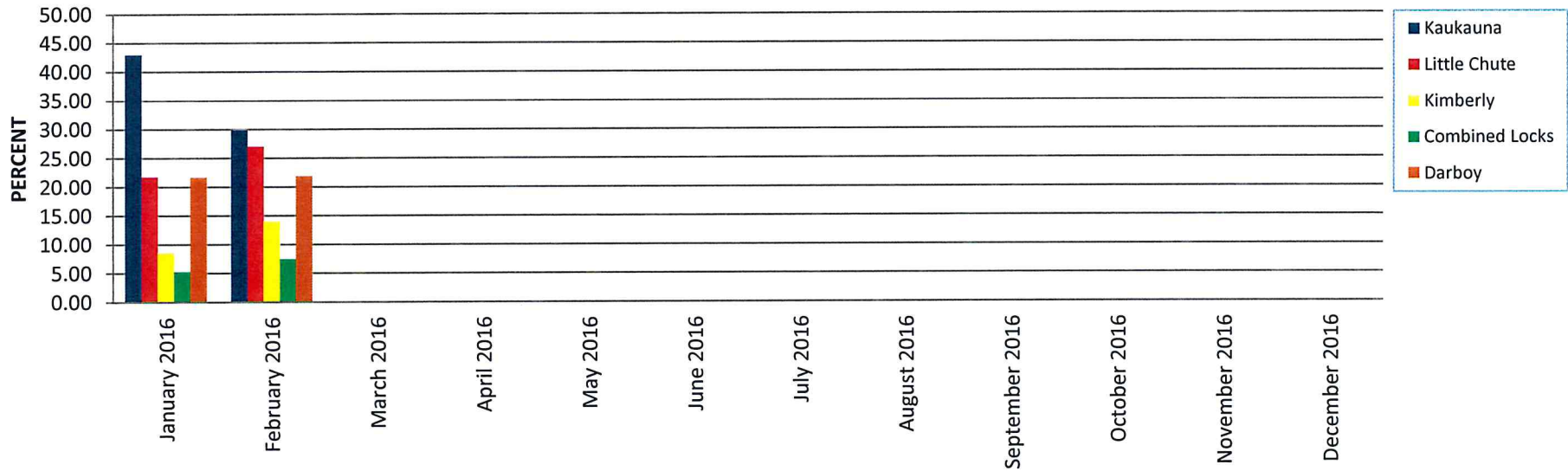
## % CONTRIBUTION BY COMMUNITY - PHOSPHORUS POUNDS

	<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					
April 2016					
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November 2016					
December 2016					

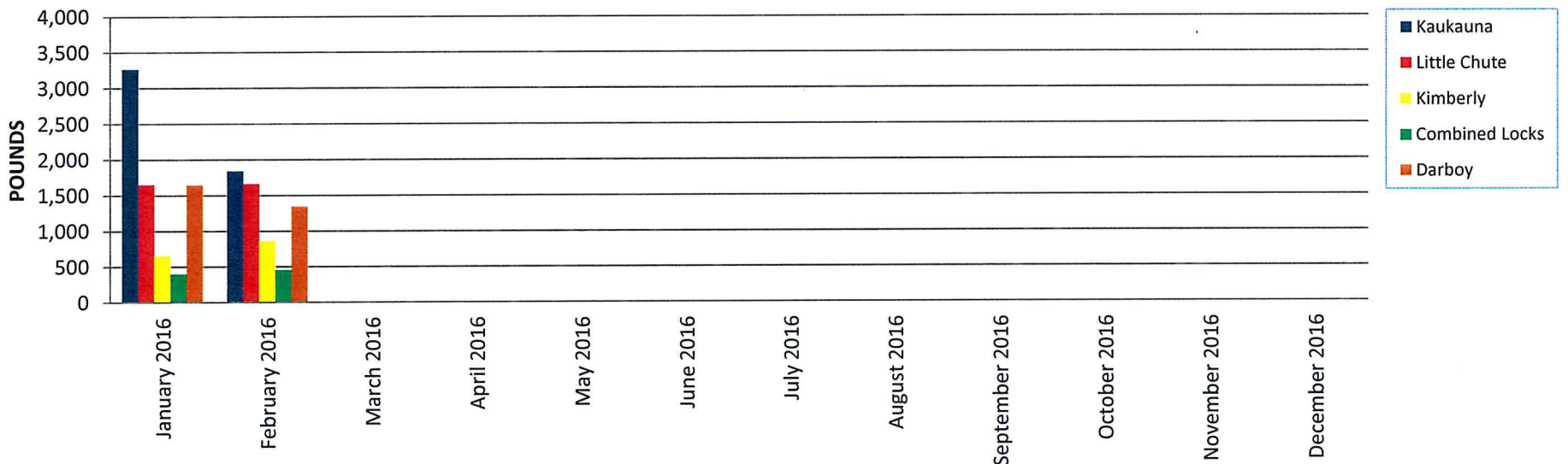
## POUNDS CONTRIBUTION BY COMMUNITY - PHOSPHORUS POUNDS

	<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					
April 2016					
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

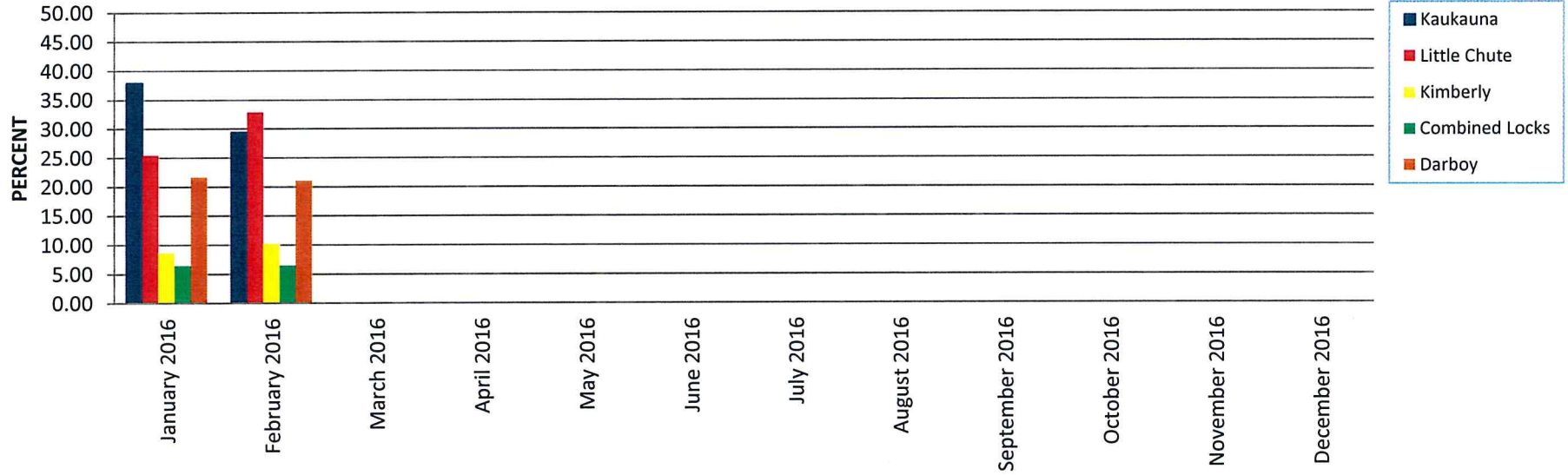
## % CONTRIBUTION BY COMMUNITY - AMMONIA POUNDS

	<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					
April 2016					
May 2016					
June 2016					
July 2016					
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September 2016					
October 2016					
November 2016					
December 2016					

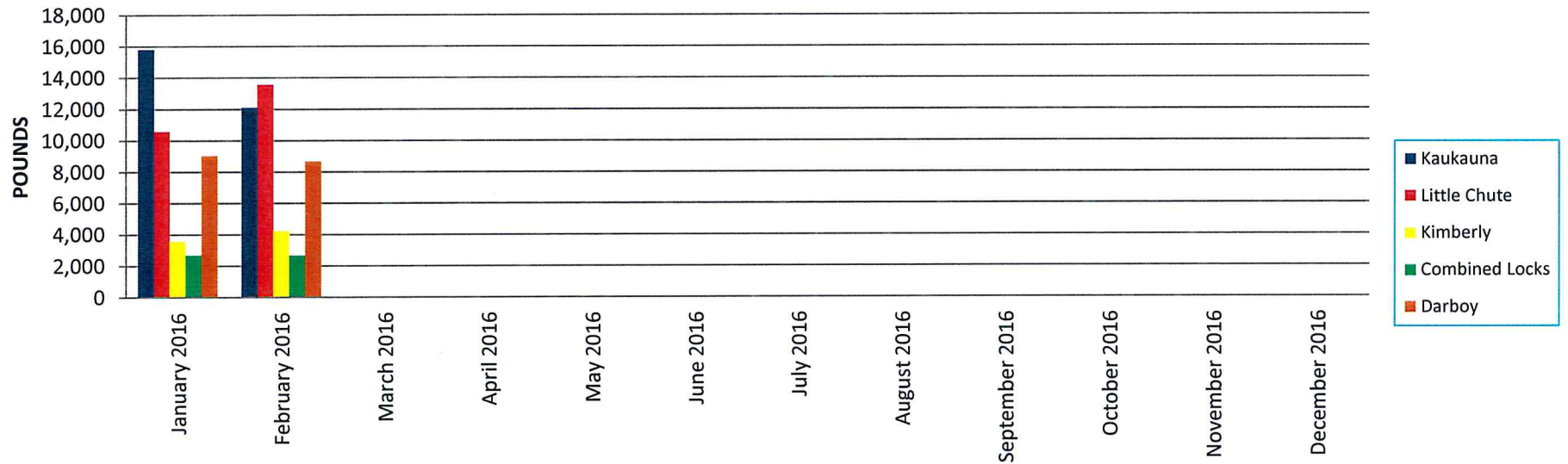
## POUNDS CONTRIBUTION BY COMMUNITY - AMMONIA POUNDS

	<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					
April 2016					
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

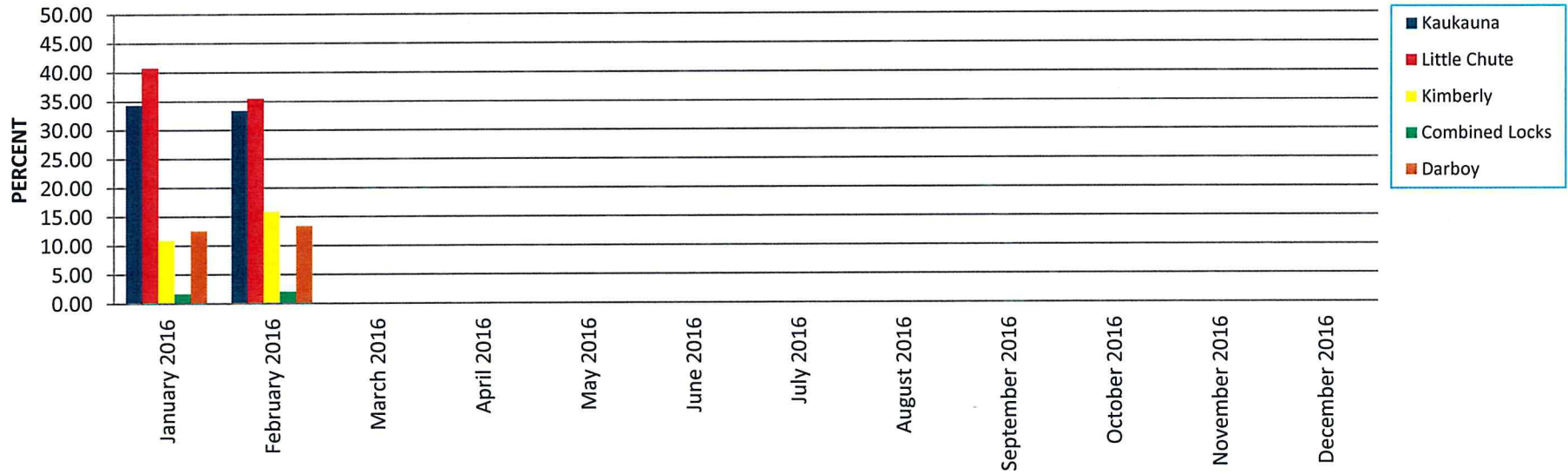
## % CONTRIBUTION BY COMMUNITY - CHLORIDE POUNDS

	<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					
April 2016					
May 2016					
June 2016					
July 2016					
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September 2016					
October 2016					
November 2016					
December 2016					

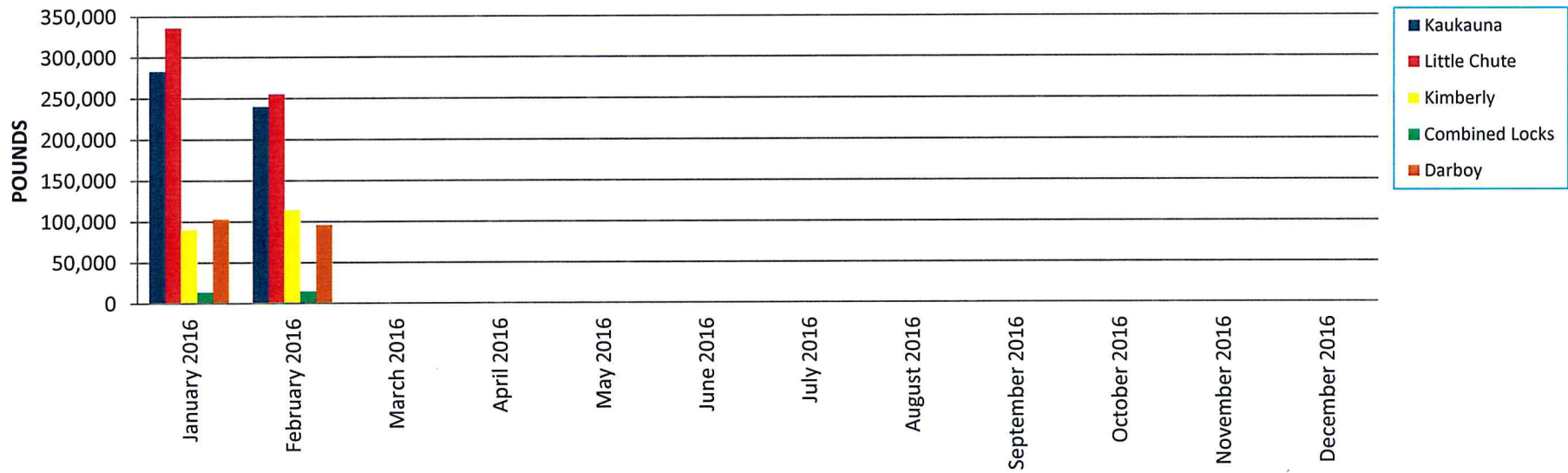
## POUNDS CONTRIBUTION BY COMMUNITY - CHLORIDE POUNDS

	<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					
April 2016					
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



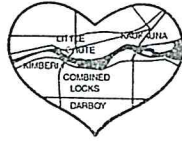


**DISTRICT DIRECTOR:**

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:** February

**Year:** 2016

**Gallons of Final Effluent Purchased (Billing)**

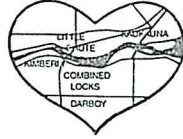
<u>Date</u>	<u>Gallons</u>	<u>Date</u>	<u>Gallons</u>
2/1/2016	2,532,000	2/21/2016	2,549,000
2/2/2016	632,000	2/22/2016	2,548,000
2/3/2016	3,465,000	2/23/2016	2,547,000
2/4/2016	2,112,000	2/24/2016	2,550,000
2/5/2016	3,318,000	2/25/2016	2,551,000
2/6/2016	3,030,000	2/26/2016	2,525,000
2/7/2016	1,854,000	2/27/2016	2,254,000
2/8/2016	2,676,000	2/28/2016	2,247,000
2/9/2016	2,679,000	2/29/2016	2,346,000
2/10/2016	2,674,000		
2/11/2016	2,668,000		
2/12/2016	2,328,000		
2/13/2016	2,239,000		
2/14/2016	2,250,000		
2/15/2016	3,181,000		
2/16/2016	2,145,000		
2/17/2016	2,139,000		
2/18/2016	2,849,000		
2/19/2016	3,043,000		
2/20/2016	2,565,000		
		<b>Total:</b>	<b>72,496,000</b>

**DISTRICT DIRECTOR:**

Glen H. Geurts

**SERVING:**

Combined Locks  
Kaukauna  
Kimberly  
Little Chute  
Darboy S.D.



**COMMISSIONERS:**

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METROPOLITAN SEWERAGE DISTRICT**

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**Facility:** Wisconsin Public Service Corporation - Fox Energy Center  
P.O. Box 19800  
Green Bay, WI 54307-9004

**Attn:** Account # N2310E

**MONTHLY BILLING**

**Month:** February

**Year:** 2016

**GALLONS PURCHASED:** 72,496,000

**BILLING RATE:** \$0.1552173 PER 1000 GALLONS

**TOTAL AMOUNT DUE: \$11,252.63**

**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: 145,542,000**

**Charge Per 1000 Gallons: \$0.1552173 Per 1000 Gallons**

**Sale of Final Effluent (Revenue Collected): \$22,590.64**