

FLOW AND STRENGTH PROJECTIONS

MONTH: December 2015

	<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)	141,721,907	234,593,040	92,871,133	\$ 102,748.38	\$ 170,079.95	\$ 67,331.57
B.O.D. (#s)	281,876	321,206	39,330	\$ 67,368.36	\$ 76,768.24	\$ 9,399.88
S. SOLIDS (#s)	362,287	359,478	-2,809	\$ 71,370.54	\$ 70,817.16	\$ (553.38)
PHOSPHORUS (#s)	7,763	7,029	-734	\$ 40,732.46	\$ 36,878.75	\$ (3,853.71)
AMMONIA-N (#s)	35,100	41,259	6,159	\$ 57,388.50	\$ 67,458.24	\$ 10,069.74
CHLORIDES (#s)	533,587	736,539	202,952	\$ 2,667.94	\$ 3,682.70	\$ 1,014.76
			TOTAL:	\$ 342,276.18	\$ 425,685.03	\$ 83,408.85

(THRU DECEMBER 2015)

PROJECTED FOR 2015

	<u>END OF YEAR PROJECTED</u>	<u>YEAR TO DATE SURPLUS/ DEFICIT</u>	<u>YEAR TO DATE SURPLUS/ DEFICIT \$\$</u>
FLOW (GALLONS)	1,990,763,703	-173,475,473	\$ (125,769.72)
B.O.D. (#s)	3,436,567	-289,760	\$ (69,252.68)
S. SOLIDS (#s)	5,046,098	-1,336,290	\$ (263,249.13)
PHOSPHORUS (#s)	96,019	-19,079	\$ (100,107.72)
AMMONIA-N (#s)	398,962	36,318	\$ 59,379.57
CHLORIDES (#s)	7,094,286	-123,246	\$ (616.23)
		TOTAL:	\$ (499,615.91)

HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

MONTH: DECEMBER 2015

HYDRAULIC AND ORGANIC LOADINGS DATA

INFLUENT

TOTAL FLOW TO PLANT: 241,853,000 GALLONS
 AVERAGE B.O.D. : 163 mg/L
 AVERAGE SUSPENDED SOLIDS : 153 mg/L
 AVERAGE PHOSPHORUS : 3.98 mg/L
 AVERAGE AMMONIA-N : 22.25 mg/L
 AVERAGE CHLORIDES : 427.27 mg/L

MAXIMUM DAILY FLOW TO PLANT:
30,390,000 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	41.00	27.45	29.61	33.46	31.40	39.22
LITTLE CHUTE	24.55	28.27	23.33	25.48	32.47	30.20
KIMBERLY	12.94	12.46	13.31	11.85	9.59	13.72
COMBINED LOCKS	6.58	7.47	7.77	7.21	7.08	2.45
DARBOY	14.94	24.35	25.99	22.00	19.47	14.42

AVERAGE DAILY INFLUENT LOADINGS

FLOW : 7,801,710 GALLONS
 B.O.D. : 10,576 POUNDS
 SUSPENDED SOLIDS : 9,957 POUNDS
 PHOSPHORUS : 259 POUNDS
 AMMONIA-N : 1,448 POUNDS
 CHLORIDES : 27,801 POUNDS

<u>%</u>
65.6
72.2
61.2
63.6
75.4

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. : 5.76 mg/L
 SUSPENDED SOLIDS : 13.42 mg/L
 PHOSPHORUS : 0.30 mg/L
 AMMONIA-N : 0.63 mg/L
 CHLORIDES : 450.00 mg/L

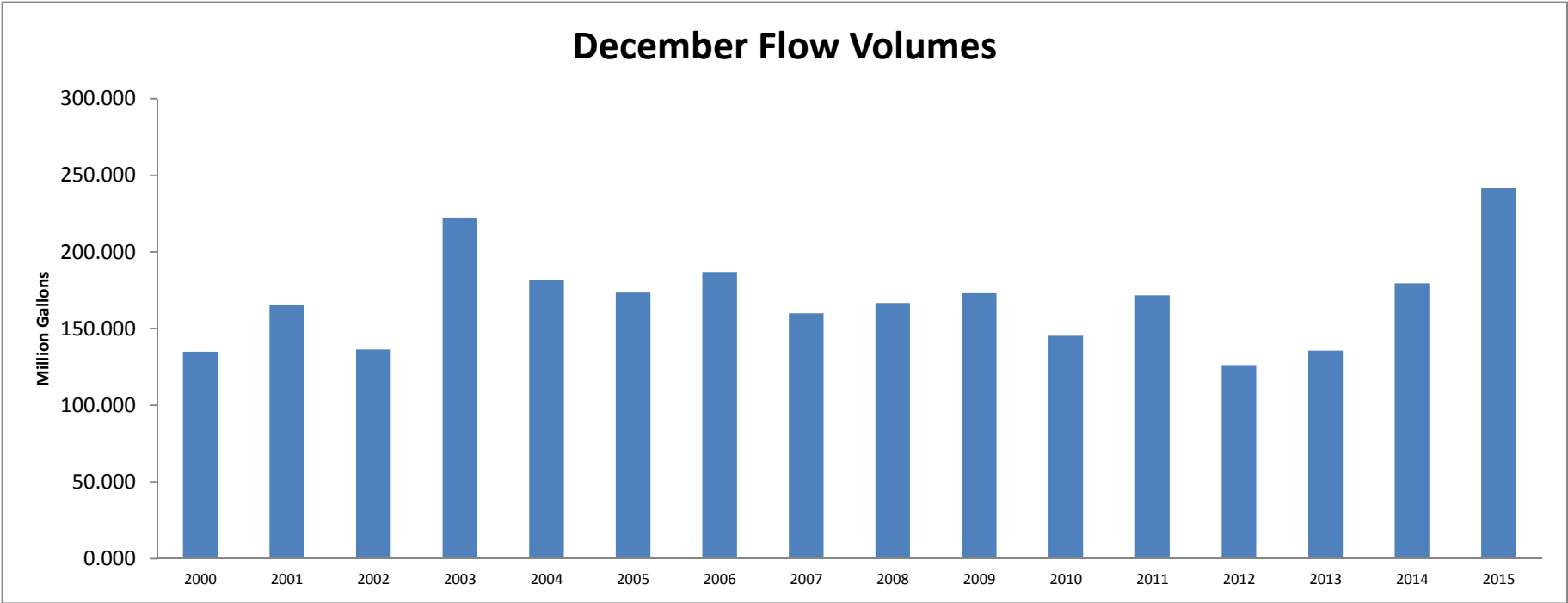
<u>%</u>
23.0
44.7
29.6

PERMIT
LIMIT

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

HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

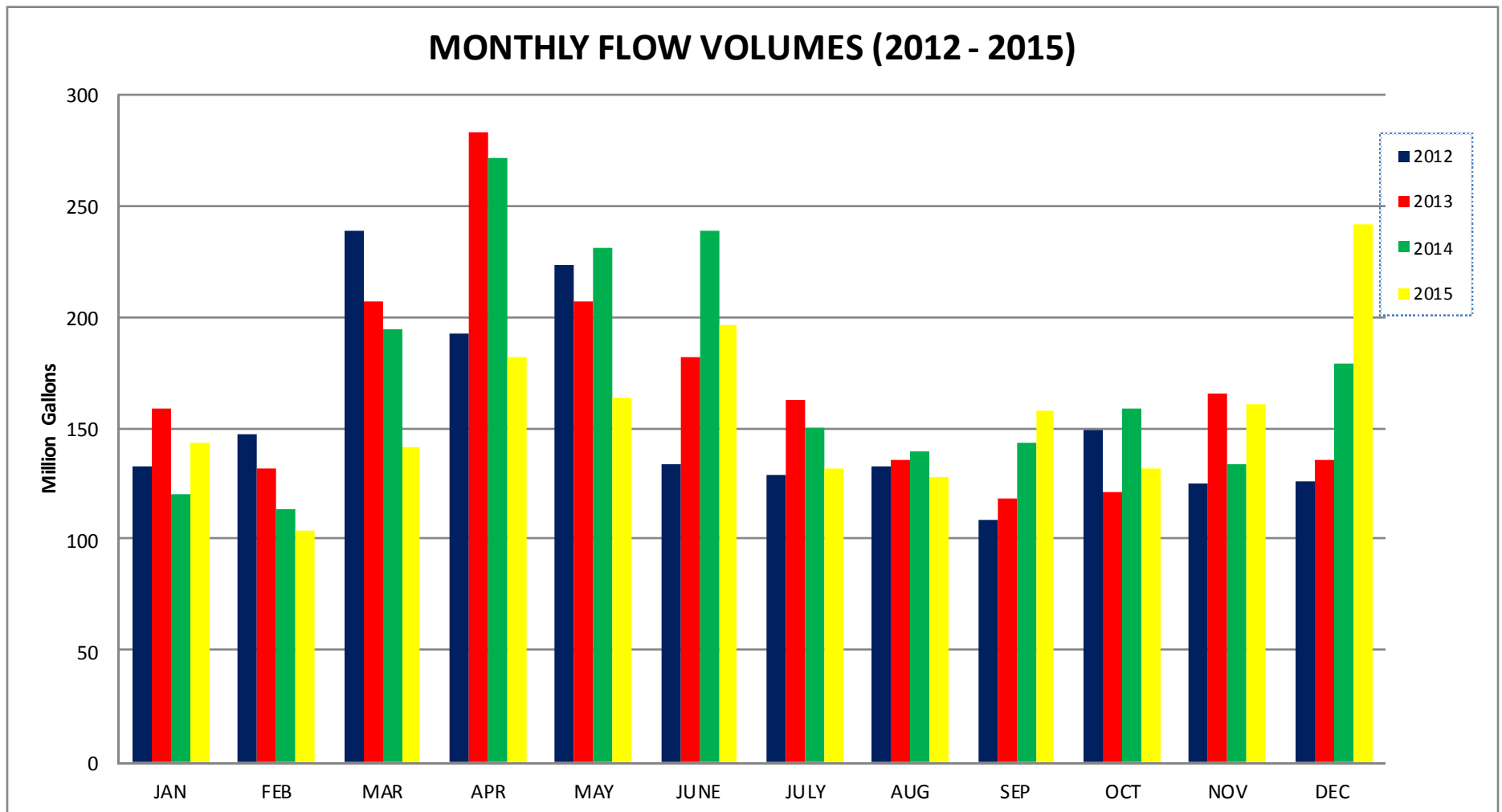
<u>Year</u>	<u>December Flow Million Gallons</u>	<u>Precipitation Inches</u>
2000	134.917	1.56
2001	165.577	1.22
2002	136.379	0.40
2003	222.474	1.35
2004	181.734	2.38
2005	173.501	0.93
2006	186.925	2.35
2007	159.950	2.76
2008	166.751	3.54
2009	173.100	2.48
2010	145.340	1.01
2011	171.720	0.77
2012	126.223	0.91
2013	135.674	1.16
2014	179.535	1.68
2015	241.853	4.24



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>
2012	133.587	148.063	239.291	192.940	224.309	133.928	129.100	132.987	109.316	149.466	125.396	126.223
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

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



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

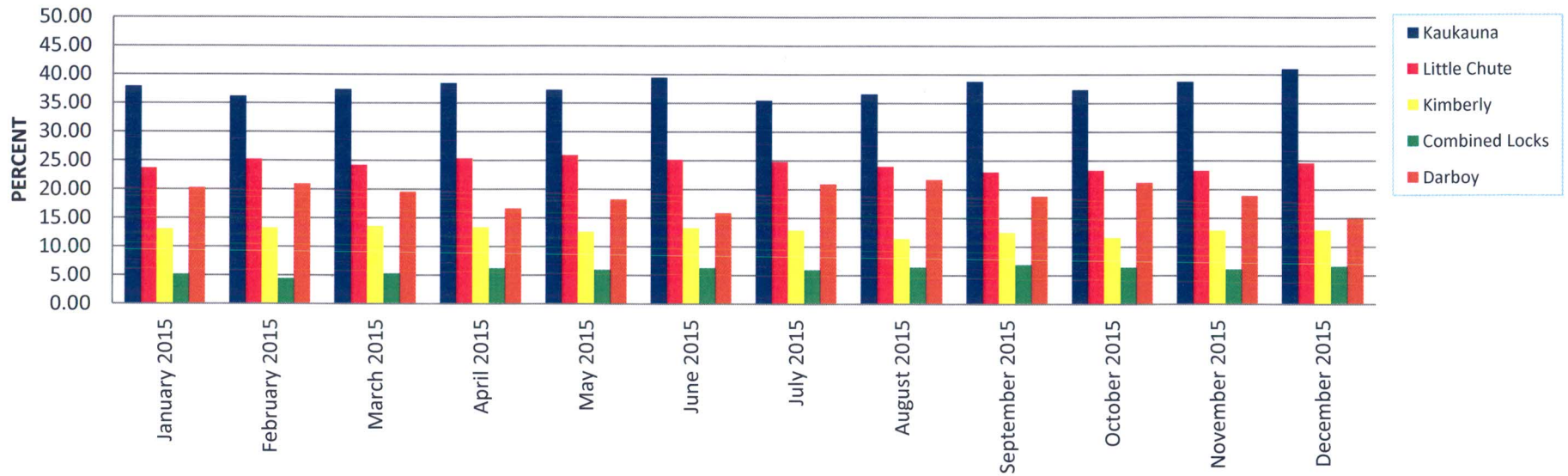
% CONTRIBUTION BY COMMUNITY - FLOW GALLONS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>	<u>Rainfall - Inches</u>
January 2015	37.90	23.63	13.06	5.19	20.22	0.56
February 2015	36.21	25.18	13.26	4.45	20.90	0.52
March 2015	37.39	24.20	13.55	5.32	19.53	0.90
April 2015	38.45	25.32	13.38	6.23	16.63	1.91
May 2015	37.31	25.89	12.60	5.96	18.24	3.44
June 2015	39.44	25.12	13.26	6.31	15.88	4.59
July 2015	35.48	24.77	12.87	5.95	20.92	1.27
August 2015	36.59	23.92	11.41	6.39	21.69	3.22
September 2015	38.77	23.04	12.50	6.87	18.82	5.17
October 2015	37.37	23.33	11.63	6.46	21.21	1.90
November 2015	38.78	23.27	12.91	6.12	18.92	2.21
December 2015	41.00	24.55	12.94	6.58	14.94	4.24

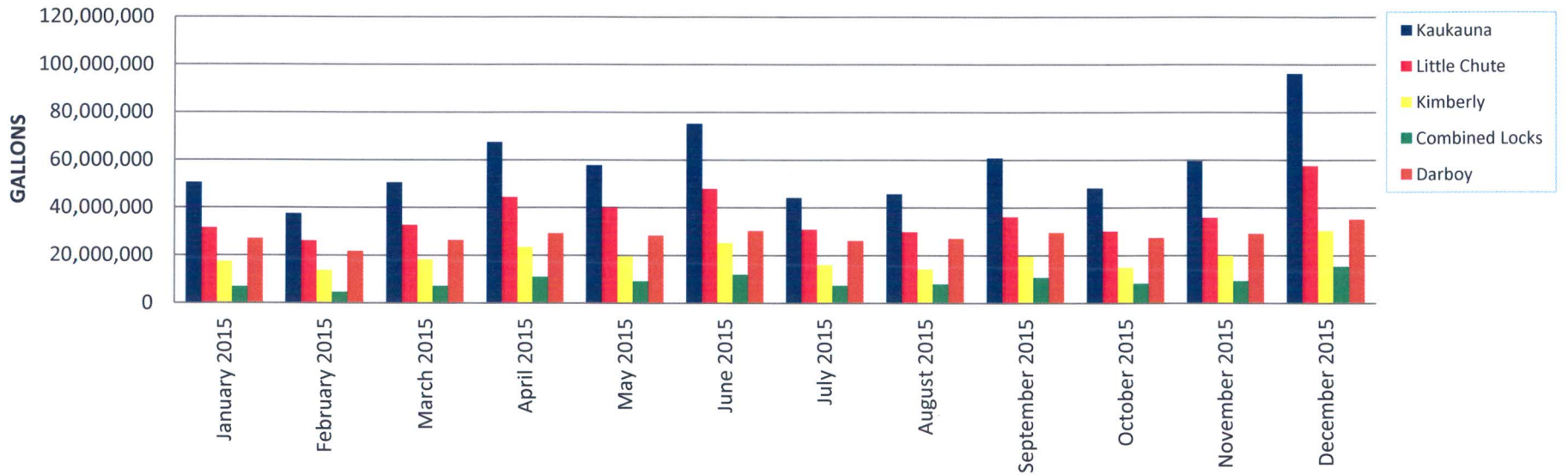
GALLONS CONTRIBUTION BY COMMUNITY - FLOW GALLONS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2015	50,570,950	31,530,000	17,429,000	6,924,000	26,985,000
February 2015	37,561,780	26,127,000	13,752,000	4,614,000	21,686,000
March 2015	50,496,530	32,678,000	18,302,000	7,186,000	26,375,000
April 2015	67,514,800	44,458,000	23,494,000	10,938,000	29,201,000
May 2015	57,821,520	40,117,000	19,531,000	9,229,000	28,264,000
June 2015	75,254,640	47,924,000	25,290,000	12,033,000	30,291,000
July 2015	44,193,140	30,852,000	16,031,000	7,416,000	26,056,000
August 2015	45,645,250	29,842,000	14,231,000	7,975,000	27,053,000
September 2015	60,794,030	36,133,000	19,595,000	10,765,000	29,512,000
October 2015	48,231,000	30,111,000	15,010,000	8,340,000	27,378,000
November 2015	59,697,550	35,832,000	19,874,000	9,425,000	29,125,000
December 2015	96,185,040	57,589,000	30,350,000	15,427,000	35,042,000

FLOW PERCENT CONTRIBUTED BY COMMUNITY



FLOW GALLONS CONTRIBUTED BY COMMUNITY



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

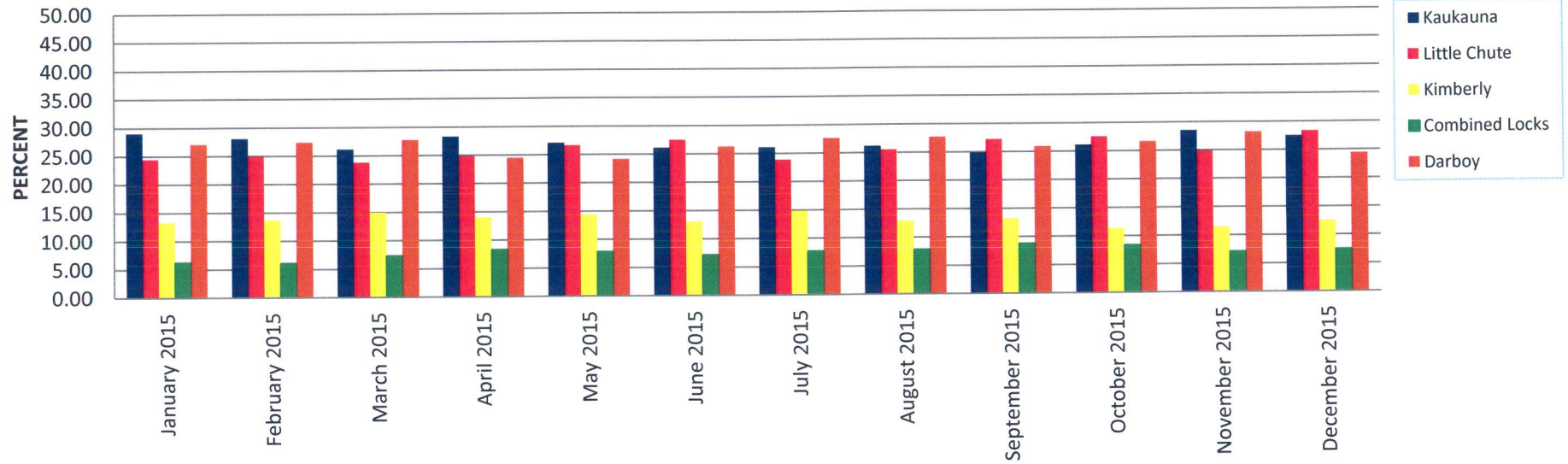
% CONTRIBUTION BY COMMUNITY - B.O.D. POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2015	29.01	24.40	13.31	6.25	27.03
February 2015	28.06	24.94	13.63	6.05	27.32
March 2015	26.13	23.80	15.02	7.32	27.72
April 2015	28.28	24.87	14.03	8.32	24.49
May 2015	27.09	26.59	14.36	7.83	24.13
June 2015	26.09	27.48	13.06	7.16	26.21
July 2015	26.04	23.85	14.85	7.69	27.58
August 2015	26.16	25.46	12.92	7.82	27.64
September 2015	24.91	27.17	13.22	8.82	25.88
October 2015	26.12	27.52	11.37	8.38	26.60
November 2015	28.50	24.84	11.43	7.08	28.15
December 2015	27.45	28.27	12.46	7.47	24.35

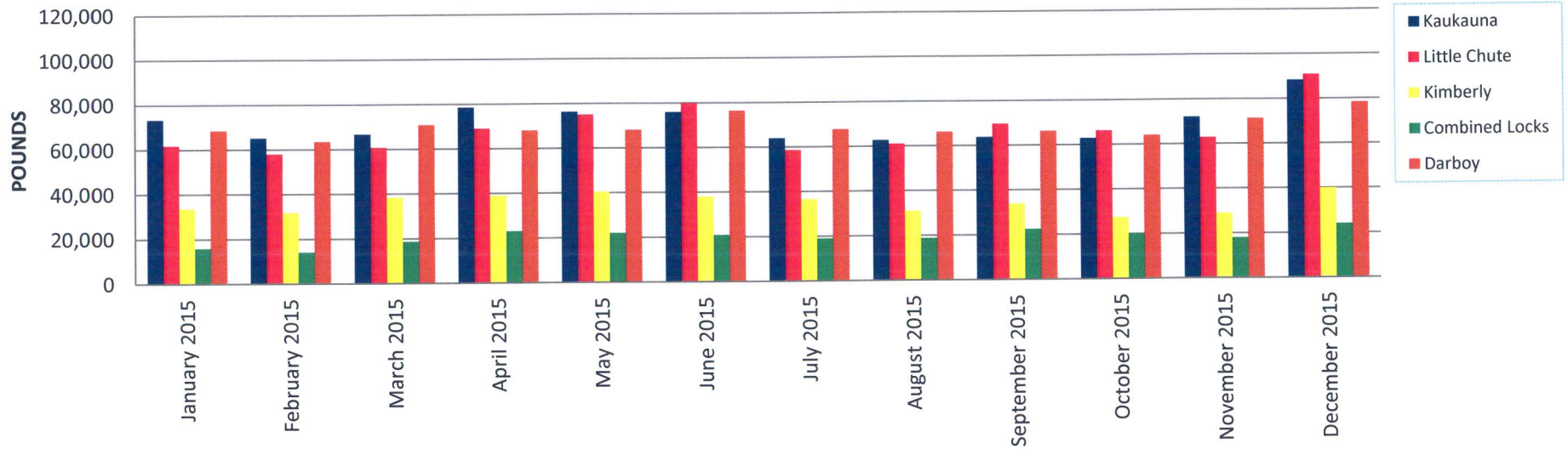
POUNDS CONTRIBUTION BY COMMUNITY - B.O.D. POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2015	73,318	61,663	33,645	15,805	68,331
February 2015	65,150	57,919	31,646	14,052	63,437
March 2015	66,672	60,728	38,323	18,677	70,735
April 2015	78,518	69,052	38,963	23,114	68,003
May 2015	76,346	74,949	40,478	22,065	68,025
June 2015	75,959	80,000	38,022	20,829	76,293
July 2015	63,932	58,549	36,469	18,873	67,709
August 2015	62,688	61,030	30,977	18,736	66,247
September 2015	63,750	69,551	33,828	22,580	66,251
October 2015	62,896	66,253	27,386	20,182	64,056
November 2015	72,096	62,823	28,910	17,902	71,212
December 2015	88,186	90,794	40,016	23,995	78,215

B.O.D. PERCENT CONTRIBUTED BY COMMUNITY



B.O.D POUNDS CONTRIBUTED BY COMMUNITY



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

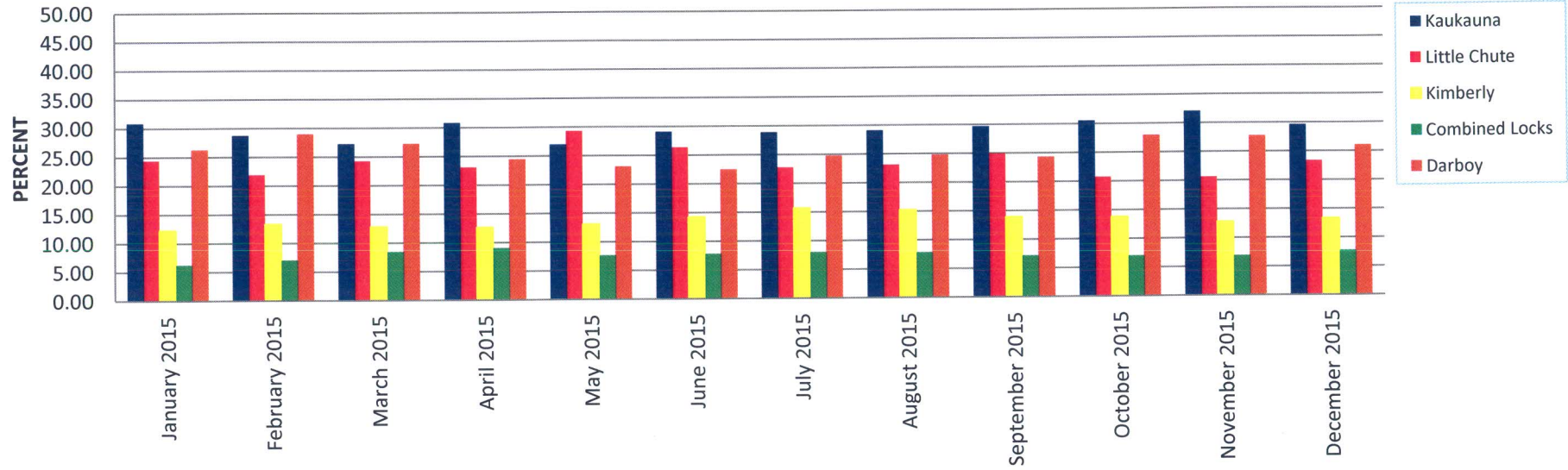
% CONTRIBUTION BY COMMUNITY -TOTAL SUSPENDED SOLIDS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2015	30.86	24.36	12.26	6.25	26.27
February 2015	28.76	21.88	13.34	7.08	28.94
March 2015	27.27	24.23	12.82	8.49	27.19
April 2015	30.81	23.06	12.65	9.05	24.43
May 2015	26.96	29.26	13.06	7.65	23.07
June 2015	29.08	26.35	14.26	7.84	22.47
July 2015	28.87	22.73	15.68	8.03	24.69
August 2015	29.09	23.07	15.23	7.87	24.74
September 2015	29.67	24.96	13.90	7.18	24.29
October 2015	30.51	20.72	13.82	7.01	27.93
November 2015	32.05	20.57	12.79	6.92	27.67
December 2015	29.61	23.33	13.31	7.77	25.99

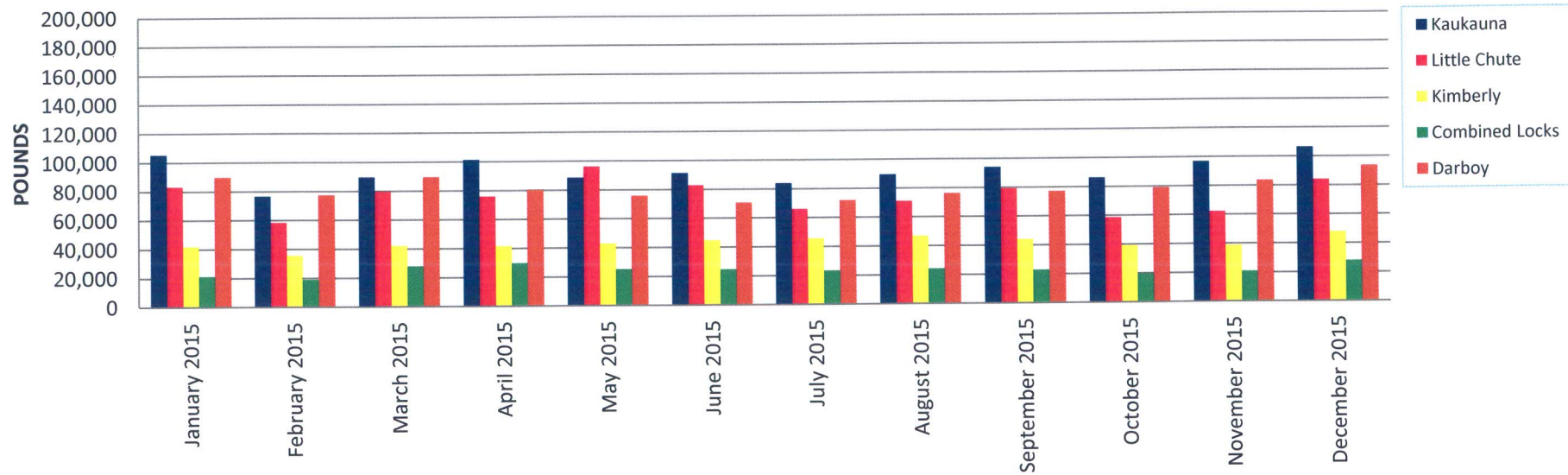
POUNDS CONTRIBUTION BY COMMUNITY - TOTAL SUSPENDED SOLIDS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2015	105,347	83,157	41,863	21,340	89,675
February 2015	76,755	58,404	35,592	18,894	77,228
March 2015	89,678	79,679	42,173	27,928	89,401
April 2015	101,321	75,850	41,600	29,752	80,330
May 2015	88,534	96,099	42,893	25,118	75,744
June 2015	91,319	82,747	44,784	24,629	70,566
July 2015	83,931	66,076	45,581	23,331	71,783
August 2015	89,549	71,009	46,891	24,210	76,156
September 2015	94,086	79,144	44,070	22,775	77,039
October 2015	86,206	58,538	39,057	19,818	78,898
November 2015	96,903	62,195	38,674	20,909	83,639
December 2015	106,425	83,871	47,839	27,919	93,424

TSS PERCENT CONTRIBUTED BY COMMUNITY



TSS POUNDS CONTRIBUTED BY COMMUNITY



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

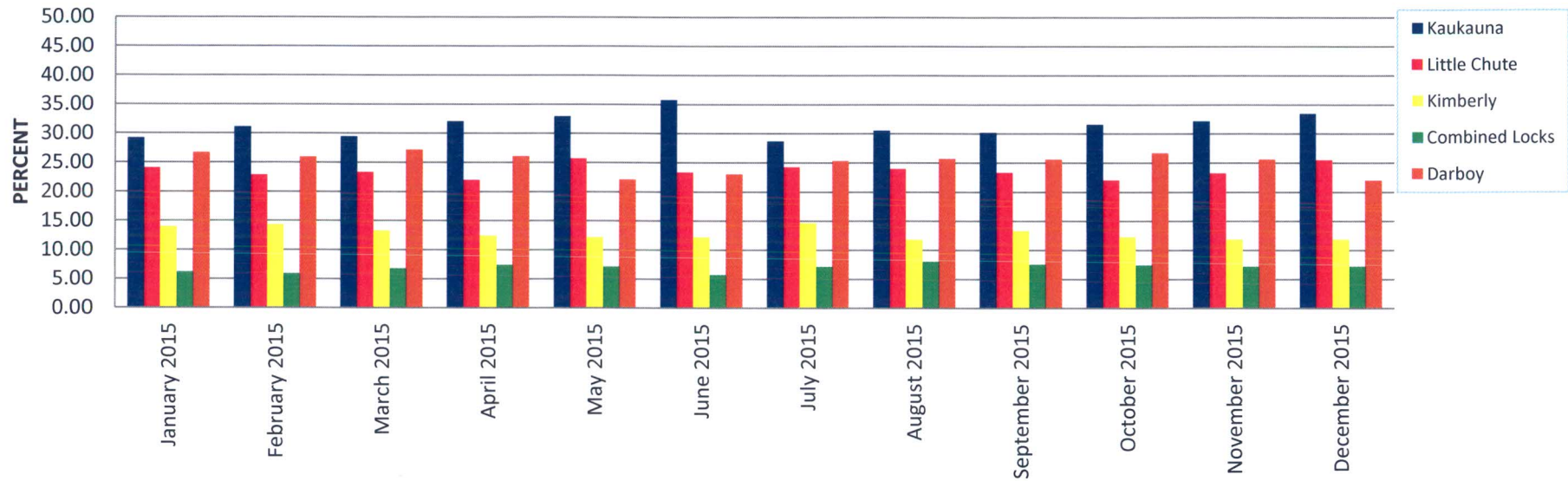
% CONTRIBUTION BY COMMUNITY - PHOSPHORUS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2015	29.18	24.02	13.95	6.16	26.69
February 2015	31.10	22.85	14.28	5.87	25.90
March 2015	29.42	23.35	13.28	6.78	27.16
April 2015	32.07	21.98	12.45	7.44	26.06
May 2015	32.91	25.66	12.19	7.14	22.10
June 2015	35.76	23.34	12.22	5.70	22.98
July 2015	28.70	24.23	14.65	7.13	25.29
August 2015	30.56	23.93	11.83	8.02	25.66
September 2015	30.20	23.31	13.34	7.56	25.59
October 2015	31.58	22.03	12.30	7.44	26.65
November 2015	32.16	23.25	11.84	7.19	25.55
December 2015	33.46	25.48	11.85	7.21	22.00

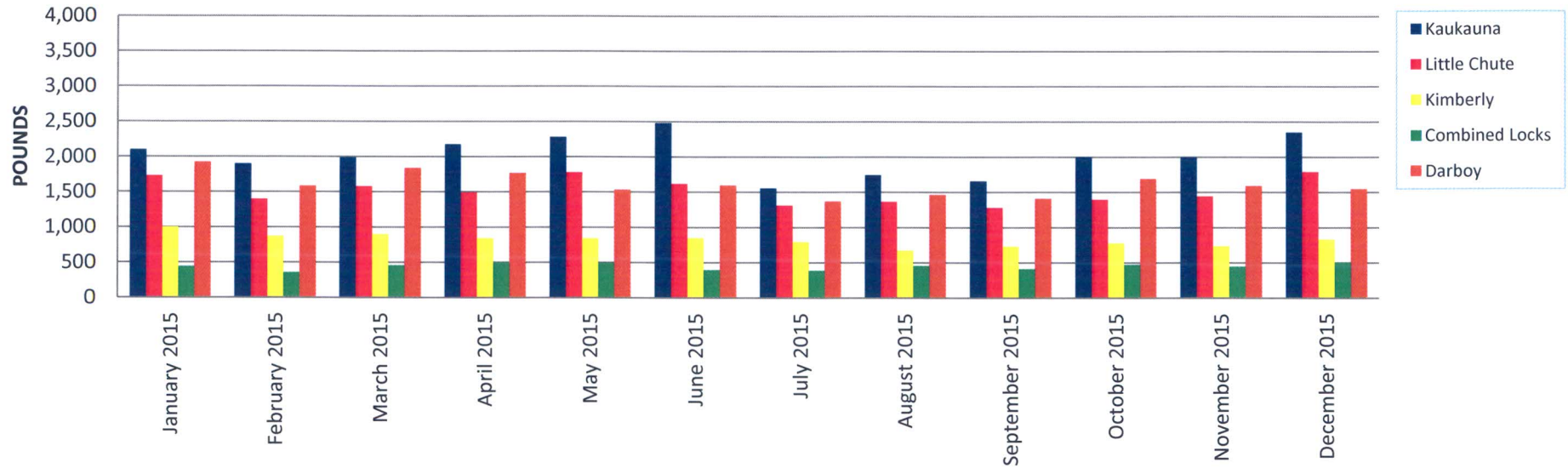
POUNDS CONTRIBUTION BY COMMUNITY - PHOSPHORUS POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2015	2,102	1,730	1,004	443	1,922
February 2015	1,900	1,396	873	359	1,583
March 2015	1,991	1,580	899	459	1,838
April 2015	2,176	1,492	845	504	1,768
May 2015	2,282	1,780	845	495	1,532
June 2015	2,481	1,619	848	395	1,594
July 2015	1,554	1,312	793	386	1,369
August 2015	1,744	1,365	675	458	1,464
September 2015	1,662	1,283	734	416	1,408
October 2015	2,002	1,397	780	472	1,690
November 2015	2,000	1,445	736	447	1,589
December 2015	2,352	1,791	833	507	1,546

PHOSPHORUS PERCENT CONTRIBUTED BY COMMUNITY



PHOSPHORUS POUNDS CONTRIBUTED BY COMMUNITY



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

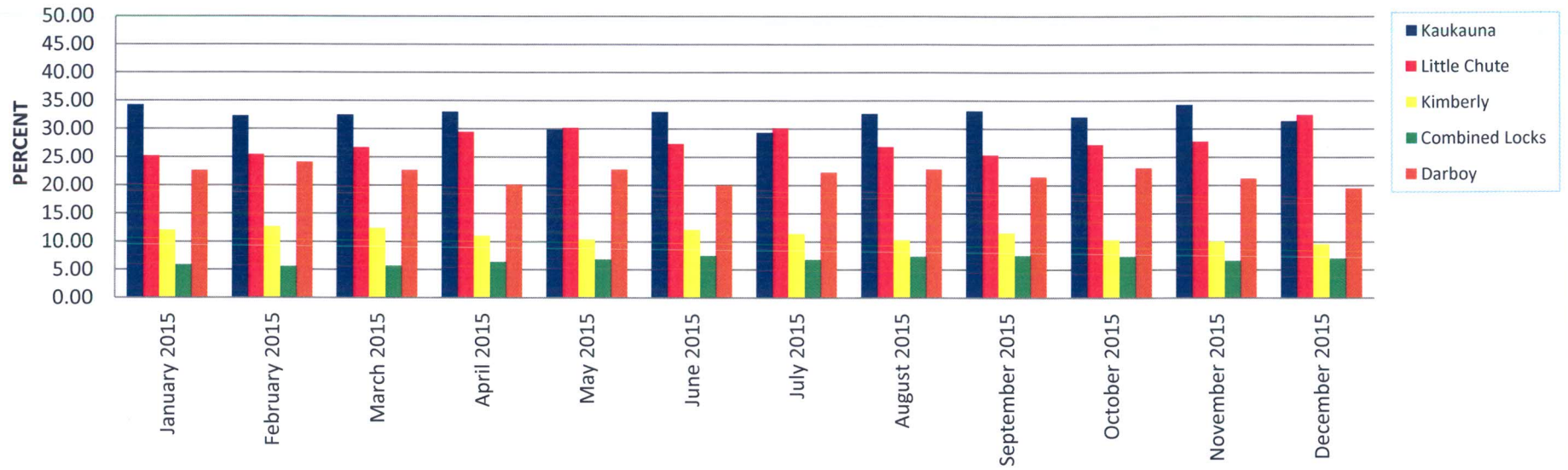
% CONTRIBUTION BY COMMUNITY - AMMONIA POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2015	34.22	25.20	12.03	5.91	22.64
February 2015	32.29	25.42	12.64	5.59	24.06
March 2015	32.50	26.70	12.42	5.69	22.69
April 2015	33.04	29.42	11.07	6.38	20.09
May 2015	29.87	30.17	10.37	6.82	22.76
June 2015	33.02	27.34	12.10	7.51	20.03
July 2015	29.31	30.12	11.42	6.84	22.30
August 2015	32.70	26.81	10.31	7.37	22.81
September 2015	33.16	25.35	11.53	7.49	21.46
October 2015	32.08	27.20	10.32	7.35	23.05
November 2015	34.28	27.78	10.09	6.65	21.21
December 2015	31.40	32.47	9.59	7.08	19.47

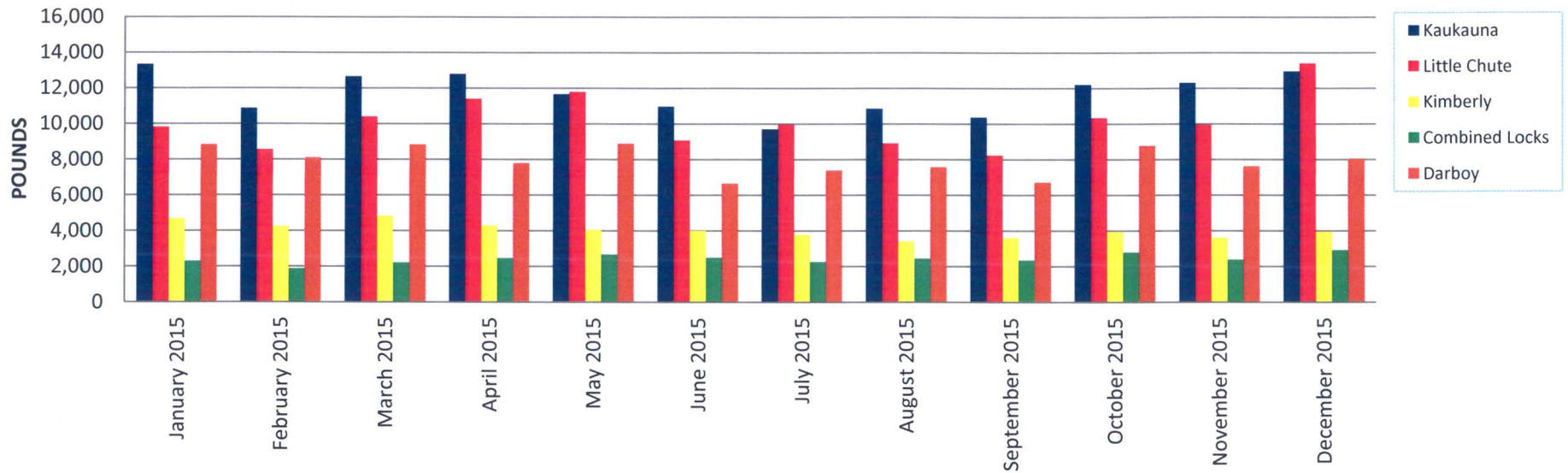
POUNDS CONTRIBUTION BY COMMUNITY - AMMONIA POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2015	13,335	9,820	4,686	2,303	8,824
February 2015	10,867	8,554	4,254	1,883	8,097
March 2015	12,654	10,396	4,837	2,215	8,834
April 2015	12,796	11,394	4,287	2,470	7,781
May 2015	11,660	11,777	4,049	2,663	8,882
June 2015	10,967	9,078	4,018	2,493	6,652
July 2015	9,712	9,982	3,785	2,268	7,388
August 2015	10,862	8,906	3,424	2,449	7,576
September 2015	10,361	8,230	3,603	2,341	6,705
October 2015	12,196	10,338	3,922	2,783	8,763
November 2015	12,301	9,970	3,620	2,385	7,613
December 2015	12,953	13,395	3,956	2,923	8,031

AMMONIA PERCENT CONTRIBUTED BY COMMUNITY



AMMONIA POUNDS CONTRIBUTED BY COMMUNITY



HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT

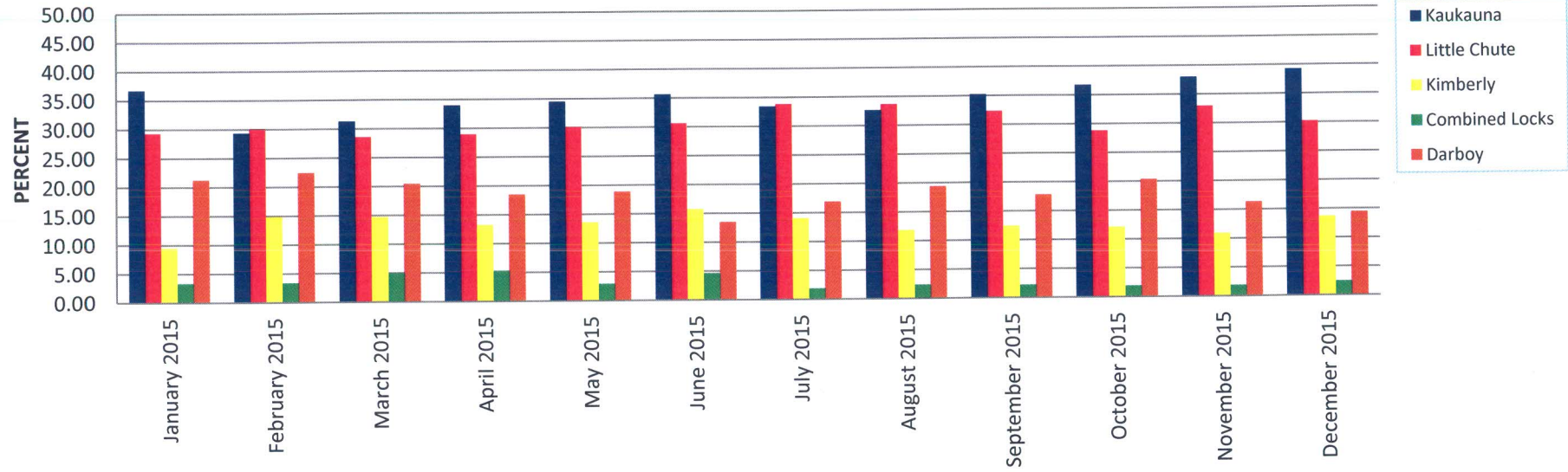
% CONTRIBUTION BY COMMUNITY - CHLORIDE POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2015	36.70	29.27	9.48	3.34	21.21
February 2015	29.31	30.03	14.88	3.38	22.40
March 2015	31.28	28.56	14.72	5.00	20.44
April 2015	33.99	28.92	13.27	5.36	18.46
May 2015	34.52	30.08	13.61	2.93	18.86
June 2015	35.61	30.55	15.73	4.61	13.49
July 2015	33.41	33.78	14.04	1.89	16.88
August 2015	32.65	33.67	11.89	2.43	19.36
September 2015	35.22	32.32	12.44	2.23	17.79
October 2015	36.74	28.78	12.18	1.94	20.36
November 2015	37.95	32.94	10.91	1.90	16.30
December 2015	39.22	30.20	13.72	2.45	14.42

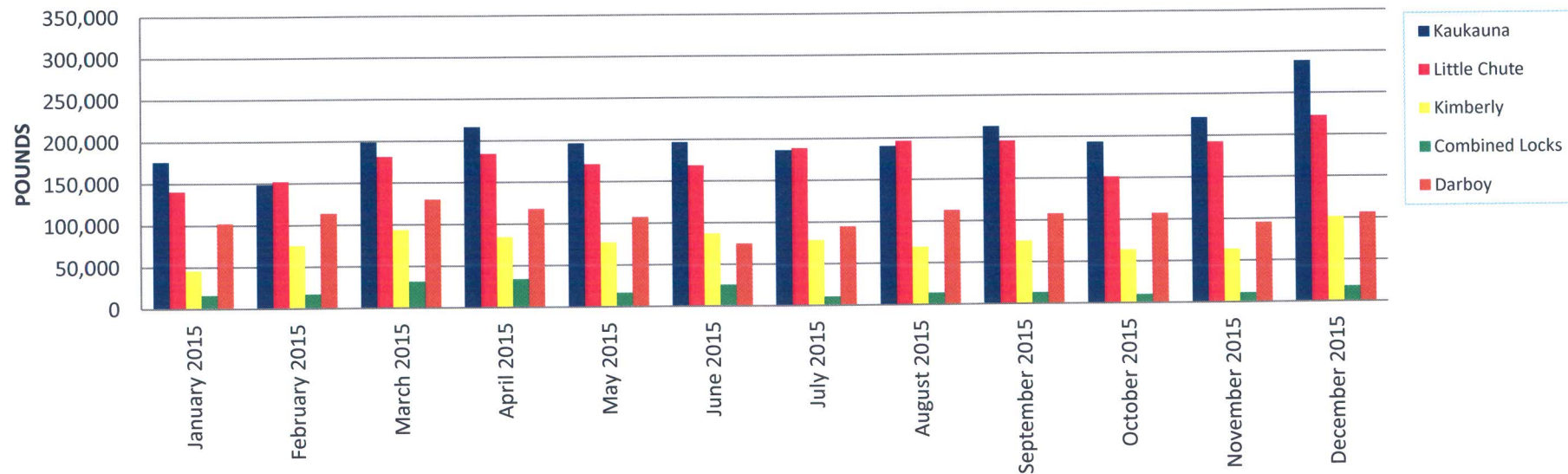
POUNDS CONTRIBUTION BY COMMUNITY - CHLORIDE POUNDS

	<u>Kaukauna</u>	<u>Little Chute</u>	<u>Kimberly</u>	<u>Combined Locks</u>	<u>Darboy</u>
January 2015	176,145	140,515	45,509	16,036	101,795
February 2015	148,537	152,140	75,410	17,124	113,490
March 2015	198,616	181,301	93,436	31,758	129,781
April 2015	216,672	184,335	84,556	34,174	117,648
May 2015	196,234	171,005	77,372	16,677	107,253
June 2015	196,687	168,749	86,898	25,490	74,525
July 2015	186,428	188,464	78,367	10,562	94,166
August 2015	190,236	196,222	69,295	14,172	112,811
September 2015	212,798	195,231	75,174	13,467	107,478
October 2015	193,292	151,420	64,094	10,219	107,141
November 2015	221,498	192,218	63,676	11,070	95,138
December 2015	288,851	222,454	101,038	18,013	106,183

CHLORIDE PERCENT CONTRIBUTED BY COMMUNITY



CHLORIDE POUNDS CONTRIBUTED BY COMMUNITY

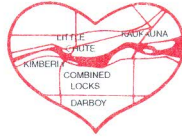


DISTRICT DIRECTOR:

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:** December**Year:** 2015**Gallons of Final Effluent Purchased (Billing)**

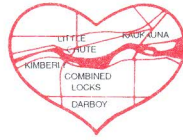
<u>Date</u>	<u>Gallons</u>	<u>Date</u>	<u>Gallons</u>
12/1/2015	2,733,000	12/21/2015	2,799,000
12/2/2015	2,735,000	12/22/2015	3,154,000
12/3/2015	2,740,000	12/23/2015	3,145,000
12/4/2015	3,441,000	12/24/2015	2,561,000
12/5/2015	3,315,000	12/25/2015	2,553,000
12/6/2015	2,689,000	12/26/2015	2,551,000
12/7/2015	2,585,000	12/27/2015	2,554,000
12/8/2015	2,550,000	12/28/2015	2,554,000
12/9/2015	2,446,000	12/29/2015	2,172,000
12/10/2015	2,438,000	12/30/2015	2,552,000
12/11/2015	2,211,000	12/31/2015	2,548,000
12/12/2015	654,000		
12/13/2015	1,074,000		
12/14/2015	1,877,000		
12/15/2015	1,856,000		
12/16/2015	2,177,000		
12/17/2015	2,703,000		
12/18/2015	2,725,000		
12/19/2015	2,740,000		
12/20/2015	2,710,000		
		Total:	77,542,000

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

MONTHLY BILLING

Month: December

Year: 2015

GALLONS PURCHASED: 77,542,000

BILLING RATE: \$0.1532880 PER 1000 GALLONS

TOTAL AMOUNT DUE: \$11,886.26

**Heart of the Valley
Metropolitan Sewerage District**

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

2015

Final Effluent Sent to Fox Energy Facility

Gallons: 828,452,000

Charge Per 1000 Gallons: \$0.1532880 Per 1000 Gallons

Sale of Final Effluent (Revenue Collected): \$126,991.75