MAINE COMBINED SEWER OVERFLOW 2008 STATUS REPORT

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MAINE COMBINED SEWER OVERFLOWS ANNUAL VOLUME DISCHARGED PER INCH OF PRECIPITATION

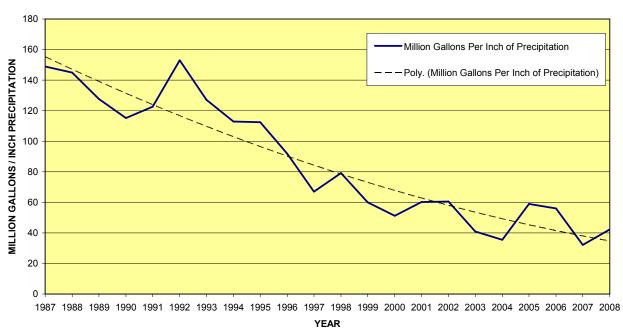


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INTRODUCTION

The purpose of this report is to inform the Combined Sewer Overflow (CSO) Communities and the general public on the status of the CSO program in Maine.

The information is compiled from various documents and reports submitted to the Maine Department of Environmental Protection by the CSO Communities (City/Town/District) or their consultants on their behalf. A majority of the information comes from the CSO Master Plans (a.k.a. Long Term Control Plans), Sewer System Evaluation Studies, Infiltration/Inflow Reports, Annual CSO Progress Reports, and general correspondence.

At the start of any CSO Community's abatement program, initial flow data was collected to estimate the existing discharge volumes and frequencies, define the problems, and establish a corrective course of action. This often occurred over a relatively short period of time (a year or two) and may not have captured as many good wet weather events as desired. However, this data was the best available information at the time and established the overflow baselines that are used within this report. Since then, CSO flow monitoring plans have continued to improve and overall data reliability has increased, giving the program better data for specific yearly wet weather patterns.

WHAT ARE CSOS?

- Combined Sewer Overflows (CSOs) are discharges of untreated wastewater from municipal sewerage systems that carry mixtures of sanitary sewage, storm water, and sometimes industrial wastes.
- They occur mostly during and after rain events or snowmelt. Flows within the combined sewer system during these wet weather events can be a high as fifty (50) times the normal dry weather flows.
- Large volumes of water entering the combined sewer system (CSS) through catch basins, old and leaky pipes, roof drains, cellar drains, sump pumps, and other sources cause the capacity of the system to be exceeded.
- Hydraulic relief points within the CSS allow the excess flows to be discharged. These relief points are generally near pump stations and river crossings.
- Excess volumes of combined sewage can also cause treatment facilities upsets, street flooding, and back-ups into basements.

WHAT ARE THE IMPACTS OF CSOS?

- Currently in Maine there are 35 communities (towns or cities) with CSO discharge points in their sewerage systems (down from an original 60). These communities collectively have 177 individual CSO discharge points (down from an original 340).
- The frequency of discharges varies greatly from community to community, ranging from seldom to occurring in response to all but the smallest rain storms.
- In large communities hundreds of millions of gallons per year of untreated combined sanitary sewage and storm water may be discharged. Statewide, approximately 1.5 to 2.5 billion gallons are discharged annually from CSOs (down from an estimated original volume of 6.2 billion gallons).
- CSOs discharge untreated combined sewage to receiving waters that vary in size from the ocean and large rivers to small streams and drainage creeks.
- Water quality is impaired by the addition of floatables, bacteria, and sometimes industrial pollutants.
- Shellfishing areas and beaches can be closed and drinking water supplies threatened.

WHAT IS A CSO COMMUNITY?

- CSO Communities are permitted dischargers of combined sanitary and storm waters. The Department of Environmental Protection issues CSO permittees a wastewater discharge license that requires them to implement EPA's Nine Minimum Control Best Management Practices (BMPs), develop a Long Term Control Plan (LTCP) (a.k.a. Master Plan) to eliminate or abate their overflows, and finally to implement the plan and bring them into compliance with EPA's April 8, 1994 Combined Sewer Overflow (CSO) Control Policy.
- Special Conditions in their Maine Pollutant Discharge Elimination System (MEPDES) permit requires all CSO permittees to submit an Annual CSO Progress Report to the Department for the previous year by March 1st.
- The Progress Report documents the Community's efforts to comply with the Nine Minimum Controls, and collects pertinent fiscal and logistical information about their CSO abatement program. This information is used to track their CSO abatement progress and gather state-wide information on the CSO program and fiscal needs.

WHERE DID WE START?

- The CSO movement started in 1989 with the clarification of the Clean Water Act through the publication of the National CSO Control Strategy by the Environmental Protection Agency (EPA).
- At that time the State had about 60 CSO Communities that discharged an estimated 6.2 billion gallons of combined wastewater and storm water during wet weather events.
- Statewide it was estimated that overflow events happened approximately 1,700 times a year through approximately 340 different CSO outfalls.
- On April 19, 1994 EPA issued a national policy statement entitled "Combined Sewer Overflow (CSO) Control Policy." This policy provides guidance to permittees with CSOs, and State permit and water quality standards authorities on coordinating the planning, selection, and implementation of CSO controls that meet the requirements of the Clean Water Act (CWA).
- In February 2000, the Maine Department of Environmental Protection Chapter 570 Rules, entitled "Combined Sewer Overflow Abatement," became effective. This chapter establishes procedures for CSO evaluation, preparation of an abatement plan, and sets forth minimum controls to reduce CSOs while longrange plans are being completed.

WHAT IS BEING DONE TO ABATE CSO DISCHARGES?

- All of Maine's CSO Communities have completed or are working on comprehensive CSO studies or facilities plans. These plans are often referred to as Master Plans (MPs) or Long Term Control Plans (LTCPs). These documents define the magnitude of the CSO discharges, their impacts on the environment, and evaluate a range of abatement control alternatives and their financial impact.
- Abatement projects have reduced untreated discharges in all of the CSO Communities. A number of communities have eliminated their CSO discharges and are no longer licensed to discharge untreated combined sewage during wet weather.
- Statewide, CSO Communities report that they have invested a total of \$311 million (\$16 million in 2008) in CSO abatement and anticipate the CSO needs for the next five years to be \$149 million. After that, the expected needs to bring them into compliance with the CSO Control Policy is an additional \$100 to \$150 million.

WHERE ARE WE Now? - 2008 STATUS

- Maine started and ended 2008 with 35 CSO Communities. Effective January 1, 2008, two of the CSO Communities, Augusta and Hallowell, were incorporated into the same district known as the Greater Augusta Utility District. Whereas this did decrease the number of CSO MEPDES permits from 37 to 36, it did not change the number of CSO Communities as they are distinct civil jurisdictions. A complete listing of Maine's CSO Communities, their number of CSO outfalls and the outfall receiving waters is on page 8.
- The volume of combined sewage discharged statewide in 2008 was reported at 2.41 billion gallons. The table on page 9, Maine CSO Community Flow Data, contains a historic listing of the yearly overflows from each CSO Community. The 2008 CSO Flow Comparison pie chart on page 16 and the 2008 CSO Flow Comparison By Community bar chart on page 17 are graphical comparisons of the overflow volumes between the CSO Communities.
- In 2008, the CSO Communities reported 792 overflow events. This total is arrived at by summing the number of days that each CSO Community experienced an overflow event. An overflow event is any day in which one or more CSOs within a community discharge. The table on page 10, Maine CSO Community Annual Number of CSO Discharge Events, contains a historic listing of the annual number of CSO discharge events for each CSO Community.
- Thirty (30) of the 35 CSO Communities reported experiencing at least one combined sewer overflow discharge in 2008, while five (5) reported no overflows.
- In 2008, fifteen (15) of the communities reported discharging less in 2008 than in 2007, seventeen (17) reported discharging more, while three (3) reported no change. The maximum number of days that overflow events were reported from a single community was 87. The average (mean) number of discharge events for all of the communities was 23 and the median was 10. Additional information is given in the table on page 10.
- The volume and frequency of CSO discharges varies from one wet weather event to another based on existing groundwater conditions, frozen or thawed ground, snowmelt, and rainfall volume, duration, and intensity. To evaluate abatement progress we look for an overall trend in reduction, versus trends from year to year. The chart on page 11, Combined Sewer Overflow Volume Discharged, illustrates an overall downward trend in the CSO volumes being discharged annually. Since 1989, the volume of combined sewage discharged has decreased by approximately 60 70%. This is stated as a range because of the correlation of overflow volumes to variations in annual weather patterns.

- Similarly, the chart on page 12, Combined Sewer Overflow Annual Number of Discharge Events, shows a downward trend in the number of overflow days per year. <u>Since 1989</u>, the number of overflow days has decreased by approximately <u>55 - 65%</u>, once again stated as a range.
- In 2008 Maine CSO Communities reduced the total number of CSO discharge locations by 6, down from 183 to 177. While 10 CSO structures were eliminated in the following communities: Auburn (1), Bangor (4), Biddeford (1), Bucksport (1), Lewiston (1), Sanford (1), and Skowhegan (1), this was partially offset by a relicensing of 3 previously closed CSOs in Mechanic Falls (2) and South Portland (1) and the correction of a clerical error in Saco (1). The reopening and relicensing of the previously closed three CSOs was necessary to protect upstream properties from damage and to quantify overflow volumes. The additional CSO location in Saco was listed as a discharge location on their current wastewater discharge license, but had inadvertently been removed from the list of current CSOs. The chart on page 13, Maine Statewide Number of Combined Sewer Overflow Outfalls, shows a 48% reduction in the number of CSO outfalls since 1989.
- Trying to compare CSO abatement progress from year to year is difficult because of the number of conditions that influence the volume and frequency of overflows, not the least of which is yearly precipitation patterns. To somewhat compensate for the fluctuation in yearly precipitation patterns, the total volume of combined sewage discharged has been unitized by taking into consideration the annual precipitation amount for the CSO communities. The chart on page 14, CSO Annual Volume Discharged Per Inch of Precipitation, illustrates this and shows a continual downward trend in the volume of combined sewage discharged per inch of annual precipitation. Since 1989, overflow volumes have decreased from approximately 149 million gallons per inch of precipitation to 30 50 million gallons per inch of precipitation to 30 50 million gallons per inch of precipitation to 30 50 million gallons per inch of precipitation to 30 50 million gallons per inch of precipitation, 42 million in 2008. Although this type of analysis is rough, it is a good indicator of the CSO abatement progress that is being made.
- The average annual precipitation for all of Maine's CSO Communities is approximately 45 inches. In 2008, the annual precipitation for the CSO Communities ranged from 50 66 inches, exceeding the average precipitation by 5 17 inches (10 46%). The Yearly CSO Volumes and Precipitation chart on page 15 shows a comparison between annual CSO volumes and yearly precipitation. The graph shows that CSO volumes tend to follow the yearly ups and downs in precipitation levels. The chart shows a widening gap between the yearly precipitation amount and the yearly volume of combined sewage discharged. This widening gap clearly indicates that the CSO abatement is being accomplished and that overflow volumes are becoming less influenced by precipitation events.

- 2008 was another above average precipitation year (57"), especially when compared to near average year of 2007 (48"). As a result the statewide volume of CSO discharges increased by 57%, from 1.53 to 2.41 billion gallons in 2008.
- The CSOs from the City of Portland and Portland Water District in Portland comprised approximately 36% of the State's total overflow volume in 2008; see the CSO Flow Comparison Pie Chart on page 16. Given the large impact that Portland's data has on the State's total, it might be prudent to look at the rest of the state without utilizing Portland's data. After removing Portland's overflow data from the state total, the overflow volume for the remaining CSO communities increased by 63% from 2007 to 2008, 0.94 to 1.53 billion gallons respectively.
- In 2008, the top twelve (12) dischargers accounted for approximately 97% of the total volume of combined sewage discharged in the State, see the CSO Flow Comparison Pie Chart on page 16.
- Abatement of CSOs is a costly endeavor. To date Maine CSO Communities have reported expending \$311 million implementing their CSO abatement projects. In the 2008 Annual CSO Progress Reports submitted to the State, these communities reported expending \$16 million on abatement work in 2008. It is estimated that the future needs of these communities to complete their CSO abatement plans totals \$250 \$300 million, in 2008 dollars.
- CSO abatement progress can not be measured solely by comparing the volumes discharged from one year to the next. The reason is that the volume discharged is influenced by variations in precipitation amount, intensity and timing, the rate of snow melt, frozen or thawed ground, and existing groundwater levels. Even given the same annual precipitation, no two years would result in the same volume of CSO discharges.
- The relationship between the annual precipitation and the annual volume of combined sewage discharged is not linear. As a general rule, as precipitation levels increase, the volume of combined sewage discharged also increases per inch of precipitation. Simply put, once the capacity of the combined sewer system is reached, any additional rainfall or snowmelt overflows the already inundated system.
- Different wet weather conditions and precipitation patterns also affect individual CSO Communities differently. This is due mostly to the make up of the sewer system, the number of catch basins connected, the area of impermeable surface, and the specific hydraulic restriction(s) causing the overflows, to name just a few. The overflows in some communities are more susceptible or responsive to intense summer storms, while in other communities it might be high ground water. Direct comparisons between various communities should not be made.

• It is well established that CSOs can and do have impacts on beach and shellfish closures. Stating that a specific CSO event or series of events is responsible for a specific closure is more difficult and will not be attempted in this report. In some areas there are a number of other factors that might enter into a beach or shellfishing area being closed. These are, but not necessarily limited to, urban storm water runoff, malfunctioning septic systems, domestic and no domestic animal waste, agricultural runoff, and bathers, to name just a few. What is assessed in the Annual Reports is which beach and shellfishing areas may be impacted by the CSOs.

In 2008, seven (7) CSO Communities listed eleven (11) beach areas that may be impacted by their CSO discharges. They were: Bar Harbor (Town Beach & Hulls Cove); Biddeford (Hills Beach, Biddeford Pool & Camp Ellis); Cape Elizabeth (Casino Beach & Fort Williams Park); Portland (East End Beach); Rockland (Sandy Beach); Skowhegan (Two Rivers Campground); and South Portland (Willard Beach). Of these, two (2) beaches were listed as having an advisory or closure in 2008 (East End & Willard Beach), one (1) of which (East End Beach) was listed as being caused in whole or in part by CSO activity.

In 2008, five (5) CSO Communities listed shellfishing areas that were closed in their area (Bar Harbor, Calais, Machias, Portland & South Portland). Three (3) of these communities (Bar Harbor, Machias and Portland) reported that the closures were caused in whole or in part by CSO activity.

• The chart on page 18 – 2008 CSO Watershed Flows, shows a graphical representation of the CSO volume discharged by watershed. In 2008, Casco Bay received approximately 38% of the statewide CSO volume discharged, followed by Penobscot River at 28%, the Androscoggin River at 20%, the Saco River at 6%, the Kennebec River at 6%, and the St. John River at 1%. Discharges to the St. Croix River, Frenchman Bay, the Machias River, and Penobscot Bay account for the remaining 1% of combined sewer overflow volume.

MAINE – COMBINED SEWER OVERFLOW (CSO) COMMUNITY LIST



(As of December 31, 2008)

	COMMUNITY	CSOs	Number of CSOs & Receiving Water
	Auburn SD	3	3-Androscoggin Rv.
2.	BANGOR	7	3-Kenduskeag Str., 4-Penobscot Rv.
	BAR HARBOR (Hulls Cove)	1	1-Frenchman Bay
1.	Bar Harbor (Main Plant)	3	2-Frenchman Bay, 1-Eddie Brook
5.	Bath	4	4-Kennebec Rv.
ó.	Belfast	2	2-Passagassawakeag River/Belfast Harbor
7.	Biddeford	10	9-Saco Rv., 1-Thatcher Bk.
3.	Brewer	6	5-Penobscot River, 1-Sedgeunkendunk Str.
١.	BUCKSPORT	1	1-Penobscot Rv.
0.	CALAIS	5	4-St. Croix Rv., 1-Landing Brook
1.	CAPE ELIZABETH – Ottawa Road PS	1	1-Atlantic Ocean
2.	FAIRFIELD	2	2-Kennebec Rv.
3.	GARDINER	1	1-Kennebec Rv.
4.	Greater Augusta Utility District (GAUD) (Includes Hallowell CSO)	24	4-Bond Bk., 1-Kennedy Bk., 18-Kennebec Rv., 1-Whitney Bk.
5.	HAMDEN	1	1-Souadabscook Str.
6.	KENNEBEC STD	3	3-Kennebec Rv.
7.	Lewiston	22	10-Androscoggin Rv., 1-Gully Bk., 1 -Hart Bk., 10-Jepson Bk.
8.	Lewiston-Auburn WPCA	1	1-Androscoggin Rv.
9.	MACHIAS	2	2-Machias Rv.
0.	Madawaska	2	2-St. John Rv.
1.	MECHANIC FALLS SD	3	3-Little Androscoggin Rv.
2.	MILFORD	1	1-Penobscot Rv.
3.	Milo WD	3	1-Pleasant Rv., 2-Sebec Rv.
4.	OLD TOWN	3	2-Penobscot Rv., 1-Stillwater Rv.
5.	Orono	1	1-Penobscot Rv.
6.	Paris UD	1	1-Little Androscoggin Rv.
7.	PORTLAND - CITY	12	6-Back Cove, 3-Capisic Bk., 2-Portland Harbor., 1-Nason Bk. (marsh)
28.	PORTLAND – PWD	21	9-Back Cove, 3-Casco Bay, 7-Fore Rv., 2- Portland Harbor
9.	RANDOLPH	1	1-Kennebec Rv.
0.	ROCKLAND	2	2-Rockland Harbor
1.	SACO	6	1-Bear Bk., 5-Saco Rv.
2.	SANFORD SD	1	2 1-Mousam Rv.
3.	Skowhegan	8	9 8-Kennebec Rv.
4.	SOUTH PORTLAND	6	1-Barberry Ck., 1-Fore Rv., 1-Calvery Pond., 2-Portland Hbr.
35.	Westbrook	5	5-Presumpscot Rv.
36.	WINSLOW	1	1-Sebasticook Rv.
J.	11 E10EU II	1	1-Penobscot Rv.

36 CSO Permits, permitting 34 of 35 CSO Towns/Cities Two or more permits in one CSO Town/City

Bold = 9 communities with sewer systems only. Sewers discharge to a POTW controlled by another entity.

MAINE CSO COMMUNITY FLOW DATA

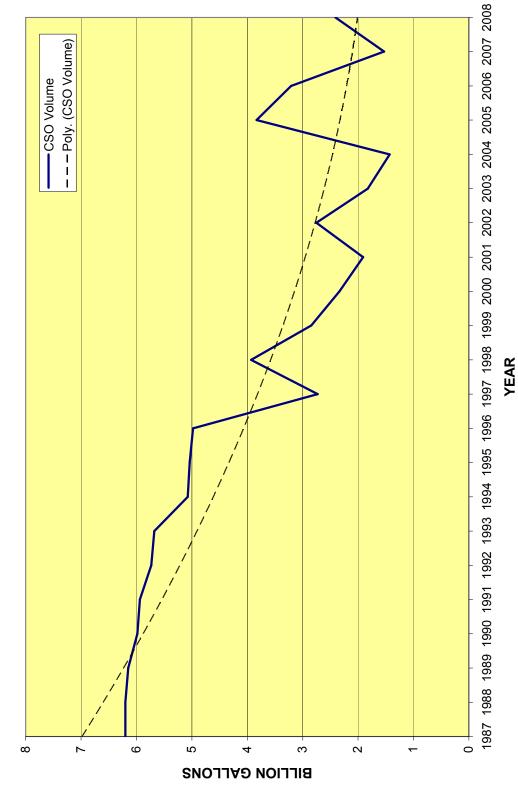
No longer a CSO Community	ıi≯.										Annual Volumes (Gallons)	es (Gallons)										
Community	NPDES Permit No.	1987	1988	1989	1990	1991	1992	1993	1994	1995	Year 1996 1997	ır 97 1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Auburn S.D.	ME0100005	99,720,000	99,720,000	99,720,000	99,720,000		99,720,000 99	99,720,000 99,	99,720,000 99,72	99,720,000 99,720,000	_		0 78,340,742	102,297,387	199,674,605	66,307,631	19,197,928		37,155,818	28,936,137	23,622,547	23,984,272
Bangor	ME0100781	635,000,000		_		_			4	က	m	32	7	230, 190,000	`	_	`	က		272,750,000	150,580,000	378,640,000
Bar Harbor	ME0101214 & ME0102466	32,000,000		•	•	_ (_				4,730,155	384,531	_			13,661,958	5,102,820	8,719,436	12,601,889
Bath	MED 100021	000,000,000							3/	3/,	3	3/	20	5,910,364	0,1/3,760	1,341,921	10,490,407)a aaa,ccn,a	00,338,026	36, 105,688 485 454	4 025 202	24,383,599
Didoford	ME0101332	736,000	7.30,000	730,000	7.30,000	736,000	7.36,000	7.30,000	7.30,000	736,000	738,000	00 286,024,266	017,517	11C,110 11C,110	46,000	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 447 007 40.	0 00 101	1,796,747	485,451	1,035,392	198,370
Digaelora	MEU 100046	400,000,000	•		•						ď		•	224,907,370							150,304,402	147,313,000
Brewer	ME0100072	000,000,007										N	•	322, 108,051		.,		Ω		. 247,538,580	31,283,907	289,000,294
Bucksport	ME0100111	93,000,000	53,000,000	53,000,000	53,000,000	53,000,000 53	53,000,000 53	53,000,000 53,	53,000,000 53,00	53,000,000 53,000,000		90,000,000		53,000,000	53,000,000		53,000,000	3/1,9/0	16,623,000	5,546,501	20,000	000 440
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Dover-Foxoroff	ME0100133	16,000							5	o f				000,5	000,00	7,000	6,000	0 0	100 000	C		
Fast Millinocket	ME0100196	1 200 000	1 200 000	1 200 000					1.2	1.0	1 200 00	12		000,3	o c	o c	o c	o c	000,685	o c		
Fairfield	ME0102393	300,000	300,002,	300,000				-					221954	221 954	221 954	65 296	0 0	0 0	o c	0 0	c	C
Fort Kent U.D.	ME0102369	3.000	3.000	3,000	3.000	3,000	3.000							2,200	0	0	2.400	41.000	000.009		•	
Gardiner	ME0101702	44 000 000							440	44.0	440	43 %	7 843 400	8 278 600	6 487 000	11 528 900			46 616 000	10 269 400	2 487 000	5 000 000
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Lewiston Auburn W D C A	MEO 100884	780,900,000									_			107,080,283		·						132,039,341
Lewision-Adduin W. P. C.A.	ME0101478	2,400,000				}		}	ŧ					1 057 000								32,244,000
Lisbon S.D.	ME01017 90	600,000	600,000	600,000										000,100,1	83 000	c	c	C				
Livermore Falls	ME0100315	000,000	,	00,	9	000	000						_	0	000			0				
Machias	ME0100323	7.000.000	7.000,000	7.000.000	2.000.000	7.000.0007	7 000,000,7	7.000.000.7	7.000.000 7.00	7.000.000 7.000.000	0000002 00000	963.052	1.184.000	000'069	0	722.293	2.533.245	2.124.118	6.646.222	3.008.025	2.263.720	2.328.905
Madawaska	ME 0101681	3,200,000	3,200,000	3,200,000				_	_	_	_			610,000	11.398	3,892			8,215,460	3,700,002	2,667,765	24,194,225
Mechanic Falls S.D.	ME0100391	18,000,000	18,000,000			_		_				1	2 17,997,322		3,923,998	1,001,489	_	_	11,765,409	9,419,000	11,853,000	11,223,600
Milford	ME0102695	220.000	220,000											220.000	220,000	220,000	220,000		0	211.070	0	88,365
Milo W.D.	ME0100439	10,000	10,000	10,000	10,000	10,000	10,000							1,000	0	0	2,000	0	10,000	0	501,000	750
Old Town	ME0100471	6,300,000	6,300,000	6,300,000		6,300,000	6,300,000	6,300,000 6,3	6,300,000 6,30	000,000, 6,300,000	0,000 6,300,000	00 (0300)000	000'000'9	6,300,000	0	1,597,324	6,296,537	425,832	4,779,340	321,105	770,699	254,967
Orono	ME0100498	31,000,000	31,000,000	25,500,000 2	20,800,000	19,100,000	8,600,000 31	31,600,000 8,	8,900,000 11,10	11,100,000 22,200,000	0,000 19,600	00 6,956,500	0 5,234,000	2,603,000	0	494,000	1,179,000	0	18,467,330	1,314,000	7,360,000	4,820,000
Paris U.D.	ME 0100951	1,000,000												300,000							206,000	84,000
Portland & PWD	City-ME0101435 / PWD-ME0102075	1,800,000,000	Ψ,	÷	Ψ,	Ť	Ť	÷	~	÷	4	.	7	993,511,000	-	,245,153,000 45	454,680,000 60	607,351,945 1,296	1,296,000,000 1,	1,816,525,856	589,203,712	883, 105, 087
Presque Isle	ME0100561	27,500,000		27,500,000	27,500,000 2	27,500,000 27		27,500,000 27,	27,500,000 27,50	27,500,000 27,500,000		00 27,487,000		7,234,000	113,000							
Randolph	ME0102423	10,000,000												2,122,156	9,878,793			•	1,058,039	266,256	459,476	1,413,880
Rockland	ME0100595	47,000,000				_ '						00 47,370,142		20,000,000	20,000,000				0	0	0	0
Saco	ME 0101117	176,000,000	_			_			_	-	m		_	19,264,777	17,720,027	4,316,465	5,758,842 10	10,313,025 176	176,214,902	38,451,182	1,950,000	100,000
Sanford S.D.	ME010061/	4,000,000											_	000'64	0 100		_		0 00	15,000	0 700	0 1, 000, 0
Skowhegan	ME0100625	48,000,000	•	•	•	_		_	_ `					4,110,833	12,315,897				47,873,323	31,314,358	21,596,631	61,963,453
Weethrook	ME0100833	50,000,000	50,000,000	40,000,000	50,000,000	50,000,000 500	300,000,000 Z50 50,000,000 50	50,000,000 200,	50,000,000 183,00	50,000,000 183,000,000	38.407.000	34 182,646,264	21 301 000	1,535,575	9,503,494	4,467,429	7,096,125	9,812,914 20	26,810,104 11 119 000	26,116,706 40,636,729	15,727,553	7 379 066
WestDlook	ME0100848	30,000,000					D	,	,					000,822,1	2,107,000	000,1 /2	000,		73.652	40,000,129	725,000	735,000
Willslow O A tropped M	MEO 102028	000,000,1	000,000,	000,000,										0000089	70 500	144 000	570.000	0100	677 800	o	102,000	252,000
Yarmouth Yarmouth	ME0100765	1,000	1,000	1,000	1,000	1,000	1,000			3				200	200	000	000,000	000,10	000,710	Þ	000,501	202,000
Total Total In Billion Gallons		6,203,441,000 6, 6.20	6,202,279,600 6,147,129,000 5,982,837,500 6.20 6.15	147,129,000 5,98 6.15	182,837,500 5,93 5.98	5,938,622,875 5,731,093,834 5.94 5.73		5,677,357,766 5,076,023,899 5.68 5.08	023,899 5,041,59 5.08	96,980 4,979,864 5.04	5,041,596,980 4,979,864,352 2,730,560,890 5.04 4.98 2.73	90 3,930,954,113 73 3.93		2,846,862,121 2,337,942,803 1,908,571,173 2.85 2.34 1.91		2,753,299,393 1,827,077,657 1,431,109,372 2.75 1.83	27,077,657 1,43° 1.83		3,834,873,122 3,; 3.83	3,207,810,924 1,9 3.21	1,530,056,633 2, 1.53	2,409,022,597 2.41
Numbers in blue are estima	Numbers in blue are estimated from LTCP/MP or subsequent high flow.	flow.												Σ	inus Portland 1,5	Minus Portland 1,508,146,393 1,372,397,657		823,757,427 2,538,873,122		1,391,285,068	940,852,921 1,	1,525,917,510
_																						

MAINE CSO COMMUNITY ANNUAL NUMBER OF CSO DISCHARGE EVENTS

Company Comp	No longer a CSO Community	Atiunu									3		#									
	Community	NPDES Permit No.	1987	1988	1989	1990	1991	1992			Year		•				2003	2004	2005	2006	2007	2008
	Î							!		•		2	•		í	i						
	Auburn S.D.	ME0100005	80	80	80	80	80	80	21		10						62	24	58	37	42	29
	Bangor	ME0100781	23	53	23	53	52	37	46		41						49	42	46	28	25	96
1	Bar Harbor	ME0101214 & ME0102466	155	155	155	155	155	155	155		155						16	2	22	18	10	2,
1	Bath	ME0100021	64	64	%	64	64	64	64		64						23	20	33	32	25	2
	Belfast	ME0101532	7	7	7	7	7	7	7		7						0	0	2	က	ည	1
	Biddeford	ME0100048	180	180	180	180	180	180	180		180	_		•	•		93	61	104	82	20	5
	Brewer	ME0100072	98	92	92	92	92	92	99		99						99	72	78	45	38	56
	Bucksport	ME0100111	23	53	23	53	53	53	53		53						25	80	24	18	7	J
1	Calais		15	15	15	15	15	15	15		15						15	6	15	2	∞	7
	Cape Elizabeth (PWD)		9	2	2	2	2	2	2		2						2	2	20	20	2	, -
	Corinna S.D.	ME0100153	30	30	30	30	30	30	30		30						-	0				
The control of the	Dover-Foxcroft	ME0100501	6 0	80	œ	80	œ	2	8		4						0	0	2	0		
1	East Millinocket	ME0100196	7	=	Ξ	=	Ξ	7	Ξ		Ξ						0	0	0	0		
1	Fairfield	ME0102393	15	15	15	15	15	15	15		15						0	0	0	0	0	0
1	Fort Kent U.D.	ME0102369	10	10	10	10	10	10	10								2	_	4			
1	Gardiner	ME0101702	40	40	40	40	40	40	40								24	11	14	14	2	w
1	Greater Augusta U.D.	ME0100013	80	80	80	80	80	80	80								70	28	73	20	29	34
1	Hallowell W.D 2008 G	3AUD ME0101010	41	14	4	41	14	14	14								2	0	41	က	က	
1	Hampden	ME0102512	_	ဇ	80	10	7	4	17								2	0	13	0	_	0
10 10 10 10 10 10 10 10	(ennebec S.T.D.	ME0100854	15	15	15	15	15	15	15								2	7	6	3	1	7
10 10 10 10 10 10 10 10	Kittery	ME0100285	7	7	2	7	7	7	7								0	-	0			
10 10 10 10 10 10 10 10	ewiston		80	80	80	80	80	80	80								55	92	69	20	38	71
1	ewiston-Auburn W.P.C		80	80	& :	80	80	80	80								23	35	49	44	58	೫
1	incoln S.D.	ME0101796	10	10	0, 4	10	0, 1	10	10													
15 15 15 15 15 15 15 15	ISDON ivermore Falls	ME0100307	ດ	n	n	n	o	n	n									Þ				
15	Machias	ME0100313	7	45	15	15	Ľ	_	ď									α	7,	10	ĸ	12
42 42<	Jadawaska	ME 0101681	9 1	16	. 6	16	. 4	16	91									4	65	5 4	17	: 42
8 9 1 1 1 1 1 1	Aechanic Falls S.D.	ME0100391	4 5	42	24	42	45	4.5	42									12	29	23	. თ	4.
3 4 0 0 1 0	Ailford	ME0102695	.	0	, c o	0	, c o	, co	. 00									. «	0	- ∞	0	4
25 25<	filo W.D.	ME0100439	က	က	က	က	က	က	က									0	-	0	7	-
50 58 59 59 59 59 59 59 59 59 59 59 59 59 59 59 59 59 59 60 12 59 60 12 3 7 12 4 0 1 2 0 12 3 7 10 10 10 10 10 10 10 10 10 10 11	ld Town	ME0100471	25	25	25	25	25	25	25									_	13	-	4	4
The color of the	Jrono	ME0100498	30	30	78	59	19	12	25									0	12	က	9	
10	aris U.D.	ME 0100951	<u>د</u>	5	S (5	5 6	5 2	ر د			,						0 8	2 2	2 5	2 5	. 4 [
25 25<	ortland & PWD	City-ME0101435 / PWD-ME0102075	001	00L 00C	92 8	001	001	001	001			-						86	888	633	28	8/8
23 24 25 20 20 20 20 20 20 20 20 20 20 20 20 20 20<	resque isie	ME0100301	9 8	9 6	8 8	9 6	9 8	9 6	0 6								C	c	o	c	,	
44 44<	Sockland	ME0102423	2, 6,	2 6	3 %	2, 60	2,8	2, 2,	23.0								v (c	0 0	0 C	o c	- c	ت .
10 10<	aco de	ME 0101117	44	4 4	3 4	44	44	44	44								22	32	4	24	, 5	- 21
160 160 <td>Sanford S.D.</td> <td>ME0100617</td> <td>10</td> <td>9</td> <td>. 6</td> <td>9</td> <td>9</td> <td>10</td> <td>9</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0</td> <td>0</td> <td>0</td> <td>; -</td> <td>i 0</td> <td>i o</td>	Sanford S.D.	ME0100617	10	9	. 6	9	9	10	9								0	0	0	; -	i 0	i o
23 23 23 23 23 23 24 23 24 23 15 14 10 10 10 20 20 50 50 50 50 50 50 50 50 10 16 15 15 17 17 20 20 20 20 20 20 20 10 <td>Skowhegan</td> <td>ME0100625</td> <td>160</td> <td>160</td> <td>160</td> <td>160</td> <td>160</td> <td>160</td> <td>160</td> <td></td> <td></td> <td>_</td> <td></td> <td>•</td> <td></td> <td></td> <td>77</td> <td>53</td> <td>81</td> <td>81</td> <td>22</td> <td>55</td>	Skowhegan	ME0100625	160	160	160	160	160	160	160			_		•			77	53	81	81	22	55
50 50 50 50 50 50 50 50 50 50 50 50 50 50 50 50 50 50 60 10<	South Portland	ME0100633	23	23	23	23	23	23	23								10	10	20	20	2	10
20 20 20 20 20 11 10 10 11 10 11 10 11 10 11 10 11 10 11<	Westbrook (PWD)	ME0100846	20	20	20	20	20	20	20								7	13	17	31	22	50
8 9 9	Winslow	ME0102628	20	20	20	20	20	20	20								0	0	_	0	က	Ø
4 4 4 4 4 4 4 4 4 4 0 4 4 4 2 1 0 8 800 854 1074 816 173 173 1632 1646 1113 1170 1150 1053 712 959 800 654 1074 816 12 13 23 23 23 23 23 23 23 23 23 23 23 23 23	Winterport S.D.	ME0100749	80	80	80	8	80	80	8								80	_	2	0	_	,-
1748 1750 1756 1756 1757 1727 1737 1632 1646 1113 1170 1150 1053 712 959 800 654 1074 816 23 23 23 23 23 23 23 12 10 11 8 4.5 4 7 5 15 12 39 39 39 38 38 38 38 38 16 22 19 16 22 19 16 27 21	Yarmouth	ME0100765	4	4	4	4	4	4	4													
1748 1750 1756 1732 1727 1737 1632 1646 1113 1170 1150 1053 712 959 800 654 1074 816 23 23 23 23 23 23 23 12 10 11 8 4,5 4 7 5 15 12 39 39 39 38 38 38 38 37 25 26 26 24 16 22 19 16 27 21																						
23 23 23 20 20 23 23 20 23 12 10 11 8 4.5 4 7 5 15 12 12 39 39 39 36 37 25 26 26 24 16 22 19 16 27 21	-	Total	1748	1750	1753	1756	1732	1703				113 1.		~			800	654	1074	816	268	792
39 39 39 38 38 38 36 37 25 26 26 24 16 22 19 16 27 21	Me	edian selection and selection	23	23	23	23	20	20	23	23	23	12					7	2	15	12	2	10
Numbers in blue are estimated from LTCPMP or other source.	2	Wean	39	39	39	39	38	38	38	39	37	25					19	16	27	21	16	25
	Numbers in blue are est	timated from LTCP/MP or other source.																				

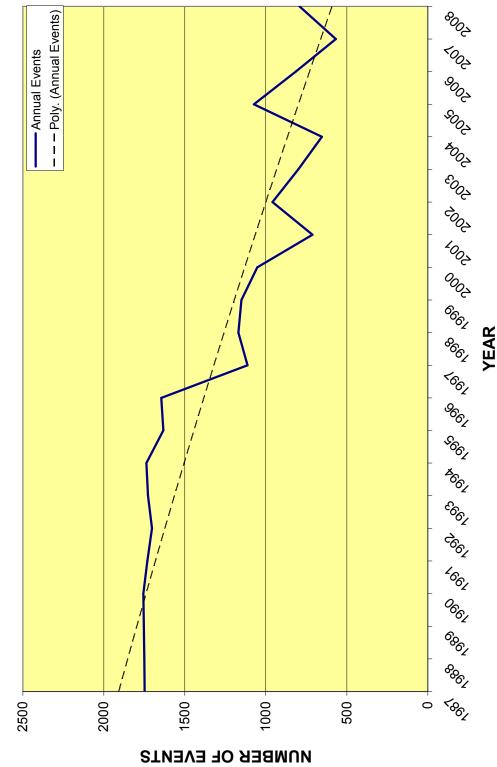
MAINE - STATEWIDE COMBINED SEWER OVERFLOW (CSO) VOLUME DISCHARGED





MAINE - STATEWIDE COMBINED SEWER OVERFLOW (CSO) ANNUAL NUMBER OF DISCHARGE EVENTS

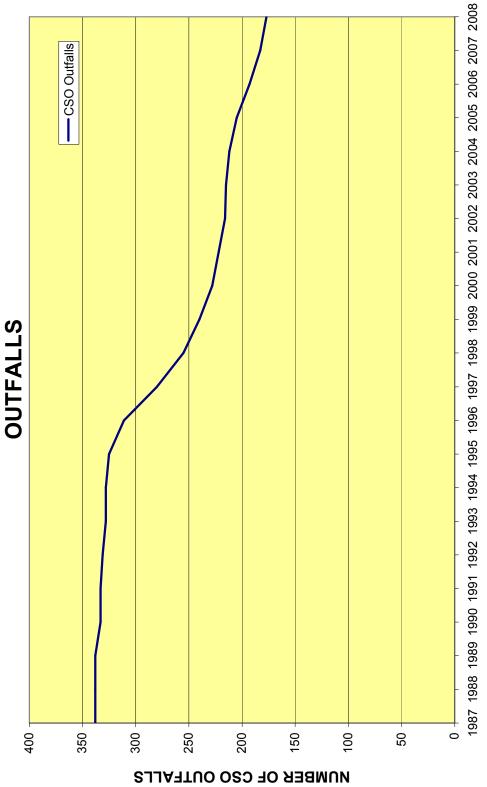




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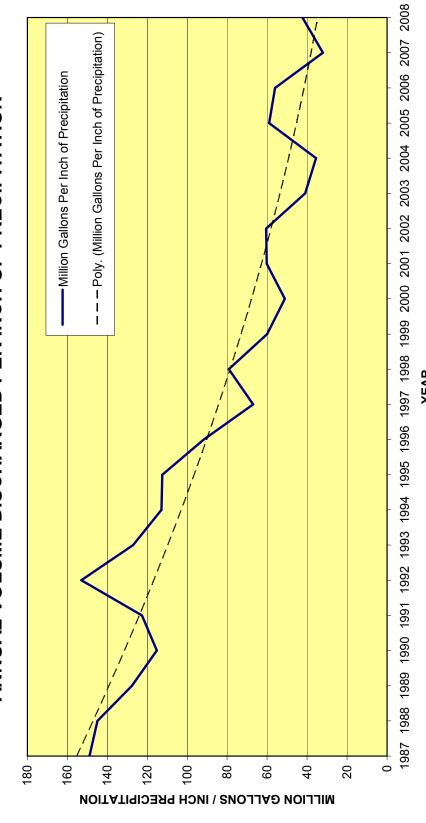
MAINE - STATEWIDE NUMBER OF COMBINED SEWER OVERFLOW (CSO)





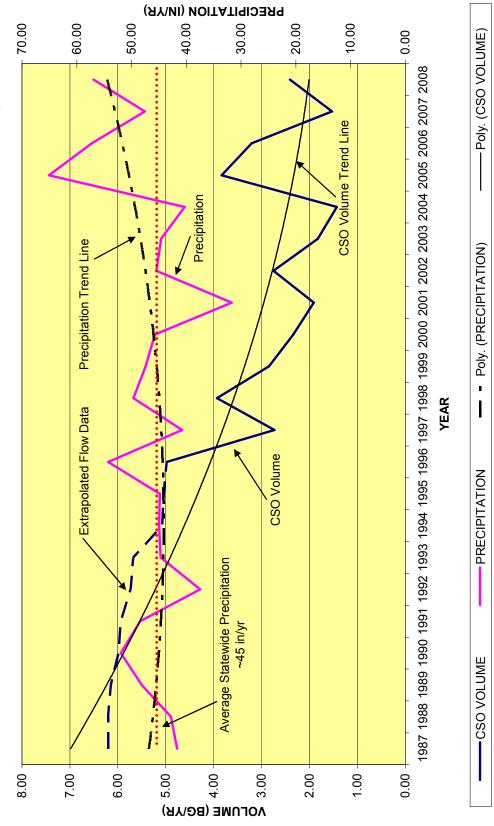


ANNUAL VOLUME DISCHARGED PER INCH OF PRECIPITATION **COMBINED SEWER OVERFLOWS** MAINE



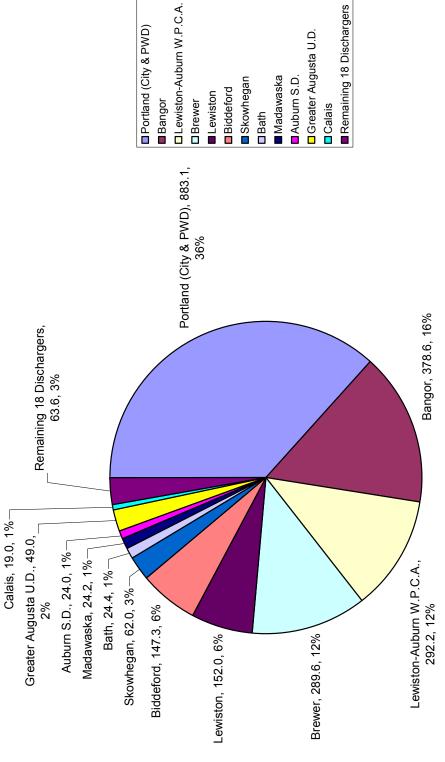
MAINE YEARLY CSO VOLUMES AND PRECIPITATION







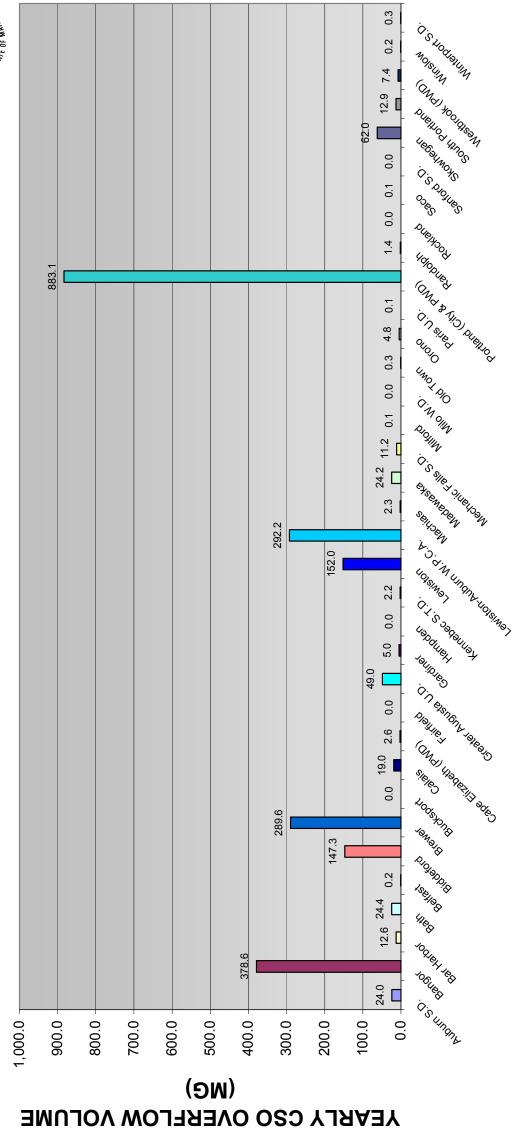
2008 CSO FLOW COMPARISON 35 CSO COMMUNITIES 30 DISCHARGERS - 2.41 BILLION GALLONS



Discharger, Overflow in Million Gallons (MG), Percent of Total

2008 CSO FLOW COMPARISION BY COMMUNITY

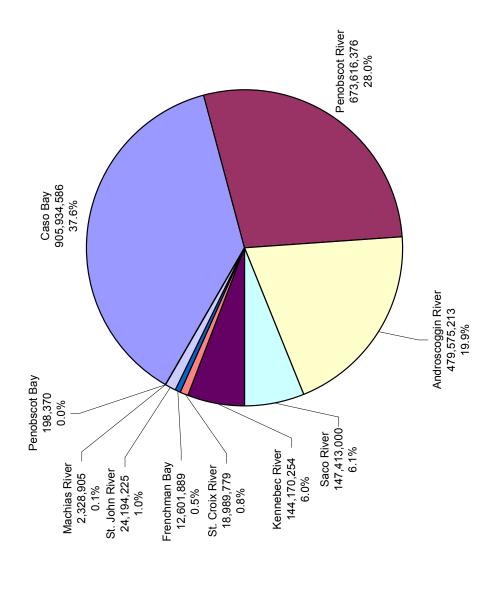




CSO COMMUNITY



2008 CSO Watershed Flows 2.41 Billion Gallons



■ Penobscot River
□ Androscoggin River

□ Caso Bay

■ Kennebec River

□ Saco River

■ St. Croix River

■ Frenchman Bay

■ Penobscot Bay

☐ St. John River ■ Machias River