MAINE STATE LEGISLATURE

Maine Combined Sewer Overflow 2018 Status Report

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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 the State of Maine.

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

At the start of each CSO Community's abatement program, initial flow data was collected to estimate the existing discharge volumes and frequencies, define the scale of the problem, and establish a corrective course of action. 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 Systems (CSS) – are defined as collection systems which carry a combination of sanitary wastewater, storm water, and sometimes industrial wastes within the same pipes. They are typically older collection systems designed and installed prior to the advent of wastewater treatment facilities.
- Combined Sewer Overflows (CSOs) are discharges of untreated wastewater from municipal CSS's. CSO's typically consist of two components; a CSO Regulator where the untreated wastewater exits the sewer system, and a CSO outfall where the wastewater is discharged to a receiving water. The Maine Pollution Discharge Elimination System (MePDES) permits issued by the State, license the CSO outfalls, not the regulators.
- CSO discharges occur mostly during and after rain events or snowmelt. Flows within a CSS during wet weather events can be as high as fifty (50) times the normal dry weather flows. This ratio of wet weather flow to dry weather flow is referred to as the peaking factor. For CSO communities in Maine, wet weather peaking factors range from about three, for communities that have implemented an effective sewer separation program, to over ten, for communities whose separation efforts have been less effective.
- Large volumes of water entering the CSS through catch basins, old and leaky pipes, roof drains, cellar drains, sump pumps, and other sources can cause the capacity of the system to be exceeded, resulting in discharges. Most communities distinguish between inflow and infiltration from public sources (catch basins and pipe located within the public right of way) and private sources (roof drains, perimeter drains, sump pumps, and service pipes located on private property).
- CSO's were originally added as hydraulic relief points within the CSS to allow the excess flows to be discharged in a controlled manner. These relief points are generally at topographic low points, near pump stations and river crossings.

What Are The Impacts Of CSOs?

- Currently there are 31 Maine communities (Towns, Cities, Utility Districts, Authorities) with CSO discharge points in their sewerage systems (reduced from the original number of 60). At the end of 2018, these communities collectively had 133 individual CSO discharge points (reduced from the 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. Dry weather CSO discharges are prohibited, as are CSO discharges due to mechanical failure, or inadequate operation and maintenance. In addition, no discharges shall occur at flow rates below the design capacity of the collection system.
- In large communities hundreds of millions of gallons per year of untreated combined sanitary sewage and storm water may be discharged. In the past three years statewide, total annual CSO discharges have ranged from approximately 294 to 548 million gallons. For comparison, the estimated volume from 1989, when most CSO abatement programs were just starting, was 6.2 billion gallons.
- In the State of Maine, CSO's discharge untreated combined sewage into ten major watersheds. The watersheds include seven (7) rivers and their tributaries (Androscoggin, Kennebec, Machias, Penobscot, St. Croix, St. John, and Saco) and three (3) bays (Casco Bay, Frenchman's Bay, and Penobscot Bay). The receiving waters vary in size from the Atlantic Ocean all the way down to some small streams and drainage creeks.
- Water quality is impaired by the addition of floatable solids, bacteria, and sometimes industrial pollutants that may be present in CSO discharges.
- Potential public health impacts from CSO discharges include the closure of beaches and shellfishing areas due to bacterial contamination, and the potential for drinking water supplies to be threatened/contaminated.
- During wet weather, flows in a CSS can hydraulically overload the capacity of the collection system leading to CSO's, sanitary sewer overflows (SSO's), street flooding, back-ups into basements, and treatment facility upsets.

What Is A CSO Community?

- CSO communities are authorized to discharge untreated combined sanitary and storm waters subject to the conditions and requirements included in the communities MePDES permit. In simple terms, a CSO community receives legal protection for CSO discharges while they work to implement an approved CSO Master Plan to abate and eliminate said discharges.
- The Department of Environmental Protection issues CSO communities a wastewater discharge license that requires them to implement the Environmental Protection Agency's (EPA) Nine Minimum Control Best Management Practices (BMPs) for CSO's and develop, maintain and implement a CSO Master Plan (aka the Long Term Control Plan (LTCP)) to eliminate or abate their overflows, bringing them into compliance with EPA's April 19, 1994 Combined Sewer Overflow (CSO) Control Policy, the Clean Water Act, and State law.

- Special Conditions in a CSO community's Maine Pollutant Discharge Elimination System (MEPDES) permit/Waste Discharge License require all CSO communities to submit an Annual CSO Progress Report to the Department for the previous year, by March 1st of the following year.
- The Annual CSO Progress Report documents the community's efforts to implement CSO abatement in a given year, 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 began in 1989 with the publication of the National CSO Control Strategy by the EPA.
- At that time, the State of Maine had about 60 CSO Communities that discharged an estimated 6.2 billion gallons of untreated wastewater and storm water into the surface waters of the State, primarily during wet weather events.
- At the start of the program in the late 1980's, CSO communities reported that over 1,700 individual CSO discharge events were occurring each year, through approximately 340 CSO outfall locations (an average of 5 discharge events per CSO location per year).
- On April 19, 1994 EPA issued a national policy statement entitled "Combined Sewer Overflow (CSO) Control Policy." This policy provided guidance to State permitting authorities and CSO communities on coordinating the planning, selection, and implementation of CSO controls, that once implemented, would allow CSO communities to achieve compliance with 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," took effect. This chapter established procedures for CSO evaluation, preparation of an abatement plan, and set forth minimum controls to reduce CSOs while long-term plans are completed.
- In December 2000, as part of the Consolidated Appropriations Act for Fiscal Year 2001 (P.L. 106-554), Congress amended the Clean Water Act (CWA) by adding Section 402(q), commonly referred to as the Wet Weather Water Quality Act of 2000. Section 402(q) requires that each permit, order, or decree issued pursuant to the CWA for a discharge from a municipal combined sewer system shall conform to the 1994 EPA CSO Control Policy.

What Is Being Done To Eliminate / Abate CSO Discharges?

- All of Maine's CSO Communities have completed or are currently working on implementing the CSO controls recommended in their CSO Master Plan, often referred to as a Long Term Control Plan. These documents define the magnitude of the CSO discharges, their impacts on the environment, evaluate a range of abatement control alternatives and their financial impacts, and recommend a set of CSO controls that will eliminate / abate CSO discharges.

- CSO abatement projects have reduced the discharge of untreated, combined sewage to receiving waters in all of the CSO Communities. Thirteen communities have eliminated their CSO discharges entirely, have left the CSO program, and are no longer licensed to discharge untreated combined sewage during wet weather.
- Statewide, **currently licensed** CSO Communities have reported investing approximately $594 million in CSO abatement since the program started. Of the total invested to date, the Maine Clean Water State Revolving Fund (CWSRF) has contributed $257.8 million (43% of total expenditure on CSO abatement by current CSO communities).
- Statewide, **previously licensed** CSO Communities, that since have left the program, reported investing a total of approximately $462 million on CSO abatement, with the CWSRF providing $114.7 million of that total (25% of total expenditure on CSO abatement by prior CSO communities).
- Anticipated infrastructure needs of current CSO communities over the next five years are estimated to be approximately $212 million.

Where Are We Now?

2018 Status

1) In 2018, the 31 currently licensed CSO Communities reduced the total number of CSO discharge locations by six (6), from 139 to 133, (a complete listing of Maine's CSO Communities, the number of CSO locations, and the corresponding receiving waters are listed on page 9). CSO's were closed in the communities of Bangor (1), Saco (1), South Portland (2), and Skowhegan (2). With the addition of 2018 data, the chart on page 15, **Maine Statewide Number of Combined Sewer Overflow Outfalls**, shows a 61% reduction in the overall number of CSO locations in Maine since 1988.
2) In 2018, the CSO Communities reported a total of 326 overflow event days which is the number of days that each CSO Community experienced an overflow. An overflow event is any calendar day that one or more CSO locations within a community experiences a discharge. The table on page 11, **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.
3) The maximum number of overflow event days reported in 2018 from a single CSO community was forty-nine (49). The average (mean) number of discharge event days for all communities was eleven (11) event days and the median was four (4) event days. Additional information can be found in the table on page 11, **Maine CSO Community Annual Number of CSO Discharge Events**.
4) Since 1989, the statewide average annual precipitation in Maine has been approximately 47 inches. In 2018, the annual precipitation measured by CSO Communities varied significantly from 34.71 to 61.45 inches with an average of 46.25 inches. This represents a 14.6% increase in the annual precipitation from the previous year. The **Maine Yearly CSO Volumes and Precipitation** chart on page 17 compares annual CSO discharge volumes to annual precipitation. The chart illustrates that CSO discharge volumes tend

to mirror the annual upward and downward trends in precipitation totals. The chart also shows a progressive widening of the gap between the annual precipitation trend line and the annual CSO discharge volume trend line. This widening gap appears to indicate that as CSO abatement projects continue to be completed, overflow volumes are becoming less influenced by precipitation events.

5) The CSO volume discharged statewide in 2018 was reported to be approximately 495.5 million gallons. The table on page 10, **Maine CSO Community Flow Data**, contains a historic listing of the annual overflows from each CSO Community. The **Maine 2018 CSO Flow Comparison** pie chart on page 18 and the **Maine 2018 CSO Flow Comparison by Community** bar chart on page 19 show graphical comparisons of these overflow volumes between the CSO Communities.

6) The precipitation in 2018 had a weighted average of 46.25", which was 14.6% higher than 2017's precipitation. This 5.9" increase in annual precipitation in 2018 contributed to a 68% increase in overall CSO discharge volume compared to the previous year, from 294.5 MG to 495.5 MG.

7) In 2018, the top five (5) CSO communities, ranked by discharge volume, accounted for approximately 90.7% of the total CSO volume discharged in the State. The top ten (10) CSO communities accounted for approximately 96% of the total CSO discharge volume. The remaining twenty-one (21) CSO communities accounted for less than 4% of the total CSO discharge volume. See the **Maine 2018 CSO Flow Comparison** pie chart on page 18 for a graphical comparison of CSO dischargers.

8) CSO discharges by the City of Portland and the Portland Water District accounted for approximately 57.25% of Maine's total CSO discharge volume in 2018; see the **Maine 2018 CSO Flow Comparison** pie chart on page 18. Given the outsized impact that Portland's CSO discharge contribution has on the State's total discharge volume, it may be informative to exclude Portland's data when examining Maine's overall CSO abatement progress. From 2017 to 2018, Portland's CSO discharge volume increased by 61.4% from 175.7 MG to 283.6 MG. The overflow volume from the remaining thirty CSO Communities increased from approximately 119 million gallons in 2017, to 212 million gallons in 2018, an increase of over 78%.

9) It is instructive to evaluate the impact of three storms which occurred in 2018, on Statewide CSO discharge volume. The first storm occurred on January 12th and 13th, and combined heavy, high intensity rains, frozen ground, and significant snowmelt to generate the equivalent of a 25 year plus storm. The storm impacted CSO communities statewide, with the largest impact in the central part of the State. All told this one storm generated approximately 99.9 MG of CSO discharge, or 20% of the overall statewide total for 2018. Six (6) CSO communities(Hampden, KSTD, Old Town, Orono, Winslow, and Winterport) would have had zero CSO discharge for 2018 if not for this massive storm. For several other communities (Bangor, Belfast, Brewer, Calais, Cape Elizabeth, Gardiner, and Skowhegan) this one storm generated over 60% of their annual CSO discharge.

10) Two other storms, which primarily impacted southern Maine, occurred on April 16, 2018 and November 26, 2018, contributing another 68 MG to the annual statewide

total. All told, these three storms generated over 167 MG of CSO discharge, or 33.7% of the annual statewide discharge for 2018. The three storms also contributed 84% of the increase in annual Statewide CSO discharge from 2017 to 2018.

11) The chart on page 20 – **Maine 2018 CSO Volume Discharged by Watershed**, is a graphical representation of the CSO volumes discharged by major watershed. In 2018, Casco Bay received approximately 58.3% of the statewide CSO volume discharged, followed by the Saco River at 14.7%, the Penobscot River at 10.9%, the Androscoggin River at 9.3%, the Kennebec River at 3.6%, the St. Croix River at 2.0%, and the St. John River at 0.8%. Discharges to Frenchman Bay, Penobscot Bay, and the Machias River accounted for the remaining ~0.3% of combined sewer overflow volumes. The 2018 data shows an increase in CSO discharge volume for all ten watersheds, compared to 2017 data. The increases ranged from 26% (Androscoggin River) to 305% (Penobscot River). The large increase on the Penobscot River was a result of Bangor having it's highest discharge year since 2014. This was due to the January 12th and 13th storm generating 39.4 MG of CSO discharge, or 78% of Bangor's total for the year. The Table on page 21 – **Maine Annual CSO Volume Discharged by Watershed**, shows the reported CSO discharge volumes for each CSO community grouped by the receiving watersheds, both for 2018 and the previous five years.

12) CSO discharges are well documented contributors to beach and shellfish closures. Stating with certainty that specific CSO events are **solely** responsible for specific closures is more difficult and is beyond the scope of this report. In some areas of the State, there may be other factors that contribute to a beach or shellfishing area closure. These may include, but are not necessarily limited to: urban storm water runoff, malfunctioning septic systems, domestic and non-domestic animal waste, agricultural runoff, and bathers. This Annual Report attempts to identify which beaches and shellfishing areas **may have** been impacted by CSO discharges in 2018.

13) In 2018, seven (7) CSO Communities reported possible impacts on thirteen (13) beach areas from CSO discharges. They were: Bar Harbor (Town Beach off Town Pier & Hulls Cove); Biddeford/Saco (Hills Beach, Biddeford Pool, Middle Beach, Fortunes Rock Beach & Camp Ellis); Cape Elizabeth (Cliff House Beach, Casino Beach & Fort Williams Park); Portland (East End Beach); South Portland (Willard Beach); and Calais (Red Beach – though not considered a swimming beach). The following beach advisories were reported to the Maine Healthy Beaches web-site (www.mainecoastdata.org/public/CurrentBeachStatus.aspx) in 2018 due to rainfall or contamination, though not specifically identified as being caused by CSO activity: Portland, East End Beach: 1 closure (7/26/2018) and 6 advisories, South Portland, Willard Beach: 17 advisories.

14) In 2018, four (4) CSO Communities reported that shellfishing areas could have been impacted by their CSO discharges (Bar Harbor, Bath, Machias, and Portland). All four (4) communities reported shellfishing area closures, which may or may not have been attributed to CSO activity.

Overall Trends and Considerations

1) The volume and frequency of CSO discharges vary from one wet weather event to the next based on existing groundwater levels, frozen or thawed ground, snowmelt, and rainfall volume, duration, and intensity. To evaluate CSO abatement progress it is best to look for a historical trend in reductions, rather than totals from year to year. The chart on page 13, **Maine Statewide Combined Sewer Overflow Volume Discharged**, illustrates the continuing overall downward trend in the CSO volume discharged annually. Since 1989, the overall CSO volume discharged annually has decreased by approximately 92% statewide.

2) Similarly, the chart on page 14, **Maine Statewide Combined Sewer Overflow Annual Number of Discharge Events**, shows an overall downward trend in the number of overflow event days per year. Since 1989, the number of overflow event days experienced per year has decreased by approximately 81.4% statewide.

3) CSO abatement progress should not be measured solely by comparing the volumes discharged from one year to the next, because the volume discharged is influenced by variations in precipitation amounts, intensity and timing, the total area drained by the collection system, the rate of snow melt, frozen or thawed ground, and existing groundwater levels. Even given the same annual precipitation, it is highly unlikely that any two years would result in the same volume of CSO discharges because of the complex relationship between these variables.

4) Trying to compare CSO abatement progress from year to year is difficult due to the varying conditions that influence the volume and frequency of overflows, not the least of which is annual precipitation patterns. To partially compensate for the fluctuation in annual precipitation patterns, the total volume of untreated combined sewage discharged can be unitized by taking into consideration the average annual precipitation received by each CSO Community. Just divide CSO volume by annual precipitation reported in inches to obtain a volume discharged per inch of precipitation. The chart on page 16, **Maine Combined Sewer Overflows Annual Volume Discharged per Inch of Precipitation**, illustrates unitized CSO discharge volume per year. This chart shows a continuing downward trend in the volume of combined sewage discharged per inch of annual precipitation. Since 1989, overflow volumes have decreased from approximately **128** million gallons per inch of precipitation to **11** million gallons per inch of precipitation, a reduction of 91.4%. The reduction in CSO discharge volume per inch of rain, mirrors the overall reduction in annual CSO discharge volume achieved statewide through 2018 (92%). This analysis is useful as a general indicator of the CSO abatement progress that is being accomplished.

5) Precipitation and the CSO volume discharged does not have a simple linear relationship. Still, generally, as precipitation levels increase, the volume of combined sewage being discharged per inch of precipitation would increase, because of the sewers finite capacity to capture more storm water. Once the capacity of the combined sewer system is reached, any additional rainfall or snowmelt would overflow the already inundated system.

6) The susceptibility of a CSO community's sewer collection system to excessive inflow and infiltration (I&I) is dependent on many factors including age and condition of pipe, degree of separation, quality of the original installation, how well the system has been maintained, etc. Therefore, wet weather conditions and precipitation patterns affect individual CSO Communities differently. Systems with a large number of catch basins or roof drains still connected, or with a high percentage of impermeable surfaces, may be influenced to a greater degree by the inflow generated by intense summer storms. In communities where the sanitary and storm systems are largely separated and inflow is not the main challenge, the cause of wet weather discharges might be more infiltration based. In these systems, a high ground water table, often occurring in the spring can promote infiltration into the collection system via leaky pipes and manholes. Therefore, direct comparisons between communities regarding their CSO abatement progress could be misleading.

7) From 2005 through 2016, the City of Biddeford under-estimated their CSO discharges because of flow meter issues. For this report, CSO volumes for Biddeford have been revised using a hydraulic model of the system, to more accurately reflect the level of discharge.

8) Starting in 2018 the Annual Maine Combined Sewer Overflow Status Report, shall include a new section which summarizes the level of treatment provided by each of the fourteen (14) Maine communities which have a CSO Related Bypass of secondary treatment. The **Maine CSO Community Level of Treatment** summary included on page 22 provides the total annual volume of wastewater collected by each of the fourteen "bypass" communities, the percentage which receives secondary treatment, the percentage which receives only primary treatment (the bypass volume), and the percentage which receives no treatment (CSO volume). The summary is a good indication of which CSO communities are maximizing the percentage of flows which receive secondary treatment, and which communities are overly reliant on the CSO bypass.

9) Four out of the top five dischargers in 2018, including Portland, Bangor, LAWPCA, and Lewiston, are currently in the planning or design stages to add off-line storage to their collection systems, or at their treatment plant. The three largest storage projects in the State, including the 3.5 MG Back Cove South Storage Tank, the 2.25 MG Back Cove West Storage Conduit, both in Portland, and the 3.8 MG Davis Brook Storage Tank in Bangor, are scheduled to come on line within the next two and a half years. All three will have a significant impact on CSO discharges once completed.

Maine Combined Sewer Overflow (CSO) Community List

(As of December 31, 2018)

	COMMUNITY/PERMITTEE	Outfalls	Regulators	No. of CSO Outfalls & Receiving Water
1.	**AUBURN SEWERAGE DISTRICT**	2	2	2-Androscoggin R.
2.	BANGOR	8	8	5-Kenduskeag Str., 3-Penobscot R.
3.	BAR HARBOR (Hulls Cove)	1	1	1-Frenchman Bay
4.	BAR HARBOR (Main Plant)	3	3	2-Frenchman Bay, 1-Eddie Brook
5.	BATH	4	4	4-Kennebec R.
6.	BELFAST	2	2	2-Passagassawakeag R./Belfast Hbr.
7.	BIDDEFORD	7	28*	7-Saco R.
8.	BREWER	4	4	3-Penobscot R., 1-Sedgeunkendunk Str.
9.	BUCKSPORT	0	0	SWIRL to Penobscot R.
10.	CALAIS	5	5	4-St. Croix R., 1-Landing Bk.
11.	**CAPE ELIZABETH – Ottawa Road PS** (Co-Permittees: So. Portland, PWD, & Cape Elizabeth)	1	1	1-Atlantic O.
12.	GARDINER	1	1	1-Kennebec R.
13.	GREATER AUGUSTA UTILITY DISTRICT (GAUD) & **Hallowell Sanitary Sewers & CSO**	18	24	1-Kennedy Bk., 17-Kennebec R.
14.	**HAMPDEN**	1	1	1-Souadabscook Str.
15.	KENNEBEC SANITARY TREATMENT District (KSTD)	3	3	3-Kennebec R.
16.	**LEWISTON**	8	9	3-Androscoggin R., 1-Goff Bk./Hart Bk., 4-Jepson Bk.
17.	LEWISTON-AUBURN Water Pollution Control Authority (LAWPCA)	1	1	1-Androscoggin R.
18.	MACHIAS	2	2	2-Machias R.
19.	MADAWASKA	2	2	2-St. John R.
20.	MECHANIC FALLS SANITARY DISTRICT	2	2	2-Little Androscoggin R.
21.	**MILFORD**	1	1	1-Penobscot R.
22.	OLD TOWN	3	3	2-Penobscot R., 1-Stillwater R.
23.	ORONO	1	1	1-Penobscot R.
24.	PARIS UD	1	1	1-Little Androscoggin R.
25.	**PORTLAND – CITY**	10	15	6-Back C., 1-Capisic Bk., 2-Portland Hbr., 1-Nason Bk. to Fore R. (marsh)
26.	PORTLAND – PORTLAND WATER DISTRICT (PWD)	20	20	9-Back C., 3-Casco B., 4-Fore R., 4-Portland Hbr.
27.	**RANDOLPH**	1	1	1-Kennebec R.
28.	ROCKLAND	1	1	1-Rockland Hbr.
29.	SACO	2	2	2-Saco R.
30.	SKOWHEGAN	5	5	5-Kennebec R.
31.	SOUTH PORTLAND	4	4	1-Barberry Ck., 1-Fore R., 1-Calvery P., 1-Portland Hbr.
32.	WESTBROOK	5	5	5-Presumpscot R.
33.	**WINSLOW**	3	3	2-Sebasticook R., 1-Kennebec R.
34.	WINTERPORT SEWERAGE DISTRICT	1	1	1-Penobscot R.
	TOTAL CSOs	133	166	

34 CSO Permits, permitting 31 CSO Towns/Cities
Two or more permits in one CSO Town/City
Two CSO Towns/Cities covered in one permit
Community has former CSO outfall that now receives primary treatment and disinfection
CSO Outfall – where waste water is discharged to the receiving water
CSO Regulator – where waste water exits the sanitary sewer system
Bold = 9 communities with sewer system only. Sewers discharge to a POTW controlled by another entity.

Maine CSO Community Flow Data

		Annual Volume (Gallons)																
Community	**NPDES Permit No.**	**1987**	**1988**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Auburn S.D.	ME0100005	99,720,000	99,720,000	4,687,316	37,155,818	28,936,137	23,622,547	23,984,272	19,440,841	12,952,500	19,234,856	12,404,500	3,717,000	1,286,000	2,928,519	814,738	1,117,809	1,656,736
Bangor	ME0100781	635,000,000	635,000,000	193,870,000	303,160,000	272,750,000	150,580,000	378,640,000	347,360,000	389,300,000	146,000,000	69,940,000	32,140,000	87,748,000	40,109,000	48,586,000	13,310,000	50,547,000
Bar Harbor	ME0101214 & ME0102466	32,000,000	32,000,000	290,133	13,661,958	5,102,820	8,719,436	12,601,889	11,935,337	6,930,405	2,563,669	3,776,092	407,010	1,561,139	2,335,692	277,000	225,200	562,221
Bath	ME0100021	600,000,000	600,000,000	6,055,666	60,338,026	36,105,688	20,783,335	24,383,599	11,323,060	12,930,203	10,067,181	12,199,904	3,297,259	4,990,910	2,727,901	1,608,037	1,697,081	3,753,899
Belfast	ME0101532	736,000	736,000	0	1,796,747	485,451	1,035,392	198,370	260,036	486,919	490,495	0	0	0	0	0	0	305,071
Biddeford	ME0100048	400,000,000	400,000,000	101,087,776	381,731,131	420,848,497	440,173,468	416,581,800	435,972,508	381,853,242	113,907,851	141,198,828	90,581,675	194,302,147	95,830,208	99,492,656	49,504,091	70,814,300
Brewer	ME0100072	750,000,000	750,000,000	279,830,419	592,984,187	247,538,580	231,283,607	289,560,294	229,270,683	227,139,515	140,065,515	435,548	58,310	139,280	465,000	87,374	0	366,687
Bucksport	ME0100111	53,000,000	53,000,000	371,970	16,623,000	5,546,501	20,000	0	0	0	0	0	0	0	0	0		
Calais	ME0100129	42,000,000	42,000,000	5,290,000	42,140,000	20,409,850	22,060,520	18,989,779	21,263,750	31,134,915	16,860,000	18,210,000	18,311,206	20,775,288	5,292,778	4,624,354	4,512,300	10,000,030
Cape Elizabeth	ME0102806	5,400,000	5,400,000	1,325,000	4,807,000	5,365,000	3,254,000	2,567,000	3,527,000	3,955,292	1,072,000	2,735,000	41,000	1,440,000	277,000	251,000	277,000	375,000
Corinna S.D.***	ME0100153	40,000,000	40,000,000	0														
Dover-Foxcroft***	ME0100501	16,000	16,000	0	199,000	0												
East Millinocket***	ME0100196	1,200,000	1,200,000	0	0	0												
Fairfield***	ME0102393	300,000	300,000	0	0	0	0	0	0	0	0	0	0					
Fort Kent U.D.***	ME0102369	3,000	3,000	41,000	600,000													
Gardiner	ME0101702	44,000,000	44,000,000	5,113,000	46,616,000	10,269,400	2,487,000	5,000,000	1,380,000	10,453,761	4,655,000	4,455,400	1,287,000	1,950,000	2,299,300	665,000	2,877,000	4,893,100
Greater Augusta U.D.	ME0100013	72,554,000	72,554,000	3,881,421	26,553,055	14,539,424	10,000,000	48,965,215	15,723,000	49,670,000	31,589,000	38,408,000	26,901,000	17,646,000	21,680,000	7,120,000	3,680,000	3,771,000
Hallowell W.D. - 2008 GAUD	ME0101010	350,000	350,000	0	700,000	150,000	150,000											
Hampden	ME0102512	1,201,000	39,600	0	43,862,280	0	85,000	0	500,000	500,000	500,000	0	0	0	24,105	151,055	0	1,250,000
Kennebec S.T.D.	ME0100854	2,500,000	2,500,000	341,948	2,438,706	385,734	1,136,649	2,209,107	0	0	0	135,444	0	0	1,797,554	0	0	324,228
Kittery***	ME0100285	350,000	350,000	33,900	0													
Lewiston	ME0100994	208,900,000	208,900,000	82,766,343	249,891,633	159,807,018	90,983,189	152,039,341	116,557,656	113,285,042	78,521,909	90,103,658	32,772,894	21,355,331	30,574,217	25,477,213	12,808,039	18,552,725
Lewiston-Auburn W.P.C.A.	ME0101478	480,000,000	480,000,000	83,045,000	480,025,000	265,521,000	142,286,000	292,244,000	207,794,000	156,986,000	108,278,048	113,380,000	63,567,000	68,569,000	27,838,000	18,694,000	21,856,000	25,735,000
Lincoln S.D.***	ME0101796	2,400,000	2,400,000															
Lisbon***	ME0100307	600,000	600,000	0														
Livermore Falls***	ME0100315																	
Machias	ME0100323	7,000,000	7,000,000	2,124,118	6,646,222	3,008,025	2,263,720	2,328,905	4,073,938	2,791,962	1,180,678	938,330	1,857,988	2,202,444	1,067,647	910,259	203,815	603,687
Madawaska	ME 0101681	3,200,000	3,200,000	1,749,764	8,215,460	3,700,002	2,667,765	24,194,225	15,800,000	1,107,610	1,490,000	377,488	349,400	1,830,563	0	0	1,562,430	3,988,640
Mechanic Falls S.D.	ME0100391	18,000,000	18,000,000	963,114	11,765,409	9,419,000	11,853,000	11,223,600	6,231,000	9,250,000	5,033,002	9,638,035	3,663,997	1,385,675	1,013,807	927,473	603,528	194,728
Milford	ME0102695	220,000	220,000	220,000	0	211,070	0	88,365	66,285	52,006	407,151	26,970	0	10,000	25,000	20,000	0	0
Milo W.D.***	ME0100439	10,000	10,000	0	10,000	0	501,000	750										
Old Town	ME0100471	6,300,000	6,300,000	425,832	4,779,340	321,105	770,699	254,967	0	125,000	0	0	0	0	30,000	10,000	0	270,801
Orono	ME0100498	31,000,000	31,000,000	0	18,467,330	1,314,000	7,360,000	4,820,000	371,471	2,416,910	1,260,837	0	0	0	1,320,000	1,461,000	0	1,460,000
Paris U.D.	ME 0100951	1,000,000	1,000,000	0	288,000	173,500	206,000	84,000	0	110,000	0	1,020,000	0	0	0	0	0	0
Portland & PWD	City-ME0101435 / PWD-ME0102075	1,800,000,000	1,800,000,000	607,351,945	1,296,000,000	1,816,525,856	589,203,712	883,105,087	872,751,281	780,188,153	496,288,000	704,319,257	179,403,901	414,421,500	254,663,330	318,359,691	175,675,000	283,612,831
Presque Isle***	ME0100561	27,500,000	27,500,000															
Randolph	ME0102423	10,000,000	10,000,000	0	1,058,039	266,256	459,476	1,413,880	488,645	285,719	223,934	988,434	50,054	101,183	0	515,240	0	105,695
Rockland	ME0100595	47,000,000	47,000,000	7,000,000	0	0	0	0	0							0	0	0
Saco	ME 0101117	176,000,000	176,000,000	10,313,025	176,214,902	38,451,182	1,950,000	100,000	27,015	924,014	1,372,128	2,964,929	1,100,985	1,739,425	1,057,000	599,000	304,000	2,139,000
Sanford S.D.***	ME0100617	4,000,000	4,000,000	0	0	15,000	0	0	0	0	0	0						
Skowhegan	ME0100625	48,000,000	48,000,000	12,082,768	47,873,323	31,314,358	21,596,631	61,963,453	6,073,919	7,550,855	4,757,994	4,238,875	4,746,538	3,861,193	6,786,698	4,168,672	738,844	4,379,019
South Portland	ME0100633	500,000,000	500,000,000	19,812,914	26,810,104	26,118,706	15,727,553	12,883,433	12,183,196	42,095,393	14,906,594	37,134,882	1,858,579	15,531,600	11,161,602	6,240,350	2,033,229	3,533,710
Westbrook	ME0100846	50,000,000	50,000,000	944,000	11,119,000	40,636,729	15,879,000	7,379,066	7,069,280	14,105,989	12,202,000	18,903,485	6,222,000	11,932,000	4,423,000	7,447,100	1,285,000	1,631,000
Winslow	ME0102628	1,300,000	1,300,000	0	23,652	0	725,000	235,000	5,001	200,000	63,354	1,327,119	7,070	0	164,549	70,144	237,400	601,045
Winterport S.D.	ME0100749	680,000	680,000	91,000	677,800	0	102,000	252,000	18,000	0	0	0	0	60,000	90,000	0	0	138,000
Yarmouth***	ME0100765	1,000	1,000															
Total Annual Discharge Volume (Gallons)		**6,203,441,000**	**6,202,279,600**	**1,431,109,372**	**3,915,232,122**	**3,465,235,889**	**1,819,925,699**	**2,678,291,397**	**2,347,466,902**	**2,258,781,405**	**1,212,991,196**	**1,289,260,178**	**472,341,866**	**874,838,678**	**515,981,907**	**548,577,356**	**294,507,766**	**495,565,153**
Total Annual Discharge Volume (Billion Gallons)		**6.20**	**6.20**	**1.43**	**3 92**	**3.47**	**1.82**	**2.68**	**2.35**	**2.26**	**1.21**	**1.29**	**0.47**	**0.87**	**0.52**	**0.55**	**0 29**	**0.50**

Notes: For legibility, discharge volume data for years 1989-2003 are not shown. Communities highlighted in gray are no longer a CSO Community. Numbers in blue are estimated from LTCP/MP or subsequent high flow. Biddeford CSO volumes 2005-2016 have been adjusted due to under-estimation of flows.

Maine CSO Community Annual Number of CSO Discharge Events

Community	NPDES Permit No.	1987	1988	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Auburn S.D.	ME0100005	80	80	24	58	37	42	59	61	37	11	8	5	5	2	8	2	2
Bangor	ME0100781	53	53	42	46	58	25	65	78	73	54	29	27	34	20	28	21	23
Bar Harbor	ME0101214 & ME0102466	155	155	5	22	18	10	27	28	19	6	13	6	17	5	2	3	7
Bath	ME0100021	64	64	20	33	32	25	29	21	20	12	23	18	18	8	14	10	14
Belfast	ME0101532	7	7	0	5	3	5	4	3	6	3	0	0	0	1	0	0	2
Biddeford	ME0100048	180	180	61	104	82	70	53	46	28	100	146	77	88	48	57	55	41
Brewer	ME0100072	95	95	72	78	45	38	59	56	50	45	5	3	3	1	2	0	4
Bucksport	ME0100111	53	53	8	24	18	2	0	0	0	0	0	0	0	0	0		
Calais	ME0100129	15	15	9	15	5	8	10	14	8	6	14	8	14	6	7	9	15
Cape Elizabeth	ME0102806	5	5	5	20	20	5	11	17	12	6	11	2	12	2	6	2	4
Corinna S.D.	ME0100153	30	30	0														
Dover-Foxcroft	ME0100501	8	8	0	2	0												
East Millinocket	ME0100196	11	11	0	0	0												
Fairfield	ME0102393	15	15	0	0	0	0	0	0	0	0	0	0					
Fort Kent U.D.	ME0102369	10	10	1	4													
Gardiner	ME0101702	40	40	11	41	14	2	8	2	12	6	6	3	3	2	2	5	5
Greater Augusta U.D.	ME0100013	80	80	58	73	50	29	34	35	32	37	29	22	29	17	17	29	35
Hallowell W.D. - 2008 GAUD	ME0101010	14	14	0	14	3	3	-	-	-	-	-	-	-	-			
Hampden	ME0102512	1	3	0	13	0	1	0	1	1	1	0	0	0	1	1	0	1
Kennebec S.T.D.	ME0100854	15	15	7	9	3	1	4	0	0	0	1	0	0	1	0	0	1
Kittery	ME0100285	7	7	1	0													
Lewiston	ME0100994	80	80	65	69	70	38	71	58	68	45	38	27	23	37	35	28	24
Lewiston-Auburn W.P.C.A.	ME0101478	80	80	35	49	44	29	38	36	44	37	22	32	26	17	17	10	20
Lincoln S.D.	ME0101796	10	10															
Lisbon	ME0100307	5	5	0														
Livermore Falls	ME0100315																	
Machias	ME0100323	15	15	8	15	10	5	12	13	9	7	9	6	13	7	8	7	11
Madawaska	ME 0101681	16	16	4	65	14	17	18	32	17	10	8	3	7	0	0	3	3
Mechanic Falls S.D.	ME0100391	42	42	12	29	23	9	42	42	18	39	28	17	30	17	25	12	12
Milford	ME0102695	8	8	8	0	8	0	4	1	3	2	1	0	1	1	1	0	0
Milo W.D.	ME0100439	3	3	0	1	0	2	1										
Old Town	ME0100471	25	25	1	13	1	4	4	0	1	0	0	0	0	1	1	0	2
Orono	ME0100498	30	30	0	12	3	6	7	3	3	2	0	0	0	2	4	0	1
Paris U.D.	ME 0100951	5	5	0	2	2	2	2	0	4	0	4	0	0	0	0	0	0
Portland & PWD	City-ME0101435 / PWD-ME0102075	100	100	86	88	93	58	87	104	79	88	70	63	75	58	56	38	49
Presque Isle	ME0100561	26	26															
Randolph	ME0102423	23	23	0	8	3	1	9	7	3	2	2	1	2	0	2	0	2
Rockland	ME0100595	23	23	2	0	0	0	0	0							0	0	0
Saco	ME 0101117	44	44	32	41	24	12	12	9	10	4	21	15	19	13	12	7	15
Sanford S.D.	ME0100617	10	10	0	0	1	0	0	0	0	0	0	0					
Skowhegan	ME0100625	160	160	53	81	81	55	58	17	23	21	25	36	28	20	23	23	21
South Portland	ME0100633	23	23	10	20	20	5	10	10	12	13	12	7	9	2	3	2	4
Westbrook (PWD)	ME0100846	50	50	13	17	31	55	50	11	12	16	13	60	70	49	38	2	6
Winslow	ME0102628	20	20	0	1	0	3	3	3	2	3	9	1	0	1	3	1	1
Winterport S.D.	ME0100749	8	8	1	2	0	1	1	1	0	0	0	0	1	2	0	0	1
Yarmouth	ME0100765	4	4															
Total Number of CSO Discharge Events		**1748**	**1750**	**654**	**1074**	**816**	**568**	**792**	**709**	**606**	**576**	**547**	**439**	**527**	**341**	**372**	**269**	**326**

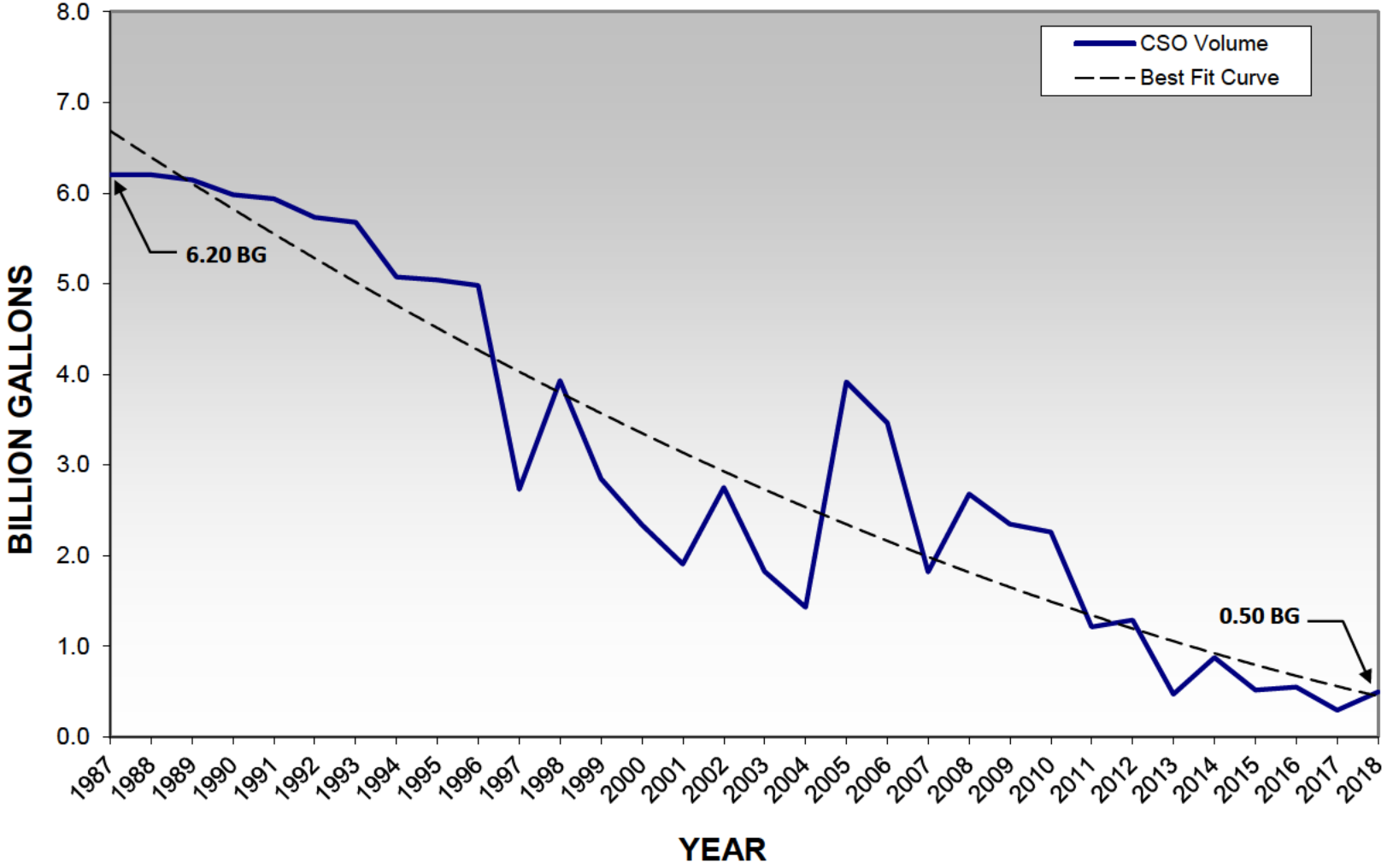
Note: For leg bility, discharge event data for years 1989-2003 are not shown. Communities highlighted in gray are no longer a CSO Community. Numbers in blue are estimated from LTCP/MP or other source.

Maine CSO Community Annual Number of CSO Outfalls

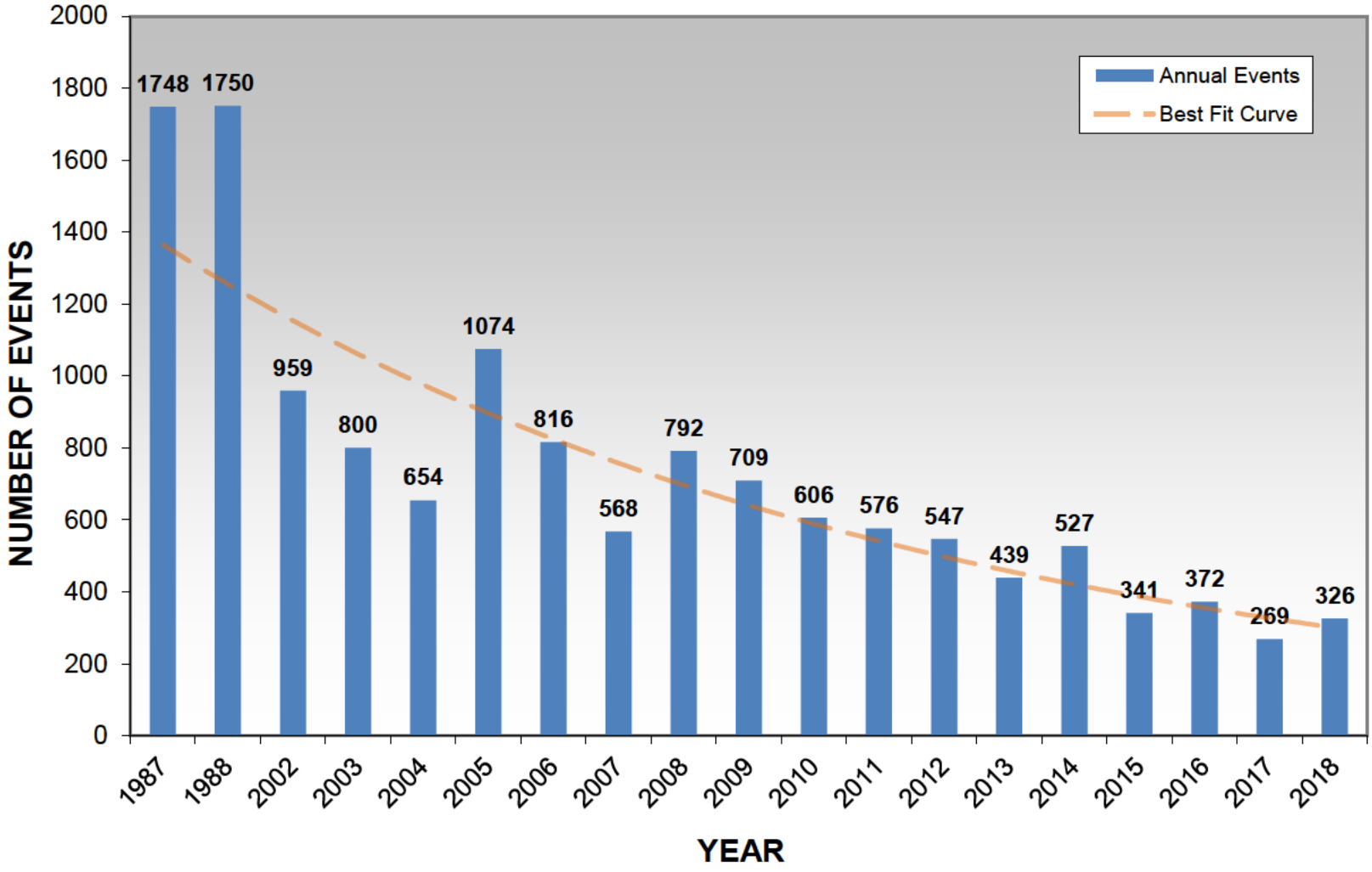
Community	NPDES Permit No.	Year Unknown	1987	1988	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Auburn S.D.	ME0100005	11	11	11	6	6	6	4	3	3	3	2	3	2	2	1	2	2	2
Bangor	ME0100781	22	22	22	12	12	12	11	7	7	7	9	9	9	9	9	9	9	8
Bar Harbor	ME0101214 & ME0102466	5	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Bath	ME0100021	9	9	9	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Belfast	ME0101532	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Biddeford	ME0100048	16	16	16	12	11	11	11	10	10	10	10	10	8	8	8	8	7	7
Brewer	ME0100072	10	10	10	7	7	7	6	6	6	5	5	4	4	4	4	4	4	4
Bucksport	ME0100111	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1		
Calais	ME0100129	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Cape Elizabeth	ME0102806	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Corinna S.D.	ME0100153	5	5	5	1	1	0												
Dover-Foxcroft	ME0100501	15	15	15	4	4	4												
East Millinocket	ME0100196	5	5	5	1	1	1												
Fairfield	ME0102393	3	3	3	2	2	2	2	2	2	2	2	2	0					
Fort Kent U.D.	ME0102369	6	6	6	1	1	1												
Gardiner	ME0101702	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1
Greater Augusta U.D.	ME0100013	31	31	31	23	24	24	23	24	23	22	22	19	18	18	18	18	18	18
Hallowell W.D. – 2008 GAUD	ME0101010	1	1	1	1	1	1	1	-	-	-	-	-	-	-				
Hampden	ME0102512	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Kennebec S.T.D.	ME0100854	5	5	5	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Kittery	ME0100285	3	3	3	3	3	3												
Lewiston	ME0100994	32	32	32	30	30	30	23	22	22	20	18	18	16	11	10	8	8	8
Lewiston-Auburn W.P.C.A.	ME0101478	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Lincoln S.D.	ME0101796	1	1	1	0	0													
Lisbon	ME0100307	6	6	6	2	2	2												
Livermore Falls	ME0100315	5	5	5	0	0													
Machias	ME0100323	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Madawaska	ME 0101681	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mechanic Falls S.D.	ME0100391	4	4	4	1	1	1	1	3	3	3	3	3	2	2	2	2	2	2
Milford	ME0102695	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Milo W.D.	ME0100439	3	3	3	3	3	3	3	3										
Old Town	ME0100471	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Orono	ME0100498	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Paris U.D.	ME 0100951	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Portland & PWD	City-ME0101435 / PWD-ME0102075	42	42	42	34	34	34	33	33	33	32	32	31	31	31	31	30	30	30
Presque Isle	ME0100561	1	1	1	0	0													
Randolph	ME0102423	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Rockland	ME0100595	8	8	8	4	4	4	2	2	2					1	1	1	1	1
Saco	ME 0101117	9	9	9	5	5	5	5	6	5	4	4	4	4	4	4	4	4	2
Sanford S.D.	ME0100617	3	3	3	2	2	2	2	1	1	1	1	1	0					
Skowhegan	ME0100625	10	10	10	9	9	9	9	8	7	7	7	7	7	7	7	7	7	5
South Portland	ME0100633	35	28	28	8	8	7	5	6	6	6	6	6	6	6	6	6	6	4
Westbrook (PWD)	ME0100846	7	7	7	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Winslow	ME0102628	2	2	2	2	2	1	1	1	1	2	2	2	2	2	2	3	3	3
Winterport S.D.	ME0100749	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Yarmouth	ME0100765	2	2	2	1	0													
Total Annual CSO Discharge Outfalls		**350**	**338**	**338**	**212**	**205**	**193**	**183**	**177**	**171**	**164**	**163**	**159**	**149**	**145**	**143**	**142**	**140**	**133**

Note: For leg bility, outfall data for years 1989-2003 are not shown. Communities highlighted in gray are no longer a CSO Community. Numbers in blue are estimated from LTCP/MP or other source.

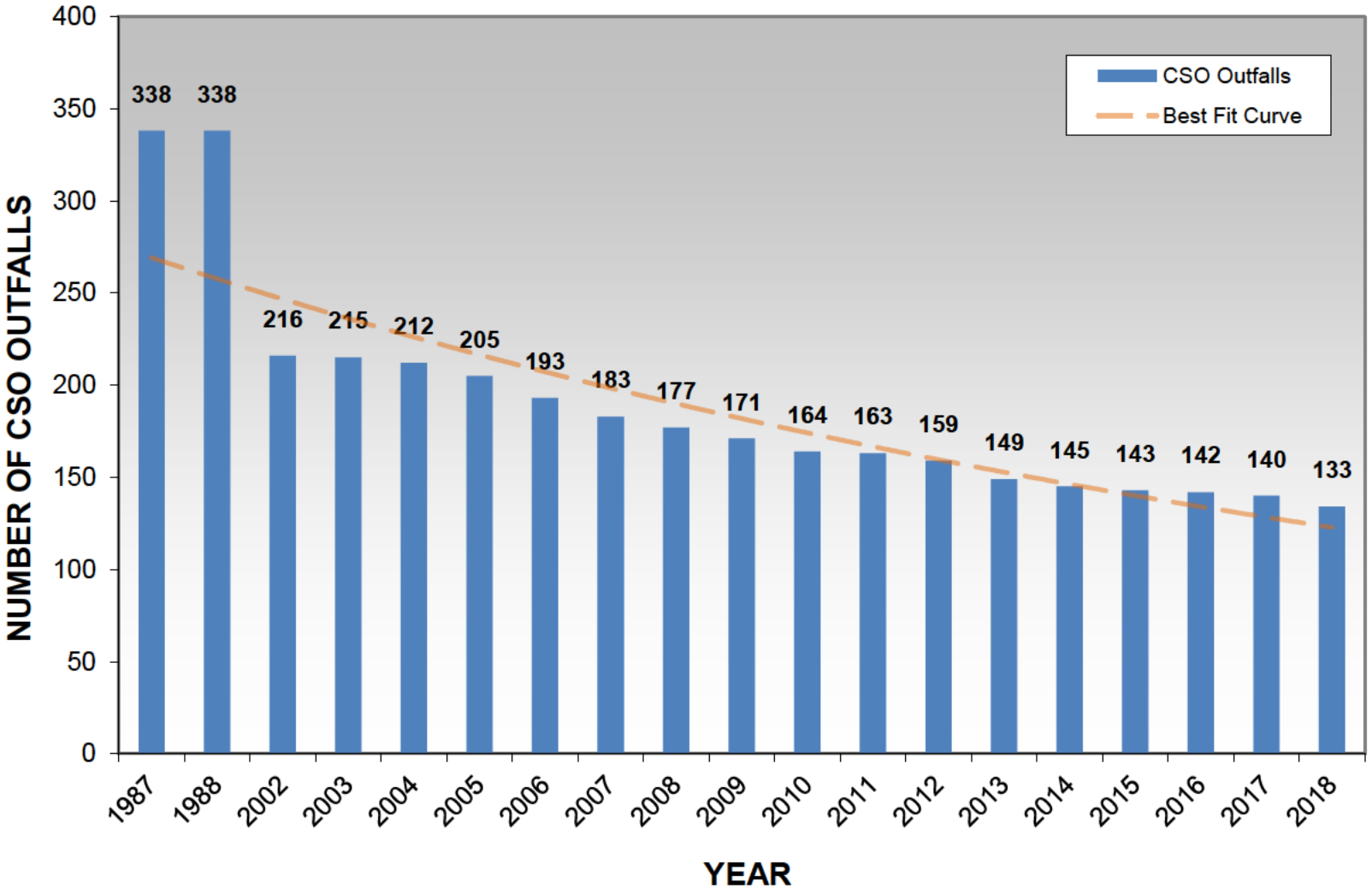
Maine – Statewide Combined Sewer Overflow (CSO) Volume Discharged



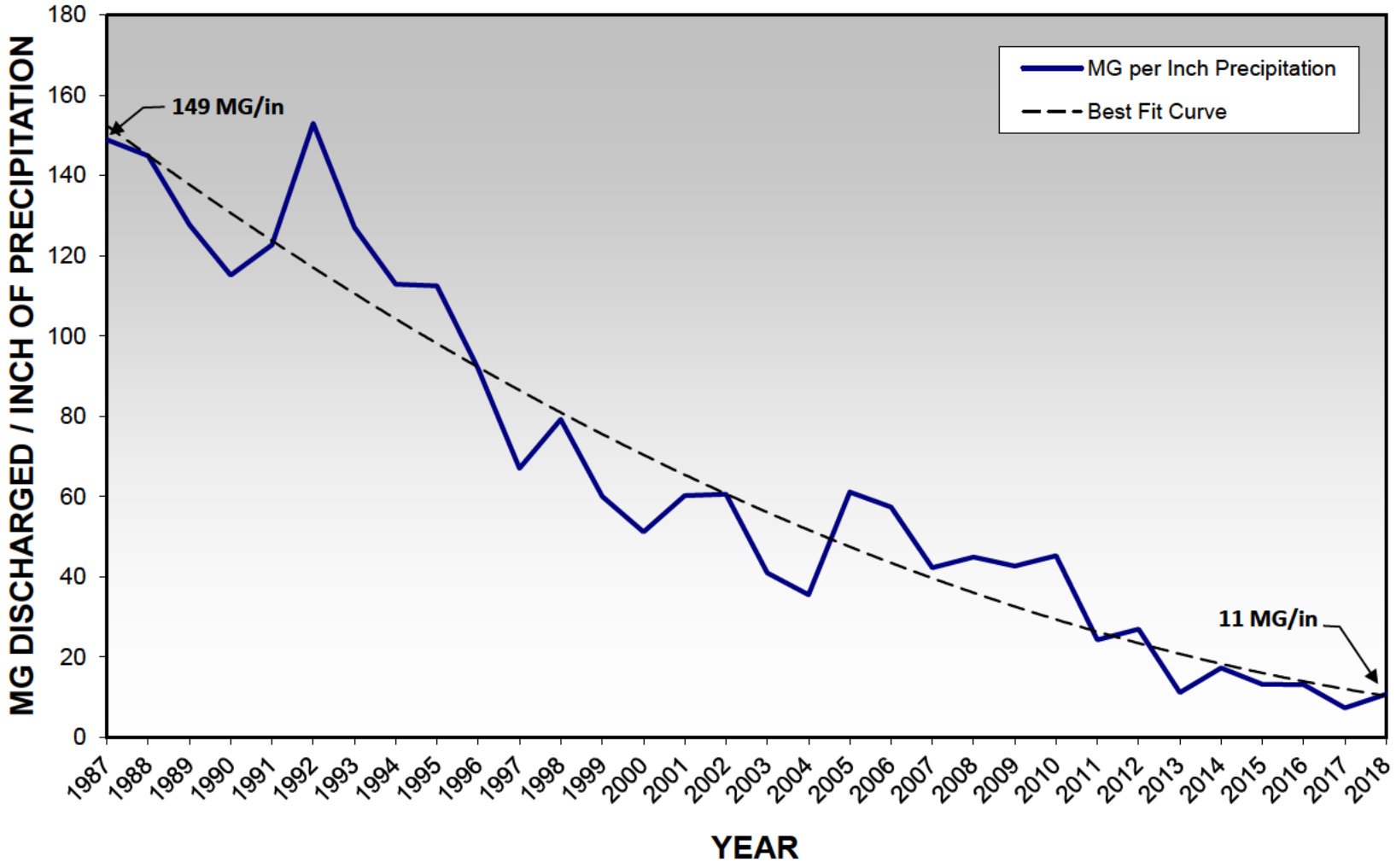
Maine – Statewide Combined Sewer Overflow (CSO)
Annual Number of Discharge Events



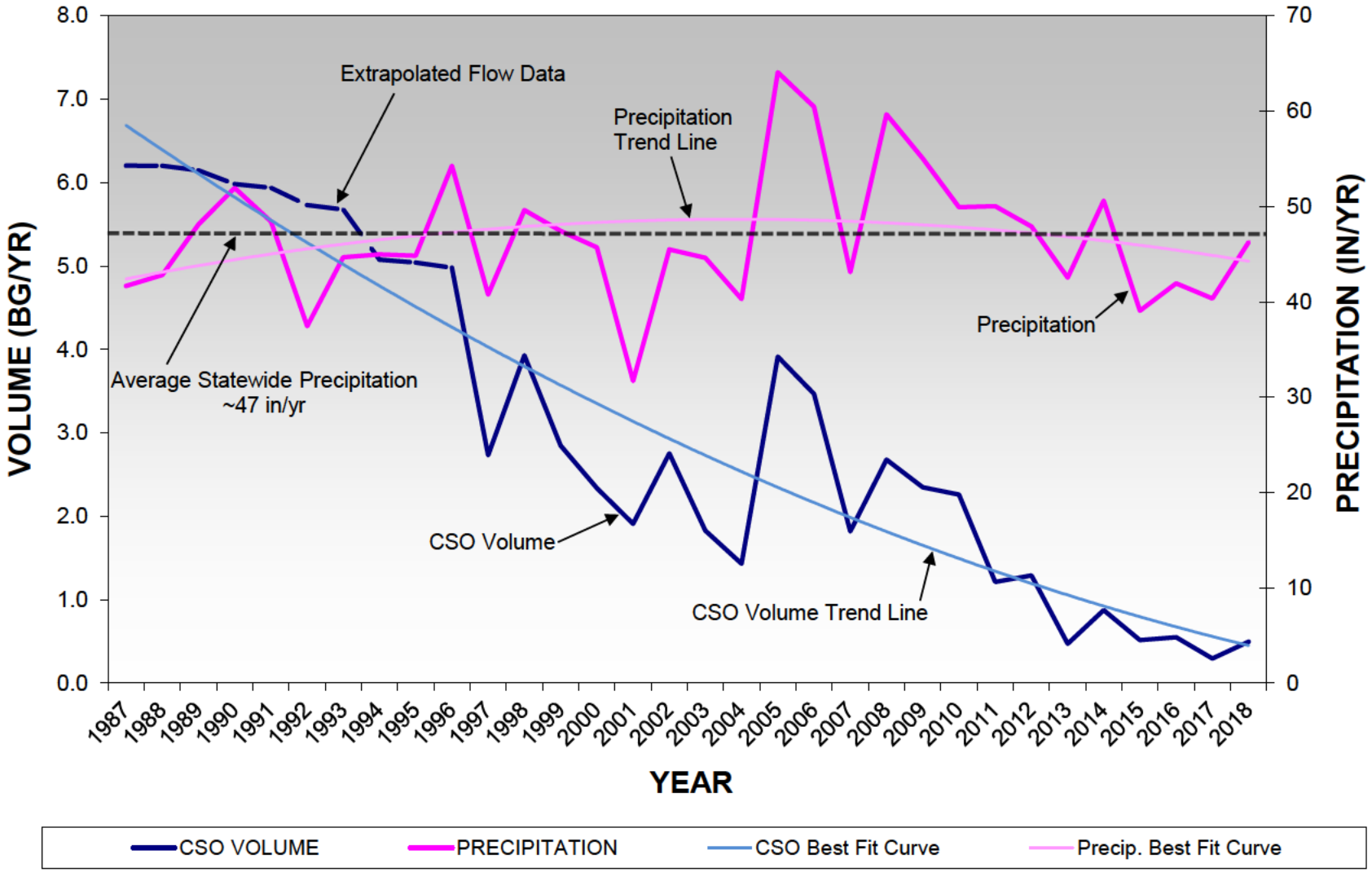
Maine – Statewide Combined Sewer Overflow (CSO) Outfalls



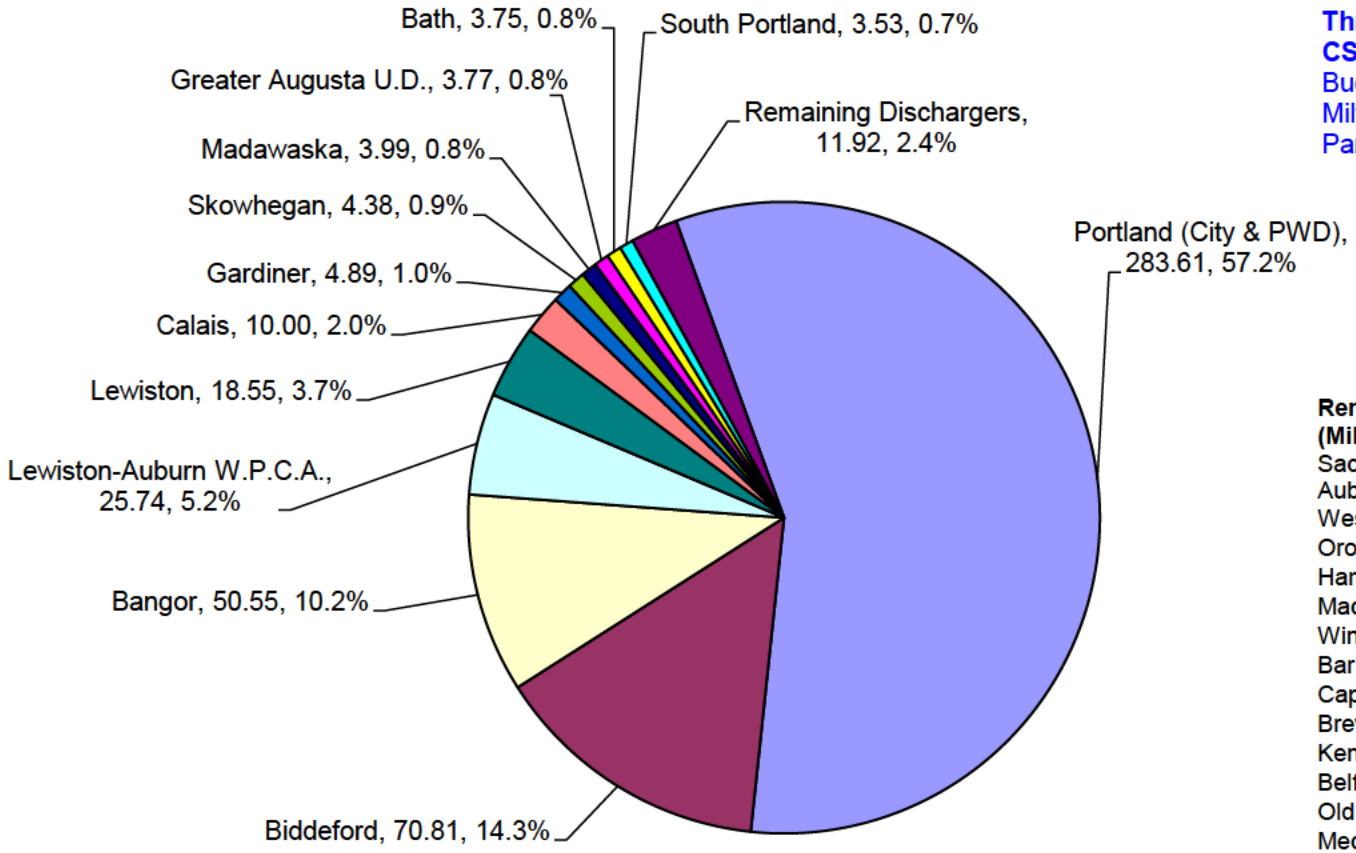
Maine – Statewide Combined Sewer Overflow (CSO)
Annual Volume Discharged Per Inch of Precipitation



Maine – Yearly CSO Volumes And Precipitation



Maine 2018 CSO Flow Comparison
31 CSO Communities – 0.50 Billion Gallons

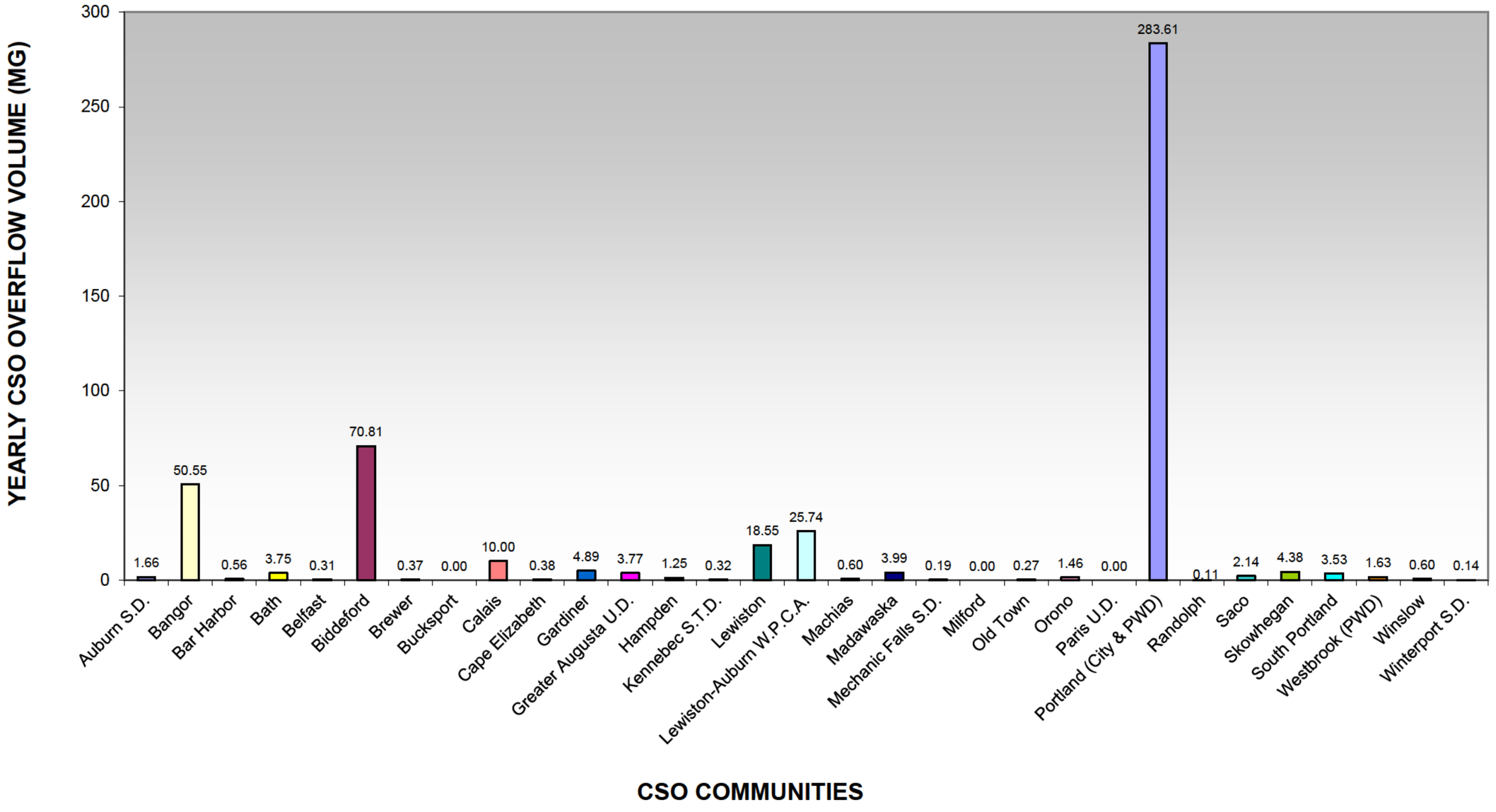


Three Communities without CSO Discharges in 2018:
Bucksport
Milford
Paris U.D.

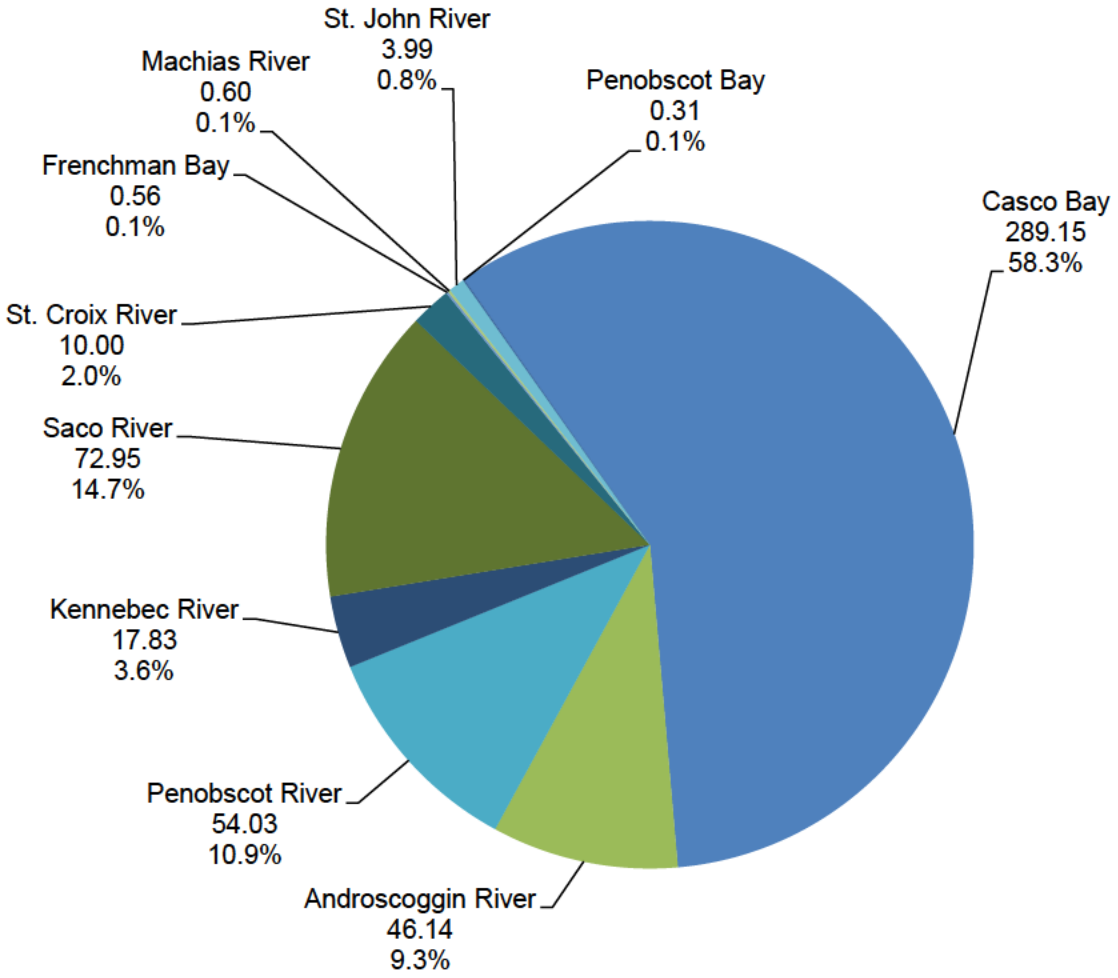
Remaining 16 Dischargers (Million Gallons):
Saco, 2.14, 0.4%
Auburn S.D., 1.66, 0.3%
Westbrook (PWD), 1.63, 0.3%
Orono, 1.46, 0.3%
Hampden, 1.25, 0.3%
Machias, 0.604, 0.1%
Winslow, 0.601, 0.1%
Bar Harbor, 0.56, 0.1%
Cape Elizabeth, 0.38, 0.1%
Brewer, 0.37, 0.1%
Kennebec S.T.D., 0.32, 0.1%
Belfast, 0.31, 0.1%
Old Town, 0.27, 0.1%
Mechanic Falls S.D., 0.19, 0.0%
Winterport S.D., 0.14, 0.0%
Randolph, 0.11, 0.0%

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

Maine 2018 CSO Flow Comparison by Community
0.50 Billion Gallons



Maine 2018 CSO Volume Discharged by Watershed
0.50 Billion Gallons



Receiving Waterbody, Overflow in Million Gallons (MG), Percent of Total

Maine Annual CSO Volume Discharged by Watershed

		Annual Discharge Volume (Gallons)					
	Community	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Androscoggin River	Auburn SD	3,717,000	1,286,000	2,928,519	814,738	1,117,809	1,656,736
	Lewiston-Auburn WPCA	63,567,000	68,569,000	27,838,000	18,694,000	21,856,000	25,735,000
	Lewiston	32,772,894	21,355,331	30,574,217	25,477,213	12,808,039	18,552,725
	Mechanic Falls SD	3,663,997	1,385,675	1,013,807	927,473	603,528	194,728
	Paris UD	0	0	0	0	0	0
	Sub Total	***103,720,891***	***92,596,006***	***62,354,543***	***45,913,424***	***36,385,376***	***46,139,189***
Casco Bay	Cape Elizabeth	41,000	1,440,000	277,000	251,000	277,000	375,000
	Portland-City & PWD	179,403,901	414,421,500	254,663,330	318,359,691	175,675,000	283,612,831
	South Portland	1,858,579	15,531,600	11,161,602	6,240,350	2,033,229	3,533,710
	Westbrook	6,222,000	11,932,000	4,423,000	7,447,100	1,285,000	1,631,000
	Sub Total	***187,525,480***	***443,325,100***	***270,524,932***	***332,298,141***	***179,270,229***	***289,152,541***
Frenchman Bay	Bar Harbor	407,010	1,561,139	2,335,692	277,000	225,200	562,221
	Sub Total	***407,010***	***1,561,139***	***2,335,692***	***277,000***	***225,200***	***562,221***
Kennebec River	Bath	3,297,259	4,990,910	2,727,901	1,608,037	1,697,081	3,753,899
	Gardiner	1,287,000	1,950,000	2,299,300	665,000	2,877,000	4,893,100
	Greater Augusta UD	26,901,000	17,646,000	21,680,000	7,120,000	3,680,000	3,771,000
	Kennebec STD	0	0	1,797,554	0	0	324,228
	Randolph	50,054	101,183	0	515,240	0	105,695
	Skowhegan	4,746,538	3,861,193	6,786,698	4,168,672	738,844	4,379,019
	Winslow	7,070	0	164,549	70,144	237,400	601,045
	Sub Total	***36,288,921***	***28,549,286***	***35,456,002***	***14,147,093***	***9,230,325***	***17,827,986***
Machias River	Machias	1,857,988	2,202,444	1,067,647	910,259	203,815	603,687
	Sub Total	***1,857,988***	***2,202,444***	***1,067,647***	***910,259***	***203,815***	***603,687***
Penobscot Bay	Belfast	0	0	0	0	0	305,071
	Rockland	0	0	0	0	0	0
	Sub Total	***0***	***0***	***0***	***0***	***0***	***305,071***
Penobscot River	Bangor	32,140,000	87,748,000	40,109,000	48,586,000	13,310,000	50,547,000
	Brewer	58,310	139,280	465,000	87,374	0	366,687
	Bucksport	0	0	0	0	0	0
	Hampden	0	0	24,105	151,055	0	1,250,000
	Milford	0	10,000	25,000	20,000	0	0
	Old Town	0	0	30,000	10,000	0	270,801
	Orono	0	0	1,320,000	1,461,000	0	1,460,000
	Winterport SD	0	60,000	90,000	0	0	138,000
	Sub Total	***32,198,310***	***87,957,280***	***42,063,105***	***50,315,429***	***13,310,000***	***54,032,488***
Saco River	Biddeford	90,581,675	194,302,147	95,830,208	99,492,656	49,504,091	70,814,300
	Saco	1,100,985	1,739,425	1,057,000	599,000	304,000	2,139,000
	Sub Total	***91,682,660***	***196,041,572***	***96,887,208***	***100,091,656***	***49,808,091***	***72,953,300***
St. Croix River	Calais	18,311,206	20,775,288	5,292,778	4,624,354	4,512,300	10,000,030
	Sub Total	***18,311,206***	***20,775,288***	***5,292,778***	***4,624,354***	***4,512,300***	***10,000,030***
St. John River	Madawaska	349,400	1,830,563	0	0	1,562,430	3,988,640
	Sub Total	***349,400***	***1,830,563***	***0***	***0***	***1,562,430***	***3,988,640***
	Total Annual Volume	**472,341,866**	**874,838,678**	**515,981,907**	**548,577,356**	**294,507,766**	**495,565,153**

Maine CSO Community Level of Treatment

CSO Communities	2015 Average Annual Rainfall (Inches): 39.07				2016 Average Annual Rainfall (Inches): 41.94				2017 Average Annual Rainfall (Inches): 40.35				2018 Average Annual Rainfall (Inches): 46.25			
	Total Volume[1,2] (MG)	Secondary Treatment	Primary Treatment	CSO	Total Volume[1,2] (MG)	Secondary Treatment	Primary Treatment	CSO	Total Volume[1,2] (MG)	Secondary Treatment	Primary Treatment	CSO	Total Volume[1,2] (MG)	Secondary Treatment	Primary Treatment	CSO
Bangor & Hampden	2,616.1	98.14%	0.32%	1.53%	2,513.7	97.20%	0.86%	1.94%	2,800.2	98.67%	0.86%	0.48%	3,300.6	97.57%	0.90%	1.53%
Bar Harbor	359.0	99.35%		0.65%	350.2	99.92%		0.08%	385.4	99.94%		0.06%	439.5	99.87%		0.13%
Bath	598.5	95.79%	3.75%	0.46%	609.2	95.78%	3.95%	0.26%	700.9	96.76%	3.00%	0.24%	753.6	94.56%	4.94%	0.50%
Belfast	210.0	100.00%		0.00%	208.2	100.00%		0.00%	210.4	100.00%		0.00%	229.9	99.87%		0.13%
Biddeford	915.7	89.54%		10.46%	910.7	89.08%		10.92%	943.4	94.75%		5.25%	1,249.0	94.33%		5.67%
Brewer	605.4	99.53%	0.39%	0.08%	567.2	99.16%	0.82%	0.02%	624.9	100.00%	0.00%	0.00%	652.2	99.95%	0.00%	0.05%
Bucksport									91.9	75.11%	24.89%	0.00%	108.5	98.07%	1.93%	0.00%
Calais	237.4	92.94%	4.83%	2.23%	185.2	95.16%	2.35%	2.50%	224.6	94.71%	3.28%	2.01%	258.3	91.97%	4.16%	3.87%
Gardiner & Randolph	351.1	97.98%	1.36%	0.65%	328.2	99.06%	0.58%	0.36%	388.2	99.26%	0.74%	0.00%	433.1	97.46%	1.41%	1.13%
GAUD & Hallowell	1,415.7	96.88%	1.58%	1.53%	1,146.8	98.23%	1.15%	0.62%	1,383.7	99.47%	0.26%	0.27%	1,424.0	97.18%	2.55%	0.26%
KSTD & Winslow	2,302.5	99.91%		0.085%	2,115.0	99.997%		0.003%	2,544.0	99.99%		0.009%	2,553.8	99.99%		0.01%
LAWPCA, Lewiston & Auburn	3,153.6	98.05%	0.00%	1.95%	3,082.3	98.54%	0.00%	1.46%	3,246.9	98.90%	0.00%	1.10%	3,359.4	99.23%	0.00%	0.77%
Machias	95.4	98.88%		1.12%	74.7	98.78%		1.22%	94.8	99.79%		0.21%	87.2	99.31%		0.69%
Madawaska	114.6	100.00%		0.00%	129.6	100.00%		0.00%	141.8	98.90%		1.10%	129.6	96.92%		3.08%
Mechanic Falls	104.6	99.03%		0.97%	107.6	99.14%		0.86%	132.7	99.55%		0.45%	81.1	99.76%		0.24%
Old Town & Milford	483.0	99.23%	0.75%	0.01%	451.3	98.88%	1.12%	0.002%	486.0	99.90%	0.10%	0.000%	541.3	98.33%	1.62%	0.05%
Orono	370.2	99.64%		0.36%	380.7	99.62%		0.38%	413.7	100.00%		0.00%	470.1	99.69%		0.31%
Paris UD	97.5	100.00%		0.00%	102.3	100.00%		0.00%	115.6	100.00%		0.00%	107.6	100.00%		0.00%
Portland & PWD	6,236.7	93.25%	2.67%	4.08%	6,287.2	92.10%	2.84%	5.06%	6,657.6	94.15%	3.21%	2.64%	6,955.5	90.94%	4.88%	4.18%
Rockland	968.0	90.76%	9.24%	0.00%	1,006.4	90.54%	9.46%	0.00%	906.2	90.50%	9.50%	0.00%	973.9	81.99%	18.01%	0.00%
Saco	618.5	99.52%	0.31%	0.17%	694.1	99.58%	0.33%	0.09%	671.8	99.53%	0.43%	0.05%	811.3	99.26%	0.48%	0.26%
Skowhegan	370.0	95.65%	2.52%	1.83%	308.3	96.22%	2.43%	1.35%	338.5	98.49%	1.30%	0.22%	336.6	97.97%	0.73%	1.30%
South Portland & Cape Elizabeth	1,992.0	98.87%	0.40%	0.57%	2,044.4	99.51%	0.49%	0.32%	2,129.7	99.89%	0.00%	0.11%	2,232.6	98.89%	0.95%	0.16%
Westbrook & PWD	917.9	99.52%		0.48%	905.4	99.18%		0.82%	1,109.5	99.88%		0.12%	1,211.7	99.87%		0.13%
SUM	**25,133.4**				**24,508.7**				**26,742.1**				**28,700.6**			
MEAN	**1,092.8**	**97.50%**	**2.16%**	**1.27%**	**1,065.6**	**97.64%**	**2.03%**	**1.23%**	**1,114.3**	**97.42%**	**3.40%**	**0.60%**	**1,195.9**	**97.21%**	**3.04%**	**1.02%**
MEDIAN	**598.5**	**98.88%**	**1.36%**	**0.57%**	**567.2**	**99.06%**	**1.12%**	**0.36%**	**555.4**	**99.50%**	**0.80%**	**0.11%**	**596.7**	**98.61%**	**1.51%**	**0.26%**

Notes: [1]Volume data was obtained from monthly Discharge Monitoring Reports entered and submitted through NetDMR by each Facility
[2]Total Volume: Total Volume Taken on by System = Secondary Treatment Volume + Primary Treatment Volume + CSO Volume + SSO Volume (SSO Volumes too small to effect Percentages, therefore not displayed)