

Supplementary Information

Indicator C: Combined Sewer Overflows

State of Casco Bay 6th Edition

References

Maine Department of Environmental Protection. 2020. Maine Combined Sewer Overflow 2019 Status Report. Document No. DEPLQ0972L-2020. Contact Michael S. Riley, P.E., CSO Abatement Coordinator, Bureau of Water Quality, Maine DEP, Augusta, Maine. Available at <https://www.maine.gov/dep/water/cso/>. Accessed June 15, 2020.

Maine Department of Environmental Protection. 2017. Maine Combined Sewer Overflow 2016 Status Report. Document No. DEPLQ0972I-2017. Contact Michael S. Riley, P.E., CSO Abatement Coordinator, Bureau of Water Quality, Maine DEP, Augusta, Maine. Available at <https://www.maine.gov/dep/water/cso/>. Accessed December 17th, 2019.

Maine Department of Environmental Protection. 2009. Maine Combined Sewer Overflow 2008 Status Report. Document No. DEPLW0972-2009. Prepared By John N. True, P.E., CSO Coordinator, Division of Water Quality Management, Bureau of Land and Water Quality Control, Department of Environmental Protection.

Further Reading

Maine Department of Environmental Protection. (n.d.). *Combined sewer overflow program*. Combined Sewer Overflow Program. Retrieved from <https://www.maine.gov/dep/water/cso/>.

Information about Combined Sewer Overflows in Maine and resources for CSO permits. You can find detailed reports about CSO's in each municipality and progress on CSO abatement.

Casco Bay Estuary Partnership. 2010 State of the Bay Conference Poster: Combined Sewer Overflows. https://www.cascobayestuary.org/wp-content/uploads/2021/01/2010_cbep_sotb_poster_csos.pdf

A poster created for the 2010 State of the Bay Conference that visually illustrates combined sewer overflows.

Methods and Data Sources

Data in combined sewer overflows was sourced from Maine's Department of Environmental Protection (DEP) (for regional, town by town totals and locations of permitted discharges) and the Portland Water District (PWD) (for data on Portland's CSO volumes and events). The DEP data was drawn from the agency's annual CSO reports. Data in the reports extends back to the late 1980s, but because of poor data quality prior to about 1997, we only reviewed data since the late 1990s. The PWD data was received in a series of e-mails from staff at the Portland Water District over a period of years. December reports from PWD provide convenient annual summaries of the year's discharges.

Weather and precipitation data for the Portland Jetport was retrieved from NOAA's National Centers for Environmental Information Climate Data Online APIs., specifically via API v2. Information on this API is available here: <<https://www.ncdc.noaa.gov/cdo-web/webservices/v2>>. Documentation on specific datasets is available at: <<https://www.ncdc.noaa.gov/cdo-web/datasets>>.

Graphics presented in the State of Casco Bay report mostly depict the raw data, so there is little data analysis occurring behind the scenes. The fitted line in the primary figure represents a standard linear regression model; results are similar for robust regression. Statistical summaries presented in the table aggregate values from the data. Calculation of percent reduction compares mean discharges from three earlier years in the historic record (1997-199) with three recent years (2017-2019). Additional statistical analyses were conducted, for example, to calculate mean annual rates of reduction in discharges using several modeling strategies, but results were not presented.

Access to data and summary of data analysis can be found at <https://github.com/CBEP-SoCB>. For a full archive of data and all analyses steps head to <https://github.com/CBEP-SoCB-Details>.