

Low Flow Statistics Tools: U.S. Environmental Protection Agency Issues October 2018 Input for NPDES Permit Writers



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The United States Environmental Protection Agency (“EPA”) issued an October 2018 publication titled: *Low Flow Statistics Tools – A How-To Handbook for NPDES Permit Writers (“Handbook”)*

See EPA-833-B-18-001.

EPA states that the *Handbook* describes “how to estimate low flow statistic values in a variety of situations using three publically available tools.”

Clean Water Act National Pollution Discharge Elimination System (“NPDES”) permits specify limits for various “parameters” for each outfall at a facility. A parameter is a particular attribute or characteristic of the facility’s wastewater discharge. The permit will generally include parameters for specific chemicals or substances (such as ammonia or copper, etc.). It will also likely contain generic pollutant parameters such as BOD, COD, or color which simultaneously measure the effect of specific pollutants.

The permit will restrict the quantity, rate, and/or concentration of pollutants that the point source can discharge into the waterbody. A schedule for compliance with the applicable effluents will be included. Further, the permit is likely to contain provisions requiring various measurements of the wastewater stream such as temperature or flow rate.

The NPDES permits transform generally applicable effluent limitations and other standards into the obligations of the individual dischargers. The application of a particular parameter limit or condition to a facility is driven by two Clean Water Act programs. They are the national categorical standards (technology-based limits) and state water quality standards (water quality-based limits).

EPA states that the intended audience for the *Handbook* are NPDES permit writers. They are described as often needing to calculate low flow statistics for reasonable potential analyses and water quality-based effluent limitation calculations or to confirm estimates provided by the permittee during the development of an NPDES permit.

A low flow statistic is defined by the *Handbook* as an estimate of the lowest flow event in a stream or river that would be expected to occur over some period of record. NPDES permit writers are stated to typically use such estimates when authorizing a regulatory mixing zone and associated dilution credits or dilution factors for use in a reasonable potential analyses and/or water quality-based effluent limitation calculations. Note that mixing zones are an area or volume of water in which a point source discharge is

permitted to exceed the applicable water quality standards. This is the area or zone in which the initial effluent dilution occurs.

The *Handbook* addresses topics such as:

- Investigating the Watershed
- Estimating Low Flow Statistics with SWToolbox and WREG

Software tools addressed include:

- StreamStats
- SWToolbox
- WREG

A link to the *Handbook* can be found [here](#).