

**EPA New England Guidelines to States for Characterizing TMDL Allocations for
NPS/Stormwater
April 2002**

In anticipation of EPA's Phase II Stormwater regulations, we need to change the way we've been characterizing TMDL allocations for NPS/stormwater. Here is some information on what needs to be done differently, why, how, where, and by when. As background, keep in mind the TMDL formula:

$$\text{TMDL} = \text{WLA} + \text{LA (including background)} + \text{MOS (margin of safety)},$$

with seasonal variation considered.

Past and Current Practice:

TMDLs approved to date have identified point sources as recipients of "waste load allocations" (WLA) in the form of individual waste load allocations for each permitted discharger. Most TMDLs have identified NPS/stormwater as recipients of "load allocations" (LA) in the form of a gross allotment, and have not separated natural background from NPS.

Legally, any point source discharge that is subject to an NPDES permit must be included in the WLA portion of a TMDL. Therefore, current permittees under the stormwater phase I program should also be considered in the WLA part of the equation. These permittees include dischargers authorized under EPA's existing multisector general permit (several categories of industrial activity), and existing construction general permit (disturbance > 5 acres). Also included in the WLA would be recipients of any individual NPDES permits that include stormwater discharges.

By definition, stormwater from runoff discharged through discrete conveyances (e.g. pipes) has always been considered a point source of pollution. However, if the discharge has not required an NPDES permit, then EPA has not required the assignment of a WLA in a TMDL. Rather, the states have had the discretion to include such discharges in the LA side of the TMDL equation. As more stormwater discharges become subject to NPDES permit requirements under phase II, more TMDLs involving regulated stormwater, but lacking a WLA for that stormwater, could be subject to legal challenge.

New Characterization of TMDL Allocations for NPS/Stormwater

Once new stormwater phase II general permits are issued, stormwater discharges covered by these general permits will be considered point sources subject to WLA assignment in the TMDL, instead of LA assignment (as in the past). This stormwater WLA can still be expressed as a gross allotment (rather than individual allocations for separate pipes, ditches, construction sites, etc.).

Under What Conditions is a WLA for Stormwater Needed?

Whether or not a WLA for regulated stormwater is needed in the TMDL depends on the nature of the water quality problem addressed by the TMDL. Generally, a WLA needs to be assigned for stormwater when:

- Stormwater causes or contributes to water quality standard non-attainment, and
- Sources of stormwater are subject to the NPDES permit program.

Under these two conditions, the TMDL formula could appear as follows:

TMDL = WLA non-stormwater point sources (if any) + WLA regulated stormwater point sources + LA (including background + unregulated stormwater/NPS) + MOS, with seasonal variation considered.

Examples:

1. An example of when a stormwater WLA is probably *unwarranted* could involve a point-source-dominated waterbody with impairment due to low dissolved oxygen during dry weather conditions; the TMDL defines critical conditions as low river flow combined with design facility flow; stormwater is not considered or known to cause or contribute to the impairment. Although stormwater pollutant loading may contribute to sediment oxygen demand (SOD) and sediment-nutrient flux that often contribute to low-flow DO problems, the TMDL need not specify these factors as WLAs. Rather, the SOD would be appropriately addressed in the LA portion of the TMDL.
2. An example of when a stormwater WLA would be *warranted* could involve a eutrophic lake impaired by stormwater pollution, with phase I or II regulated discharges in the watershed.
3. An example of when a stormwater WLA would *probably be warranted* could involve point and nonpoint sources contributing nutrients to an impaired river or stream; the TMDL for total phosphorus defines critical conditions as low river flow (for the impact of algal respiration and SOD on the DO water quality standard), and quantifies the role of phosphorus loadings under wet weather conditions. If the stormwater came from regulated sources, then a stormwater WLA should be assigned, instead of lumping the stormwater allocation into the LA.

Estimating the Stormwater WLA

Waste load allocations among point source dischargers are usually based on the relative contribution of pollutant load to the waterbody. We realize that estimating an aggregated load contribution to a particular waterbody from the stormwater phase I and II sources is imprecise, given the variability in sources, runoff volumes, and pollutant loads over time. We therefore anticipate that any stormwater WLA portion of the TMDL may be based on a rough estimate.

The simplest way to estimate a gross regulated-stormwater WLA could probably be done on a watershed basis using land use analysis and export coefficients to estimate loading.

One option might be to assess land area involved in urban and industrial uses and assign loading from that area to a WLA. If only part of a given community is regulated under phase II, the WLA estimate could be limited to the regulated land area (see “urbanized areas” delineated on stormwater maps). We’re interested in working with you to develop reasonable approaches that work for your TMDLs.

What stormwater is regulated under phase II?

NPDES-permitted stormwater activities under phase II include discharges from:

- Municipal industrial activities (which will be covered by the existing phase I multi-sector general permit);
- Construction activities between 1-5 acres (which will be covered by the small construction general permit). EPA expects to cover both small and large construction under one permit.
- Small regulated municipal separate storm sewer systems (which will be covered by small MS4 general permit(s)). EPA Region I [and, if applicable, state] intends to develop two different general permits for the MS4 category:
 - one for traditional municipal separate storm sewer systems in urbanized areas, and
 - one for the non-traditional MS4 sources such as municipal, state, or federally owned hospitals, prisons, DOT road systems, universities, etc. that are wholly or partially located in an urbanized area (as delineated by the Bureau of Census; see the stormwater maps).

Location, location, location – Where stormwater WLAs might be an issue

The existing NPDES multi-sector general permit (for industrial activities) and the forthcoming [if applicable, state] NPDES construction general permit both apply to stormwater activities *state-wide*.

In contrast, the forthcoming [state or federal] NPDES MS4 general permit will be limited to *urbanized areas* affecting [number of municipalities in applicable state]. (There is also an obligation to designate any MS4 located outside an urbanized area that is connected to and contributes substantial pollutants to a regulated MS4.) The following municipalities in [state] (plus any Tribal reservations) have been automatically designated as regulated small MS4s by EPA in the December 8, 1999, Federal Register publication of the phase II stormwater final rule:

[list of municipalities]

This list is based on the 1990 census and may increase in 2002 when the year 2000 census data are available.

Timing

Since phase I NPDES stormwater permits are already in place, phase I regulated discharges already need to be considered in the WLA part of the TMDL equation where stormwater causes or contributes to the impairment. The state has some discretion as to when to start including phase II regulated discharges. One approach is to start right now to include in the WLA all regulated discharges in areas that will clearly be covered by phase II stormwater general permits. The latest date to make the switch from including phase II stormwater in LA to WLA would be March 10, 2003. Since some TMDLs take months or years to develop, we need at least to be planning for this switch now.

Attached, for your information, are:

- (1) A list of current multi-sector general permit holders in [state].
- (2) Draft regional maps for [state] showing clusters of municipalities with urbanized areas (as delineated by the US Census Bureau using the 1990 census), watershed boundaries, and 303(d) listed waterbodies.
- (3) A table of the categories of stormwater phase II general permits.