State of Oregon
Department of Environmental Quality

Industrial Stormwater Advisory Committee
Meeting 7- February 16, 2010

Jenine Camilleri and Paula Calvert, Stormwater Coordinators
Surface Water Management, Water Quality Division

Subject: Discharges to Impaired Waterbodies

At the 6th advisory committee meeting in January, DEQ began discussing with the committee options for new requirements for discharges to impaired waterbodies. Since that meeting, DEQ has had further discussions with the Watershed Management and Standards and Assessment sections, and the DEQ regional stormwater managers to refine and evaluate approaches for the new permits. As part of this analysis, DEQ evaluated the new requirements for discharges to impaired waterbodies recently adopted by EPA and the Washington Department of Ecology (please see chart below that summarizes these requirements).

Discharges to waterbodies with TMDLs:

Background:
DEQ conducted an initial review on Oregon's TMDLs to determine if stormwater discharges were considered in the source assessment of the TMDL and whether stormwater was identified as a significant source. We subsequently met with TMDL staff to further understand how stormwater is addressed in the development of the TMDLs. We learned that during source assessment, the TMDL program evaluates the significant sources of the impairment. Typically, stormwater is not considered a significant source because of the pollutant/impairment (e.g., temperature) the TMDL is addressing. Most TMDLs either do not mention stormwater or specifically state that storwmater is not considered a significant source of the impairment. As a result, there are only a few TMDLs that have Waste Load Allocations for stormwater. Based on this review, our current understanding is that the only TMDL which identifies reductions from industrial stormwater is the Columbia Slough TMDL.

Recommended Approach:
DEQ will presume that compliance with the permit will meet the requirements of the TMDL; *UNLESS*

- TMDL identifies that reductions are needed from industrial stormwater (e.g., Columbia Slough TMDL) DEQ will determine appropriate additional requirements for the industrial sources within the basin to ensure compliance with the TMDL such as requiring additional monitoring, specific BMPs or numeric effluent limits. These additional requirements will be identified either in the permit for the Columbia Slough or in the permit assignment letter that will be available for public notice and comment at the time of permit assignment.

Discharges to Impaired Waterbodies without TMDLs:

Background:
DEQ is evaluating the appropriate requirements for discharges to impaired waterbodies without TMDLs. We met with the Water Quality Standards and Assessment staff to learn more about

DEQ's Integrated Report that identifies waterbodies that do not meet water quality standards and therefore, need a TMDL.

Approximately every two years, DEQ assesses the quality of waterbodies throughout the state pursuant to federal Clean Water Act Section 305(b) and identifies impaired waterbodies needing TMDLs pursuant to Section 303(d). DEQ submits an Integrated Report to EPA on the condition of Oregon's waters, which includes the 303(d) list of impaired waterbodies needing TMDLs. The Integrated Report also identifies impaired waters that do not need TMDLs, waters that are not impaired, and waters where data is not sufficient to determine the condition of the waterbody.

The current 303(d) list is based on the 2004/2006 Integrated Report, which is located at: http://www.deq.state.or.us/wq/assessment/rpt0406/search.asp. In the 2004/2006 Integrated Report, waterbodies were listed as needing a TMDL for approximately 41 different pollutants. Many of the waterbodies were listed as impaired for temperature, fecal coliform and dissolved oxygen. There are some listings for toxic substances (e.g., copper, iron, PCBs). These substances may be present in industrial stormwater, depending on current or past activities (e.g., legacy pollutants) at the industrial site. Please see the attached chart with the listings of toxic substances that are on the current 303(d) list needing TMDLs. DEQ is currently developing the 2010 Integrated Report and assessing water quality throughout the state. DEQ will be submitting the 2010 Integrated Report, including an updated 303(d) list, to EPA later this year.

To determine if a waterbody is impaired, DEQ reviews available data and information, including data from the agency's monitoring activities and data submitted by third parties. DEQ compares the data and information to the water quality standards that apply to each waterbody. Standards include beneficial uses, narrative criteria which may address general levels of protection for beneficial uses, and numeric criteria for specific pollutants. Some pollutants may have specific numeric criteria depending on the beneficial use being protected (e.g., temperature and dissolved oxygen). Numeric criteria for other pollutants such as toxic substances protect general aquatic life or human health beneficial uses. To determine if waters are impaired, DEQ applies the most stringent criteria for toxic substances that are appropriate to the waterbody (freshwater, estuarine, marine). The water quality criteria for toxic substances can be found in OAR 340-041-0033, Table 20.

***Options DEQ is considering**:*

At the 6th advisory committee meeting in January, DEQ discussed with the committee the option of requiring facilities that have impairment pollutants present in their discharge to meet numeric effluent limits in the new general permits at the end of the pipe. Based on feedback from the committee and further discussions internally, DEQ has identified some challenges with developing numeric effluent limits for these discharges and seeks additional input from the committee on this issue. DEQ has considered the following options for the new requirement for discharges to impaired waterbodies needing TMDLs. These options are not mutually exclusive and we could choose more than one option (e.g., more rigorous monitoring and BMPs).

- **Monitoring**
  - Facilities will screen for the impairment pollutants on the 303(d) list needing a TMDL
    - If the pollutants are present in the discharge (based on one grab sample), then they will monitor once a year for the impairment pollutants for the permit term.

        - If grab sample results show that impairment pollutant(s) are present in their discharge in concentrations above the water quality standards, DEQ may require facilities to conduct more rigorous monitoring such as collecting composite grab samples of their discharge on a quarterly basis.

- **More rigorous BMPs**
    - Facilities will screen for the impairment pollutants to determine if they are present in discharge. If they are present in their discharge, then they will monitor for the impairment pollutants on an annual basis. If the monitoring results show that impairment pollutant(s) are present in their discharge in concentrations above the water quality standards, DEQ will require facilities to install more rigorous BMPs such as treatment BMPs to address the pollutant(s) of concern.

- **Numeric effluent limits**
  DEQ has identified the following issues that need resolution and further feedback for the committee:

    - **Issue 1**: Should DEQ develop the numeric effluent limits based on the acute water quality standards?
        - Currently under DEQ's permits, stormwater monitoring requirements for benchmark pollutants are based on the acute, aquatic life criteria because these acute criteria better reflect the short-term nature of stormwater discharges. Since the human health criteria are based on lifetime exposures, it is difficult to translate the human health criteria into a numeric effluent limit for a limited duration stormwater discharge. Given these challenges, DEQ is considering only requiring facilities to meet numeric effluent limits based on the acute aquatic life criteria. This approach is similar to the requirements adopted by the Department of Ecology.

    - **Issue 2**: Should DEQ develop the numeric effluent limits based on the most stringent criteria (whether it be the human health or acute criteria)? For human health related impairments, should the numeric effluent limits be developed using the new human health criteria or the current criteria?
        - If DEQ develops numeric effluent limits based on the human health criteria, DEQ is considering that the limits are based on the current human health criteria. The human health listings for 2010 Integrated Report will be based on the current human health criteria, but the new human health criteria will likely be adopted by the time the new permits are in effect. Given that the new human health criteria will dramatically increase in stringency, it may be difficult for facilities to control the pollutants in the discharge to these low levels.

    - **Issue 3:** Should DEQ require facilities to meet numeric effluent limits for only those impairment pollutants that are typically present in industrial stormwater?
        - Given the variety of pollutants on the 303(d) list, DEQ is considering focusing on the impairment pollutants that are typically present in industrial stormwater discharge. This approach is similar to the requirements adopted by the Department of Ecology. Facilities would not be required to monitor for all the impairment pollutants on the 303(d) list for a given watershed, but only those pollutants that are typically present

in industrial stormwater. The following pollutants may be present in industrial stormwater: metals, persistent and bio-accumulative pollutants (e.g., mercury, PCBs, pesticides) and sediments.

- **Issue 4:** Consequences of exceeding a numeric effluent limit
  - DEQ is evaluating the consequences for facilities that exceed a numeric effluent limit and has the flexibility to develop consequences such as, 1) requiring the facility to install treatment BMPs, 2) conduct more rigorous monitoring OR 3) citing a permit violation for failing to meet the limits.

***Feedback Requested**:*
For the February 16th meeting, DEQ seeks input from the committee on the following questions:

- Should DEQ require facilities to meet numeric effluent limits if they are discharging impairment pollutants to 303(d) listed waterbody needing a TMDL?
- Given the short-term nature of stormwater discharges and the challenges with developing numeric effluent limits based on human health criteria, should DEQ require facilities to meet numeric effluent limits based on the acute, aquatic life criteria?
- If DEQ developed effluent limits based on the human health criteria, should DEQ use the current or new criteria?
- Should DEQ only require numeric effluent limits for impairment pollutants that are typically present in industrial stormwater?

Watershed Permits
DEQ is considering developing watershed permits that have specific requirements for discharges to impaired waterbodies. DEQ has considered the following options/issues that are associated with developing watershed permits:

- DEQ would issue industrial stormwater general permits for each watershed. These permits would be "generic" permits where the conditions would all be the same. These permits would be subject to public notice and comment.
- DEQ would address any additional requirements for discharges to impaired waterbodies in the permit assignment letters for the specific watershed permits. When DEQ regional offices are assigning facilities coverage under the watershed permits, they will work with the basin coordinators to determine if additional requirements are necessary related to impairment pollutants (such as, additional monitoring, specific BMPs or numeric effluent limits). These additional requirements would be described in the draft permit assignment letters which would be subject to public notice and comment along with the facilities' Stormwater Pollution Control Plans.
- DEQ would establish up front in the "generic" watershed permit the conditions that will guide the development any additional requirements that are specified in the permit assignment letters. For example, DEQ may have conditions in the "generic" watershed permit that identifies when facilities will be required to meet numeric effluent limits.
- DEQ is estimating that it will take a maximum of 3 years to issue all 900 facilities coverage under the watershed permits. The regional offices would issue facilities coverage under these permits based on the watershed cycle so the watershed permits would be staggered. As a result, each watershed permit would have its own issuance/expiration date. Please see the excel chart handout that lists the approximate number of facilities within each basin.

Benefits of issuing watershed permits:

- DEQ can stagger permit issuance which will provide added efficiencies by staggering plan review, review of Discharge Monitoring Reports and review of corrective action reports.
- DEQ can identify for the facilities the impairment pollutants at issue for a given watershed rather than having the facilities use a tool like EPA's Water Locator Tool to determine whether they are discharging to an impaired waterbodies.
- Water quality staff in the regional office will work together to determine if there any additional requirements that are necessary to address water quality concerns for a specific watershed.

Summary Chart:
The chart below describes new requirements for discharges to impaired waterbodies recently adopted by EPA and the Washington Department of Ecology as well as options DEQ has considered for developing new requirements in Oregon.

	EPA Permit	**Washington Permit**	**Options/ Issues DEQ is considering**
New Discharges	If impairment pollutant(s) will be present in discharge, must submit data that establishes that discharge will not cause or contribute to a water quality standards violation at point of discharge to waterbody or there is remaining WLA in TMDL.	Same as EPA requirements	• Adopt same requirements as EPA. • Develop a monitoring protocol for determining whether discharge causes/contributes to a water quality standards violation.
Existing Discharges With TMDL	• EPA will review TMDL to determine if it applies to individual facility or sector and whether additional requirements are necessary to comply with TMDL. • Facilities are not required to monitor for impairment pollutants or meet any additional requirements unless they are notified by EPA during the permit issuance process. • If TMDL identifies that waterbody is impaired from upstream tributaries, EPA will determine if additional controls are necessary for facilities discharging to upstream tributaries.	• Ecology will presume compliance with permit will meet TMDL if: 1. TMDL has general WLA for industrial stormwater discharges for parameter present in discharge, but has not identified specific requirements. 2. TMDL does not have WLA for industrial stormwater discharges for a parameter present in discharge, but has not excluded these discharges. Majority of facilities will fall under these 2 categories.	• Presume that compliance with permit will comply with majority of TMDLs, *UNLESS:* • TMDL identifies that reductions are needed from industrial stormwater. DEQ will determine during the permit assignment process whether additional requirements are necessary to comply with TMDL such as requiring (1) additional monitoring of discharge; (2) specific BMPs to address the TMDL parameters, or (3) numeric effluent limits.

		• If TMDL has explicit WLA for facility's discharge, facility must meet TMDL requirements.	

Existing Discharges Without TMDL	• EPA will notify facility of the impairment pollutants they will monitor. Facilities will screen for these pollutants to determine if they are present in discharge (collect one grab sample). Depending on the listing, facilities will monitor for human health or acute aquatic life criteria.
	• No monitoring for certain impairment pollutants (e.g., temperature, hydrologic modifications, pollutant for which no standard analytical method exists).
	• If impairment pollutant(s) present, monitor annually (collect one grab sample). If monitoring results show that impairment pollutant is present in discharge in concentrations above water quality standards, permit is not clear what additional actions the facility must take.
		• Certain facilities must meet numeric effluent limits based on acute aquatic life criteria at end of the pipe for impairment pollutants typically present in industrial stormwater[1].
		• Ecology establishes site specific limits by evaluating receiving water type (freshwater or marine), hardness, the acute criteria, and the dissolved/total translator factor.
		• Facilities can request compliance schedule from meeting limits (max. 2 years). Ecology will issue order granting or denying the request and require interim measures such as additional monitoring.
		• It is a permit violation is facility's fail to meet effluent limit, unless facility is operating under the conditions of the compliance schedule.
			• Require additional monitoring
			• Require more rigorous BMPs to address impairment pollutants.
			• Meet numeric effluent limits for impairment pollutants at the end of the pipe.
			  ○ Should facilities meet numeric effluent limits for impairment pollutants typically present in industrial stormwater?
			  ○ Should the limits be based on the acute, aquatic life criteria?

[1]Zinc; copper; pH; mercury; phosphorus; ammonia, and fecal coliform for facilities that Ecology determines are a source of bacteria to the receiving stream.