

Response to Comments on the Draft Modifications to the North Coast Temperature Waste Load (WLA) and Load (LA) Allocations Revisions (8/29/2006)

Background

In December 2003, the Environmental Quality Commission adopted new temperature criteria for the State of Oregon. The new criteria were approved by the United States Environmental Protection Agency (USEPA) on March 2, 2004. These modifications to the standards occurred after the issuance of several Total Maximum Daily Loads (TMDLs) including: North Coast Subbasins (June 2003), Tillamook Bay (June 2001), and Nestucca Bay Watershed (April 2002) TMDLs. This standard modification, along with a pending re-issuance of NPDES permits for facilities in these watersheds in 2006, necessitated a recalculation of the temperature waste load allocation (WLA).

A Public Comment Draft entitled “Addendum – Modification to Temperature Wasteload Allocations based on new Temperature Standard – North Coast Subbasins, Tillamook Bay, and Nestucca TMDL” was released for public comment on Wednesday, April 26, 2006 and was open until 5:00 p.m., Monday June 26, 2006. DEQ received only one comment on the draft WLA document. A copy of the Public Notice and Fact Sheet are attached.

The comment and DEQ’s response are documented below.

Comment

From: Helen Rueda, June 24, 2006

Page 4; second equation:

This equation appears to be missing something. Results using it are off by a factor of 0.27 from those given in the document. The units in the result are in (kcal*seconds)/day rather than kcal/day.

Response

The discrepancy in the second equation (Equation 2) was the value used for 7Q10 flow. The symbol Q_R usually represents the 7Q10 flow but in the legend Q_R was documented as a quarter of the 7Q10. If the 7Q10 value is used in the equation instead of the percentage of the 7Q10 the inconsistency in results is produced. DEQ has revised the legend for the 7Q10 symbol (Q_R) to read as follows: Critical upstream river flow – percentage of the 7Q10 low flow statistic (cfs).

The equation used to calculate kcal/day is correct based on the aforementioned discussion. DEQ did, however, change the unit designation for the equation in accordance with EPA’s comment to represent kcal/day. The problem arose from the incorrect use (cfs) as a unit designation instead of (ft³/sec).

$$H_{WLA} = (Q_{PS} + Q_R) \cdot (\text{Max}\Delta T(^{\circ}\text{C})) \cdot \left(\frac{1}{135.3} \left(\frac{m^3}{ft^3} \right) \right) \cdot \left(1000 \left(\frac{kg}{m^3} \right) \right) \cdot \left(86400 \left(\frac{sec}{day} \right) \right) \cdot \left(c \left(\frac{kcal}{kg} \right) \right)$$

T_R : Upstream river temperature criterion

T_{WLA} : Maximum allowable point source effluent temperature

$\text{Max}\Delta T$: Maximum Allowable Change in river temperature after full mixing – up to 0.3°C for all sources

Q_R : Critical upstream river flow – percentage of the 7Q10 low flow statistic (cfs)

Q_{PS} : Point source effluent discharge (cfs)

H_{WLA} : Allowable heat from point source effluent received by river (kcal/day)

c : Specific heat of water (1 kcal/kg °C)

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
OREGON OPERATIONS OFFICE
811 S.W. 6th Avenue
Portland, Oregon 97204

June 24, 2006

Reply To
Attn Of: OOO

Mr. York Johnson
Oregon Department of Environmental Quality
2020 SW 4th Avenue, Suite 400
Portland, OR 97201

Dear Mr. Johnson:

Following are the Environmental Protection Agency's (EPA) comments on the draft Proposed Temperature Wasteload Allocation Modifications for Coastal TMDLs, released for public comment on April 26, 2006.

This draft document presents wasteload allocations for point sources in the TMDLs for the North Coast Subbasins updated to reflect Oregon's current water quality standards adopted in 2002. In general, EPA finds the information presented in the wasteload allocation modifications to be clear and comprehensive. EPA has only one minor comment on the document.

Page 4; second equation:

This equation appears to be missing something. Results using it are off by a factor of 0.27 from those given in the document. The units in the equation result in (kcal*seconds)/day rather than kcal/day.

EPA would like to acknowledge the careful and thorough work that went into developing these updated wasteload allocations. We commend you for the efforts you have made to date and look forward to the submittal of the final wasteload allocation modifications. If you have any questions regarding comments on the draft, please contact me at 503-326-3280.

Sincerely,

A handwritten signature in black ink, appearing to read "Helen Rueda".

Helen Rueda
TMDL Project Manager