STATE OF WASHINGTON
PUGET SOUND ACTION TEAM
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April 19, 2007

Mr. Jim La Spina
Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600

Dear Mr. La Spina:

Thank you for the opportunity to comment on the Draft Industrial Stormwater General Permit, released by the department February 21, 2007. I am submitting these comments in my role as director of the Puget Sound Action Team staff rather than as the chair of the multi-agency Puget Sound Action Team partnership.

Stormwater runoff is one of the leading causes of water pollution in urban areas of Puget Sound. Stormwater also harms many aquatic species and their habitat. The Governor's Salmon Recovery Office and the Puget Sound Salmon Recovery plan have both cited stormwater as one factor limiting recovery of salmonids listed as threatened under the Endangered Species Act. Recently, NOAA Fisheries scientists have conducted studies to determine the causes of very high percentages (75% and up) of otherwise healthy coho salmon dying in Seattle urban creeks before spawning. The scientists find that something in the water is causing the deaths, that higher rates of mortality are observed immediately following rain events, and that mortality is much higher in watersheds with higher percentages of impervious surface cover. Given these observations, it seems highly probable that stormwater runoff plays an important role in the high mortality rates.

NOAA Fisheries scientists have also studied the adverse effects of copper on the olfactory systems of juvenile coho salmon and have found that "neurophysiological and behavioral responses to an alarm pheromone are reduced or eliminated by a short-term exposure (3 hours) to low levels of dissolved copper (< 10 µg/L)…"[1] Copper is commonly found in stormwater discharges, including discharges from industrial sites, and copper loadings in stormwater are

[1] "The impacts of dissolved copper on olfactory function in juvenile coho salmon," current research by Baldwin et al, 2007, Northwest Fisheries Science Center, NOAA Fisheries. From the following web site: http://www.nwfsc.noaa.gov/research/divisions/ec/ecotox/fishneurobiology/copperimpacts.cfm.

sometimes very high. We believe that in order to protect Puget Sound's water quality and biological resources, copper loadings in stormwater discharges must be reduced significantly.

Scientists contributing to the Puget Sound Assessment and Monitoring Program have found that English sole residing in urban areas of the Sound have much higher incidences of lesions on their livers than their counterparts found in less urban areas. Scientists have demonstrated that elevated levels of PAHs (polycyclic aromatic hydrocarbons) in sediments are associated with increased evidence of these lesions. PAHs are often found in stormwater runoff, especially on particles in this runoff.

Given the magnitude and seriousness of these and other problems caused by stormwater in the basin, this permit plays a critical role in our overall effort to manage stormwater and have a healthy and safe Puget Sound.

We support many aspects of the draft permit, especially the water quality-based benchmarks and action levels for copper and zinc (as opposed to technology-based). These toxins are commonly found in stormwater runoff and, in the case of copper, have been shown to have significant adverse effects on salmon. We also support sampling of discharges, use of the department's stormwater manuals for selection of BMPs, compliance with water and sediment quality standards, graduated action levels when exceedances occur, inspections, and reporting.

However, we have several key concerns regarding the current draft of the permit. Specifically, we are concerned that:

- The four corrective action levels appear to allow permittees to discharge stormwater throughout the life of the permit, even if they have repeated exceedances of numeric values that the department states should be met to protect water quality. We recommend the department revise the permit so that the corrective action levels include additional sampling requirements (see detailed comments) and require permittees to obtain an individual permit if they are unable to consistently meet numeric values for all parameters listed in the general permit.

- Not all permittees would be required to use the department's most recent versions of the stormwater management manuals. In Puget Sound, we recognize the department's 2005 edition of the *Stormwater Management Manual for Western Washington* as the region's baseline for treatment and flow control standards for stormwater, and source for many BMPs. As this is a new permit, we feel all permittees should be required to use the department's most recent edition of the appropriate regional manual.

The most fundamental question about this draft permit is this: *Will this permit as currently written move us forward sufficiently to be able to achieve the state's goal, as articulated by the governor and soon to be in law, of a healthy and thriving Puget Sound by 2020?* Reaching this goal will require strong, concerted action on many stormwater strategies, including rigorous development and implementation of stormwater general permits. I hope that as you work towards a final version of the permit, you keep this question squarely in mind, and that we will be able to

state categorically that this permit, once issued, moves our region forward at a level consistent with recovery of Puget Sound by 2020.

Attached you will find more detailed comments from our agency. Again, thank you for your work on this important issue and the opportunity to comment. If you have questions on these comments, please contact Bruce Wulkan, the PSAT Program Manager for stormwater and combined sewer overflows, at (360) 725-5455 or at bwulkan@psat.wa.gov.

Sincerely,

Brad Ack
Director

Detailed Comments on the Draft Industrial Stormwater General Permit
Submitted by the Puget Sound Action Team

The following specific comments are divided into three parts: Areas of concern, areas of support, and other comments.

Areas of Concern

- We are concerned that the four corrective action levels contained in S8, while requiring investigations, additional BMPs, and eventually an engineering analysis, appear to allow permittees to continue to discharge stormwater throughout the life of the permit, even if they have repeated exceedances of numeric benchmarks and action level targets that the department states should be met to protect water quality. Even level four corrective action, the highest response level, allows the permittee to request a waiver from having to implement treatment BMPs if the facility is not discharging to a 303(d) listed waterbody for the parameter of concern.

  We support incorporation of adaptive management in the permit, but feel that the response levels should be more protective of water quality and provide more information through targeted sampling. The permit should prevent future problems by controlling discharges known to contain pollutants, not just reacting to known problems. All new residential and commercial construction projects above a certain size are required to install treatment and flow control BMPs, yet this industrial permit does not automatically require such BMPs. Therefore to ensure water quality is protected, sampling and response levels must be adequate.

  We recommend that the department: 1) Revise level 4 corrective actions to require permittees to obtain an individual stormwater permit if action levels are exceeded a certain number of times; 2) Delete the waiver to install treatment BMPs in level 4 corrective actions; and 3) Require sampling for PAHs in level 2 corrective actions if routine sampling of TPH (total petroleum hydrocarbons; we recommend TPH rather than oil and grease, see detailed comments below) indicates presence of higher levels of hydrocarbons in discharges.

- We are concerned that permittees that received permit coverage prior to 8/01 would be allowed under this permit to continue to use the department's 2001 Stormwater Management Manual for Western Washington while new permittees are required to use the department's updated 2005 version of the manual (S3A3aii). In the Puget Sound region, the *Stormwater Management Manual for Western Washington* is recognized as the region's baseline for treatment and flow control standards, and source for many BMPs. As this is a new permit, we see no reason why all permittees shouldn't be required to adhere to the department's most recent edition of the appropriate regional manual. All cities and counties in western Washington covered by municipal NPDES permits will soon be required to adopt and use the 2005 *Stormwater Management Manual for Western Washington.* If municipalities are required to use the most recent edition of the manual, why shouldn't industries?

Areas of Support

- We support using water quality-based (as opposed to technology-based) benchmarks and action levels for copper and zinc. We feel the water quality based benchmarks and action levels for these two toxins is wholly warranted, given research by NOAA Fisheries that indicates that even low levels of copper have lethal and sub-lethal effects on salmon. (See our comments regarding this on page one.)
- We support required sampling of discharges, use of the department's stormwater manuals for selection of BMPs, compliance with water and sediment quality standards, graduated response levels when exceedances occur, inspections, and reporting.

Other comments

- We recommend using TSS (total suspended solids) as a base sampling parameter rather than turbidity. The department's stormwater management manuals use TSS as a treatment standard criteria rather than turbidity. Using TSS would also follow EPA's direction. The states of California, Oregon and Connecticut currently require sampling for TSS, according to the 6415 report.

- We are concerned that permittees discharging to waterbodies that are impaired for low dissolved oxygen, such as Hood Canal, are only required to sample for BOD (biological oxygen demand) (or COD, chemical oxygen demand), and not for nutrients. The action plan to restore Hood Canal implicates stormwater as one of the contributors to severely lowered oxygen levels in Hood Canal. We recommend requiring permittees to sample for nitrogen and phosphorous if they discharge to a 303(d) listed waterbody for low dissolved oxygen. If two years of sampling indicates no significant levels of the nutrients, sampling can then be suspended.

- We are concerned that permittees are not required to sample for temperature exceedances, even when discharging to a waterbody that is impaired for temperature and on the 303(d) list. We disagree with the fact sheet's assertion that stormwater does not contribute to temperature exceedances (page 75) – numerous studies show that stormwater temperatures increase when in contact with impervious surfaces and held in detention/retention ponds. We recommend requiring permittees to sample for temperature if they discharge to a 303(d) listed waterbody for temperature. If two years of sampling indicates that discharges should not increase receiving water temperature, sampling can then be suspended.

- We question why oil and grease is used as a baseline sampling parameter. Oil and grease is generally recognized as an inferior means of measuring hydrocarbons in stormwater discharges. We recommend using TPH instead as a baseline parameter. If TPH action levels are exceeded, permittees in level two corrective action should be required to also sample for PAHs.

- We recommend changing the sampling requirements as follows (rationale is included):
    - Require that a total of five, not four, samples are taken each wet season. This would allow for an easier assessment of median values.

- Require samples be taken within the first 12 hours of a storm, with an antecedent 24-hour dry period. We understand and appreciate that permittees had difficulties meeting the current permit requirement of sampling within the first hour of the storm. Yet it is important to attempt to capture the "first flush" of stormwater, and requiring sampling within the first 12 hours of a storm following at least one dry day appears to be a fair compromise between providing permittees with added flexibility while still providing valuable sampling data.
- Require at least two samples each year be taken in October and November. This would capture a "seasonal first flush", and is consistent with requirements in California's industrial stormwater general permit.
- Require that permittees sample from a range of discharge points from their site. This would help ensure that discharges from a given site are characterized, while providing permittees flexibility to choose which sites to sample.
- Require permittees to provide a brief narrative for their samples that describes when the sample was taken in relation to the storm event or when water began discharging from the stormwater pond. This would allow for better characterization and analysis of the sampling data.

- We question whether the timing is right to withdraw lead from the list of sampling parameters, given the department's decision to address lead in its next chemical action plan process. Withdrawing sampling for lead will foreclose the department's opportunity to learn more about lead loadings from industrial stormwater runoff.