

From: [Clay Patmont](#)
To: [Asher, Chance \(ECY\)](#)
Cc: [Dan Berlin](#); [Tom Wang](#); [David Templeton](#); [Mark Larsen](#); [Ryan Barth](#); [Matt Woltman](#); [Kathy Ketteridge](#)
Subject: Additional Regional Background Comments
Date: Tuesday, September 24, 2013 9:48:44 PM

Chance –

We understand that Ecology has been reconsidering its approach to setting regional background levels in Port Gardner, Elliott Bay, Seattle's East/West Waterways, and the Lower Duwamish Waterway, and we applaud that effort. As you know, Anchor QEA is representing more than 20 clients in these areas who have been working diligently to accomplish sediment cleanup. While we were initially hopeful that the regional background concept would be an effective tool to help move cleanups forward, the current approaches that Ecology has applied to date are far too stringent to be of any practical value for this purpose. As we have discussed, to facilitate moving sediment cleanups ahead, the regional background concept must provide sufficient differentiation between prospective sediment cleanup units and bay-wide contamination.

Current bedded sediment concentrations in all urban areas of Puget Sound are the product of a wide range of historical point and non-point source legacy releases, as well as ongoing non-point source inputs. Regional background needs to reflect future contaminant loading contributions from the upper and urban watershed areas, other urban stormwater sources, and also from definable far-field sources that cannot be reasonably controlled in any practicable or timely manner. To be an effective tool, regional background must allow sediments influenced by these regional sources to be distinguished from more discrete sediment sites that can be linked to more specific, and likely historical, operations.

For estuarine areas of the Lower Snohomish River, Lower Duwamish Waterway, and Seattle's East and West Waterways, regional background concentrations should be developed using an appropriate combination of riverine particulate sampling and recontamination modeling. Specifically:

- Regional background levels for the Lower Snohomish River and Lower Duwamish Waterway (LDW) should be derived based on considerations of sediment input from the Snohomish and Green Rivers, respectively, as well as lateral inputs (e.g., stormwater outfalls) that contribute to sediment deposition. Annual loads have been calculated in the LDW Feasibility Study (FS), which also calculates a weighted average for a number of the primary chemicals of concern. The recontamination modeling presented in the LDW FS also calculates that portion of the contaminant load that will settle in the LDW, which represents regional background for the LDW.
- The regional background values for Seattle's East and West Waterways should be different than the value applied for the LDW. Sediment entering the East and West Waterways comes from three primary sources: the Green River, LDW bedded sediments (periodically eroded during higher flows) and LDW lateral inputs. The weighted average concentration of each of the loads from these diffuse sources should be used to estimate the regional background for these Waterways.
- The concentration of suspended sediments entering the East and West Waterways are

different than the Green River suspended sediments concentrations. For example, much of the coarse fraction of the Green River suspended sediments settles out in the LDW, whereas modeling conducted as part of the Supplemental Remedial Investigation and FS for the East Waterway Operable Unit of the Harbor Island Superfund Site indicates that no sand particles enter the East Waterway. Moreover, suspended sediment samples collected by USGS as part of the Green River Study appear to have a larger proportion of coarse grain sizes (> silts) than anticipated. This could be due to the sampling method (pumping), which may preferentially collect coarse sediments, which have lower concentrations than fine grain fractions, and therefore bias the concentration low in the collected samples. Also, river particulate samples should be taken following dam release events (as well as large rainfall events) to fully characterize the suspended sediment concentrations that are transported into the estuaries.

- Measurements of Green River suspended sediments should be taken closer to River Mile 6 rather than at River Mile 10 to account for the contribution of diffuse lateral inputs that are entering the LDW.

For Elliott Bay and those areas of Port Gardner that are downstream of direct influence from the Lower Snohomish River (e.g., Everett East Waterway), regional background concentrations should be similarly developed using an appropriate combination of sediment trap sampling and recontamination modeling. Specifically:

- Sediment traps can be readily designed to provide for collection of high volume samples needed for trace contaminant analysis even in areas with relatively low net sedimentation rates (i.e., 0.1 centimeter per year or lower), simply by enlarging the effective diameter of trap. We have constructed and successfully deployed these types of traps in numerous areas to cost-effectively obtain the necessary sample volume.
- There are a number of “fingerprinting” methods that can be used to evaluate the sediment trap data to determine the relative significance of resuspended legacy sediment releases and ongoing non-point source inputs.
- Recontamination modeling can also be used to calculate inputs resulting from lateral inputs (e.g., stormwater outfalls) that contribute to contaminant loading outside of the immediate outfall depositional area. Again, the weighted average concentration resulting from lateral loading from diffuse sources should be used to estimate the regional background for these areas, corroborating the recontamination modeling values summarized above.

As always, please let me know if you have any questions. Thanks -

Clay Patmont

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August 29, 2013

Clay Patmont, Elliott Bay Regional Background discussion

Doing solely technical work (no legal work) for:

- County as technical reviewer – modeling translation, engineering for DD CSO.
- Port – small habitat restoration sites
- CalPortland –
- Lead for small parties group for LDW – allocation proceedings (liability separate from LDWG), technical support.

Captured the big issues with the alternatives

Don't like the bedded offshore sediment sampling.

RB should be set up so it is an incentive for PLPs to come to the table and work with Ecology. Versus the alternative – sit back and wait for someone to sue the PLP and bring them in. Coming to understanding what the site will recontaminate to - in the absence of definable sources – is key.

Signing up to a cleanup level that can't be achieved is a very big deal for PLPs – non starter.

We know a lot already about sediment trap and sediment modeling. Spatial distribution patterns for outfalls (Jeff Stern presentation) predicting where the plume is going and distribution is well known. Definable depositional footprint – contaminants don't move very far. CSO characterization well defined – stormwater not as defined – but storm drains likely have a greater flow if look at entire year so is spread further out but depositional zone modeling still applicable. Can also look at chemicals – specific markers for CSOs – can see plumes based on empirical data.

Have very sophisticated LDW and Elliott Bay models but don't necessarily have to use complicated models to show footprint around outfalls isn't that large.

If use modeling, question is how can we do it quickly and inexpensively?

Likes a combo of Alternatives 2 and 3 for establishing regional background. Sed trap sampling near smear zone (avoid areas where have high resuspension) to look at incoming sediment, use multiple lines of evidence. Then can understand if bedded sediments are being resuspended vs what's coming in. Thinks there is a lot of dynamic equilibrium going on that is biologically mediated by benthos.



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OFFICE OF
ENVIRONMENTAL
CLEANUP

September 17, 2013

Ms. Chance Asher
WA Department of Ecology
Toxics Cleanup Program
PO Box 47600
Lacey, WA 98504-7600

Re: US EPA Comments – Washington Department of Ecology’s Regional Background Workshop –
“Attachment A”, East Waterway Operable Unit, Harbor Island Superfund Site, Seattle, WA

Dear Ms. Asher:

Thank you for the invitation to participate in the Washington Department of Ecology’s (Ecology) September 3, 2013 Elliott Bay Regional Background Workshop. The US Environmental Protection Agency (EPA) is providing comments on the sampling approaches discussed at this workshop and described in Ecology’s “Attachment A – Summary of Regional Background Sampling Alternatives for Elliott Bay (EB) and the Lower Duwamish River (LDR)”. The approach Ecology takes to establish a regional background for the EB and LDR is likely to impact EPA’s cleanup decision for the East Waterway; therefore EPA has an interest in participating in any decisions that are likely to affect Ecology’s regional background estimates. EPA’s comments are attached.

I would like to schedule a meeting between EPA and Ecology to discuss how data sets will be selected, acquired and used to derive a Regional Background estimate for the EW. Please contact me at your earliest convenience to schedule this meeting.

Should you have any questions, please contact me at 206-553-4092, or by e-mail at sanga.ravi@epa.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "Ravi N. Sanga", with a stylized flourish at the end.

Ravi N. Sanga
Remedial Project Manager
Remedial Cleanup Program
Site Cleanup Unit 3

Enclosure

cc w/enc: Teresa Michelsen
Avocet Consulting

Laura Inouye
Washington Department of Ecology

EPA Comments on Ecology's Regional Background Workshop "Attachment A" as it pertains to the East Waterway Operable Unit of the Harbor Island Superfund Site.

- 1. General** – Ecology summarized six sampling alternatives proposed to establish regional background chemical concentration values for Elliott Bay (EB) and the Lower Duwamish Waterway (LDW). Presentations and discussions at Ecology's 9/3/2013 workshop suggest that regional background is likely to be established based upon a "weight of evidence" approach, consisting of a combination of existing data, sediment and water quality sampling and modeling.

EPA supports such an approach, but requires further consultation with Ecology to establish how this approach will apply within the East Waterway (EW) Operable Unit (OU) of the Harbor Island Superfund site. The Supplemental Remedial Investigation and Feasibility Study (SRI/FS) for the EW OU is currently underway. Any regional background established for the EW may influence long term cleanup goals and remedial action levels within this OU.

- 2. Defining East Waterway Regional Background** – The EW is a tidally-influenced water body located at the confluence of both the Lower Duwamish Waterway and Elliott Bay. EW physical factors differ substantially from both adjacent water bodies. These factors must be considered when developing a regional background value for the EW OU, consistent with the new SMS rule¹. Ultimately, the approach selected to define regional background may influence the EW cleanup decision and therefore, further coordination between the EPA and Ecology is needed to ensure that this approach and the resulting regional background estimate is suitable for application to the EW SRI/FS.

- 3. Significance of Regional Background Values for the East Waterway**

- a. Regional Background Values as Cleanup Values** – Recent clean up decisions by the EPA and Ecology have applied different statistical approaches. Attachment A paragraph 5 of the workshop invitation notes procedures for establishing regional background are dependent on the MTCA procedures for establishing a 90th percentile of the regional background data sets under consideration. This likely derives from the 1992 MTCA statistical guidance for site managers.²

Statistical approaches may make a significant difference in the application of background values. Clearly, there is a need for discussion between EPA and Ecology of which statistical approaches are appropriate when estimating regional background values and how these approaches will relate to cleanup decisions.

¹ WAC 173-204-560(5)(b) states, "If a site or sediment cleanup unit is located within a geographic area where regional background for a contaminant has not been established, the department may: (i) Compile and collect sufficient sampling data to establish regional background; (ii) Require any potentially liable person to compile and collect sufficient sampling data, as determined by the department, to establish regional background; or (iii) If there is currently insufficient sampling data to establish regional background, after consulting with any potentially liable person, establish regional background at natural background."

² <https://fortress.wa.gov/ecy/publications/publications/9254.pdf>.

- b. **Regional Background Values as Potential Recontamination Maxima** – Several comments at the Workshop suggest that regional background should be established predominantly by clean areas and reflect recontamination potential from surrounding sediments. The EPA believes that this process is reasonable for developing regional background estimates, but seeks better understanding of how such data (and associated 90% UTL processing) would be used to determine site noncompliance. For instance, would a single point exceedance or cluster of concern exceedance of a regional background value be used? The EPA anticipates that Ecology may use regional background as an adaptive management tool, similar to the way EPA may use it to require additional focused monitoring, or even re-remediation.

- c. **Timeframe** – Currently the East Waterway Group (EWG) is in the process of finalizing the EW RI, while the Draft FS is due to the EPA in the next few months. Assumptions for cleanup are already being incorporated into documents that will impact the Proposed Plan and site Record of Decision. Therefore, the timeframe for decisions affecting regional background concentrations will impact East Waterway and potential cleanup areas. It is critical that more discussion between the agencies occur in the very near future (next 60 days) regarding the timeframe to establish a regional background estimate, and how that estimate will impact EPA's cleanup decision for the EW OU.

- d. **Additional Sampling Efforts** – The EW is in a Settlement Agreement with the EWG, and therefore it may be possible to complete additional sampling for the purposes of establishing a regional background estimate suitable for the EW. During the workshop, concern was stated by the EPA and others that background sampling should not occur directly within cleanup site footprints or in the immediate vicinity of point sources. More discussion is needed between the agencies regarding EW-appropriate background locations for sampling.

September 17, 2013

BY EMAIL

Chance Asher
Washington Department of Ecology
Toxics Cleanup Program
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P.O. Box 47600
Olympia, WA 98504-7600
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SUBJECT: COMMENTS ON REGIONAL BACKGROUND WORKSHOP FOR ELLIOTT BAY AND LOWER DUWAMISH WATERWAY

Dear Ms. Asher:

Floyd|Snider appreciates the opportunity to submit comments following our participation in the September 3, 2013 workshop to discuss regional background approaches for Elliott Bay and the Lower Duwamish Waterway (LDW).

We are committed to working with Ecology and other stakeholders to ensure that meaningful progress is made in developing an effective, efficient, and sustainable means for achieving a cleaner environment and moving forward with cleanups to improve human and environmental health.

We greatly appreciate Ecology's efforts to obtain stakeholder feedback on regional background for Elliott Bay and the LDW at this point in the process. In addition to comments from the Lower Duwamish Waterway Group on the regional background for the Lower Duwamish Waterway, we offer the following comments on the overall process of establishing regional background values under the Sediment Management Standards for the two waterbodies.

COMMENTS

- I. Regional background was defined in the Sediment Management Standards (SMS) rule in a manner that was intended to allow flexibility. While flexibility is generally helpful, it can lead to hard decisions when it comes to implementation. Ecology policy should focus on implementability of the rule to foster cleanups.**

The revised SMS rule states that regional background is intended to reflect contaminant concentrations that are "primarily attributable to diffuse sources, such as atmospheric deposition or storm water, not attributable to a specific source or release." While this definition acknowledges the presence of diffuse sources (such as stormwater), it states contamination cannot be attributable to specific releases (such as stormwater outfalls that collect stormwater from vast areas). Ecology should consider a policy similar to that adopted by EPA (2002) for

anthropogenic background, which considers the feasibility of both obtaining and maintaining background concentrations:

“... for anthropogenic contaminant concentrations, the CERCLA program normally does not set cleanup levels below anthropogenic background concentrations (EPA, 1996; EPA, 1997b; EPA, 2000). The reasons for this approach include cost-effectiveness, technical practicability, and the potential for recontamination of remediated areas by surrounding areas with elevated background concentrations.”

In order for regional background to foster cleanups, it must incorporate cost-effectiveness, technical practicability, and legal practicability (i.e., do responding parties have the authority to take the actions needed to implement or maintain a cleanup?) in its derivation.

II. Regional background should be derived based on water body-specific conceptual site models (CSMs) using a weight of evidence approach that may include modeling for many water-bodies.

In order to define water body-specific regional background, CSMs need to be developed to understand the ambient concentrations of chemicals in urban areas not associated with specific and continuing sources. These CSMs can be used to assess whether sediment in urban cleanup areas will be re-contaminated by diffuse urban sources that cannot be controlled by parties conducting the remediation. Because these areas are complex, it is likely that a weight-of-evidence approach will be needed. The use of a variety of tools, including multiple types of data (sediment traps, bedded sediments, whole water, etc.) and qualitative, semi-quantitative, and quantitative models will be critical for the success of implementing regional background.

III. The CSMs for Elliott Bay and the LDW are very different, and thus will likely require different approaches in the derivation of regional background.

Elliott Bay is a large, somewhat circular, and active marine embayment connected to the Puget Sound; it is surrounded by an array of residential, commercial, and industrial areas with outfalls along the shoreline, including downtown Seattle. Existing studies have shown complex circulation patterns and a strong influence of ferry traffic near the waterfront.

In contrast, LDW is a channelized river with well-defined tidal conditions and over 200 outfalls along its length. Because it is a Superfund site, it is also a well studied system, with a well-established and vetted CSM, supported by various far- and near-field models to address specific concerns.

Because of the difference in available information for the two sites and known differences in the CSMs for the areas, the process to develop regional background for the two sites should be profoundly different. Accordingly, developing regional background for the two areas should be handled separately.

IV. For the LDW, the existing models can likely be used as part of a weight-of-evidence approach. The main focus will need to be in determining which input data for the three components in the model (upstream, laterals, and bedded sediment) are appropriate in defining regional background.

The LDW is a well-studied waterway. It is likely that additional data or model development are not needed to derive regional background. Instead, the formation of a working group would be valuable to address the difficult questions of which data are most relevant in this model application and why. This working group would need to address the technical challenges faced in the LDW regarding source control. The group would also need to carefully consider new and existing upstream and source data to determine which are most representative of diffuse sources to the waterway now and in the future.

V. It is premature and wasteful of Ecology's limited resources to develop regional background for Elliott Bay at this time.

Elliott Bay is not as well studied as the LDW: the nature and extent of contamination, the physical dynamics of the bay, and the approach and availability of resources to address orphaned contamination is not understood. Without this understanding, it is premature to define an approach for developing regional background in Elliott Bay. These issues are complex, and will take some time to resolve. Furthermore, because the LDW record of decision is expected before any cleanup decisions are required in Elliott Bay, regional background should be developed for LDW first. Development of regional background in other embayments, such as Port Gardner, may also help to define the issues that will need to be addressed in Elliott Bay.

Thank you again for the opportunity to comment on the process to develop regional background for Elliott Bay and the LDW. We remain committed to working with Ecology and other stakeholders on this significant issue. Please do not hesitate to contact me at 206-292-2078 on this important matter.

Sincerely yours,

FLOYD | SNIDER



Teri A. Floyd, Ph.D.
Principal

Copies: Will Ernst, Boeing
FSI Duwamish Clients

Lower Duwamish Waterway Group

Port of Seattle / City of Seattle / King County / The Boeing Company

September 17, 2013

Chance Asher
Toxics Cleanup Program
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Dear Chance,

Thank you for hosting the September 3, 2013 workshop to discuss development of regional background for Elliott Bay and the Lower Duwamish Waterway (LDW). We appreciate your efforts and being part of the process. The Lower Duwamish Waterway Group (LDWG) is very interested in staying involved. This letter is submitted in response to your willingness to accept written comments within two weeks of the workshop (by September 17).

Regional background values should be derived based on site-specific conceptual site models (CSMs). Because the CSMs for Elliott Bay and the LDW are very different (e.g., different physical conditions, water depths, vessel traffic patterns, lateral inputs, shoreline distances, and land use), it is likely that different values will be derived for the two water bodies using different lines of evidence. Different aspects of the CSM will likely dominate each evaluation. LDWG strongly recommends generating different approaches for the two water bodies, and using working groups to collaboratively develop and implement the approaches. Participants should include key technical and policy professionals working with Ecology.

The following comments in this letter are focused on the LDW. Specifically, LDWG recommends the following:

- ◆ Development of regional background concentrations for the LDW should use a weight-of-evidence approach using empirical data (i.e., lateral, upstream, bedded sediment) and modeling.
- ◆ Development should get started now for the LDW given the large body of information that is already available, and that perhaps Elliott Bay should be delayed in order to expedite development of regional background for the LDW.
- ◆ The existing sediment transport model (STM) and bed composition model (BCM) should be used. These models have been calibrated, validated, and reported in

collaboration with the Sediment Modeling Work Group. This group included representatives from the U.S. Environmental Protection Agency, Washington State Department of Ecology (Ecology), National Oceanic and Atmospheric Administration, U.S. Army Corps of Engineers, and LDWG.

- ◆ Lateral data from within the 5-mile stretch of the LDW is critical in the determination of regional background values. Upstream data alone will not capture the local diffuse source urban inputs that are a component of regional background. We anticipate that a follow-up “working session” will be needed to determine which lateral and upstream data are most appropriate as inputs to represent background.
- ◆ Bedded sediments within the LDW could also be considered during development of regional background values. For example, time trend sediment data collected from post-dredging and/or post-capping areas may be useful for evaluating recent conditions.
- ◆ Modeling and empirical data gradients should be used to establish buffer distances around outfalls for collecting representative samples.
- ◆ The derivation of regional background values for the LDW should be focused on the human health risk-driver chemicals (total polychlorinated biphenyls [PCBs], arsenic, carcinogenic polyaromatic hydrocarbons [cPAHs], and dioxins/furans).
- ◆ Derivation of regional background values for human health risk drivers should also consider how they will be applied in the LDW (i.e., spatially-weighted average concentrations).

In summary, we hope that you will seriously consider a weight-of-evidence approach for the LDW that involves modeling using existing tools and existing data. We believe that this should be implemented using a working group, such as the Sediment Modeling Work Group, that includes LDWG participation. LDWG would like to stay involved in the development process. We have a deep understanding of the existing physical and chemical modeling tools available, existing data and empirical trends, and CSM elements for the LDW. Establishment of a science-based, reasonable, and defensible regional background value(s) is essential to informing the long-term goals and commitments that will be articulated in the ROD for cleaning up the LDW. The LDWG partners want to continue moving forward and build upon the significant progress made by the early action cleanups to reduce human health risks to the community as quickly as possible. In fact, LDWG would consider contributing resources to this development, if it was developed prior to release of the EPA Record of Decision (ROD) for the Lower Duwamish Waterway.

We hope to meet with you in the near future to discuss how we can assist Ecology with further analysis in the development of regional background values for the LDW.

Sincerely,



Dave Schuchardt, City of Seattle
(on behalf of LDWG)

cc: Teresa Michelson, Avocet Consulting
Skip Fox, The Boeing Company
Brian Anderson, The Boeing Company
Steve Tochko, The Boeing Company
Allison Crowley, City of Seattle, Seattle City Light
Bill Devereaux, City of Seattle, Seattle City Light
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September 17, 2013

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Re: Duwamish/Elliott Bay Regional Background Comments

Dear Chance:

Thank you for the opportunity to comment on Ecology's regional background determination efforts for the Duwamish Waterway and Elliott Bay. I am writing as a former Sediment Cleanup Advisory Committee member in order to highlight a number of key points that led to the development and use of the regional background concept in the hope that you will keep those concepts in mind as you settle on an approach to determining regional background concentrations. In particular, this letter raises issues that must be addressed in a pragmatic and timely fashion in order to move sediment cleanups forward.

- I. "Regional Background" was developed in response to an unworkable situation for PLPs that has resulted in gridlock.

As was discussed at great length in advisory committee meetings, the combination of MTCA's default natural background standard (when risk based concentrations are below natural background or PQLs), and MTCA's lack of a technical impracticability waiver results in an impossible situation for those seeking to address contaminated sediments that are subject to any degree of ongoing impact from urban or developed areas. PLPs cannot maintain cleanups at natural background levels, no matter what is done in the sediment and no matter how much upland source control is performed. As a result, the rules as they existed prior to the SMS amendments gave PLPs no finality, even if they completely cleaned up the sediments for which



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WA State Dept. of Ecology
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they were responsible and simultaneously addressed sources over which they had any degree of control.¹

The result of the application of the natural background requirement to sediment sites has been the dedication of a great deal of resources to investigations, discussions between Ecology and PLPs, and policy and rulemaking efforts, with precious few acres of contaminated sediments actually being cleaned up under MTCA and the SMS. Changing the default standard from natural background to regional background was designed to allow PLPs to achieve a degree of finality with sediment cleanups that facilitates moving forward with the actual cleanups themselves.

- II. The new SMS rule is purposely ambiguous, thereby affording Ecology significant discretion.

As Ecology pointed out at the regional background workshop held at EPA's offices on September 3, 2013, the rule includes what initially appear to be contradictory terms concerning what should and should not be included as a component of regional background. It defines regional background as including stormwater (as an example of an included "diffuse source"), but regional background is also supposed to exclude contamination that is attributable to a "specific source or release." WAC 173-204-505(16). Further, the determination of regional background concentrations must exclude samples from areas with elevated hazardous substance concentrations "due to the direct impact of known or suspected contaminant sources." WAC 173-204-560(5).

In order to harmonize these provisions, Ecology must exercise its discretion in a fashion that does not act to write any of the requirements concerning regional background out of the regulations. For instance, impacts from stormwater discharges must generally be included, consistent with the definition of regional background. However, if there is an identifiable contributor to a stormwater discharge that results in a particular geographic area of sediment within the region having elevated concentrations, samples from that area should be excluded.

¹ Using natural background concentrations as the applicable cleanup level in urban and developed areas also results in extremely large cleanup sites that cannot be effectively and efficiently administered. This adds to the confusion and difficulty that both PLPs and Ecology face in dealing with contaminated sediments in urban areas.



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Further, sediment samples from the nearshore direct depositional zone of the stormwater discharge should be excluded as well, consistent with WAC 173-204-560(5)(d). Of course, these decisions must be made based on the facts before Ecology, and must necessarily involve the exercise of discretion concerning what to include and what not to include.

In exercising its discretion concerning discharges that should not be included as a component of regional background, Ecology should keep in mind that the exclusion of most urban area stormwater discharges would work against the very reason the rules were amended in the first place -- to facilitate moving forward with sediment cleanups. Ecology could opt to determine that much of the elevated concentrations in urban areas are from the "direct impact of known or suspected sources" because the entire urban area is essentially one big source. However, this would result in regional background sediment concentrations that are so low that they cannot practicably be maintained. It would also ignore the countervailing portions of the regulations and would result in the rule amendments having been a worthless exercise in terms of moving sediment cleanups forward. Consistent with our Advisory Committee deliberations, PLPs that do all the right things should have a reasonable degree of confidence that they have resolved their liability (provided, of course, that they continue to control their new inputs consistent with regulatory requirements).

- III. Regional background determinations should be based on current realities, not hoped-for future conditions.

Ecology should make use of multiple lines of evidence in determining regional background concentrations, but in doing so Ecology should be careful to distinguish what exists today from what may exist at some point in the future. Regional background cannot be based on conditions that *may* exist sometime in the future *if* diffuse sources such as stormwater are brought under better control. The rule is written to allow for the use of current regional background concentrations as default sediment site cleanup levels, rather than allowing Ecology to project what regional background could be at some point in the future and use that value as the new default cleanup level.

The distinction between current conditions and possible future conditions is extremely important to recognize and account for in Ecology's regional background determination efforts. The prior unworkable rule was based on an aspirational standard -- one that is laudable as a goal but in practice proved to be counterproductive. The new standard is meant to provide for a more pragmatic approach that is grounded in current realities rather than laudable goals that are



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impossible to achieve. Ecology should take care to avoid lapsing back into the mode of setting standards based on what could be someday, rather than what actually is.

The modeling efforts performed for the Duwamish Waterway site Feasibility Study provide a good example of how consideration of potential future conditions could creep into Ecology's regional background determination efforts. The extensive modeling work done for the Duwamish Feasibility Study can provide good information for Ecology's use, but Ecology should recognize that the modeling effort was designed to predict future, rather than current, conditions (such as future equilibrium concentrations for PCBs in site sediments under various scenarios). Model runs that include assumptions of source control efforts for upstream and lateral loads premised on use of technologies that are currently unavailable or impracticable must be viewed as being aspirational and not useful for setting regional background concentrations. The more relevant model runs are those that predict concentrations based on current loadings and continuation of current source control efforts.

IV. Regional Background cannot be set for too large an area or for too long of a time period.

The SMS rule amendments leave the determination of regional background concentrations up to Ecology.² To avoid engaging in impermissible rulemaking, Ecology must not set concentrations that apply to many sites across a very large area. Doing so would run afoul of limitations on how Ecology, as an Executive Branch agency, establishes criteria that will apply uniformly and invariably across multiple decisions. To the extent regional background determinations are made for very large areas, and after an exhaustive and extensive process unlikely to be repeated for many years, the decision becomes less site-specific and more in the nature of a rule.

In order to avoid the need to go through the full rulemaking process for each regional background determination it makes, Ecology should ensure that the "regions" involved are relatively small (encompassing either one or a small handful of similar sites; e.g., the Duwamish

² The SMS amendments allow Ecology to work collaboratively with PLPs in determining regional background. For the Duwamish, this is especially important because the Lower Duwamish Waterway Group parties have spent many years and millions of dollars on developing a detailed technical understanding of the site, including inputs to the site from both upstream and lateral loads.



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Waterway). Ecology should also make regional background determinations in a relatively streamlined fashion that can be revisited without going through years of technical work and process. To the extent Ecology undertakes a process that looks and feels like rule development due to its lengthy and complicated process, and to the extent that process appears intended to produce a result that will be in place for many years, Ecology will be making a final determination on cleanup standards across a broad area rather than a site-specific decision under the framework of a broader rule. Cleanup standards determinations that are to be applied over broad areas, and are intended to be in place for a long time, can only be made through the rulemaking process.

As applied to the Duwamish and Elliott Bay, these limitations should result in determination of separate regional background concentrations for the Duwamish Waterway (which will clearly be site-specific and not impermissible rulemaking). To the extent the Elliott Bay determination is intended to apply to multiple future cleanup sites, and to the extent the situation involved with those sites varies significantly, Ecology should consider determining different regional background concentrations for different portions of the Bay, as suggested by Doug Hotchkiss at the workshop meeting.

- V. The Duwamish Regional Background determination can and should be made in a streamlined fashion.

The Duwamish Waterway site has been the subject of a degree of data gathering, analysis and modeling work over the past 12 years that is unprecedented for Puget Sound. Although additional data may be useful, Ecology should not engage in a multi-year technical effort prior to making a regional background determination. Most or all of the data and analyses needed for regional background determinations already exists. More study could, of course, be justified because there are always data gaps and associated uncertainty; it is axiomatic that every study concludes with a call for more research. However, regional background determinations cannot become an excuse for endless research and a great deal of additional process, or the SMS amendments' goal of moving cleanups forward in pragmatic and workable ways will not be met.

If regional background determinations are made in a timely way, mostly with existing data and using a more limited process, they can be revisited more often and adapted as more information is developed. This flexible approach will also mitigate the risk that Ecology is engaging in rulemaking when the agency determines regional background concentrations.



Chance Asher
WA State Dept. of Ecology
September 17, 2013
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Thank you for the opportunity to comment on Ecology's regional background determination process for the Duwamish and Elliott Bay. If you have any questions concerning these comments, please do not hesitate to call me at (206) 386-7677.

Very truly yours,

Thomas A. Newlon