



King County

Department of Natural Resources and Parks

Director's Office
King Street Center
201 S Jackson St, Suite 700
Seattle, WA 98104-3855

October 24, 2012

Washington State Department of Ecology
Toxics Cleanup Program
c/o Adrienne Dorrah
PO Box 47600
Olympia, WA 98504-7600

Dear Ms. Dorrah:

Thank you for the opportunity to provide comments on a revised draft of the Washington State Department of Ecology's (Ecology) proposed revisions to its Sediment Management Standards (SMS) under the Washington Administrative Code, Chapter 173-204.

The revised SMS standards will have wide reaching effects on the people who live and work in King County by profoundly changing the way sediment cleanups could be carried out in this state. We are grateful to be able to participate in the decision making process through our work on the Sediment Cleanup Advisory Committee and the ability to provide feedback for further consideration, which you will find in the attached comments.

Successful cleanups offer many potential community benefits. They can spur action around the broader efforts to restore and clean up Puget Sound, attract investment in traditionally underserved communities, and preserve critical industrial areas which offer regional economic benefits and livable wage jobs. Conversely, cleanups that are poorly planned or unnecessarily burdensome pose negative impacts to the environment, human health, and the business community.

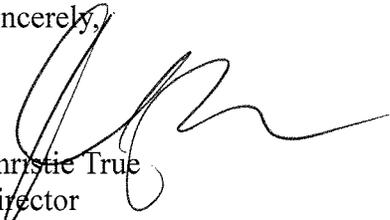
Attached you will find our detailed comments on this proposed rule. We were especially focused on offering feedback on cleanup methodology, allocation, cost-effectiveness, community impacts, and health and environmental outcomes.

While King County supports the objective of allowing more cleanups of persistent bioaccumulative toxins to move forward, the current proposals generate significant uncertainty and barriers to implementation. Areas of substantial regulatory uncertainty include: cross-program coordination with water quality standards and tissue residues at natural or regional background levels; and probable prescriptive high-cost/low-value sediment remediation choices. We believe Ecology should engage in more collaborative dialogue before finalizing any SMS rule revisions to incorporate solutions into the rule that reduce these substantial implementation challenges.

King County is keenly interested in supporting Ecology's effort to develop workable standards that enable agencies to select cleanup approaches that safeguard human and environmental health while protecting the economic and community interests of the people who live and work in the area.

If you would like more details behind the information in this letter or attached comments, or have questions about our conclusions, please contact Jeff Stern, Sediment Management Program Manager in the Wastewater Treatment Division with the Department of Natural Resources and Parks, at 206-263-6447 or email at jeff.stern@kingcounty.gov.

Sincerely,



Christie True
Director

Enclosure

cc: Ted Sturdevant, Director, Washington State Department of Ecology (Ecology)
Jim Pendowski, Program Manager, Toxic Cleanup Program, Ecology
Chance Asher, Toxicologist, Toxics Cleanup Program, Ecology
Carrie Cihak, Director of Policy and Strategic Initiatives, King County Executive Office
Pam Elardo, P.E., Division Director, Wastewater Treatment Division (WTD),
Department of Natural Resources and Parks (DNRP)
Greg Bush, Manager, Environmental and Community Services Section (ECS), WTD,
DNRP
Jeff Stern, Program Manager, ESC, WTD, DNRP
Mark Isaacson, Division Director, Water and Land Resources Division, DNRP

**Draft Sediment Management Standards Chapter 173-204 WAC Amendments
Public Comment Form**

Name of Commenter: King County Department of Natural Resources and Parks	
Version of Document Reviewed: August 15, 2012 - Official Version	
Lines	Comment
Major concern	Our greatest concern with the draft rule revision is the policy change from “cost, technical feasibility, and net environmental benefit” to “technical possibility and adverse environmental impact” in establishing cleanup standards. King County, like many other jurisdictions, has declining revenues and fees in addition to rising public expectations for services. We have a large number of priority environmental projects and programs such as stormwater retrofits, wastewater treatment plant upgrades, CSO controls, along with pump station upgrades, basic maintenance and sediment remediation. These are all projects and programs which we have identified as environmentally valuable and technically possible. However, in the face of limited funds, we are forced to prioritize and one of the most important tools public environmental agencies have is to examine cost relative to the net environmental benefits of competing projects and priorities. Our constituents and ratepayers expect the same thoughtful consideration of costs and net environmental benefits when choosing between competing sediment management alternatives. This is also not consistent with the stated goal of making consistent with MTCA 173-340-360. King County is concerned the net effect will often be to drive selection of cleanups that have more environmental impacts than necessary to achieve cleanup goals while adding decades to the time it will take to complete all the needed sediment cleanups. We respectfully request that the original policy language be retained. This comment relates to edits at lines 1537-47, 2196-97, 2927-38, among others.
Major concern	While we understand that one of the goals of this revision is an attempt to reduce the uncertainty by allowing individual cleanups to move forward when there is technical infeasibility in achieving cleanup objectives (especially those based on natural background or low human health risk-based values), the changes proposed create even more uncertainty in other ways. If cleanups based on natural or regional background still lead to tissue concentrations in excess of standards allowed under the water quality program, will these exceedances be considered impairments requiring a TMDL? This is of great concern to local governments, since this uncertainty does not assist in municipal planning and may scare away new business investment. Ecology is not allowed under the Pinto Creek Supreme Court decision to permit any new or increased discharges in impaired water bodies without an existing waste load allocation in an approved total maximum daily load (TMDL). Such a TMDL will be an additional layer after a SMS contamination liability should otherwise be considered closed. This has significant implications to new development and could even require moratoriums if treatment plants can not expand until TMDLs are completed. This is an example of the cross program implementation issues raised by these changes and point out a fundamental flaw in the general approach. Without knowing if such implementation issues can be worked out, it is inappropriate to move ahead with this rule revision since local governments will be left in an untenable position. The County is willing to work with Ecology to develop an alternative approach.
Major concern	Please include appropriate exemptions to the SMS standards here in this rule. For instance, wholly artificial water bodies like drainage ditches, irrigation ditches, treatment wetlands, and retention ponds are not waters of the state and the SMS should not apply to any sediment therein. It is also not clear that applying the SMS to any of the MS4 system, even when it meets the definition of a natural water body, is a workable approach.

Name of Commenter:		King County Department of Natural Resources and Parks
Version of Document Reviewed:		August 15, 2012 - Official Version
Lines	Comment	
Major concern	<p>Another concern is the default fish consumption for the human health evaluation (see lines 2350-2366); Section 173-204-561(2)(b). In part (a) of this section, it says “historic, current, and potential future tribal use...general vicinity of the site.” The definition of historic is not clearly defined here; can you please provide a definition or context for this terminology? Is this 100-years ago or 20-30 years ago? It seems this could be simplified to within a Usual and Accustomed (U&A) fishing area. Also, what if the “site” has no shellfish (see part c), is it assumed resource switching will occur rather than removing the shellfish component of the diet when determining the fish consumption rate? Finally, it is not clear how part (E, ii) that references WAC 173-340-708 and 173-340-702 (14) through (16) would be used to modify the reasonable maximum exposure assumptions for fish consumption rates. Can you please clarify the intent of this language? It should not be left entirely to guidance. Note that this language effectively applies consumption rates in the range considered in the Technical Support Document to much of the state.</p>	
Major concern	<p>The implication of the changes to the human health criteria is that almost every site will have calculated acceptable risk levels from fish consumption that will require cleanups to natural background sediment concentrations for several bioaccumulative chemicals. Therefore, sites will remain listed as impaired sites even following cleanup. This makes no sense as the purpose of the cleanup is to restore beneficial uses and remove sites from the impaired lists. It would seem that if the cleanup gets a site to as clean as practicable (as clean as the ongoing inputs to the water body allows or regional background), then it should be acknowledged as successful. The state needs to acknowledge that the MTCA goals designed for upland sites which can be successfully isolated from surrounding sources cannot be accomplished for aquatic sites which collect inputs from broad areas and sources through the air-water-sediment pathway. A workable cleanup law needs to be developed so that sediment cleanups can be completed. It should be acknowledged that after cleanup, the existing Clean Water Act programs are the appropriate vehicle to address residual risks. The currently proposed solution that this rule takes of trying to apply MTCA to solve Clean Water Act issues is not appropriate and creates significant implementation problems.</p>	
Major concern	<p>While King County understands the intent of applying protection to other components of the aquatic ecosystem, the proposed rule requires clear, deterministic criteria for protection of higher trophic levels if they are included in the rule. In addition, the draft rule language leaves a lot of uncertainty as to the scope and level of effort required for this analysis. For a very small site, this could be cost-prohibitive to conduct such an analysis especially if it is unlikely to change the action required at a site. A guidance document should be developed to provide more information on how this analysis would be conducted.</p>	

Name of Commenter:		King County Department of Natural Resources and Parks
Version of Document Reviewed:		August 15, 2012 - Official Version
Lines	Comment	
Major concern	<p>The Sediment Phthalate Work Group (SPWG), which included senior Ecology staff from both the toxics and water programs, made particular recommendations to address the recontamination problem of pervasive pollutants that do not have existing source control options to remain below SMS over time. The document can be found at http://www.ecy.wa.gov/programs/tcp/smu/phthalates/Summary%20of%20Findings%20and%20Recommendations%20FINAL%20092807.pdf. Specifically, the SPWG asked that the next SMS rule revision “add consideration to SMS for addressing pervasive pollutants, such as protocols for making decisions regarding the cleanup trigger for phthalates and similar pollutants. Consider narrative criteria that could be added to SMS based on additional information collected in the Work Group. In doing so, think through MTCA/SMS relationships.” King County requests that this issue be incorporated into the current revision. At a minimum, the original intent to address re-occurring localized benthic effects from these persistent chemicals needs to be incorporated for this rule. Members of the SPWG would be happy to share insight into what the group was thinking and help to develop a workable approach.</p>	
General comments		
General	<p>We have a concern regarding the application of human health and higher-trophic level ecological receptor cleanup objective and cleanup screening levels on a point basis. These are based on exposures over an area and therefore all sample points do not need to be at these levels but rather the average sediment concentration needs to target these criteria. This same concern applies when background is the selected value because the risk value is below background (only the average at the site needs to be at background, not all sample points). It is possible to have a few sample points at a site exceed, for example, regional background, while still having the site meeting regional background levels on average.</p>	
General	<p>Please define all terms in this WAC Chapter within, not by reference to another WAC Chapter. It's cumbersome for the reader to cross reference WAC Chapters for definitions. If definitions in the referenced WAC Chapter(s) change they could become inconsistent with intent of the referencing SMS Chapter.</p>	
General	<p>The marine criteria for Puget Sound have now been applied to all marine waters. Has the appropriateness of the AETs developed from Puget Sound data been demonstrated for other marine waters?</p>	
General	<p>There are a number of instances where decisions are left to Ecology's judgment and therefore provide uncertainty as to the level of effort (cost and time) required to conduct site assessments. We understand some flexibility is appropriate so that site-specific consideration can be made but overall there seems to be a lot of judgment calls by Ecology in the process.</p>	
Specific comments		
38	<p>It is not clear why the State would drop authority for cleanups under 90.48. It is an appropriate authority to use for cleanups and has been used in the past under certain situations. Even with a clearer tie to MTCA, it would seem useful to keep this authority as an option. We request that this authority be retained.</p>	

Name of Commenter:		King County Department of Natural Resources and Parks
Version of Document Reviewed:		August 15, 2012 - Official Version
Lines	Comment	
68	We support the change in sediment recovery zones (SRZ) to areas that will exceed the CSL. This use of the SRZ makes much more sense and distinguishes its use from areas undergoing MNR.	
154; 178	Annual review of the SMS chapter seems to be ambitious and the additional work may detract from pursuing additional cleanup actions throughout the year. A 3 to 5 review period, unless otherwise required, is reasonable and frees up staff resources for actual cleanup management.	
210	It is not appropriate to define what is considered an ARAR under federal CERCLA statute in a state rule. In particular, clarifying the entire charter as an ARAR seems inappropriate. However, it is not clear under what circumstances only a portion of the SMS might apply. Can you please provide clarification to address this issue?	
220-222	Please define all terms used in a WAC chapter not by reference to another. Also, the phrase "unless the context indicates otherwise" leaves too much open to different interpretations, please provide more specific language here.	
249	Do not need to limit beneficial reuse to replace another "natural uncontaminated" material. Definition works appropriately without this unnecessary limitation.	
262	The way this paragraph is written suggests that any endemic species could be considered "critical" to the function, diversity, and integrity of the benthic community. We suspect this was not Ecology's intent and if that is the case "critical species" should be better defined.	
286	Deletion of "surface" from this definition is not appropriate unless revise definition to tie to exposure. Revising the definition in such a way is much less clear and will be harder to apply appropriately. Suggest retain "surface" in the definition.	
288; 294 and 399	It is unclear why reference to "or the applicable criteria in WAC 173-204-560" is needed when discussing requirements of contaminated, control and reference sediments. For all three, the earlier reference to applicable SQS requirements should adequately cover. If necessary to keep, for the latter two, we assume only the values listed in Table IV and Table VII would apply for bioassay sediments and therefore request the language be more specific and reference these tables.	

Name of Commenter:		King County Department of Natural Resources and Parks
Version of Document Reviewed:		August 15, 2012 - Official Version
Lines	Comment	
327-29	For monitored natural recovery, why would monitoring of all three media (sediment, tissue and biota) be required to assess the effectiveness of natural recovery? We assume that “biota” means benthic infaunal invertebrates. Depending on the size of the site, other organisms may have a home range larger than the site and therefore would not reflect changes from the site. Recommend adding the language “...that includes regular monitoring of one or more of the following: sediment quality, tissue, or benthic infaunal invertebrates, as appropriate, ...” Also, if biota refers to the benthic invertebrate community assessments of abundance and richness, please explain why it is necessary if natural recovery processes are not needed to protect the benthic community but rather human health fish consumption pathway.	
327-29	Add “a remedy that” after means for consistency with other definitions.	
330-40	This definition is open to subjective decisions concerning what constitutes a “localized activity.” Also, natural concentrations may not be “low” depending on the constituent. Please delete “low” from lines 334, 337, and 339.	
341-46	In the second sentence add “new” before layer and delete “clean” and add “over time” after burial to clarify the definition.	
369	Please add “ and depths” after locations.	
373-78 and where def. applies	King County is concerned about using the PQL for regulatory purposes before a common definition has been accepted and implemented by all labs. Also, the text implies that if you can't meet the PQL based on human health and environment risk thresholds, another possibly unapproved method must be used. Text in this section contradicts later sections (see 173-204-562 and -563) where the MDL and PQL must meet values on either Table IV for marine sediments (see Lines 2447-2450) and Table VII for freshwater sediments (see lines 2638-2641) which does not account for any “specified limits of precision, accuracy, representativeness, completeness and comparability during routine laboratory operating conditions...” Please clarify the text in these sections.	
389-93	How a liable party would determine that storm water or atmospheric deposition is not attributable to a specific source or release could take a virtually limitless amount of sampling and data as it's impossible to prove a negative conclusion such as this over any substantive watershed area. Please clarify what a “specific source or release” is, how the department will define geographic areas for regional background determinations, and how the public or liable parties will be able to provide input and comment on regional background area determinations. Additionally, King County assumes regional background is intended to be an average or developed by averaging various measurements throughout a region. If Ecology agrees, then it should be defined as the “...the <i>average</i> concentration of a contaminant within a department defined area...”	

Name of Commenter:		King County Department of Natural Resources and Parks
Version of Document Reviewed:		August 15, 2012 - Official Version
Lines	Comment	
394-399	The definition of reference sediment contradicts those in regional and natural background, both of which account for some regional and anthropogenic influences. The definition of a reference sediment should at a minimum account for global anthropogenic influences. King County recommends that reference sediment samples be allowed from areas with regional background levels of contaminants at or below the SQS to allow for matching grain size and other characteristics to test conditions.	
400-05	The concept of exposure in this definition is confusing. If material is unexposed, it is not sediment? Suggest deleting “ <i>to which biota and humans may potentially be exposed</i> ”. The concept is better incorporated into the definition of contaminated sediment per earlier comment. The last sentence is of significant concern and a significant expansion of the scope of the SMS into water quality and suspended particulate regulation. The consequences of dredging along with management of pore water and other “hydrologic and natural actions” are already accounted for during sediment remedial investigations/feasibility studies. As such, this expansion of regulatory authority is neither warranted nor necessary.	
415-24	The definition of sediment cleanup standard is convoluted, since inside of this definition are further definitions of cleanup levels, points of compliance, and mention of “additional regulatory requirements”. Recommend the following language: “ <i>Sediment cleanup standard means a department approved chemical concentration or level of biological effects that must be met at a point of compliance with specified institutional controls and other regulatory requirements.</i> ” Please add definitions to WAC 173-204-200 from MTCA for point of compliance and institutional controls.	
435-42 & 1509	Support the change in SRZ definition to allow in areas with ongoing discharges. This is where they will be needed.	
435-42	It is not appropriate to change the time frame to the start of cleanup. Most active cleanup actions will have some effect on surface sediment concentrations. The recovery timeframe needs to start from completion to allow this effect to be captured in the estimates. The additional time is needed to allow recovery from dredge residuals. Otherwise all recovery periods will be underestimated and not meet their targets.	
457-8	Many projects are technically possible, but infeasible for a variety of reasons, including cost. No public entity responsible for limited public funds like King County or Ecology can function without regard to cost. Please delete this term globally and retain the old criteria used or tie directly to MTCA definition. See major concern comments above.	
459-62	Shouldn't this include reference to 173-204-580/590 if listing all applicable sections?	
535-36 & other	It is not appropriate to keep the reserved clause for confirmation of human health criteria here. Specific criteria should be listed such as demonstrating bioavailability since chemical concentrations alone are not adequate predictors of bioaccumulation.	

Name of Commenter:		King County Department of Natural Resources and Parks
Version of Document Reviewed:		August 15, 2012 - Official Version
Lines	Comment	
586-7 & other	The first sentence is confusing since there are also ppb listings in the table. Suggest revising to read "...concentrations in either parts per million, parts per billion, or parts per million carbon "normalized", expressed on a total organic carbon basis."	
600 & other	Add "benzoflouranthene" before isomers for clarity.	
613-632 2519-2535 & any other places these terms are used	<ol style="list-style-type: none"> 1. The draft printout has some font problems. The arithmetic comparison symbol associated with p-value appears as a square, so one can't tell if this is still "less than or equal to" as in current law, or if it has been changed. 2. It seems prudent during revision to revisit whether the t-test is appropriate; i.e., for these kinds of tests, are all the assumptions that are required to be met for a t-test – met, e.g. normality and homogeneity of variance? Is a non-parametric test more appropriate? Should median or geometric mean values be used rather than arithmetic means? If mean is used, the type of mean should be stated. 3. Need to state whether the hypothesis test is one-tailed or two-tailed, and the basis for choice. See: Lombardi CM, Hurlbert SH, 2009. Misprescription and misuse of one-tailed tests. Austral Ecology 34, 447-468. at http://www.bio.sdsu.edu/pub/stuart/2009MisprescriptionOneTailed.pdf. <p>These comments are also applicable to any subsequent section regarding statistical tests.</p>	
622	c) benthic abundance. It's essential that replicates be required for benthic abundance. A single sample is not sufficient due to variability of benthic infauna, particularly in sandy sediments, and could lead to misinterpretation of results. At least 3 replicates should be required.	
630-32	Ecology has long recognized that the Microtox bioassay has weak predictive ability. (Ecology, 1995: https://fortress.wa.gov/ecy/publications/publications/95318.pdf) Microtox should be dropped from the list of bioassays acceptable for use under the SMS.	
656	The dual promulgation of SMS under both Water Quality and MTCA authorities makes sections like this especially problematic and confusing. Ecology could consider adding text to the preamble explaining how the current revisions were done on only parts of the SMS to simplify review and adoption under State MTCA authority only.	
686	Only benthic data sources with station replicates should be included in the station inventory to determine if sites pass or fail applicable sediment standards.	
956-90	As a matter of policy, all activities requiring a sediment impact zone should be required to demonstrate the necessity, impact minimization, monitoring, and net public benefit of these zones. Finfish rearing facilities and the impacts from them should be held to the same SMS standards as any other sediment impact zone proponent.	

Name of Commenter:		King County Department of Natural Resources and Parks
Version of Document Reviewed:		August 15, 2012 - Official Version
Lines	Comment	
1326-28	With promulgated freshwater criteria, why are freshwater SIZ maximum criteria remaining reserved? Please add using the CSL similar to marine sediment.	
1480-1525	This entire subsection elaborates on Ecology's "expectations". Are expectations legally enforceable by Ecology or citizen lawsuit? As currently written, this portion of the revised WAC reads much more like a guidance document vs. administrative law. King County recommends rewriting to clearly spell out cleanup process requirements with a concluding paragraph allowing for exceptions when circumstances dictate.	
1494-99	The release of responsibility for cleanup of any recontamination can only work if it is tied very carefully to the appropriate assessment and control of all sources affecting any sediment site unit. Otherwise such a release creates additional liability for those other sources that would potentially not have existed prior to the cleanup. The only workable solution relies on careful implementation and coordination with all nearby sources. King County does not see this regularly happening and the result will leave the responsibility up to those other sources. All sources affecting the site should be dealt with under the cleanup decision.	
1498	Please clarify that recontamination by non-point (diffuse) sources are included here; i.e., if recontamination is due to non-point source, further cleanup by person conducting the clean up would not be required to take further action.	
1500-1507	King County has concerns with requiring sediment units to be cleaned up by active cleanup actions. Why would the state limit cleanup options to active remediation technologies when at some sites passive alternatives may have less environmental effects and achieve the same cleanup objectives? This could drive more impacts and much higher costs for no or little environmental or human health benefit. It is more appropriate to allow the remedial investigation and feasibility study to determine the appropriate balance. Also, the last sentence should not use the word restoration as it is not clear what target is to be met.	
1512-17	Please remove more intensive discharge monitoring from compliance monitoring . Cleanup only moves ahead after a source control evaluation has determined that controls are adequate to meet cleanup standards. Additional discharge sampling is not needed. If cleanup objectives are not ultimately met, then additional actions are triggered and any necessary data will be collected at that time. This only opens the potential for unnecessary sampling to be requested by staff not involved in the water quality permit process.	
1528	The draft rule states the goal is reducing and ultimately eliminating adverse effects on biological resources and risks to human health from sediment contamination. It is unreasonable to state risks can be eliminated for human health when including cancer risk evaluations. It would be more appropriate to state the goal for human health is to reduce and ultimately achieve acceptable risk levels as defined by WAC 173-340-708. This would clearly show the public that the goal is acceptable risk because eliminating all risk is not possible. This would also correspond better to the cleanup objective being set to natural background when human health risk threshold is below background.	

Name of Commenter:		King County Department of Natural Resources and Parks
Version of Document Reviewed:		August 15, 2012 - Official Version
Lines	Comment	
1530-36	It is inappropriate to set sediment cleanup standards based on human health (or background) to individual samples rather than an average for the site. The exposure scenarios for human health do not apply to a single sample location but rather an area. Therefore, the sediment cleanup standard, when based on human health or background (when the risk threshold is below background), should be apply to the site or cleanup unit rather than individual sample locations.	
1533	Delete “or biological active zone” as the point of compliance should incorporate this.	
1537-47	It is unclear how technical possibilities are considered in setting a cleanup level if the level may not be adjusted above the cleanup screening level. It is also unclear how “an adverse impact on the aquatic environment” is considered when determining if the cleanup level will be above the cleanup objective. What defines an adverse impact? Can you please clarify here?	
1562-64	Please clarify what is meant when referencing points of compliance at a different location for protection of human health. Is this sediment depth for intertidal areas where people may dig for clams and therefore be exposed through direct contact with sediments? Besides consideration for sediment depth, human health exposure points of compliance should not be on a sample location basis but an area basis.	
1571-72	There is no basis to make a blanket statement that active actions are preferred over passive. That is what the alternatives evaluation process is supposed to determine. Please remove this sentence.	
1573-75	Recommend not limiting use of passive cleanups only with active cleanups. There may be instances where exposure concerns are only for benthic community and more harm would come to the benthic community through active cleanup through habitat destruction then through natural recovery processes, especially if they can be naturally recovered in a few years following adequate source control.	
1573-75	Suggest that Institutional Controls (ICs) be separated out and structured similar to CERCLA. That would require ICs if the cleanup does not reach the cleanup objective. This could be either placed as 5(b)(iv) or 5(c). Also it is not clear how ICs are anticipated to be used for cleanup units when the region is still above natural background-based cleanup objectives.	
1590-1592	The last clause in the sentence seems to contradict the purpose stated in the first part of the sentence and effectively prevents closure for cleanup actions. There is still authority to conduct further cleanups for a new or previously unknown problem so the last clause should be deleted.	
1635-39	The draft rule appears to apply human health risk thresholds or background concentrations to sample locations for determining station clusters of concern. There is no mention of the scale or size of the site in applying these values. Cleanup values based on human health and background should be applied to a site or area and not individual sample locations. A few samples may exceed but the area or site (on average) does not exceed the cleanup values and therefore, it would not be a site of concern. This section also suggests that for some contaminants, such as PCBs and dioxins/furans, all locations with three samples within a cluster above regional background would be a station cluster of concern.	

Name of Commenter:		King County Department of Natural Resources and Parks
Version of Document Reviewed:		August 15, 2012 - Official Version
Lines	Comment	
1638 & 1741	Delete “or background”. It is not needed in the sentence as already incorporated into the CSL.	
1655- 57	The last sentence of (4) is no longer relevant and should be deleted since a department decision here would be inconsistent with no further action.	
1682- 84 & 1690- 92	How can one determine if locations are above the cleanup objectives before the process has been conducted to set the objectives has occurred? At this point, have to default to the SQS which is the original language. Could clarify that if the objectives have been previously set for this region, then also compare to them.	
1704	Please clarify that the responsibility is to collect the information that the department has available. It is too onerous to require an open search.	
1721- 24	It is not appropriate to have the criteria used to identify a cluster of concern be the same criteria that triggers a cleanup. The scale of the problem may not be broad enough to warrant action or even the more detailed evaluation that occurs once defined as a cluster of concern. For example, a cluster of bioaccumulatives may not be enough to create a tissue problem locally. Recommend at a minimum leave open to department discretion but suggest setting specific higher criteria for warranting cleanup.	
1859- 1871	How does the deletion of voluntary cleanups mesh with MTCA grant eligibility? King County has relied on these grants in the past as they are an important sediment cleanup tool. Please ensure this does not affect this type of grant eligibility.	
1921- 22	Why is Ecology no longer willing to consider cost mitigation factors, such as financial resources of person(s) responsible in scoping the RI/FS study? Some liable parties genuinely don’t have the financial resources which could preclude cleanup.	
1983	Text indicates present and past owners and operators must be listed. Is there a practicable limit for available information that will be considered? How far back in time do the past operations have to be documented? Particularly for small cleanups, this can be onerous. Please clarify only needed if trying to determine source.	
1997- 98	To propose a sediment cleanup unit boundary, regional background would need to have been established for some sites. Please clarify that Ecology would do this. See earlier related comment.	
2039	What is a “potential source”? Source is used in several places in this rule and should be defined. Depending on the Ecology program various definitions of “source” and modifiers such as “diffuse”, historic, on-going, active etc. are used and applied. ALL such terms warrant definitions as they are intended to be applied in the SMS and there is a broad undefined requirement for source control in 173-204-500 and 570.	

Name of Commenter:		King County Department of Natural Resources and Parks
Version of Document Reviewed:		August 15, 2012 - Official Version
Lines	Comment	
2116-18	Why was “technical practicability of elimination or reduction of the size and/or degree of chemical contamination and/or level of biological effects within the proposed sediment recovery zone” removed? This concept is appropriate and should be incorporated into 173-204-590.	
2132-46	Short-term effectiveness, long-term effectiveness, ability to be implemented, cost, addressing community concerns, and the degree to which recycling, reuse, and waste minimization are employed all no longer seem to be considerations in the selection of a preferred remedy. As a matter of policy this seems like a step backwards. All of these factors need to be added back into 173-204-570(3).	
2172-76	Why were discussions on sample access and assistance from Ecology removed? It does not appear to be incorporated into other appropriate sections. It may be appropriate to include under each section where sampling may be required or in 173-204-600.	
2269-71	The discussion on requirements for protection of higher trophic levels species are the same for both cleanup objective and cleanup screening level. For human health and benthic invertebrates and background, two levels are presented. There needs to be a similar separation for this group as well.	
2275-97	This entire section is too discretionary and open ended. The current language provides far too little regulatory certainty. For example, how homogeneous are an area’s results required to be? The regulated community needs to understand how regional background will be determined so that this part of the rule can be implemented clearly and fairly. For example if the criteria are set as some percentile of the area, then even in a pristine region, some portions would be classified as contaminated. This draft also has moved the responsibility of defining regional background from Ecology to the implementer. This will be a major obstacle for getting cleanups to move forward since defining background looks to be an expensive burden for the first cleanup in a region and will likely delay cleanups.	
2277	Ecology needs to define “diffuse nonpoint sources not attributable to any source”. All contaminants are tied in some way to a source; although all sources may not be controllable. Ecology should define how much data are required per unit area. How do stormwater and combined sewer overflow sources fit into this definition? We assume these would be part of regional background inputs because it is often difficult to find specific sources to control the inputs from these discharges to the water body. The inputs are often diffuse within the drainage basin. Also what is considered a point source, permitted or unpermitted, current or historic?	
2283-97	Please clarify that Ecology is responsible for determining regional background with regards to excluding samples from areas within a “depositional zone of a discharge”. Also, land use of the drainage basin should be added to the factors evaluated when determining an alternate geographic approach for background.	
2303-04	Delete “identify and screen chemicals of concern in sediment during the remedial investigation/feasibility study and to”. It is not relevant to the section.	

Name of Commenter:		King County Department of Natural Resources and Parks
Version of Document Reviewed:		August 15, 2012 - Official Version
Lines	Comment	
2335-39 & 2380-84	The method listed for multiple non-carcinogens is incorrect in stating that all would be summed for determining the hazard index. Only those non-carcinogens that share the same toxic effects should be summed. Individual contaminants with similar toxicological effects may be summed to yield an effect specific hazard index (EPA 1989 ¹). The hazard index is an expression of the additivity of non-carcinogenic health effects. An effect-specific hazard index can be calculated by summing hazard quotients for chemicals with similar toxicological effects (e.g., immunotoxicity).	
2339 & 2345; 2384 & 2390	Delete the phrase “or other methods as determined by the department.”. This would effectively allow the department to change risk thresholds without rulemaking.	
2350	If the default fish consumption scenario is maintained in the rule, then revise “default scenario” to “Default Scenario, Puget Sound”. For all other sites the objective remains the reasonable maximum exposure, although this scenario may or may not be a tribal scenario. There are numerous water bodies outside of usual and accustomed tribal fishing areas or with other characteristics which make the described default inapplicable. There are probably more (mostly small) water bodies where the described tribal default does not apply than where it does. There are many considerations to determining an appropriate fish consumption rate and therefore it does not seem appropriate to have a default scenario beyond the definition of RME. For example, is the water body within a Usual and Accustomed Area of a Tribal Population, does the water body support shellfish consumption included in all Puget Sound tribal consumption studies, does the waterway (e.g., many freshwater streams and small lakes) support tribal consumption rates. When “historic” tribal use is considered, what defines historic? Finally, many Puget sound tribal rates are only appropriate for marine waters because of the different seafood types present or the ability of the water body to biologically support such consumption rates.	
2387-90	When determining the cleanup screening level, why are multiple carcinogen requirements included? If the level is suppose to be different than the cleanup objective, which is based on individual excess cancer risk of 1×10^{-6} and total excess cancer risk (more than one contaminant) of 1×10^{-5} , then why is the cleanup screening level also including total excess cancer risk of 1×10^{-5} ? It should only be based on individual excess cancer risks of 1×10^{-5} or you may have no different level than the cleanup objective. Another alternative is to set total excess cancer risk at 1×10^{-4} which would coincide with the use of individual contaminants having individual excess cancer risks of 1×10^{-5} .	

¹ EPA. 1989. Risk assessment guidance for Superfund, volume 1: Human health evaluation manual, Part A. EPA/540/1-89/002. Office of Emergency and Remedial Response, US Environmental Protection Agency, Washington, DC
King County comments on SMS revisions

Name of Commenter:		King County Department of Natural Resources and Parks
Version of Document Reviewed:		August 15, 2012 - Official Version
Lines	Comment	
2410-11	The marine criteria for Puget Sound have now been applied to all marine waters. Has the appropriateness of the AETs developed from Puget Sound data been demonstrated for other marine waters? Also, the original intent was to use the growing database to recalculate the AETs. King County recommends this be incorporated into this major revision and periodically thereafter. The concept of the AETs is that more data will develop more appropriate toxicity thresholds for contaminants.	
2417-19 & 2626-28	The sentence "Chemical concentrations at or below the cleanup screening level but greater than the cleanup objective correspond to sediment quality that results in minor adverse effects to the benthic community" is inconsistent with the next sentence. They cannot both be true. The original intent of the SMS was that >SQS but <CSL had the potential to have minor adverse effects; one sample exceeding chemical criteria was considered to have the potential to have some minor effect. More substantial demonstration of toxicity at the CSL level was considered to demonstrate some minor adverse effects. King County requests this be clarified.	
2458	The formula for conversion from dry weight- to organic carbon-normalized in this section is unnecessarily complicated and confusing, as well as being prone to mathematical error. A much simpler equation is: $\text{ppb OC} = (\text{ppb dry weight} / \text{ppm total organic carbon}) \times 1000$. This allows the person performing the calculation to use the values as reported by the laboratory without having to convert organic carbon to a percentage first.	
2541 & 2706 & 516	King County feels that bioassays should remain as "confirmatory" tests that should only be required when one or more chemical criteria have been exceeded. We all know that bioassays are not always good predictors of sediment toxicity and that there can be poor correlation between sediment chemistry and bioassay results (e.g., sometimes a bioassay failure is due to physical affect rather than chemical). Thus line 2542 would read "...designation of marine sediment which fails the chemical criteria..." Thus stations passing chemical criteria need not undergo the expense of biological testing.	
2599	The objective for each test is given in part as " $p.=0.05$ ". The dot after the p doesn't make sense. As this table falls in the middle of added (underlined) text, and a search in the current legal WAC Chapter 173-204 does not yield key terms in the table, presumption here is that this is a new table, but there's no way to determine the p-value equality/inequality to the current rule. Referring to body of text in the current rule suggests that intent is for this to be the "equal to or less than" symbol.	
2602 Table IV	No endpoint (abundance) is listed for benthic infauna. Neanthes test "28 day growth" should be changed to "20 day growth".	
2604 Table	Neanthes test "28 day growth" should be changed to "20 day growth".	

Name of Commenter:		King County Department of Natural Resources and Parks
Version of Document Reviewed:		August 15, 2012 - Official Version
Lines	Comment	
2591 Table V	Ecology has required permittees and liable parties to use SEQUAL and now “myEIM” statistical software tools for many years now. These tools test bioassay results for statistical normality and then allow users to apply appropriate parametric or non-parametric tests. This table and the previous preceding biological criteria text beginning on line 2488 need to be rewritten to account for the myEIM statistical tool and non-parametric testing when statistically appropriate.	
2651 & other places used	This section, as written, double-counts benzo(b)fluoranthene and benzo(k)fluoranthene.	
2657; 59; 61 & other places used	Why the inclusion of o,p'-DDD, o,p'-DDE and o,p'-DDT in addition to the more common p,p'- isomers of these three chemicals? EPA method 8081B does not list these parameters. In fact it actually says to report only the p,p' parameters. This is, in part, due to co-elution issues with other chlorinated pesticides and PCBs. EPA 8081B also states that the p,p' parameters are much more abundant than the o,p' isomers. Including the o,p' isomers would significantly add to the cost of performing chlorinated pesticide analyses as they most likely would need to be done as part of a second method with limited additional value for overall site characterization. The o,p' isomers should be removed from the DDT, DDE and DDD list.	
2663 & other places used	Why the inclusion of Aroclor 1268 for freshwater sediments? Aroclor 1268 is not part of the standard EPA 8082A method, nor is it part of EPA's common list of PCB priority pollutants and thus King County currently does not analyze for PCB Aroclor 1268. It appears to only have represented about 10% of all Aroclors produced. PCB 1268 should be removed from the Aroclor list.	
2665- 68	For chemicals with insufficient information to generate a clear CSL, the rule requires freshwater sediment bioassays to evaluate potential benthic toxicity. Please modify the text to state “If test results show concentrations above this cleanup screening level, bioassays <i>may be</i> conducted to evaluate potential benthic toxicity.” The bioassays should not be required because if other contaminants exceed the cleanup screening level for benthic community, the sediments already indicate potential toxicity. And it's quite possible for a site to just proceed with a cleanup without exhaustive biological testing, particularly when cleanup is required based on these other contaminant exceedances.	
2668 Table VII	Why the inclusion of Endrin Ketone, which is not an EPA priority pollutant and is not currently analyzed as part of any current monitoring program? Also, is the CSL criterion of “0” a typo?	

Name of Commenter:		King County Department of Natural Resources and Parks
Version of Document Reviewed:		August 15, 2012 - Official Version
Lines	Comment	
Table VII	In 173-204-563, there are some chemical parameters listed with freshwater sediment standards for benthic community that are in need of further clarification. Why are standards listed for all four butyltin compounds rather than just the highly toxic compound, tri-butyltin? How many of the samples in the dataset were analyzed for butyltins and how does Ecology know that the presence of the other butyltins contributed to the toxicity in the sediments? Please remove the other butyltins. Also, while there may be some cases (Lake Union for example) where there might be an expectation of finding TBT, there are many freshwater streams where the likelihood of finding this chemical is extremely low. Please clarify that all water bodies do not have to routinely analyze for TBT except when considered to be likely present because of known source.	
2725-26	It is not appropriate to include broad clauses allowing performance standards in rule to be changed without public scrutiny and comment. Clarify specific conditions and criteria that would allow Ecology to approve a different performance standard.	
2741-45	The CSL for “other toxic substances” is functionally the same criteria as the SQS. This is not really appropriate and inconsistent with the other criteria. There should be a difference between the two criteria for each endpoint.	
2791-93	“Sediment cleanup objectives and cleanup screening levels based on protection of higher trophic level species shall not be established at concentrations that do not have the potential for minor adverse effects.” The double negative is confusing, please revise.	
2797-98	The method for which species to evaluate should follow general EPA guidance on ecological receptor selection process that considers: <ul style="list-style-type: none"> • Potential for direct or indirect exposure to sediment-associated chemicals • Human and ecological significance • Site use, including historic species which may have been extirpated by wood waste or other benthic substrate alterations • Sensitivity to chemicals at the site • Susceptibility to biomagnification of chemicals (i.e., higher-trophic-level species) 	
2801-02	What defines a “significant disruption of normal behavior patterns” for listed species? How is significant defined? Is this based on statistically significant difference in laboratory tests? Similar concern with determining “impair reproduction, growth, or survival”. Please clarify the regulatory endpoints. A guidance document on the evaluation of higher trophic level species should be developed (similar to Region 10’s Ecological Risk Assessment Guidance document).	
2812-13	The state has a process to identify persistent, bioaccumulative, or toxic (PBTs) contaminants. It is not appropriate to include chemicals solely because their octanol-water partitioning coefficient is >3.5. Item (B) will capture a vast array of other compounds already determined to not belong on the list; please remove.	
2814-15	How is a performing party supposed to determine if contaminants are suspected to have “ <u>minor</u> ” adverse effects on higher trophic level species? Please remove.	

Name of Commenter:		King County Department of Natural Resources and Parks
Version of Document Reviewed:		August 15, 2012 - Official Version
Lines	Comment	
2850-72	There are a number of items that have been removed from consideration in determining clean up timeframes and evaluation of cleanup alternatives. See lines 2854, 2862, 2868-2872. These are appropriate and useful in some situations and should be retained. In particular, when most cleanups are attempting to achieve regional or natural background, such timeframes would often appear necessary.	
2896-2900	Why is it necessary to state some predetermined timeframe? Why not let the evaluation determine what may be appropriate? A better cleanup solution may result with fewer impacts to human health and the environment.	
2906-08	Monitored natural recovery should be allowed to be considered whenever it is determined to be the best solution during evaluation.	
2914-15	The meaning of this sentence is unclear and not apparent if this would provide any useful differences for remedy selection.	
2927-38	The original cleanup action priority list in WAC 173-340-360 is sound and when applied works well. It is unclear why Ecology feels this sediment specific cleanup hierarchy is necessary. The policy choices inherent in this list are incongruent with the policy choices and priorities in WAC 173-340-360. King County feels a different sediment-specific approach will generate substantial unintended consequences and disproportionate costs relative to their environmental benefit. Instead of generating a new list of unique and proscriptive sediment specific cleanup action priorities, King County requests Ecology reference WAC 173-340-360 instead so that sediment cleanups decision priorities will be consistent with other media. The evaluation process will determine the best solutions for each situation.	
2942-56	This list should include construction impacts and other effects from the cleanup actions themselves. Ecology needs to factor in the impacts of the cleanup actions in the evaluation of alternatives which will include the determination of a reasonable timeframe.	
3030-31	It is not appropriate to change the time frame to the start of cleanup. Most active cleanup actions will have some effect on surface sediment concentrations. The recovery timeframe needs to start from cleanup completion to allow this effect to be captured in the estimates. The additional time is needed to allow post-cleanup recovery from dredge residuals. Otherwise recovery periods will be underestimated and not meet their targets.	
3033	Requiring concentrations to be “as close as practicable” to the sediment cleanup standard is a pretty high bar to achieve. It would almost always require cleanup to meet which is contradictory with the purpose of setting a recovery zone. King County recommends deleting this because it is an unnecessary objective. King County suggests rewording the clause to identify purpose but not set a standard that can't be met.	
3057-59	Similar to the comment on line 3033, this clause would effectively eliminate any recovery zones since in many cases there is a technically practicable active remediation to a SRZ which is otherwise unwise due to adverse net environmental impacts, disproportionate costs, or one of the other balancing criteria in MTCA remedy selection and deserve consideration as mentioned earlier. Please reword so that there can be appropriate use of these zones to solve problems.	

Name of Commenter:		King County Department of Natural Resources and Parks
Version of Document Reviewed:		August 15, 2012 - Official Version
Lines	Comment	
3064-66	<p>If the limit on a SRZ is 10 years, then this is essentially an MNR application. The assessment for MNR effectiveness would have already been covered in the cleanup decision. So the need for an SRZ has to be for longer than 10 years or wouldn't it wouldn't be needed. Please consider adding a provision that an application for a SRZ has to be evaluated at 10 years to see if on track to meet the original projection for timing to eliminate the SRZ and that the original application for an SRZ cannot exceed 20 years.</p>	
3064-66	<p>It is unclear if sediment recovery zones may be authorized for longer than 20 years (in 10 year increments) or if the draft rule language is stating that the duration can be extended in 10 year increments indefinitely. When tribal consumption rates are applied to some bioaccumulative contaminants, it is likely the cleanup objective will be natural background. These levels will unlikely be practicably achievable in urban environments because of the many diffuse sources. Therefore, if Ecology intends to limit sediment recovery zones to 20 years and the cleanup objective is not possible to achieve, what will be the outcome for the responsible parties and local governments in the areas? Please clarify.</p>	
3076-85	<p>The operational terms and conditions for sediment recovery zones are very open-ended and provide no regulatory certainty. This will lead to serious implementation concerns and inconsistencies in the application of the rules. For example, tissue sampling makes little to no sense at the scale of most cleanups unless the site is larger than the target organisms' home range. For most cases, this will not be the case. Trying to track bioaccumulation on-site and how that translates to human health concerns at the site is also rarely possible unless conducted at the regional scale. Many of these conditions would be tied to the discharge permit if that was the ongoing problem.</p>	