

Boise White Paper, L.L.C.
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VIA E-Mail: ruleupdate@ecy.wa.gov

October 26, 2012

Ms. Adrienne Dorrah
Washington Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600

Re: Boise White Paper, LLC comments on proposed amendments to Chapter 1730204 WAC,
Sediment Management Standards (SMS)

Dear Ms. Dorrah:

Boise White Paper, LLC (Boise) is located on the Columbia River at Wallula, Washington. Our mill depends on the river for the water needed in our papermaking process. Boise relies on all natural resources – air, water, energy, and trees – and has a responsibility to use them wisely. One of our company's core values is to manage our businesses to sustain environmental resources for future generations. We appreciate the opportunity to make comments on proposed amendments to Chapter 173-204 WAC, Sediment Management Standards (SMS).

Boise supports the Department of Ecology's recent decision to separate this rulemaking from revisions to Washington's water quality criteria and potetila numeric default fish consumption rates. We believe that the process outlined by Director Strudeviant in his letter of July 16, 2012, is a more deliberative and inclusive process. We will continue to work with Ecology and our trade associations to assist in the development of sound scientific and economically achievable standards.

Our comments related to the current SMS proposal are as follows:

- Ecology should base the sediment cleanup objective in WAC 173-204-560(3) on regional background concentrations of specific chemicals defined in the existing WAC standards. This is important in the recognition that non-point sources, such as atmospheric deposition and storm water, contribute significantly to background concentrations and are recognized to contribute >90% of sediment deposition. It appears that the proposed draft eliminates consideration of ongoing sources of recontamination, practicability of clean-up, and cost in selection of cleanup level, all of which should be addressed.
- Boise supports Ecology's apparent intent to promulgate the SMS revision under the authority of Model Toxics Control Act which provides provisions in Part V to set sediment cleanup standards and not sediment quality standards used for source control. If

Ecology intends to use the sediment cleanup standards as source compliance control tools, then separate rulemaking, including cost benefit analysis should be initiated. Source Control cost for analytical testing alone is estimated from \$481,000 to almost \$3 million in the *Preliminary Cost Burdensome Alternative Analysis, August 2012*, for the Puget Sound alone. Please clarify the application of this rule to point source compliance and permit holders.

- The National Council for Air and Stream Improvement, Inc. (NCASI) provides technical support to the paper industry on environmental issues. An important part of their mission is to ensure that regulatory decision making is based on sound science. In this capacity, NCASI has reviewed the August 15, 2012 proposed amendments to the Draft Sediment Management Standards (SMS) rule (Chapter 173-204 WAC), and their technical comments are attached. Boise is in agreement with these comments. They can be summarized as follows:
 1. Ecology must not include consumption of salmon as part of any fish consumption rate (FCR) used in any risk assessment associated with site-specific sediment cleanups (see comment specific to Section 173-204-561(2)(b)(i)(D) in the attachment).
 2. Ecology must not arbitrarily expand the definition of what constitutes a bioaccumulative chemical beyond the criteria already codified in WAC 173-333-320(2)(b) (see comment specific to Section 173-204-564(2)(iii)(B) in the attachment).
- Several sections of the draft rule allow Ecology to create cleanup targets that are more stringent based on site-specific information. However the same sections of the draft rule exclude development of less stringent targets. If modifications are allowed based on sound scientific information, then they should allow adjustment in either direction. To that end, we support Ecology utilizing site specific, regional information for setting sediment clean-up standards, including consideration of migratory fish.

Please do not hesitate to contact me if you have any questions concerning these comments.

Sincerely,



Paul Butkus
Environmental Manager

Attachment

NATIONAL COUNCIL FOR AIR AND STREAM IMPROVEMENT, INC.
West Coast Regional Center
Mailing address: PO Box 458, Corvallis OR 97339
Street address: 720 SW Fourth Street, Corvallis OR 97333
Phone: (541)752-8801 Fax: (541)752-8806

Dr. Jeff Louch
Principal Scientist
JLouch@ncasi.org

October 25, 2102

Toxics Cleanup Program
Ms. Adrienne Dorrah
PO Box 47600
Olympia, Washington 98504-7600

Dear Ms. Dorrah:

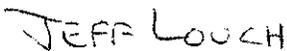
The National Council for Air and Stream Improvement, Inc. (NCASI) is an independent, non-profit membership organization that provides technical support to the forest products industry on environmental issues. An important part of our mission is to ensure that regulatory decision making is based on sound science. In this capacity, NCASI has reviewed the August 15, 2012, proposed amendments to the Draft Sediment Management Standards (SMS) rule (Chapter 173-204 WAC).

Based on this review, it is clear that Ecology has put significant thought and effort into making the SMS rule simpler and more effective. Shifting from a narrative standard to chemical-specific numeric criteria as the means of addressing potential impact(s) of freshwater sediments on benthic organisms and incorporation of the concept of regional background are clear examples of this, and NCASI fully supports both additions to the rule. However, NCASI has some concerns about specific aspects of this proposal. These concerns are detailed in the attachment, and can be summarized as follows:

1. It would be scientifically indefensible to include salmon in any fish consumption rate (FCR) used in risk assessments associated with site-specific sediment cleanups.
(see comment specific to Section 173-204-561(2)(b)(i)(D) in the attachment)
2. Ecology should not arbitrarily expand the definition of what constitutes a bioaccumulative chemical beyond the criteria already codified in WAC 173-333-320(2)(b).
(see comment specific to Section 173-204-564(2)(iii)(B) in the attachment)

Please do not hesitate to contact me if you have any questions concerning these comments.

Sincerely,



Jeff Louch
Principal Scientist

Attachment

cc: Steve Stratton, NCASI
Paul Wiegand, NCASI
Christian McCabe, Northwest Pulpa & Paper Association

**COMMENTS ON SPECIFIC SECTIONS OF WASHINGTON STATE DEPARTMENT OF
ECOLOGY'S AUGUST 15, 2012, PROPOSED AMMENDMENTS TO THE DRAFT
SEDIMENT MANAGEMENT STANDARDS (SMS) RULE (WAC 173-204)**

Section 173-204-561(2)(b)(i)(D)

It is inappropriate to include salmon in any fish consumption rate (FCR) used in risk assessments associated with site-specific sediment cleanups.

Section 173-204-561(2)(b)(i)(D) states that the size of a site relative to an organism's (fish or shellfish) home range will be taken into account as part of the default human health risk assessment, but does not explain the relevance of this adjustment or how it will be implemented arithmetically.

As a consequence of Ecology's silence, NCASI can only assume that the goal of this language is to allow some accounting for the fact that the contaminant dose to a human being (or any higher trophic level organism) received from consuming a single organism (or single species) cannot be assumed to be totally dependent on the concentrations of contaminant(s) at any one site. Put another way, the contaminant body burden of an individual organism cannot be assumed to be dependent solely on the concentrations at any one sediment site.

Obviously, the extent to which contaminants at any one site impact the body burden in individuals of a specific species will increase as the geographic range of the species decreases. For truly sessile benthic species, it might even be logical to assume that 100% of the contaminant body burden is obtained from a single site. However, this is an assumption, and it becomes more tenuous as the home range of a species increases and/or the size of the sediment site decreases. It also becomes more tenuous as the prey base for a species expands.

Ultimately, any attempt to correct a site-specific exposure assessment to account for contaminants originating outside the geographic scope of a contaminated site is subject to significant uncertainty, and NCASI recognizes that using some metric characterizing the relative size of the site vs. an organism's (or species') home range may be the only transparent means of effecting such a correction. Assuming that this is, in fact, Ecology's intent, NCASI fully supports the language proposed for Section 173-204-561(2)(b)(i)(D). However, the most defensible means of addressing this issue is through study of contaminant uptake by the relevant species. Certainly, when these kinds of data are available they should be used.

As a specific example, results from studies examining the accumulation of bioaccumulative chemicals in salmon have consistently shown that >90% of the body burden present in adult salmon is acquired in the open ocean, and not in estuaries or freshwater¹. A recently released Ecology Technical Issue Paper² effectively summarizes these data.

¹ Note that this statement is fully consistent with the understanding that some contaminant uptake occurs in estuaries and freshwater.

² Salmon Life History and Contaminant Body Burdens. In *Supplemental Information to Support the Fish Consumption Rates Technical Support Document*.
<https://fortress.wa.gov/ecy/publications/publications/1209058part1.pdf>

Thus, in the case of adult salmon specifically, attempting to account for the fraction of the ultimate body burden associated with a specific site through use of some correction factor based on geographic size or time spent at or near the site is both unnecessary and unjustified. Instead, Ecology should accept the results obtained by multiple researchers who have studied this issue. These results show that, when considering the impact of estuarine or freshwater sediments in general, a multiplicative factor of 0.1 would be conservative; that is, assuming that 10% of the contaminant body burden in returning adult salmon is derived from exposure to sediments actually overstates the impact of all estuarine and freshwater sediments in the home range of any specific salmon run. This means that the contribution of any one contaminated sediment site to the overall body burden found in adult salmon is truly *de minimis*. Because of this, salmon should not be included in the FCR used in any risk assessment associated with site-specific sediment cleanups.

173-204-564(2)(iii)(B)

Ecology is proposing to arbitrarily expand the definition of what constitutes a bioaccumulative chemical.

Overall, the language in Section 173-204-564 suggests that detection of any bioaccumulative chemical in any sediment will trigger a risk assessment to determine if the specific contaminant poses some risk to higher trophic level species, and Section 173-204-564(2)(iii)(A) requires that detection of any chemical currently listed as a persistent, bioaccumulative, or toxic (PBT) chemical on Ecology's PBT list (WAC 173-333-310) be subject to such a risk assessment. As defined by Ecology's PBT rule, a chemical is considered bioaccumulative if it has a bioconcentration factor (BCF) or bioaccumulation factor (BAF) greater than 1000, or a pK_{ow} ($\log K_{ow}$) greater than 5 ($K_{ow} > 100,000$).

Section 173-204-564(2)(iii)(B) proposes to expand the scope of this to include chemicals with a $pK_{ow} > 3.5$ ($K_{ow} > 3162$), but offers no justification for why this is necessary or useful. This proposed change to the criteria defining what constitutes a bioaccumulative chemical is significant for many reasons. First, although there is some subjectivity in setting the threshold for defining what constitutes a bioaccumulative chemical, setting the threshold at a pK_{ow} of 3.5 is inconsistent with the scientific consensus (this specific issue was debated extensively during development of Ecology's PBT rule, and the result was setting the pK_{ow} threshold at 5). Second, because the proposed modification to the definition does not mandate the existence of a measured pK_{ow} , it opens the window to allowing a chemical to be defined as bioaccumulative based on a predicted (i.e., modeled) pK_{ow} . Finally, and most importantly, because pK_{ow} is simply a physico-chemical parameter not reflecting any limitations to uptake by organisms and/or metabolism by organisms, basing the definition solely on pK_{ow} would allow a chemical to be defined as bioaccumulative without any evidence that the chemical actually does bioaccumulate (as the proposed alternate definition does not require a specific threshold for a BCF or BAF). Thus, this section has the potential to allow decisions about sediment cleanup(s) to be driven by the presence of chemical(s) that may in fact not bioaccumulate. It is encumbant upon Ecology to provide some justification for making this proposal. Absent this the proposal is totally arbitrary.

Considering the deliberative consensus-driven process leading to adoption of the criteria given in Ecology's PBT rule, these should remain the only criteria defining a bioaccumulative chemical. Thus, Ecology should delete Section 173-204-564(2)(iii)(B) from the proposed rule.