

Attachment B
Sediment Cleanup Standards Terminology
July 26, 2010

Colored underlined text reflects proposed new language, language changes, or concepts.

Current SMS rule term	<u>Proposed SMS rule term</u>
Sediment Cleanup Study Plan or Cleanup Study Plan	<u>Remedial Investigation/Feasibility Study</u>
Sediment Cleanup Study Report or Study Report	<u>Cleanup Action Plan</u>
Public information/education	<u>Public Participation Plan</u>
Minimum Cleanup Level	<u>Cleanup Screening Level</u>
Minimum Cleanup Level	<u>Maximum Allowable Level</u>
MTCA “equivalent” term	<u>Proposed new SMS rule term</u>
Remediation Level	<u>Remediation Level</u>
Cleanup Level	<u>Sediment Cleanup Level</u>
Cleanup Standard	<u>Sediment Cleanup Standard</u>

“Sediment Cleanup Study Plan or Cleanup Study Plan” will be replaced with Remedial Investigation/Feasibility Study throughout the SMS rule.

“Sediment Cleanup Study Report or Study Report” will be replaced with Cleanup Action Plan throughout the SMS rule.

“Public information/education” will be replaced with Public Participation Plan throughout the SMS rule.

“Minimum Cleanup Level” – as determined in WAC 173-204-520. This term will be omitted and replaced with “Cleanup Screening Level” throughout the SMS rule. The “Cleanup Screening Level” is equivalent to the “Minimum Cleanup Level” as defined in Table III of 173-204-520, and represents the upper criteria for protection of benthic organisms.

Maximum Allowable Level (new term) – This defines the upper end of the range for setting cleanup standards and is defined in WAC 173-204-570(3). See Figures 1 through 3 for detail.

MTCA equivalent Terminology (see Figures 1 – 3 for details)

Remediation Level – means a concentration (or other method of identification) of a hazardous substance in sediment above which a particular cleanup action component will be required as part of a cleanup action at a site. (WAC 173-340-200) Remediation levels may be used at sites where a combination of cleanup actions components are used to achieve cleanup levels at the point of compliance. Remediation levels may also be used at sites where the cleanup action involves containment of sediment and at sites conducting interim actions. (Reference WAC 173-340-355 (1)).

Relationship of Remediation Levels to Sediment Cleanup Levels and Sediment Cleanup Standards: Remediation levels are not the same as cleanup levels. A cleanup level defines the concentration of hazardous substances above which a contaminated medium must be remediated in some manner. A remediation level, on the other hand, defines the concentration (or other method of identification) of a hazardous substance in a particular medium above or below which a particular cleanup action component will be used. Remediation levels, by definition, can exceed cleanup levels.

Cleanup levels must be established for every site. Remediation levels, on the other hand, may not be necessary at a site. Whether remediation levels are necessary depends on the cleanup action selected. For example, remediation levels would not be necessary if the selected cleanup action removes for off-site disposal all sediment that exceeds the cleanup level at the applicable points of compliance.

A cleanup action that uses remediation levels must meet each of the minimum requirements specified in WAC 173-340-360, including the requirement that all cleanup actions must comply with cleanup standards. Compliance with cleanup standards requires, in part, that cleanup levels are met at the applicable points of compliance. If the remedial action does not comply with cleanup standards, the remedial action is an interim action, not a cleanup action. (Reference WAC 173-340-355 (2)).

Sediment Cleanup Level – (equivalent to MTCA “Cleanup Level”) – the concentration or biological effects level that is determined to be protective of human health and the environment under specified exposure conditions. (Reference WAC 173-340-200).

Sediment Cleanup Standard (equivalent to MTCA “Cleanup Standard”) – means the standards adopted under RCW 70.105D.030 (2)(d). Establishing sediment cleanup standards requires specification of the following:

- Hazardous substance concentrations that protect human health and the environment (“sediment cleanup levels”).
- Point of compliance. The location on the site where those sediment cleanup levels must be attained .and
- Additional regulatory requirements that apply to a cleanup action because of the type of action and/or the location of the site. These requirements are specified in applicable state and federal laws and are generally established in conjunction with the selection of a specific cleanup action. (Reference WAC 173-340-200).

Sediment Management Standards Unique Terminology

Sediment Cleanup Objective (currently in SMS) – This defines the lower end of the range for setting cleanup standards and is the desired goal at cleanup sites. “The sediment cleanup objective identifies sediments that have no acute or chronic adverse effects on biological resources, and which correspond to no significant health risk to humans, as defined in this chapter.” (WAC 173-204-570(2)). This term will not change.

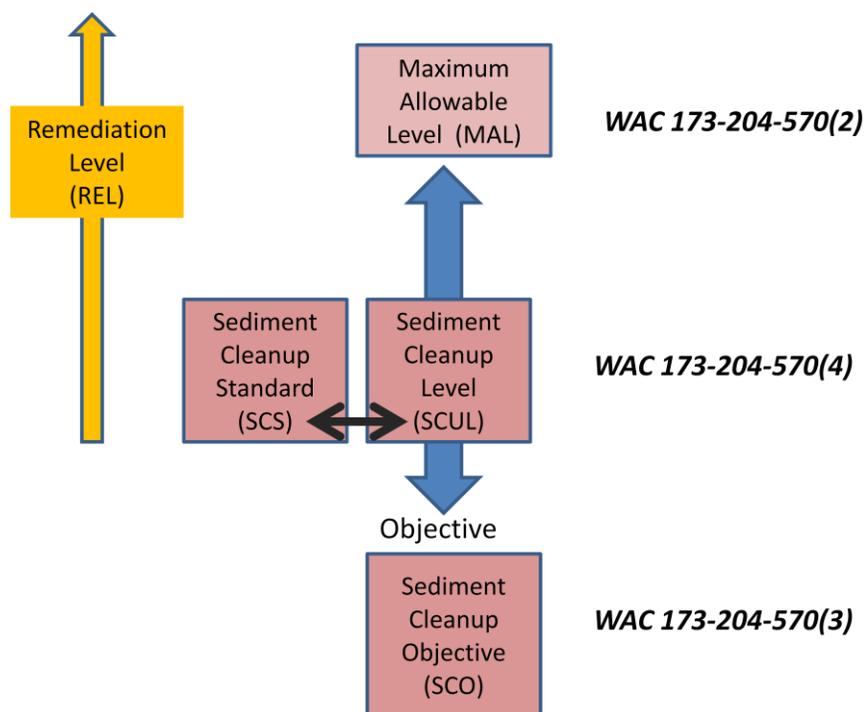


Figure 1: Remediation Levels are related to what actions will be taken at the site and may be set above the cleanup level. The **Sediment Cleanup Level** is the concentration that is the final cleanup level. The sediment cleanup level is set in a range between the **Sediment Cleanup Objective** and the **Maximum Allowable Level**.

How will these terms be used in the Sediment Management Standards?

The term “Minimum Cleanup Levels” will be omitted from Section 173-204-520, “Cleanup Screening Levels” will be used alone in that Section.

Setting Sediment Cleanup Standards in WAC 173-204-570

Provided below is a general description of how the changes in terminology and changes in structure may be applied to the Cleanup Standards section of the Sediment Management Standards. *This is NOT intended to be exact rule language. Other revisions to this section may apply. This is only to illustrate how the terminology is used.*

Figure 2 illustrates the structure of possible revisions to the Sediment Management Standards. Figure 3 shows the current structure of the Sediment Management Standards.

Section 173-204-570(2) establishes the “cleanup objective” or the lower end of the range for setting sediment cleanup standards. This will be referred to with the term “**Sediment Cleanup Objective**” (SCO). The **Sediment Cleanup Objective** shall be the **highest** of:

- a) **Effects–based cleanup levels.** The effects based cleanup levels shall consider site exposure pathways and receptors and be the **lowest** of:
 - i. Sediment Quality Standards as defined in WAC 173-204-320 through WAC 173-204-340.
 - ii. <Human Health narrative (or reference to section with Human Health narrative)>
 - iii. <Ecological bioaccumulation narrative(or reference to section with Ecological bioaccumulation narrative)>
 - iv. Other applicable state and federal laws.
- b) < Background narrative>
- c) **Practical Quantitation Limits**

Section 173-204-570(3) – establishes the “maximum allowable level” (formerly “minimum cleanup level”) that is permissible at a site after completion of the active cleanup action. This is the upper end of the range for setting cleanup standards. This will be referred to as “**Maximum Allowable Level**” (MAL). The **Maximum Allowable Level** shall be the **highest** of:

- a) **Effects–based cleanup levels.** The effects based cleanup levels shall consider site exposure pathways and receptors and be the **lowest** of:
 - i. Cleanup Screening Levels as defined in WAC 173-204-520.

- ii. <Human Health narrative>
 - iii. <Ecological bioaccumulation narrative>
 - iv. Other applicable state and federal laws.
- b) < Other Background narrative?>
- c) Practical Quantitation Limits

Section 173-204-570(4) – establishes the “**Sediment Cleanup Level**” and “**Sediment Cleanup Standard**”.

(a) **Sediment Cleanup Level** is the concentration or biological effects level that is determined to be protective of human health and the environment under specified exposure conditions at a site.

(b) **Sediment Cleanup Standard** (equivalent to MTCA “Cleanup Standard”) – means the standards adopted under RCW 70.105D.030 (2)(d). Establishing sediment cleanup standards requires specification of the following:

- Hazardous substance concentrations that protect human health and the environment (“sediment cleanup levels”).
- Point of compliance. The location on the site where those sediment cleanup levels must be attained .and
- Additional regulatory requirements that apply to a cleanup action because of the type of action and/or the location of the site. These requirements are specified in applicable state and federal laws and are generally established in conjunction with the selection of a specific cleanup action. (Reference WAC 173-340-200).

(c) The **Sediment Cleanup Level** is established on a site-specific basis within an allowable range of contamination. The lower end of the range is defined in **-570(2) as the Sediment Cleanup Objective**. The upper end of the range is defined in **-570(3) as the Maximum Allowable Level**. The site-specific cleanup levels shall be as close as practicable to the sediment cleanup objective, but in no case shall exceed the maximum allowable level. “For any given cleanup action, either a site-specific sediment cleanup standard shall be defined, or multiple site unit sediment cleanup standards shall be defined. In all cases, the cleanup standards shall be defined in consideration of the net environmental effects (including the potential for natural recovery of the sediments over time), cost and engineering feasibility of different cleanup alternatives, as determined through the cleanup study plan and report standards of WAC 173-204-560.”

(d) <Possible discussion about points of compliance for different exposure pathways and background.>

Figure 2. Structure of possible revisions to the SMS rule, including new terminology.
 [OTRBDS = Other toxic, radioactive, biological and deleterious substances WAC 173-204-200(17)]

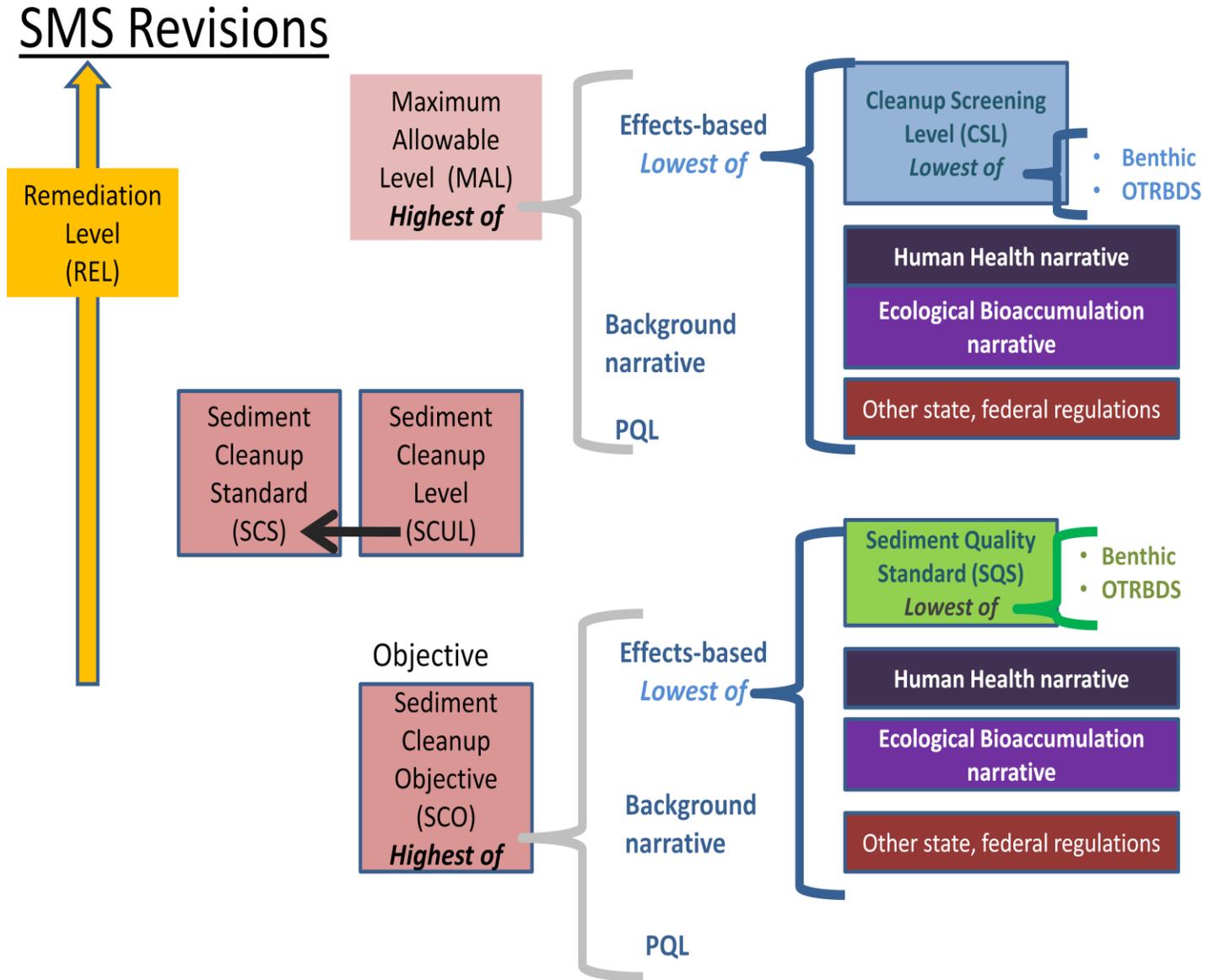


Figure 3: The structure of the current SMS rule.

