

**ISSUE:** Adequate procedures and guidance for contaminated sediment sites

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**Rule Subgroup:** Contaminated Sediments / na

**BACKGROUND**

This paper provides an overview of potential rule revisions in Wis. Admin. Code chapters NR 700, NR 708, NR 716, NR 722, NR 724, NR 725, NR 726, NR 727, and NR 750 that the RR program will consider proposing to ensure that these chapters contain clear and adequate procedures and guidance for persons that are addressing contaminated sediment sites under Wis. Stat. ch. 292.

*Please note: to ensure full discussion of RR program's rulemaking topics among monthly rule development meetings, the program has divided interrelated subject matter among different meetings. Contaminated sediment-related rule revisions that relate to specific 2015 Wis. Act 204 statutory revisions will be discussed in detail as separate items presented at various rule development meetings. This paper focuses on proposed changes to code that are needed to ensure its usability for contaminated sediment sites.*

**PROPOSED CHANGES**

Proposed revisions to Wis. Admin. Code chapters NR 700, NR 708, NR 716, NR 722, NR 724, NR 725, NR 726, NR 727, and NR 750 are organized by chapter. This paper first discusses the rationale for the changes and then provides any available details related to the potential proposed changes. These proposed revisions are in development and subject to change throughout the rule development process.

**Chapter NR 700**

RR Program may propose new definitions within Wis. Admin. Code ch. NR 700 to address a current lack of certainty regarding the meanings of these terms in the NR 700 series context. The proposed terms that have been considered for inclusion are as follows, and detail on the proposed definitions is supplied where available:

- At Wis. Admin. Code § NR 700.03, regarding definitions that apply to code chapters NR 700 through NR 754, add definitions for the following items:
  - Definitions for **analyte, bathymetry, bioassay, bulk sediment analysis, grain size analysis, particle size distribution**, will have the meaning specified in Wis. Admin. Code ch. NR 347.
  - Definitions for **certification, limit of detection, limit of quantitation, method blank**, and **method detection limit** or MDL will have the meaning specified in Wis. Admin. Code. ch. NR 149.
  - “**PCBs**” has the meaning specified in Wis. Stat. § 299.45(1)(a).
  - A definition for “**aliquot**” will be adopted from the *Environmental Monitoring and Assessment Program QA Glossary* to mean a subsample derived by a divisor that divides a sample into a number of equal parts and leaves no remainder; a subsample resulting from such a division. In analytical chemistry the term aliquot is generally used to define any representative portion of the sample.
  - Definitions for the following terms relating to standard methods may be adopted from the following sources:
    - **composite sample** at SM 1060B(b)
    - **discrete sample** at SM 1060B(a)

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- Definitions for the following terms may be adopted from *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods* (SW 846): **data validation, data quality objectives, field duplicate, and matrix spike duplicate** (MSD).
- Definitions for the following terms will be adopted from Wis. Admin. Code § NR 149.03:
  - **laboratory control standard** at Wis. Admin. Code § NR 149.03(39)
  - **surrogate recoveries** at Wis. Admin. Code § NR 149.03(76)
- Other terms such as **benthic community, confirmation sampling, piscivores, insectivores, poling, sediment porewater, surface sediment, surface weighted average concentration, and surface sediment** may be developed.
- The need for definitions for the following terms will be evaluated and definitions may be proposed: **confirmation sampling, elutriate, relative percent difference, chain of custody, and matrix spike**.
- “**Cap**” means an a physical and chemical isolation barrier that disrupts a completed exposure. A cap is an [engineering control](#).
- “**Conceptual site model**” means a description of contamination sources, potential sources, pathways, potential pathway, receptors, potential receptors, and impacted media.
- An explanatory note may be added to the “**sediment**” definition regarding the use of the term “ordinary high water mark” within the definition, including a potential cross-reference to Wis. Stat. ch. 30 requirements and an explanation that the term “ordinary high-water mark” is defined in case law (*Diana Shooting Club v. Husting* (1914), 156 Wis. 261, 272).
- “**Structural impediment**” means objects at a site that prevent the completion of an investigation to determine the degree and extent of contamination or the completion of a remedial action.

The terms listed above are provided to enable review and input and may not be included in draft proposed rules. Additional terms that are not listed above may be considered for inclusion.

### Chapter NR 708

RR Program proposes revising Wis. Admin. Code ch. NR 708 to add sediment and surface water to several sections and to clarify what database submittal requirements will apply in situations where there are no deeds available for portions of sites within a waterway. The rationale for these changes is that the rules, in order to provide adequate guidance to responsible parties and department staff, needs to be inclusive of sediment, and in order to carry out the function provided by Wis. Stat. § 292.12(3), the database (“BRRTS”) needs a consistent solution for the identification of sites with residual contamination and/or continuing obligations that exist to some extent in waterways (because deeds and parcel identification numbers are not consistently available for waterways).

Revisions that are under consideration for draft proposed rule language are listed below, to the extent that they are currently developed.

- At Wis. Admin. Code §§ NR 708.05 (regarding immediate actions), NR 708.09 (regarding no further response actions), NR 708.11 (regarding interim actions) and NR 708.17 (regarding Local Governmental Unit or Economic Development Corporation Exemptions), add “*sediment*” in the following locations:
  - Wis. Admin. Code § NR 708.05(4)(h)
  - Wis. Admin. Code § NR 708.09(1)(f)
  - Wis. Admin. Code § NR 708.11(2)(b)
  - Wis. Admin. Code § NR 708.17(1)(b)

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- At Wis. Admin. Code § NR 708.09, regarding no further response actions, add language under NR 708.09(2) to clarify that “evidence of contaminated sediment or surface water is a condition that require a site investigation.

Additional items that are not included above may be considered for inclusion.

### Chapter NR 716

RR Program proposes revising Wis. Admin. Code ch. NR 716 to address appropriate scoping, sampling methods, work plan, investigation, analysis, and reporting that exist for sediment sites, and to add clarification between references to soil or sediment where applicable. The rationale for these changes is ensuring the clear application of the code to contaminated sediment. Specific proposed changes that are under consideration are summarized below, to the extent that they are currently developed.

- At Wis. Admin. Code § NR 716.07, regarding site investigation scoping:
  - Require conceptual site model with appropriate complexity
    - Additional pathways and sources
    - When to sample sediment
  - Restructure Wis. Admin. Code § NR 716.07 to include sediment specific items
- At Wis. Admin. Code § NR 716.09, regarding the site investigation work plans:
  - Add bathymetry at Wis. Admin. Code § NR 716.09(2)(e)(1)
  - May propose a form for sediment core logging
- At Wis. Admin. Code § NR 716.11, regarding field investigations,
  - Contemplate impacts to plants and wildlife associated with discharges of a hazardous substance, environmental pollution, or both, based on fish and wildlife consumption.
  - Add impacts to *known and potential* receptors to the list of items that must be included in the field investigation evaluation
- At Wis. Admin. Code § NR 716.13, regarding sampling and analysis:
  - Allow for sediment samples for waste characterization and or bench scale studies to be representative composite samples of different locations and depths.
  - Require maximum holding times for *all media and analytes* be in accordance with federal requirements with regard to the sampling method, sample storage container, *preservation*, and analytical methods used.
  - Consider adding a requirement that responsible parties must document during the field investigation and make available to the department, unless otherwise directed, an itemization, for sediment for each analytical group, of the measurement performance criteria for the method blank, equipment blank, standard reference material, field replication, and data completeness.
  - Consider adding a requirement that, upon the department’s request, responsible parties must validate analytical data in accordance with EPA’s most current version of National Functional Guidelines for Inorganic and Organic Methods Data Review and indicate the stage of data validation performed.
  - Add language to clarify that the department may request responsible parties to provide data usability and completeness analysis of analytical data, where appropriate.
- At Wis. Admin. Code § NR 716.14, regarding sample results notification requirements, consider adding media-specific requirements for contaminated sediments.
- At Wis. Admin. Code § NR 716.15, regarding site investigation reports:

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- Include the data that is specific to working in the water, such as bathymetry, developing a conceptual site model including site operational history that lead to impacts in water, specific investigative techniques, appropriate and typical receptors, treatability studies, and sediment specific quality control requirements, and provide chemistry data that informs the department's need to monitor and post advisories for fish, waterfowl and wildlife consumption advisories from bioaccumulating compounds.
- Consider proposing new sediment core log form.

Due to the complex and evolving nature of the issues surrounding the use of the ordinary high water mark to define the boundary between soil and sediment, the RR program will provide explanatory materials in the form of guidance instead of through rule revisions.

### Chapter NR 722

RR Program proposes revising Wis. Admin. Code ch. NR 722 to address ecological risks from contaminated sediment and the criteria for assessing those risks. The rationale for these changes is to protect the public interest pursuant to Wis. Stat. §§ 292.11 and 292.31. Specific items that are under consideration for including as proposed rule revisions are listed below, and detail on the proposed revisions is supplied to the extent that it is currently developed.

- At Wis. Admin. Code § NR 722.09, regarding selection of a remedial action:
  - Clarify environmental standards that are applicable to the selection of a remedial action for contaminated sediment, and consider including language in rule that requires the following:
    - protection of the public interest, public health, and welfare
    - Protection of present and prospective uses of all waters of the state for public and private water supplies, propagation of fish and other aquatic life and wild and domestic animals, domestic and recreational purposes, and agricultural, commercial, industrial, and other legitimate uses.
  - Require that sediment shall not have contaminant concentrations that will contribute to human health consumption advisories in fish, birds or wildlife.
  - Require that sediment shall be restored to be protective of human health direct contact.
  - Consider other changes that would achieve consistency with Wis. Admin. Code § NR 102.01(2). Wis. Admin. Code ch. NR 102 is currently referenced within chs. NR 700 through NR 754 at §§ NR 700.03(55), NR 720.02(7), NR 720.05(3)(c), NR 726.05(4)(c), NR 726.13(1)(b) and NR 716.07(8)(c), and other sections.
- At Wis. Admin. Code § NR 722.11, regarding risk assessments:
  - Consider the application and use of risk assessments at sites with contaminated sediments, and if risk assessments are to be applicable at contaminated sediment sites, consider the role of ecological and human health risks in those risk assessments.

### Chapter NR 724

RR Program proposes revising Wis. Admin. Code ch. NR 724 to include sediment related language at places within code that address media-specific requirements, confirmation sampling, and long-term monitoring. The program also proposes adding notification that other reviews and permits may be needed. The purpose of these changes is to ensure the clear application of the code to contaminated sediment.

### Chapter NR 725

RR Program proposes revising Wis. Admin. Code ch. NR 725 to address new notification requirements to riparian owners for contaminated sediment sites and the placement of sediment covers. The rationale for these changes is ensuring the clear application of the code for contaminated sediment. Specific proposed changes are listed below, and detail on the proposed revisions is supplied to the extent that it is currently developed.

- At Wis. Admin. Code § NR 725.05, regarding situations where notification is required:
  - Add riparian owners at properties where contaminated sediments remain to the list of persons requiring notification
  - Add language regarding sediments to Wis. Admin. Code §§ NR 725.05(2)(b), (d), (e), and (f)
- At Wis. Admin. Code § NR 725.07, regarding general notification requirements:
  - Include a notification form for sediments and/or new section or subsection for sediments
  - At Wis. Admin. Code § NR 725.07(4)(b), include a reference to a new fact sheet for sediment and include parallel language to cover sediments

These changes are in addition to revisions that are being developed pursuant to 2015 Wis. Act 204, which were addressed as a second draft at a Rule Development Meeting on April 9, 2019. Drafts are available on the RR program's rulemaking webpage at: <https://dnr.wi.gov/topic/Brownfields/RuleChanges.html>.

## Chapter NR 726

RR Program proposes revising Wis. Admin. Code ch. NR 726 to include criteria for site closure that are specific to sediments, including the consideration of fish consumption advisory and water quality; to add authority and approvals specific to sediment sites; and to add sediment-specific language throughout the chapter. Rules may also review fees, documentation, and database requirements specific to sediments, including submittal of geographic position data showing the location of continuing obligations (in addition to revisions proposed pursuant to 2015 Wis. Act 204, which were addressed as a second draft at a Rule Development Meeting on April 9, 2019). The purpose of these changes is to ensure the clear application of code for contaminated sediment.

The proposed changes are listed below, and detail on the proposed revisions is supplied to the extent that it is currently developed.

- At Wis. Admin. Code § NR 726.05, regarding general requirements for case closure:
  - Consider addressing fees related to continuing obligations at contaminated sediments sites under Wis. Admin. Code § NR 726.05(3)(a) or through revisions to Wis. Admin. Code ch. NR 749.
  - Consider adding ecological and sediment-specific criteria to documentation requirements under Wis. Admin. Code § NR 726.05 (which would be described in further detail in Wis. Admin. Code §§ NR 726.09 and NR 726.11).
- At Wis. Admin. Code § NR 726.07, regarding department database requirements,
  - consider addressing how to record sediment sites and downstream properties.
- At Wis. Admin. Code § NR 726.09, regarding closure documentation requirements:
  - Add language describing requirements for sediments similar to those for soil and groundwater in Wis. Admin. Code §§ NR 726.09(2)(b), (d), and (e).
- At Wis. Admin. Code § NR 726.11, regarding department database documentation requirements:
  - Clarify the conditions that require a maintenance/inspection plan for sediment caps or other features.
  - Clarifying deed and parcel information needed for sediment sites.
  - Including specific maps and cross section information needed for sediment sites.

- Add data summary table requirements specific for sediment.
- At Wis. Admin. Code § NR 726.13, regarding authority and approvals for case closure:
  - Add sediment to the list of media for which the department may impose site-specific conditions, notification requirements, or other conditions for case closure necessary to protect public health, safety, or welfare or the environment.
- At Wis. Admin. Code § NR 726.15, regarding closure letters and continuing obligations:
  - Clarify closure letter requirements for sediment remedies not on the 'site' where the RP maintains responsibility rather than the property owner.
    - Add language to clarify that, for specific continuing obligations, the closure letter must describe: residual sediment contamination, and any sediment cap or containment structure for prevention of possible future exposure to contamination.
  - Within Wis. Admin. Code § NR 726.15(2)(f), regarding structural impediments, add language to clarify the responsible party may have responsibility for sites where the property/riparian owner is not the responsible party.
  - Within Wis. Admin. Code § NR 726.15(2)(m), regarding site-specific conditions, add language to cover potential off-site contaminated sediments.

### Chapter NR 727

RR Program proposes revising Wis. Admin. Code ch. NR 727 to address the difference between soil and sediment sites throughout the chapter. The rationale for these changes is ensuring that clear guidance is present in code for addressing contaminated sediment. Proposed rule revisions regarding continuing obligations at sediment sites will be shared at a future rule development meeting.

### Chapter NR 750

RR Program proposes revising Wis. Admin. Code ch. NR 750 to ensure that adequate guidance is available to parties seeking an exemption for properties containing contaminated sediments, especially with regard to defining areas of properties (as defined at Wis. Stat. § 292.15(1)(c)) that are below the ordinary high water mark where deeds are not consistently available.

## **AFFECTED RULE CHAPTERS**

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Wis. Admin. Code chapters NR 700, NR 708, NR 716, NR 722, NR 724, NR 725, NR 726, NR 727, and NR 750

## **OTHER RELATED RULE REVISIONS**

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Related rule revisions include the following proposed rule revisions that will be proposed in response to statutory changes made by 2015 Wis. Act 204: revisions relating to rights and responsibilities for owners/occupants at sites with residual contamination; revisions relating to financial responsibility requirements for engineering control maintenance and structural impediment removal at specific contaminated sediment sites, and revisions relating to financial responsibility and insurance requirements at Voluntary Partly Liability Exemption is sought for properties with contaminated sediments.

## **COMPARABLE STATE OR FEDERAL POLICIES**

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The proposed revisions are intended to address certain chapters of code to ensure that these chapters provide clear and adequate procedures and guidance for persons that are addressing contaminated sediment sites

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under Wis. Stat. ch. 292. Given the purpose of these proposed rules, there is not a practical method of comparison with other states for a majority of the proposed revisions. One revision that presents an opportunity for comparison is the addition to conceptual site models as a tool for site scoping.

- The Ohio EPA requires conceptual site models under its DERR Remedial Response Program (Ohio's state-lead CERCLA program) and Ohio's Voluntary Action Program (VAP). For more information on Ohio CSM requirements, see <https://epa.ohio.gov/portals/30/rules/CSM%20Guidance%204-27-15%20Final.pdf>.
- Minnesota Pollution control agency requires a conceptual site model as part of an investigation report for its petroleum remediation program. For additional information on CSM development, see Guidance Document 4-01, [Soil and Groundwater Assessments Performed During Site Investigations](#).
- While Michigan does not appear to specifically address the conceptual site model in administrative code, the MDEQ has required conceptual site models under consent judgements for certain sites, and the development of these models rely on criteria set forth by ITRC and EPA.

At the federal level, the US EPA supports the use of conceptual site models as part of environmental cleanup best management practices. For more information, see fact sheet [EPA 542-F-11-011](#).

## **DISCUSSION OF POTENTIAL ECONOMIC IMPACTS**

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The proposed revisions are intended to address certain chapters of code to ensure that these chapters provide clear and adequate procedures and guidance for persons that are addressing contaminated sediment sites under Wis. Stat. ch. 292. Most of the proposed revisions do not introduce new requirements that would have an economic impact, rather, the revisions provide media-specific guidance for those following code to address contaminated sediments. One revision that may have an impact is the addition of the conceptual site model tool; however, this impact would only occur at certain sites and at a varying range of impact, depending on how to rule is drafted and the size and complexity of a given site. Impacts will be considered in further detail as the rule language is drafted.

## **COMMENTS**

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