

IMPLEMENTATION OF THE SEDIMENT MANAGEMENT STANDARDS AN UPDATE

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SMARM 2015

GOAL FOR TODAY: AVOID THIS...



SNEAK PREVIEW OF COMING EVENTS



- Past - Where we were
 - Rule revisions, developing guidance, establishing background
- Present - Where we are
 - Finalized guidance and established background
- Future - Where we are going
 - Implementing guidance and establishing background

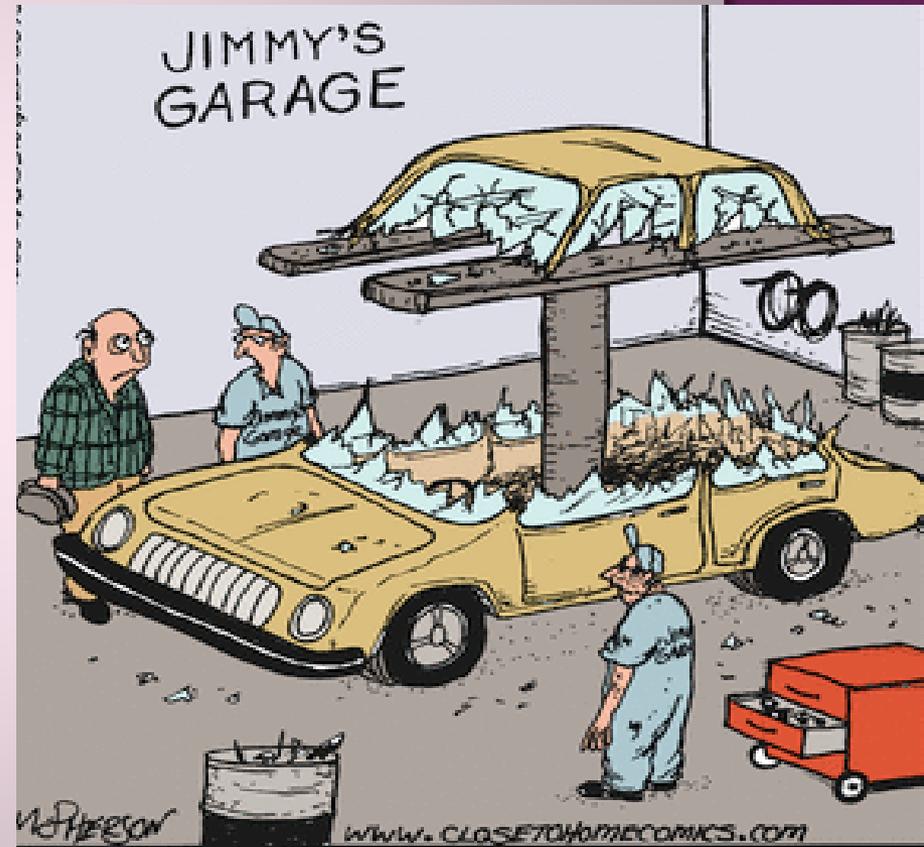
WHERE WE WERE: SMS REVISIONS

- ◉ SMS rule adopted on February 22, 2013
- ◉ SMS rule effective on September 1, 2013
- ◉ Goal: To solve problems.
- ◉ But not like this



SMS RULE REVISIONS: FOCUS ON THE BIG PICTURE

- Write a rule that is:
 - Protective
 - Implementable
 - Scientifically sound
 - Legally defensible
- Don't get derailed by smaller issues



**"Well, first things first.
Your dome light is out."**

WHERE WE ARE:

SMS IMPLEMENTATION PHASE I

- SMS guidance
 - Finalized the Sediment Cleanup Users Manual II, March 2015
- Regional Background
 - Established regional background for two Puget Sound embayments:
 - Port Gardner Bay
 - Bellingham Bay
 - Working to establish for North Olympic Peninsula and Port Angeles
 - Considering and evaluating alternate proposals

Recent Premier Events

**Port Gardner
Regional Background
Premier
December 2014**

**Bellingham Bay
Regional Background
Premier
February 2015**

**SCUM II
March 2015**

WHERE WE ARE: REGIONAL BACKGROUND

- Incorporated lessons learned to complete Port Gardner Bay and Bellingham Bay
- Multiple technical workshops and public review periods on SAPs and data reports
- Determined regional background for a core set of chemicals:
 - Dioxin
 - Dioxin like PCB congeners
 - cPAHs

SEDIMENT SUPERHEROES SCUM II ACKNOWLEDGEMENTS

Authors

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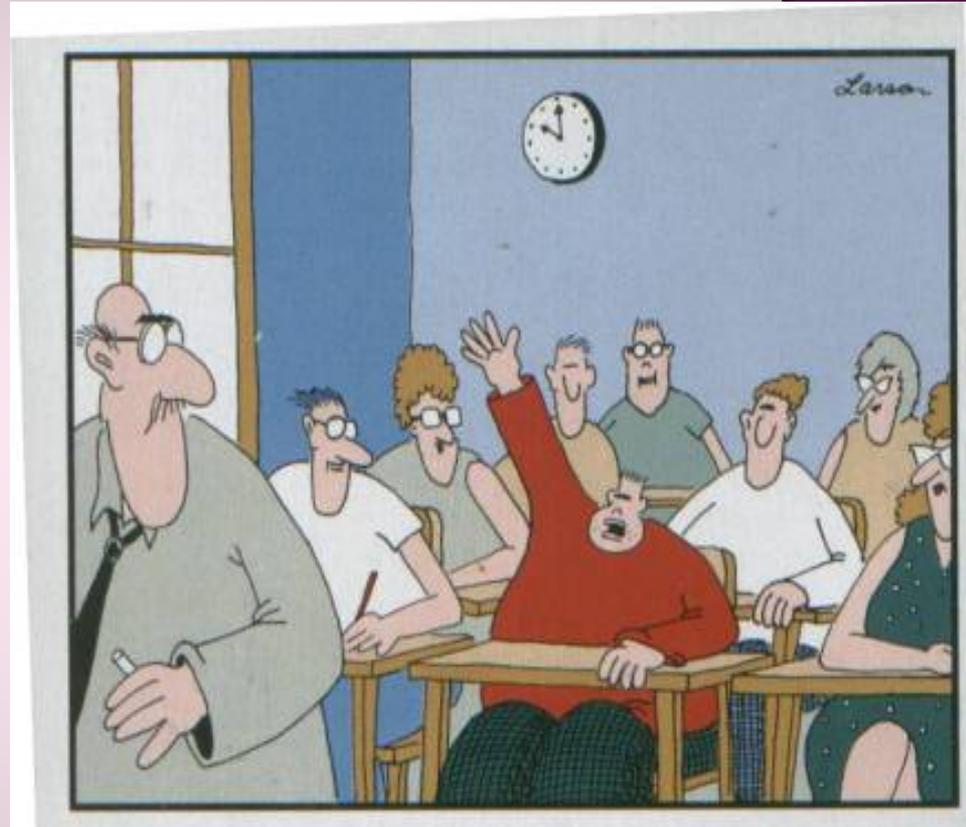
SEDIMENT CLEANUP USERS MANUAL II AKA SCUM II

- ◉ Comprehensive sediment cleanup guidance
- ◉ Implementation tool for Part V of the SMS
- ◉ Recommendations to increase efficiency and effectiveness of cleanup
- ◉ Product of lessons learned over the decades
- ◉ Collaborative effort - internal and external

SCUM II - DEVELOPMENT PROCESS

WE LEARNED A LOT FROM YOU

- ◉ SMS rule advisory group advice
- ◉ Developed two drafts for public comment
- ◉ Conducted three technical workshops
- ◉ Spent ~ one year considering comments
- ◉ Final SCUM II highly influenced by this process



"Dave - may I be excused?
My brain is full."

SCUM II - THE INTERESTING STUFF

- Theme throughout: Implementability
- Simplified the document for ease of reading
- Streamlined the cleanup process:
 - Includes simple vs complex site concepts at major points in the cleanup process
 - Includes optional processes, defaults, and off ramps vs a more complex process
- Added more site specific flexibility
- Added more examples for clarity on key points

SCUM II - TABLE OF CONTENTS

- Chapter 1: Introduction/guidance framework
- Chapter 2: Site identification
- Chapter 3: Remedial investigation
- Chapter 4: Field testing and sampling
- Chapter 5: QA/QC and analytical protocols
- Chapter 6: Data interpretation and reporting
- Chapter 7: Cleanup levels/standards framework
- Chapters 8-11: Cleanup levels
- Chapter 12: Feasibility study/Remedy selection
- Chapter 13: Monitoring
- Chapter 14: Sediment Recovery Zones
- Chapter 15: Applicable laws and permitting
- Chapter 16: References

SCUM II - CHAPTERS 2 & 3

SITE IDENTIFICATION AND RI

- Site identification using benthic and bioaccumulative criteria
- Sediment cleanup units; complex/simple sites
- RI/FS requirements and recommendations
 - Work plans, SAPs, HSP, PPP
- Conceptual site model development
 - Sources, fate and transport, CoPCs, data gaps
- Study design
 - Benthic, bioaccumulative criteria, water quality issues, FS and remedial design

SCUM II - CHAPTERS 4 & 5

ANALYTICAL PARAMETERS, FIELD TESTS, SAMPLING, QA/QC

- ◉ Field sampling protocols incorporate PSEP protocols and SMARM updates
- ◉ Biological tests
- ◉ Bioaccumulation testing
- ◉ Tool for assessing bioavailability
- ◉ Sampling - discrete, composite, porewater, tissue, incremental
- ◉ Up to date chemical and biological analytical protocols

SCUM II - CHAPTER 6

DATA INTERPRETATION & RI REPORT

- RI report requirements - simple and complex site requirements
- Data reporting
- Chemical sums, summing TEQs, non-detects
- Summary statistics
- Data analysis and displaying data
- Source control, MNR, recontamination evaluation
- Revised CSM
- Proposed cleanup levels/standards
- Site boundaries and SMAs

SCUM II - CHAPTERS 7 - 11

CLEANUP STANDARDS FRAMEWORK

- Sediment cleanup levels and standards
 - Description of each and their relationship
- Two-tier framework
 - Establishing the SCO and CSL
 - How the cleanup level is established
- Adjusting upwards from the SCO
 - Detail on how this can be done
 - Detail on issue of recontamination
- Establishing SCO, CSL based on benthic risk, PQL, or background

SCUM II - CHAPTER 9

ECO AND HUMAN HEALTH RISK

- Basic requirements for addressing risks to human health and upper trophic levels.
- Streamlined process for establishing cleanup levels:
 - Option 1: Use sediment data only, default to sediment background
 - Option 2: Use sediment and tissue data, calculate site specific risk based tissue and/or sediment concentrations
- Default and recommended exposure parameters
- Appendix E: Detailed information for conducting more detailed risk assessments (Superfund like)
- Appendix K: Spreadsheets to calculate risk based concentrations

SCUM II - CHAPTER 10

ESTABLISHING BACKGROUND

- How background can be used
- Natural background: Process and options for establishing natural background for marine and freshwater
- Regional background:
 - Process for establishing regional using Ecology led studies (Port Gardner and Bellingham Bay)
 - Options included to use alternate approaches
- Identifying and addressing outliers
- ProUCL to calculate summary statistics
- Table with calculated natural background values using recommended approach and data

SCUM II - CHAPTER 12

REMEDY SELECTION

- Feasibility study report and cleanup action plan requirements
- Detail on establishing sediment cleanup units and/or sediment management areas
- Remedy selection process:
 - Minimum requirements
 - Technologies
 - Detail on conducting alternatives analysis
 - Detail on conducting a disproportionate cost analysis
 - Case studies: Simple and complex sites

SCUM II - CHAPTER 13

MONITORING

- Objectives and types of monitoring:
 - Source control
 - Protection (during construction)
 - Performance (post construction)
 - Compliance
 - Confirmation (long-term)
- Determining compliance with cleanup standards
 - Detailed options (Appendix I includes simulations)
 - Statistics and metrics
 - Use of tissue data

SCUM II - CHAPTER 14

SEDIMENT RECOVERY ZONES

- When a sediment recovery zone (SRZ) is required
- Criteria to authorize an SRZ
- Requirements for an SRZ:
 - Minimum requirements
 - Renewal, expansion, or reduction
 - Monitoring and compliance
 - Recontamination
 - Enforcement
 - Closure

SCUM II - CHAPTER 15

APPLICABLE LAWS AND PERMITS

- ◉ Legally applicable requirements in MTCA and relevant and appropriate requirements (ARARs) to conduct sediment cleanup
- ◉ The what and why of the laws and rules
- ◉ Permits, approvals, or authorizations required to conduct in water work
- ◉ Exemptions from procedural requirements
- ◉ Substantive requirements to be met

SMS IMPLEMENTATION PHASE II

SCUM II

- Internal training for sediment staff - summer 2015
- Considered a “living” guidance, which means:
 - Changes will be made on a regular basis
 - Changes will be targeted on key issues
 - Changes will be presented at SMARM:
 - As informational: Presentation or Status paper
 - For public comment: Issue or Clarification paper
 - As SCUM II is implemented, we welcome your comments on what does and doesn't work

SMS IMPLEMENTATION PHASE II

NATURAL AND REGIONAL BACKGROUND

- Regional background:
 - Ecology led efforts currently unfunded
 - Ecology will seek to have PLPs propose regional background and fund efforts
 - C
- Natural background:
 - Considering establishing for freshwater systems
 - Depending on budget approval (legislature in special session)

DISCUSSION! ANY QUESTIONS?

