This presentation introduces and supports the STAG SHARP Tool Webinar (1-8-2020).

Webinar Agenda

- Background (10 min.)
  - Updating the MTCA Cleanup Rule
  - Updating Policies and Procedures

- STAG SHARP Tool discussion
  - Practical questions & observations (15 min.)
  - Conceptual and strategic considerations (20 min.)

- Next Steps for Developing the SHARP Tool (5 min.)

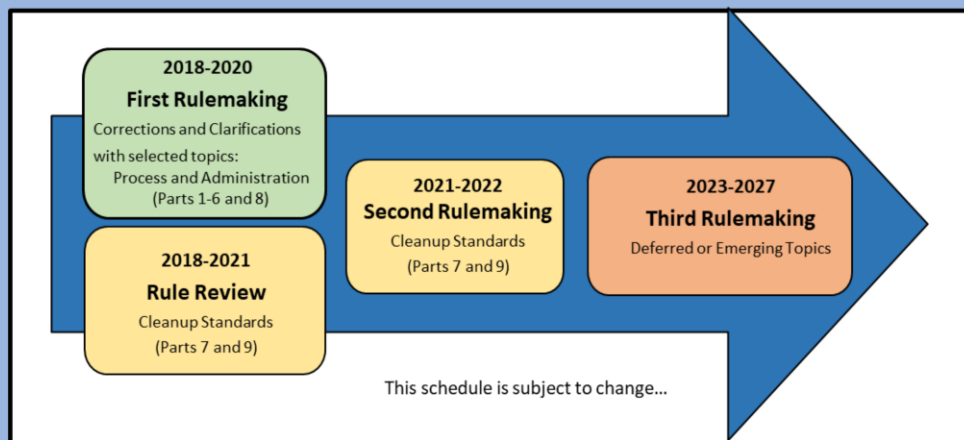- Chat: questions from the public (10 min.)

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- How does SHARP fit in the Cleanup Rule Update Process?

- What's the process for developing the SHARP Tool?

- Where are we in the process?

- What's the role of the Stakeholder and Tribal Advisory Group?

- Rule vs. Policy and Procedure

Updating the Cleanup Rule: A Three-Stage Approach
Chapter 173-340 WAC

2018-2020
First Rulemaking
Corrections and Clarifications
with selected topics:
Process and Administration
(Parts 1-6 and 8)

2018-2021
Rule Review
Cleanup Standards
(Parts 7 and 9)

2021-2022
Second Rulemaking
Cleanup Standards
(Parts 7 and 9)

2023-2027
Third Rulemaking
Deferred or Emerging Topics

This schedule is subject to change...

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Exploratory Rulemaking

The exploratory rulemaking process defines a new approach for updating the Cleanup Rule. Instead of updating the Rule all at once, we're doing so in three stages (called "rulemakings") over several years.

Each rulemaking will focus on a few selected topics. This approach will help speed adoption of the changes that are most urgent for people who use the rule.

First rulemaking (2018–2020): We're updating parts of the rule that contain administrative and procedural requirements for site cleanups. We **won't** change the technical cleanup standards during the first rulemaking.

Second rulemaking (expected to begin 2021): We'll update the technical cleanup standards.

Third rulemaking (expected to begin 2023): We'll address previously deferred topics and new issues that emerge during the first two rulemakings.

Why ranking and listing?

The Model Toxics Control Act says:

"The department shall adopt, and thereafter enforce, rules to… (b) Establish a **hazard ranking system for hazardous waste sites.**" RCW 70.105D.030(2)

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RCW 70.105D.030(6).030(6)

Here's the only statutory direction for how to use the ranking:

• In every odd-numbered year, Ecology's biennial report of MTCA expenditures must provide a report of the department's activities supported by MTCA funds.

• The report must allow the legislature and the public to determine the progress made in cleaning up sites under this Chapter.

• At a minimum, the report must include the "name, location and hazardous waste ranking and a short description of each site on the hazardous sites list…"

Why ranking and listing?

- Cleanup Rule now requires the Washington Ranking Method (WARM) exactly as defined in 1992.

- We'll need to amend the rule to replace WARM with TCP policies & procedures

- An updated ranking and listing process could be a key method for managing site cleanups:
  - ✓ Prioritization
  - ✓ Progress tracking
  - ✓ Public communication

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The Washington Ranking Method (WARM) was developed in 1989 - a very different time, to address program needs that have changed a lot from what we expected then:

- Anticipated several hundred sites vs 13,000!
- Our rule still requires us to rank 35 sites per yea, until we don't have more than 35 to rank (!)
- Many of the founding program staff thought that TCP could be out of business in about 10 years.
- Focused on MTCA-funded cleanups, led by agency staff, complete in a few years, and for a few million dollars.
- Since then – growth of VCP means we're tracking many more sites than Ecology will ever clean up.
- Historically, VCP accounts for about 39% of all NFAs; II and SHAs combined account for about 42%; "formal" cleanups only about 3% of total NFAs.
- In 1989 we didn't have a lot of experience with cleaning up sites – but now we've cleaned up more than 7,000.
- We need to reflect what we've learned in our ranking system, and
- We need to track numerous sites awaiting cleanup in a way that's transparent

and available to the public.

The number of MTCA sites has nearly tripled since the last rule update.

MTCA Cleanup Sites, 1989–2019
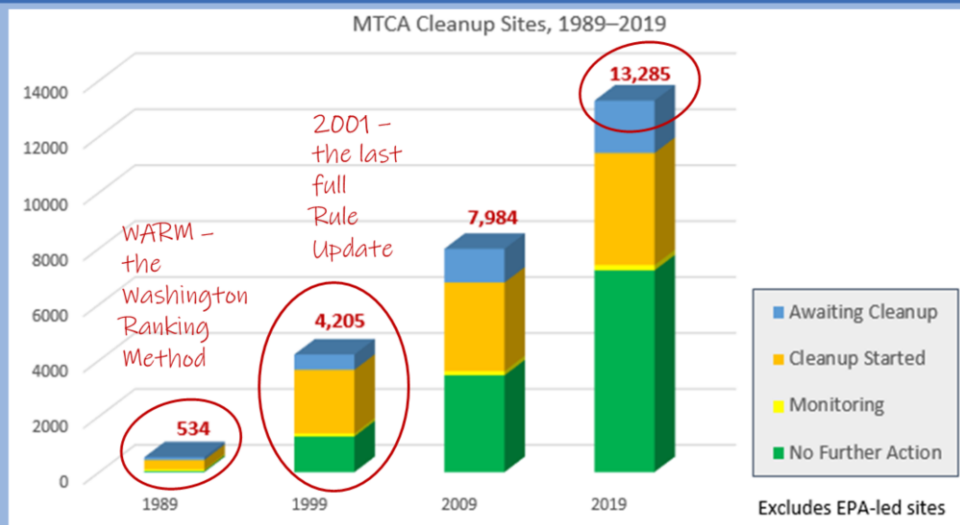
This chart first presented at the MTCA 30 Seminar, Dec. 10, 2019. Jim Pendowski's comment: he environmental legacy of business and commerce in Washington is proving much larger than we initially thought.

On the average for the last several years, TCP takes in about 300 new sites per year and issues about 200 No-Further-Action letters (NFAs).

Proposed Rule Update:
SHARP Purpose & Functions

- Assess threats posed by contaminated sites though soil, groundwater, surface water, sediments, and air
- Support listing, de-listing and re-listing of contaminated sites
- Compare threats to prioritize remedial action
- Reflect changes due to new information or changed conditions
- Inform the legislature and the public

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**From Preliminary Draft Rule Update WAC 173-340-320 (Nov. 8, 2019, p. 25).**

(1) Purpose. The purpose of the site hazard assessment and ranking process is to provide a uniform system for evaluating and comparing threats posed by contaminated sites. The process is not intended to provide a detailed site characterization.

Ecology uses the process to:

(a) Assess threats posed by contaminated sites within each environmental medium;

(b) Compare threats posed within and among contaminated sites to prioritize remedial action;

(c) Reflect changes in threats posed by contaminated sites based on new information or changes in site conditions;

(d) Support decisions whether to list, de-list, or re-list contaminated sites under WAC 173-340-330; and

(e) Inform the legislature and the public about the threats posed by contaminated sites.

Rulemaking Schedule – WAC 173-340
MTCA Cleanup Rule Policy and Administration
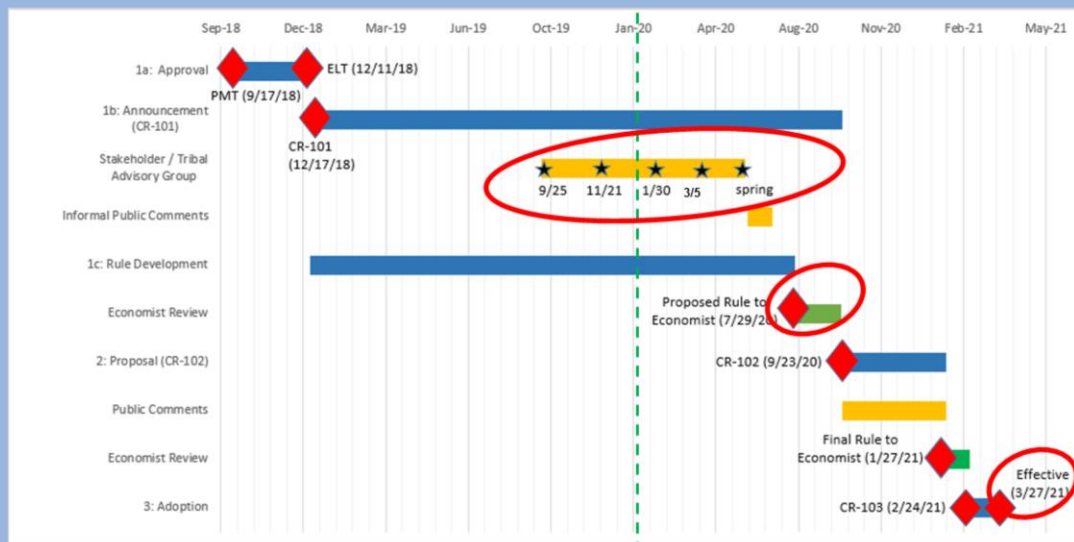
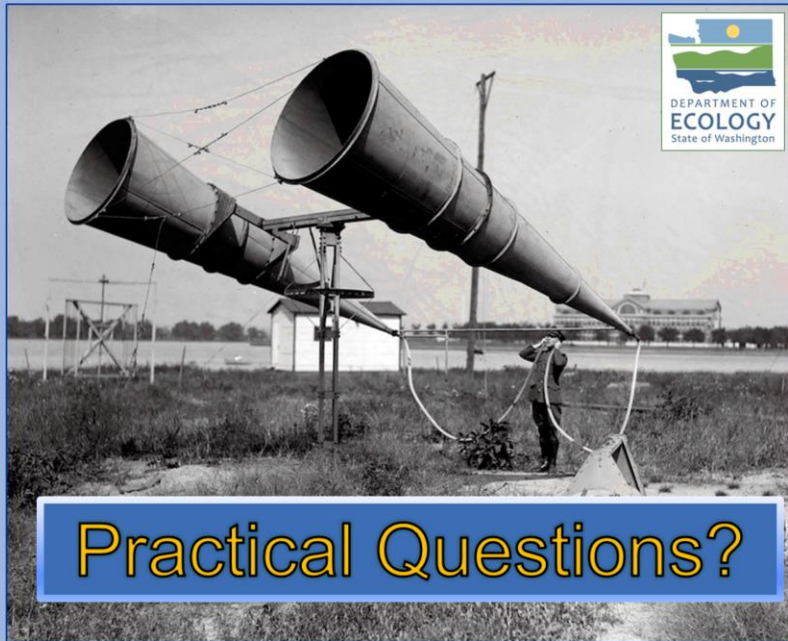January 8, 2020   Cleanup Rule Update: SHARP Tool Webinar for STAG Members   8

Here's the schedule for the first formal rulemaking of the three planned during the Exploratory Rulemaking.

The left column shows the basic phases of rulemaking described in the previous slide. Calendar months run along the top row, from:

- September 2018, when we transitioned from Exploratory Rulemaking to focus on this first formal rulemaking process, to

- March 2021, when the new rule changes can go into effect – IF all goes as planned.
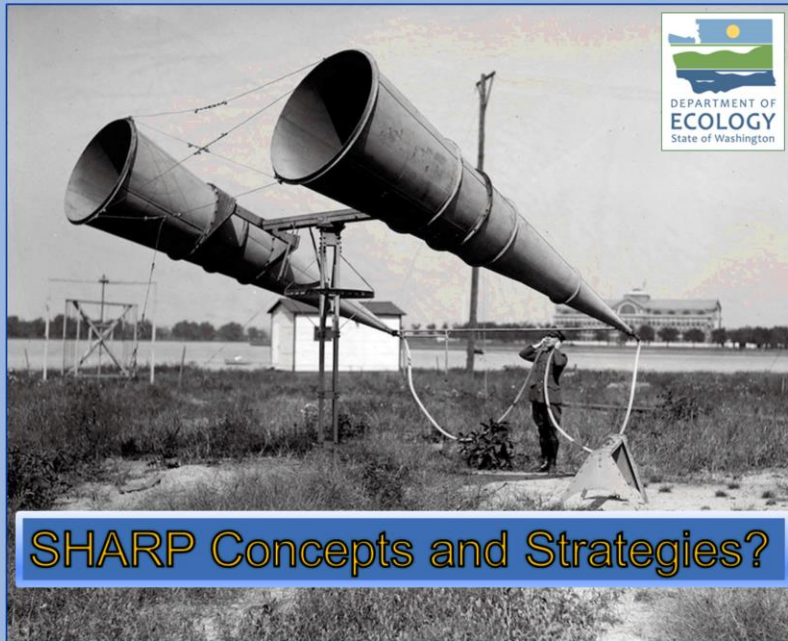
Critical milestones:

- Stakeholder and Tribal Advisory Group process
- Proposed rule language to Ecology's economist by July 29, 2020
- Proposal (CR102) in September 2020
- Adoption (CR-103) within 6 months of CR-102
- Effective: end of March, 2021

Practical Questions?

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SHARP Concepts and Strategies?

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for more information…

1. Visit Ecology's web page https://ecology.wa.gov

2. Search for "Chapter 173-340 WAC" and select the link

3. From the Chapter 173-340 WAC rulemaking web page, follow links to:

   - Subscribe to e-mail notifications
     http://listserv.ecology.wa.gov/scripts/wa-ECOLOGY.exe?SUBED1=MTCA-SMS-RULE-UPDATE&A=1

   - Stakeholder and Tribal Advisory Group web page
     https://www.ezview.wa.gov/site/alias__1988/37514/default.aspx

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Currently, the rulemaking web page (just the citation that you searched for) appears as the third search result.
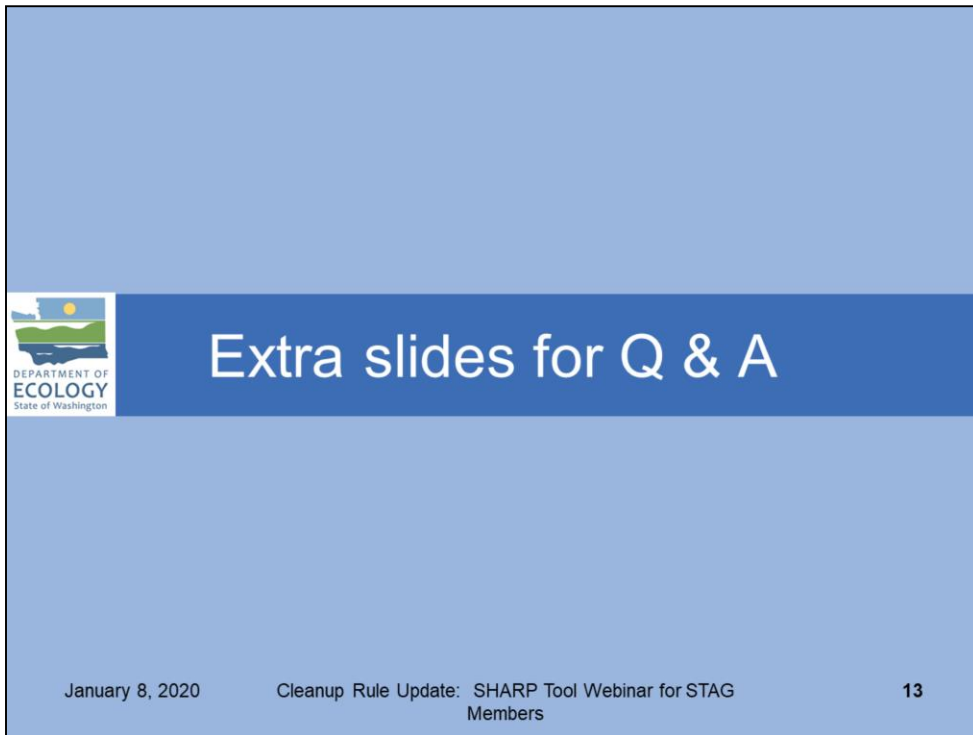
Extra slides for Q & A

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Currently, the rulemaking web page (just the citation that you searched for) appears as the third search result.

SHARP Objectives
(Toxics Cleanup Program Management Team, June 2018)

- ➢ Develop, test and improve alternatives to WARM
- ➢ Develop rule changes to WAC 174-340-300 to 340:
  - Initial investigation
  - Site Hazard assessment
  - Ranking
  - Listing

- ➢ The new process should have these characteristics:

  - Initial rankings integrated into the Initial Investigation
  - Add less than 1 hour to the Initial Investigation process
  - Absolute rankings (no more quintiles)
  - Applicable to **all** unranked sites, but phased in over time
  - Rankings updated at cleanup milestones (e.g., RI)

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The Rule Team took a close look at the recently-revised Alaska site ranking system.

After reviewing alternatives, we started on a foundation already developed by staff working at our Central Regional Office (CRO). We combined this with some insights and ideas from the Alaska model.

A program-wide Design Team, which expanded a bit as the project developed:

- a "proof-of-concept" ranking tool implemented in MS Excel
- Reliability testing: do different users generate similar scores when ranking the same site using the same information?
- We've made numerous changes to the original and are now conducting internal trials on a revised, more polished version.
- In November 2019 we shared a prototype of the SHARP Tool with STAG, to inform their consideration of our proposed rule changes.

How *does* Ecology allocate resources
to its <u>formal</u> sites?
(from withdrawn Policy 340, October 2004)

- Site hazard ranking (WARM)
- "Additional Considerations":

  1. NPL (Superfund) Sites
  2. Current impacts, or need for interim actions
  3. Resource availability or previous commitments
  4. PLP readiness to proceed
  5. Public concern
  6. Economic factors
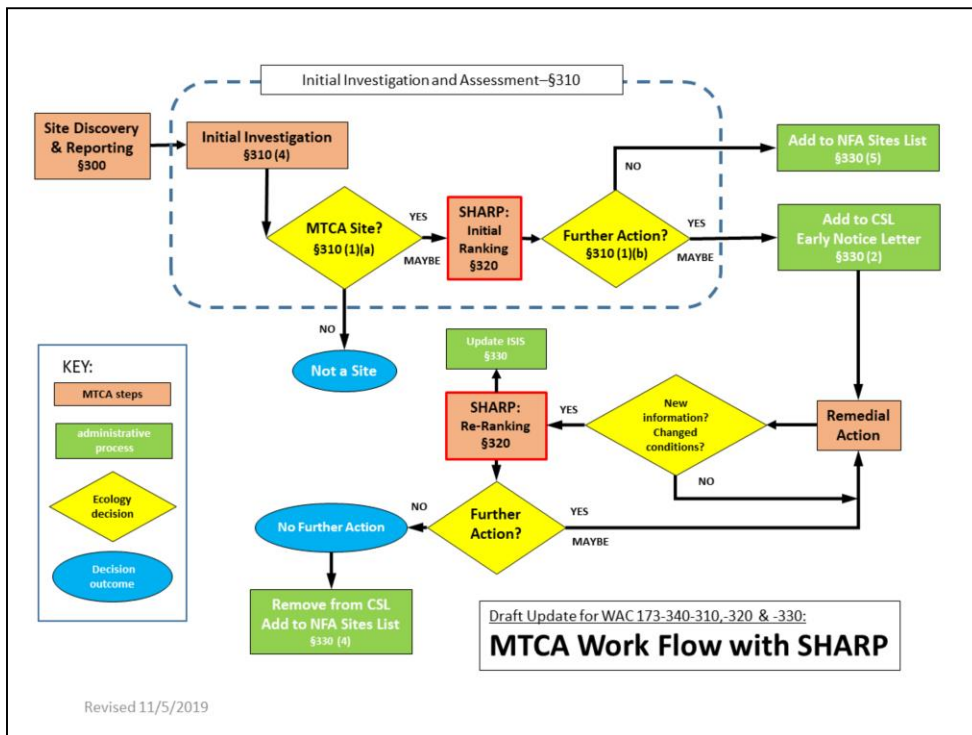 7. Overall "Do-Ability"

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Note that the term "formal" doesn't have an official definition in the Cleanup Rule.

But, as used within the TCP, sites under "formal" supervision are those where Ecology:

- Conducts the cleanup itself, or
- Supervises cleanup under an
    - Agreed Order,
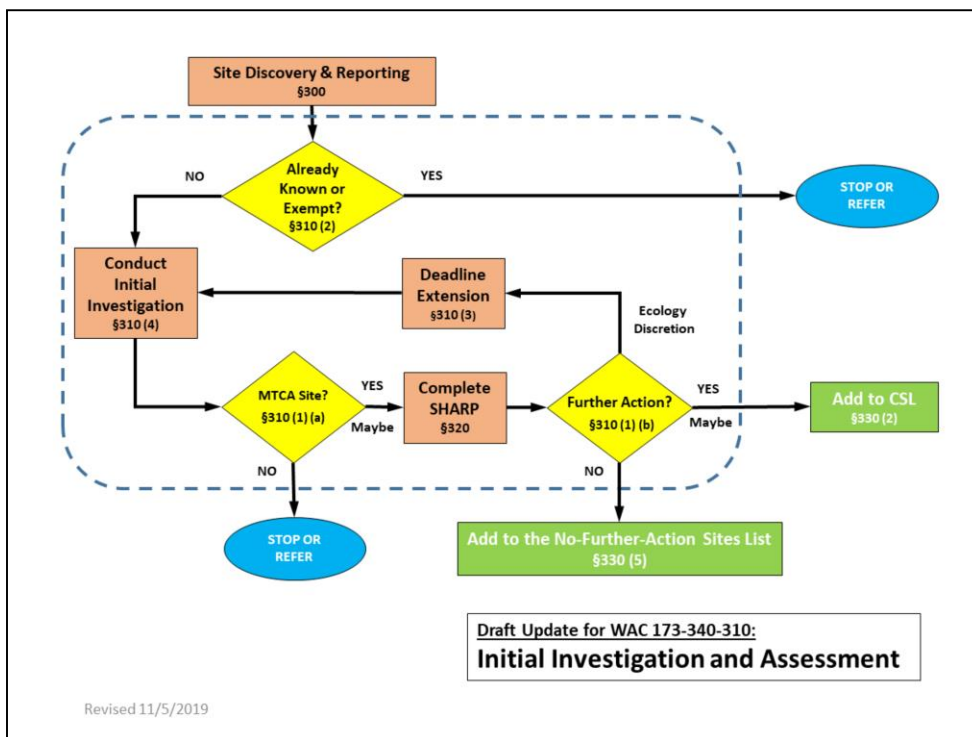   - a Consent Decree, or
    - an Enforcement Order

Draft Update for WAC 173-340-310,-320 & -330: **MTCA Work Flow with SHARP**

Revised 11/5/2019

To adopt this system, we'll need to changes several pages of the Cleanup Rule, including:

§310 - Initial Investigations

§320 – Site hazard Assessment
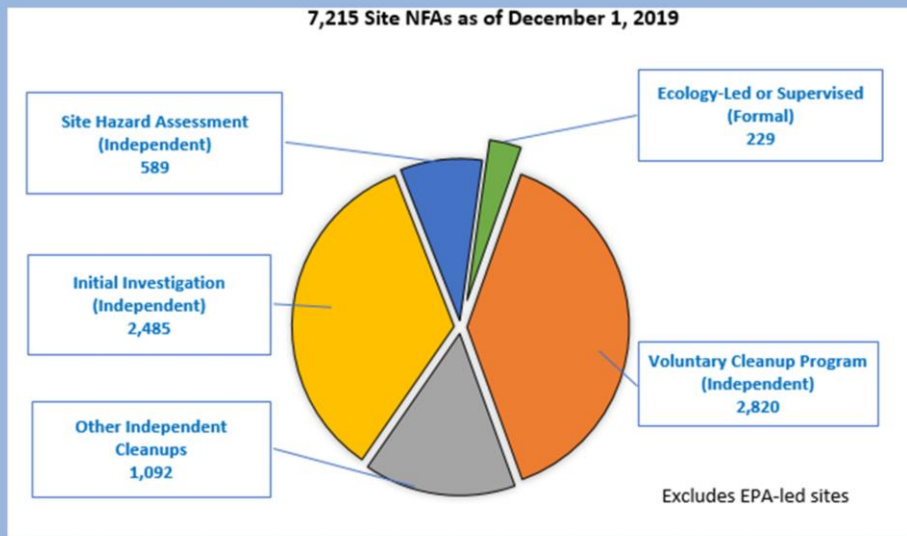
§330 – Hazard ranking and the Hazardous Sites List

Advantages:

- Streamlines the Initial Investigation and Site Hazard Assessment

- Eliminates CSCSL, after legacy unranked are added to HSL

- Revives hazard ranking as a tool for prioritization

- Allows re-ranking and progress reporting

- Requires changes to de-listing requirements

Draft Update for WAC 173-340-310:
Initial Investigation and Assessment

Revised 11/5/2019

The MTCA Rule drives the cleanups.
Ecology oversees a few, advises on many.

7,215 Site NFAs as of December 1, 2019

Site Hazard Assessment (Independent) 589

Ecology-Led or Supervised (Formal) 229

Initial Investigation (Independent) 2,485

Voluntary Cleanup Program (Independent) 2,820

Other Independent Cleanups 1,092

Excludes EPA-led sites

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NFAs from <u>Formal</u> cleanups: **3%**

NFAs during <u>Initial Investigation and Site Hazard Assessment</u>: **43%**

NFAs through <u>Voluntary Cleanup Program</u>: **39%**

<u>Other – Historic</u>: **14%**

- Cleaned up under prior authority
- Cleanup Completed, - not on HSL
- Historic LUST NFA
- Independent Remedial Action Program Review NFA
- Restrictive Covenant with Institutional Controls

- **RISK** – a conceptual variable defined as the interaction of three independent variables that we can estimate directly:

- **EXPOSURE** – the nature and extent of a human or environmental receptor's interaction with the hazardous substance.

- **HAZARD** – the potential effects of a hazardous substance (*carcinogenicity* or *toxicity*) at a given exposure level.

- **SUSCEPTIBILITY** – the potential for (or probability of) harm to a defined receptor resulting from exposure to the hazardous substance.

- **SEVERITY** – a conceptual variable defined as the interaction of **HAZARD** and **SUSCEPTIBILITY**.

- In practice, these interaction mean multiplying measures of "exposure" with measures of "hazard" and "susceptibility". This is embedded in the risk analysis formulas in the Cleanup Rule.

Components of a two-tier ranking system

Exposure Potential

A – known active

B – possible active

C – potential future

D – unlikely

Severity Estimate
Hazard and Susceptibility

1 – greatest concern

2 – medium concern

3 – lesser concern

4 – lowest concern

Confidence

High
based on credible, site-specific data

Medium
based on some site-specific data, but with gaps; estimate may need verification.

Low
based mostly on general information about the site and contaminants

EXPOSURE

RISK

HAZARD   SUSCEPTIBILITY

SEVERITY = HAZARD & SUSCEPTIBILITY

We're allowing a small set of structured choices for uncertainty:

Confidence Levels for Exposure Potential and Severity

High Sufficient information is available to support the score.

Medium The score is based on site-specific data of limited quality or quantity. Additional confirmation data may be needed.

Low The score is based on reported or suspected facility operations and processes, apparent site conditions, and types and quantities of contamination typically generated at analogous facilities. Additional confirmation data are required to support the score.

Note that accepting, accounting for and reporting the degree of uncertainty allows us to move through the ranking process using whatever data are available, to generate the best ranking possible at the time of ranking.

The SHARP-Tool "Snap-Shot"
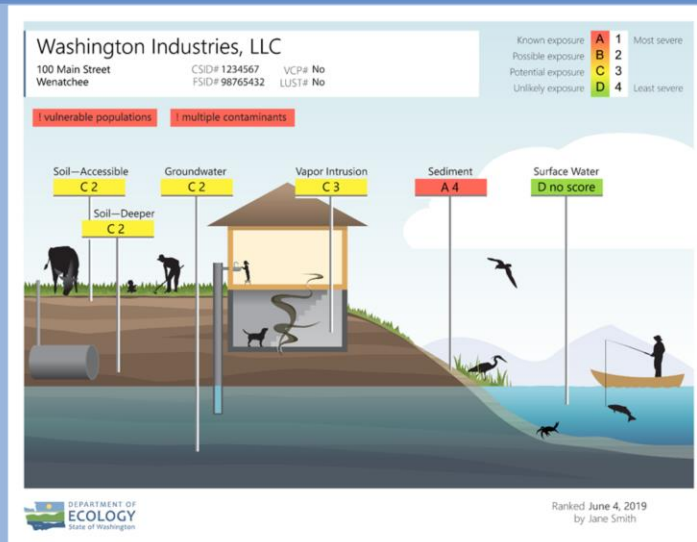
This graphic is a possible way to present SHARP Tool results to a general audience. Something like this – with explanatory backup – could be avaialbe through the Ecology web page, in conjunction with the "What's In My Neighborhood?" app.

Note that the current WARM rankings don't include Vapor Intrusion or Sediment as potential exposure media.

Here's the summary page from the ranking of a hypothetical sediment site.

It shows the exposure, severity and confidence scores for each exposure route, as well as basic identification and a site description. Each of the fields is populated automatically through separate worksheets for each exposure route.

We're working n ways to publish, share and explain this information through our web page. Ultimately, this summary sheet might be accessed through the "What's in my neighborhood?" app on our website.

This report describes the site based on what we know at the time of the ranking.

The SHARP Tool is designed to allow site managers efficiently to re-rank sites when site conditions change, or when new information becomes available.

Standard procedures for ranking and re-ranking will be addressed in policies that guide the use of the SHARP Tool procedure.

Environmental Justice
Vulnerable Populations

"Racial Equity and Social Justice components should be considered in the prioritization and ranking of sites (risk and equity-based ranking). Because many voluntary cleanups are initiated by developers, these cleanups tend to occur first, MTCA needs to ensure that vulnerable populations in impacted areas which are not necessarily economically desirable for redevelopment are protected against harmful health effects of contaminants."

Exploratory Rulemaking
eComment from King County Science, Wastewater and Public Health, April 2018

We're considering how to identify and address environmental justice issues through new the ranking system. The alternatives seem to be:

1. Use some indicators of vulnerability to increase the quantitative severity ranking of one or more exposure routes at a site, or

2. Attach a qualitative "flag" to sites associated with vulnerable populations.

To decide, we're considering when and how the information needs to be used in the cleanup planning and prioritization process. This is an ongoing discussion related to the policies we establish as we implement a revised Cleanup Rule.

We plan to coordinate this aspect of SHARP with broader EJ policies and programs of Ecology and the state Department of Health.