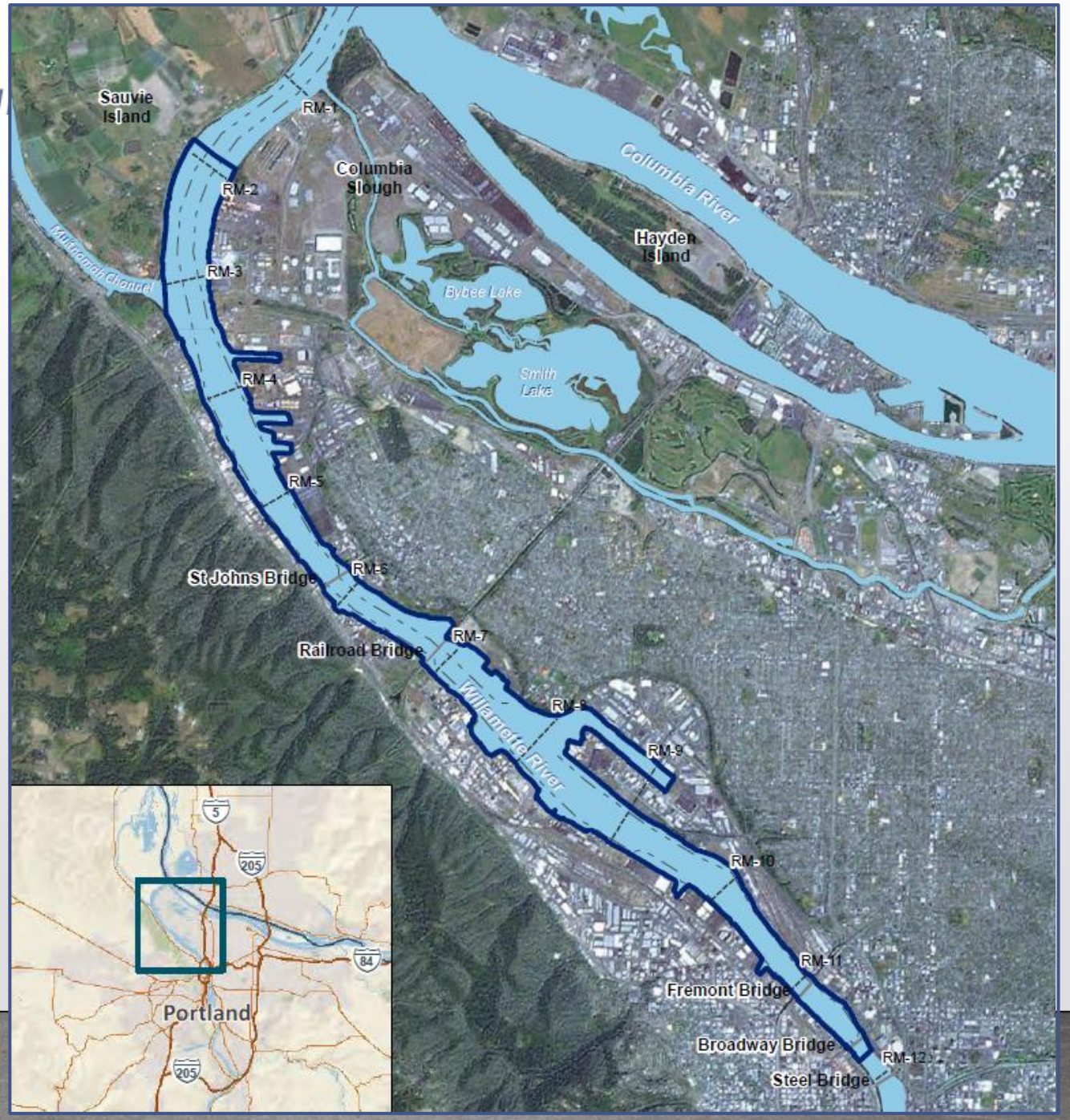
Portland Harbor Superfund Site: Proposed Plan & Feasibility Study

Dr. Peter deFur

Environmental Stewardship Concepts, LLC

June 21, 2016

Portland Harbor Study Area



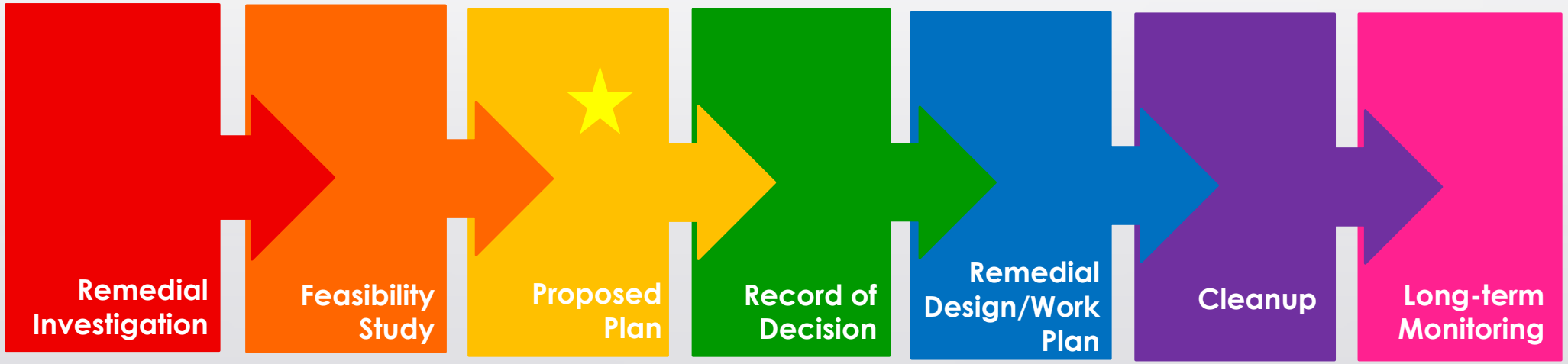
LEGEND

- Portland Harbor Study Area
- River miles
- Navigation Channel

Miles

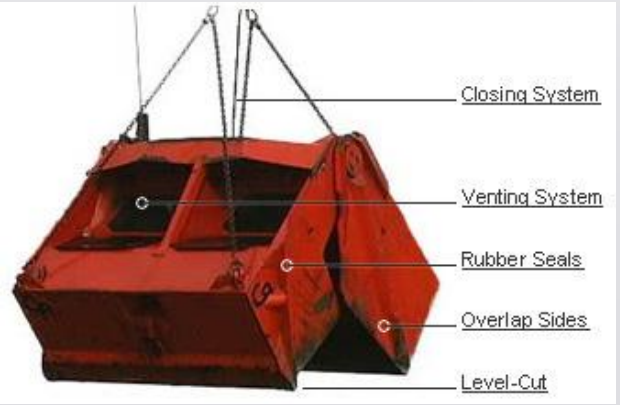
0 0.3 0.6 0.9 1.2

The Superfund Process

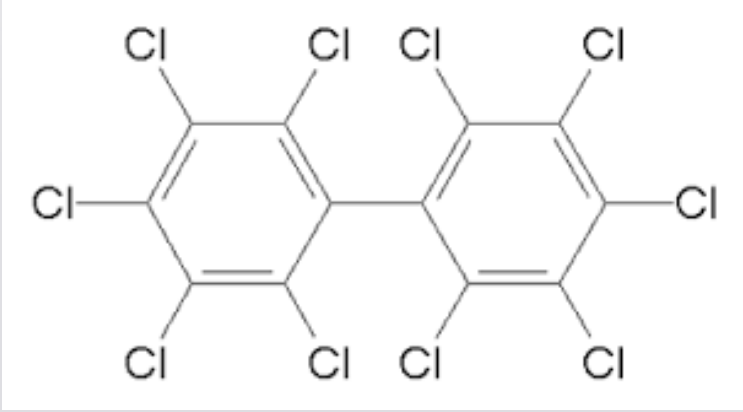


Feasibility Study (FS) Overview

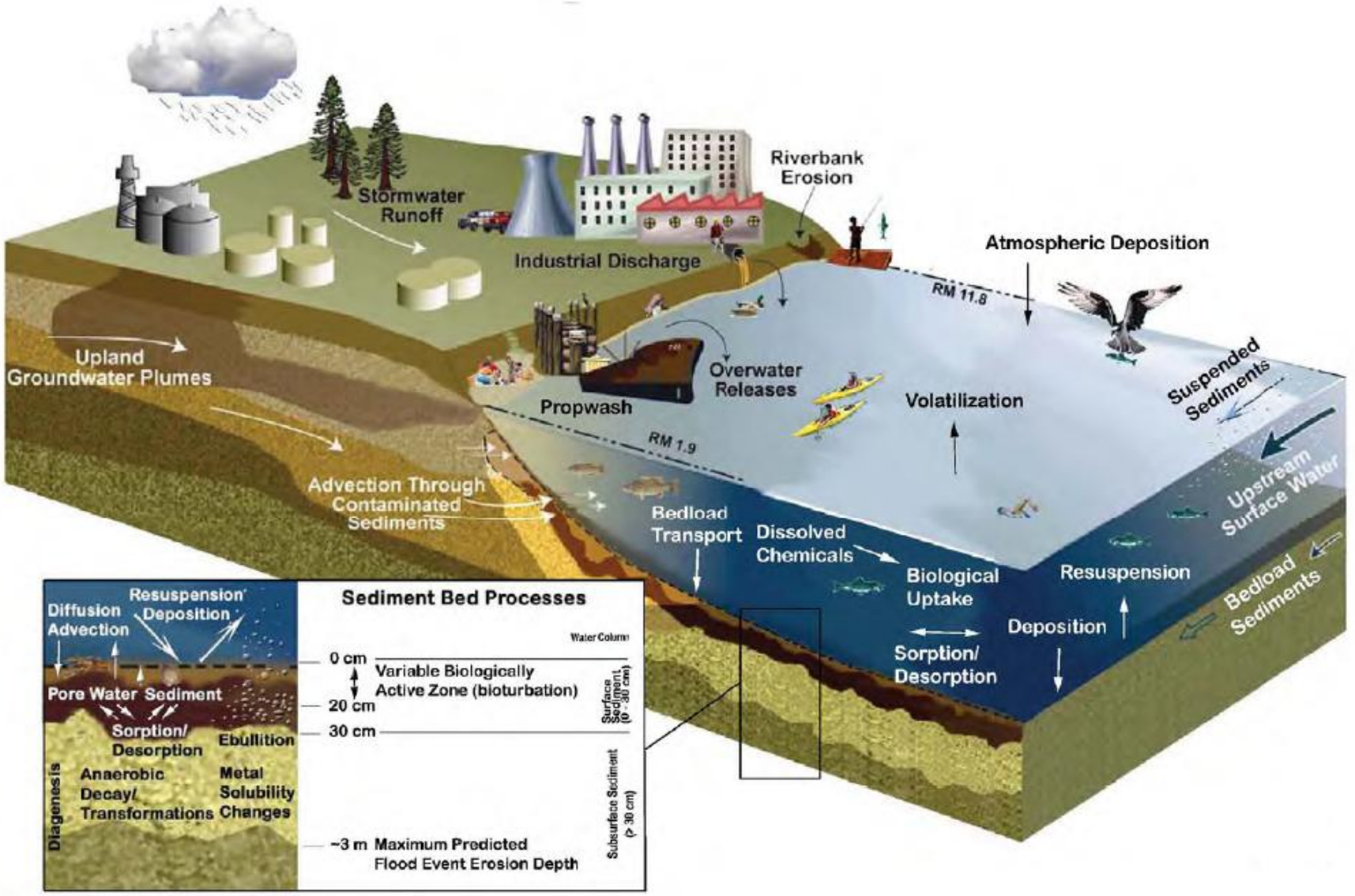
- The **Feasibility Study** develops cleanup options to figure out the **most effective cleanup for the site to protect human health and the environment** from current or future exposure to the site chemicals.



A, B, C……Z



Major Elements of the Portland Harbor Conceptual Site Model (CSM)



SOURCE: Figure created from PDF provided by Integral Consulting, Inc.

Proposed Plan Overview

- The **Proposed Plan** evaluates the different options for cleanup and gives a **recommendation for an option that EPA considers best suited to each site**.



Clean up methods

Capping

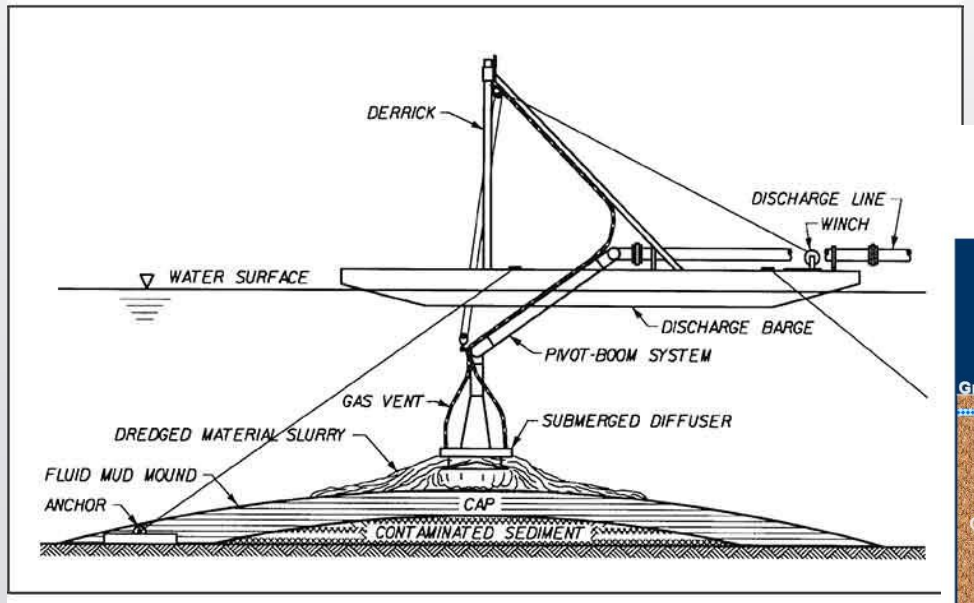
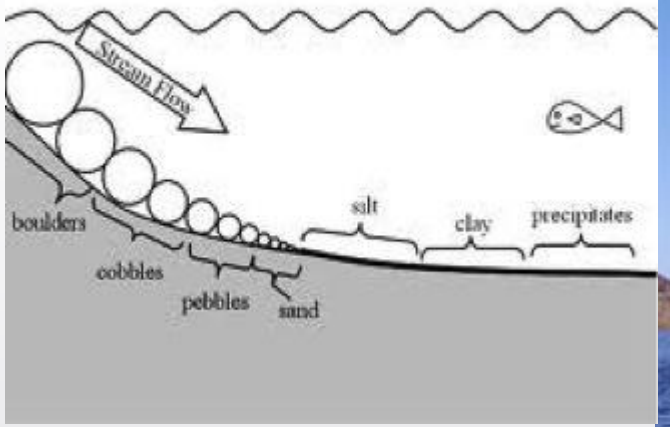
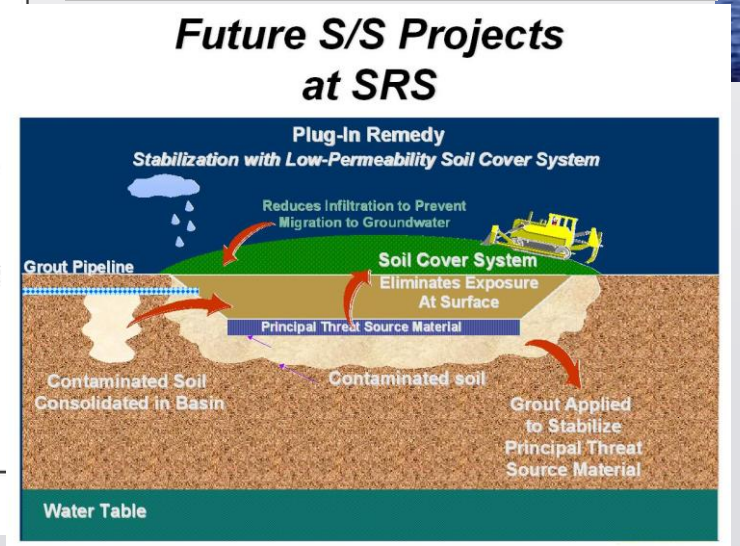


Figure 8. Submerged diffuser system, including diffuser and discharge barge







Dredging

Natural Recovery

Cleanup Alternatives

Alternative A: No action

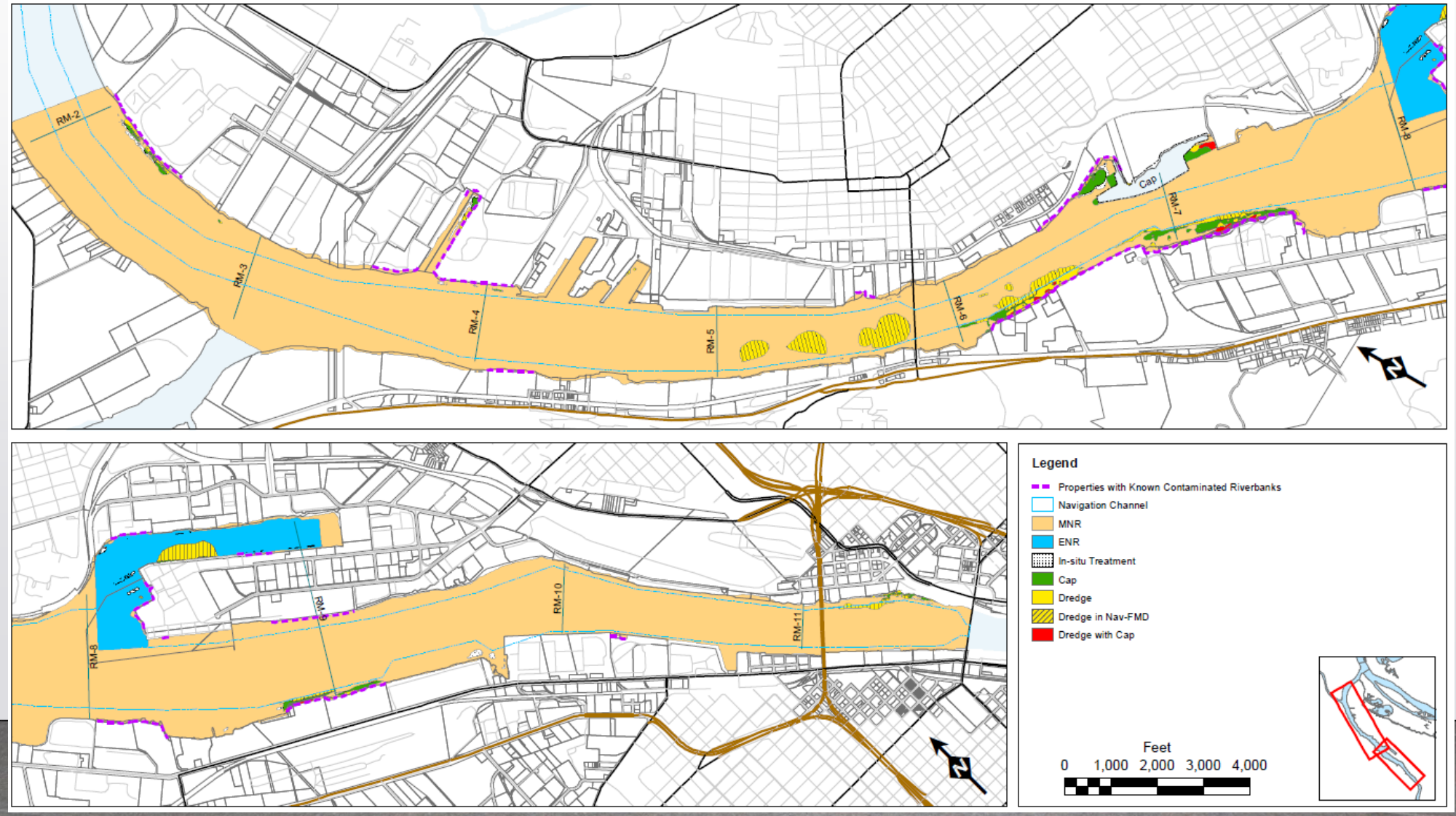
Alternative	Technology (acres)					
	Dredge	Cap	Sed. Treatment		ENR	MNR
			In-place	Off-site		
B	67	23	7	156,000 to 208,000	100	1,966
C	80	30	5		97	1,948
D	121	45	3		87	1,900
E	188	66	0		60	1,838
F	355	118			28	1,634
G	525	185			20	1,391
H	1,526	535			0	0
I	150	64			60	1,876

Preferred Cleanup Alternatives by group

Predominant Technologies (acres)	Preferred Cleanup Option		
	PRPs (Alt. B)	EPA (Alt. I)	PHCAG (Alt. G)
MNR	1,966	1,876	About 800
EMNR	100	60	20
Cap	23	64.1	185
Dredging	67	150-167	About 1000

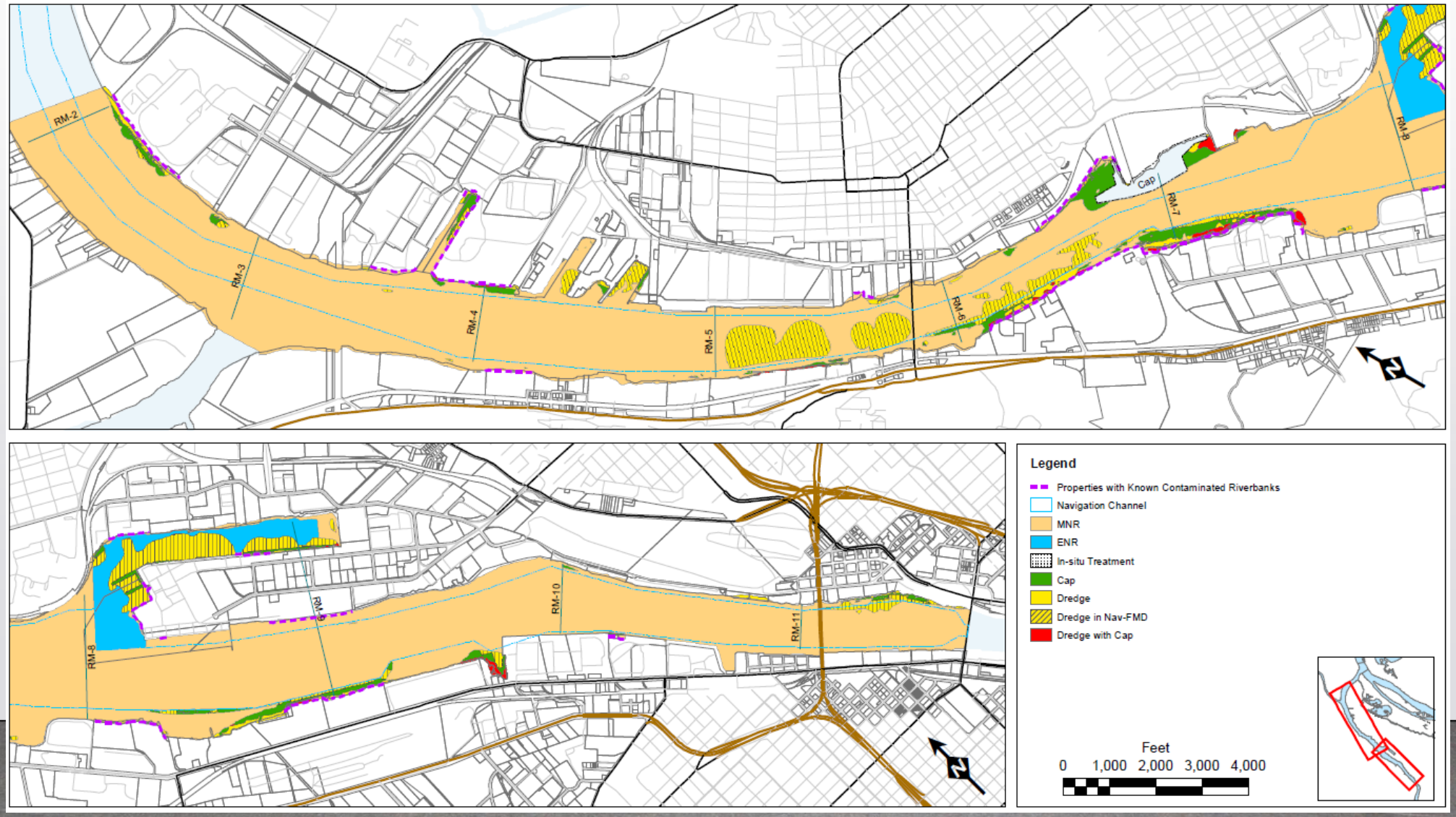
Comparison of Cleanup Alternatives

Alternative B



Comparison of Cleanup Alternatives

Alternative E



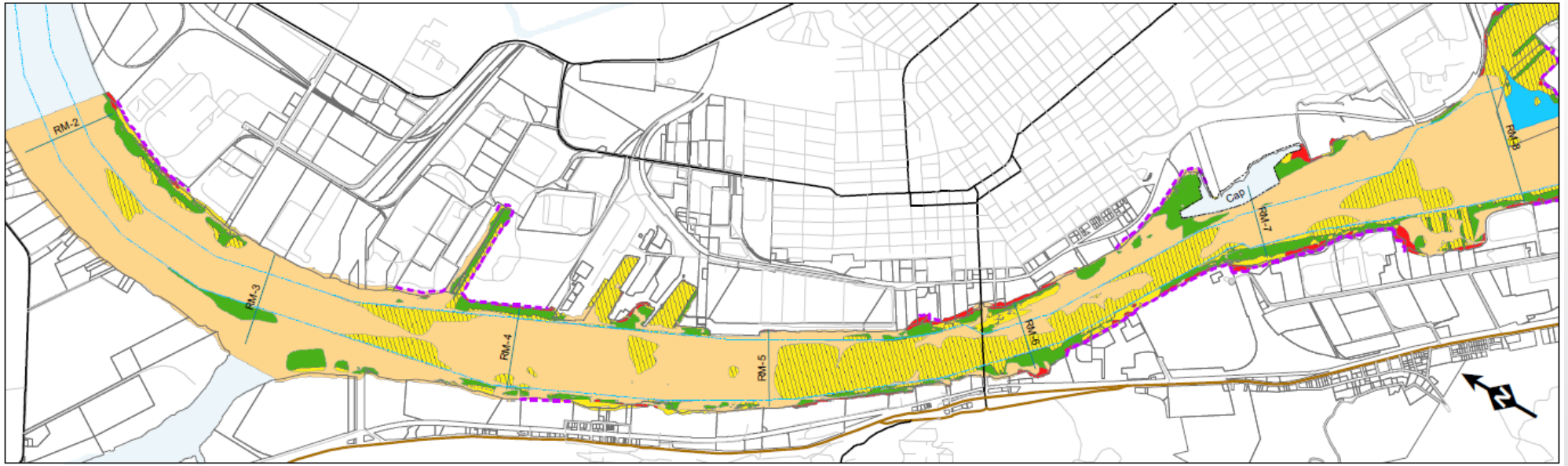
EPA Preferred option--Alternative I

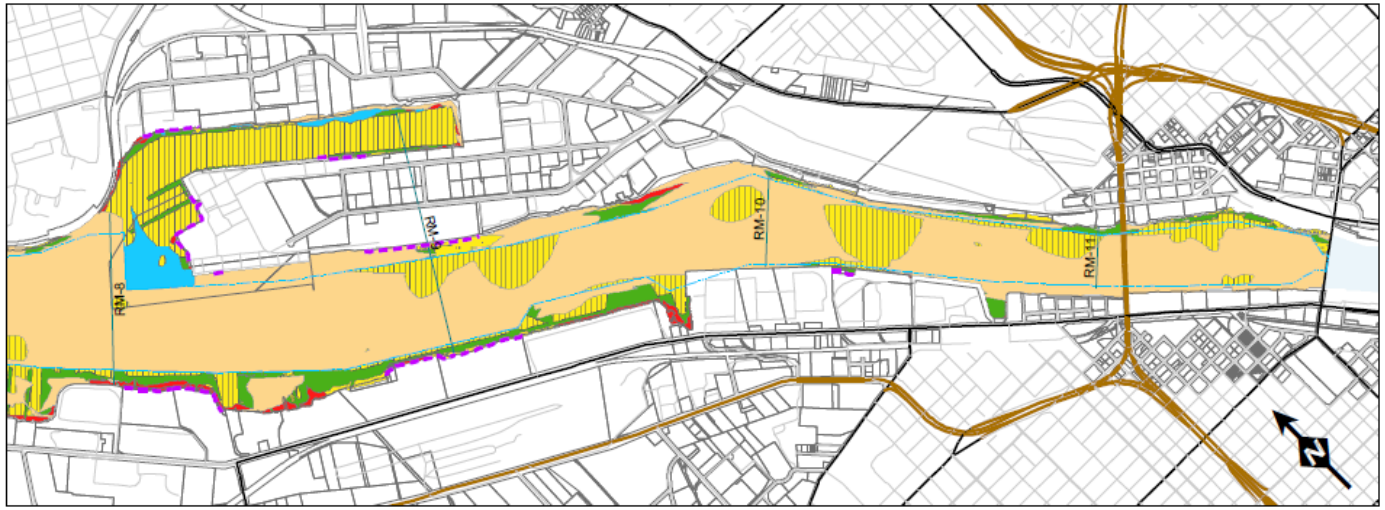


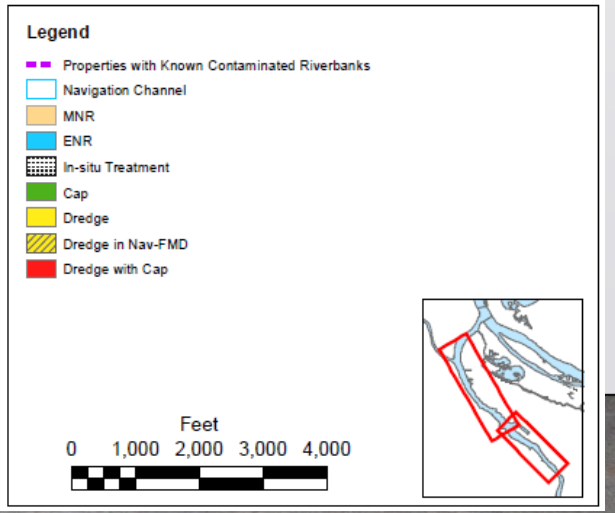
Figure 11h. Sediment Management Areas, Alternative I

Comparison of Preferred Cleanup Alternatives

Alternative G







Cleanup Alternative -- ESC

- More protective and permanent remedy than Alternative G
- Active remediation to include either removal or capping of acreage contaminated above 9 ppb
- Goal: fishable swimmable & to meet preliminary remediation goals (PRGs) soon after construction
- Require Oregon DEQ to sign Agreed Order on upland source control

ESC's Concerns with the Feasibility Study & Proposed Plan

- Atmospheric release
- State and Community acceptance
- Tribal consultation and coordination
- Emerging technologies- treatment
- Control of upland and upriver sources
- Contaminants left in river
- Confined Disposal Facilities
- Monitored Natural Recovery

Concerns- cont.

- Time frame for estimated costs
- Compliance for all standards, including drinking water
- Restoration of any lost habitat
- Independent air & water monitoring
- More detailed/site-specific data
- Hire locally
- Fish contamination
- Monitoring

Next Steps

- Public comment period **June 9 – August 8** (60 days)
  - Submit Comments to: **harborcomments@epa.gov**

    OR

    Attn: Harbor Comments

    U.S. EPA, 805 SW Broadway, Suite 500

    Portland, OR 97205

    http://www.portlandharborcag.info

    http://www.cleanupportlandharbor.org/

    On Facebook: Clean-up the Willamette River Superfund Site

- EPA public meetings: June 24 & 29, July 11 & 20
- EPA responds to public comments and makes final decision


Questions &
Comments