

Portland Harbor Cleanup

- Introduction -

WODCON- XXI

June 14, 2016

Miami, FL, USA

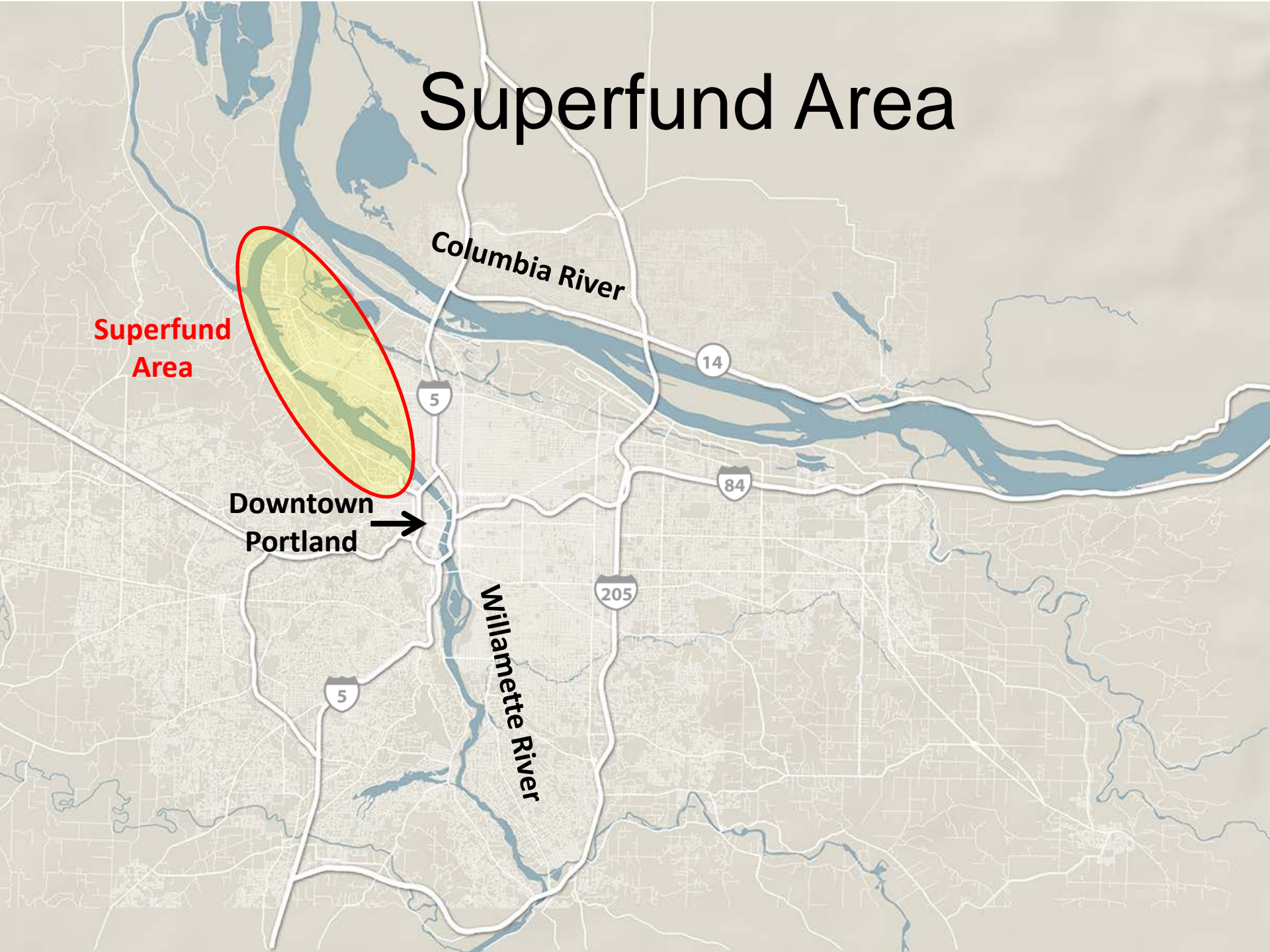
Portland, Oregon USA



Portland



Superfund Area



**Superfund
Area**

**Downtown
Portland** →

Columbia River

Willamette River

5

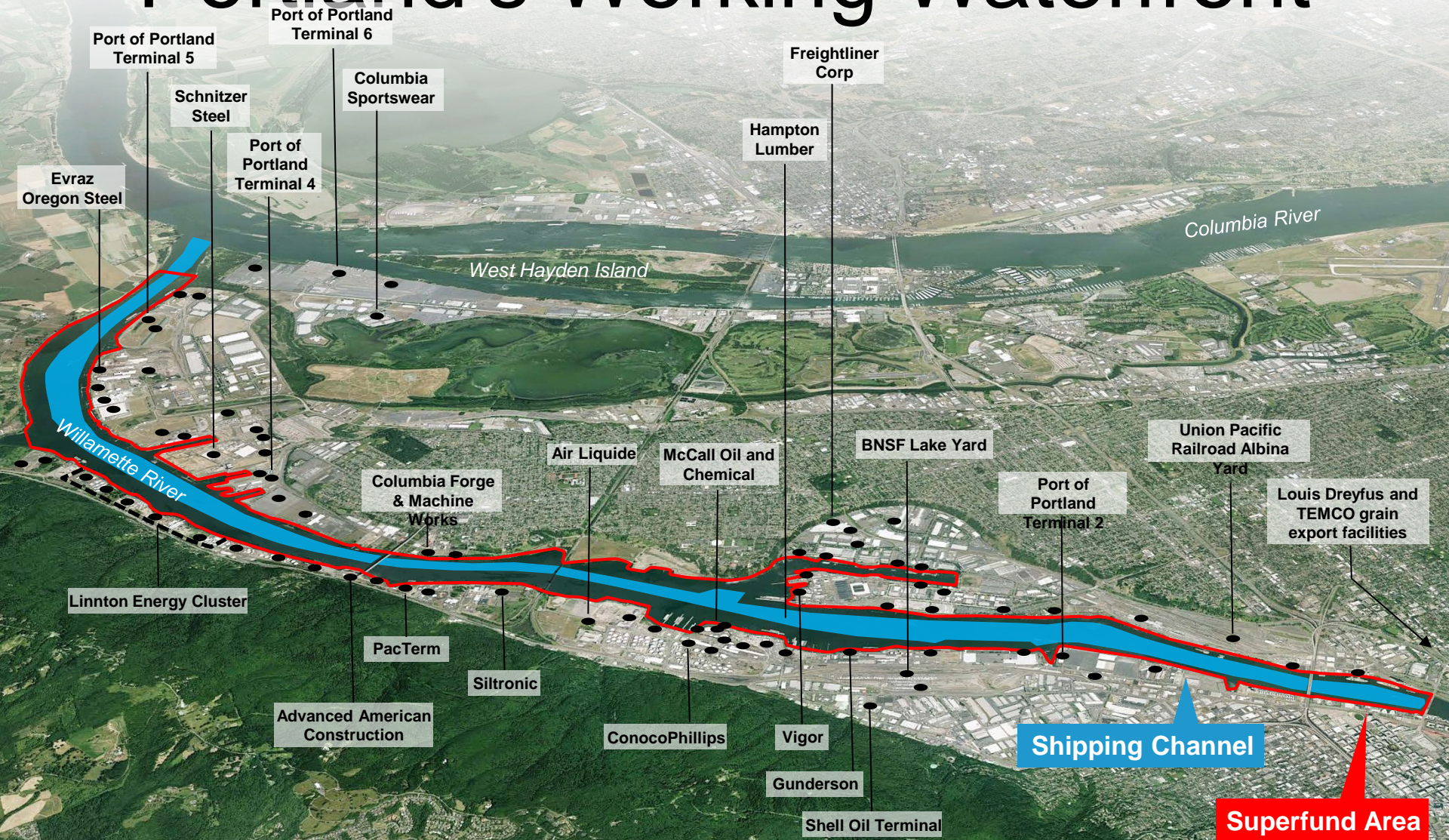
14

84

205

5

Portland's Working Waterfront



History of the Cleanup Project

- Portland Harbor has been industrial area since 1880's
- Remedial Investigation studies since late 1990's
- Listed as EPA "Superfund Site" in December 2000, putting it under federal control
- Draft Remedial Investigation & Risk Assessment (RI/RA) issued in 2009; Final in February 2016
- Draft Feasibility Study issued in 2012; Final expected in 2016
- EPA issued their "Proposed Plan" last week, June 8, 2016
- EPA's Record of Decision expected December 2016

The Project in Summary

- Site consists of 10 miles of Willamette River
- Main Complexities:
 - Hundreds of potentially responsible parties
 - Localized areas of contamination throughout 10 mile-stretch
 - Persistent chemicals with no single source for focus
- Region with very high environmental expectations
- Sub-group of PRP's has formed the "Lower Willamette Group" (LWG), taking the lead on all studies-to-date
- LWG has spent \$115 M+ to date on studies and sampling

Summary of RI/FS Findings

- Major contaminants of concern
 - PCBs, PAHs, DDT pesticides, Dioxin/furans, metals (localized)
 - Contamination largely localized near shore
 - Contamination largely legacy
- Risk-driver: Human consumption of resident fish
- Cleanup Options: Monitored Natural Recovery, Enhanced Monitored Natural Recovery, Dredging, Capping
- EPA-proposed Cleanup Alternative consists of:
 - 167 acres Dredging; 64 acres Capping; 60 acres Enhanced Monitored Natural Recovery
 - Dredge volume of 1.9 M cubic yards,
 - An estimated 7 years to complete
 - \$ 746 Million in cost

Panel Presentations

- 1) Key Technical Approaches from the Portland Harbor Remedial Investigation**
by: Gene Revelas and L. Jones (Integral Consulting)
- 2) Evaluating Stormwater Recontamination Impacts on Potential Portland Harbor Remedies**
by: Amanda Shellenberger, P.E., C. Stivers, M. Werth, and K. Russell (AnchorQEA)
- 3) Evaluating Dredging at the Portland Harbor Contaminated Sediment Study Area**
by: John Verduin, P.E., C. Stivers (AnchorQEA)
- 4) Design and Implementation of a Sediment and Bank Cap Upstream of the Portland Harbor**
by: Erik Bakkom, P.E. (Maul, Foster & Alongi)