

Hanford Site-wide Risk Review

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**Hanford Advisory Board Meeting
Richland, Washington**



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Consortium For Risk Evaluation with Stakeholder Participation



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PURPOSE?

“...to request the conduct (*By CRESP*) of a Hanford site-wide evaluation of human health, nuclear safety, environmental and cultural resource risks (Risk Review Project).

The goal of the Risk Review Project is to identify and characterize potential risks and impacts to the public, workers, and the environment at the Hanford Site and to inform the efficient use of Department of Energy (DOE) Environmental Management (EM) resources...”

David M. Klaus, Deputy Under Secretary for Management and Performance, January 16, 2014

Risk characterization only, not risk management



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WHAT IS CRESP?

- Multi-disciplinary consortium of universities consisting of research scientists
- Formed in 1994
- Vanderbilt, Rutgers, NYU School of Law, Arizona, Oregon State, Georgia Tech, Howard, Wisconsin
- Mission: to advance environmental cleanup & nuclear waste management
- CRESP supported by DOE-EM under cooperative agreement awarded to Vanderbilt

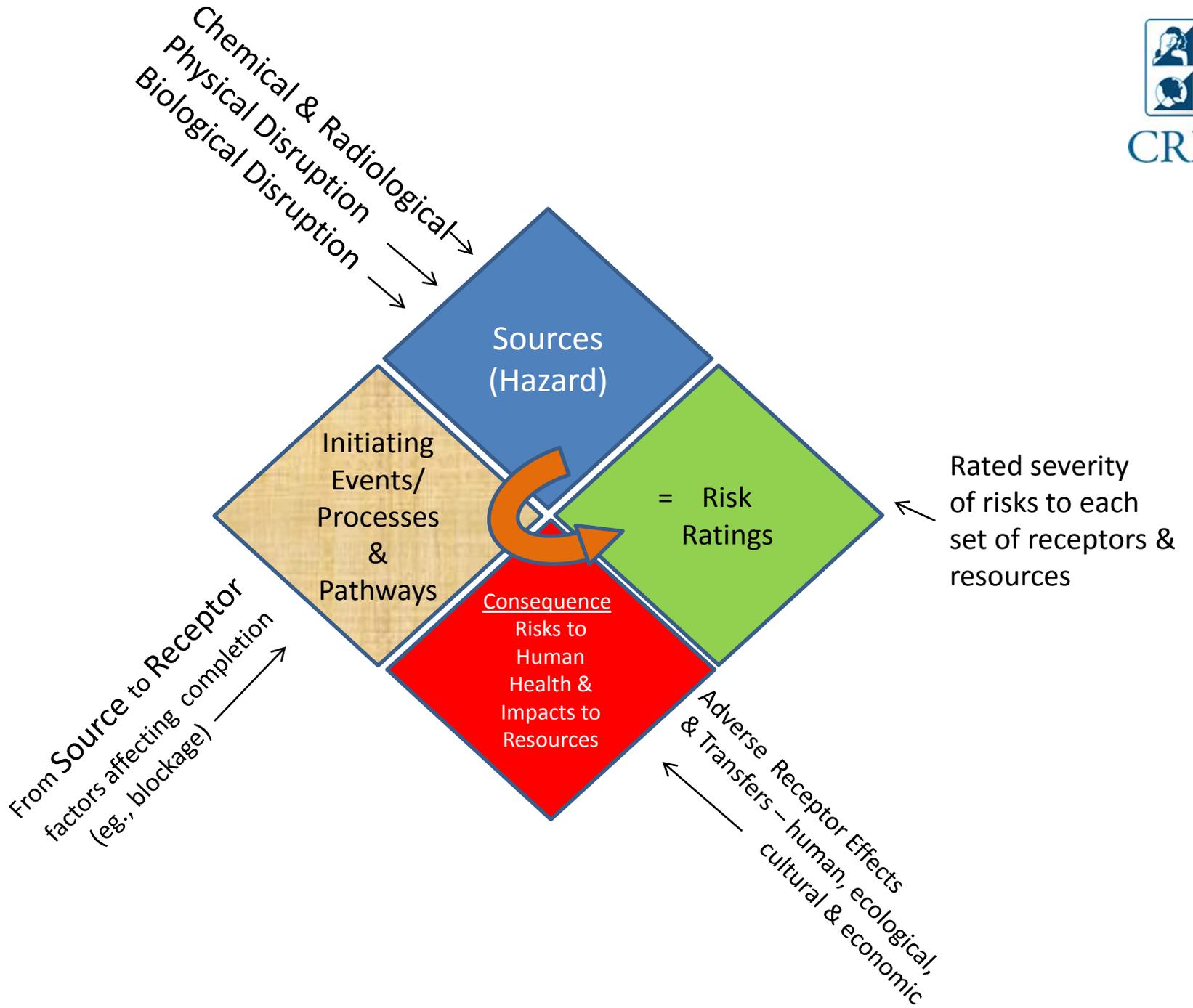


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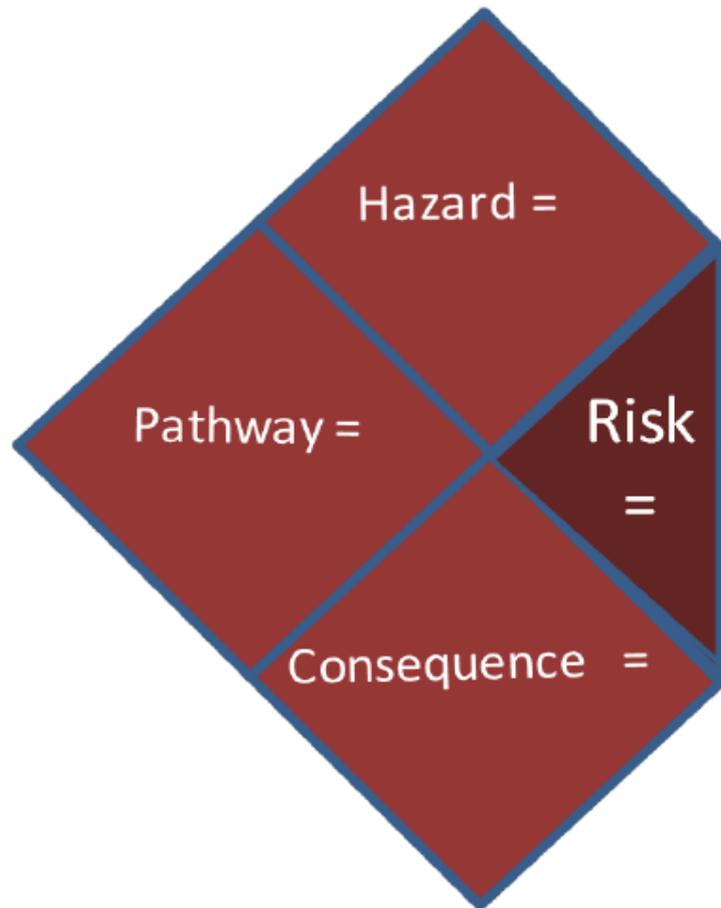
WHAT IS “RISK”?

Risk is an estimate for probability and magnitude of consequences, considering a range of factors, events and uncertainties.





Evaluating Risk to Human Health & Environment



Hazards

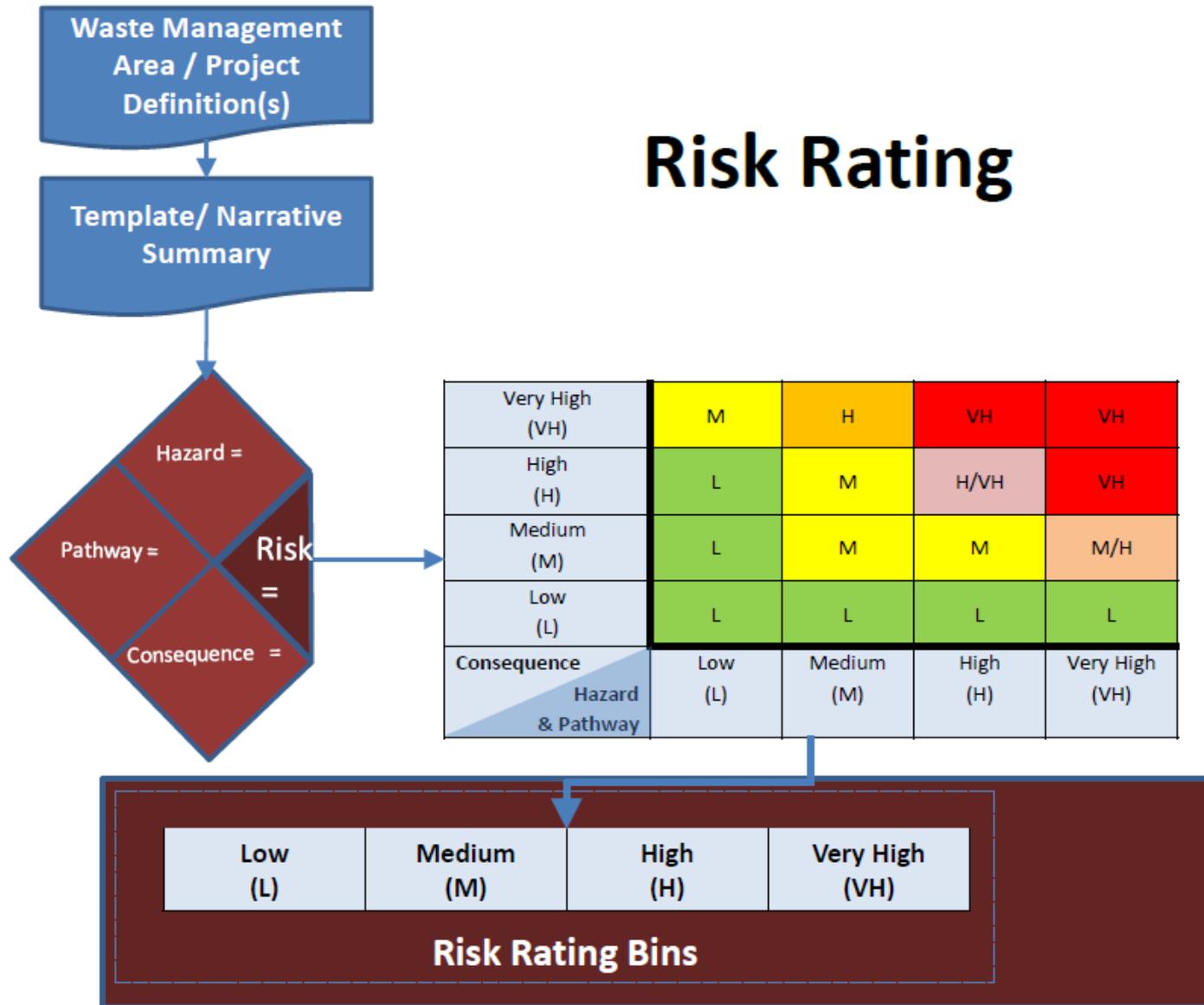
- Relative severity (e.g., toxicity, rad.)
- Magnitude (e.g., quantity)
- Facility configuration, physical/chemical form

Pathway & Barriers

- Routes to exposure (e.g., water, air)
- Primary and secondary barriers (e.g., engineered and natural systems)
- Initiating Events – Chronic degradation, Accident scenarios, Episodic events (e.g., earthquakes)

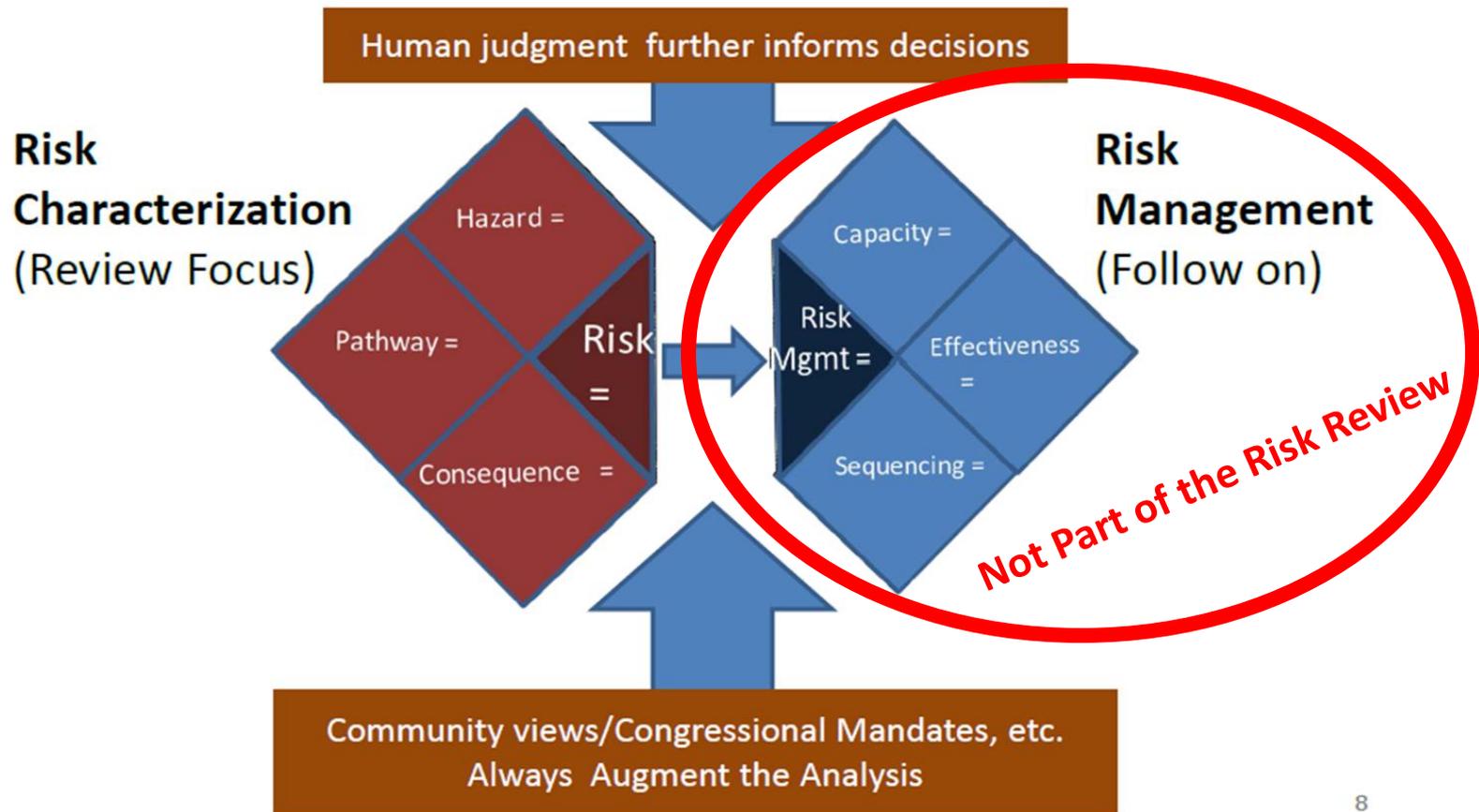
Consequences

- Human health (worker, general population)
- Environmental resources & ecosystems
- Cultural resources
- Economic resources





Distinguishing Risk Characterization and Risk Management Decisions





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WHO IS INVOLVED?

- CRESPP led
- Core Team consists of
 - EPA (Hanford and HQ)
 - DOE (RL, ORP, EM)
 - State of Washington (Ecology, Health)
- PNNL (assisting CRESPP)
- Stakeholders, Tribes, Interested Persons, Other Agencies



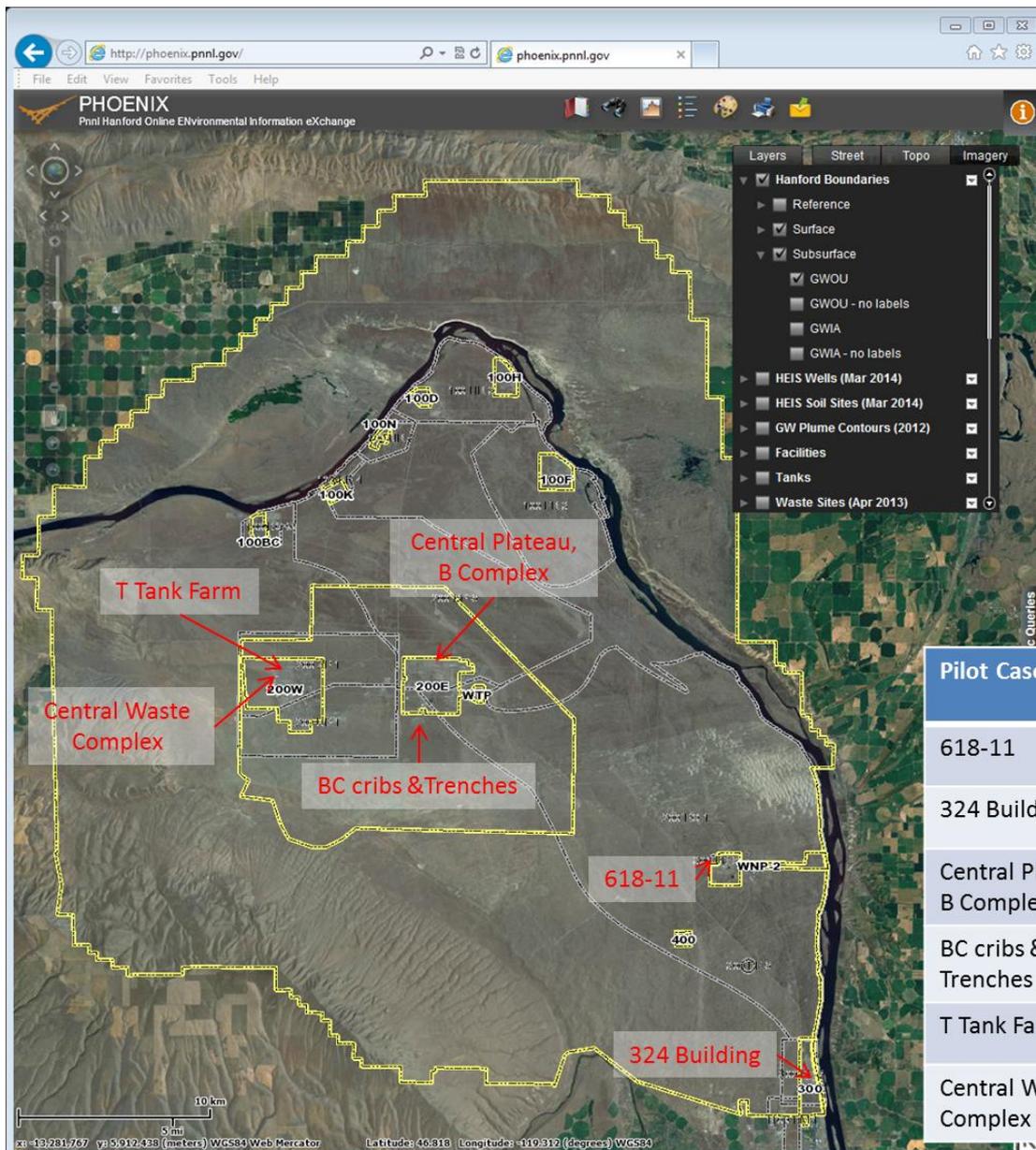
WHAT IS THE APPROACH?

- Provide initial paradigm for binning risks and impacts
 - Divide site into initial groupings for analysis
 - Templates for gathering and presenting information needed for analysis and rating
 - Risk and Impact rating metrics or bins (“rating matrices”)
- Identify pilot cases for testing/refining paradigm (methodology)



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Overview of Hanford Site and Pilot Cases

Note: latitude and longitude coordinates based on centroid of Pilot Case site

Pilot Case	Latitude (degrees WGS84)	Longitude (degrees WGS84)
618-11	46.472	-119.341
324 Building	46.368	-119.274
Central Plateau, B Complex	46.565	-119.538
BC cribs & Trenches	46.537	-119.544
T Tank Farm	46.560	-119.628
Central Waste Complex	46.554	-119.640



APPROACH Cont'd

- Evaluate lessons learned and revise paradigm accordingly
- Complete pilot cases based on revised paradigm
 - Feedback from Core Team and appropriate revisions
 - Public comment and appropriate revisions
- Establish site groupings for full analysis
- Evaluate first set of groupings for analysis (applying revised paradigm)
- Interim Progress Report (October 2014)
 - Feedback from Core Team and appropriate revisions
 - Public comment and input for subsequent analyses
- Evaluate second set of groupings for analysis
 - Apply mid-course adjustments as needed based on feedback



OUTREACH EFFORTS

- Written comments solicited on methodology (paradigm), Interim Progress Report, and draft of Final Report
- Other written comments may be submitted at any time
- CRESP considering holding webinars, town halls
- Presentations to Core Team as requested and part/all of certain, identified Core Team meetings open to public (with public comment period)



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QUESTIONS?

- CRESP WEBSITE: www.cresp.org/hanford/