

# ROUNDTABLE: NATURAL RESOURCE DAMAGES

Presentation Speaker:

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# Framework of CERCLA

- Congress established a two-step approach to address harm caused by hazardous substance releases: Response actions to deal with the exigent risk to human health and the environment, and natural resource damage assessment and restoration (NRDAR) to deal with injury to public natural resources.
  
- EPA has primary authority to manage response actions, but federal land managing agencies are also delegated authority under Executive Order 12580 (January 23, 1987) with respect to releases on or from facilities under their jurisdiction, custody, or control.
  
- Natural resource trustees are federal, state, and tribal entities authorized to assess injuries and seek damages to restore or replace injured natural resources.
  - DOC, DOD, DOE, DOI, USDA are federal resource management agencies designated to act as natural resource trustees on behalf of the public.
  - States
  - Indian tribes
  
- Coordinating the hazardous substance response and NRDAR processes is encouraged and can produce benefits.

# Authorities

- EPA or a federal land managing agency acting pursuant to EO 12580 should notify trustees of potential injuries; encourage trustees' participation in negotiations with PRPs; and coordinate site assessments, investigations, and planning with trustees. CERCLA §§ 104(b)(2), 122(j)(1).
  
  - Trustees and lead response agencies should ...
    - ▣ Coordinate early field sampling and data collection to minimize duplication;
    - ▣ Coordinate assessment activity where response actions are planned or underway; and
    - ▣ Trustees should consider the known or anticipated effects of response actions as a factor in determining the cost of restoration.
- 43 CFR §§ 11.22(b), 11.23(f), 11.31(a)(3), 11.84(c)(2).

# Range of Possibilities

- **Coordination** between the response and NRDAR processes to avoid duplication and conflicts
- **Mitigation** of natural resource injuries that result from response activities
- **Integration** of response planning and implementation and NRDAR to reduce or eliminate residual natural resource damages that would otherwise be addressed through the NRDAR process following response actions

Plus

- **Cooperation** between trustees and PRPs on damage assessment may facilitate the above, especially at federal sites where DOE is a response agency, a trustee, and a PRP
- **Communication**, including understanding of, and appreciation for, the different obligations and objectives that may be assigned to the above concepts by response agencies, trustees, and PRPs

# Potential Benefits



- Fewer redundancies and lower total costs of response and NRDAR for all participants
- Improved scientific analysis of response and restoration alternatives, and reduced uncertainties
- Timelier outcomes and increased chance for a restoration-based settlement

# Potential Issues

- Distinct objectives of risk-based cleanup in the response process versus injury-based restoration in the NRDAR process.
- General support for process coordination or integration can obscure, rather than illuminate, different perspectives.
  - For example, remedial decision-makers and PRPs may view integration as limiting natural resource damage claims to the bounds of remedial decisions, and tend to obscure potential residual claims, including compensatory claims.
  - On the other hand, trustees may view integration as requiring remedial decision-makers to validate trustee perspectives.
- Response agencies and trustees have separate regulatory and legal authorities, which may not allow seamless interaction.
- Real or perceived constraints on some federal agencies to fund other trustees' activities.
- Trustees tend not to have preexisting budgets to use towards assessment as needed, and federal trustees cannot recover costs through litigation when the PRP is another federal agency.
- There are generally a number of decision-makers on both the response agency and trustee sides, leading to a complex and often frustrating dynamic.
- Developing a partnership requires certain skills and attitudes in a process that, historically, has been perceived as adversarial.

# Agency Perspectives in Guidance

## □ EPA

- The Role of the Natural Resource Trustees in the Superfund Process, OSWER Pub. No. 9345.0-051 (March 1992)
- CERCLA Coordination with Natural Resource Trustees, OSWER Directive No. 9200.4-22A (July 1997)

## □ DOI

- Final Rules, 51 Fed. Reg. 27674 (August 1, 1986); 73 Fed. Reg. 57259 (October 2, 2008)
- FACA Report, available at <http://restoration.doi.gov/faca.html>
  - See Appendix A, FACA Subcommittee Report on Question 2

## □ DOE

- Natural Resource Damage Assessment: Preassessment Screening and Integration with CERCLA Ecological Evaluations, EH-231-008/009 (October 1991)
- Integrating Natural Resource Damage Assessment and Environmental Restoration Activities at DOE Facilities, EH-231 (October 1993)
- Interim Policy on Integration of Natural Resource Concerns into Environmental Restoration Projects, EM-47 (February 5, 1997)

# Additional Perspectives

- DOE-funded, multi-university Consortium for Risk Evaluation with Stakeholder Participation (CRESP)
  - Burger, J., et al. (2007) Integrating long-term stewardship goals into the remediation process: Natural resource damages and the Department of Energy, *Journal of Environmental Management* 82, pp. 189-199
  - Burger, J., et al. (2007) Defining an Ecological Baseline for Restoration and Natural Resource Damage Assessment of Contaminated Sites: The Case of the Department of Energy, *Journal of Environmental Planning and Management* 50, pp. 553-566
  - Natural Resource Damage Assessments as Related to Department of Energy Site Clean up Concerns: A Preliminary Review, CRESP Center for Social and Economics Issues (December 5, 2004), available at [http://www.cresp.org/2005\\_reports/NRD.html](http://www.cresp.org/2005_reports/NRD.html)
  - Natural Resource Damages and the Department of Energy: Integrating Ecosystem Recovery into the Remediation Process, available at [http://www.cresp.org/2005\\_reports/NRD.html](http://www.cresp.org/2005_reports/NRD.html)
  - Legal and Related Policy Issues for Integrating Remediation and NRD Strategies at DOE Sites (June 21, 2005), available at [http://www.cresp.org/2005\\_reports/NRD.html](http://www.cresp.org/2005_reports/NRD.html)
  
- Society for Environmental Toxicology and Chemistry (SETAC) Technical Workshop, “The Nexus Between Ecological Risk Assessment and Natural Resource Damage Assessment Under CERCLA: Understanding and Improving the Common Scientific Underpinnings” (August 18-22, 2008)
  - Three papers published in October 2009, SETAC Journal: Integrated Environmental Assessment and Management, <http://www.setacjournals.org>
    - Munns W., et al. (2009) Translating Ecological Risk to Ecosystem Service Loss, *Integrated Environmental Assessment and Management*, Vol. 5, No. 4, pp. 500–514
    - Gala W., et al. (2009) Ecological Risk Assessment (ERA) and Natural Resource Damage Assessment (NRDA): A Synthesis of Assessment Procedures, *Integrated Environmental Assessment and Management*, Vol. 5, No. 4, pp. 515–522
    - Gouguet R., et al. (2009) Effective Coordination and Cooperation Between Ecological Risk Assessments and Natural Resource Damage Assessments: A New Synthesis, *Integrated Environmental Assessment and Management*, Vol. 5, No. 4, pp. 523-534

# SETAC Technical Workshop

- 40 people: Scientific, Legal & Policy disciplines
- 3 Groups each with multiple questions
  - **Regulatory/Statutory:** Constraints
  - **Synthesis:** Data collection needs and approaches
  - **Translational:** Integrating data
  
- **Steering Committee:** David Charters (US EPA), Will Clements (Colorado State U), Will Gala (Chevron Energy Technology Co.), Ron Gougnet (Windward Environmental) Robert Haddad (NOAA), Roger Helm (US FWS), Wayne Landis (Western Washington U), Al Maki (ExxonMobil), Wayne Munns (US EPA), Ralph Stahl (DuPont Co.), Dale Young (State of MA)
  
- **Sponsors:** Alcoa Corporate Center; American Petroleum Institute; Chevron Energy Technology Co.; Conoco Phillips; E.I. du Pont de Nemours & Co.; Entrix; ExxonMobil; Honeywell International; Industrial Economics, Inc.; Integral Consulting, Inc.; K&L Gates; MacDonald Environmental Science; NOAA; Rio Tinto; Shell Health; Teck Cominco American, Inc.; US EPA; US FWS; URS Consultants; Windward Environmental

# SETAC Workshop Objectives

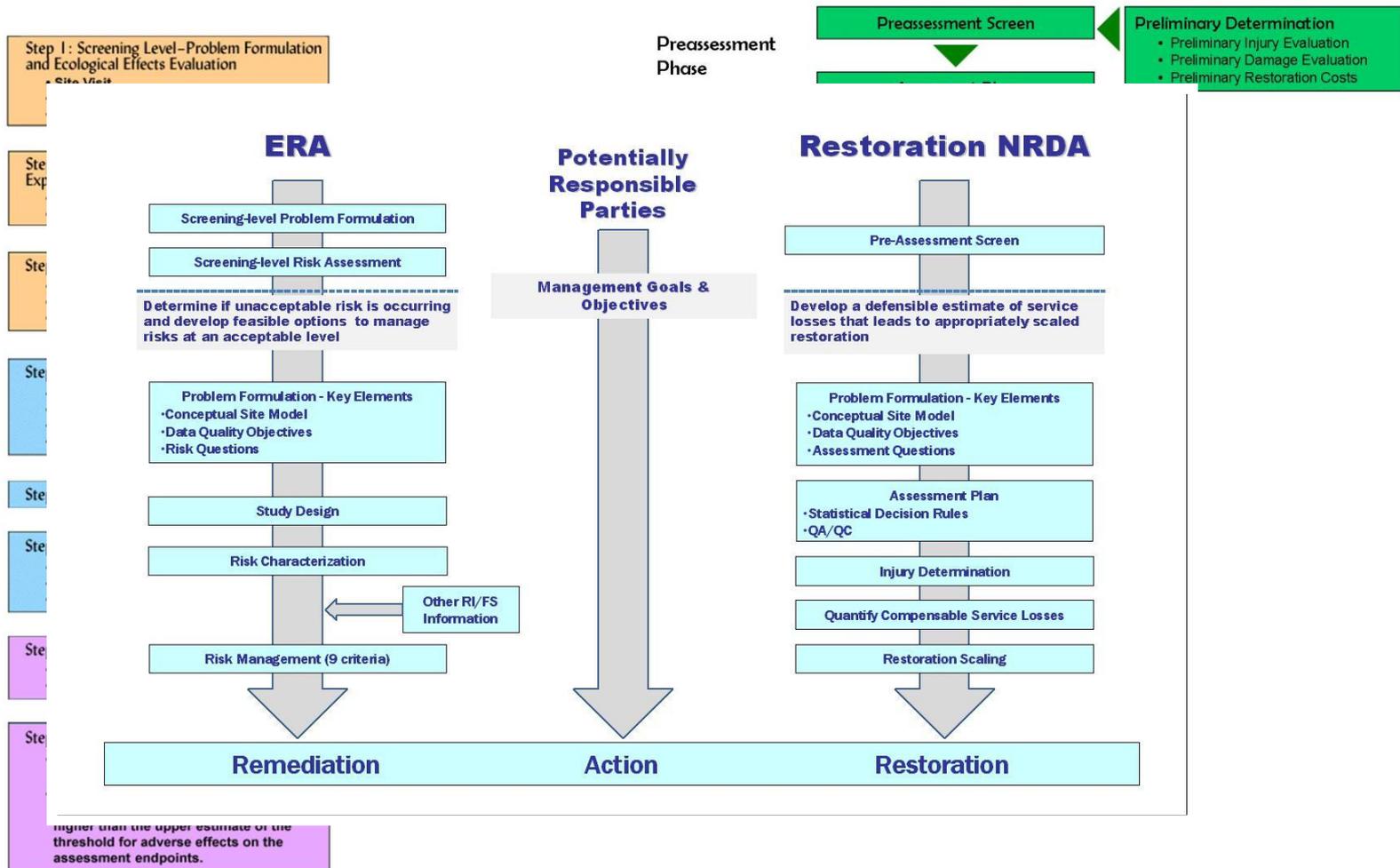
- Statutory, Regulatory or Scientific constraints
- Approaches to overcome constraints, including new areas of research
- Translating Risk Assessment data/parameters into NRDA injury information
  - ▣ Science: any “common currencies” to translate risk measurements into service losses?

**OVERALL GOAL:** Improve scientific coordination or “harmonization” of ERA and NRDA

# Looking at process....

## ERA under CERCLA

## NRDA under CERCLA



# SETAC Findings

- No significant legal constraints to sharing ERA & NRDA environmental data
- Potential barriers: programmatic objectives, education, and training of practitioners (large differences are presumed)
- Distinctions between ERA & NRDA are important and valuable, but parties should significantly increase data sharing and coordination on environmental exposures and derivation of ecotoxicological information
- Ecosystem services can be common currency linking ERA & NRDA
- Update NRDA guidance to better define the process and promote efficiency, cooperation, and coordination

# SETAC Translation Workgroup

- Key Recommendation: Use resource (ecosystem) service losses to harmonize estimates of ecological risks and natural resource injuries
  
- Approach: Incorporate assessment and measurement endpoints into ERA that address ecosystem services
  - Discuss early in ERA
  - Specify in Data Quality Objective process
  - ERA data unlikely to satisfy spatial & temporal needs of NRDA
  
- Assessment Endpoint Considerations:
  - Biodiversity: good indicator of ecosystem services, but data intensive – use if feasible
  - Aggregating over multiple contaminants and resources
    - For ERA and NRDA: similar questions of additivity and species sensitivity differences
    - For NRDA: aggregation could occur over toxicity, service loss, or restoration scaling metrics
  - Need alternatives to Hazard Quotients in ERA

# DOI NRDAR Site Examples

- *St. Louis River NRDAR:* DOI, State, and Tribal trustees produced a comparative Preliminary Estimate of Damages that gave PRPs and the State response agency information on the residual natural resource damage implications of 4 different remedial scenarios under consideration.
- *Clark Fork NRDAR:* Restoration objectives at the NPS managed Grant-Kohrs Ranch were integrated into the remedy as ARARs, thus reducing the residual NRDAR claim.
- *DuPont Newport NRDAR:* On-site restoration was incorporated into the EPA ROD and completed at the same time as the remedial action . The Trustees' (NOAA, DOI, DE) natural resource damage claims were compensated by the on-site restoration activities (completed by DuPont) and by additional off-site restoration.
- *Holden Mine NRDAR: Wenatchee National Forest. USDA Forest Service lead with State of Washington and EPA. Yakama Tribe is also trustee. 1998 AOC with mining company for RI/FS requires performance of injury determination “and other appropriate natural resource damage assessment activities.”*

# DOE Sites

- As seen at DOE sites, an agency may have multiple roles.
  - ▣ DOE is a natural resource trustee and a delegatee of certain response functions under CERCLA for releases on or from DOE facilities. Executive Order 12580 (Jan. 23, 1987).
  - ▣ Response authorities at DOE sites vary, including CERCLA, RCRA, and the Atomic Energy Act.
  
- A court effectively encouraged cooperation at the Hanford Site. *Confederated Tribes & Bands of the Yakama Nation v. United States*, 616 F. Supp. 2d 1094 (E.D. Wa. 2007).
  
- Cooperative assessment is occurring at the Los Alamos National Laboratory Site among DOE, DOI, USDA, New Mexico, and several Pueblos, which may lead to integration.

# DOE Sites, cont'd

## **FACA Subcommittee Question 2 Report Discussing DOE and DOD Policies on Integrating Response and Restoration:**

- “DOE and DOD have adopted policies encouraging such integration on sites where they are the lead response agency as well as a natural resource trustee.”
- “[S]ince DOE/DOD are both cleanup managers and trustees they should not have to struggle to get trustee issues on the table, or reconcile disparate regulatory interpretations, or convince EPA or the state that it is in the cleanup agencies’ best interest to integrate restoration and trustee considerations into the process. They can just do it.”
- “DOE’S integration of natural resource trustee concerns into a remedial or removal action does not *per se* constitute ‘restoration.’ Because such actions are still response actions whose limited natural resource elements are designed to assesses risk, enhance environmental benefit or avoid environmental harm, they can be implemented with funding from the same environmental restoration project budget.”



# Conclusion

Land managing agencies are in unique position to fully incorporate - as a matter of practice - damage assessment activities into remedial investigations, and on-site restoration into remedy performance.

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