

Natural Resource Damage Assessment: *An Annotated Bibliography of Selected Literature*



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U.S. Department of Energy
Savannah River Operations Office
Environmental and Laboratory Programs Division

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U.S. Department of Energy (DOE) Guidance Documents

Fact Sheet: DOE Natural Resource Trusteeship Under CERCLA. December 1989. DOE Environmental Guidance Division, Resource Conservation and Recovery Act (RCRA)/Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Unit (EH/231). 2 pages.

This brief document uses a bulletized format to present background information, a discussion of major issues and sensitivities, and a review of DOE Headquarters (HQ) efforts.

Natural Resource Trusteeship and Ecological Evaluation For Environmental Restoration At Department of Energy Facilities. June 1991. DOE Office of Environmental Guidance, RCRA/CERCLA Division (EH-231). 76 pages plus appendixes.

This document provides DOE field organizations with information on Departmental responsibilities as Federal Natural Resource Trustee at DOE facilities, and requirements relating to ecological evaluation during DOE response actions under CERCLA [as amended by Superfund Amendments and Reauthorization Act of 1986 (SARA)], and RCRA (as amended). The document focuses on the initial actions to be taken by DOE as both a Natural Resource Trustee and as a lead response agency performing environmental restoration actions, and on how these requirements impact DOE's environmental restoration program. Appendixes include Title 43, Code of Federal Regulations, Section 11 (43 CFR 11) - Natural Resources Damage Assessment (NRDA) final rule (8/1/86) and notice of proposed rulemaking (5/29/91), trustee contacts, a sample notification letter, U.S. Environmental Protection Agency's (EPA's) ecological assessment procedure, and floodplain and wetland review procedures.

Impact of Regulatory Changes Concerning Natural Resource Damages, Section 1.4.5.4 in: DOE Environmental Restoration and Waste Management Five-Year Plan 1993-1997. August 1991. DOE EM. 2 pages.

This section, which briefly explains the effect of the *Ohio v. DOI* case on NRDA regulations and issues, states DOE's NRDA strategy.

Natural Resource Damage Assessment: Preassessment Screening and Integration With CERCLA Ecological Evaluations. October 1991. DOE CERCLA Information Brief. EH-231-008-0991. Office of Environmental Guidance, RCRA/CERCLA Division (EH-231). 2 pages.

This document briefly describes the Preassessment Screen (PAS) of an NRDA, including why it is necessary, when it needs to be done, and similarities to the ecological assessment phase of the CERCLA Remedial Investigation/Feasibility

Study (RI/FS) process. It also describes guidance documents for conducting a PAS and RI/FS, as well as where to obtain them.

DOE Establishes NR Damage Assessment Steering Committee in: RCRA/CERCLA Update, Volume 92, Issue 3. September 1992. DOE Office of Environmental Guidance. 1 page.

This document briefly describes NRDA and some of the items on which the DOE NRDA Guidance Development Steering Committee has or will focus: trustee relationships, reducing natural resource liabilities, and measuring natural resource services.

NRDA Guidance Development Steering Committee Meeting Notes. 1992-1993. DOE-HQ.

This Steering Committee, chaired by DOE-HQ/EH-231, meets regularly to discuss NRDA issues and guidance. Field offices participate via teleconference. Meeting notes and attachments are distributed by DOE-HQ/EH-231. Meetings of the NRDA Guidance Development Steering Committee have taken place on the following dates:

- April 29, 1992
- May 27, 1992
- July 15, 1992
- September 9, 1992
- November 4, 1992
- January 6, 1993
- March 16-17, 1993

Type B Technical Information Documents

The "Type B" natural resource damage assessment rules published in Title 43, Code of Federal Regulations, Section 11 (43 CFR 11) are to be used in assessing damages in individual cases. The U.S. Department of the Interior (DOI) issued these Type B Technical Information Documents in 1987 to provide information that supplements the guidance provided in 43 CFR 11. Use of these documents is not required to obtain the rebuttable presumption provided by CERCLA for trustees conducting assessments in accordance with those regulations. The regulations in 43 CFR 11 should be reviewed prior to applying information contained in these reports. Any discrepancies between information in these documents and the regulations provided in 43 CFR 11 should be decided in favor of the regulations. Note that these documents were issued prior to the *Ohio v. DOI* case.

Techniques to Measure Damages to Natural Resources: Type B Technical Information Document. June 1987. W. H. Desvousges and V. A. Skahen, Research Triangle Institute, NC. CERCLA 301 Project, U.S. Department of the Interior, Washington, D.C. 193 pages.

This document addresses the economic issues associated with the Type B NRDA regulations contained in 43 CFR 11. It describes techniques and helps guide trustees through the selection of techniques for measuring damages to natural resources covered under CERCLA. The document, which is not a "cookbook" or simple guide to measuring damages, includes an annotated bibliography of economic valuation literature, appendixes, and references.

Injury to Fish and Wildlife Species: Type B Technical Information Document. June 1987. Fish Technology Center, FWS; Patuxent Wildlife Research Center, U.S. FWS; and Fish Physiology and Toxicology Laboratory, University of Wyoming. CERCLA 301 Project, U. S. Department of Interior. Washington, D.C. 153 pages.

The information contained in this document pertains to the determination of injury to fish and wildlife resources and provides testing and sampling methodologies that have been reported in the technical literature. Sections include death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions, and physical deformations. The document includes references.

Approaches to the Assessment of Injury to Soil Arising From Discharges of Hazardous Substances and Oil: Type B Technical Information Document. June 1987. P. V. Van Voris, G. W. Dawson, J. K. Fredrickson, D. A. Cataldo, L. E. Rogers, C. M. Novich, and J. Meuser, Pacific Northwest Laboratory. CERCLA 301 Project, U.S. Department of the Interior, Washington, D.C. 57 pages.

This document provides descriptive information on methods for determining the nature and magnitude of injury to soil chemical characteristics, soil physical characteristics, biological characteristics, and contaminant transport potential. It also explains how injuries to the soil resource can be translated into a reduction in services in comparison to local baseline (i.e., uninjured) soils and provides information concerning soil recovery from injury. The document includes references and an appendix concerning sampling and analysis techniques.

Application of Air Models to Natural Resource Injury Assessment: Type B Technical Information Document. June 1987. D. J. McNaughton, TRC Environmental Consultants, Inc., CT. CERCLA 301 Project, U.S. Department of the Interior, Washington, D.C. 76 pages.

This document provides information on the selection of simulation models which can be used in the assessment of injury to natural resources resulting from pollutants in the air. Techniques are presented for estimates of emissions, dispersion, or chemical transformations in the atmosphere in terms of concentration, dose, or deposition amounts. The document, which considers acute and chronic injury, also presents types of models and their expected uncertainty and limitations, approaches of using models as assessment tools, and a guide to selecting the appropriate model for simulations. The

document includes references concerning air models, field experimental programs, and model evaluations.

Guidance on Use of Habitat Evaluation Procedures, and Suitability Index Models for CERCLA Application: Type B Technical Information Document. June 1987. Habitat Evaluation Procedures Group, Western Energy and Land Use Team, U.S. FWS. CERCLA 301 Project, U.S. Department of the Interior, Washington, D.C. 40 pages.

This document provides recommendations on the use of Habitat (HEP) and Habitat Suitability Index (HSI) models for Type B NRDA's. It provides information to assist in quantifying habitat changes resulting from a release of a hazardous substance or oil. In addition, it also discusses possible applications of HEP in the development of restoration plans. It is assumed that document users are familiar with HEP concepts and applications, as well as basic concepts and procedures in developing, testing, and evaluating the accuracy of habitat models. The document includes an appendix and references.

U. S. Environmental Protection Agency ECO Updates

ECO Update is a bulletin series on ecological assessment of Superfund sites produced by the U. S. Environmental Protection Agency. These bulletins serve as supplements to *Risk Assessment Guidance for Superfund, Volume II: Environmental Evaluation Manual* (EPA/504-1-89/001). While most do not directly address NRDA, they are included because of the overlap and potential to integrate some ecological risk assessment and NRDA activities. The information in these bulletins does not constitute rulemaking by EPA.

The Role of BTAGs in Ecological Assessment. September 1991. ECO Update, Vol. 1, No. 1. U.S. Environmental Protection Agency Office of Emergency and Remedial Response, Hazardous Site Evaluation Division. Publication 9345.0-05I. 4 pages.

This bulletin summarizes the Biological Technical Assistance Group (BTAG) structure and function in the Superfund process. Its purpose is to help site managers understand how BTAGs can assist with the collection and evaluation of site information and ensure that ecological effects are properly considered. The document indirectly addresses NRDA issues. Overlap exists between portions of NRDA's and ecological risk assessments, and because of their scientific expertise, representatives of Natural Resource Trustee agencies typically are included on BTAGs.

Ecological Assessment of Superfund Sites: An Overview. December 1991. ECO Update, Vol. 1, No. 2. U.S. Environmental Protection Agency Office of Emergency and Remedial Response, Hazardous Site Evaluation Division. Publication 9345.0-05I. 8 pages.

This bulletin provides an updated framework for ecological assessment in the Superfund program. It contains a description of ecological assessment components and a discussion of how they fit into the RI/FS process. The document does not address NRDA issues directly; however, overlap exists between portions of the NRDA process and the ecological risk assessment process.

The Role of Natural Resource Trustees In The Superfund Process. March 1992. ECO Update, Vol. 1, No. 3. U.S. Environmental Protection Agency Office of Emergency and Remedial Response, Hazardous Site Evaluation Division. Publication 9345.0-05I. 11 pages.

This bulletin is intended to help Remedial Project Managers (RPMs) and On-Scene Coordinators (OSC) work with natural resource trustees during site assessments and remediation. It explains the authority and responsibilities of trustees, and the responsibilities of RPMs and OSCs with respect to trustee issues. The goal of this document is to help reduce delays and ensure compliance with relevant statutes by increasing understanding of trustee issues as they pertain to the Superfund program.

Developing A Work Scope For Ecological Assessments. May 1992. ECO Update, Vol. 1, No. 4. U.S. Environmental Protection Agency Office of Emergency and Remedial Response, Hazardous Site Evaluation Division. Publication 9345.0-05I. 15 pages.

This bulletin is intended to help RPMs plan and manage ecological assessments of sites as part of the RI/FS process, as well as aid OSCs in evaluating sites during the removal process. The document includes the role of the BTAG, project scoping, the elements of an ecological assessment, and an appendix of suggested tasks in planning and executing an ecological assessment.

Books

Resource Economics: An Economic Approach to Natural Resource and Environmental Policy. 1981. A. Randall. John Wiley & Sons, Inc., New York. 415 pages.

This book does not specifically address NRDA, but it presents information regarding the role of economics in natural resource valuation and policy making. This college textbook presents the basic findings of economic science with respect to resource allocation, distribution, and economic well being; describes the complex interrelationships between legal, political, and economic systems; and discusses techniques for empirical analyses. Includes suggestions for further reading and an index.

Valuing Environmental Goods: An Assessment of the Contingent Valuation Method. 1986. R. G. Cummings, D. S. Brookshire, and W. D. Schulze. Rowmann & Littlefield Publishers, Inc., Savage, New York. 270 pages.

This book has as its goal the assessment of the state of the art, strengths, and weaknesses of the contingent valuation method for estimating benefits to public goods in general, and environmental goods in particular. It includes papers presented at an assessment conference in Palo Alto, California, on July 2, 1984, Includes references and an index.

Wetlands Protection: The Role of Economics. 1990. P. F. Scodari. Environmental Law Institute, Washington, D.C. 89 pages.

This book explores the use of modern economics to improve wetland development and protection decisionmaking, focusing on the barriers to adequate economic valuation of wetlands. Chapters titles include: The Science of Wetland Valuation, Principles and Methods for Valuing Wetland Goods, the Implementation of Wetland Valuation, and the Natural Resource Damage Assessment Regulation.

Natural Resource Damages: Law and Economics. 1992. K. M. Ward and J. W. Duffield. John Wiley & Sons, Inc., New York. 684 pages.

This book provides an overview of natural resource damages and is intended to serve as a complete guide for attorneys working in the field. The book provides a legal analysis of the claims and defenses relevant to natural resource damages, a primer on the use of economic analysis in natural resource damage assessments, and a series of case studies. It also includes discussions of the public trust doctrine, the *parens patriae* doctrine, common law claims, strict liability, CERCLA, the Federal Water Pollution Control Act, the Oil Pollution Act, and DOI's NRDA regulations. In addition, the book includes references, a table of court cases, and an index.

Periodical Articles

The Unrealized Potential of SARA: Mobilizing New Protection for Natural Resources. May 1987. T. B. Atkeson and R. C. Dower. Environment, Vol. 29, No. 4. 8 pages.

This article, written by the first general counsel to the Council on Environmental Quality and a former director of the Environmental Law Institute, focuses on the impact of SARA to the natural resource provisions in CERCLA. The article includes a short description of the economic valuation

of natural resources, as well as references. Written prior to the *Ohio v. DOI* case.

CERCLA enforcement shifts to natural resource damages. J. T. Ronan and E. L. Hagstrom. March 1991. Hazmat World. 5 pages.

Written by attorneys, this article cites numerous court cases in discussing NRDA liability, designation of trustees, damage assessment regulations, the *Ohio* and *Colorado* court decisions, defenses to damage claims, impact on settlement provisions, and measuring damages.

DOI's Natural Resource Damage Assessments: New Rules and New Challenges. S. Katz and E. M. Ogden. Autumn 1991. Federal Facilities Environmental Journal, Vol. 2, No. 3.

This article summarizes the initial 1986 DOI natural resource damage rules, the status of the rules following several court rulings, and the new rules proposed by DOI in April 1991. One of the authors previously worked at DOI and participated in drafting the initial NRDA rules.

Double Jeopardy: Who says you can't be tried twice on the same issue? Not the Natural Resource Trustees. K. M. Tiemens. January 1993. Resources. 3 pages.

This short article briefly describes NRDA, recent NRDA settlements, regulatory drivers, and recommendations if faced with potential NRDA liability.

The expanding role of natural resource damage claims under Superfund. 1987. F. H. Habicht II. Virginia Journal of Natural Resources Law, Vol. 7:1-26. 26 pages.

This article discusses the role of natural resource damage liability within CERCLA's remedial scheme and the Federal government's enforcement policy; outlines the statutory provisions governing natural resource damage claims, as revised by SARA in 1986; explains the DOI's NRDA regulations; and analyzes the status of natural resource damage litigation as well as issues of statutory interpretation that have yet to be resolved by the courts. Footnotes include references and court case citations. This was written by the former Assistant Attorney General, Land Resources Division, U.S. Department of Justice prior to *Ohio v. DOI*.

Making CERCLA natural resource damage regulations work: the use of the Public Trust Doctrine and other State remedies. August 1988. C. Carlson. Environmental Law Reporter, Vol. 18:10299-10307. 9 pages.

This article reviews CERCLA's natural resource damage provisions, the status of the NRDA regulations, and the modern status and application of public trust and public nuisance in environmental cases. Similarities and differences

between natural resource damage provisions and public trust/public nuisance mechanisms are analyzed. The article suggests how trustees can supplement their CERCLA suits to widen the available remedies to include injunctions, mitigation, restitution, and other forms of equitable relief. Footnotes include references and court case citations. This article was written by an attorney prior to *Ohio v. DOI*.

Natural resource damages, Superfund, and the Courts. 1989. F. R. Anderson. Environmental Affairs, Vol. 16:405-457. 52 pages.

This article discusses the relationship between Superfund and the common law to show that Congress does not view traditional common law doctrines as a limitation on the scope of Superfund's remedial and compensatory provisions. It also attempts to predict how governmental institutions will behave in implementing the statute and regulations. Section titles include: Superfund Provisions and Implementation, Superfund Within the Context of Federal Remedial and Compensatory Legislation, Superfund and the Common Law, Administrative Decisionmaking and Fact Finding Under Superfund, Burden of Proof and the Rebuttable Presumption, and Application of the Natural Resource Damage Provisions by the Agencies and Courts. Extensive footnotes include references and court case citations. This article was written by a law professor prior to *Ohio v. DOI*.

Court Cases

NRDA case law can be important for such things as defining trusteeship issues and exclusions from liability, and in interpreting and implementing the NRDA regulations at 43 CFR 11. All citations below are from the BNA Environment Reporter - Cases, which provides the full text of court opinions. These selected decisions were handed down in either the U.S. Court of Appeals or U.S. District Courts. [NOTE: Material provided is for information purposes only. Aspects of some early decisions have been reversed by subsequent court precedent. The advice of a qualified attorney should be sought regarding all legal aspects of NRDA issues.]

Artesian Water Co. v. New Castle. June 29, 1988. BNA Environment Reporter - Cases, Vol. 27, pages 2064-2071.

- Delaware water supplier does not have right under CERCLA to recover response costs for allegedly having to obtain alternative water supply after groundwater supply was contaminated because (1) CERCLA provides for natural resource damage recovery, but only by state authority, and (2) economic losses claimed by company in not being able to withdraw more water than allowed by state are not recoverable under CERCLA.

- Delaware water supplier has right to recover under CERCLA for costs incurred in monitoring water supply for potential contamination by hazardous substances because CERCLA provides private parties with right to recover costs necessary to assess extent of danger, and costs incurred by company were suitable to ensure that water supply source was not contaminated.

Colorado v. Idarado Mining Co. February 22, 1989. BNA Environment Reporter - Cases, Vol. 29, pages 1348-1378.

- Mining companies are strictly, jointly, and severally liable for costs of remedies selected by Colorado for damage to natural resources from release of hazardous substances in three areas because (1) state's response efforts are consistent with the National Contingency Plan under CERCLA; (2) applicable or relevant and appropriate Federal and state environmental and health requirements have been properly identified and applied; and (3) response efforts are cost effective. Court reviewed proposed remedy for each area and modified Colorado's proposals.

In Re Alleged PCB Pollution of Acushnet River & New Bedford Harbor. February 27, 1989. BNA Environment Reporter - Cases, Vol. 29, pages 1259-1272.

- Defendant company is entitled to jury trial on liability issue in Federal government's suit under CERCLA to recover natural resource damages caused by polychlorinated biphenyl (PCB) contamination because (1) Seventh Amendment to U.S. Constitution preserves right to jury trial in suits in which legal, as opposed to equitable, rights are to be determined, and (2) suits to recover damages to natural resources most closely resemble nuisance and trespass actions, which are legal claims for which jury trial is available.

In Re Alleged PCB Pollution of Acushnet River & New Bedford Harbor. April 27, 1989. BNA Environment Reporter - Cases, Vol. 29, pages 1730-1745.

- Federal district court rejects proposed CERCLA settlement between governments and company allegedly responsible for costs of restoring or replacing natural resources damaged by (PCB) contamination in Massachusetts river and harbor because (1) settlement lacked "reopener" clause required under act, and (2) National Oceanic and Atmospheric Administration, as Federal natural resource trustee, did not approve settlement.

In Re Alleged PCB Pollution of Acushnet River & New Bedford Harbor. June 7, 1989. BNA Environment Reporter - Cases, Vol. 30, pages 1845-1856.

- Federal and state governments may not recover money for damages to New Bedford Harbor under CERCLA unless they can quantify monetary losses resulting from contamination with PCBs.
- Federal and state government cannot recover cost of natural resource damage that occurred before enactment of CERCLA if damage is divisible from damage occurring after enactment of CERCLA because (1) CERCLA does not allow recovery for damages occurring before CERCLA was enacted; (2) damages occur when a property owner incurs expenses due to injury to natural resources; and (3) some types of damage, such as increase in travel expenses for fishermen, may be calculated on daily basis.
- Government can recover cost of natural resource damage that occurred before enactment of CERCLA if it was ongoing after enactment of CERCLA and is latent or inseparable from damage occurring after enactment because (1) damages occurring before CERCLA was enacted may be continuous and indivisible, and (2) impact of damage will not be realized on some property until time it is transferred and can be subject of resource damage suit as long as transfer took place after enactment of CERCLA.
- Polluters who argue that damage to natural resources occurred before enactment of CERCLA bear burden of proving claim because (1) provisions limiting relief to prospective damages are exceptions to general scheme that CERCLA applies retroactively; (2) party that argues it is within statutory exception bears burden of proof; and (3) placing burden on defendant does not deprive it of due process rights.

Lutz v. Chromatex, Inc. June 9, 1989. BNA Environment Reporter - Cases, Vol. 29, pages 2045-2060.

- Pennsylvania residents are not entitled to recover costs associated with lost use of water wells from companies allegedly responsible for contamination of wells under CERCLA because drinking water wells are natural resources managed by Pennsylvania, and only the state has authority to sue for damage to natural resources under CERCLA.
- Companies allegedly responsible for contamination of drinking water wells may be sued by Pennsylvania residents trying to recover costs of relocation caused by water contamination under CERCLA because (1) even though residents did not get prior Federal government approval of relocation costs, Federal approval is unnecessary under CERCLA, and (2) residents' allegations gave defendant companies adequate notice of their claims for relocation costs.

- Pennsylvania residents may not claim that violations of state solid waste and water laws by companies were automatic proof of negligence that entitled residents to recover damages for alleged contamination of drinking water wells because (1) state laws do not provide private right to recover damages based on alleged violations of laws, and (2) residents may not circumvent state Legislature's intent by framing suit for violations of state law in terms of common-law negligence suit.

Ohio v. Interior. July 14, 1989. BNA Environment Reporter - Cases, Vol. 30, pages 1001-1044.

- U. S. Department of Interior (DOI) regulations under CERCLA improperly established value of lost natural resources as lesser of either cost of resource restoration or replacement, or lost value of using resource because (1) Congress intended parties responsible for damaging natural resources to pay costs of restoring natural resources in most cases, and (2) "lesser of" rule fails to provide sufficient basis for determining in particular cases whether to adhere to Congress' intent to favor resource restoration.
- DOI natural resource damage regulations did not violate CERCLA by restricting recovery for damages to privately owned resources because CERCLA specifically excludes coverage for resources that are privately owned. Court remands administrative record for clarification of agency interpretation regarding recovery for damages to natural resources on privately owned lands managed or controlled by Federal, state, or local government.
- DOI natural resource damage regulations did not violate CERCLA by requiring that calculation of diminution in natural resource values be based on current and planned uses of resources because (1) calculation will be used only to determine natural resource values lost while resources are restored or replaced; (2) requiring only "committed uses" of resources to be considered as basis for calculating diminished values was reasonable construction of CERCLA; (3) requirement ensures that lost values are not based on speculative or self-serving resource uses; and (4) requirement does not prohibit resource trustee from recovering cost of restoring or replacing resource that does not have documented committed use.
- DOI regulations under CERCLA improperly established hierarchy for assessing value of lost use of natural resources based on market value of resources because (1) market value is only one measure that may be used, (2) many resources have no market, and (3) Congress did not intend to limit use values to market prices for resources.
- DOI natural resource damage regulations did not violate CERCLA by requiring use of 10-percent discount rate for calculation of present values for future resource restoration or replacement costs because (1) decision to

adopt 10-percent rate was reasonable policy choice, and (2) choice of rate does not prevent resource trustees from accurately predicting increased future costs based on foreseeable resource scarcity.

- DOI natural resource damage regulations did not violate CERCLA by allowing parties responsible for pollution to conduct natural resource damage assessments because (1) Congress intended that responsible parties be allowed to conduct assessments; (2) DOI's delegation of assessment preparation responsibility was reasonable; and (3) public resource trustees retain authority to hold responsible parties accountable for assessments they conduct.
- DOI natural resource damage regulations did not violate CERCLA by allowing parties responsible for pollution to comment on certain actions to be taken by public resource trustees, even though public is not given opportunity to comment on those actions because (1) public may comment on final resource damage assessment; (2) Congress did not expressly provide for public comment at every stage of assessment development; and (3) DOI made a reasonable decision to allow comments by responsible parties at discrete stages of assessment preparation.
- DOI natural resource damage regulations did not violate CERCLA by limiting recovery of resource damage assessment costs to "reasonable costs" not to exceed amount of damage to natural resources because (1) Congress intended assessments to be cost-effective; (2) limitation ensures that funds are not wasted on assessments that cost more than trustees can recover in damages; and (3) small-scale assessments may be expanded by trustees if evidence shows that damage amount will be greater than initially believed.
- DOI natural resource damage regulations did not violate CERCLA by setting forth "acceptance criteria" for determining if hazardous substance releases actually damage natural resources because (1) CERCLA does not specify what legal causation standard must be used, and (2) DOI's choice of stringent causation standard was reasonable. Regulations' requirements to publish biological studies relied on to prove causation, and to bar recovery as assessment costs of costs of general scientific studies, were also reasonable.
- DOI natural resource damage regulations did not violate CERCLA by establishing audit requirements that trustees must adhere to in handling proceeds from natural resource damage claims because (1) standardized accounting and planning requirements are reasonably related to damage assessment procedures that are subjects of regulations, and (2) requirements ensure that recovered money is spent on resource restoration.
- DOI natural resource damage regulations did not violate CERCLA by failing to provide for recovery of punitive damages from responsible parties.

because even though CERCLA does not preclude availability of punitive damages, it generally provides only for assessment of compensatory damages.

- DOI natural resource damage regulations did not violate CERCLA by allowing use of alternative valuation methods for calculating lost use resource values when markets for those resources are unavailable because (1) methodology is consistent with CERCLA's requirement that damage assessments use best available procedures; (2) regulation does not on its face result unfairly in overestimation of losses; (3) adoption of alternative valuation methods over industry objections was not arbitrary or capricious; and (4) presumption of accuracy of damage assessments made using challenged methods is rebuttable and does not violate parties' due process rights.

Colorado v. Interior. July 14, 1989. BNA Environment Reporter - Cases, Vol. 30, pages 1044-1052.

- DOI natural resource damage regulations for simplified damage assessments (Type A NRDAs) did not violate CERCLA because, even though regulations are limited in scope to minor point-source discharges in coastal or marine waters, they serve as a reasonable response to ambiguous congressional directive. Regulations are nonetheless remanded for revision in light of companion ruling (see *Ohio v. Interior* above) that Interior improperly based rules exclusively on value of lost uses in measuring natural resource damages.

Idaho v. Hanna Mining Co. August 10, 1989. BNA Environment Reporter - Cases, Vol. 30, pages 1097-1101.

- Mining company is not excused from liability under CERCLA for past damages to natural resources, even though environmental impact statement (EIS) addressing mining operations acknowledged that there would be damage to natural resources because CERCLA exception to liability for resource damages applies only to damages caused by activity or facility covered by EIS.
- CERCLA does not require EISs under National Environmental Policy Act to explicitly use terms "irreversible and irretrievable" when referring to expected damage to natural resources because CERCLA exception precluding liability for resource damage addressed in the EIS does not use those specific terms, and legislative history of CERCLA does not show intent that specific terms be used. Federal appeals court suggests that the EIS should contain clear statement of conclusion that non-compensable resource damage will occur under chosen alternative.

In Re Alleged PCB Pollution of Acushnet River & New Bedford Harbor. October 12, 1989. BNA Environment Reporter - Cases, Vol. 31, pages 1893-1900.

State and Federal governments may sue Massachusetts company under CERCLA to recover for injury to natural resources partly caused by PCB releases from company facility because (1) evidence suggests that some non-permitted PCB releases occurred while company owned facility, and (2) although some PCBs were released under Clean Water Act permit, it is premature for court to rule that company is not liable for natural resource damages caused by non-permitted releases that contributed to PCB contamination. Federal district court also refuses to grant government's request that it reject company's claim that releases were permitted by Federal government.

Bedford V. Raytheon, Co. January 15, 1991. BNA Environment Reporter - Cases, Vol. 32, pages 1548-1554.

- Massachusetts town may not sue parties allegedly responsible for contaminating aquifer for natural resource damages under CERCLA because (1) CERCLA specifically allows only states and Federal government to sue to recover natural resource damages, and (2) court declines to interpret law to include municipalities within definition of state.
- Massachusetts town is not entitled to presumption that response costs it incurs in responding to natural resource damages are consistent with National Contingency Plan under CERCLA because consistency presumption applies only to response actions taken by states or Federal government, and town is not on same level as states or Federal government under CERCLA.

U.S. v. Seattle. January 23, 1991. BNA Environment Reporter - Cases, Vol. 33, pages 1549-1551.

Federal district court will not dismiss Federal government suit seeking natural resource damages under CERCLA on statute of limitations grounds because (1) claim was timely if filed within 3 years of date resource damage assessment regulations were promulgated under act; (2) even though one part of regulations was issued more than 3 years before commencement of suit, court finds promulgation of regulations was not completed until after second part of regulations was issued; and (3) claim was filed less than 3 years after second part of regulations was issued.

New York City v. Exxon Corp. June 19, 1991. BNA Environment Reporter - Cases, Vol. 34, pages 1623-1642.

- Aluminum company's waste that contains cadmium, chromium, and lead compounds is hazardous waste subjecting company to potential liability

under CERCLA because (1) compounds are hazardous under CERCLA where they are listed as toxic or hazardous pollutants under Clean Water Act or Clean Air Act; (2) EPA reasonably concluded that compounds within generic categories of listed hazardous substances are themselves hazardous under CERCLA; and (3) court rejects contention that substances must also exhibit hazardous characteristics under RCRA to be considered hazardous under CERCLA.

- Aluminum company is liable under CERCLA for natural resource damages associated with contaminated New York City landfills because (1) state delegated its authority to act as trustee for natural resources to city agency, and (2) court already determined that company was liable under CERCLA for costs of cleaning up contamination.
- Aluminum company is jointly and severally liable under CERCLA for natural resource damages and past and future cleanup costs associated with contaminated landfills in New York City because (1) company failed to show that harm to environment was divisible among other responsible parties, and (2) the fact that wastes of different generators were commingled before disposal precludes finding that harm was divisible. Court reserves judgment on whether city should be held jointly and severally liable with company or whether city's liability should be determined in separate suit for contribution.

Aetna Casualty and Surety Co. v. Pinlar Corp. November 7, 1991. BNA Environment Reporter - Cases, Vol. 34, pages 1604-1613.

- Federal district court improperly granted insurance companies' motion for summary judgment on their claim that policies issued to companies that owned and operated smelting facilities did not cover natural resource damages assessed under CERCLA because (1) even though CERCLA precludes recovery of natural resource damages where resources were damaged before December 11, 1980, district court had insufficient information to conclude that no natural resources were damaged after 1980 date, and (2) appeals court finds it is possible that natural resources were damaged after 1980 date by hazardous substances released during periods insurance policies were in effect.

In Re: National Gypsum Co. February 12, 1992. BNA Environment Reporter - Cases, Vol. 34, pages 1577-1592.

- Claims filed against debtor companies for cleanup costs and natural resource damages at seven sites under CERCLA are claims that may be discharged during reorganization under Federal bankruptcy law because (1) bankruptcy law provides that claims that arise before filing of bankruptcy petitions are subject to discharge; (2) CERCLA claims arose at time debtors engaged in conduct that caused contamination of sites, not at time EPA took action to

remedy contamination; and (3) court finds discharge of claims is appropriate where parties had sufficient information to fairly contemplate that pre-petition conduct resulted in response cost claims under CERCLA.

- Liability of debtor companies under CERCLA will be based on Act's joint and several liability scheme if bankruptcy court finds environmental harm at sites was indivisible because, even though debtor companies argued that imposition of joint and several liability would be inequitable and detrimental to creditors, court finds that Congress embraced joint and several liability scheme when it enacted 1986 CERCLA amendments.

U.S. v. Montrose Chemical Corp. of California. March 31, 1992. BNA Environment Reporter Cases, Vol. 35, pages 1089-1099.

- Federal government may not assert sovereign immunity defense against counterclaims for indemnity and recoupment in its suit to recover natural resource damages under CERCLA because (1) government waived its immunity from recoupment counterclaims when it filed suit; (2) Federal Tort Claims Act (FTCA) waives government's immunity from counterclaims seeking indemnification; and (3) defendants established that they suffered injury needed to support FTCA claim.
- Federal district court has jurisdiction over two state law counterclaims in federal government's suit to recover natural resource damages under CERCLA because (1) counterclaim alleging negligence per se is allowed under FTCA, and (2) public nuisance counterclaim under California Public Nuisance Law is permissible claim against government under FTCA where court finds that being named in CERCLA suit constitutes special injury required for claim under state nuisance statute.
- Federal district court lacks jurisdiction over state law counterclaim in Federal government's suit to recover natural resource damages under CERCLA because (1) counterclaim alleges government illegally maintained dangerous condition on public property; (2) FTCA allows government to be held liable on state law claim only if private person would be liable under state law in same circumstances; and (3) private person cannot be sued under state law that provides only for state liability.
- Federal district court will not dismiss recoupment counterclaims in state government's suit to recover natural resource damages under CERCLA because (1) state waived its sovereign immunity from recoupment counterclaims when it filed its CERCLA suit, and (2) defendants suffered injury sufficient to meet requirements for recoupment claim under California Tort Claims Act. Court declines to dismiss counterclaims alleging that state is liable for failing to fulfill mandatory duties but dismisses claims for indemnification and injunctive relief because

counterclaims seeking affirmative relief are barred by Eleventh Amendment to U.S. Constitution.

- Federal district court will not abstain from asserting jurisdiction over counterclaims raised in state government's suit to recover natural resource damages under CERCLA because (1) suit does not involve difficult state law issues requiring abstention; (2) CERCLA expressly allows for actions under state tort law; and (3) abstention would be improper where state itself chose Federal court as forum.

U.S. v. AVX Corp. April 21, 1992. BNA Environment Reporter - Cases, Vol. 34, pages 1990-2000.

- Environmental group lacks standing to appeal Federal district court decision to approve CERCLA consent decree because (1) even though group had standing to raise claims in lower court where it was allowed to intervene on behalf of state and Federal governments, governments have not appealed decision; (2) group must independently demonstrate standing even though governments are parties to appeal; (3) group failed to allege with sufficient specificity how environmental interests of individual group members would be injured by decision to approve decree; and (4) alleged procedural injury suffered by group and members did not confer standing where group failed to properly raise issue of procedural injury in lower court.

Utah v. Kennecott Corp. September 3, 1992. BNA Environment Reporter - Cases, Vol. 35, pages 1734-1750.

- Federal district court will not approve consent decree proposed to settle Utah's natural resource damage claims against mining company under CERCLA because (1) state failed to support its determination that groundwater resource could not be restored; (2) decree does not include measures to prevent further contamination of groundwater or stop contamination from spreading; and (3) \$11.7 million payment called for in settlement is inadequate.
- Federal district court will allow local water conservation district to intervene in Utah's suit to recover natural resource damages from mining company under CERCLA because (1) group timely filed petition to intervene, and (2) permissive intervention is appropriate where group is in unique position to contribute to resolution of factual and legal issues raised in suit.

Federal Register Preambles

Below is a listing of selected preambles concerning NRDA. These preambles contain information concerning both the DOI and NOAA regulations. Each entry below lists the Federal Register citation, the Federal Register Date, and brief comments.

Natural Resource Damage Assessments - Type A Procedures		
FR Citation	FR Date	Comments
52 FR 9042	3/20/87	Final rule; established Type A Procedures.
53 FR 5166	2/22/88	Final rule; amended 43 CFR 11 to conform with amendments to CERCLA.
53 FR 9769	3/25/88	Technical correction to the NRDA Model for Coastal and Marine Environments (NRDAM/CME).
54 FR 5093	2/1/89	Advance notice of proposed rulemaking; request for comments on the NRDAM/CME.
54 FR 3901	9/22/89	Advance notice of proposed rule making; notice of intent to revise Type A Procedures in response to <i>Ohio v. DOI</i> court decision.
57 FR 16859	4/27/92	Regulatory agenda; notice of intent to revise NRDA Type A Procedures including the NRDAM/CME.
Natural Resource Damage Assessments - Type B Procedures		
FR Citation	FR Date	Comments
51 FR 27674	8/1/86	Final rule; established Type B procedure.
53 FR 5166	2/22/88	Final rule; amended 43 CFR 11 to conform with amendments to CERCLA.
54 FR 39016	9/22/89	Advance notice of proposed rulemaking; notice of intent to revise the Type B Procedure in response to <i>Ohio v. DOI</i> court decision.

54 FR 19752	4/29/91	Notice of proposed rulemaking; proposed revisions to Type B Procedures in response to <i>Ohio v. DOI</i> court decision.
Natural Resource Damage Assessments - Oil Pollution (15 CFR Ch. IX)		
FR Citation	FR Date	Comments
55 FR 53478	12/28/90	Advance notice of proposed rulemaking; notice that NOAA intends to develop proposed regulations pursuant to Section 1006 of the Oil Pollution Act to establish NRDA procedures for discharges of oil to navigable waters.
56 FR 8307	2/28/91	Notice of extension of comment period on advance notice of proposed rulemaking.
57 FR 8964	3/13/92	Notice of status on advance notice of proposed rulemaking.
57 FR 23067	6/1/92	Notice of extension of comment period on advance notice of proposed rulemaking.
58 FR 4742	1/15/93	Advance notice of proposed rulemaking, extension of comment period, and release of report by NOAA Panel on Contingent Valuation (described above).

Other Documents

The Use of Economic Analysis in Valuing Natural Resource Damages. June 1984. E. J. Yang, R. C. Dower, and M. Menefee. Environmental Law Institute, Washington, D.C. U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA). 154 pages.

This report, prepared for NOAA by the Environmental Law Institute, surveys the field of natural resource economic damage valuation from its conceptual basis to its practice. It discusses for the non-economist the economic theory of damage valuation, the methods developed to estimate those damages, and the legal framework within which those methods have operated. The document contains references and an appendix concerning damage assessments in judicial proceedings.

The 1991 State/Federal Natural Resource Damage Assessment and Restoration Plan for the Exxon Valdez Oil Spill, Volume I: Assessment and Restoration Plan and Appendices A, B, and C; Volume II: Response to Public Comment, Appendix D. April 1991. State of Alaska, U.S. Department of Commerce National Oceanic and Atmospheric Administration, U.S. Department of the Interior, U.S. Department of Agriculture Forest Service, U.S. Environmental Protection Agency. 305 pages.

This document describes studies proposed to be conducted jointly by the State of Alaska and the United States. The purpose of these studies is to determine the nature and extent of the injuries, losses, or destruction of resources, and the lost uses of the resources resulting from the *Exxon Valdez* oil spill. The document also describes restoration planning activities proposed for 1991. Parts include injury determination/quantification, peer reviewers, economics, public information support, restoration planning, budget, appendixes, and responses to public comments. References are also included.

Memorandum of Understanding Between the National Oceanic and Atmospheric Administration and the U.S. Environmental Protection Agency Concerning the Notification and Coordination of Activities Pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act. June 1992. 14 pages.

This Memorandum of Understanding (MOU) is intended solely to facilitate interagency coordination. It sets forth the procedures by which EPA and NOAA will jointly implement their notification and coordination responsibilities with respect to natural resources affected by a release at a hazardous substance site, as specified in Sections 104 and 122 of CERCLA.

Development of the Washington State Oil Spill Compensation Schedule. September 1992. L. Geselbracht and R. Logan. Washington State Department of Ecology Spills Policy and Planning Section, Olympia, Washington. 197 pages.

As directed by a law passed by the State of Washington in 1989, this document provides a simplified approach - in the form of compensation schedules - for determining public resource damages for oil spills into state waters. Specific to Washington, the document provides information on the development of the resources vulnerability rankings that comprise the compensation schedule for marine and estuarine environments. The schedule includes vulnerability rankings for marine/estuarine habitat, marine birds and fisheries, shellfish, salmon, marine mammals, and recreation. It also includes references and appendixes.

Superfund Natural Resource Trustee Notification and Coordination Manual. September 1992. U.S. Environmental Protection Agency, Region 10, Seattle, Washington. 18 pages plus appendixes.

The purpose of this manual is to give Superfund Remedial Project Managers a guide to natural resource trustee procedures which will meet requirements as

specified in current law. It includes a summary of laws and regulations pertaining to natural resource trustees, a listing of trustees in EPA Region 10, a checklist and flowchart for coordinating with the Federal trustees, the NOAA/EPA Memorandum of Understanding (described above), and the "ECO Updates" (described above).

Report of the NOAA Panel on Contingent Valuation. January 15, 1993. K. Arrow, R. Solow, E. Leamer, P. Portney, R. Randner, and H. Schuman. Department of Commerce, National Oceanic and Atmospheric Administration. Federal Register, Vol. 58, No. 10. 13 pages.

This report from a Contingent Valuation Panel, established by NOAA, evaluates the use of Contingent Valuation Methodology (CVM) in determining nonuse values and provides comments to NOAA. Prior to this report, the Panel received hundreds of pages of comments concerning CVM and conducted a public meeting to hear all sides of the issue. The report includes an introduction, drawbacks to the CVM, key issues concerning the design of CV surveys, guidelines for CV application to NRDA's, a research agenda, conclusions, and references.