## CONTENTS

*Preface to the Eighth Edition*  xxxi
*Acknowledgments*  xxxv

### CHAPTER I. ENVIRONMENTAL LAW’S FOUNDATIONS  1

- **Problem 1-1**
  
- **A. Environmental Law’s Roots and Rationales**  1
- **B. Environmentalism’s Rejection of Exploitation Expectations**  3
- **C. Economic Perspectives on Environmental Harms and Policy Choice**  4
  
  - **Problem 1-2**  4
  
  1. **Introduction: Why We Pollute**
     - Hardin, *The Tragedy of the Commons*  5
     - Notes on the Tragedy and Environmental Policy  7
  
  2. **The Economics Model of Environmental Problems: Key Concepts**  9
     
     - **a. Key Terms**  9
     - **b. Coase’s Insights and the “Polluter Pays” Principle**  12
     - **c. Nonuse Values and Incommensurability: Are Some Values Extrinsic or Not Capable of Measurement?**  14
     - **d. Ethics or Economics?**  14
     - **e. Cost-Benefit Analysis and Economic Perspectives**  15
     - **f. What If “Rational Actor” Assumptions Are Wrong? The Growing Influence of Behavioral Economics**  15
  
  **D. The Environmental Lessons of Ecology**  16
     
     - Notes and Questions  21
  
  **E. The Ethical Lessons of Ecology**  22
     
     - Notes and Questions  23
  
  **F. Common Law, Nonstatutory, and Constitutional Remedies for Environmental Harms**  25
     
     - **Problem 1-3**  26
     
     1. **Negligence Claims**  27
     2. **Public and Private Nuisance Claims**  27
a. Public Nuisance Claims 28
   Georgia v. Tennessee Copper Co. 29
   Notes and Questions 30
b. Private Nuisance Claims 32
   Walsh v. Town of Stonington Water Pollution Control Authority 32
   Note and Question 34
   Petsey v. Cushman 34
   Notes and Questions 37
3. Trespass Claims 39
4. Strict Liability Claims 39
   Branch v. Western Petroleum, Inc. 40
   Notes and Questions 43
5. The Public Trust Doctrine 44
   National Audubon Society v. Superior Court of Alpine County 46
   Note and Questions 47
6. Constitutionally Rooted Environmental Claims 48
7. Environmental Justice Theories 51
G. Common Law and Other Theories During the Statutory Environmental Era 52
   International Paper Co. v. Ouellette 53
   Notes and Questions 58
   A Note Regarding Hurdles to Common Law Success 59
H. The Historical Arc of Environmental Law 60
   1. Reconceiving Wilderness and Natural Resource Values 61
   2. The Conservation and Preservation Movements 61
   3. The Political Emergence of the Modern Environmental Era 64
   4. A Brief Chronology of the Development of Modern Environmental Laws and Political Trends 65
I. Environmental Policy and Regulatory Design Choice 75
   1. Environmental Law Goals, Triggers, and Strategies 76
      a. Goals 77
      b. Triggers 77
      c. Regulatory Designs and Strategies 78
   2. Implementation and Enforcement Design Choice 80

CHAPTER II. ENVIRONMENTAL FEDERALISM 83

Problem 2-1 84
A. Rationales for Federal Environmental Regulation 85
   1. Interstate Externalities 85
   2. Economies of Scale and Information 86
   3. The Race to the Bottom 86
   4. Centralization versus Decentralization 88
   5. Political, Economic, and Historical Rationales for
Federal (or State) Regulation 90

6.  Using Competing Federalism Rationales 91

B. The Question of Federal Commerce Power 91

*Gibbs v. Babbitt* 92

Notes and Questions: Power and the Analytical Framework 100

Note on the Affordable Care Act Challenge and Federal Power to Protect the Environment 105

C. Federal Power and Interpretation: Commerce Concerns as a Tiebreaker 108

*Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* 108

*Rapanos v. United States* 110

Note 112

D. Securing State Cooperation 112

*New York v. United States* 112

Notes and Questions 120

A Note on State Sovereign Immunity 121

E. The Power Allocation Choice: Savings Clauses, Delegated Programs, and Preemption 123

1.  Savings Clauses 124

2.  Delegated Programs 125

3.  Preempting Clauses and Regulatory Actions 127

*Engine Manufacturers Association v. South Coast Air Quality Management District* 128

Notes and Questions 131

*Bates v. Dow Agrosciences LLC* 132

Notes 136

4.  Preemption by Agency Declaration 139

Notes and Questions 140

F. Dormant Commerce Clause Limitations on State Regulation 142

*United Haulers Association, Inc. v. Oneida-Herkimer Solid Waste Management Authority* 143

Notes and Questions 147

*Rocky Mountain Farmers Union v. Corey* 149

Note and Questions 157

---

**CHAPTER III.** THE ADMINISTRATIVE LAW OF ENVIRONMENTAL PROTECTION 161

A. Judicial Control of Administrative Environmental Decisionmaking 162

1.  Access to the Courts: Standing and Related Preclusion Doctrines 162

*Sierra Club v. Morton* 162

Notes and Questions 166

*Lujan v. Defenders of Wildlife* 168
CHAPTER IV. THE NATIONAL ENVIRONMENTAL POLICY ACT

A. NEPA’s Role in Environmental Management
   1. An Environmental Magna Carta
      Notes and Questions
   2. The Calvert Cliffs Decision: Judicial Enforcement
      Notes and Questions

B. When Does NEPA Apply? Exemptions, Nondiscretionary Actions, and Categorical Exclusions
   1. Exemptions
      Catron County Board of Commissioners v. United States Fish and Wildlife Service
      Notes and Questions
   2. Nondiscretionary Actions
   3. Categorical Exclusions

C. Threshold Issues: Must an Impact Statement Be Prepared?
   Problem 4-1
   1. Is It Federal?
   2. Is It a Federal “Action”?
   3. Is It a Major Federal Action Significantly Affecting the Environment?
      Ocean Advocates v. United States Army Corps of Engineers
      Notes and Questions
      Note on Environmental Effects and Other Issues that Must Be Considered in Making the Significance Decision

D. If an Impact Statement Must Be Prepared, How Is It Done, and What Is Its Scope?
   1. How Environmental Impact Statements Are Prepared
      Notes and Questions
      Note on Statutory Exemptions from and Modifications of NEPA
   2. The Alternatives Requirement
      Notes and Questions
   3. Segmentation
      Florida Keys Citizens Coalition, Inc. v. United States Army Corps of Engineers
      Notes and Questions
   4. Regional and Program Impact Statements
      Kleppe v. Sierra Club
      Notes and Questions
      Note on NEPA’s Extraterritorial Impact and Environmental Assessment in Other Countries
### Contents

**E. When Is an Environmental Impact Statement Adequate?**

1. The Substantive versus the Procedural Problem
   - Notes and Questions
2. What Is an “Adequate” Impact Statement?
   - *Sierra Club v. Bosworth*
   - Notes and Questions
3. Cumulative Impacts
   - Problem 4-2
   - *Grand Canyon Trust v. Federal Aviation Administration*
   - Notes and Questions
4. Mitigation
   - *Robertson v. Methow Valley Citizens Council*
   - Notes and Questions
   - Note on State Environmental Policy Legislation

**F. Where Is NEPA Today? A Critique and Recommendations for Reform**

### CHAPTER V. BIODIVERSITY CONSERVATION

<table>
<thead>
<tr>
<th>Problem</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-1</td>
<td>327</td>
</tr>
</tbody>
</table>

**A. Introduction to Biodiversity Conservation**

- *Doremus, Patching the Ark: Improving Legal Protection of Biological Diversity*
- Note on Ecosystem Services Provision as a Rationale for Biodiversity Protection
- *Sierra Club v. Marita*
- Notes and Questions
- Note on Sources of Biodiversity Conservation Law

**B. The Endangered Species Act**

1. An Overview of the Endangered Species Act
   - *Tennessee Valley Authority v. Hill*
   - Notes
2. Listing and Critical Habitat Designation
   - *Alaska Oil and Gas Ass’n v. Pritzker*
   - Notes and Questions
   - Note on Critical Habitat Designation
3. Substantive and Procedural Duties for Federal Agencies Under Section 7
   - *National Association of Home Builders v. Defenders of Wildlife*
   - Notes and Questions
4. The Section 9 Taking Prohibition
   - *Babbitt v. Sweet Home Chapter of Communities for a Great Oregon*
   - Notes and Questions
C. The Regulatory Taking Problem 373
   Lucas v. South Carolina Coastal Council 373
   Notes and Questions 376

CHAPTER VI. PROTECTING THE AIR RESOURCE 381

A. Air Pollution: Types, Sources, Impacts, and Control Techniques 383
   1. Pollutants and Their Sources 383
   2. Documenting the Health Effects of Air Pollution 388
   3. The Evolving Mix of Emissions Sources 389
   4. The State of Air Quality and Its Improvement 389
   5. The Economic Impact and Distributional Effects of Air Pollution and Air Pollution Control 391

B. The History of Air Pollution: From Common Law Nuisance to the Clean Air Act 392
   1. Beginnings 392
   2. Early Legislation 392
   3. The 1970 Act 393
   4. Conflicting Goals 394
   5. The 1977 Amendments 394
   6. The 1990 Amendments 395

C. A Summary of the Clean Air Act Today 396

Note on Protection of Indoor Air Quality 403

D. Uniform National Primary and Secondary Ambient Air Quality Standards 403
   1. Establishment of the NAAQS 404
      a. Listing of Criteria Pollutants 404
      b. The Adoption of NAAQS 405
         Coalition of Battery Recyclers Association v. EPA 406
         Notes and Questions 409
         Whitman v. American Trucking Associations, Inc. 410
         Notes and Questions 416
         American Trucking Associations, Inc. v. EPA 420
         Notes and Questions 423
   2. Achievement of the NAAQS Through State Implementation Plans 425
      a. Designation of Air Quality Control Regions 425
      b. Formulation, Approval, and Revision of SIPs 427
         Union Electric Company v. EPA 428
         Notes and Questions 433
         Note on Tall Stacks and Other Dispersion Techniques 436
      c. Monitoring and Modeling 438
         Note on Continuous Emissions Monitoring and “All Credible Evidence” 439

E. Nationally Uniform Emission Standards for New Sources: Controlling New Stationary Source Pollution by Categorical Regulation 440
### Contents

**F. Nonattainment Areas: The Special Problems of Dirty-Air Areas**

1. **The Scope of the Nonattainment Problem**
   - Note on the Ozone and Carbon Monoxide Nonattainment Problem 445

2. **Deadlines for Achieving the NAAQS** 446

3. **General State Implementation Plan Requirements for Nonattainment Areas**
   - Problem 6-1 449

4. **Controlling Emissions from Stationary Sources in Nonattainment Areas**
   - a. The Scope of the New Source Review Permit Program
   - b. The Substantive Requirements of the Nonattainment Area Permit Program
     - *Citizens Against the Refinery’s Effects, Inc. v. EPA* 459

5. **Sanctions for Failure to Comply with Nonattainment Area Requirements**

**G. Prevention of Significant Deterioration**

1. **Origins and Purposes of the PSD Program**

2. **The Current PSD Program: An Overview**
   - *National Research Council of the National Academy of Sciences, On Prevention of Significant Deterioration of Air Quality* 471
   - *Alaska Department of Environmental Conservation v. EPA* 473

3. **Control of Visibility Impairment**

**H. Motor Vehicle Emission Controls**

1. **Vehicle Emission Standards**
   - Note on the Concept of Technology Forcing 496

2. **Controlling Emissions from Mobile Sources in Nonattainment Areas**
a. Vehicle Inspection and Maintenance Programs 499
b. Gasoline Vapor Recovery 500
c. Alternative Fuels 500
d. Clean-Fuel Vehicles 501
e. Transportation Controls and Related Measures 502
f. Indirect Source Review 503

I. Control of Other Pollutants 504
1. Hazardous Air Pollutants 504
   Michigan v. EPA 506
   Notes and Questions 514
   NRDC v. EPA 515
   Notes and Questions 517
2. Interstate Pollution and Acid Deposition 518
   a. The Difficulty of Controlling Interstate Pollution 518
      EPA v. EME Homer City Generation, L.P. 519
      Notes and Questions 527
   b. The Acid Deposition Controversy 529
      Clean Air Act Amendments of 1990, Report of the
      Committee on Energy and Commerce, U.S. House
      of Representatives, On H.R. 3030 529
      Notes and Questions 530
   c. Emissions Trading and the Control of Acid Deposition 531
      Indianapolis Power & Light Co. v. EPA 531
      Madison Gas & Electric Co. v. EPA 532
      Notes and Questions 533
      Note on the International Implications of Acid Deposition 535
3. Protection of Stratospheric Ozone 536
   a. The Problem of Ozone Depletion 536
      Clean Air Act Amendments of 1989 536
      Notes and Questions 537
   b. The Phase-Out of Ozone-Depleting Substances 539
J. Facilitating Enforcement: Clean Air Act Permits 541
   Commonwealth of Virginia v. Browner 542
   Notes and Questions 546

CHAPTER VII. PROTECTING THE WATER RESOURCE 549

Introduction 549
A. Water Pollutants and the State of the Nation’s Waters 550
   Notes and Questions on the Quality of Our Nation’s Waters 552
B. Background on Water Pollution Regulation 554
   1. Nineteenth-Century Water Pollution Problems and Legal Responses 555
   2. The Twentieth-Century Evolution of Federal Water
      Pollution Control Policy 555
a. Post Hoc Actions Against Discharges 555
b. An Early Approach to Water Quality Standards 556
c. The Clean Water Act: An Overview 557
   (1) Goals 557
   (2) Structure 558

C. The CWA’s NPDES Permit Program for Point Sources:
   Jurisdictional Boundaries 559
   1. “Navigable Waters” 560
      a. Constitutional Power to Regulate Water Pollution 560
      b. Statutory Boundaries on the Regulation of Water Pollution 560
         Solid Waste Agency of Northern Cook v. United States Army Corps of Engineers 562
         Rapanos v. United States 564
         Notes and Questions 576
         Problem 7-1 578
   2. Definition of a Point Source 578
      United States v. Plaza Health Laboratories, Inc. 579
      Notes and Questions 586
   3. Pollutant 587
   4. Addition 587
      Notes and Questions on NPDES Jurisdiction 588
      Problem 7-2 589

D. Establishing Technology-Based Effluent Limitations 589
   1. Relevant Factors in Setting National Standards 591
      Weyerhaeuser Co. v. Costle 591
      Association of Pacific Fisheries v. EPA 597
      Notes and Questions 603
   2. Variances 604
      EPA v. National Crushed Stone Association 605
      Note on Variances 607
      Problem 7-3 607

E. Water Quality Standards 607
   1. Theory and Current Function 607
      Notes and Questions 611
   2. Spillover Effects and Treatment of New Dischargers to Impaired Waters 611
      Arkansas v. Oklahoma 611
      Notes and Questions 618
      Problem 7-4 619
   3. The Role of TMDLs in Achieving Water Quality Standards 619
      a. Overview 619
      b. Progress to Date in Implementing the TMDL Program 620
      c. A More In-Depth Look at the TMDL Program 620
         Notes and Questions 621
         American Farm Bureau Federation v. EPA 623
         Notes and Questions 632
4. Section 401 Certifications 632
   Notes and Questions 632
   Oregon Natural Desert Association v. Dombeck 633

F. Agricultural Pollution, Including CAFOs 635

G. Municipal Treatment Operations 637
   1. A Case of Federal Subsidies: The Construction Grants Program and State Revolving Funds 637
   2. Pretreatment 638
   3. Disposal of Sewage Sludge 639
   4. Stormwater: Combined Sewer Overflows (CSOs) and Sanitary Sewer Systems 640
   5. Green Infrastructure and Low Impact Development (LID) Strategies and Practices 642

H. Nonpoint Source Pollution 643

I. The §404 Program 646
   1. The Problem: From Hazard to Ecosystem 646
   2. The Allocation of Regulatory Jurisdiction 647
   3. Activities Regulated Under CWA §404 648
      Coeur Alaska, Inc. v. Southeast Alaska Conservation Council 649
   4. Substantive Criteria 655
      Northwest Environmental Defense Center v. Wood 657
      Notes and Questions 661

J. Watershed or “Place-Based” Approaches to Water Protection 662
   Notes and Questions 665

CHAPTER VIII. CONTROLLING TOXIC SUBSTANCES AND HAZARDOUS WASTES 667

A. Defining the Problem: Risk and Uncertainty 668
   1. The Nature of Environmental Risk 668
      Page, A Generic View of Toxic Chemicals and Similar Risks 668
      Notes and Questions 672
   2. Risk Assessment, Risk Management, Cancer, and the Environment 672
      Adler, Against “Individual Risk”: A Sympathetic Critique of Risk Assessment 672
      Notes and Questions 676
      Environmental Protection Agency, Notice of Availability; Documents Entitled Guidelines for Carcinogen Risk Assessment and Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens 677
      Notes and Questions 684
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Note on Animal Test Methodologies and Cancer Risk Assessments</td>
<td>688</td>
</tr>
<tr>
<td>B. Risk and the Common Law</td>
<td>690</td>
</tr>
<tr>
<td>Village of Wilsonville v. SCA Services, Inc.</td>
<td>691</td>
</tr>
<tr>
<td>Notes and Questions</td>
<td>695</td>
</tr>
<tr>
<td>Lin, The Unifying Role of Harm in Environmental Law</td>
<td>697</td>
</tr>
<tr>
<td>Note on the Common Law Approach to Risk as Injury</td>
<td>701</td>
</tr>
<tr>
<td>Daubert v. Merrell Dow Pharmaceuticals, Inc.</td>
<td>706</td>
</tr>
<tr>
<td>Notes and Questions</td>
<td>710</td>
</tr>
<tr>
<td>C. Early Statutory Examples of Precautionary Regulation of Risk</td>
<td>712</td>
</tr>
<tr>
<td>Ethyl Corp, v. EPA</td>
<td>713</td>
</tr>
<tr>
<td>Notes and Questions</td>
<td>715</td>
</tr>
<tr>
<td>D. Dealing with Risk Through Comparative Risk Assessment and Cost-Benefit Analysis</td>
<td>718</td>
</tr>
<tr>
<td>1. The Rationale for Comparative Risk Assessment</td>
<td>719</td>
</tr>
<tr>
<td>2. Quantitative Risk Assessment</td>
<td>721</td>
</tr>
<tr>
<td>National Research Council of the National Academies, Science and Decisions: Advancing Risk Assessment</td>
<td>721</td>
</tr>
<tr>
<td>Industrial Union Department, AFL-CIO v. American Petroleum Institute</td>
<td>721</td>
</tr>
<tr>
<td>Notes and Questions</td>
<td>729</td>
</tr>
<tr>
<td>3. Criticisms of Comparative and Quantitative Risk Assessment</td>
<td>730</td>
</tr>
<tr>
<td>4. Comparing the Costs and Benefits of Hazardous Substance Control</td>
<td>733</td>
</tr>
<tr>
<td>American Textile Manufacturers Institute, Inc. v. Donovan</td>
<td>733</td>
</tr>
<tr>
<td>Notes and Questions</td>
<td>735</td>
</tr>
<tr>
<td>E. Preventing the Entry of Toxic Substances into the Stream of Commerce</td>
<td>737</td>
</tr>
<tr>
<td>1. Regulation of Chemical Manufacturing and Use</td>
<td>739</td>
</tr>
<tr>
<td>a. The Toxic Substances Control Act</td>
<td>739</td>
</tr>
<tr>
<td>Markell, An Overview of TSCA, Its History and Key Underlying Assumptions, and Its Place in Environmental Regulation</td>
<td>739</td>
</tr>
<tr>
<td>(1) Introduction</td>
<td>740</td>
</tr>
<tr>
<td>(2) The Initial Failure of TSCA</td>
<td>741</td>
</tr>
<tr>
<td>Corrosion Proof Fittings v. EPA</td>
<td>741</td>
</tr>
<tr>
<td>Notes and Questions</td>
<td>747</td>
</tr>
<tr>
<td>(3) The 2016 Amendments</td>
<td>748</td>
</tr>
<tr>
<td>Note on Integration of TSCA with Other Regulatory Schemes</td>
<td>755</td>
</tr>
<tr>
<td>Problem 8-1</td>
<td>755</td>
</tr>
<tr>
<td>b. Regulation of Pesticide Use: The Federal Insecticide, Fungicide, and Rodenticide Act</td>
<td>756</td>
</tr>
<tr>
<td>(1) The Evolution of Pesticide Regulations: From Classic Consumer Protection to DDT</td>
<td>757</td>
</tr>
<tr>
<td>(2) The Current Law</td>
<td>757</td>
</tr>
<tr>
<td>(a) Registration, Restricted Registration, and Re-Registration</td>
<td>758</td>
</tr>
</tbody>
</table>
(b) Suspension, Cancellation, and Related Matters 759

c. Regulation of Drinking Water Supplies: The Safe Drinking Water Act 763
   Chlorine Chemistry Council v. EPA 765
   Notes and Questions 768
   Problem 8-2 770

d. Regulation of Chemicals in Food: The Federal Food, Drug, and Cosmetic Act 771
   League of United Latin American Citizens v. Wheeler 771
   Notes and Questions 775

2. Proprietary Rights to Information versus the Public’s Right to Know 777
   a. Market Failure and the Availability of Information on Toxic Substances 777
      Wagner, Commons Ignorance: The Failure of Environmental Law to Produce Needed Information on Health and the Environment 777
      Notes 780
   b. Trade Secrets and Information Property 781
   c. Public Disclosure Requirements and Right-to-Know Acts 782
      Karkkainen, Information as Environmental Regulation: TRI and Performance Benchmarking, Precursor to a New Paradigm? 782
      Notes and Questions 784

F. Preventing Harm from Hazardous Waste 786
1. Regulation of Hazardous Air Pollutants Under the Clean Air Act 786
2. Regulation of Toxic Water Pollutants Under the Clean Water Act 786
   a. Introduction to the Management of Hazardous Waste 787
      Note on Pollution Prevention 787
   b. A Summary of RCRA 788
   c. Distinguishing Waste from Useful Materials: Legitimate versus Sham Recycling 789
      Owen Electric Steel Co. of South Carolina, Inc. v. Browner 790
      Questions 793
      American Petroleum Institute v. EPA (API II) 793
      Notes and Questions 795
      Hazardous Waste Management System 797
      Notes and Questions 801
      Note on Further Solid Waste Definitional Issues 803
      Problem 8-3 805
   d. Identification and Listing of Hazardous Wastes 805
      Note on Municipal Waste Combustion Ash 807
      Questions 808
   e. Regulation of Hazardous Waste Generation and Transportation 809
f. Regulation of Hazardous Waste Treatment, Storage, and Disposal
   (1) TSD Facility Permits and Performance Standards
   (2) Land Disposal Restrictions and Treatment Requirements
Columbia Falls Aluminum Co. v. EPA
Notes and Questions
Note on Siting TSD Facilities and Environmental Justice
South Camden Citizens in Action v. New Jersey Department of Environmental Protection
Notes and Questions

g. Regulation of Nonhazardous Solid Waste

CHAPTER IX. ENVIRONMENTAL CONTAMINATION LIABILITY AND REMEDIATION

A. The History and Purposes of CERCLA
   Superfund Amendments and Reauthorization Act of 1986
B. An Overview of CERCLA
C. Liability for Remediation of Hazardous Substances
   1. Proving a Prima Facie Case for CERCLA Liability
      a. Overview
         New York v. Shore Realty Corp.
         Notes and Questions
      b. Release, Hazardous Substance, and Facility
         Fertilizer Institute v. EPA
         Notes and Questions
         Problem 9-1
      c. Recoverable Response Costs
   2. Standard of Liability
      a. Strict, Retroactive, and Joint and Several Liability
         Burlington Northern and Santa Fe Railway Co. v. United States
         Notes and Questions
         Problem 9-2
      b. Affirmative Defenses to Liability
         Problem 9-3
   3. Potentially Responsible Parties
      a. Owners and Operators
         California Department of Toxic Substances Control v. Hearthside Residential Corp.
         Notes and Questions
         Problem 9-4
      b. Arrangers


South Florida Water Management District v. Montalvo  860
Notes and Questions  862
Burlington Northern and Santa Fe Railway Co. v. United States  863
Notes and Questions  865
Problem 9-5  867
c. Transporters  868
d. Lenders and Trustees  868
Problem 9-6  869
e. Corporate Liability  870
United States v. Bestfoods  870
Notes and Questions  875
Problem 9-7  877
4. Contribution and Private Cost Recovery Actions  878
Cooper Industries, Inc. v. Aviall Services, Inc.  878
Questions  881
United States v. Atlantic Research Corporation  881
Notes and Questions  885
Note on Contribution and Private Cost Recovery  886
D. Liability for Imminent and Substantial Endangerments  888
1. CERCLA Abatement Actions  888
2. RCRA Imminent Hazards  889
Maine People’s Alliance v. Mallinckrodt, Inc.  889
Notes and Questions  893
Meghrig v. KFC Western, Inc.  894
Notes and Questions  896
3. Oil Spills  897
E. Liability for Damage to Natural Resources  900
F. The CERCLA Cleanup Process  902
1. An Overview of the Cleanup Process  902
2. The National Priorities List  904
Carus Chemical Co. v. EPA  904
Notes and Questions  907
3. The National Contingency Plan and Cleanup Standards  909
Ohio v. EPA  909
Notes and Questions  913
G. The Effect of the Discovery of Hazardous Substances on Real Estate Transactions  914

CHAPTER X. ENFORCEMENT OF ENVIRONMENTAL LAW  917

A. Introduction  917
B. The Actors  918
1. Federal Officials  918
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. State Officials</td>
<td>919</td>
</tr>
<tr>
<td>3. Environmental Nongovernmental Organizations and Regulated Parties</td>
<td>920</td>
</tr>
<tr>
<td><em>Harmon Industries, Inc. v. Browner</em></td>
<td>921</td>
</tr>
<tr>
<td>Notes and Questions About the Actors in Environmental Enforcement and Compliance</td>
<td>928</td>
</tr>
<tr>
<td>C. The Legal Authorities</td>
<td>929</td>
</tr>
<tr>
<td>1. The Government’s Information-Gathering Authority</td>
<td>930</td>
</tr>
<tr>
<td>Notes and Questions About EPA’s Information-Gathering Authorities</td>
<td>932</td>
</tr>
<tr>
<td>2. The Government’s Civil Litigation Authorities</td>
<td>934</td>
</tr>
<tr>
<td><em>Sackett v. EPA</em></td>
<td>935</td>
</tr>
<tr>
<td>Notes and Questions</td>
<td>941</td>
</tr>
<tr>
<td><em>United States v. Smithfield Foods</em></td>
<td>942</td>
</tr>
<tr>
<td>Notes and Questions Concerning the Government’s Civil Litigation Authorities</td>
<td>947</td>
</tr>
<tr>
<td>3. Criminal Liability</td>
<td>950</td>
</tr>
<tr>
<td><em>United States v. Ahmad</em></td>
<td>951</td>
</tr>
<tr>
<td>Notes and Questions About Criminal Enforcement</td>
<td>954</td>
</tr>
<tr>
<td>4. Private Enforcement of Statutory Violations: Citizen Suits</td>
<td>957</td>
</tr>
<tr>
<td><em>Gwaltney of Smithfield, Ltd. v. Chesapeake Bay Foundation, Inc.</em></td>
<td>957</td>
</tr>
<tr>
<td>Notes and Questions About Citizen Suits</td>
<td>962</td>
</tr>
<tr>
<td>Problem 10-1</td>
<td>966</td>
</tr>
<tr>
<td>5. Common Law versus Statutory Causes of Action</td>
<td>968</td>
</tr>
<tr>
<td><em>Boomer v. Atlantic Cement Co.</em></td>
<td>968</td>
</tr>
<tr>
<td>Notes and Questions About Common Law versus Statutory Causes of Action</td>
<td>971</td>
</tr>
<tr>
<td>D. The Dynamic Nature of the Environmental Enforcement Process</td>
<td>973</td>
</tr>
<tr>
<td>1. Compliance Assistance</td>
<td>975</td>
</tr>
<tr>
<td>2. Compliance Incentives</td>
<td>976</td>
</tr>
<tr>
<td>Environmental Protection Agency, Incentives</td>
<td>977</td>
</tr>
<tr>
<td>for Self-Policing: Discovery, Disclosure, Correction and Prevention of Violations</td>
<td>977</td>
</tr>
<tr>
<td>3. “Next Generation Compliance”</td>
<td>982</td>
</tr>
<tr>
<td>Notes and Questions Concerning the Enforcement Policy Toolbox</td>
<td>983</td>
</tr>
<tr>
<td>C. Stone, Earth and Other Ethics: The Case for Moral Pluralism</td>
<td>988</td>
</tr>
<tr>
<td>Notes and Questions</td>
<td>988</td>
</tr>
<tr>
<td>A. A Brief Introduction to International Environmental Law</td>
<td>989</td>
</tr>
</tbody>
</table>
CHAPTER XII. CLIMATE CHANGE LAW AND POLICY CHOICES 1055

A. The Science of Global Climate Change 1056
   Environmental Protection Agency, Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act; Final Rule 1056
   Notes and Questions 1061

B. Political and Economic Challenges 1074

C. The Regulatory Menu 1077
   1. Climate Change Mitigation Targets, Opportunities, and Constraints 1077
      Notes and Questions 1080
   2. Statutory Design Issues 1081
   3. Congressional Climate Bills, 2009-2010: Description and Questions for Analysis 1086
      Notes and Questions 1087

D. Federalism Issues 1088
   Engel & Miller, State Governance: Leadership on Climate Change 1089
   Notes and Questions 1090
   Problem 12-1 1093

E. Responding to Climate Change 1094
   1. Regulations Under the Clean Air Act 1094
      a. EPA’s Authority to Regulate Greenhouse Gas Emissions 1094
         Massachusetts v. EPA 1094
         Notes and Questions 1106
      b. The Endangerment Finding 1107
         Environmental Protection Agency, Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act; Final Rule 1107
         Notes and Questions 1109
      c. EPA Regulation of Greenhouse Gases from Motor Vehicles 1109
      d. Control of Stationary Sources of GHGs 1112
         Utility Air Regulatory Group v. EPA 1113
         Notes and Questions 1121
         Note on Regulation of Greenhouse Gas Emissions Under Section 111 1122
         Notes and Questions 1126
   2. Additional Regulation 1127
      Note on Federalism Obstacles 1129
   3. Adaptation Risks and Responsive Strategies 1129
   4. Climate Change and Other Aspects of Environmental Law 1132
      a. NEPA and Climate Change 1132
      b. The Endangered Species Act and Climate Change 1133
         Alaska Oil and Gas Ass’n v. Pritzker 1134
Contents

Notes and Questions 1134
5. Common Law Remedies 1135
   American Electric Power Co. v. Connecticut 1136
   Notes and Questions 1143
F. International Issues 1145
   Notes and Questions 1146
1. The UN Climate Change Regime 1147
   a. The UN Framework Convention on Climate Change 1147
      UN Framework Convention on Climate Change 1147
      Notes and Questions 1151
   b. The Kyoto Protocol 1152
   c. Copenhagen Accord 1153
      Copenhagen Accord 1154
      Notes and Questions 1155
   d. Paris Agreement 1155
      Paris Agreement 1155
      Notes and Questions 1162
2. Using Other Regimes to Address Climate Change 1162
   Notes and Questions 1164
3. Climate Change Litigation 1164
   Notes and Questions 1165
4. Climate Change and … 1165
   a. Trade 1165
      M. Sell, Climate Change and Energy 1165
      G. Hufbauer & J. Kim, The World Trade Organization and Climate Change: Challenges and Options 1166
      Notes and Questions 1166
   b. Human Rights 1166
      International Council on Human Rights, Climate Change and Human Rights: A Rough Guide 1167
      Notes and Questions 1170
   c. National Security 1170
      National Security and the Accelerating Risks of Climate Change 1170
      Notes and Questions 1171

Table of Acronyms 1173
Table of Cases 1181
Index 1203