

Table of Contents

PART A. INTRODUCTORY

CHAPTER 1. INTRODUCTION

I. ENVIRONMENTAL PROTECTION LAW

- § 1:1 Generally
- § 1:2 Environment and pollution
- § 1:3 From ideals to practicality to ideals?

II. THE PLAN OF THIS BOOK

- § 1:4 Generally

III. CODIFICATION AND REFORM

- § 1:5 Generally
- § 1:6 Consistency among statutes
- § 1:7 —Designation of pollutants
- § 1:8 —Environmental quality standards and goals
- § 1:9 —Control methods
- § 1:10 —EPA's functional programs
- § 1:11 Reform
- § 1:12 —Procedural reform
- § 1:13 — —The construction ban for new sources
- § 1:14 — —Transferable permits
- § 1:15 —Reform of standards and goals
- § 1:16 —Study recommendations
- § 1:17 Sustainability: next generation environmental protection?

PART B. PRINCIPLES AND METHODS

CHAPTER 2. THE GOALS OF ENVIRONMENTAL PROTECTION

I. INTRODUCTION

- § 2:1 In General

II. THE ORIGIN OF ENVIRONMENTAL QUALITY STANDARDS

- § 2:2 Introduction
- § 2:3 Local air and water quality standards
- § 2:4 State air and water quality standards
- § 2:5 —Oregon's air pollution statute
- § 2:6 —State standards
- § 2:7 The movement for control of technology
- § 2:8 Thresholds and goals

III. THRESHOLDS OF ACTION

- § 2:9 In General
- § 2:10 Imminent and substantial hazards
- § 2:11 Designated pollutants
- § 2:12 —Conventional pollutants
- § 2:13 —Toxic pollutants

IV. NATIONAL AMBIENT STANDARDS FOR CONVENTIONAL POLLUTANTS

- § 2:14 Introduction
- § 2:15 Standards as interim goals
- § 2:16 Ambient standards as the basis of control—Environmental quality modeling
- § 2:17 Regional modeling
- § 2:18 Other aspects of ambient standards

V. GOALS

- § 2:19 Introduction
- § 2:20 Nondegradation standards
- § 2:21 —Background pollution
- § 2:22 —Increments for conventional pollution
- § 2:23 De minimis standards for toxic pollutants
- § 2:24 —De minimis standards
- § 2:25 —Schedules and controls
- § 2:26 Long-term goals of technology-based control

VI. THE PURPOSE OF ENVIRONMENTAL PROTECTION LAWS

- § 2:27 In General

CHAPTER 3. THE METHODS OF ENVIRONMENTAL PROTECTION

I. INTRODUCTION

- § 3:1 In general

II. TECHNOLOGY-FORCING

- § 3:2 Assessment and control of technology
- § 3:3 Action-Forcing
- § 3:4 Performance standards
- § 3:5 —“Technology-Based” control
- § 3:6 —Emission limits: “dilution is not the solution”

III. “EXISTING” AND NEW SOURCES OF POLLUTION

- § 3:7 In general

IV. CONTROLS FOR “EXISTING” SOURCES AND FACILITIES

- § 3:8 Introduction: Grandfathering

TABLE OF CONTENTS

- § 3:9 Reasonably available controls
- § 3:10 Best available controls
- § 3:11 Variances

V. CONTROLS FOR NEW SOURCES AND FACILITIES; NEW PRODUCTS; MODIFICATIONS OF EXISTING SOURCES AND FACILITIES

- § 3:12 Introduction
- § 3:13 Definition of new source or facility; New products
- § 3:14 Modifications of existing sources or facilities; New uses of existing products
- § 3:15 —Reconstruction
- § 3:16 —Expansion and new uses
- § 3:17 Preconstruction review; Construction bans
- § 3:18 Performance standards for new facilities
- § 3:19 Variances

VI. THE PERMIT SYSTEM

- § 3:20 Federal and state permit programs: “Delegation”
- § 3:21 Procedure—Permit procedures
- § 3:22 —Confidentiality of business information
- § 3:23 —Negotiating a permit

VII. BEYOND COMMAND AND CONTROL REGULATION: INNOVATIVE APPROACHES TO ENVIRONMENTAL PROTECTION

- § 3:24 Introduction
- § 3:25 Tinkering with command and control regulation—The command and control process
- § 3:26 —Citizen suits to enforce standards contained in regulations and permits
- § 3:27 —Removing the rulemaking function from the regulators: California’s Proposition 65 and negotiated rulemaking—In general
- § 3:28 — —Direct regulation by voters
- § 3:29 — —Negotiated rulemaking
- § 3:30 —Modifying the permitting function of the regulators: Transferable pollution permits
- § 3:31 Directly influencing the decisionmaking process—Governmentalizing operational decisions
- § 3:32 —Requiring decisionmakers to consider environmental factors
- § 3:33 —Giving decisionmakers more information
- § 3:34 “Private command and control regulation”: Enlisting banks and insurers as regulators
- § 3:35 Using the tax system to impose costs on polluters
- § 3:36 Using the liability system to impose costs on polluters—The retrospective liability system
- § 3:37 —Liability to the government to clean up pollution
- § 3:38 —Liability to the government to pay damages for pollution
- § 3:39 —Liability to private parties to clean up pollution
- § 3:40 —Liability to private parties to pay damages for pollution
- § 3:41 Liability to the environment itself
- § 3:42 New tools for effectively achieving environmental goals: A choice of

practicalities and values

VIII. THE NEXT 40 YEARS OF ENVIRONMENTAL LAW

- § 3:43 Introduction
- § 3:44 Looking backward: past predictions of the future environment
- § 3:45 —Paul Ehrlich’s *Population Bomb*
- § 3:46 —Gregg Easterbrook’s *A Moment on the Earth*
- § 3:47 —Bjørn Lomborg’s *The Skeptical Environmentalist*
- § 3:48 Legal responses to environmental risks
- § 3:49 Looking forward: contemporary predictions of the environmental future
- § 3:50 —Al Gore’s *The Future*
- § 3:51 —The 2052 Project
- § 3:52 —Emerging technologies: the case of driverless motor vehicles
- § 3:53 Conclusion: the future of global environmental law

CHAPTER 4. ADMINISTRATIVE AGENCIES AND PROCEDURES

I. THE ENVIRONMENTAL PROTECTION AGENCY

- § 4:1 Introduction
- § 4:2 Headquarters
- § 4:3 Regional and field offices

II. EPA’S ADMINISTRATIVE PROCEDURE

- § 4:4 In general
- § 4:5 Rulemaking
- § 4:6 Licensing
- § 4:7 —Product licensing
- § 4:8 —Facility licensing
- § 4:9 State and tribal program approval
- § 4:10 State and tribal cooperation and consultation
- § 4:11 Judicial review
- § 4:12 Public participation
- § 4:13 Expert consultation
- § 4:14 Enforcement

APPENDIX 4A. Principal EPA Offices

APPENDIX 4B. EPA Regions

APPENDIX 4C. EPA Organizational Chart

CHAPTER 5. ETHICAL AND ECONOMIC PRINCIPLES

I. INTRODUCTION

- § 5:1 In general
- § 5:2 A grand vision

II. THE MORAL BASIS OF POLLUTION CONTROL LAW

- § 5:3 In general

TABLE OF CONTENTS

- § 5:4 Compassion for the individual victim of pollution
- § 5:5 Rights and entitlements
- § 5:6 Cultural values
- § 5:7 A sense of community

III. SHOULD STANDARDS BE EFFICIENT?

- § 5:8 In general
- § 5:9 Should markets decide?
- § 5:10 The ethical basis of efficiency
- § 5:11 —Efficiency and utilitarianism
- § 5:12 —Should law satisfy personal preferences?
- § 5:13 —What is “welfare”?
- § 5:14 —Pollution control legislation and prosperity
- § 5:15 —Efficiency and consent
- § 5:16 Risks
- § 5:17 Regulatory review
- § 5:18 The role of cost-benefit analysis in regulation
- § 5:19 Alternatives to cost-benefit analysis

IV. ETHICAL PRINCIPLES IN CLIMATE CHANGE POLICY

- § 5:20 Climate change is not a collective action problem
- § 5:21 Corrective and distributive justice
- § 5:22 The Parfit paradox

V. INTEGRATING ETHICAL AND ECONOMIC APPROACHES TO ENVIRONMENTAL LAW

- § 5:23 In general
- § 5:24 Ends and means in pollution control law
- § 5:25 Supererogation in pollution control law

VI. PROTECTING THE NATURAL WORLD

- § 5:26 In general
- § 5:27 Ecological regulatory endpoints
- § 5:28 The Environmentalist Paradox
- § 5:29 Four obstacles to implementing a land ethic
- § 5:30 The concept of an ecological nuisance
- § 5:31 A Look Ahead

CHAPTER 6. BASIC ECONOMIC AND ANALYTICAL TOOLS AND THEIR APPLICATION IN ENVIRONMENTAL ANALYSIS

I. INTRODUCTION

- § 6:1 In general

II. DISCOUNTING AND NET PRESENT VALUE

- § 6:2 In general
- § 6:3 The mechanics of discounting

- § 6:4 —The one-period discounting problem
- § 6:5 —The multi-period discounting problem
- § 6:6 — —Estimating the present value of the first payment
- § 6:7 — —Estimating the present value of later payments
- § 6:8 — —Examining the solution
- § 6:9 —Competing multi-period investment alternatives
- § 6:10 —Perpetuities
- § 6:11 The discount rate
- § 6:12 —Real versus nominal discount rates
- § 6:13 —Risk and discount rates
- § 6:14 —The importance of discount rates

III. DECISION ANALYSIS

- § 6:15 In general
- § 6:16 Expected value
- § 6:17 How to think about uncertainty and decision analysis
- § 6:18 Applying expected value analysis to environmental problems
- § 6:19 —The no action option
- § 6:20 — —Determining the range of outcomes
- § 6:21 — —Estimating costs
- § 6:22 — —Estimating probabilities
- § 6:23 —Estimating the expected value of the study
- § 6:24 — —Probabilities affect expected value
- § 6:25 — —Why expected value may not represent a specific outcome
- § 6:26 — —Why expected value is the right answer
- § 6:27 —Evaluating post-study actions
- § 6:28 —Calculating the probabilities and expected costs of each outcome

IV. COST-BENEFIT ANALYSIS

- § 6:29 In general
- § 6:30 Basic analytical steps
- § 6:31 —Accepting or rejecting a single project
- § 6:32 —Selecting from a number of discrete alternatives
- § 6:33 —Selecting the scale of a project
- § 6:34 —Selecting from a number of discrete alternatives subject to resource constraints
- § 6:35 —Selecting optimal alternatives and scale subject to resource constraints
- § 6:36 Estimating costs and benefits
- § 6:37 —Defining the scope of the impacts
- § 6:38 —Uncertainty
- § 6:39 —Discounting
- § 6:40 —Metrics for measuring the impacts

V. COST ALLOCATION

- § 6:41 In general
- § 6:42 Basic terminology
- § 6:43 Sample cost allocation problems—Airline tickets
- § 6:44 —Video conferencing
- § 6:45 —Photocopiers
- § 6:46 Basic principles

TABLE OF CONTENTS

- § 6:47 Application to environmental matters
- § 6:48 —Background on Superfund and allocation
- § 6:49 —Limited guidance on allocation
- § 6:50 —EPA’s position on allocation
- § 6:51 —Cost causation and equitable factors
- § 6:52 —Cost allocation in Superfund cases
- § 6:53 — —Volumetric analysis
- § 6:54 — —Toxicity analysis
- § 6:55 — —Cost causation analysis

PART C. FUNCTIONAL PROGRAMS

CHAPTER 7. STATE ENVIRONMENTAL LAW AND PROGRAMS

I. THE IMPORTANCE OF STATE ENVIRONMENTAL LAW

- § 7:1 Introduction
- § 7:2 Sources of state environmental law—State statutes
- § 7:3 —State constitutional provisions
- § 7:4 —State common law

II. THE STATE-FEDERAL ALLOCATION OF RESPONSIBILITIES

- § 7:5 Introduction
- § 7:6 Federal approval of state programs
- § 7:7 Indian Tribes and Treatment as States
- § 7:8 Federal oversight of state programs
- § 7:9 Federal preemption

III. THE OPERATION OF ENVIRONMENTAL LAW IN THE STATES

- § 7:10 Substantive provisions—Statutory prohibitions of pollution
- § 7:11 —State criminal laws
- § 7:12 —State “NEPAs”
- § 7:13 —State “transactional” environmental laws
- § 7:14 State climate change laws
- § 7:15 Procedures and institutions
- § 7:16 Conclusion

Appendix 7A. Table of Acronyms

CHAPTER 8. ENVIRONMENTAL AUDITS/ASSESSMENTS

I. INTRODUCTION

- § 8:1 In general

II. ENVIRONMENTAL AUDIT/ASSESSMENTS

- § 8:2 In general
- § 8:3 Elements of an audit/assessment program—Description of the company
- § 8:4 —Environmental policy

- § 8:5 —Environmental categorization of facilities
- § 8:6 —Internal procedures for reporting environmental matters
- § 8:7 —Internal procedures for required recordkeeping
- § 8:8 —Internal procedures for conduct of inspections or visits by external authorities
- § 8:9 — —Planning for an inspection
- § 8:10 — —Guidelines to follow during an inspection
- § 8:11 — —Follow-up after an inspection
- § 8:12 —Training and education programs
- § 8:13 —Long-range strategies and goals
- § 8:14 — —Issues with unascertainable aspects
- § 8:15 Facility audits/assessments
- § 8:16 —The audit/assessment team
- § 8:17 —Frequency of site audits/assessments
- § 8:18 —Conducting the audit/assessment
- § 8:19 Program review

III. BENEFITS FROM AN ENVIRONMENTAL AUDIT/ASSESSMENT PROGRAM

- § 8:20 Minimizing civil and criminal liability
- § 8:21 Determining and assuring compliance—In general
- § 8:22 —Certifications
- § 8:23 —SEC disclosures
- § 8:24 Other benefits

IV. ENVIRONMENTAL EVALUATIONS FOR ACQUISITIONS AND DIVESTITURES

- § 8:25 Introduction
- § 8:26 Identification of potential liabilities—Site and facility audits/assessments
- § 8:27 —Review of licenses and permits
- § 8:28 —Regulatory history and current status
- § 8:29 —Prior ownership and operations
- § 8:30 —Potential off-site liabilities
- § 8:31 —Insurance coverage
- § 8:32 Possible risk-mitigation mechanisms
- § 8:33 —Structure of the transaction
- § 8:34 —Contract provisions
- § 8:35 —Prior agreements with regulatory authorities
- § 8:36 —Insurance coverage

V. ENVIRONMENTAL AUDITING AND ENVIRONMENTAL MANAGEMENT

- § 8:37 Management systems
- § 8:38 Management role
- § 8:39 Auditing goals
- § 8:40 Addressing legal concerns
- § 8:41 Summary

VI. ENVIRONMENTAL AUDITING—EPA POLICY

TABLE OF CONTENTS

- § 8:42 Introduction
- § 8:43 The 1986 policy statement
- § 8:44 The 1995 interim policy statement
- § 8:45 The 1996 voluntary disclosure, audit policy, and subsequent EPA documents
- § 8:46 Elements of an effective environmental auditing program

VII. INTERNATIONAL ENVIRONMENTAL REVIEW

- § 8:47 In general

CHAPTER 9. ENFORCEMENT

I. OVERVIEW OF ENVIRONMENTAL ENFORCEMENT

- § 9:1 Executive Summary
- § 9:2 The Scope of EPA Enforcement
- § 9:3 The EPA's Enforcement Objectives
- § 9:4 Basic Types of Enforcement Powers
- § 9:5 Relationship between Administrative, Civil, and Criminal Enforcement
- § 9:6 EPA's Administrative Enforcement Powers under the Major Environmental Statutes
- § 9:7 Statute-Specific Considerations
- § 9:8 Civil Judicial Enforcement
- § 9:9 Citizen Suits
- § 9:10 Criminal Enforcement Powers
- § 9:11 EPA Enforcement Policies
- § 9:12 Rulemaking Authority
- § 9:13 Formal Rulemaking
- § 9:14 Informal Rulemaking
- § 9:15 The Relationship between Rulemaking and Enforcement
- § 9:16 Relationship between the EPA and Other Federal Agencies
- § 9:17 Agencies That Help the EPA Regulate
- § 9:18 Agencies Regulated by the EPA
- § 9:19 Joint EPA and U.S. Coast Guard Enforcement
- § 9:20 EPA's Relationship with State and Local Enforcement Authorities
- § 9:21 Basis of the Relationship: Cooperative Federalism
- § 9:22 Federal Approval of State Programs
- § 9:23 Pre-emption of State Programs

II. GOVERNMENT ENFORCEMENT OFFICES

- § 9:24 Executive Summary
- § 9:25 How the EPA is Organized
- § 9:26 EPA Office of Enforcement and Compliance Assurance ("OECA")
- § 9:27 Office of the Assistant Administrator for OECA
- § 9:28 Office of Administration and Policy ("OAP") and Office of Civil Enforcement ("OCE")
- § 9:29 Office of Compliance ("OC")
- § 9:30 Office of Criminal Enforcement, Forensics and Training ("OCEFT")
- § 9:31 Office of Environmental Justice ("OEJ")
- § 9:32 Office of Federal Activities ("OFA")
- § 9:33 Federal Facilities Enforcement Office ("FFEO")

- § 9:34 Office of Site Remediation Enforcement (“OSRE”)
- § 9:35 Regional Office Operations
- § 9:36 Enforcement Organization at the Regional Level
- § 9:37 —Process
- § 9:38 Dealing with Regional Offices
- § 9:39 Office of the Administrator
- § 9:40 Office of General Counsel (“OGC”)
- § 9:41 Program Offices
- § 9:42 U.S. Department of Justice
- § 9:43 Environment and Natural Resources Division
- § 9:44 U.S. Attorney’s Offices
- § 9:45 Federal Bureau of Investigation (“FBI”)
- § 9:46 EPA Guidances, Directives, and Other Materials
- § 9:47 Freedom of Information Act (“FOIA”) Requests
- § 9:48 Trade Press, Annual Reports, and Congressional Hearings
- § 9:49 Budget Requests
- § 9:50 Congressional Involvement in Environmental Enforcement
- § 9:51 Coast Guard Environmental Enforcement Overview

III. INSPECTIONS AND INVESTIGATIONS

- § 9:52 Executive Summary
- § 9:53 Triggering EPA Inspections
- § 9:54 Types of Inspections and Investigations
- § 9:55 Recordkeeping and Reporting
- § 9:56 Requests for Information
- § 9:57 Mandated Site Inspections
- § 9:58 Citizen and Employee Complaints
- § 9:59 EPA Authority during Site Visits
- § 9:60 Consent to Entry
- § 9:61 The EPA “Routine Inspection”
- § 9:62 How the EPA Prepares for an Inspection
- § 9:63 Prior Notification of Inspection
- § 9:64 Conferences
- § 9:65 Inspector’s Access to Documents
- § 9:66 Sampling
- § 9:67 Interviews
- § 9:68 Affidavits
- § 9:69 Photographs and Tape Recordings
- § 9:70 Company Responses to Routine Inspections
- § 9:71 Accompanying the Inspector
- § 9:72 Providing Access to Documents
- § 9:73 Refusal of Entry
- § 9:74 Warrants
- § 9:75 Preliminary Injunction
- § 9:76 Permit Violation
- § 9:77 EPA Inspection Reports

IV. ADMINISTRATIVE ORDERS

- § 9:78 Executive Summary
- § 9:79 General Procedures for Issuing Administrative Orders and Similar

TABLE OF CONTENTS

| | |
|--------|--|
| | Sanctions |
| § 9:80 | Contents of Administrative Orders |
| § 9:81 | Statute-Specific Considerations |
| § 9:82 | Resource Conservation and Recovery Act (“RCRA”) |
| § 9:83 | Clean Water Act (“CWA”) |
| § 9:84 | Clean Air Act (“CAA”) |
| § 9:85 | Toxic Substances Control Act (“TSCA”) |
| § 9:86 | Federal Insecticide, Fungicide, and Rodenticide Act (“FIFRA”) |
| § 9:87 | Emergency Planning and Community Right-to-Know Act (“EPCRA”) |
| § 9:88 | Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”) |
| § 9:89 | Safe Drinking Water Act (“SDWA”) |

V. THE APPEALS PROCESS FOR ADMINISTRATIVE ORDERS

| | |
|---------|---|
| § 9:90 | Executive Summary |
| § 9:91 | General Considerations in Seeking Administrative Review of Administrative Orders |
| § 9:92 | General Considerations in Seeking Judicial Review of Administrative Orders |
| § 9:93 | Basic Structure of Administrative Hearings for Review of Orders and Other Sanctions |
| § 9:94 | Presiding Officers |
| § 9:95 | Burden of Proof |
| § 9:96 | The Administrative Process Hearing |
| § 9:97 | The Complaint |
| § 9:98 | Answer to the Complaint |
| § 9:99 | Prehearing Procedure |
| § 9:100 | Other Procedural Considerations |
| § 9:101 | Prehearing Conference |
| § 9:102 | Accelerated Decision; Decision to Dismiss |
| § 9:103 | The Hearing |
| § 9:104 | Initial Decision |
| § 9:105 | Informal Settlement; Consent Agreement and Order |
| § 9:106 | Appealing Administrative Hearing Decisions |
| § 9:107 | The Environmental Appeals Board |
| § 9:108 | Scope of Environmental Appeals Board (“EAB”) Authority |
| § 9:109 | Standard of Review |
| § 9:110 | Procedures Governing Appeals to the EAB |
| § 9:111 | Miscellaneous Procedural Considerations |
| § 9:112 | Statute-Specific Considerations |
| § 9:113 | Resource Conservation and Recovery Act (“RCRA”) |
| § 9:114 | Clean Water Act (“CWA”) |
| § 9:115 | Clean Air Act (“CAA”) |
| § 9:116 | Toxic Substance Control Act (“TSCA”) |
| § 9:117 | Federal Insecticide, Fungicide, and Rodenticide Act (“FIFRA”) |
| § 9:118 | Emergency Planning and Community Right-to-Know Act (“EPCRA”) |
| § 9:119 | Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”) |
| § 9:120 | Safe Drinking Water Act (“SDWA”) |

VI. CIVIL MONETARY PENALTIES

- § 9:121 Executive Summary
- § 9:122 Purpose of Civil Monetary Penalties
- § 9:123 Administrative versus Civil Judicial Monetary Penalties
- § 9:124 Calculating Civil Penalties
- § 9:125 Economic Benefit Component
- § 9:126 Gravity Component
- § 9:127 Audit Policy
- § 9:128 General Procedure for Assessing Administrative Penalties
- § 9:129 Negotiating Lower Civil Penalties
- § 9:130 When to Negotiate
- § 9:131 Liability-Based Negotiations
- § 9:132 Negotiating Based on Penalty Criteria
- § 9:133 Negotiating Based on Fairness
- § 9:134 Nonmonetary Considerations
- § 9:135 Litigation Risk: The Final Factor
- § 9:136 Long-Term Value of Contesting Penalties
- § 9:137 Statute-Specific Considerations for Administratively Assessed Penalties
- § 9:138 Resource Conservation and Recovery Act (“RCRA”)
- § 9:139 Clean Water Act (“CWA”)
- § 9:140 Clean Air Act (“CAA”)
- § 9:141 Toxic Substances Control Act (“TSCA”)
- § 9:142 Federal Insecticide, Fungicide, and Rodenticide Act (“FIFRA”)
- § 9:143 Emergency Planning and Community Right-to-Know Act (“EPCRA”)
- § 9:144 Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”)
- § 9:145 Procedures for Assessing Judicial Civil Penalties
- § 9:146 Pre-filing Notification
- § 9:147 Negotiating with the EPA, DOJ, and U.S. Attorney
- § 9:148 Alternative Dispute Resolution
- § 9:149 Consent Decrees
- § 9:150 Appeals
- § 9:151 Statute-Specific Considerations for Civil Judicial Penalties
- § 9:152 Resource Conservation and Recovery Act (“RCRA”)
- § 9:153 Clean Water Act (“CWA”)
- § 9:154 Clean Air Act (“CAA”)
- § 9:155 Toxic Substances Control Act (“TSCA”)
- § 9:156 Federal Insecticide, Fungicide, and Rodenticide Act (“FIFRA”)
- § 9:157 Emergency Planning and Community Right-to-Know Act (“EPCRA”)
- § 9:158 Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”)

VII. INJUNCTIONS AND OTHER EQUITABLE ORDERS

- § 9:159 Executive Summary
- § 9:160 How Injunctions Differ from Other Enforcement Sanctions
- § 9:161 Injunctions as Part of Consent Orders
- § 9:162 Types of Injunction Relief
- § 9:163 Temporary Restraining Orders (“TRO”)
- § 9:164 Preliminary Injunctions
- § 9:165 Permanent Injunctions
- § 9:166 EPA Procedures for Seeking Injunctions
- § 9:167 Judicial Standards for the Granting of Injunctions

TABLE OF CONTENTS

| | |
|---------|--|
| § 9:168 | Likelihood of Success on the Merits: Violation of the Statute or Regulation |
| § 9:169 | Threat of Irreparable Harm and Inadequacy of Legal Remedies |
| § 9:170 | Balancing of the Equities |
| § 9:171 | Exceptions to the General Standards for Obtaining Injunctions |
| § 9:172 | Scope of Injunctions |
| § 9:173 | Necessary and Appropriate Relief |
| § 9:174 | Monetary Aspects of Injunctive Relief |
| § 9:175 | Duration of an Injunction |
| § 9:176 | Supplemental Environmental Projects (“SEPs”) |
| § 9:177 | Special Considerations When Faced With Injunction Proceedings |
| § 9:178 | Responses to a Complaint Seeking Injunctive Relief |
| § 9:179 | Judicial Consent Decrees |
| § 9:180 | Releases Under Consent Decrees |
| § 9:181 | Judicial Enforcement and Review of Injunction and Consent Decrees |
| § 9:182 | Judicial Enforcement |
| § 9:183 | Judicial and Appellate Review |
| § 9:184 | Statute-Specific Considerations |
| § 9:185 | Resource Conservation and Recovery Act (“RCRA”) |
| § 9:186 | Clean Water Act (“CWA”) |
| § 9:187 | Clean Air Act (“CAA”) |
| § 9:188 | Toxic Substances Control Act (“TSCA”) |
| § 9:189 | Federal Insecticide, Fungicide, and Rodenticide Act (“FIFRA”) |
| § 9:190 | Emergency Planning and Community Right-to-Know Act (“EPCRA”) |
| § 9:191 | Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”) |
| § 9:192 | Safe Drinking Water Act (“SDWA”) |
| § 9:193 | U.S. Coast Guard—Vessel Detentions and Orders |

VIII. CITIZEN SUITS

| | |
|---------|--|
| § 9:194 | Executive Summary |
| § 9:195 | Requirements That Must Be Met Before a Citizen Suit May Be Brought or Maintained |
| § 9:196 | Notice and Service Requirements |
| § 9:197 | Jurisdiction |
| § 9:198 | Statutes of Limitations |
| § 9:199 | Standing—Harm to Citizens |
| § 9:200 | Ongoing Violations |
| § 9:201 | Remedies in Citizen Suits |
| § 9:202 | Injunctive Relief and Civil Penalties |
| § 9:203 | Attorney’s Fees, Expert Witness Fees, and Court Costs |
| § 9:204 | Preservation of Other Relief |
| § 9:205 | Defense of a Citizen Suit |
| § 9:206 | Relationship to Government Enforcement Actions—Diligent Prosecution |
| § 9:207 | Agency Involvement in Citizen Suits |
| § 9:208 | Intervention |
| § 9:209 | Agency as the Defendant |
| § 9:210 | Statute-Specific Considerations |
| § 9:211 | Resource Conservation and Recovery Act (“RCRA”) |
| § 9:212 | Clean Water Act |
| § 9:213 | Clean Air Act (“CAA”) |
| § 9:214 | Toxic Substances Control Act (“TSCA”) |

- § 9:215 The Emergency Planning and Community Right-to-Know Act (“EPCRA”)
- § 9:216 Comprehensive Environmental Response, Compensation, and Liability Act
 (“CERCLA”)
- § 9:217 Safe Drinking Water Act (“SDWA”)

IX. FEDERAL CRIMINAL ENFORCEMENT

- § 9:218 Executive Summary
- § 9:219 Overview of Criminal Enforcement
- § 9:220 Overview of the Criminal Process
- § 9:221 Criminal Sanctions Available
- § 9:222 Misdemeanors versus Felonies
- § 9:223 Knowing Violations
- § 9:224 Negligent Violations
- § 9:225 Strict Liability Violations
- § 9:226 Endangerment Violations
- § 9:227 Violations by Corporations
- § 9:228 Responsible Corporate Officers
- § 9:229 How the EPA Begins a Criminal Investigation
- § 9:230 Sources for Information for Investigations
- § 9:231 EPA/FBI Investigations
- § 9:232 Use of Civil Enforcement Tools for the Criminal Process
- § 9:233 Opportunity for Self-Disclosure
- § 9:234 How EPA Conducts a Criminal Investigation
- § 9:235 Review of Records
- § 9:236 Employee Interviews
- § 9:237 Sampling and Testing
- § 9:238 Referrals to Justice Department/U.S. Attorney
- § 9:239 “Sting” Operations
- § 9:240 Search Warrants
- § 9:241 Grand Juries
- § 9:242 Negotiating Disposition of Criminal Environmental Cases
- § 9:243 Pre-indictment versus Post-indictment
- § 9:244 Individual versus Corporate Dispositions
- § 9:245 Global Settlements
- § 9:246 Parallel Proceedings
- § 9:247 The Dangers of Parallel Proceedings
- § 9:248 When Parallel Proceedings May Be Undertaken
- § 9:249 Protecting Against Parallel Proceedings
- § 9:250 Statute-Specific Considerations
- § 9:251 Resource Conservation and Recovery Act (“RCRA”)
- § 9:252 Toxic Substances Control Act (“TSCA”)
- § 9:253 Comprehensive Environmental Response, Compensation, and Liability Act
 (“CERCLA”)
- § 9:254 Clean Water Act (“CWA”)
- § 9:255 Clean Air Act (“CAA”)
- § 9:256 Federal Insecticide, Fungicide, and Rodenticide Act (“FIFRA”)
- § 9:257 Emergency Planning and Community Right-to-Know Act (“EPCRA”)
- § 9:258 Safe Drinking Water Act (“SDWA”)
- § 9:259 MARPOL and The Act to Prevent Pollution from Ships

X. CRIMINAL SENTENCING FOR ENVIRONMENTAL

TABLE OF CONTENTS

CONVICTIONS

| | |
|---------|--|
| § 9:260 | Executive Summary |
| § 9:261 | Federal Sentencing, Generally |
| § 9:262 | Goals and Limits |
| § 9:263 | Fines |
| § 9:264 | Alternative Fines Act (“AFA”) |
| § 9:265 | Imprisonment |
| § 9:266 | Restitution and Remedial Orders |
| § 9:267 | Probation |
| § 9:268 | The Federal Sentencing Guidelines for Individuals Convicted of Environmental Crimes |
| § 9:269 | Calculating Environmental Offense Levels |
| § 9:270 | Determining Prison Terms from Offense Levels |
| § 9:271 | Determining Fines for Individuals from the Offense Levels |
| § 9:272 | Determining Restitution for Individuals Under the Sentencing Guidelines |
| § 9:273 | Determining Probation for Individuals Under the Sentencing Guidelines |
| § 9:274 | Departures from Sentencing Guidelines |
| § 9:275 | The Federal Sentencing Guidelines for Organizations Convicted of Environmental Crimes |
| § 9:276 | Restitution and Remedial Orders for Organizations |
| § 9:277 | Probation for Organizations |
| § 9:278 | Statute-Specific Considerations |
| § 9:279 | Resource Conservation and Recovery Act |
| § 9:280 | Clean Water Act |
| § 9:281 | Clean Air Act |
| § 9:282 | Toxic Substances Control Act |
| § 9:283 | Federal Insecticide, Fungicide and Rodenticide Act |
| § 9:284 | Emergency Planning and Community Right-to-Know Act |
| § 9:285 | Comprehensive Environmental Response, Compensation, and Liability Act |
| § 9:286 | Safe Drinking Water Act |

XI. DEBARMENT, SUSPENSION, CONTRACTOR LISTING, AND PERMIT BLOCKS

| | |
|---------|--|
| § 9:287 | Executive Summary |
| § 9:288 | Debarment |
| § 9:289 | Grounds for Debarment |
| § 9:290 | Debarment Procedures |
| § 9:291 | Scope and Period of Debarment |
| § 9:292 | Reconsideration and Appeal |
| § 9:293 | Suspension |
| § 9:294 | Contractor Listing |
| § 9:295 | Mandatory Listing |
| § 9:296 | Discretionary Listing |
| § 9:297 | Removal from the List |
| § 9:298 | Effect and Scope of Listing/Exemptions |
| § 9:299 | Permit Blocks |

CHAPTER 10. THE NATIONAL ENVIRONMENTAL POLICY ACT

I. ADMINISTRATIVE IMPLEMENTATION OF AND JUDICIAL REVIEW UNDER THE NATIONAL ENVIRONMENTAL POLICY ACT

- § 10:1 Overview—Introduction
- § 10:2 —NEPA’s purposes
- § 10:3 — —The first objective: Preventing environmental damage
- § 10:4 — —The second objective: Ensuring that agency decisionmakers take environmental factors into account
- § 10:5 —Agency responsibilities under NEPA
- § 10:6 — —Council on Environmental Quality
- § 10:7 — —Environmental Protection Agency
- § 10:8 — —Other federal agencies
- § 10:9 The administrative process under NEPA
- § 10:10 —Prestatement procedures
- § 10:11 — —The environmental assessment
- § 10:12 — —Finding of no significant impact
- § 10:13 — —Definitions of terms regarding when an EIS is required: Proposals for major federal actions significantly affecting the quality of the human environment
- § 10:14 — — —“Proposal”
- § 10:15 — — —“Other major federal actions”
- § 10:16 — — —“Significantly”
- § 10:17 — — —“Affecting”
- § 10:18 — — —“The quality of the human environment”
- § 10:19 — —Scoping
- § 10:20 —Preparation of the statement
- § 10:21 — —Who prepares the EIS?
- § 10:22 — —The Environmental Impact Statement—Determining the scope of the EIS
- § 10:23 — — —Tiering
- § 10:24 — — —Timing, interdisciplinary approach, and plain language
- § 10:25 — — —Stages and format of the EIS
- § 10:26 — — —Environmental consequences and alternatives
- § 10:27 — — —Incomplete or unavailable information
- § 10:28 — — —Streamlining
- § 10:29 — —Commenting
- § 10:30 — —Response to comments and the final EIS
- § 10:31 —Post-statement procedures—CEQ referrals
- § 10:32 — —Agency decisionmaking and the record of decision
- § 10:33 — —Agency actions during the pendency of an EIS
- § 10:34 Judicial review—Introduction—The importance of courts in the NEPA process
- § 10:35 — —NEPA litigation in the courts
- § 10:36 —Overview of the judicial process in NEPA cases—The complaint
- § 10:37 — —Venue
- § 10:38 — —Discovery
- § 10:39 — —The course of litigation
- § 10:40 — —Remedies
- § 10:41 — — —Preliminary relief
- § 10:42 — — —Permanent relief
- § 10:43 — —Defenses

TABLE OF CONTENTS

- § 10:44 — — — Standing
- § 10:45 — — — Inapplicability of NEPA
- § 10:46 — — — Procedural defenses
- § 10:47 — Standards of review of NEPA cases
- § 10:48 — — Failure to prepare an EIS
- § 10:49 — — Inadequacy of an EIS or EA
- § 10:50 — — Other nontrivial violations of NEPA
- § 10:51 — Substantive review of NEPA actions
- § 10:52 Conclusion

II. NEPA: ETHICS, ECONOMICS, AND SCIENCE IN ENVIRONMENTAL LAW

- § 10:53 Introduction
- § 10:54 Legislative history
- § 10:55 The moral approach to NEPA
- § 10:56 — Environmental values tend to determine interests and preferences
- § 10:57 — Nature and the national ego
- § 10:58 — Man's responsibility for nature
- § 10:59 The market approach to NEPA
- § 10:60 — Norms or preferences?
- § 10:61 — Individual or community choice?
- § 10:62 Mitigation: Reconciling the moral and the market approaches to NEPA
- § 10:63 — Science and technology
- § 10:64 — The consideration of alternatives

III. THE COUNCIL ON ENVIRONMENTAL QUALITY

- § 10:65 In general
- § 10:66 CEQ structure
- § 10:67 CEQ duties
- § 10:68 — Research and analytical duties
- § 10:69 — Coordinating federal agency compliance with NEPA
- § 10:70 — — CEQ regulations
- § 10:71 — — EIS reviews and environmental referrals

Table of Contents

PART D. MEDIA-SPECIFIC PROGRAMS

CHAPTER 11. INTRODUCTION TO MEDIA-SPECIFIC PROGRAMS

- § 11:1 Summary
- § 11:2 History
- § 11:3 Plan of the following chapters

CHAPTER 12. AIR

I. OVERVIEW AND HISTORY OF THE CLEAN AIR ACT

- § 12:1 Introduction
- § 12:2 Overview of the CAA
- § 12:3 Pollutants regulated under the CAA
- § 12:4 Early efforts to address air pollution before federal legislation
- § 12:5 History of federal legislation to address air pollution

II. NATIONAL AMBIENT AIR QUALITY STANDARDS

- § 12:6 In general
- § 12:7 The origins and evolution of federal air quality standards
- § 12:8 Establishing air quality standards
- § 12:9 The criteria pollutants
- § 12:10 Establishing air quality standards—The NAAQS review process
- § 12:11 Revising the standards
- § 12:12 Greenhouse gases and the NAAQS process
- § 12:13 Conclusion

III. NONATTAINMENT AREA DESIGNATIONS AND CLASSIFICATIONS

- § 12:14 Classifications
- § 12:15 Designation
- § 12:16 Attainment deadlines and control requirements
- § 12:17 Subpart 2 areas classes

IV. STATE IMPLEMENTATION PLANS

- § 12:18 State Implementation Plans (SIPs)—In general
- § 12:19 The scope and substance of a SIP
- § 12:20 The SIP process: the federal/state partnership at work
- § 12:21 SIP review procedures
- § 12:22 Enforceable emission limitations
- § 12:23 Nonattainment SIPs
- § 12:24 Vehicle-related programs
- § 12:25 Emission limitations (RACT)
- § 12:26 Interstate transport

- § 12:27 Regional approaches
- § 12:28 Federal implementation plans
- § 12:29 SIP gap
- § 12:30 Enforcement
- § 12:31 Judicial review of SIP actions
- § 12:32 SIP calls and sanctions
- § 12:33 Tribal implementation
- § 12:34 General conformity
- § 12:35 Transportation conformity
- § 12:36 Regional haze
- § 12:37 SIP Conclusion

V. NEW SOURCE PERFORMANCE STANDARDS AND EMISSION GUIDELINES FOR NEW AND EXISTING SOURCES

- § 12:38 NSPS—New source performance standards
- § 12:39 —The coverage of the NSPS
- § 12:40 —The content of NSPS
- § 12:41 —Applicability of the NSPS
- § 12:42 — —“New” source
- § 12:43 — —New “source”
- § 12:44 —NSPS revisions
- § 12:45 —The NSPS, technology forcing, and new-source bias
- § 12:46 —Implementation and enforcement
- § 12:47 —Recent developments
- § 12:48 Conclusion

VI. CLEAN AIR ACT SECTION 112: NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS AND THE RESIDUAL RISK PROGRAM

- § 12:49 Regulating Hazardous Air Pollutants (HAPs)
- § 12:50 Historical background: Section 112 framework for HAPs under the 1970 Act
- § 12:51 Historical background: Implementing § 112 under the 1970 Act
- § 12:52 Section 112 framework for HAPs under the 1990 amendments
- § 12:53 Scope of regulated HAPs: Listed hazardous air pollutants
- § 12:54 Categories of stationary sources of HAPs: major and area sources
- § 12:55 Categories of stationary sources of HAPs: listing, review, and delisting
- § 12:56 Technology-based emission standards: MACT and GACT
- § 12:57 Technology-based emission standards: review and revision
- § 12:58 Section 112(f) residual risk program
- § 12:59 Compliance with NESHAPs
- § 12:60 Implementation of NEHAPS: delegation to states
- § 12:61 Implementation of NESHAPS: section 112 general provisions
- § 12:62 Regulation of special source categories: electric utility steam generating units
- § 12:63 Conclusion

VII. PREVENTION OF ACCIDENTAL RELEASES (SECTION 112(R))

- § 12:64 Prevention of accidental releases

VIII. REGULATION UNDER 129, CAA (SOLID AND HAZARDOUS WASTE)

§ 12:65 Regulation under CAA § 129

IX. INTERSTATE POLLUTION

- § 12:66 Introduction
- § 12:67 The 1998 NO_x SIP Call and the *Michigan* Decision
- § 12:68 The 2005 Clean Air Interstate Rule and the *North Carolina* Decision
- § 12:69 The 2011 Cross-State Air Pollution Rule and the *Homer* Decisions
- § 12:70 The 2016 Update Rule Implementing the 2008 Ozone NAAQS and the *Wisconsin* Decision
- § 12:71 The 2018 Close-Out Rule on the 2008 Ozone NAAQS and the *New York* Vacatur Order
- § 12:72 The *New Jersey* Opinion Directing FIPs on the 2008 Ozone NAAQS by March 2021
- § 12:73 Implementation of the Good Neighbor Provision as to the 2015 Ozone NAAQS
- § 12:74 Section 126 Petitions from Downwind States
- § 12:75 Regional Planning Under Sections 176A and 184
- § 12:76 Conclusion

X. VISIBILITY IMPAIRMENT AND REGIONAL HAZE

- § 12:77 Background
- § 12:78 The Regional Haze Program
- § 12:79 Implementation During the First Planning Period
- § 12:80 Implementation During the Second Planning Period

XI. NEW SOURCE REVIEW

- § 12:81 Introduction
- § 12:82 40 C.F.R. Sections 51.160–51.166 and 52.21–52.24: the basic program
- § 12:83 Applicability—Interlocking coverage—Nonattainment New Source Review (NNSR) SIPs/TIPs
- § 12:84 — —Prevention of Significant Deterioration (PSD) Review—SIPs/TIPs
- § 12:85 — —NNSR and PSD—EPA Authority and Delegated Authority to States/Tribes
- § 12:86 Begin actual construction (what is allowed prior to permit issuance)
- § 12:87 Beginning actual construction versus commencing construction
- § 12:88 Definition of “major stationary source”
- § 12:89 —Size threshold
- § 12:90 —Stationary source
- § 12:91 —Industrial Grouping/2-Digit SIC
- § 12:92 —Contiguous or adjacent
- § 12:93 —Common control
- § 12:94 —Potential to emit for new sources
- § 12:95 Reactivated sources
- § 12:96 Definition of “major modification”
- § 12:97 —Definition of source
- § 12:98 —Physical change or change in method of operation
- § 12:99 —Anti-circumvention policy and project aggregation
- § 12:100 —Emissions increase resulting from project

- § 12:101 —Significant
- § 12:102 —Net emissions increase
- § 12:103 —Fugitive emissions
- § 12:104 —Special provisions in certain ozone nonattainment areas
- § 12:105 Plantwide Applicability Limitations (PALs)
- § 12:106 Substantive PSD requirements
- § 12:107 —Best available control technology (BACT)
- § 12:108 —BACT—Greenhouse gases
- § 12:109 — —Innovative control technology waiver
- § 12:110 —Source impact analysis
- § 12:111 — —Ambient Air
- § 12:112 — —Preapplication monitoring and alternatives
- § 12:113 — —Additional impact analysis
- § 12:114 — —Protection of air quality related values in federal class I areas
- § 12:115 — —Compliance with increments
- § 12:116 General visibility NSR program
- § 12:117 Substantive PSD requirements—Source impact analysis—Environmental justice considerations
- § 12:118 Current federal requirements—Nonattainment and PSD permitting—Procedural requirements: Permit processing, issuance, and appeals
- § 12:119 Permit rescission or revision
- § 12:120 Substantive NNSR Requirements
- § 12:121 Substantive NNSR requirements—NNSR Offsets
- § 12:122 —Statewide compliance
- § 12:123 —Lowest achievable emission rate
- § 12:124 EPA's NSR Enforcement Authority
- § 12:125 Conclusion

XII. TITLE V OPERATING PERMITS

XII(A) TITLE V OPERATING PERMITS—PROGRAM OVERVIEW

- § 12:126 Title V Program Overview

XII(B) TITLE V OPERATING PERMITS—APPLICABILITY AND SCOPE: AFFECTED SOURCES

- § 12:127 Affected Sources—Introduction
- § 12:128 —Major Sources
- § 12:129 —Potential to emit
- § 12:130 —Regulated Pollutants

XII(C) TITLE V OPERATING PERMITS—PERMIT APPLICATIONS

- § 12:131 Title V Permit Applications—Introduction
- § 12:132 —Title V Permit Application Content
- § 12:133 —Streamlining Permit Terms
- § 12:134 —Compliance certifications
- § 12:135 —Title V Application Shield
- § 12:136 —Synthetic Minors

XII(D) TITLE V OPERATING PERMITS—PERMITTING PROCESS AND TIMING

TABLE OF CONTENTS

- § 12:137 Title V Permitting Process and Timing—Introduction
- § 12:138 —Standard Application Content
- § 12:139 —Title V Petitions
- § 12:140 —Judicial Review

XII(E) TITLE V OPERATING PERMITS—PERMIT CONTENT

- § 12:141 Title V Permit Content—Introduction
- § 12:142 —Emission Limits
- § 12:143 —Insignificant and Trivial Activities
- § 12:144 —Operational Flexibility
- § 12:145 —Compliance Plan
- § 12:146 —Emergency Provisions

XII(F) TITLE V OPERATING PERMITS—MONITORING REQUIREMENTS

- § 12:147 Title V Monitoring Requirements—Introduction
- § 12:148 —Title V Monitoring Required by an Applicable Requirement
- § 12:149 —Periodic Monitoring
- § 12:150 —Compliance Assurance Monitoring
- § 12:151 —Recordkeeping and Reporting

XII(G) TITLE V OPERATING PERMITS—ADDITIONAL CONSIDERATIONS UNDER TITLE V

- § 12:152 Permit shield
- § 12:153 Title V permit fees
- § 12:154 Title V general permits and temporary source permits
- § 12:155 Title V permit modifications
- § 12:156 Emissions trading and emissions caps
- § 12:157 Title V reopener provisions
- § 12:158 Title V conclusions

XIII. ACID RAIN PROGRAM

- § 12:159 Introduction
- § 12:160 Background
- § 12:161 The 1990 Clean Air Act amendments
- § 12:162 Acid rain program applicability
- § 12:163 Acid rain program exempt and grandfathered units
- § 12:164 SO₂ emissions trading
- § 12:165 Opt-in program
- § 12:166 NO_x requirements
- § 12:167 Acid rain permits
- § 12:168 Monitoring requirements
- § 12:169 Enforcement
- § 12:170 Acid rain program—Conclusions

XIV. GREENHOUSE GAS REPORTING

- § 12:171 Greenhouse gas reporting

XV. REGULATION OF ON-ROAD AND NON-ROAD VEHICLES,

ENGINES & AIRCRAFT

- § 12:172 Introduction
- § 12:173 History of technology-forcing to reduce air pollution emitted by motor vehicles and engines
- § 12:174 Overview of clean air regulation of motor vehicles and fuels
- § 12:175 Standard setting
- § 12:176 Compliance enforcement—Certification of prototypes
- § 12:177 —Production line testing
- § 12:178 —In-use vehicle compliance—Warranty
- § 12:179 — —Recall
- § 12:180 —Tampering
- § 12:181 Nonroad vehicles and engines

XVI. REGULATION OF FUELS AND FUEL ADDITIVES

- § 12:182 Fuels and fuel additives—Introduction
- § 12:183 —Statutory framework
- § 12:184 —Registration
- § 12:185 —Health-based standards and standards based on effect on emission controls under Section 211(c)
- § 12:186 —Preemption
- § 12:187 —Fuel waivers
- § 12:188 —Reformulated gasoline: From the CAA Amendments of 1990 to 2020
Regulatory Streamlining
- § 12:189 —Detergent additives and oxygenated gasoline
- § 12:190 —Renewable Fuel Standard
- § 12:191 —Fuels regulatory streamlining
- § 12:192 —Conclusion

XVII. STRATOSPHERIC OZONE PROTECTION

- § 12:193 Stratospheric ozone protection
- § 12:194 The Montreal Protocol
- § 12:195 Title VI of the 1990 Clean Air Act Amendments
- § 12:196 Listing of Class I and Class II substances
- § 12:197 Monitoring and reporting requirements
- § 12:198 Phase-out of production and consumption—Class I substances
- § 12:199 —Class I substances; exemptions
- § 12:200 —Class II substances
- § 12:201 —Class II substances; exemptions
- § 12:202 Accelerated phase-outs of production and consumption
- § 12:203 Allowance trading
- § 12:204 Nonessential products containing CFCs
- § 12:205 Recycling and servicing
- § 12:206 Labeling
- § 12:207 Safe alternatives policy
- § 12:208 Relationship to other laws
- § 12:209 Enforcement
- § 12:210 Relationship of stratospheric ozone protection to climate change
- § 12:211 The 2020 Statutory Phasedown of Hydrofluorocarbons
- § 12:212 Conclusion

XVIII. ENFORCEMENT

- § 12:213 Introduction
- § 12:214 State and/or Tribal Enforcement
- § 12:215 Criminal Enforcement
- § 12:216 Role of citizens in enforcement
- § 12:217 Conclusion

XIX. TRENDS THAT MAY AFFECT IMPLEMENTATION OF THE CLEAN AIR ACT

XIX(A) TRENDS THAT MAY AFFECT IMPLEMENTATION OF THE CLEAN AIR ACT

- § 12:218 Trends—Introduction
- § 12:219 —Changes in administration
- § 12:220 —The role of science
- § 12:221 —The role of economics
- § 12:222 —Conclusion

CHAPTER 13. WATER

I. HISTORY OF WATER POLLUTION CONTROL IN THE UNITED STATES

- § 13:1 In general
- § 13:2 Municipal sewage treatment—The federal Grant-In-Aid program
- § 13:3 —Treatment schemes—Primary treatment
- § 13:4 — —Secondary treatment
- § 13:5 — —Tertiary treatment (advanced wastewater treatment)
- § 13:6 Water quality standards—Stream (use) classifications
- § 13:7 —Water quality standards
- § 13:8 —Pollutant parameters
- § 13:9 —Mixing zones
- § 13:10 Waste load allocation
- § 13:11 Industrial dischargers
- § 13:12 Inadequacies and proposals for reform—In general
- § 13:13 —The Refuse Act program
- § 13:14 —The 1972 Federal Water Pollution Control Act amendments

II. FEDERALISM AND GOALS OF THE ACT

- § 13:15 In general

III. PUBLIC PARTICIPATION

- § 13:16 In general
- § 13:17 Public participation in EPA decision-making
- § 13:18 Public participation in delegated state programs

IV. TITLE II—GRANTS-IN-AID

- § 13:19 Sewage treatment Grant-In-Aid program—Historical background and general approach

- § 13:20 —Relationship between the construction grants program and Title III compliance
- § 13:21 —Limitations and conditions—Limitations
- § 13:22 — —Conditions
- § 13:23 —Compliance with other environmental laws
- § 13:24 —Judicial review of Title II decisions
- § 13:25 —Grant administration, protests, and audits
- § 13:26 Water quality management: Planning grants and nonpoint source regulation
- § 13:27 —Grants for water quality planning—Section 319 nonpoint source management programs
- § 13:28 — —Section 208 areawide management plans
- § 13:29 — —Water quality management planning
- § 13:30 —Regulation of nonpoint sources

V. TITLES III AND IV—THE CLEAN WATER REGULATORY PROGRAM

- § 13:31 Jurisdictional scope
- § 13:32 —Waters of the United States
- § 13:33 —Point source
- § 13:34 —Discharge
- § 13:35 —Pollutant
- § 13:36 The national pollutant discharge elimination program—Statutory scheme
- § 13:37 —State certification—Section 401
- § 13:38 —Standards, criteria, and conditions
- § 13:39 — —Exclusions
- § 13:40 — —Permit duration
- § 13:41 — —Application requirements
- § 13:42 — —General permits
- § 13:43 — —Permit terms
- § 13:44 —Procedures—In general
- § 13:45 — —EPA-issued permits
- § 13:46 — —State-issued permits
- § 13:47 — —Transfer, modification, revocation and reissuance, and termination
- § 13:48 Effluent standards and limitations—Technology-based discharge limitations
- § 13:49 — —Publicly owned treatment works
- § 13:50 — — —Marine discharge waivers
- § 13:51 — — —Funding-limited compliance extensions
- § 13:52 — —Existing industrial sources—General approach and BPT—Effluent guidelines
- § 13:53 — — —Variances from BPT effluent limitations guidelines
- § 13:54 — — —Extension of 1977 deadline
- § 13:55 — —BCT and BAT: The final level of control
- § 13:56 — — —Conventional pollutants
- § 13:57 — — —BAT for nonconventional pollutants
- § 13:58 — — —Heat
- § 13:59 — — —Technology-based effluent standards for toxic pollutants: BAT
- § 13:60 — — —Compliance deadline extensions and transitional permits
- § 13:61 — — —Variances: Section 301(c) economic variances
- § 13:62 — — —Removal of pollutants in intake water (net/gross issue)

TABLE OF CONTENTS

| | |
|---------|---|
| § 13:63 | — — —Mass- versus concentration-based limitations |
| § 13:64 | — — —New sources and new dischargers—New source performance standards |
| § 13:65 | — — —What is a new source |
| § 13:66 | — — —The consequences of being a new source |
| § 13:67 | — — —New dischargers and modified sources |
| § 13:68 | —Stormwater discharges—Background |
| § 13:69 | — —The 1987 amendments |
| § 13:70 | —Water-quality-based limitations |
| § 13:71 | — —Water quality standards |
| § 13:72 | — — —Requirements for state water quality standards—Designated uses |
| § 13:73 | — — — —Water quality criteria |
| § 13:74 | — — — —Antidegradation |
| § 13:75 | — — —Implementation of water quality standards |
| § 13:76 | — —Water-quality-related effluent limitations |
| § 13:77 | — —Toxic effluent standards |
| § 13:78 | — —Ocean discharge criteria |
| § 13:79 | — —Toxic pollutant control strategies |
| § 13:80 | — — —Section 304(l) individual control strategies and state lists |
| § 13:81 | — — —Toxicity-based limitations |
| § 13:82 | — — —Narrative criteria-based limitations |
| § 13:83 | — —Great Lakes water quality guidance |
| § 13:84 | Industrial pretreatment of POTW influents—Basic structure of the pretreatment program |
| § 13:85 | —Requirements applicable to the indirect discharger—Categorical standards: Technology-based limits, toxic removal credits, combined wastestream formula |
| § 13:86 | — —General prohibitions: Interference and pass through |
| § 13:87 | — —Local limits |
| § 13:88 | — —Compliance monitoring |
| § 13:89 | —Requirements applicable to POTW—Development of approved pretreatment programs |
| § 13:90 | — —Removal credit authority |
| § 13:91 | — —Sludge management |
| § 13:92 | —Regulation of hazardous wastes introduced to POTW |

VI. WETLAND PROTECTION

| | |
|----------|---|
| § 13:93 | History—Introduction |
| § 13:94 | —The nature of the regulated system |
| § 13:95 | —The Clean Water Act's regulatory choices in historical perspective |
| § 13:96 | Jurisdiction of § 404—Waters of the United States |
| § 13:97 | —Application of the wetlands definition—Spatial |
| § 13:98 | — —Temporal |
| § 13:99 | — —The wetlands manual |
| § 13:100 | Section 404 permit program and administration |
| § 13:101 | —Dredged and fill materials |
| § 13:102 | —Discharges of dredged materials and fill materials |
| § 13:103 | —Interagency dynamics |
| § 13:104 | —General permits and exemptions |
| § 13:105 | — —Exemptions—Normal farming and silvicultural activities |
| § 13:106 | — — —Other exemptions and recapture |

- § 13:107 — —General permits and nationwide permits
- § 13:108 —Substantive criteria for § 404 permit issuance
- § 13:109 —Permit decision-making issues
- § 13:110 Procedural matters
- § 13:111 Enforcement—Penalties and actions
- § 13:112 —Defenses
- § 13:113 —Remedial issues and restoration plans
- § 13:114 Judicial review of § 404 actions
- § 13:115 State and Tribal program delegation

VII. JUDICIAL REVIEW

- § 13:116 Judicial Review of EPA actions
- § 13:117 Supreme Court, the Clean Water Act, and the Constitution
- § 13:118 Judicial Review of State actions

VIII. ENFORCEMENT

- § 13:119 Federal enforcement—In general
- § 13:120 —Inspections, monitoring, and entry
- § 13:121 —Federal civil enforcement
- § 13:122 —Criminal enforcement
- § 13:123 State enforcement
- § 13:124 Citizen suits—History and overview
- § 13:125 —Jurisdiction and prerequisites
- § 13:126 — —Standing
- § 13:127 — —Notice to the government and the government enforcement bar
- § 13:128 — —The “Gwaltney Bar”
- § 13:129 — —Statute of limitations
- § 13:130 —Defenses going to the merits
- § 13:131 —Available relief

IX. OCEAN DISCHARGES AND OCEAN DUMPING

- § 13:132 Overview
- § 13:133 Ocean discharges from point sources: Section 403 of the Act—Statutory provisions
- § 13:134 —EPA’s regulations
- § 13:135 Ocean dumping—Overview—The London Dumping Convention
- § 13:136 —Jurisdiction and coverage of the MPRSA
- § 13:137 —Regulatory scheme in general
- § 13:138 —The permit program—Overview
- § 13:139 — —Permit procedures
- § 13:140 — —Permit conditions and regulatory criteria
- § 13:141 —Site designation
- § 13:142 —Enforcement

X. OIL POLLUTION

- § 13:143 In general

XI. MISCELLANEOUS CLEAN WATER ACT PROVISIONS

- § 13:144 Federal facilities

TABLE OF CONTENTS

§ 13:145 Marine sanitation devices

§ 13:146 Conclusion

Appendix 13A. Table of Acronyms

CHAPTER 14. SOIL AND GROUNDWATER

I. INTRODUCTION AND HISTORICAL ROOTS OF HAZARDOUS WASTE MANAGEMENT

§ 14:1 Introduction

§ 14:2 A brief history of the original problem: Mountains of trash

§ 14:3 The History on Diversion of pollutants

§ 14:4 Waste disposal law

§ 14:5 Confusion and delay

§ 14:6 Love Canal

§ 14:7 RCRA revisited

§ 14:8 Superfund revised

§ 14:9 —Thresholds

§ 14:10 Summary: The purpose of hazardous waste law

II. WASTE MANAGEMENT

§ 14:11 Introduction

§ 14:12 Resource conservation and recovery

§ 14:13 —Incentives for efficient resource use

§ 14:14 —State solid waste management plans

§ 14:15 — —Dumps and landfills

§ 14:16 — —Injection wells

§ 14:17 Solid waste and hazardous waste

§ 14:18 —Solid waste

§ 14:19 —Hazardous waste

III. THE REGULATION OF HAZARDOUS WASTES

§ 14:20 Designation of hazardous wastes

§ 14:21 —Designation procedures: The threshold of regulation

§ 14:22 —Categories of hazardous wastes—Listed wastes

§ 14:23 — — —Thresholds for identifying wastes

§ 14:24 — — —Criteria for listing wastes

§ 14:25 — — —Hazardous waste lists and identification symbols

§ 14:26 — — —Listing procedures and delisting petitions

§ 14:27 — — —“Characteristic” wastes

§ 14:28 — — —Mixtures

§ 14:29 — — —Exceptions and variances; Recovery of wastes

§ 14:30 — — —Miscellaneous exclusions

§ 14:31 — — —Recovery of wastes

§ 14:32 Facilities for which permits are required

§ 14:33 —“Facility”

§ 14:34 —Treatment

§ 14:35 —Storage

§ 14:36 —Disposal

§ 14:37 Persons affected by hazardous waste regulations—Generators of

- hazardous waste
- § 14:38 —Generators of hazardous waste—Generators as persons
- § 14:39 — —Generators as places
- § 14:40 — —“Small quantity” generators
- § 14:41 — —Generators’ on-site management of wastes
- § 14:42 —Transporters of hazardous waste
- § 14:43 —Owners and operators of hazardous waste management facilities; Other persons who manage hazardous wastes
- § 14:44 Permit procedures and general provisions
- § 14:45 —The role of state agencies; Authorization
- § 14:46 — —Interim and final authorization
- § 14:47 — —Status of state programs
- § 14:48 — —Withdrawal of authorization
- § 14:49 —Permit procedures
- § 14:50 —“Interim status” during permit processing
- § 14:51 —Permit issuance and modification
- § 14:52 —General requirements for facility permits
- § 14:53 — —Design standards
- § 14:54 — —Operating requirements
- § 14:55 — —Financial responsibility—General
- § 14:56 — —Liability insurance requirements
- § 14:57 — —Closure, postclosure, and corrective action requirements
- § 14:58 Specific facilities
- § 14:59 —Land disposal facilities
- § 14:60 — —Liquids in landfills
- § 14:61 — —Performance requirements
- § 14:62 — —Land disposal restrictions
- § 14:63 — — —Framework of regulations
- § 14:64 — — —Schedule of restrictions
- § 14:65 — — —Treatment standards
- § 14:66 — — —Comparative risk
- § 14:67 — — —Exemptions and variances
- § 14:68 —Injection well disposal: Underground injection control (UIC)
- § 14:69 —Treatment of hazardous wastes
- § 14:70 — —Thermal treatment
- § 14:71 — —Tank treatment

IV. UNDERGROUND STORAGE TANKS

- § 14:72 Introduction
- § 14:73 Overview of the regulatory program
- § 14:74 Notices—Persons responsible for compliance
- § 14:75 Regulated substances—Designated pollutants
- § 14:76 Sources subject to regulation
- § 14:77 Leak detection and “emission limits”
- § 14:78 Corrective action requirements
- § 14:79 Closure
- § 14:80 The LUST fund—Financial responsibility
- § 14:81 State plans
- § 14:82 Enforcement

V. EMERGENCY RESPONSE AND LONG-TERM CLEANUP

TABLE OF CONTENTS

| | |
|----------|--|
| § 14:83 | Introduction |
| § 14:84 | Oil spills—History of oil spill legislation |
| § 14:85 | —Oil spill cleanup |
| § 14:86 | —Liability |
| § 14:87 | — —Prohibited discharges |
| § 14:88 | — —Regulated entities |
| § 14:89 | — — —Vessels |
| § 14:90 | — — —Onshore and offshore facilities |
| § 14:91 | — — —Deepwater ports, pipelines, and abandonment |
| § 14:92 | — —Defenses and exclusions to liability |
| § 14:93 | — —Recoverable costs and damages |
| § 14:94 | — —Limits on liability |
| § 14:95 | —The oil spill liability trust fund |
| § 14:96 | —Litigation |
| § 14:97 | —International matters |
| § 14:98 | Superfund |
| § 14:99 | —Overview |
| § 14:100 | — —Removal actions |
| § 14:101 | — —Remedial actions |
| § 14:102 | — —Early years of the remedial program |
| § 14:103 | —Releases meriting a response |
| § 14:104 | — —Substances |
| § 14:105 | — — —Hazardous substances |
| § 14:106 | — — —Pollutants or contaminants |
| § 14:107 | — —Risks posed by release |
| § 14:108 | — —Exclusions |
| § 14:109 | —Vessels and facilities |
| § 14:110 | —Persons affected |
| § 14:111 | — —Responsible and potentially responsible parties |
| § 14:112 | — —Other persons |
| § 14:113 | —Notices and records |
| § 14:114 | —Remedial program procedures |
| § 14:115 | — —Hazard ranking system, health assessments, and the national priorities list |
| § 14:116 | — —Procedure at priority sites—Remedial investigation/feasibility study |
| § 14:117 | — — —State participation |
| § 14:118 | — — —Tribal participation |
| § 14:119 | — — —Public participation |
| § 14:120 | — — —Potentially responsible parties |
| § 14:121 | — — —Federal agencies and federal facilities |
| § 14:122 | —Remedial methods and goals—The NCP |
| § 14:123 | —Reimbursement |
| § 14:124 | Cleanup at RCRA facilities |
| § 14:125 | —Hazardous waste management facilities |
| § 14:126 | —Underground storage tanks |

VI. ENFORCEMENT AND LIABILITY

| | |
|----------|---------------------------------------|
| § 14:127 | RCRA enforcement |
| § 14:128 | —Information gathering |
| § 14:129 | —Civil and administrative enforcement |
| § 14:130 | —Citizen enforcement |

- § 14:131 —Criminal liability and enforcement
- § 14:132 — —Regulatory offenses
- § 14:133 — —Knowing endangerment
- § 14:134 Liability for abatement of imminent hazard situations—Statutory provisions
- § 14:135 —Standard of proof and the nature of liability and remedy
- § 14:136 —Administrative § 106 orders
- § 14:137 —Public and state participation
- § 14:138 Liability to the government or private parties for response expenditures and to the Government for natural resource damages—The CERCLA Section 107 scheme in general
- § 14:139 —Joint and several liability
- § 14:140 —Section 107 procedures
- § 14:141 —Pre-enforcement review
- § 14:142 —Costs recoverable
- § 14:143 —Private cost recovery actions
- § 14:144 —Miscellaneous issues
- § 14:145 —CERCLA enforcement
- § 14:146 —Citizen enforcement

VII. SARA TITLE III—THE EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT

- § 14:147 Introduction
- § 14:148 Overview and structure of Title III
- § 14:149 Emergency planning and preparedness—Development of emergency response plans
- § 14:150 —The role of Right-To-Know in emergency planning
- § 14:151 —Chemical safety audits
- § 14:152 Routine and intermittent reporting by covered facilities: Chemical disclosure and the public's right to know
- § 14:153 —Section 302 emergency planning notifications
- § 14:154 —Section 303 notices
- § 14:155 —Section 304 emergency notifications
- § 14:156 —Section 311 (SDS) reporting
- § 14:157 —Section 312 chemical inventory reporting
- § 14:158 —Section 313 reporting of annual toxic emissions
- § 14:159 —Trade secrets
- § 14:160 — —Section 303 reports
- § 14:161 — —Section 311 SDS or list reports
- § 14:162 — —Section 312 Tier II reports
- § 14:163 — —Section 313 TRI reports
- § 14:164 — —Substantiation review
- § 14:165 —Disclosure to governors, Congress, and health professionals
- § 14:166 Federal, state, and citizen enforcement of Title III
- § 14:167 —Sections 302 and 303
- § 14:168 —Section 304
- § 14:169 —Sections 311 and 312
- § 14:170 —Section 313
- § 14:171 —Sections 322 and 323

VIII. COMPREHENSIVE GROUNDWATER PROTECTION PLANS

TABLE OF CONTENTS

§ 14:172 In general

§ 14:173 Conclusion

Appendix 14A. Table of Acronyms

Table of Contents

PART E. REGULATION OF PRODUCTS

CHAPTER 15. INTRODUCTION TO PRODUCTS REGULATION

- § 15:1 In general
- § 15:2 Product control statutes: distinctions between environment-based and health-based regulation
- § 15:3 Regulation of biotechnology, nanotechnology and synthetic biology
- § 15:4 TSCA and FIFRA
- § 15:5 Drinking water

CHAPTER 16. TOXIC SUBSTANCES

I. INTRODUCTION

- § 16:1 History
- § 16:2 Overview and definitions

II. TEST RULES, ORDERS, AND CONSENT AGREEMENTS

- § 16:3 In general
- § 16:4 Authority to issue testing rules
- § 16:5 Additional authority to require testing
- § 16:6 Vertebrate testing
- § 16:7 Roles of Section 4 testing
- § 16:8 Procedures and requirements for test rules, orders, and consent agreements
- § 16:9 Voluntary testing initiatives prior to the 2016 amendments

III. PREVENTION OF UNREASONABLE RISK: REGULATION OF NEW CHEMICAL SUBSTANCES

- § 16:10 Introduction
- § 16:11 Premanufacture review of new chemical substances—The role of the TSCA Chemical Substance Inventory
- § 16:12 —The premanufacture notice (PMN) requirement
- § 16:13 —EPA risk determination is required
- § 16:14 —EPA review and regulatory responses
- § 16:15 —Exemptions from the PMN requirement
- § 16:16 — —Research and development exemption
- § 16:17 — —Low volume exemption
- § 16:18 — —Low release and exposure exemption
- § 16:19 — —Test marketing exemption
- § 16:20 — —Polymer exemption
- § 16:21 —Exclusions from the PMN requirement
- § 16:22 — —Substances manufactured solely for export
- § 16:23 — —Substances not manufactured for commercial distribution as chemical substances per se

- § 16:24 — —Mixtures
- § 16:25 Regulation of microbial products of biotechnology
- § 16:26 Regulation of products of nanotechnology
- § 16:27 Significant new use rules (SNURs)

IV. REGULATION OF RISKS FROM EXISTING CHEMICAL SUBSTANCES

- § 16:28 In general
- § 16:29 EPA rulemaking and other activity under Section 6 prior to the 2016 amendments
- § 16:30 Prioritization and identification of existing chemical substances for risk evaluation
- § 16:31 Risk evaluation for existing chemical substances
- § 16:32 Risk management for existing chemical substances

V. REPORTING AND RECORDKEEPING REQUIREMENTS

- § 16:33 In general
- § 16:34 Section 8(a) reporting: Preliminary Assessment Information Rule (PAIR)
- § 16:35 Inventory reporting and active and inactive substances
- § 16:36 Records of allegations
- § 16:37 Unpublished health and safety studies
- § 16:38 Reporting substantial risk information

VI. IMPORT AND EXPORT

- § 16:39 Import certification
- § 16:40 Export notification

VII. PROTECTING CONFIDENTIAL BUSINESS INFORMATION

- § 16:41 In general

VIII. ENFORCEMENT AND JUDICIAL REVIEW

- § 16:42 Prohibited conduct
- § 16:43 Civil and criminal enforcement
- § 16:44 Civil penalty calculation
- § 16:45 EPA's investigatory power
- § 16:46 Petitions for rulemaking
- § 16:47 Citizen suits
- § 16:48 Judicial review of EPA rulemaking

IX. RELATIONSHIP TO OTHER LAWS

- § 16:49 Coordination with other federal laws
- § 16:50 Preemption of state law
- § 16:51 Administration of TSCA: fees and scientific standards
- § 16:52 Relationship to international laws

X. TSCA TITLE II—ASBESTOS HAZARDS IN SCHOOLS AND PUBLIC BUILDINGS

- § 16:53 In general

XI. TSCA TITLE III—RADON ABATEMENT

§ 16:54 In general

XII. TSCA TITLE IV—LEAD EXPOSURE REDUCTION

§ 16:55 In general

XIII. TSCA TITLE V—HEALTHY HIGH PERFORMANCE SCHOOLS

§ 16:56 In general

XIV. TSCA TITLE VI—FORMALDEHYDE IN WOOD PRODUCTS

§ 16:57 In general

XV. CONCLUSION

§ 16:58 Conclusion

Appendix 16A. Table of Acronyms

Appendix 16B. Key Changes to Core TSCA Provisions in the 2016 Amendments

CHAPTER 17. PESTICIDES

I. INTRODUCTION

§ 17:1 In general

II. PESTICIDE REGISTRATION

§ 17:2 The registration requirement

§ 17:3 —What is a “pesticide”?

§ 17:4 Registration application process

§ 17:5 —Data requirements

§ 17:6 —Reliance on human research

§ 17:7 —Tolerances and tolerance exemptions

§ 17:8 EPA review and decision—Agency review

§ 17:9 —The standards for registrations and tolerances

§ 17:10 —The registration decision

§ 17:11 Registration application process—Registration of pesticide products containing nanomaterials

§ 17:12 —Related applications and procedures

§ 17:13 —Reregistration and tolerance reassessment

§ 17:14 —Registration review

§ 17:15 Related applications and procedures—Conditional registration

§ 17:16 —Amended registration

§ 17:17 —Supplemental registrations

§ 17:18 —Experimental use permits—EUP requirements

§ 17:19 — —Procedures

§ 17:20 —Special local needs registrations

§ 17:21 —Transfers of registrations and data rights—Registrations

§ 17:22 — —Data rights

III. EXEMPTIONS

- § 17:23 Exemptions—Exemptions from registration requirement—Experimental use permits
- § 17:24 — —Transfers between registered establishments operated by same company or under contract
- § 17:25 — —Export-only
- § 17:26 — —Emergency exemptions
- § 17:27 — —Other exemptions authorized by EPA
- § 17:28 —Exemptions from data requirements—Waivers
- § 17:29 — —Data gaps
- § 17:30 — —Formulator's exemption

IV. ADDITIONAL INFORMATION REQUIREMENTS

- § 17:31 Data call-ins—Requirement to submit additional data on previously registered pesticides
- § 17:32 —Methods for satisfying
- § 17:33 Reporting of new adverse effects information
- § 17:34 Other new data requirements

V. DATA COMPENSATION AND ARBITRATION

- § 17:35 Mandatory data licensing and exclusive use under § 3(c)(1)(F)—The statutory provisions
- § 17:36 —The *Monsanto* decision
- § 17:37 Arbitration—The statutory provisions
- § 17:38 —The *Union Carbide* decision
- § 17:39 Compensation decisions
- § 17:40 —Decisions by EPA under 1972 act
- § 17:41 —Subsequent arbitration decisions
- § 17:42 —Arbitration decisions under current act—Compensable costs
- § 17:43 — —Risk and cost avoidance
- § 17:44 — —Adjustments for inflation and interest
- § 17:45 — —Cost allocation methods

VI. REGULATORY ACTIONS TO PROHIBIT OR LIMIT THE USE OF REGISTERED PESTICIDES

- § 17:46 EPA authority
- § 17:47 —The “unreasonable adverse effects” standard
- § 17:48 —The *Diazinon* decision
- § 17:49 —Restricted use classification
- § 17:50 —Cancellation
- § 17:51 —Suspension
- § 17:52 —Emergency suspension
- § 17:53 Regulatory procedures—Special review
- § 17:54 —Restricted-use classification procedures
- § 17:55 —Cancellation hearing procedures
- § 17:56 —Modified hearing procedures
- § 17:57 Other matters related to suspension and cancellation—Indemnification
- § 17:58 —Storage, disposal, and existing stocks
- § 17:59 Tolerance modification and revocation

VII. PUBLIC AVAILABILITY OF DATA

TABLE OF CONTENTS

- § 17:60 General provisions
- § 17:61 Prohibition on disclosure to multinationals
- § 17:62 Penalties

VIII. ESTABLISHMENT REGISTRATION

- § 17:63 In general

IX. IMPORTS AND EXPORTS

- § 17:64 In general

X. ENFORCEMENT

- § 17:65 Unlawful acts
- § 17:66 Inspection and penalties
- § 17:67 Stop sale, use, or removal orders
- § 17:68 State enforcement authority
- § 17:69 No FIFRA citizen suit

XI. STATE/TRIBAL AUTHORITY AND PREEMPTION

- § 17:70 In general
- § 17:71 Preemption decisions

XII. JUDICIAL REVIEW OF EPA ACTION UNDER FIFRA

- § 17:72 In general

XIII. REGULATORY AUTHORITY UNDER OTHER ENVIRONMENTAL LAWS

- § 17:73 Endangered Species Act
- § 17:74 Clean Water Act
- § 17:75 Toxic Substances Control Act

XIV. HOT TOPICS

- § 17:76 Worker Protection Standard
- § 17:77 Cannabis/Hemp
- § 17:78 Neonicotinoids
- § 17:79 Chlorpyrifos

CHAPTER 18. DRINKING WATER

I. INTRODUCTION

- § 18:1 In General

II. WHAT IS A PUBLIC WATER SYSTEM?

- § 18:2 In General
- § 18:3 Public Water System Defined
- § 18:4 Community and Non-Community Water Systems
- § 18:5 Protection for Other Water Systems

III. NATIONAL DRINKING WATER REGULATIONS

- § 18:6 In General
- § 18:7 National Primary Drinking Water regulations—Definition
- § 18:8 National Primary Drinking Water Regulations—Pre-1996 SDWA Amendments: Selecting Contaminants for Regulation
- § 18:9 —Selecting Contaminants for Regulation after the 1996 SDWA Amendments
- § 18:10 —Maximum Contaminant Level Goals
- § 18:11 —MCLs and Treatment Techniques
- § 18:12 National Drinking Water Regulations—Lead
- § 18:13 Variances and Exemptions
- § 18:14 National Secondary Drinking Water Regulations

IV. PUBLIC NOTIFICATION AND MONITORING, REPORTING, AND RECORDKEEPING

- § 18:15 Public Notification of Violations
- § 18:16 Monitoring, Reporting, and Recordkeeping

V. STATE DRINKING WATER PROGRAMS

- § 18:17 In General

VI. FEDERAL AND CITIZEN ENFORCEMENT

- § 18:18 Federal Enforcement—Enforcement of Primary Regulations, Variances, and Exemptions
- § 18:19 — —Finding a Violation
- § 18:20 — —Commencing a Civil Action or Issuing a Compliance Order
- § 18:21 — —Administrative Compliance Orders and Administrative Penalties
- § 18:22 —Public Notification and Monitoring Requirements
- § 18:23 —Emergency Powers and Tampering
- § 18:24 Citizen Suits
- § 18:25 Federal Preemption

VII. SOURCE PROTECTION

- § 18:26 In General

VIII. CONCLUSION

- § 18:27 Generally

Appendix 18A. Table of Acronyms

Appendix 18B. Case Studies

CHAPTER 19. BIOTECHNOLOGY

I. INTRODUCTION

- § 19:1 In General
- § 19:2 What is biotechnology?
- § 19:3 Applications of genetic engineering
- § 19:4 Benefits of genetic engineering

TABLE OF CONTENTS

- § 19:5 Why regulate genetic engineering?
- § 19:6 The concerns about genetic engineering
- § 19:7 Lack of unique risks

II. THE FEDERAL REGULATORY FRAMEWORK

- § 19:8 In General
- § 19:9 Introduction to regulatory framework
- § 19:10 Initial federal policies
- § 19:11 NIH Guidelines
- § 19:12 Agricultural statutes
- § 19:13 —Virus-Serum-Toxin Act
- § 19:14 —Animal Health Protection Act
- § 19:15 —Plant Protection Act
- § 19:16 —Litigation
- § 19:17 —Summary of the agricultural statutes
- § 19:18 Federal Insecticide, Fungicide, and Rodenticide Act—Regulation of pesticides
- § 19:19 —Microbial pesticides
- § 19:20 —Plant-incorporated protectants
- § 19:21 —Summary of FIFRA
- § 19:22 Toxic Substances Control Act
- § 19:23 —Premanufacture notice program
- § 19:24 —Significant new use rules
- § 19:25 —Information-gathering authority
- § 19:26 Post-Market Regulation—Hazardous waste statutes
- § 19:27 Toxic Substances Control Act—Using TSCA to regulate genetically engineered organisms—Jurisdiction
- § 19:28 — —Small quantities and research activities
- § 19:29 — —Levels of review
- § 19:30 — —Activities covered
- § 19:31 — —Pre-release review
- § 19:32 — —Imminent hazards
- § 19:33 —Summary of TSCA
- § 19:34 Federal Food, Drug, and Cosmetic Act—Pharmaceutical products
- § 19:35 —Food products
- § 19:36 Post-Market Regulation—Products
- § 19:37 —Media-specific pollution control statutes
- § 19:38 Hazardous waste statutes—Introduction
- § 19:39 —RCRA
- § 19:40 —CERCLA

III. COORDINATION OF BIOTECHNOLOGY POLICY

- § 19:41 In General

IV. CONCLUSION

- § 19:42 In General

Appendix 19A. Table of Acronyms

PART F. PROTECTION OF THE ECOSYSTEM

CHAPTER 20. PROTECTION OF THE ECOSYSTEM

§ 20:1 In General

CHAPTER 21. ENDANGERED SPECIES

I. INTRODUCTION; HISTORICAL BACKGROUND OF ESA

§ 21:1 Generally

§ 21:2 Historical background—Generally

§ 21:3 —Historical antecedents of wildlife regulation

§ 21:4 —Emerging awareness of the importance of biodiversity and early legislative attempts at species protection and conservation

§ 21:5 —Environmental sensitivity of the 1960s and 1970s

II. OVERVIEW AND STRUCTURE OF THE ESA

§ 21:6 Generally

§ 21:7 Basic purposes of the ESA

§ 21:8 Structure of the ESA

III. CRITERIA AND PROCEDURES FOR SPECIES LISTINGS

§ 21:9 Generally

§ 21:10 What is a “species”?

§ 21:11 “Subspecies” and “distinct population segments”

§ 21:12 Listing criteria and procedures

§ 21:13 Emergency listings

IV. CRITICAL HABITAT DESIGNATION

§ 21:14 Critical habitat criteria

§ 21:15 Meaning of “prudent and determinable”

§ 21:16 Procedures for critical habitat designation and revision

§ 21:17 Economic impact and FWS “incremental baseline” theory

§ 21:18 Special management plan exclusions

V. RECOVERY PLANS FOR LISTED SPECIES

§ 21:19 Background

§ 21:20 Recovery plan preparation and content

§ 21:21 Implementation of recovery plans

§ 21:22 The enforceability of recovery plans

VI. FEDERAL AGENCY CONSERVATION OBLIGATIONS AND CONSULTATION UNDER § 7 OF THE ESA

§ 21:23 Generally

§ 21:24 Section 7(a)(1) conservation obligations

§ 21:25 Section 7 consultation process

§ 21:26 Agency “action” triggering consultation

§ 21:27 Section 7 consultation policies of particular agencies

§ 21:28 Analysis of the “effects” of agency action

§ 21:29 The consultation process

§ 21:30 Exemptions from § 7

TABLE OF CONTENTS

§ 21:31 Completion of consultation and reinitiation

VII. PROHIBITED ACTS AND THE “TAKE” DEFINITION

§ 21:32 Overview

§ 21:33 General scope of § 9 prohibited conduct

§ 21:34 The prohibited “take” and “harm” debate

§ 21:35 Takings and consideration of future harm

§ 21:36 Causation litigation under the ESA

§ 21:37 Vicarious state and local government “take” liability

§ 21:38 Interface between § 7 incidental take statements and § 9 “take” liability

VIII. INCIDENTAL TAKE PERMITS AND HABITAT CONSERVATION PLANS

§ 21:39 Overview

§ 21:40 Incidental take permits

§ 21:41 HCPs

§ 21:42 Enhancement of survival and “safe harbor” permits

§ 21:43 Other taking exceptions

§ 21:44 Candidate conservation agreements with assurances

IX. ENFORCEMENT AND CITIZEN SUITS

§ 21:45 Generally

§ 21:46 Tiered system of penalties

§ 21:47 Intent and ESA liability

§ 21:48 Bodily harm defense

§ 21:49 ESA citizen suits under § 11(g), generally

§ 21:50 ESA citizen suits under § 11(g)—60-day notice provision

§ 21:51 —Preliminary injunctions under the ESA

§ 21:52 —Standing

§ 21:53 —Attorneys fees under the ESA

X. FEDERAL AND STATE INTERACTION UNDER THE ESA

§ 21:54 Generally

§ 21:55 The Federal role enhanced

§ 21:56 Role of the states

§ 21:57 Conflicts between the ESA and state laws

XI. THE INTERFACE BETWEEN THE ESA, THE NATIONAL ENVIRONMENTAL POLICY ACT, AND THE FREEDOM OF INFORMATION ACT

§ 21:58 NEPA and the ESA

§ 21:59 The ESA and the Freedom of Information Act

XII. THE ESA AND CLIMATE CHANGE

§ 21:60 Introduction

§ 21:61 The impact of climate change on species and their habitat

§ 21:62 Potential implications for ESA application

§ 21:63 Conclusion on ESA and climate change

XIII. INTERNATIONAL APPLICABILITY OF THE ESA

- § 21:64 Introduction
- § 21:65 The ESA and international issues
- § 21:66 The Convention on International Trade in Endangered Species of Wild Fauna and Flora
- § 21:67 The Lacey Act

XIV. APPLICATION OF THE ESA TO INDIAN TRIBES AND THEIR LANDS

- § 21:68 Introduction
- § 21:69 What role does the federal government's fiduciary trust obligation to an Indian tribe and its resources play in the administration of the ESA?
- § 21:70 The scope and significance of tribal reserved rights
- § 21:71 The conflict between tribal reserved rights and the ESA
- § 21:72 Can religious freedom rights be asserted as a defense to a take violation of the ESA?
- § 21:73 Does tribal sovereign immunity against lawsuits bar non-consensual citizen actions under the ESA against Indian tribes?
- § 21:74 Does the doctrine of primary jurisdiction require the staying or dismissal of citizen actions brought pursuant to the ESA?
- § 21:75 Secretarial Order No. 3206's attempt to harmonize the conflicting rights and duties of Indian tribes and the federal government in applying the ESA

XV. EXPERIMENTAL POPULATIONS

- § 21:76 Generally
- § 21:77 Establishment of the experimental population
- § 21:78 Legal protections afforded to experimental populations
- § 21:79 Litigation under § 10(j)

XVI. FIFTH AMENDMENT TAKINGS AND THE ESA

- § 21:80 Generally
- § 21:81 What is the property interest?
- § 21:82 Has a taking of the property right occurred?
- § 21:83 The development of regulatory takings law
- § 21:84 Fifth Amendment takings cases and the ESA
- § 21:85 Application to the ESA and wildlife protection regulations

XVII. CONCLUSION

- § 21:86 Generally

CHAPTER 22. ALIEN SPECIES

- § 22:1 In General
- § 22:2 Introduction
- § 22:3 Alien awareness in the United States
- § 22:4 U.S. legal authority
- § 22:5 —Federal statutory authority
- § 22:6 —Explicit federal statutory NIS authority
- § 22:7 —National Invasive Species Act: Big name, narrow scope

TABLE OF CONTENTS

- § 22:8 —General environmental policy acts
- § 22:9 — —Federal agency legal powers
- § 22:10 —Executive orders addressing harmful NIS
- § 22:11 — —Executive Order 11987 (1977) (Carter): Dramatic, ignored, defunct
- § 22:12 — —Executive Order 13112 (1999) (Clinton): Hopeful, bureaucratic
- § 22:13 —The National Invasive Species Management Plan (January 18, 2001):
Fail to plan, plan to fail
- § 22:14 State legal authority regarding harmful NIS
- § 22:15 Gaps in U.S. NIS laws
- § 22:16 —The vision gap: NIS and natural ecosystems
- § 22:17 —The knowledge gap
- § 22:18 —The crisis response gap
- § 22:19 —Enlisting the citizenry: The role of public education
- § 22:20 —Coherence in law
- § 22:21 Conclusion

APPENDIX 22A. Presidential Executive Orders on NIS

CHAPTER 23. COASTAL AND OCEAN PROTECTION

I. OVERVIEW AND BACKGROUND

- § 23:1 Executive Summary
- § 23:2 Introduction

II. EARLY SANCTUARY LEGISLATION

- § 23:3 Background
- § 23:4 The Sanctuary Idea
- § 23:5 Sanctuaries Legislation in the 90th Congress, 1967-1968—Overview
- § 23:6 —Detailed Provisions of Early Bills
- § 23:7 —An Alternative Ocean Protection Strategy
- § 23:8 —Conclusion/Significance
- § 23:9 Legislation in the 91st Congress, 1969-1970—Overview
- § 23:10 —Impetus for Action-Santa Barbara Oil Spill
- § 23:11 —Coastal Management Reports
- § 23:12 —Sanctuary Bill—Approaches
- § 23:13 —Conclusion

III. THE 1972 MARINE PROTECTION, RESEARCH AND SANCTUARIES ACT OF 1972

- § 23:14 Background
- § 23:15 House Action
- § 23:16 Action in Senate
- § 23:17 Provisions of the Sanctuary Title
- § 23:18 —Problem Addressed
- § 23:19 —Purpose and Policy, Goals and Deadlines
- § 23:20 —Preservation vs. Multiple Use Focus
- § 23:21 —Designation Process
- § 23:22 —Management and Protection Standards
- § 23:23 —Relation to Other Laws
- § 23:24 —Conclusion

IV. THE RISE OF MULTIPLE USE, 1973-1986

- § 23:25 Background
- § 23:26 First Regulations, 1974
- § 23:27 —Program Purpose and Multiple Use
- § 23:28 —Nomination and Designation Process
- § 23:29 Designation of U.S.S. Monitor and Key Largo National Marine Sanctuaries
- § 23:30 President Carter's Sanctuary Initiative
- § 23:31 The 1978 Reauthorization
- § 23:32 —Public Involvement
- § 23:33 —Multiple Use
- § 23:34 —Safeguard Provision
- § 23:35 —Power to Designate
- § 23:36 —Consultation by the Regional Fishery Management Councils
- § 23:37 —Conclusion
- § 23:38 Flower Garden Banks Controversy
- § 23:39 1979 Regulations
- § 23:40 —Program Purposes and Multiple Use
- § 23:41 —Site Selection Criteria and the List of Recommended Areas
- § 23:42 Controversy over the Act's Purpose and Scope
- § 23:43 1980 Amendments
- § 23:44 —Terms of Designation
- § 23:45 —Multiple Use and the Safeguard Provision
- § 23:46 —Congressional Power of Disapproval
- § 23:47 —Conclusion
- § 23:48 1982-83 Further Program Revisions: The Program Development Plan
- § 23:49 —Program Goals
- § 23:50 —Designation
- § 23:51 Implementing the SEL
- § 23:52 1983-84: Renewed Congressional Attacks
- § 23:53 —The Charge of Redundancy
- § 23:54 —Scope of the Program
- § 23:55 1984 Amendments
- § 23:56 —Program Purposes
- § 23:57 —Abolishment of the Safeguard Provision over Multiple Use
- § 23:58 —Changes to the Designation Process
- § 23:59 —Resource Assessment Report
- § 23:60 —Size of Sanctuaries
- § 23:61 —Consultations Prior to Designation
- § 23:62 —Regional Fishery Management Council Drafting of Fishery Regulations
- § 23:63 —Enhancement of Enforcement Authority and Capability
- § 23:64 —Congressional Designation
- § 23:65 —Conclusion
- § 23:66 Program Results from 1984-1986
- § 23:67 Conclusion

V. REEMPHASIS ON PRESERVATION, 1987-2000

- § 23:68 Background
- § 23:69 The 1988 Amendments
- § 23:70 —30-Month Deadline

TABLE OF CONTENTS

| | |
|---------|--|
| § 23:71 | —Special Use Permits |
| § 23:72 | —Mandated Designations |
| § 23:73 | Meeting Designation Deadlines |
| § 23:74 | Florida Keys NMS Designation by Congress |
| § 23:75 | The 1992 Amendments |
| § 23:76 | —Program Purposes |
| § 23:77 | —Expansion of Consulted Parties and NOAA Influence on Other Agencies’ Actions |
| § 23:78 | —Multiple Use |
| § 23:79 | —Management Plan Reviews |
| § 23:80 | —Sanctuary Advisory Councils |
| § 23:81 | —Funding for the Program |
| § 23:82 | —Additional Provisions of the Amendments |
| § 23:83 | —New Sanctuaries Designated by Congress in 1992 |
| § 23:84 | —Natural Diversity |
| § 23:85 | —Conclusion |
| § 23:86 | 1994: The Designation of the Olympic Coast NMS |
| § 23:87 | The 1996 Amendments |
| § 23:88 | The 2000 Amendments |
| § 23:89 | —Sanctuaries as a System |
| § 23:90 | —Re-emphasis on the Program’s Primary Mandate |
| § 23:91 | —Funding Constraints on New Sanctuaries |
| § 23:92 | —Conclusion |
| § 23:93 | Steps of National Importance Since the 2000 amendments (2006-2014) |
| § 23:94 | An increasing emphasis on history and Underwater Cultural Heritage |
| § 23:95 | A New Nomination Process |

VI. THE UNFILLED PRESERVATION MANDATE

| | |
|----------|--|
| § 23:96 | Background |
| § 23:97 | Limited Scope of the Sanctuary System |
| § 23:98 | —Resources Missing |
| § 23:99 | —What Does Protection Mean? |
| § 23:100 | —Oil Development and Commercial Fishing |
| § 23:101 | —Moratorium on New Sanctuaries |
| § 23:102 | Structural Flaws of the Sanctuaries Act—Lack of Preservation Focus |
| § 23:103 | —Wilderness Act Model |
| § 23:104 | —Preservation and Multiple Use |

VII. CONCLUSION

| | |
|----------|---|
| § 23:105 | Generally |
| § 23:106 | Our governance for coastal and ocean protection is seriously outdated and increasingly ineffective |

CHAPTER 24. CLIMATE CHANGE

I. INTRODUCTION

| | |
|--------|------------|
| § 24:1 | In general |
|--------|------------|

II. SCIENTIFIC BASIS OF AND CONSENSUS ON CLIMATE CHANGE

- § 24:2 The Science behind climate change
- § 24:3 Scientific consensus on climate change threats

III. CLIMATE CHANGE MITIGATION

- § 24:4 In general
- § 24:5 Components of climate change mitigation
- § 24:6 International efforts to reduce greenhouse gas emissions
- § 24:7 Federal efforts to reduce greenhouse gas emissions
- § 24:8 Regional efforts to reduce greenhouse gas emissions
- § 24:9 State efforts to reduce greenhouse gas emissions
- § 24:10 Tribal efforts
- § 24:11 Local efforts
- § 24:12 Litigation

IV. ADAPTATION—INTRODUCTION

- § 24:13 In general

V. ADAPTATION—FEDERAL

- § 24:14 Appropriate government scope for climate adaptation
- § 24:15 Scope of federal adaptation law
- § 24:16 Assistance programs related to disaster management
- § 24:17 Non-disaster assistance programs
- § 24:18 Resource management
- § 24:19 Other
- § 24:20 Federal adaptation law conclusions

VI. ADAPTATION—STATE

- § 24:21 Introduction
- § 24:22 Executive and legislative actions
- § 24:23 Climate adaptation plans
- § 24:24 Supplemental and standalone plans and actions
- § 24:25 State-level funding for adaptation
- § 24:26 State support for local adaptation
- § 24:27 Conclusion

VII. ADAPTATION—LOCAL

- § 24:28 Framework for local adaptation
- § 24:29 Planning tools
- § 24:30 Regulatory and land use tools
- § 24:31 Funding and financing tools
- § 24:32 Conclusion

VIII. GEOENGINEERING: REGULATING CARBON DIOXIDE REMOVAL/NETS UNDER INTERNATIONAL LAW

- § 24:33 Overview of carbon dioxide removal/negative emissions technologies
- § 24:34 The international law of carbon dioxide removal
- § 24:35 Conclusion

IX. TRIBAL

TABLE OF CONTENTS

- § 24:36 Introduction
- § 24:37 Federal Indian law and tribal sovereignty
- § 24:38 Environmental law and tribal sovereignty
- § 24:39 Climate change and Indian country
- § 24:40 Conclusion

X. CLIMATE-RELATED FINANCIAL DISCLOSURE AND RISK MANAGEMENT

- § 24:41 Introduction
- § 24:42 Changing expectations around corporate disclosures and financial risks of climate change
- § 24:43 Federal securities law, climate risk disclosure, and investment practices
- § 24:44 U.S. climate-related financial risk management
- § 24:45 International financial regulatory actions on climate-related risks
- § 24:46 Conclusion: A new administration will accelerate existing climate-disclosure trends

XI. LITIGATING CLIMATE CHANGE

- § 24:47 Introduction
- § 24:48 Regulating greenhouse gases and considering climate in government decisionmaking
- § 24:49 Constitutional/public trust cases against the government
- § 24:50 State and municipal cases seeking damages for climate change impacts from companies
- § 24:51 State cases against companies for inadequate corporate disclosures and consumer protection
- § 24:52 Conclusion

XII. CONCLUSION

- § 24:53 In general

Appendix 24A. Table of Acronyms

PART G. NEXT GENERATION ENVIRONMENTAL PROTECTION LAW

CHAPTER 25. INTRODUCTION TO NEXT GENERATION ENVIRONMENTAL PROTECTION LAW

- § 25:1 Introduction
- § 25:2 Reinvention efforts
- § 25:3 Sustainability
- § 25:4 Private environmental governance
- § 25:5 Conclusion

CHAPTER 26. REFORM EFFORTS IN ENVIRONMENTAL PROTECTION LAW

PART I. CHANGING CIRCUMSTANCES

- § 26:1 Introduction

- § 26:2 Changing world in which change is accelerating
- § 26:3 The consequences of change

PART II. CALLS FOR NEW APPROACHES TO ENVIRONMENTAL GOVERNANCE

- § 26:4 Regulatory critiques
- § 26:5 National Academy of Public Administration: setting priorities, getting results
- § 26:6 The Aspen Institute
- § 26:7 PCSD
- § 26:8 NAPA: resolving the paradox of environmental protection and “enterprise for the environment”
- § 26:9 NAPA: environment.gov.
- § 26:10 Think-tank perspectives
- § 26:11 NAPA: taking environmental protection to the next level
- § 26:12 Study conclusions

PART III. CASE EXAMPLES

- § 26:13 New approach to environmental protection
- § 26:14 Impaired waters—Chesapeake bay
- § 26:15 —Minnesota’s response
- § 26:16 —Conclusions
- § 26:17 Urban ozone and particulate pollution
- § 26:18 —Clean Air Minnesota
- § 26:19 —Other collaborative responses
- § 26:20 —Conclusion
- § 26:21 Brownfields rehabilitation
- § 26:22 —Legal issues
- § 26:23 —Minnesota’s Land Recycling Act
- § 26:24 —Federal legislation
- § 26:25 —Additional tools
- § 26:26 —Example projects
- § 26:27 —Conclusion
- § 26:28 Managing nanotechnology development
- § 26:29 Nanotechnology—Background
- § 26:30 —Potential benefits
- § 26:31 —Potential risks
- § 26:32 —Governance considerations
- § 26:33 —Governance tools
- § 26:34 — —Government regulation
- § 26:35 — —Public involvement and dialogue
- § 26:36 — —Voluntary programs
- § 26:37 — —Liability
- § 26:38 — —Industry codes and self-regulation
- § 26:39 —Conclusion
- § 26:40 Learning from the case examples

PART IV. RETHINKING THE GOVERNMENT’S ROLE IN ENVIRONMENTAL MANAGEMENT

- § 26:41 Government’s role

TABLE OF CONTENTS

- § 26:42 The role of regulation
- § 26:43 Utilizing partnerships, collaboration, and networks
- § 26:44 Understanding and taking advantage of internal economic motivations driving corporate environmental behavior
- § 26:45 Providing information and education to facilitate the development of public values
- § 26:46 Enabling the public to influence environmental decisionmaking directly
- § 26:47 Identifying and mainstreaming innovative environmental management approaches
- § 26:48 Conclusion

CHAPTER 27. SUSTAINABILITY

PART I. WHAT IS SUSTAINABILITY?

- § 27:1 Introduction
- § 27:2 Sustainability is . . .
- § 27:3 Sustainability is not . . .
- § 27:4 A destination or a journey?
- § 27:5 Sustainability embodies American values
- § 27:6 Looking back, looking forward

PART II. PROGRESS TOWARD SUSTAINABILITY

- § 27:7 Introduction
- § 27:8 Air quality
- § 27:9 Chemicals and pesticides
- § 27:10 Prevention of lead poisoning
- § 27:11 Agriculture
- § 27:12 Farmland
- § 27:13 Soil quantity
- § 27:14 Soil quality
- § 27:15 Water quantity
- § 27:16 Water quality
- § 27:17 Energy
- § 27:18 Biodiversity
- § 27:19 Freshwater
- § 27:20 Hazardous and toxic wastes
- § 27:21 Oceans and estuaries
- § 27:22 Climate change
- § 27:23 Risks
- § 27:24 International agreements and U.S. emissions
- § 27:25 National measures
- § 27:26 New challenges
- § 27:27 Conclusion

PART III. SUSTAINABILITY GOVERNANCE

- § 27:28 Introduction
- § 27:29 Local governance
- § 27:30 State governance
- § 27:31 National governance
- § 27:32 Strategic planning

- § 27:33 Sustainability in agency missions
- § 27:34 Sustainability in agency buildings and operations
- § 27:35 Environmental reporting and indicators
- § 27:36 Energy and climate legislation
- § 27:37 Lack of international leadership
- § 27:38 Conclusion

CHAPTER 28. SPACE RESOURCES

I. INTRODUCTION TO SPACE MINING

- § 28:1 In general

II. OVERVIEW OF ENVIRONMENTAL ISSUES THAT MAY ATTEND SPACE MINING

- § 28:2 Overview
- § 28:3 Debris
- § 28:4 Pollution
- § 28:5 Contamination
- § 28:6 Nuclear contamination

III. LEGAL FRAMEWORK

- § 28:7 Regulation of space mining generally
- § 28:8 Regulation of environmental issues that may attend space mining
- § 28:9 Related issues

IV. CONCLUSION

- § 28:10 In general
- Appendix 28A. Table of Acronyms

CHAPTER 29. OIL AND GAS

I. INTRODUCTION—REGULATION OF OIL AND GAS DEVELOPMENT

- § 29:1 General
- § 29:2 History of Oil and Gas Development in the United States

II. FEDERAL ONSHORE OIL AND GAS DEVELOPMENT

- § 29:3 Generally
- § 29:4 Background
- § 29:5 BLM Management of Federal Oil and Gas Development
- § 29:6 Federal Land Policy and Management Act of 1976
- § 29:7 Mineral Leasing Act of 1920, and Amendments
- § 29:8 —The Federal Onshore Oil and Gas Leasing Reform Act of 1987
- § 29:9 —Regulation of Onshore Oil and Gas Operations
- § 29:10 FOOGLRA Anti-Fraud Provisions
- § 29:11 BLM Enforcement Provisions
- § 29:12 Leasing Under Special Acts—National Petroleum Reserve in Alaska

TABLE OF CONTENTS

- § 29:13 Right of Way Leasing Act of 1930
- § 29:14 Leasing of National Park System Units
- § 29:15 Mining and Minerals Policy of 1970

III. FEDERAL OUTER CONTINENTAL SHELF DEVELOPMENT

- § 29:16 The Outer Continental Shelf Lands Act
- § 29:17 The History and Evolution of OCSLA
- § 29:18 Federal Jurisdiction under OCSLA, Applicability of Laws of Adjacent States, and Aboriginal Rights in the OCS
- § 29:19 Regulatory Authority Under OCSLA
- § 29:20 The Office of Natural Resources Revenue
- § 29:21 The Bureau of Safety and Environmental Enforcement
- § 29:22 The Bureau of Ocean Energy Management
- § 29:23 —Five-Year Oil and Gas Leasing Program
- § 29:24 —Leasing
- § 29:25 —Plans Required for Exploration, Production, and Development

IV. PRESIDENTIAL WITHDRAWAL AUTHORITY UNDER OCSLA AND *LEAGUE OF CONSERVATION VOTERS*

- § 29:26 Generally

V. DEVELOPMENT ON TRIBAL LANDS

- § 29:27 Introduction

A. APPLICABLE LAW

1. Federal Jurisdiction

- § 29:28 Background on Federal Indian Policy
- § 29:29 Federal Trust Obligation

a. Trust Lands and Allotments

- § 29:30 General Allotment Act
- § 29:31 Burke Act
- § 29:32 Indian Reorganization Act
- § 29:33 Statutory Authority
- § 29:34 Indian Mineral Leasing Act
- § 29:35 Allotted Lands Leasing Act
- § 29:36 Indian Mineral Development Act
- § 29:37 Indian Tribal Energy Development and Self-Determination Act

b. Agency roles in Oil and Gas Development on Indian Lands

- § 29:38 Bureau of Indian Affairs
- § 29:39 Bureau of Land Management
- § 29:40 Office of Natural Resources Revenue

2. Other Federal Delegations

- § 29:41 Environmental Compliance
- § 29:42 Historic Preservation

B. TRIBAL JURISDICTION

- § 29:43 *Montana* line of cases determining jurisdiction
- § 29:44 —Employment Requirements
- § 29:45 —Taxation

C. STATE AND LOCAL AUTHORITY

- § 29:46 Generally

D. LEASING, EXPLORATION, DEVELOPMENT, PRODUCTION

1. Leasing

- § 29:47 Standard Form Leases
- § 29:48 —IMDA Minerals Agreements

2. Exploration, Development and Production

- § 29:49 Surface Use and Access Issues
- § 29:50 —Royalty Reporting and Valuation
- § 29:51 —Reporting
- § 29:52 —Valuation

E. CONCLUSION

- § 29:53 Generally

VI. STATE AND LOCAL GOVERNMENT REGULATION OF OIL AND GAS

A. STATE REGULATION—IN GENERAL

- § 29:54 Early Era of Regulation
- § 29:55 Interstate Oil and Gas Compact Commission

B. CONSERVATION STATUTES

- § 29:56 Interstate Oil and Gas Compact Commission—Purposes
- § 29:57 —Conservation Agencies
- § 29:58 —Spacing & Density
- § 29:59 —Pooling & Unitization
- § 29:60 —Economic Waste Restrictions
- § 29:61 Regulating to Prevent Environmental Damage

C. OTHER STATE REGULATION

- § 29:62 Split Estate/Surface Damage Acts
- § 29:63 Industrial Siting
- § 29:64 Induced Seismicity and Chemical Disclosure
- § 29:65 Review by Wildlife Agencies

D. COUNTY REGULATION

- § 29:66 Generally
- § 29:67 County Authority and Governance of Oil and Gas Operations
- § 29:68 Oil and Gas Location and Siting Authority—Case Study: Colorado

E. MUNICIPAL REGULATION

TABLE OF CONTENTS

| | |
|---------|--|
| § 29:69 | Municipal Regulation—Introduction |
| § 29:70 | Impacts of Oil and Gas Activities on Local Jurisdictions |
| § 29:71 | —Environmental |
| § 29:72 | —Air pollution concerns |
| § 29:73 | —Water-related concerns |
| § 29:74 | —Other concerns facing municipal governments |
| § 29:75 | Law-based obstacles to municipal control or influence of oil and gas-related decisions |
| § 29:76 | The state legal environment: home rule, preemption, and interpretation |
| § 29:77 | State constitution-based home rule authority |
| § 29:78 | Preemption by a general law of the state |
| § 29:79 | Express preemption by state law |
| § 29:80 | Operational conflict with state law |
| § 29:81 | Dillon’s rule |
| § 29:82 | State constitution and statute-based home rule |
| § 29:83 | Explicit statutory preemption of oil and gas activities |
| § 29:84 | Zoning |
| § 29:85 | Related obstacles to municipal authority |

VII. ENVIRONMENTAL LAWS AND OIL AND GAS

A. NATIONAL ENVIRONMENTAL POLICY ACT

| | |
|---------|--|
| § 29:86 | Introduction |
| § 29:87 | Role of White House Council on Environmental Quality in Oil and Gas Projects |
| § 29:88 | Process overview for oil and gas projects |
| § 29:89 | Major NEPA issues for oil and gas projects |
| § 29:90 | Legislative proposals |

B. RESOURCE CONSERVATION AND RECOVERY ACT—THE REGULATION OF WASTE GENERATED AT OIL AND GAS EXPLORATION AND PRODUCTION FACILITIES

| | |
|----------|--|
| § 29:91 | Introduction |
| § 29:92 | The Resource Conservation and Recovery Act |
| | 1. The Exploration and Production Waste Statutory Exemption |
| § 29:93 | History of the exemption |
| § 29:94 | The Bentsen Amendment |
| | 2. Applying the Exploration and Production Waste Statutory Exemption |
| § 29:95 | The Bentsen Amendment—EPA Guidance on categorizing E&P waste |
| § 29:96 | EPA List of Exempt and Non-Exempt E&P Waste |
| § 29:97 | E&P Waste Mixtures |
| § 29:98 | Regulation of E&P Waste under RCRA |
| | 3. Regulation of E&P Waste Under State and Other Federal Law |
| § 29:99 | State regulation of E&P waste |
| § 29:100 | Applicability of additional federal statutes |
| § 29:101 | Conclusion |

C. CLEAN WATER ACT

- § 29:102 Section 402—NPDES Regulation (33 U.S.C. § 1342)
- § 29:103 State programs
- § 29:104 NPDES Permits
- § 29:105 Off-Site Waste Treatment
- § 29:106 Oil and gas stormwater discharge
- § 29:107 Section 401—Water Quality Certificates (33 U.S.C. § 1341)
- § 29:108 Section 403—Ocean Discharge Criteria (33 U.S.C. § 1343)
- § 29:109 Section 404 Discharge of Dredge or Fill Material (33 U.S.C. § 1344)
- § 29:110 Oil Pollution Prevention (33 U.S.C.A. § 1321)
- § 29:111 Enforcement and Penalties (33 U.S.C. § 1319)

D. SAFE DRINKING WATER ACT

- § 29:112 Background Information
- § 29:113 Enforcement Responsibility and Implementation
- § 29:114 Procedures/Process for State Delegation
- § 29:115 Underground Injection Control Program
- § 29:116 UIC Well Classes
- § 29:117 Focus on Class II Wells
- § 29:118 UIC Permitting
- § 29:119 Aquifer Exemptions

E. COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT

- § 29:120 Overview
- § 29:121 The Petroleum Exclusion
- § 29:122 The petroleum exclusion: Excluded as a “Hazardous Substance”
- § 29:123 The petroleum exclusion: Included as a “Hazardous Substance”
- § 29:124 Reportable Quantity reporting
- § 29:125 Federally permitted releases
- § 29:126 CERCLA Defenses
- § 29:127 Penalties for CERCLA violations
- § 29:128 Conclusion

F. CLEAN AIR ACT

- § 29:129 Generally
- § 29:130 Cooperative federalism under the Clean Air Act
- § 29:131 Preconstruction Permitting
- § 29:132 Title V Permitting
- § 29:133 Technology-Based Standards
- § 29:134 Greenhouse Gas Regulation
- § 29:135 Risk management plan
- § 29:136 Enforcement
- § 29:137 Carbon sequestration

G. OIL POLLUTION ACT

- § 29:138 Introduction
- § 29:139 *Exxon Valdez*
- § 29:140 Liability
- § 29:141 Oil Spill Response

TABLE OF CONTENTS

- § 29:142 *Deepwater Horizon*
- § 29:143 Other Major U.S. Oil Spill Incidents
- § 29:144 State law

H. TOXIC SUBSTANCES CONTROL ACT—APPLICATION TO OIL AND GAS OPERATIONS

- § 29:145 Introduction
- § 29:146 The Toxic Substances Control Act
- § 29:147 Chemical Data Reporting
- § 29:148 Application of CDR to Oil and Gas Exploration and Production Facilities
- § 29:149 Application of CDR to Downstream Processors and Refiners
- § 29:150 Application of CDR to Well Drilling and Service Providers
- § 29:151 Pre-Manufacture Notices and Significant New Use Rules
- § 29:152 Application of PMN and SNURs to Oil and Gas Exploration and Production Facilities
- § 29:153 Application of PMN and SNURs to Downstream Processors and Refiners
- § 29:154 Application of PMN and SNURs to Well Drilling and Service Providers
- § 29:155 Chemical testing
- § 29:156 Applicability of Testing Requirements to Oil and Gas Exploration and Production Facilities
- § 29:157 Applicability of Testing Requirements to Downstream Processors and Refiners
- § 29:158 Applicability of Testing Requirements to Well Drillers and Service Providers
- § 29:159 Conclusion

I. EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT

- § 29:160 Introduction
- § 29:161 Emergency Planning Notification (Section 302)
- § 29:162 Hazardous Substance Release Notification (Section 304)
- § 29:163 Hazardous Chemical Inventory Reporting
- § 29:164 Toxic Chemical Release Inventory
- § 29:165 Transportation Exemptions

J. IMPACTS TO WILDLIFE

- § 29:166 Generally
- § 29:167 Endangered Species Act
- § 29:168 Migratory Bird Treaty Act
- § 29:169 Marine Mammal Protection Act

VIII. HEALTH AND SAFETY IN THE OILFIELD

- § 29:170 Generally
- § 29:171 U.S. Environmental Protection Agency
- § 29:172 U.S. Occupational Safety and Health Administration
- § 29:173 Pipeline and Hazardous Materials Safety Administration
- § 29:174 EPA
- § 29:175 OSHA
- § 29:176 PHMSA

IX. REGULATION OF REFINING AND MARKETING (THE “DOWNSTREAM” SECTOR)

- § 29:177 History and Overview of Petroleum Refining
- § 29:178 Overview of the Marketing Sector
- § 29:179 Technical Operation of Refineries
- § 29:180 Types and Sources of Pollution from Refineries
- § 29:181 Regulation of Air Emissions: Greenhouse Gas Emissions Reporting Program
- § 29:182 Regulation of Air Emissions: New Source Review
- § 29:183 Regulation of Air Emissions: New Source Performance Standards
- § 29:184 Regulation of Air Emissions: National Emissions Standards for Hazardous Air Pollutants
- § 29:185 Regulation of Air Emissions: Refined Fuel Products
- § 29:186 Regulation of Water Discharges: Effluent Limitations for Petroleum Refining Point Sources
- § 29:187 Regulation of Water Discharges: Stormwater Discharges
- § 29:188 Regulation of Water Discharges: Spill Prevention, Control and Countermeasures Plans and Facility Response Plans
- § 29:189 Regulation of Water Discharges: Discharge Reporting
- § 29:190 Regulation of Hazardous Substances: Resource Conservation and Recovery Act
- § 29:191 Regulation of hazardous substances: underground injection wells
- § 29:192 Regulation of Hazardous Substances: Comprehensive Environmental Response, Compensation, and Liability Act
- § 29:193 Regulation of Hazardous Substances: The Toxic Substances Control Act
- § 29:194 Regulation of Hazardous Substances: Emergency Planning and Community Right-to-Know Act
- § 29:195 Regulation of Underground Storage Tanks
- § 29:196 Federal Statutes Implicated by Permits Issued under the CAA, CWA, and RCRA

X. REGULATION OF TRANSPORTATION

- § 29:197 Overview and Background
- § 29:198 Approval and siting of interstate natural gas transmission pipelines
- § 29:199 Approval and Siting of Other Transmission Pipelines
- § 29:200 Trans-Border Oil and Gas Pipeline Projects
- § 29:201 Oil and Gas Pipeline Safety
- § 29:202 Rail Transportation of Crude Oil

XI. ENERGY POLICY

A. ENERGY POLICY ACT OF 2005

- § 29:203 Background and Purpose
- § 29:204 Natural Gas Act Revisions
- § 29:205 FERC's Role
- § 29:206 Penalties and Market Manipulation
- § 29:207 Other Natural Gas Provisions
- § 29:208 Gasoline Content Changes and Renewable Fuels
- § 29:209 Hydraulic Fracturing
- § 29:210 Other Provisions

TABLE OF CONTENTS

B. ENERGY INDEPENDENCE AND SECURITY ACT OF 2007

- § 29:211 Background and Purpose
- § 29:212 Improved Vehicle Fuel Economy; Title I
- § 29:213 Other Energy Efficiency Measures; Titles III and IV
- § 29:214 Carbon Capture & Sequestration; Title VII

C. RENEWABLE FUEL STANDARD, TITLE II, SUBTITLE A

- § 29:215 Historical Setting

D. THE CURRENT FRAMEWORK OF THE RENEWABLE FUEL STANDARD

- § 29:216 Renewable Fuel Categories and RINs
- § 29:217 Compliance with the RFS
- § 29:218 EPA's authority to waive or reset volume obligations
- § 29:219 Small refinery relief from the RFS
- § 29:220 Current Trends

CHAPTER 30. NUCLEAR ENERGY

I. INTRODUCTION TO NUCLEAR ENERGY AND THE ENVIRONMENT

- § 30:1 In general
- § 30:2 Nuclear energy today
- § 30:3 Overview of nuclear energy in the United States
- § 30:4 —Status of currently operating plants
- § 30:5 —U.S. Nuclear Regulatory Commission

II. NUCLEAR LAW AND REGULATIONS

- § 30:6 NRC licensing and regulation of commercial nuclear facilities
- § 30:7 NRC environmental review for reactor licensing
- § 30:8 —Compliance with NEPA, environmental assessments and impact statements
- § 30:9 —Public involvement in licensing actions through the hearing process
- § 30:10 —License amendments and extensions
- § 30:11 How the NRC will approach environmental reviews for licensing advanced reactors
- § 30:12 NRC regulation of uranium recovery activities
- § 30:13 NRC and DOE coordination on managing nuclear waste
- § 30:14 —Low-Level Radioactive Waste Policy Act
- § 30:15 —Nuclear Waste Policy Act

III. LEGAL DEVELOPMENTS AND NEW FRAMEWORKS

- § 30:16 Recent U.S. legislation demonstrating support for nuclear as a clean energy solution
- § 30:17 Changes in the NRC's environmental justice policy
- § 30:18 —Impacts faced by low-income and otherwise marginalized communities
- § 30:19 —A fresh look at environmental justice

IV. NUCLEAR ENERGY AS CLEAN ENERGY AND LOOKING

AHEAD

- § 30:20 Overview on advanced nuclear and small modular reactors
- § 30:21 Coal-to-nuclear transition
- § 30:22 Pairing nuclear with renewables and hydrogen
- § 30:23 Conclusion

Appendix 30A. Table of Abbreviations and Acronyms

CHAPTER 31. OCEAN AND COASTAL GOVERNANCE

I. INTRODUCTION

- § 31:1 In General
- § 31:2 Ocean Policy

II. OCEAN JURISDICTION—FEDERAL AND STATE

- § 31:3 General
- § 31:4 Internal waters
- § 31:5 Baseline
- § 31:6 Territorial Sea
- § 31:7 State Interests
- § 31:8 Contiguous Zone
- § 31:9 Exclusive Economic Zone
- § 31:10 High Seas
- § 31:11 Continental Shelf
- § 31:12 Federal Environmental Law Referencing Different Jurisdictional Limits Than Those Adopted by Presidential Proclamations

III. COASTAL ZONE MANAGEMENT ACT

- § 31:13 History and Purpose
- § 31:14 Coastal Zone Boundaries
- § 31:15 Coastal Management Program
- § 31:16 Federal Consistency
- § 31:17 Coastal Nonpoint Pollution Control Program
- § 31:18 Related CZMA Statute—Coastal Barrier Resources Act

IV. MARINE MAMMAL PROTECTION ACT

- § 31:19 History and Purpose
- § 31:20 General

V. OCEAN DUMPING ACT (TITLES I AND II OF MARINE PROTECTION, RESEARCH, AND SANCTUARIES ACT)

- § 31:21 History and Purpose
- § 31:22 Definitions
- § 31:23 Permits

VI. NATIONAL MARINE SANCTUARIES ACT (TITLE III OF MARINE PROTECTION, RESEARCH, AND SANCTUARIES ACT)

TABLE OF CONTENTS

- § 31:24 History and Purpose
- § 31:25 Designation Process
- § 31:26 Federal Agency Consultations
- § 31:27 Management Plans and Permits

VII. MAGNUSON-STEVENSON FISHERY CONSERVATION AND MANAGEMENT ACT

- § 31:28 History and Purpose
- § 31:29 Definitions
- § 31:30 Regional Fishery Management Councils
- § 31:31 Fishery Management Plans
- § 31:32 Citizen Challenges
- § 31:33 Foreign Fishing
- § 31:34 Port State Measures Implementation Act
- § 31:35 Other Fishery Related Laws

VIII. ACT TO PREVENT POLLUTION FROM SHIPS

- § 31:36 History and Purpose
- § 31:37 Implementation of MARPOL Annexes
- § 31:38 Enforcement

IX. OIL POLLUTION ACT

- § 31:39 History and Purpose
- § 31:40 Definitions
- § 31:41 Liability

X. OTHER CONTINUING PRIORITY ISSUES FOR U.S. OCEAN GOVERNANCE AND THE ENVIRONMENT

- § 31:42 Coastal and Marine Spatial Planning
- § 31:43 Plastics
- § 31:44 Acidification
- § 31:45 Deep Seabed Mining
- § 31:46 Aquaculture

XI. CONCLUSION

- § 31:47 Generally

Table of Laws and Rules

Table of Cases

Index