

TABLE OF CONTENTS

PREFACE TO THE FOURTH EDITION	v
ACKNOWLEDGMENTS	vii
TABLE OF CASES	xxv
Introduction: Environmental Law and Its Contexts	1
I. What <i>Is</i> the Environment, and What Motivated People to Protect It?	1
II. Why Should the <i>Federal</i> Government Protect the Environment?	3
III. Sources of Federal Environmental Law: A Few Introductory Practicalities	5
A. Federal Statutes	5
1. The United States Code (U.S.C.)	5
2. Studying Statutory Law: The Basics	6
B. Federal Regulations	7
C. Federal Court Decisions	9
IV. The Other Influences on Federal Environmental Law	9
A. Common Law	10
B. Administrative Law	10
C. Constitutional Law	12
D. International Law and Policy	13
E. Statutory Interpretation	14
F. Environmental Justice	16
G. The Economics of Environmental Regulation and Cost-Benefit Analyses	19
H. Risk Assessment	23
I. Scientific and Technological Developments	27
V. The Complexities of the Environment: Climate Change and Other Challenges for Regulators	28
Chернаik v. Kitzhaber	29
Notes	34
Chapter 1. Environmental Law and the Common Law: Hazardous Waste, RCRA, and CERCLA	37
I. Common Law Environmental Actions and Waste Disposal	37
A. Common Law Environmental Actions	37
B. Nuisance and Waste Disposal	38
Oregon Department of Environmental Quality v. Chemical Waste Storage and Disposition, Inc.	39
Notes	43
II. The Federal Resource Conservation and Recovery Act (RCRA)	45
A. Triggering RCRA: The Definition of “Solid Waste”	45

1.	When Is Material “Discarded”?	47
	No Spray Coalition, Inc. v. City of New York	48
	Notes	49
	Water Keeper Alliance v. United States Department of Defense	50
	Notes	54
	Cordiano v. Metacon Gun Club, Inc.	56
	Notes	61
2.	Recycling and RCRA	62
	American Mining Congress v. United States Environmental Protection Agency	64
	Notes	71
B.	Regulation of Non-Hazardous Solid Wastes: RCRA Subtitle D	77
1.	Basic Requirements and Liabilities	77
	Cox v. City of Dallas, Texas	79
	Notes	90
2.	Constitutional Limitations on States’ Handling of Solid Waste	95
	United Haulers Association, Inc. v. Oneida-Herkimer Solid Waste Management Authority	96
	Notes	103
C.	RCRA’s Regulation of Hazardous Solid Wastes: Subtitle C	104
1.	What Is a “Hazardous Waste”?	104
2.	RCRA’s Cradle-to-Grave Regulation of Hazardous Wastes	109
3.	Avoiding TSD Status	111
	City of Chicago v. Environmental Defense Fund	111
	Notes	119
4.	Permitting RCRA TSD Facilities: The Permit Process	121
5.	Permitting RCRA TSD Facilities: Facility Siting, Risk Assessment, and Environmental Justice	121
	Executive Order 12898 Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations	122
	Notes	125
6.	The RCRA Hazardous Waste “Land Ban”	128
7.	Enforcement of Subtitle C	130
	United States v. Hansen	132
	Notes	141
III.	The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)	143
A.	Triggering CERCLA Liability	143
	United States v. Alcan Aluminum Corp.	146
	Notes	154
B.	PRPs and CERCLA Liability	157
1.	Reportable Quantities and the Duty of Notification	157
2.	Overview of PRPs	158

3.	Current Owner or Operator Liability	159
	United States v. Bestfoods	160
	Notes	165
4.	The Liability of Past Owners and Operators	169
a.	CERCLA’s Retroactive Liability	169
	Alliedsignal, Inc. v. Amcast International Corp.	170
	Notes	176
b.	Ownership or Operation “At the Time of Disposal”	179
	Carson Harbor Village, Ltd. v. Unocal Corporation	179
	Notes	190
5.	Arranger Liability	193
	Burlington Northern and Santa Fe Railway Company v. United States	193
	Notes	200
6.	Transporter Liability	202
	Tippins Incorporated v. USX Corporation	202
	Notes	208
C.	The CERCLA Cleanup Process	209
D.	The Four Categories of CERCLA Damages	213
1.	Response Costs	214
a.	Consistency with the NCP	214
	California v. Neville Chemical Company	214
	Notes	217
b.	Section 107 Cost Recovery Versus Section 113(f) Contribution	218
	Cooper Industries, Inc. v. Aviall Services, Inc.	218
	United States v. Atlantic Research Corporation	224
	Notes	230
2.	Natural Resources Damages	231
a.	Statutory Provisions	231
b.	The NRD Regulations	231
c.	Assessing NRDs in the Real World: The Exxon Valdez and Deepwater Horizon Oil Spills	234
3.	Health Assessments and Health Effects Studies	236
4.	Non-CERCLA Damages: Private Damages	237
	CTS Corp. v. Waldburger	238
	Notes	251
E.	Dividing CERCLA Liability: Joint and Several Liability, Contribution, Equitable Apportionment, and Settlement	254
	Burlington Northern and Santa Fe Railway Company v. United States	254
	Notes	259
	Alliedsignal, Inc. v. Amcast International Corp.	261
	Notes	272
F.	Orphan Sites and Superfund	272
G.	Progress in CERCLA Cleanups Under Superfund	273

Chapter 2. Environmental Procedures and Judicial Review:	
NEPA and the APA	275
I. NEPA and the APA: Basic Requirements and Judicial Review	275
A. Introduction to the Federal Administrative Procedure Act APA)	275
B. Introduction to the National Environmental Policy Act (NEPA)	279
II. Implementing NEPA	283
A. The Timing of the NEPA Evaluation	283
Metcalf v. Daley	283
Notes.....	293
B. Defining NEPA’s Trigger: “Major Federal Actions”	298
Mayaguezanos Por La Salud Y El Ambiente v. United States	299
Notes.....	305
C. Defining NEPA’s Trigger: “Significantly Affecting the Quality of the Human Environment”	308
1. Introduction: The CEQ’s Regulations	308
2. Non-Environmental Impacts	310
Metropolitan Edison Company v. People Against Nuclear Energy	310
Notes.....	314
3. NEPA and Climate Change	316
WildEarth Guardians v. Jewell	319
Notes.....	327
D. Categorical Exclusions	332
Utah Environmental Congress v. Bosworth	333
Notes.....	340
III. The EIS Process and the Adequacy of the EIS	341
A. Overview	341
B. Contents of the EIS	344
Robertson v. Methow Valley Citizens Council.....	346
Notes.....	355
C. Supplemental Environmental Impact Statements (SEISs).....	358
Marsh v. Oregon Natural Resources Council	359
Notes.....	367
IV. Remedies for NEPA Violations.....	370
Monsanto Co. v. Geertson Seed Farms	370
Notes	376
Chapter 3. Protecting Endangered and Threatened Species in the United States and Globally.....	379
I. The Dual Focus of the Federal Endangered Species Act	379
A. The Interaction of International and Domestic Law in General... ..	379
B. The Endangered Species Act’s Dual Focus	382
II. The Endangered Species Act and the United States’s Domestic Regulation of Endangered and Threatened Species	384

A.	An Overview of the Endangered Species Act (ESA).....	384
B.	The Domestic Purposes of the Endangered Species Act	385
	Tennessee Valley Authority v. Hill	386
	Notes.....	398
C.	Section 4 of the Endangered Species Act: The Listing Decision ...	404
1.	Scientific Basis of the Listing Decision	404
	Northern Spotted Owl (<i>Strix Occidentalis Caurina</i>) v. Hodel.....	405
	Notes.....	409
2.	Timing of Agency Listing Decisions	413
3.	Timing of Citizen Petitions to List Species	413
4.	Litigating Timing.....	415
	Idaho Farm Bureau Federation v. Babbitt	416
	Notes.....	421
D.	Section 4 of the Endangered Species Act: Establishing Critical Habitat	427
	Otay Mesa Property, L.P. v. United States Department of the Interior	429
	Notes.....	434
E.	Section 7 of the Endangered Species Act	435
1.	Introduction and Overview	435
2.	Section 7(a)(1) and Conservation of Listed Species.....	436
	Carson-Truckee Water Conservancy District v. Clark	436
	Notes.....	439
3.	Section 7(a)(2) and the Jeopardy Determinations	442
a.	The Section 7 Consultation Process.....	442
b.	Applying Section 7(a)(2): Agency Discretion	443
	National Association of Home Builders v. Defenders of Wildlife.....	444
	Notes.....	454
c.	Applying Section 7(a)(2): Science, Climate Change, and Biological Opinions	456
	Natural Resources Defense Council v. Kempthorne	456
	Notes.....	470
F.	The Section 9 “Take” Prohibition	474
1.	Overview of Section 9	474
2.	The “Take” Prohibition.....	475
a.	Habitat Modification as “Harm”	475
	Babbitt v. Sweet Home Chapter of Communities for a Great Oregon.....	476
	Notes.....	486
b.	Causation and Section 9	489
	Strahan v. Coxe.....	490
	Notes.....	496
G.	Section 10 Exemptions from the Section 9 “Take” Prohibition	498
1.	Issuing the ITP	499

	Sierra Club v. Babbitt	499
	Notes.....	504
2.	The Scope of an ITP	507
	Loggerhead Turtle v. County Council of Volusia County, Florida	507
	Notes.....	520
III.	The Endangered Species Act and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).....	523
A.	Introduction to the Convention	523
	International Trade in Endangered Species of Wild Fauna and Flora	524
	Notes.....	531
B.	Implementation of CITES Through the Endangered Species Act.....	532
1.	Statutory Provisions Related to CITES	532
	Castlewood Products, L.L.C. v. Norton	534
	Notes.....	541
2.	Coordinating CITES, the ESA, and State Species Protections.....	543
	Man Hing Ivory and Imports, Inc. v. Deukmejian	543
	Notes.....	550
IV.	Other Intersections of Species Protection, International Law, and International Trade.....	551
A.	Introduction to the GATT and the WTO	551
B.	The GATT's Environmental Provisions	553
C.	The ESA and the GATT: The Shrimp/Turtle Dispute	554
	United States—Import Prohibition of Certain Shrimp and Shrimp Products	558
	Notes.....	571
Chapter 4. The Clean Air Act, the Risks of Pollution, and the Costs and Benefits of Environmental Regulation		575
I.	Introduction to the Clean Air Act.....	575
A.	Air Pollution Before the 1970 Amendments	575
	Boomer v. Atlantic Cement Company, Inc.....	576
	Notes.....	580
B.	Air Pollution After 1970: The Federal Clean Air Act Amendments of 1970.....	581
II.	Criteria Pollutants, NAAQS, SIPS, and the Clean Air Act's Cooperative Federalism	583
A.	Establishing Criteria Pollutants	583
1.	Regulatory Choices Under the Clean Air Act: Establishing Lead as a Criteria Air Pollutant	584
	Natural Resources Defense Council, Inc. v. Train	586
	Notes.....	591
2.	The Current Criteria Pollutants.....	591

B.	Setting NAAQS.....	593
	Lead Industries Association, Inc. v. Environmental Protection Agency	594
	Notes.....	607
C.	SIPs	614
	Union Electric Company v. Environmental Protection Agency	618
	Notes.....	625
D.	Federal Consistency Review	626
	Department of Transportation v. Public Citizen.....	627
	Notes.....	632
III.	Regulating Criteria Pollutant Emissions: Mobile Sources	634
A.	What Is a Mobile Source?.....	634
B.	Motor Vehicle Emission and Fuel Standards	635
1.	Motor Vehicle Emission Standards	635
	International Harvester Company v. Ruckelshaus	637
	Notes.....	652
2.	State Emissions Standards for Motor Vehicles	656
	Engine Manufacturers Association v. South Coast Air Quality Management District	656
	Notes.....	661
3.	Motor Vehicle Fuel Standards	662
C.	Nonroad Engines and Vehicles.....	665
IV.	Regulating Criteria Pollutant Emissions: Stationary Sources.....	667
A.	Stationary Sources, the “Bubble” Concept, and Deference to the EPA.....	667
	Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc.	668
	Notes.....	676
B.	Regulation of Stationary Sources Emitting Criteria Pollutants in Nonattainment Areas	678
	Southwestern Pennsylvania Growth Alliance v. Browner	682
	Notes.....	689
C.	Regulation of Stationary Sources’ Emissions of Criteria Pollutants in Attainment Areas	691
1.	The PSD Program.....	691
	Alaska Department of Environmental Conservation v. Environmental Protection Agency	694
	Notes.....	706
	In re: Shell Gulf of Mexico, Inc., Shell Offshore, Inc. (Frontier Discovery Drilling Unit)	707
	Notes.....	715
2.	Regional Haze	716
D.	New Source Review and Modified Stationary Sources	719
	Environmental Defense v. Duke Energy Corporation	722
	Notes.....	727

V.	Regulation of Hazardous Air Pollutants (HAPs).....	732
A.	Hazardous Air Pollutants	732
1.	Introduction	732
2.	Establishing the HAP List	732
	American Forest and Paper Association, Inc. v. Environmental Protection Agency	735
	Notes	739
B.	Regulation of Mobile Sources of HAPs.....	740
C.	Regulation of Stationary Sources of HAPs	740
1.	Major Stationary Sources and MACT	740
2.	Minor Stationary Sources of HAPs and the Urban Air Toxics Strategy	744
3.	The Role of Costs in Setting the NESHAPs.....	745
	Michigan v. Environmental Protection Agency	745
	Notes.....	755
4.	The Clean Air Act Emissions Standards Chart for Stationary Sources.....	757
VI.	Transboundary Air Pollution, Including Climate Change	759
A.	Introduction	759
B.	The Clean Air Act’s Interstate Air Pollution Provisions.....	759
1.	Addressing Interstate Air Pollution Through SIPs.....	759
	North Carolina v. Environmental Protection Agency	760
	Notes.....	771
2.	Ozone-Specific Provisions	772
3.	Nitrogen Oxides, Sulfur Dioxide, and Acid Rain.....	774
	State of Georgia v. Tennessee Copper Company	774
	Notes.....	775
4.	Other Interstate Trading Programs	780
	a. Clean Air Visibility Rule (CAVR)	780
	b. Clean Air Mercury Rule (CAMR).....	780
C.	International Air Pollution: Section 115 of the Clean Air Act	781
	Her Majesty the Queen in Right of Ontario v. United States Environmental Protection Agency.....	782
	Notes.....	786
D.	Using the Clean Air Act to Address Climate Change and Greenhouse Gases Emissions	787
1.	Are Greenhouse Gases “Pollutants” Under the Clean Air Act?	788
	Massachusetts v. Environmental Protection Agency	790
	Note	800
2.	The Impact of <i>Massachusetts v. EPA</i> on Federal Interstate Nuisance Law in Climate Change Cases	801
	American Electric Power Co., Inc. v. Connecticut	802
	Notes.....	811
3.	Regulation of Greenhouse Gas Emissions from Mobile Sources	811

a.	State Efforts Prior to Massachusetts v. EPA to Regulate Mobile Source Greenhouse Gas Emissions	812
b.	The EPA’s 2009 Mobile Source Endangerment Finding	814
c.	Mobile Source Greenhouse Gas Emissions Standards ..	815
4.	Regulation of Greenhouse Gas Emissions from Stationary Sources	818
a.	The Lack of a Section 108 Endangerment Finding and Greenhouse Gas Criteria Pollutants	818
b.	The Lack of Greenhouse Gas NAAQS	819
c.	Mandatory Reporting of Greenhouse Gas Emissions	819
d.	The Tailoring Rule	819
	Utility Air Regulatory Group v. Environmental Protection Agency	820
	Notes	838
e.	The Clean Power Plan	839
	FACT SHEET: Overview of the Clean Power Plan Cutting Carbon Pollution from Power Plants	840
	Notes	849
	Chapter 5. The Clean Water Act and Federalism	851
I.	Introduction to the Clean Water Act	851
II.	Triggering Federal Jurisdiction Under the Clean Water Act	853
A.	The Clean Water Act’s Basic Prohibition	853
B.	“Addition”	855
1.	Additions in General	855
	Dubois v. United States Department of Agriculture	855
	Notes	863
2.	The “Addition” Issue from Channeling Stormwater	869
	Los Angeles County Flood Control District v. Natural Resources Defense Council, Inc.	869
	Notes	872
3.	Additions of Dredged Material: The Redeposit Issue	874
	United States v. Deaton	874
	Notes	879
C.	“Pollutant”	881
	Association to Protect Hammersley, Eld, and Totten Inlets v. Taylor Resources, Inc.	882
	Notes	888
D.	Jurisdictional Waters	890
1.	“Navigable Waters”	890
a.	Overview: Navigable Waters, “Waters of the United States,” and the 1977 Regulations	890
b.	The U.S. Supreme Court Trilogy Interpreting “Waters of the United States”	893
c.	The Aftermath of Rapanos	903

d.	The 2015 Regulations Defining “Waters of the United States”	907
	Notes	913
e.	Legal Challenges to the New “Waters of the United States” Regulations.....	915
	Notes	920
2.	The “Contiguous Zone” and the “Ocean”	921
E.	Point Source	923
	United States v. Plaza Health Laboratories, Inc.	924
	Notes.....	933
	Decker v. Northwest Environmental Defense Center.....	936
	Notes.....	945
III.	NPDES Permits.....	947
A.	Section 1311: Technology-Based Effluent Limitations	949
1.	Effluent Limitations in General	949
2.	Variances from the EPA-Set Effluent Limitations.....	951
B.	Section 1312: Water-Quality-Related Effluent Limitations	953
1.	Section 1313: Water Quality Standards.....	953
	Natural Resources Defense Council, Inc. v. United States Environmental Protection Agency	954
	Notes.....	961
2.	Water-Quality-Related Effluent Limitations.....	963
3.	Translating Water Quality Standards into Permit Limitations	964
	American Paper Institute, Inc. v. United States Environmental Protection Agency	964
	Notes.....	968
C.	Section 1316: National Standards of Performance for New Sources	968
D.	Section 1317: Toxic and Pretreatment Effluent Standards.....	969
1.	Toxic Pollutants: Effluent Limitations and Effluent Standards	969
2.	Pretreatment Standards	970
E.	Section 1318: Monitoring, Reporting, and Inspection Requirements.....	972
F.	Section 1343: Ocean Discharge Criteria	972
G.	Water Intake Regulation	973
	Entergy Corporation v. Riverkeeper, Inc.	974
	Notes.....	985
H.	State Variations in SPDES Programs.....	987
	Maple Leaf Farms, Inc. v. Wisconsin Department of Natural Resources.....	988
	Notes.....	996
I.	Tribal Regulatory Jurisdiction Under the Clean Water Act	998
	Wisconsin v. Environmental Protection Agency	1000
	Notes.....	1007

J.	Enforcing the NPDES Permit Program	1009
IV.	Section 404 “Dredge and Fill” Permits	1011
A.	Introduction and Overview	1011
1.	Federal Agency Administration of the Act.....	1011
2.	Navigable Waters	1013
3.	Discharges of Dredged or Fill Material.....	1013
4.	Choosing Between Section 402 and Section 404 Permitting	1016
	Coeur Alaska, Inc. v. Southeast Alaska Conservation Council.....	1016
	Notes.....	1032
B.	The Terms of Section 404 “Dredge and Fill” Permits	1033
1.	The EPA’s Section 404(b)(1) Guidelines.....	1034
a.	The EPA’s Basic Approach.....	1034
b.	Special Aquatic Sites and Practicable Alternatives	1035
c.	When Is an Alternative “Available”?	1036
	Bersani v. United States Environmental Protection Agency.....	1036
	Notes.....	1043
2.	The Army Corps’ Public Interest Review	1044
C.	General Permits.....	1047
D.	Effect of a Section 404 Permit	1048
E.	Section 404 Permits and Regulatory Takings	1048
	Jentgen v. United States.....	1049
	Notes.....	1053
V.	Other Provisions for Protecting Water Quality.....	1056
A.	Nonpoint Source Pollution Regulation.....	1056
B.	TMDLs.....	1059
1.	TMDLs in General.....	1059
2.	Setting TMDLs	1060
	Natural Resources Defense Council, Inc. v. Muszynski.....	1060
	Notes.....	1069
3.	TMDLs and Nonpoint Source Pollution	1070
	Pronsolino v. Nastri.....	1072
	Notes.....	1081
C.	Section 401 Certifications	1083
1.	Introduction to Section 401 Certifications	1083
	PUD No. 1 of Jefferson County v. Washington Department of Ecology.....	1084
	Notes.....	1093
2.	Section 401 and Nonpoint Sources	1095
	Oregon Natural Desert Association v. Dombeck	1095
	Notes.....	1100
VI.	Transboundary Water Pollution.....	1101
A.	Interstate Nuisance Suits Regarding Water Quality.....	1101
B.	Interstate Compacts	1102

C.	Sections 401 and 402 of the Clean Water Act.....	1103
	Arkansas v. Oklahoma	1104
	Notes.....	1111
D.	International Water Pollution	1113
VII.	Future Directions for the Clean Water Act	1114
A.	How Effective Has the Clean Water Act Been?.....	1114
B.	Future Directions in Water Quality Protection: Watershed Management	1116
C.	Future Directions in Water Quality Management: Pollution Trading.....	1116
 Chapter 6. Environmental Citizen Suits and the U.S.		
	Constitution	1119
I.	Introduction to Citizen Environmental Litigation	1119
II.	Notice	1120
A.	The Basic Notice Requirement	1120
	Hallstrom v. Tillamook County	1121
	Notes.....	1126
B.	The Contents and Scope of Citizen Suit Notice Letters.....	1127
	Public Interest Research Group of New Jersey, Inc. v. Hercules, Inc.	1127
	Notes.....	1137
III.	Standing and Article III.....	1139
A.	The Elements of Constitutional Standing in Environmental Lawsuits	1139
1.	The Basic Constitutional Standing Test	1139
	Sierra Club v. Morton.....	1140
	Notes.....	1148
	Lujan v. Defenders of Wildlife	1150
	Notes.....	1156
	Summers v. Earth Island Institute	1156
	Notes.....	1165
2.	Standing for States	1166
	Massachusetts v. Environmental Protection Agency	1166
	Notes.....	1177
B.	The Zone of Interests Test	1179
	Bennett v. Spear	1179
	Notes.....	1189
IV.	The <i>Gwaltney</i> Issue	1189
	Gwaltney of Smithfield, Ltd. v. Chesapeake Bay Foundation, Inc. ...	1190
	Notes	1196
	Chesapeake Bay Foundation, Inc. v. Gwaltney of Smithfield, Ltd. ...	1196
	Notes	1203

V.	Standing, Part 2: <i>Gwaltney</i> and the Standing Analysis	1205
	Friends of the Earth, Inc. v. Laidlaw Environmental Services (TOC), Inc.....	1207
	Notes	1217
VI.	Citizen Suits and Government Enforcement.....	1218
VII.	Citizen Suits Against States: The Eleventh Amendment Hurdle.....	1221
	A. States’ Eleventh Amendment Sovereign Immunity and Environmental Citizen Suits	1221
	B. The “Arm of the State” Doctrine.....	1222
	C. The <i>Ex parte Young</i> Doctrine.....	1224
	Natural Resources Defense Council v. California Department of Transportation	1224
	Notes.....	1227
VIII.	Suits Against the Federal Government: Federal Facilities and Federal Sovereign Immunity.....	1229
	United States Department of Energy v. Ohio	1230
	Notes	1239
IX.	The Importance of Citizen Suit Enforcement.....	1241
	INDEX.....	1243