An Introduction to Environmental Law

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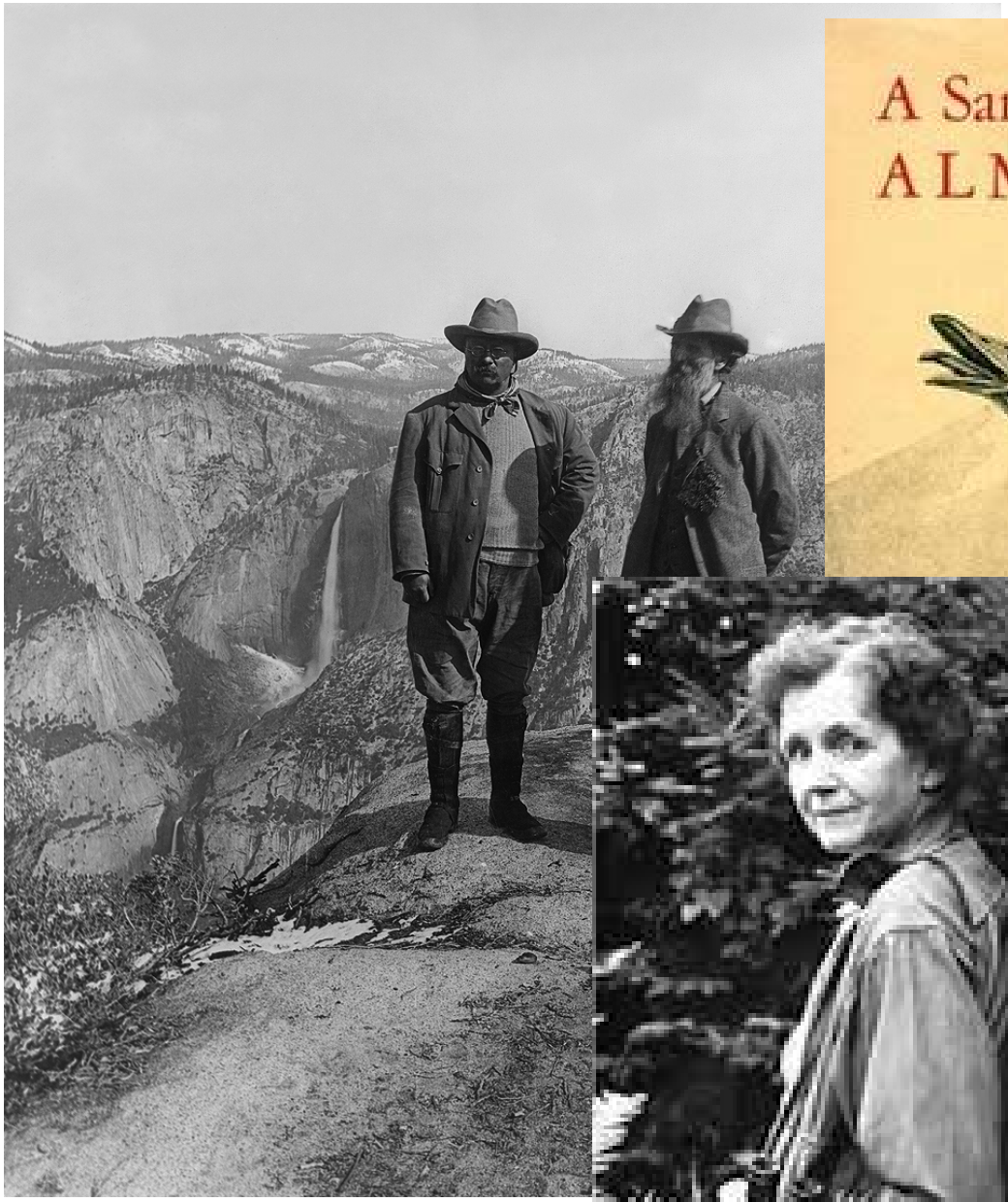
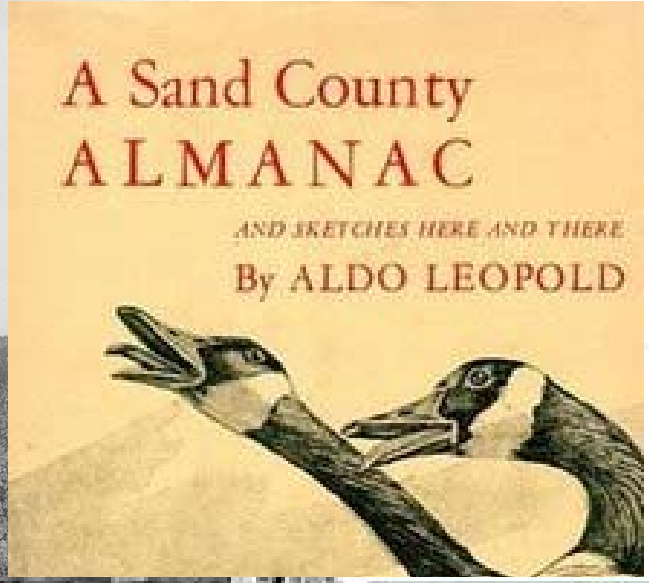
Santa Clara Law School
May 29, 2018

Agenda

I. Overview
II. The Common Law
III. The Shift to Modern Environmental Regulation
IV. The Administrative Procedure Act
V. Impact Assessment and the National Environmental Policy Act
VI. Air Pollution and the Clean Air Act – Env. Federalism & Ambient Env. Quality Standards
VII. Water Pollution and the CWA – Permitting System
VIII. Enforcement and Citizen Suits
IX. Recruiting Market Forces and Information Disclosure

I. Overview: The Past, Present and Future of Humanity, the Environment and the Law

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AND SKETCHES HERE AND THERE
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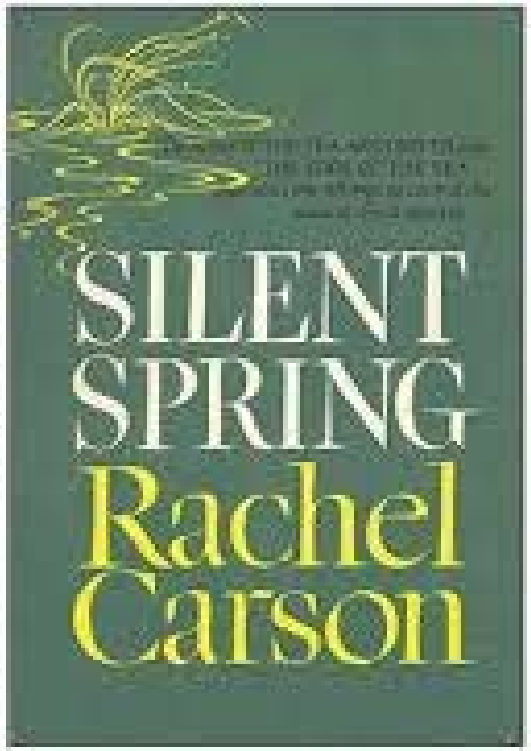

SILENT
SPRING
Rachel
Carson

ON CARE FOR OUR COMMON HOME
LAUDATO SI'
POPE FRANCIS
ENCYCLICAL LETTER
Environmental Justice:
Examining the Environmental Protection Agency's Compliance and Enforcement of Title VI and Executive Order 12,898
September 2016
UNITED STATES COMMISSION ON CIVIL RIGHTS
MARCH

Warren County, NC (1982)

Source: Matt Cooper, Jenn Labalme, Getty, Screenshot Toxic Racism Documentary

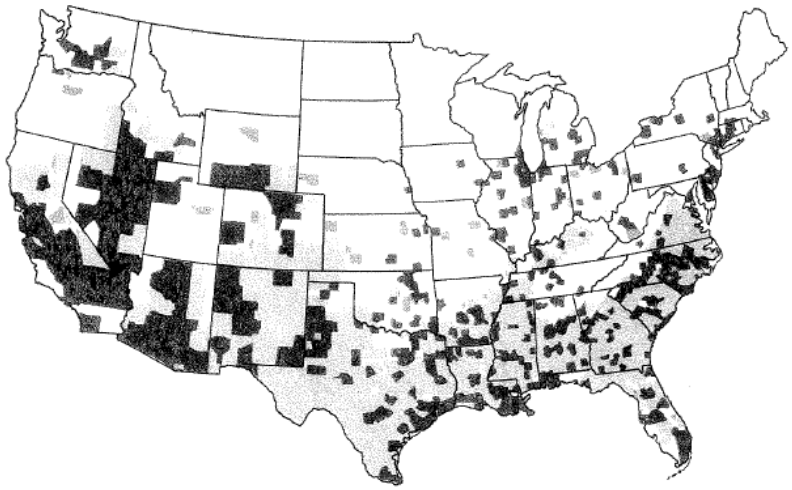
General Accounting Office

Siting Of Hazardous Waste Landfills And Their Correlation With Racial And Economic Status Of Surrounding Communities

This report provides information on the racial and economic characteristics of communities surrounding four hazardous waste landfills in three southeastern States. It also describes Federal criteria for siting landfills and provides data on public participation and how the Environmental Protection Agency's (EPA's) proposed hazardous waste facility permit changes will affect it.

TOXIC WASTES AND RACE
In The United States

A National Report on the Racial and Socio-Economic Characteristics of Communities with Hazardous Waste Sites



COMMISSION FOR RACIAL JUSTICE
United Church of Christ
©1987

Nations Unies
Conférence sur les Changements Climatiques 2015
COP21/CMP11
Paris, France
PRESIDENT
SECRETAIRE
Arnaud Bouissou - MEDDE / SG COP21

II. The Common Law

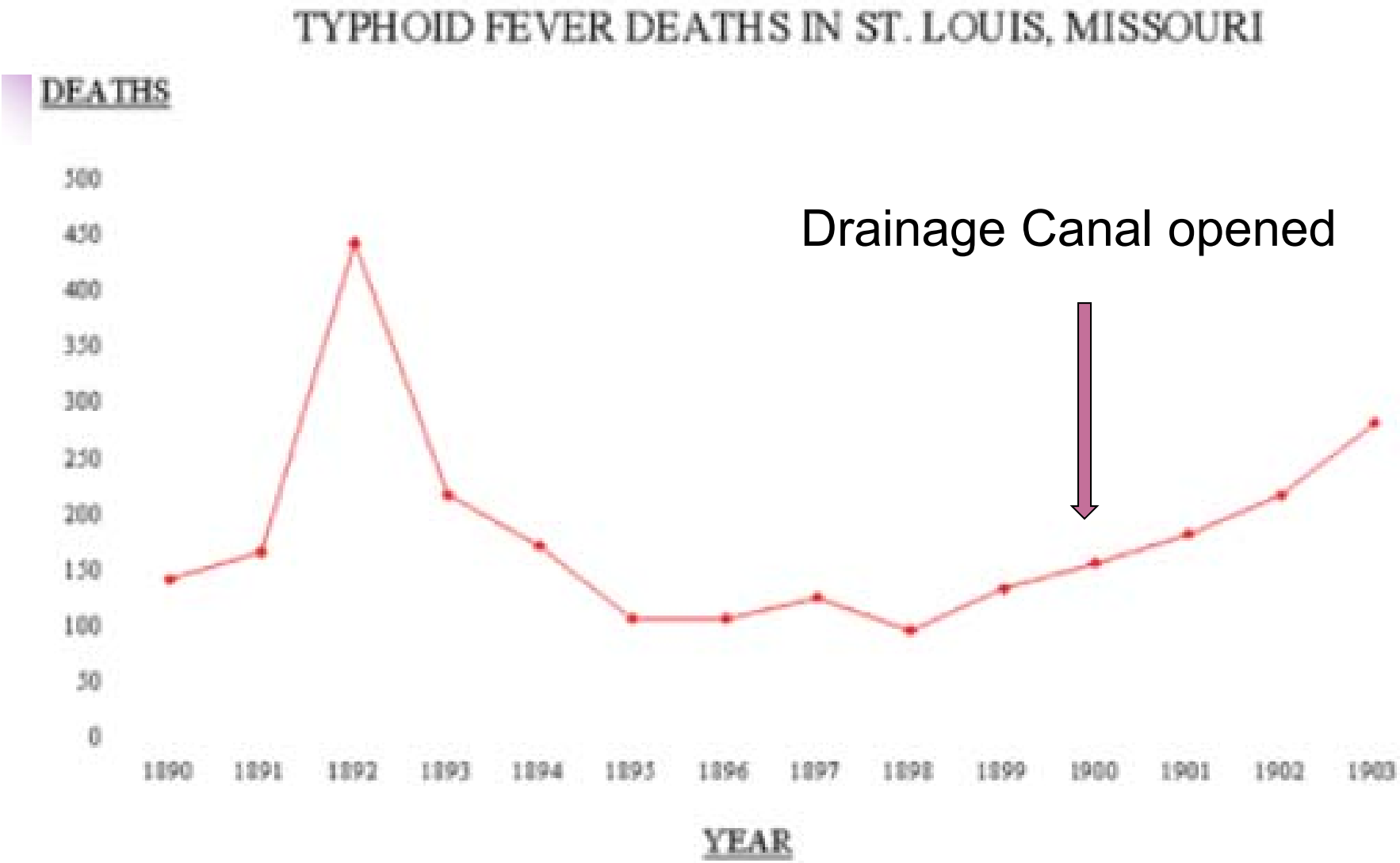
Common Law Claims Relevant for Environment

- Trespass
  - Intentional interference with the exclusive right of possession
- Private Nuisance
  - Non-trespassory invasion of another's interest in the private use and enjoyment of land [and conduct is intentional and unreasonable]
- Public Nuisance
  - Unreasonable interference with right common to general public
  - Includes significant interference with public health, public safety, public peace, public comfort, or the public convenience, as well as conduct proscribed by statute, ordinance or administrative regulation

Madison v. Ducktown Sulphur (1904)

http://tomclarkblog.blogspot.com/2010/10/marion-post-wolcottts-eliot-goin-for.html

Missouri v. Illinois (1906)


TYPHOID FEVER DEATHS IN ST. LOUIS, MISSOURI
DEATHS
500
450
400
350
300
250
200
150
100
50
0
1890
1891
1892
1893
1894
1895
1896
1897
1898
1899
1900
1901
1902
1903
YEAR
Drainage Canal opened

Limitations of Common Law Adjudication

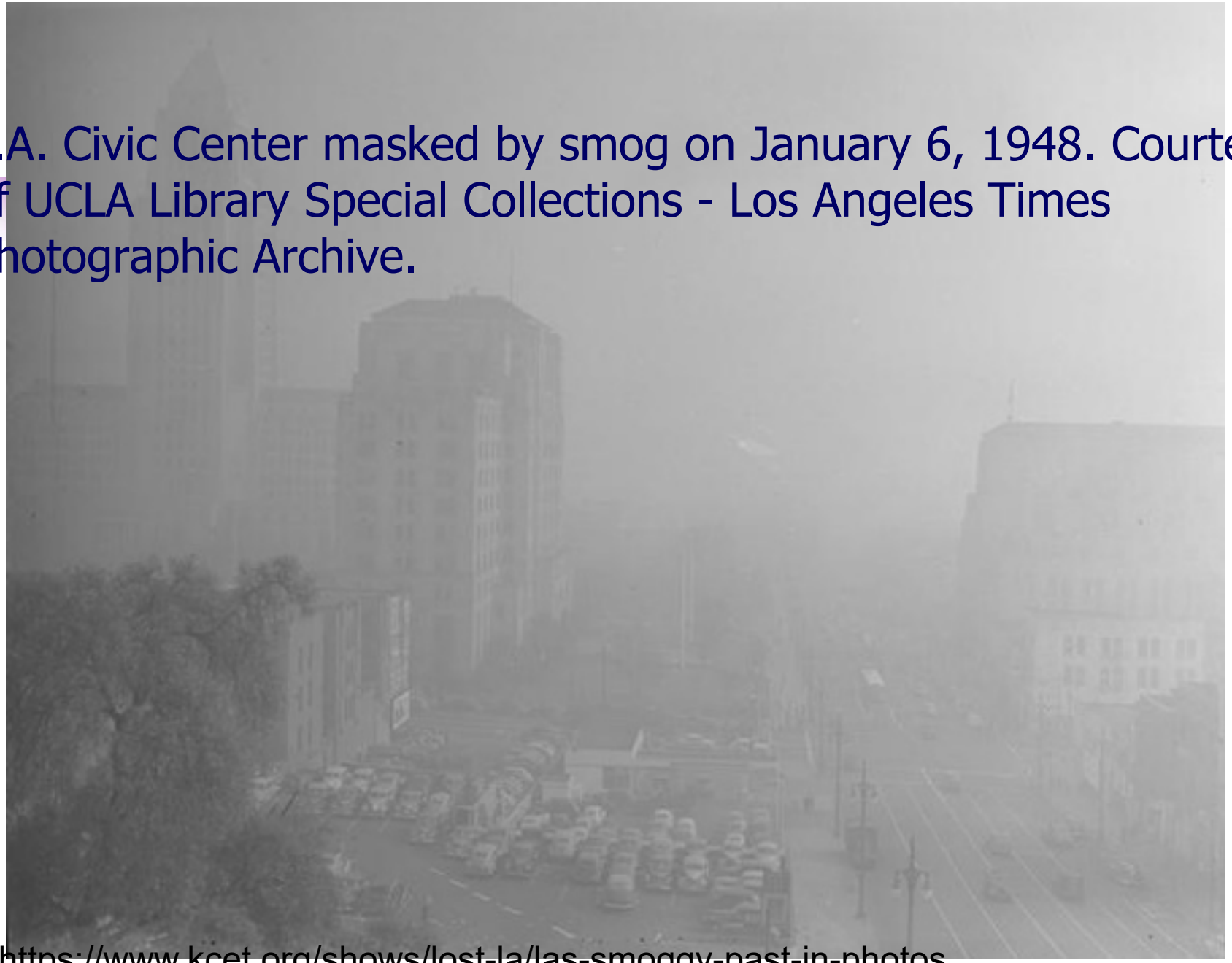
- Inadequacy of tort damages as deterrence
  - adequate valuation of injury
  - Cost benefit analysis
- Diffuse Harm and Diffuse Causation
  - Causation proof
  - Latency of harm
- Retrospective in character
  - need for prospective regulation/prevention of harm
- Bipolarity of cases
  - Many social problems are multi-polar
- Challenge of complex technical/scientific issues, e.g. environment
  - Judge is generalist lawyer
  - Principled decision-making vs. negotiated accommodation of interests
- Cost of Litigation/Transaction Costs

The Continuing Relevance of Common Law Nuisance

- Continuing relevance of common law as a default/background, gap-filling method for regulation
  - State nuisance law is component of local regulation of environment
  - Common law concepts incorporated into modern statutes
- Federal regulation does not replicate all functions of common law
  - "Private environmental law"
  - Damages, Individual's interest in the environment

III. The Shift to Modern Environmental Regulation

[Why the Common Law was inadequate for changing times]



L.A. Civic Center masked by smog on January 6, 1948. Courtesy of UCLA Library Special Collections - Los Angeles Times Photographic Archive.

https://www.kcet.org/shows/lost-la/las-smoggy-past-in-photos

Donora, PA Smog Deaths

What Donora looked like at noon on Oct. 29, 1948. The deadly smog lasted 5 days. At the end, 20 people were dead and half of town fell ill.

http://old.post-gazette.com/magazine/19981029smog1.asp

October 26, 1948, a dense haze blanketed the town–this was a common occurrence, but unlike previous episodes, this fog failed to blow away. A temperature inversion in the valley trapped the noxious emissions from the two plants, and soon people began to fall ill.

https://www.atlasobscura.com/places/donora-smog-museum-and-historical-society

Cuyahoga River Fire

http://www.pophistorydig.com/wp-content/uploads/2014/05/cuyahoga_river_fire_1952.jpg

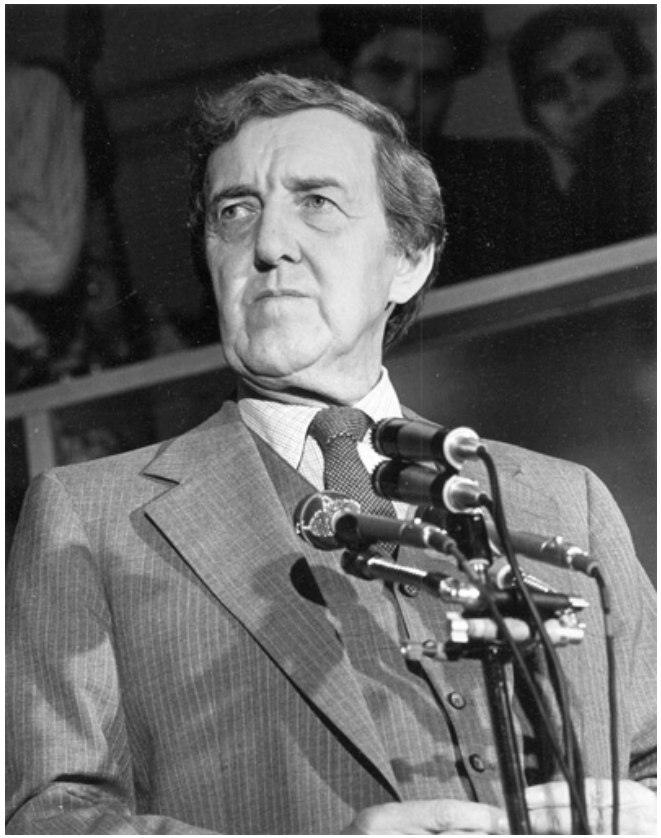
1952: An earlier Cuyahoga River fire, caused by the river's severe pollution, shows firemen on railroad bridge at left battling the blaze on the river below.

What was the Government Response? – The Phases

- Research Support to state regulation
- Funding
- Standard Setting
- Direct Regulation and Enforcement

- Centralization of Regulatory Authority
- States --→ Feds
- Race to the bottom vs. lack of capacity

The Creation of the Modern US Environmental Laws



Reorganization Plan No.3 of 1970

RICHARD NIXON.

THE WHITE HOUSE, March 12, 1970.

REORGANIZATION PLAN NO. 3 OF 1970

Eff. Dec. 2, 1970, 35 F.R. 15623, 84 Stat. 2086, as amended Pub. L. 98–80, § 2(a)(2), (b)(2), (c)(2)(C), Aug. 23, 1983, 97 Stat. 485, 486

Prepared by the President and transmitted to the Senate and the House of Representatives in Congress assembled, July 9, 1970, pursuant to the provisions of Chapter 9 of Title 5 of the United States Code.

ENVIRONMENTAL PROTECTION AGENCY

SECTION 1. ESTABLISHMENT OF AGENCY

(a) There is hereby established the Environmental Protection Agency, hereinafter referred to as the "Agency."

(b) There shall be at the head of the Agency the Administrator of the Environmental Protection Agency, hereinafter referred to as the "Administrator." The Administrator shall be appointed by the President, by and with the advice and consent of the Senate.

(c) There shall be in the Agency a Deputy Administrator of the Environmental Protection Agency who shall be appointed by the President, by and with the advice and consent of the Senate. The Deputy Administrator shall perform such functions as the Administrator shall from time to time assign or delegate, and shall act as Administrator during the absence or disability of the Administrator or in the event of a vacancy in the office of Administrator.

(d) There shall be in the Agency not to exceed five Assistant Administrators of the Environmental Protection Agency who shall be appointed by the President, by and with the advice and consent of the Senate. Each Assistant Administrator shall perform such functions as the Administrator shall from time to time assign or delegate. [As amended Pub. L. 98–80, § 2(a)(2), (b)(2), (c)(2)(C), Aug. 23, 1983, 97 Stat. 485, 486.]

SEC. 2. TRANSFERS TO ENVIRONMENTAL PROTECTION AGENCY

(a) There are hereby transferred to the Adminis-

Major U.S. Environmental Statutes

1960

- 1963 **CAA** - Clean Air Act (amended in 1965, 1966, 1967, 1969, 1970, 1977, 1990)
- 1969 **NEPA** – National Environmental Policy Act

1970

- 1970 **CAA** – Clean Air Act amendment
- 1972 **FWPCA/CWA** – Fed Water Pollution Ctrl Act -> Clean Water Act (revisions 1987, 1981, 1987, 1990)
- 1972 Marine Protection, Research, and Sanctuaries Act
- 1972 **MMPA** – Marine Mammal Protection Act
- 1972 **CZMA** – Coastal Zone Management Act
- 1973 **Endangered Species Act**
- 1974 **SDWA** – Safe Drinking Water Act
- 1975 HMTA – Hazardous Materials Transportation Act
- 1976 **TSCA** –Toxic Substances Control Act
- 1976 **RCRA** – Resource Conservation and Recovery Act
- 1977 **CAA** amendment
- 1978 **CWA** – Clean Water Act amended FWPCA

1980

- 1980 **CERCLA** – Comprehensive Env. Response, Compensation, and Liability Act (Superfund)
- 1986 **SARA** – Superfund Amendment and Reauthorization Act, **amended CERCLA**
- 1986 **SDWA** amendment
- 1987 **Water Quality Act** amends **FWPCA**

1990

- 1990 **CAA** Amendment
- 1994 **MMPA** amendment
- 1996 **SDWA** amendment

2000

- 2002 Small Business Liability Relief and Brownfields Revitalization Act **amended CERCLA**

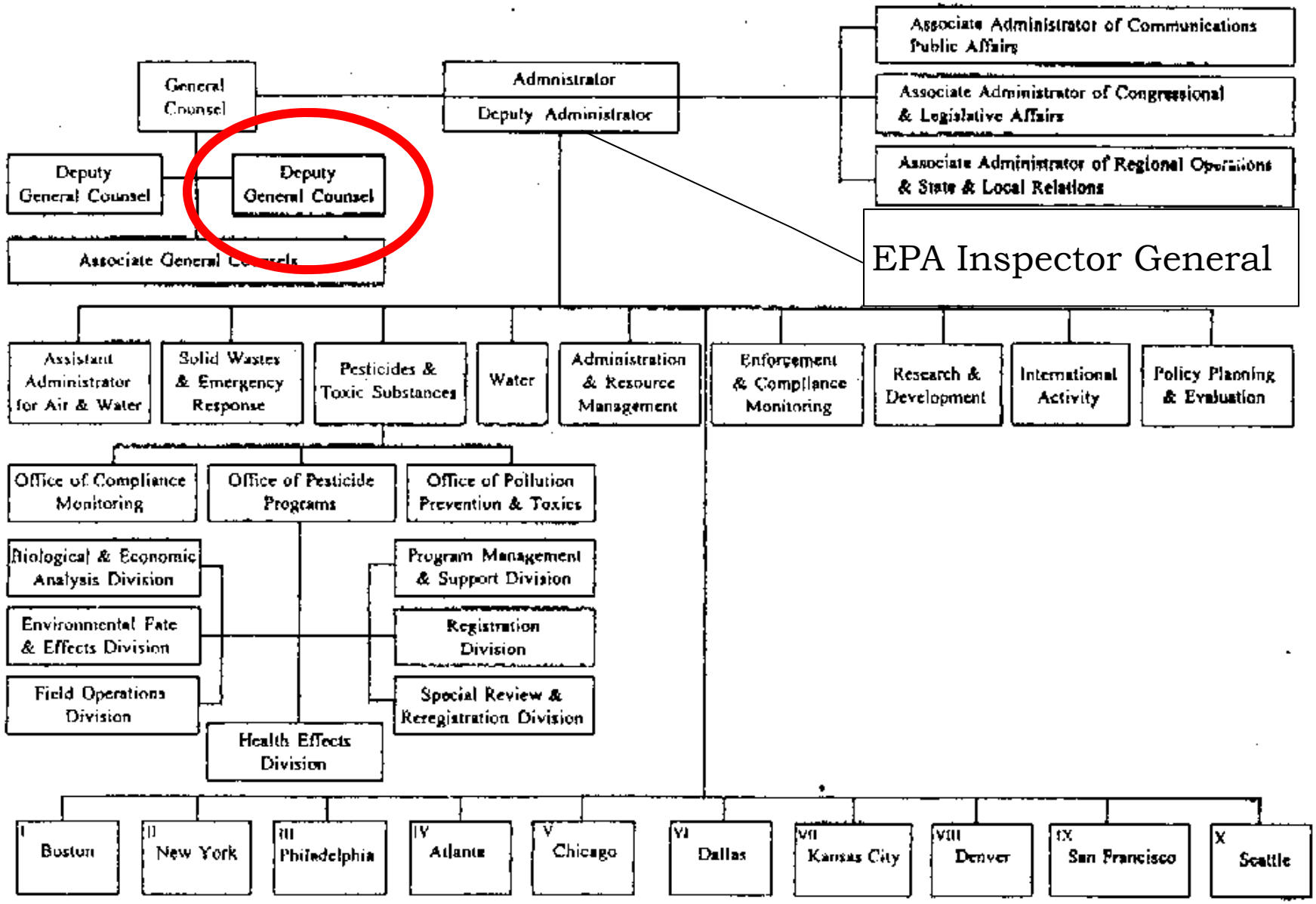
2010

- 2016 **Lautenberg Act** - The Frank R. Lautenberg Chemical Safety for the 21st Century act **amended TSCA**

Federal Agencies with Environmental Responsibilities

- Environmental Protection Agency
- Dept. of Interior
- Dept. of Commerce
- Dept. of Agriculture
- Council on Env. Quality
- Food & Drug Administration
- OSHA
- Nuclear Regulatory Commission
- Dept. of Transportation
- Army Corps of Engineers
- Coast Guard
- Dept. of Energy

EPA ORGANIZATIONAL CHART



IV. Administrative Law and the APA of 1946

Relevance of Administrative Law and APA to Business Law Practice

- Rulemaking processes & Federal standards
  - Corporate/Securities/Banking – SEC, Federal Reserve
  - Industrial operations (pollution standards)
  - Privacy/IT – FTC
- Federal licenses
  - Pollution Permits
  - Communications licenses – FCC
  - International Trade/Import/Export licenses – Treasury, Commerce Dept.
- Administrative litigation (preceding judicial litigation)
  - Federal enforcement proceedings (licenses and standards)
  - Social Security, EEOC, FTC, EPA, Immigration,

Key Characteristics of US System

- Tradition of Common Law Based on Historical preference in US for markets to solve social problems (over government regulation) [vs. central planning]

Historical Context of Administrative Law

- Pre-20th century, most important manifestations of central government in post offices, custom houses, etc.
- Rapid economic development and railroad growth led to need for government regulation to prevent market manipulation (antitrust) and protect labor, consumers, and public interest → result was Roosevelt's "New Deal" legislation and many new administrative agencies
- Lots of criticism in 1930s of new federal agency powers and their procedures
- Enactment of Administrative Procedure Act in 1946 (5 U.S.C. §§ 551-557, 701-706

Key Characteristics of US Legal System

- Historical preference in US for markets to solve social problems (over government regulation) [vs. central planning]
  - Government bureaucracy does not have as long a historical tradition as in Continental Europe or China
  - Bureaucratic Administration is departure from common law [private law] system
- Administrative law designed to control Agencies
  - Ensure accountability to and of Congress/President
- Agencies combine functions of all three branches of government
  - Raises separation of power concern

How Agencies Act: What do they do?

- Bureaucratic administration (executive)
  - [Administering government benefits, collecting information, administering government contracts, etc.]
- Investigation/enforcement (executive)
- Rule Making/regulations (legislative)

Agency Rule Making Process (Promulgating Regulations)

1. Inform public (via FR) of a proposed rule/regulation
   - Usually includes data and agency analysis
2. Give public an opportunity to comment on rule/regulation (hearings if formal rule making)
3. Agency review/analysis and response to comments
4. Publication of final "Record of Decision" (ROD) of comments, agency response (including any changes to the rule), and final version of rule/regulation in Federal Register (FR)
5. Rule/regulation takes effect 30 days after publication

How Agencies Act – What do they do?

- Bureaucratic Administration (executive)
  - [Administering government benefits, collecting information, administering government contracts, etc.]
- Investigation/Enforcement (executive)
- Rule Making/Regulations (legislative)
- Adjudication (judicial)

What is Adjudication?

- Adjudication is the "agency process for the formulation of an order."
  - Includes issuance of a license or permit
- Usually means any agency action affecting (e.g. providing a benefit or imposing punishment) **a specific business or person**

How Agencies Act – What do they do?

- Bureaucratic Administration (executive)
  - [Administering government benefits, collecting information, administering government contracts, etc.]
- Investigation/Enforcement (executive)
- Rule Making/Regulations (legislative)
- Adjudication (judicial)

- What is the role of the Administrative Procedures Act?

Role of the APA

- APA is designed to
  - impose procedural requirements
  - restrict/limit the exercise of **DISCRETION** in agency rule making and adjudication
- In addition to other internal controls
  - Internal policies/regulations
  - Political control (political appointees of President)
  - Agency Inspector General

Law Applicable to Agencies

- U.S. Constitution (limitations on federal government powers, individual rights protections, etc.)
- **Administrative Procedure Act (1946)**
  - **impose procedural (& semi-substantive) requirements on agencies**
- Substantive Congressional statutes
  - delegates power and imposes limitations
  - can impose additional procedural requirements
- Agency regulations
  - imposes additional procedural requirements
  - sets out agency policies

Structure of the Administrative Procedure Act (1946)

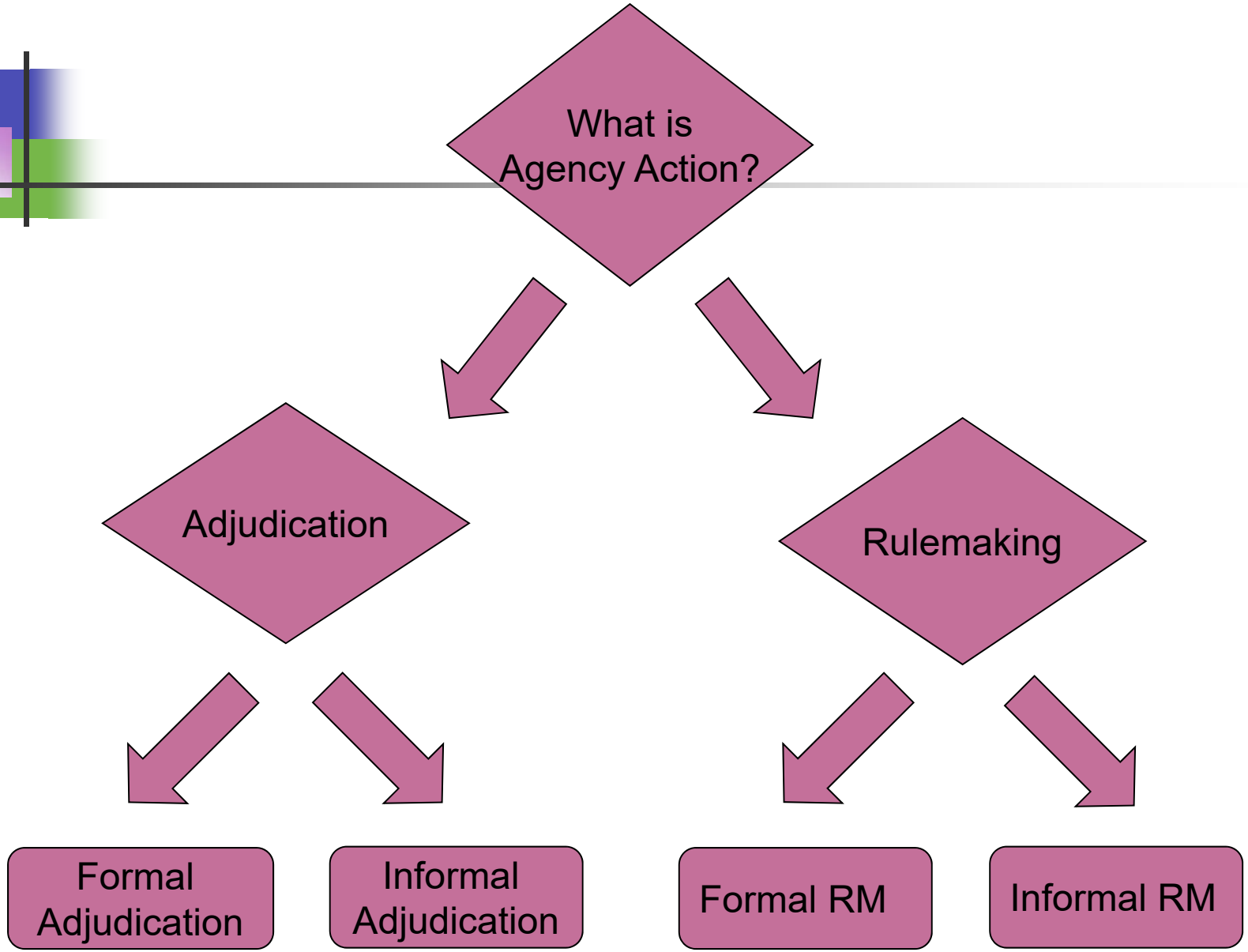
- § 551 – Definitions
- § 552 – [Freedom of Information Action (FOIA)]
- § 553 – Rule Making (RM) (Formal & Informal)
- § 554 – Formal Adjudication
- § 556 – Hearings for Formal Adjudication & RM
- § 557 – Decision Proc. for Formal Adjud. & RM
- §§ 701-706 – Judicial Review (706 – Scope/Standards of Review)

Role of the APA

- APA is designed to
  - impose procedural requirements
  - restrict/limit the exercise of **DISCRETION** in agency rule making and adjudication
- APA distinguishes between formal and informal agency processes

4 Types of Agency Activities Relevant to the APA

- Formal rule making (§§ 553(c), 556-557)
- Formal adjudication (§§ 554, 556-557)
- Informal rule making (Notice & Comment Rule Making, § 553)
- Informal adjudication – no APA procedures


What is Agency Action?
Adjudication
Rulemaking
Formal Adjudication
Informal Adjudication
Formal RM
Informal RM

Role of the APA

- APA is designed to
  - impose procedural requirements
  - restrict/limit the exercise of **DISCRETION** in agency rule making and adjudication
- APA distinguishes between formal and informal agency processes
- Why distinction?
  - "formal" has many more procedural requirements and is quasi-judicial in nature
  - "formal" process required if legislation says so

What about enforcement?

- Judicial enforcement/litigation (in the courts)
  - not covered by APA
- Administrative enforcement (litigation before an administrative tribunal, within the government agency)
  - Usually subject to the requirements governing adjudication (formal or informal)
  - However, the investigative process and exercise of prosecutorial discretion is generally NOT subject to judicial review

Judicial Review

- Usually requested when business or individual (or NGO) is unhappy with agency decision
- Deference by courts to agency decision depends on issue

Judicial Deference to Agency Decision

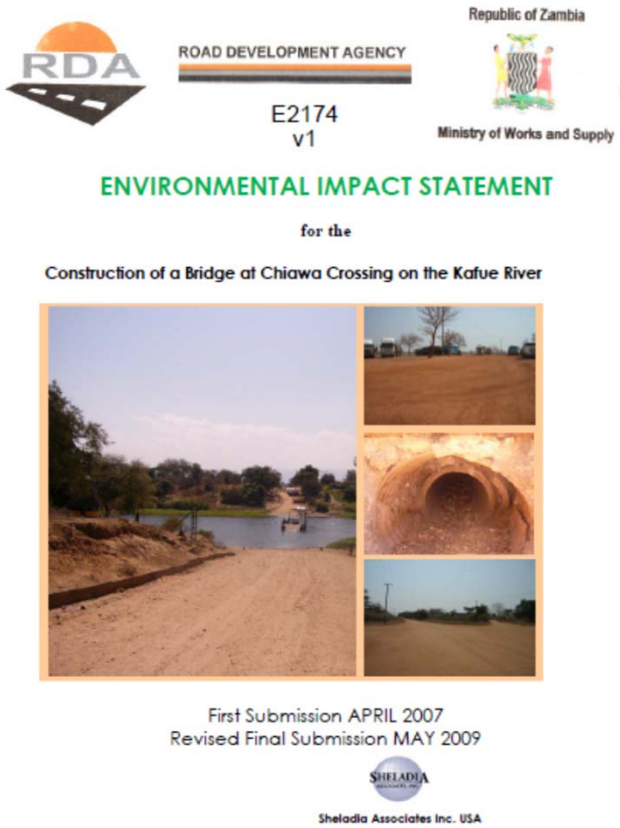
- constitutional law issue – no deference
- procedural violation - no deference
- statutory law compliance – "Chevron" deference
- substantive agency decision ("Findings and Conclusions") – some deference;
  - court essentially asks whether the agency decision was **substantively "reasonable"** ("arbitrary & capricious," "substantial evidence")

Chevron v. NRDC Test

1. Did Congress delegate authority to the agency generally to make rules carrying the force of law, and was rule promulgated under that authority?
2. Is the statutory language ambiguous?
3. If statute silent or ambiguous, is agency's interpretation reasonable?

V. National Environmental Policy Act

Environmental Impact Assessments


RDA

ROAD DEVELOPMENT AGENCY

E2174
v1

Republic of Zambia

Ministry of Works and Supply

ENVIRONMENTAL IMPACT STATEMENT

for the

Construction of a Bridge at Chiawa Crossing on the Kafue River

First Submission APRIL 2007
Revised Final Submission MAY 2009

SHELADIA

Sheladia Associates Inc. USA

What is Environmental Impact Assessment?

- EIA is a process that generates a written document assessing significant environmental impacts of a project, activity or program
- Its primary functions:
  - Assist Decision-maker/improve decision
  - Engage Public/Public Feed-back
  - Accountability of Decision-maker
  - Deter abuses/shadow of litigation/facilitate litigation
  - Shape future actions of agency

National Environmental Policy Act §102(2)(C)

"[A]ll agencies of the federal government shall -- . . . include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement . . . on --

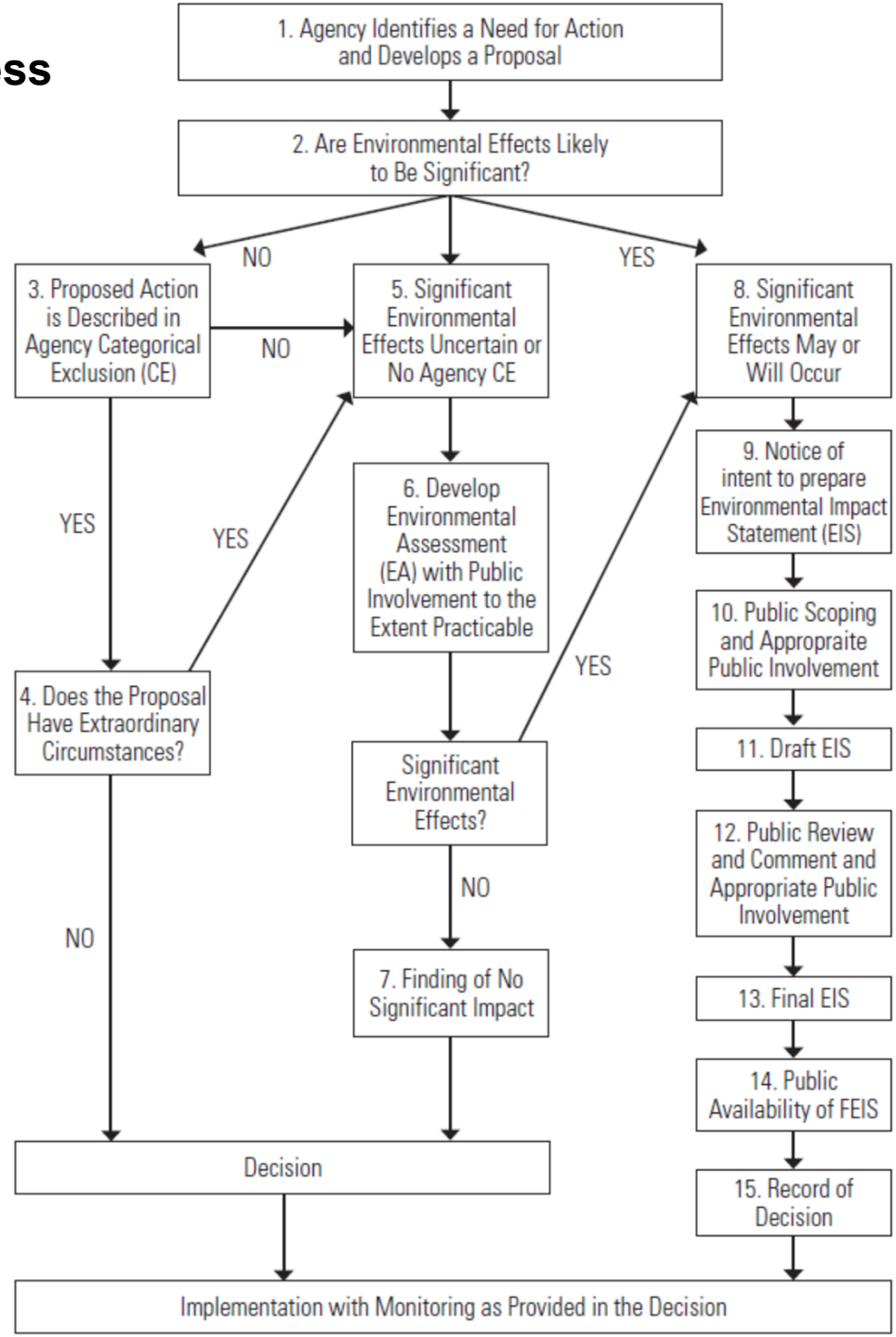
- (i) the environmental impact of the proposed action,
- (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,
- (iii) alternatives to the proposed action,
- (iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and
- (v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

Creation of CEQ by NEPA

- CEQ as lead agency on NEPA but NEPA imposes obligations on all agencies
- But NEPA applies to all agencies
- has been uniquely successful environmental regulatory tool across the world

The NEPA Process

A Citizen's Guide to the NEPA page 8



2 Key Questions in NEPA Analysis

1. When is NEPA required/what's the trigger?
2. What has to be in the NEPA document

National Environmental Policy Act §102(2)(C)

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1. When is an EIS required? [Trigger]

- "proposals for legislation and other major Federal actions significantly affecting the quality of the human environment"
  a. A "proposal . . for a major federal action"
  b. "significantly affecting the quality of the human environment"

a. Proposal for federal action

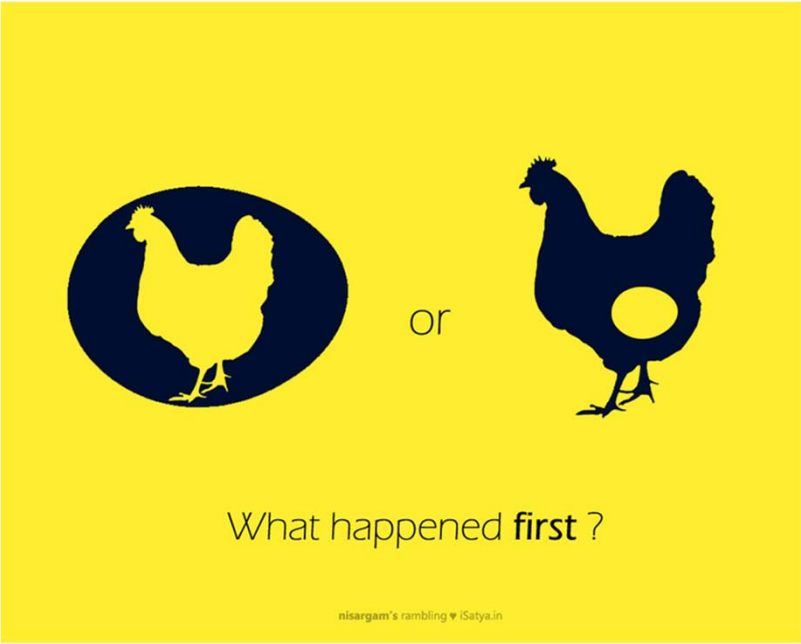
- NEPA process is triggered only when there is "proposal" for federal action (Kleppe v. Sierra Club)
  - CEQ reg 1508.23 define proposal as an action at stage when (1) Agency has a goal, (2) active preparation to make a decision, and (3) effects can be meaningfully evaluated

What is a Federal Action?

- Rules, regulation
- Specific projects, including federal permits for private projects
- Formal plans that guide or prescribe use of federal resources (for future agency action)
- Programs, group of concerted agency actions
- But?:
  - Segmented pieces - depends
  - Litigation settlement - no
  - Inaction – depends on whether duty to approve/tacit approval
  - Funding - depends

What is "significantly affecting the quality of the human environment"

- How do we answer that question?



b. "Significant Effects" Trigger

- If an EA (Environmental Assessment) establishes that an action "may have a significant effect upon the environment, an EIS must be prepared." (NPCA v. Babbitt)
  - CEQ reg 1508.27 evaluates "significantly" by reference to (1) context and 2) intensity (severity) of impact

"Significance" of Action (§1508.27)

1. Context – society, affected region, affected interests, and locality
2. Intensity – severity of impact, short-term & long-term
   1) Beneficial and adverse
   2) Effect on public health and safety
   3) Unique characteristics
   4) Controversial effects
   5) Uncertain effects, unique or unknown risks
   6) Precedent or decision in principle for future
   7) Relationship to other actions, if cumulatively significant; can't avoid by terminating temporarily or segmenting
   8) Effect on national historica places or significant cultural, scientific, historical resources
   9) Effect on endangered species
   10) Potential violation of fed, state or local environmental protection law

b. "Significant Effects" Trigger

- If an EA (Environmental Assessment) establishes that an action "may have a significant effect upon the environment, an EIS must be prepared." (NPCA v. Babbitt)
  - CEQ reg 1508.27 evaluates "significantly" by reference to (1) context and 2) intensity (severity) of impact
- EIS also triggered when environmental effects are highly uncertain and uncertainty can be resolved (or speculation avoided) by further collection of data (NPCA v. Babbitt)
- [FONSI (finding of no significant impact) (CEQ Reg 1508.13) may be justified when adoption of mitigation measures sufficiently reduces impacts
  - But mitigated FONSI not warranted if insufficient certainty that mitigation measures are adequate in light of potential environmental harms (NPCA v. Babbitt)]

2. What has to be in the NEPA document? [Content]

- Simple Answer?

"a detailed statement . . . on --

- (i) the environmental impact of the proposed action,
- (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,
- (iii) alternatives to the proposed action,
- (iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and
- (v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

What is the Content?

- Levels of NEPA Review
- Range of Actions, Alternatives, Impacts
- Segmentation & Cumulative Impacts
- Is mitigation required?
- What if there are significant adverse environmental impacts?

The Question of Content: Levels of NEPA Review

[Terminating NEPA Analysis early]

- 1. Categorical Exclusion
- 2. Environmental Assessment
- 3. Environmental Impact Statement

Scope of analysis (CEQ 1508.25)

- Range of Actions
  - Connected actions
  - Cumulative actions
  - Similar actions
- Alternatives
  - No action alternative
  - Other reasonable courses of action
  - Mitigation measures (not in proposed action)
- Impacts
  - Direct, indirect, and cumulative

Adequacy of EIS - Alternatives

- Agency has duty to study all alternatives that appear reasonable and appropriate for study as well as significant alternatives suggested by other agencies and the public during comment period (Dubois v. USDA)
- Alternatives discussion requires information sufficient to permit agency to rigorously explore and objectively evaluate and make a reasonable choice among alternatives (Dubois)

What is the scope of EIS analysis?

- A comprehensive EIS is required "where several proposed actions are pending at the same time . . . that will have cumulative or synergistic environmental impact upon a region." (Kleppe v. S.C.)
  - In Kleppe v. S.C., agency was NOT ARBITRARY in its CHOICE that actions NOT connected (i.e. deference))
  - CEQ regs (1508.25(a)(1)), connected actions are those that "automatically trigger other actions," "cannot or will not proceed unless other actions taken," "are interdependent parts of a larger action and depend on larger action for their justification"

Cumulative Impacts (CEQ Reg 1508.7)

- Cumulative impact is impact that result from incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of who undertakes it.

Adequacy of EIS – Mitigation Measures

- NEPA does not mandate particular results, but simply prescribes the necessary process (Methow Valley)
  - NEPA "merely prohibits uninformed – rather than unwise – agency action"
- NEPA does mandate detailed discussion of possible measures to mitigate adverse env. consequences (Methow Valley)
- **NEPA does NOT mandate that a complete mitigation plan be actually formulated and adopted.**

- Calvert's Cliff v. AEC – role of NEPA in agency decision-making
- Strycker's Bay v. Karlen – process v. substance

- Should NEPA REQUIRE Mitigation? Can impact assessment be Effective without a mitigation requirements? [Process vs. Substance]

VI. Air Pollution and the Clean Air Act

Clean Air Act – Structure

- Comprehensive Regulatory Scheme
- Effectuated by 4 regulatory strategies to address pollution
- Source Categories/Sectors Covered
  - Stationary Sources
  - Mobile Sources
  - Stratospheric Ozone Program
  - Acid Rain Program
  - Climate Programs?

4 Primary CAA Regulatory Strategies

1. Harm-based Regulation for National Ambient Air Quality Standards (NAAQS)
   - Criteria pollutants: Carbon monoxide, Nitrogen oxide, PM10, PM2.5, ozone, sulfur dioxide; lead added later

4 Primary CAA Regulatory Strategies

1. Harm-based Regulation for National Ambient Air Quality Standards (NAAQS)
2. Best Available Technology (new stationary sources, hazardous air pollutants, acutely toxic even in small amounts)
3. Technology-forcing (Title II for auto and truck tailpipe emissions)
4. Market-enlisting (Title IV for acid rain program/emission trading)

Source Categories & Sectors

1. Stationary Sources (power plants, refineries, factories, etc.)
   a) Harm-based Regulation
   b) Best Available Technology

- Effectuated by Cooperative Environmental Federalism
  - primarily subject to state control
  - Feds set standards, provide funding
  - Implemented by States – State Implementation Plans
  - Feds supervise SIPs, Take-over with FIPs if non-compliance

Source Categories & Sectors

1. Stationary Sources
2. Mobile Sources (cars, trucks, buses, trains, planes)

- Federal preemption - federal regulation of tail pipe emissions by CAFÉ/fuel economy standards
  - Technology-based standards (technology forcing)
  - Exception for California car waiver & opt-in by other jurisdictions
  - States retain control over transportation control plans, mass transit, etc.

Source Categories & Sectors

1. Stationary Sources
2. Mobile Sources
3. Stratospheric Ozone Protection program (Title VI)
   - Implements Montreal Protocol on Ozone-Depleting Substances (CFCs, etc.)

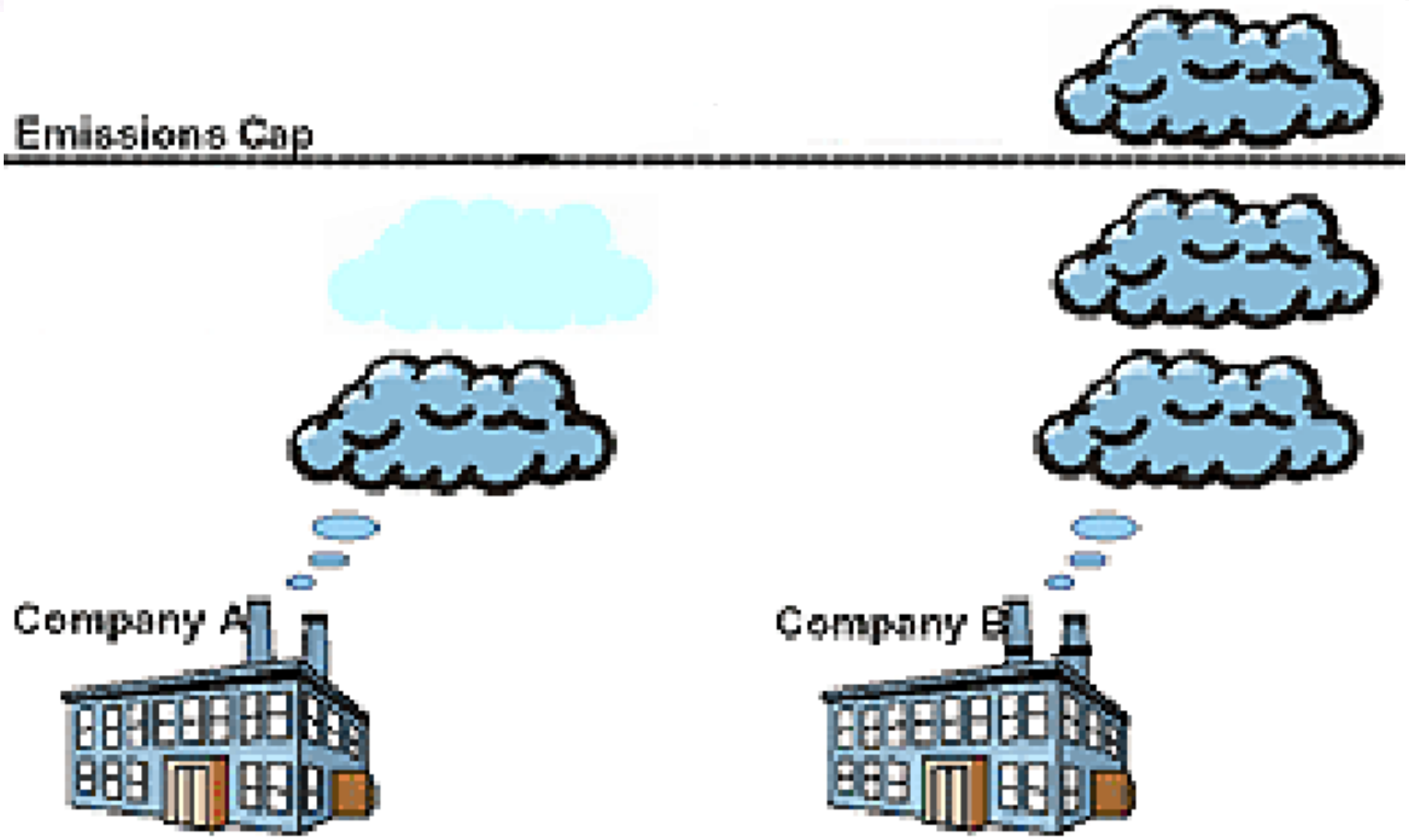
Source Categories & Sectors

1. Stationary Sources
2. Mobile Sources
3. Stratospheric Ozone Protection program
4. Acid Rain Program (Title II)
   - Created by 1990 Clean Air Act Amendments to address acid rain: sulfur dioxide (SO2) & nitrogen oxide (Nox)
   - Creates a federal pollution allowance trading program – Cap & Trade initially only of SO2
   - 2 phases: 1) 1995 to 1999, 2) 2000 to present

Cap and Trade of SO2 emissions

- Allowances equaling cap are distributed
- One allowance authorizes emission of one ton of SO2
- Allowance trading

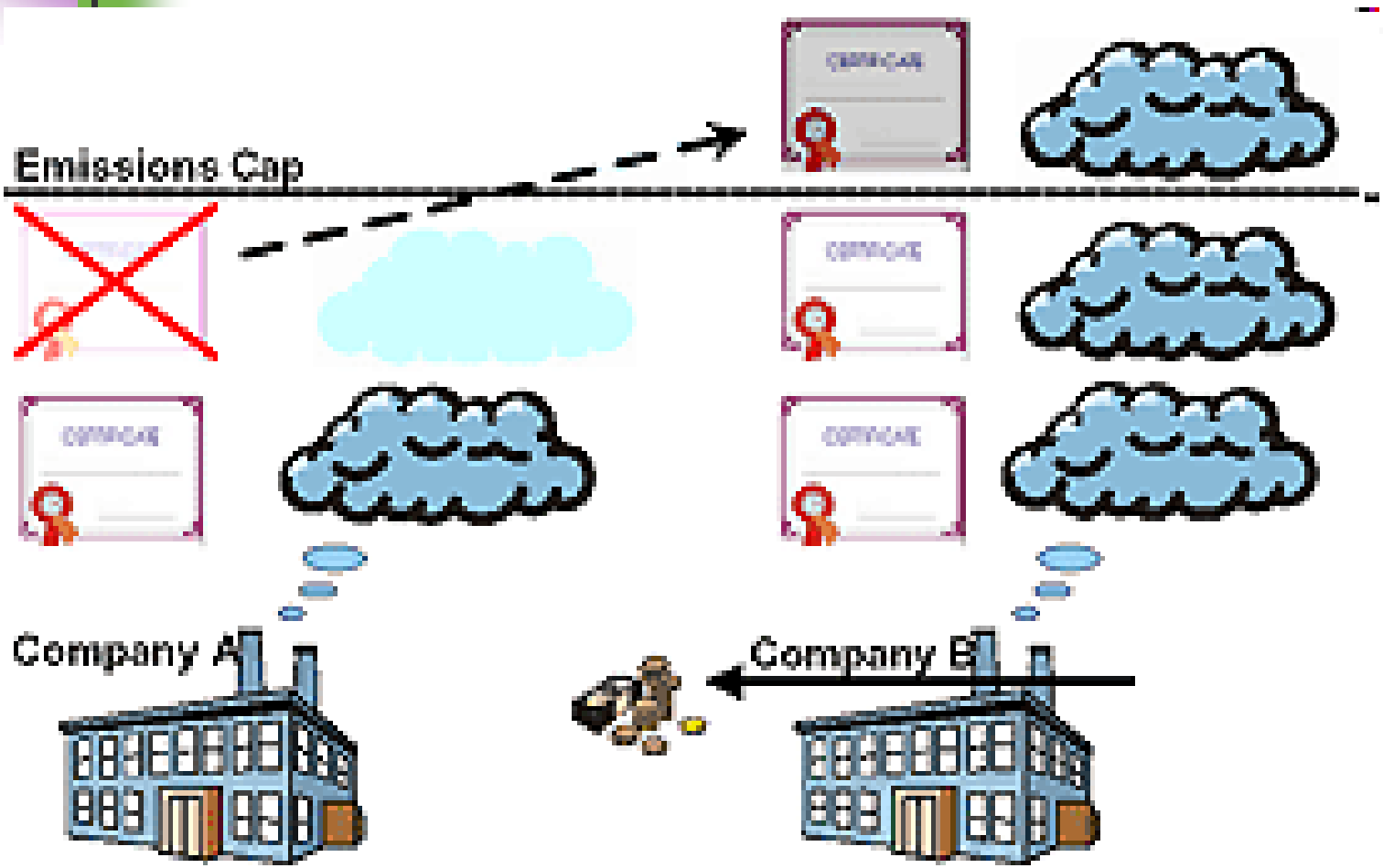
Traditional Pollution Control: "Command & Control"



Source: Global-Carbon.com

Emission Trading 1: Pollution Allowances instead of Standards

Emission Trading 2: Trading Pollution Allowances/Permits



Source: Global-Carbon.com

Cap and Trade of SO2 emissions

- Allowances equaling cap are distributed
- One allowance authorizes emission of one ton of SO2
- Allowance trading
- Allowance Tracking System (ATS)
- Monitoring and reporting requirements
- Banking / borrowing

US Acid Rain Program: Results

- Compliance: incentives and penalties
- Reduction of 6.8 million tons annual SO2 emissions since 1990, about 43% reduction
- $3 billion annual cost versus $122 billion in annual public health benefits

Source Categories & Sectors

1. Stationary Sources
2. Mobile Sources
3. Stratospheric Ozone Protection program
4. Acid Rain Program
5. Climate Change Program

Massachusetts v. EPA

Clean Air Act section 202(a), 42 U.S.C. 7521(a) prescribes that EPA "shall" regulate new motor vehicle emissions of:

- any "air pollutant"
- that causes or contributes to air pollution that is reasonably anticipated to endanger public health or welfare.

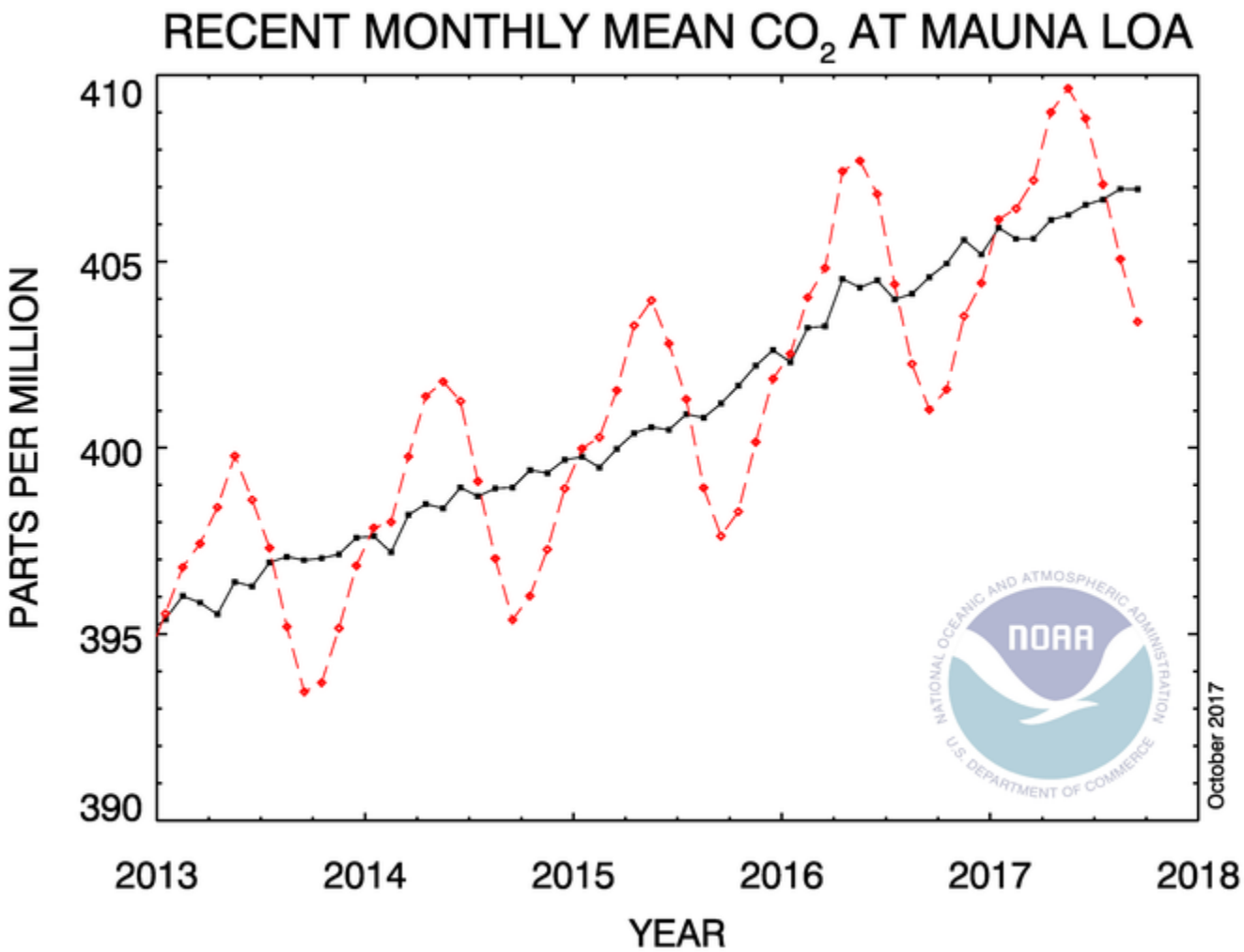
The Cascade of Consequences of Massachusets v. EPA

- S.Ct. holds that GHGs are air pollutants under section 202
- CO2 Tail pipe emissions can be regulated if finding that GHG endanger public welfare
- Endangerment Finding triggers mobile source regulation
- Which triggers regulation of stationary sources

Question of Mass. v. EPA

- Is CO2 an air pollutant?
  - Statutory authority under 202
- Conceptually?
  - Consider NAAQS
- The connection between CO2 and energy use & land

How would we design CO2 NAAQS?



VII. Water Pollution and the Clean Water Act

Clean Water Act Issues

- Historical Progression
  - CWA vs. Common Law?
  - Research -> funding -> standard setting -> direct permitting

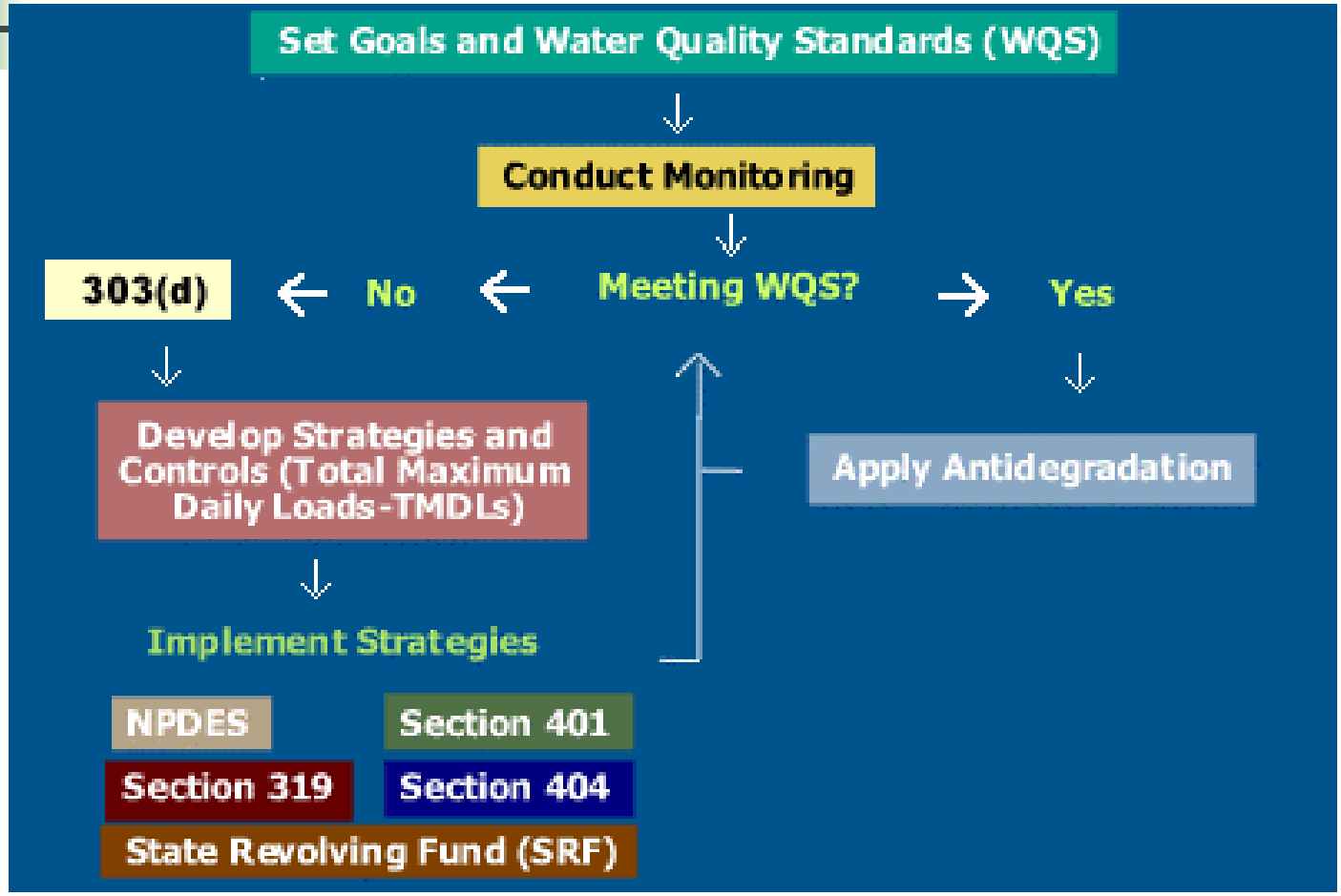
History of the Clean Water Act

- 1899 Rivers & Harbors Act/Refuse Act
- 1948 – Water Quality Act
- 1956 – Federal Water Pollution Control Act
- 1965 – Water Quality Act
- 1972 – Federal Water Pollution Control Act
- 1977 – FWPCA Amendments
- 1981 – FWPCA Amendments
- 1987 – FWPCA Amendment

Clean Water Act Issues

- Historical Progression
  - CWA vs. Common Law?
  - funding to standard setting to direct permitting
- Major Structural Elements
  - 303 Water quality standards/TMDL
  - 301 discharge prohibition
  - 401 state certification that new permit will not violate CWA stdds
  - Exemptions in 402 permits, 404 permits
  - 319 non-point source management
  - State Revolving Fund – POTW
  - 309 enforcement & 505 citizen suits
  - 518 tribes TAS

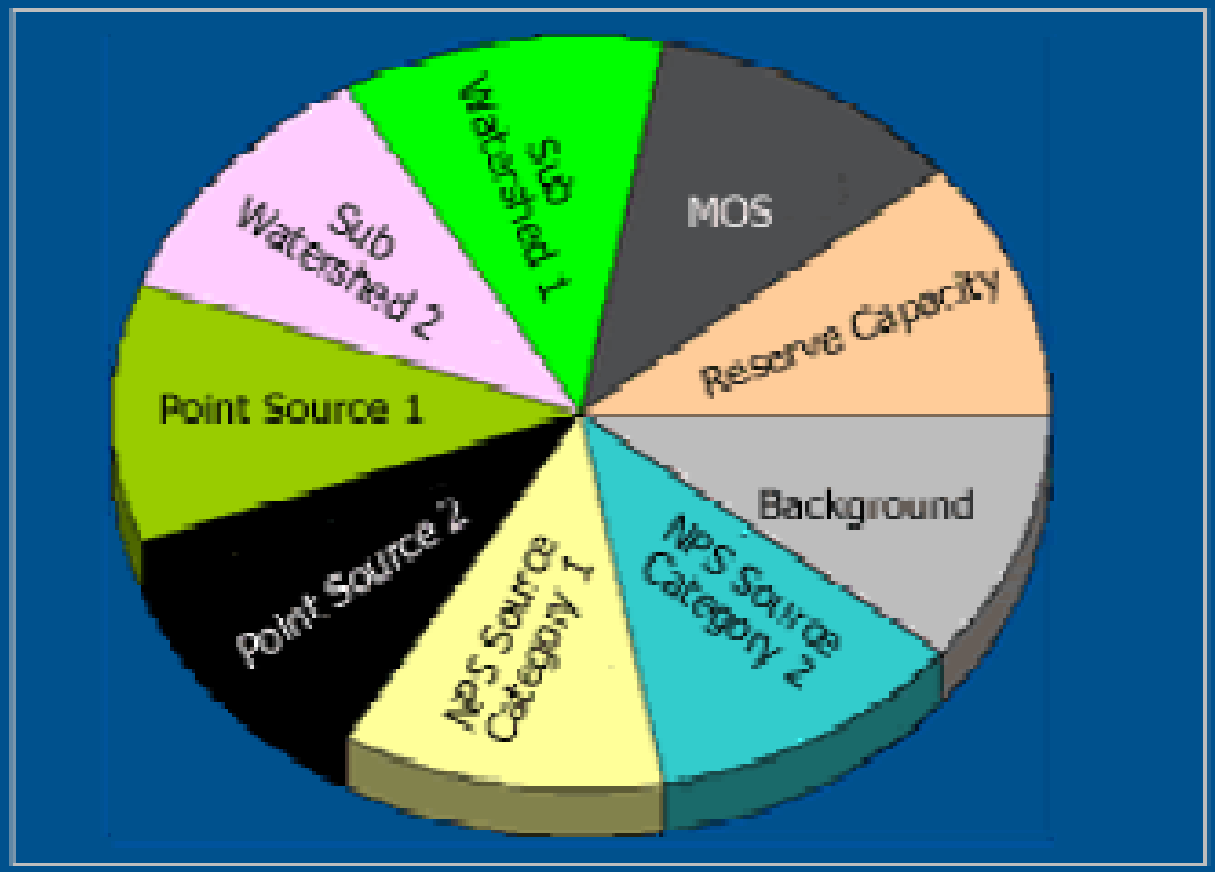
The Clean Water Act



Source: EPA Watershed Academy

Develop Strategies and Controls

TMDL Allocation



Source: EPA Watershed Academy

Wetlands and the "Waters of the United States" Controversy

- What's the issue? – Wetlands & WOTUS
- What are Wetlands?
  - "areas inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions."
  - Ecological Significance?
  - Legal Significance
    - Boundary of navigable waters and dry land

Wetlands

- **Marshes**
  - Tidal Marshes
  - Non-tidal Marshes
    - Wet Meadows
    - Prairie Potholes
    - Vernal Pools
    - Playa Lakes

Swamps
- Forested Swamps
  - Bottomland Hardwoods
- Shrub Swamps
  - Mangrove Swamps

- **Bogs**
  - Northern Bogs
  - Pocosins

- **Fens**

https://www.epa.gov/wetlands/wetlands-classification-and-types#

Coastal wetlands are an effective first line of defense and act by slowing down storm surges and reducing flooding. Credit: Kelly Fike/USFWS, CC BY

https://phys.org/news/2017-09-rebuild-hurricanes-wetlands-significantly-property.html

The dense vegetation and shallow waters within wetlands can slow the advance of storm surge and dissipate wave energy.

Credit: USACE
https://phys.org/news/2017-09-rebuild-hurricanes-wetlands-significantly-property.html

"Waters of the United States" Controversy"

- CWA imposes general discharge prohibition to navigable waters
  - 301 - Except as otherwise permitted, "the discharge of any pollutant by any person shall unlawful"
  - 502(12) Discharge definition, 502(7) navigable waters def as "waters of the US"
- Broader concern of federalism
- EPA's WOTUS Regulation/Repeal Process

VIII. Public Enforcement & Citizen Suits

The Structure of Environmental Enforcement

- Criminal, Civil, Administrative
- Federal, State/Tribes, Citizens/E-NGOs
- Sanctions
  - Financial penalties
  - Imprisonment
  - injunctive relief
  - disbarment from government contracts
  - Other (e.g. cut-off federal funding)

Detection of Violations

- Inspections (federal/state)
- Hotline/Citizen tips
- Monitoring & difficulties
  - Access, sampling cost/time, sampling error, instrument accuracy
  - New technology – CEMS, remote sensing
- Self-monitoring and reporting is norm
  - But what are self-monitoring incentives?

EPA Self-Audit Incentive Policy (2000)

- No Gravity-Based Penalties – satisfy all
- Reduction by 75% -- satisfy all excpt (1)
- No Rec for Crim Pros. – satisfy 2-9

1. Systematic Discovery
2. Voluntary Discovery
3. Prompt Disclosure
4. Disc & Disclo indep of Gov or 3rd party Plaintiff
5. Correction/Remediation
6. Prevent Recurrence
7. No Repeat Violation
8. Other violations excluded
9. Cooperation

- Is the EPA Audit Policy good for the environment? For society?
- Should there be an Self-Audit PRIVILEGE?

Criminal Enforcement

- The "knowing" standard
  - CWA 309(c)(2) makes it a felony offense to "knowingly violate" the CWA or an NPDES permit
- U.S. v. Weitzenhoff
  - Requires only knowledge of conduct ("knowing conduct") that is violation, rather than knowing of illegality
  - CWA as a public welfare statute
- What is an environmental crime?
  - Corporate responsibility?

Citizen Suits

- "Any citizen may commence a civil action on his own behalf . . . against any person [including US] who is alleged to be in violation of" a violation. 33 USC 1365
- Types of Actions
  - Against Government - mandatory duties ("deadline suits")
  - Against Polluters - permit or regulatory violations
  - Judicial Review Distinguished
- Significance

Reported Judicial Opinions in Environmental Citizen Suit Cases: 1970-2002

1970	0	**1976**	8	**1982**	24	**1988**	66	**1994**	70	**2000**	70
1971	0	**1977**	12	**1983**	24	**1989**	74	**1995**	99	**2001**	101
1972	0	**1978**	10	**1984**	34	**1990**	62	**1996**	87	**2002**	75
1973	7	**1979**	11	**1985**	48	**1991**	53	**1997**	71	**Total**	1,511
1974	13	**1980**	30	**1986**	48	**1992**	66	**1998**	101		
1975	18	**1981**	23	**1987**	49	**1993**	93	**1999**	64		

(Source: James May 2003)

Total Citizen Notices of Intent to Sue Against Sectors (1995-2003)

	EPA	Corps	Other Federal Agencies	Industry	State & Local Gov'ts	Various RCRA	Totals
1995	46	17	9	154	124	338	688
1996	35	13	10	199	111	223	591
1997	30	14	18	210	89	138	499
1998	51	10	15	266	120	202	664
1999	67	10	9	167	67	248	568
2000	54	6	15	182	69	204	530
2001	44	19	8	128	67	131	397
2002	15	3	3	215	73	170	479
2003	14	0	3	60	36	49	162
Total	356	92	90	1,581	756	1,703	4,578

(Source: James May 2003)

Notices of Intent by Statute: Citizen Enforcement Cases (1995-2003)

	CAA	CWA	RCRA	MPRSA	Totals
1995	27	128	326	0	481
1996	20	179	208	0	407
1997	23	187	131	0	341
1998	29	237	179	0	445
1999	8	151	151	5	315
2000	9	173	198	0	380
2001	9	119	113	0	241
2002	18	197	151	0	366
2003	3	57	41	0	101
Total	146	1,428	1,498	5	3,077

(Source: James May 2003)

Citizen Suits

- "Any citizen may commence a civil action on his own behalf . . . against any person [including US] who is alleged to be in violation of" a violation. 33 USC 1365
- Types of Actions
  - Against Government - mandatory duties ("deadline suits")
  - Against Polluters - permit or regulatory violations
  - Judicial Review Distinguished
- Significance - Private Attorney General
  - Supplementation of Gov Enforcement
  - Accountability of government
  - Representation of the Environment (". . . because the earth needs a good lawyer")

Limitations on Citizen Suits

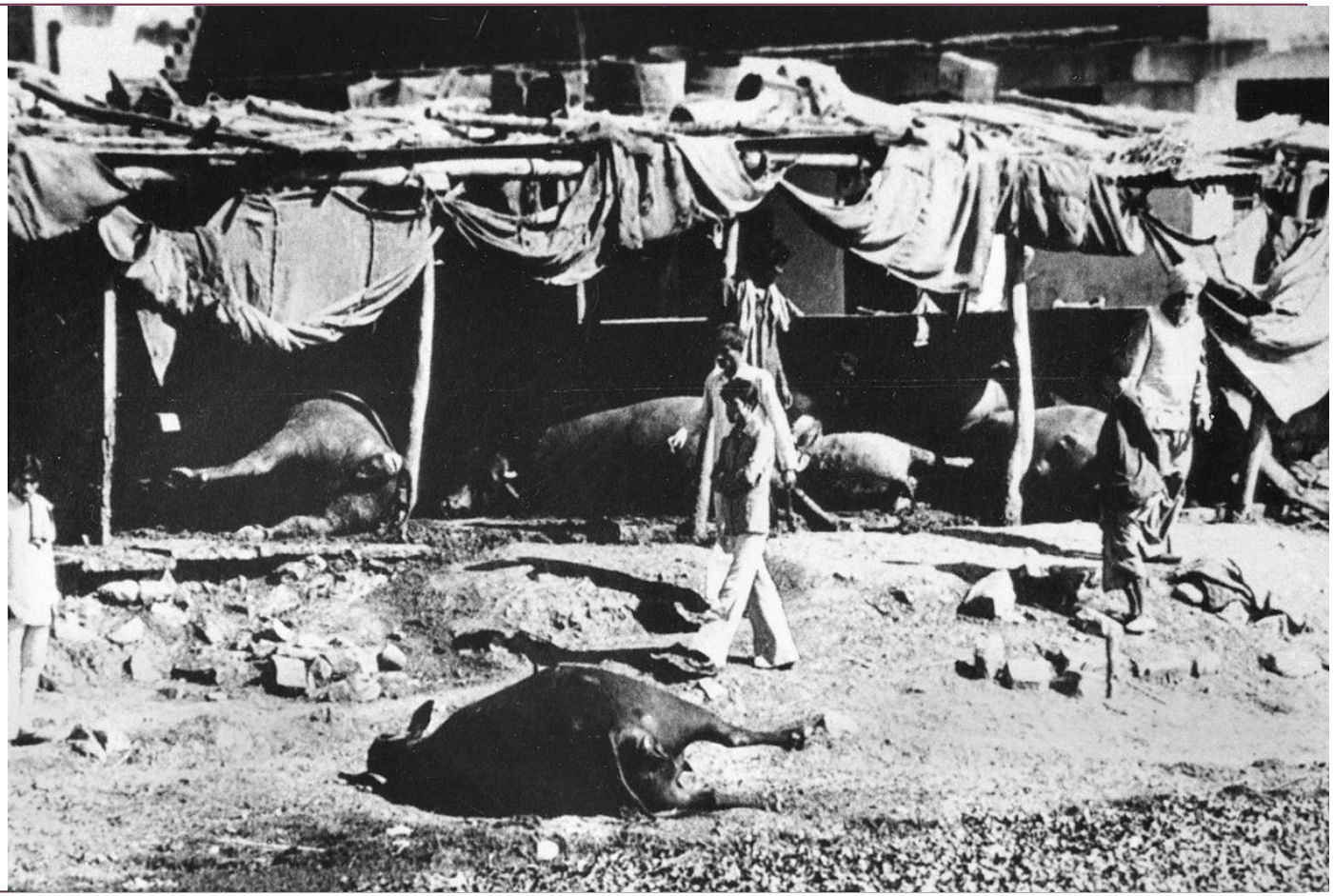
- Standing
  - Constitutional
  - Organizational standing
- Diligent prosecution bar by state gov.
- Ongoing violation requirement
  - Gwaltney - ongoing violation or continuing likelihood of recurrence required (CWA, statutory)
  - Pre-complaint corrective action defeats standing Steel Co. v. CEB (EPCRA)
  - FOT v. Laidlaw – Post-complaint corrective action doesn't moot citizen suit, since civil penalties can provide deterrent effect benefit (standing)

IX. Information Disclosure: Pollution Release and Transfer Registries (PRTR)

The US Toxic Release Inventory (TRI)

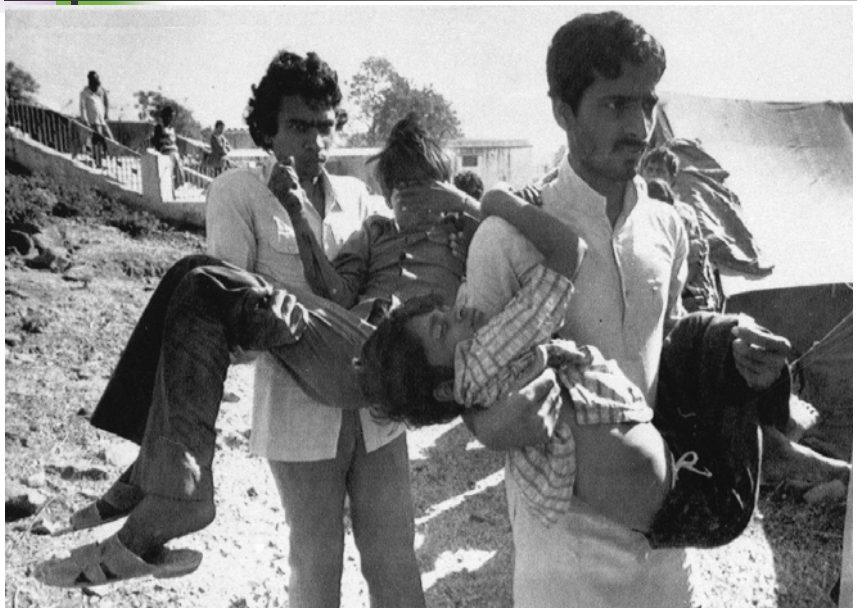
US Toxic Release Inventory

- Created by 1986 Emergency Planning and Community Right to Know Act (EPCRA)
  - Post-Bhopal Union Carbide Disaster
- Purpose – Inform Communities about Toxic Chemical Releases
- Database covers:
  - More than 600 toxic chemicals, thousands of facilities
  - Data on disposal, other releases, and management information including recycling, energy recovery, and treatment

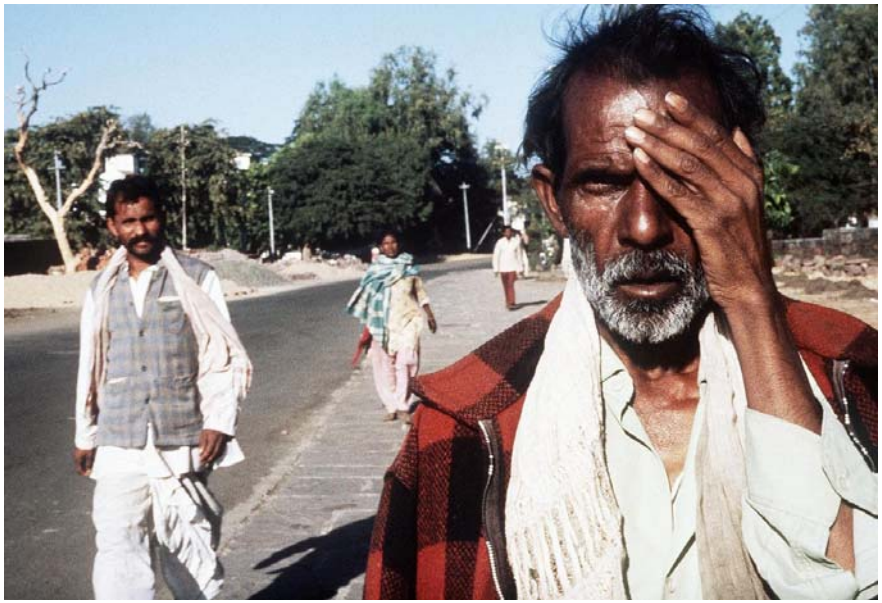


On the night of December 2, 1984, an accident at the U.S.-owned Union Carbide pesticide plant in Bhopal, India, released at least 30 tons of a highly toxic gas called methyl isocyanate, as well as a number of other poisonous gases. an estimate of 15,000 killed over the years.
Toxic material remains, and 30 years later, many of those who were exposed to the gas have given birth to physically and mentally disabled children

https://www.theatlantic.com/photo/2014/12/bhopal-the-worlds-worst-industrial-disaster-30-years-



Two men carry children blinded by the Union Carbide chemical gas leak to a hospital in Bhopal on December 5, 1984.

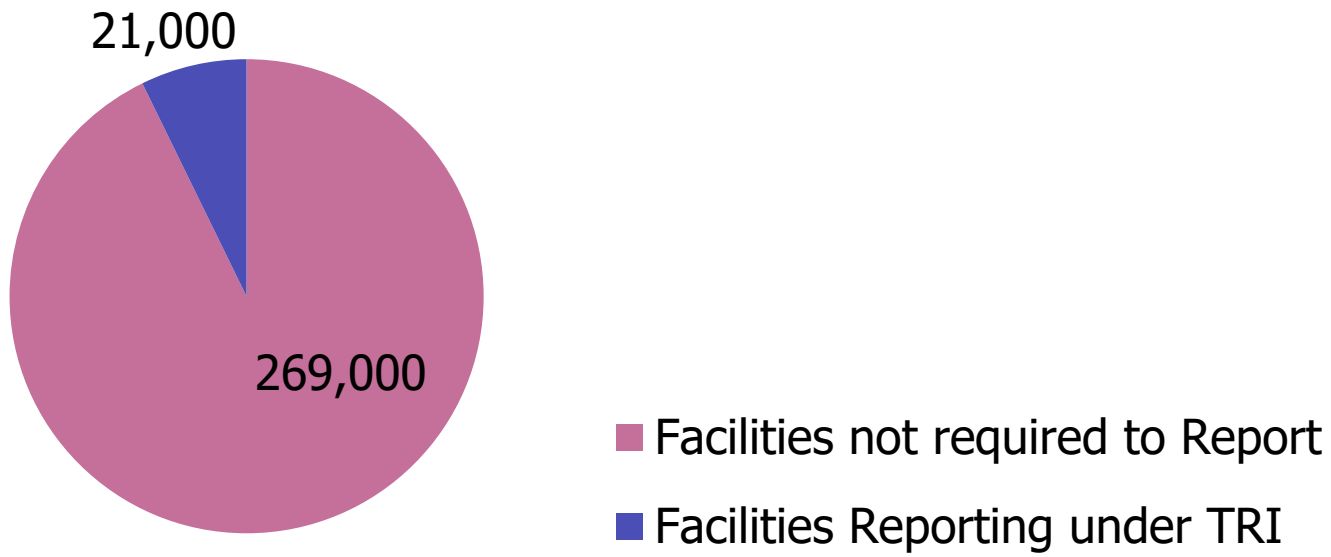


A victim of the Bhopal tragedy walks in the streets on December 4, 1984. In the background is the site of the factory.

https://www.theatlantic.com/photo/2014/12/bhopal-the-worlds-worst-industrial-disaster-30-years-later/100864/

Who Reports Information?

In the United States, there are approximately 290,000 Manufacturing Facilities.

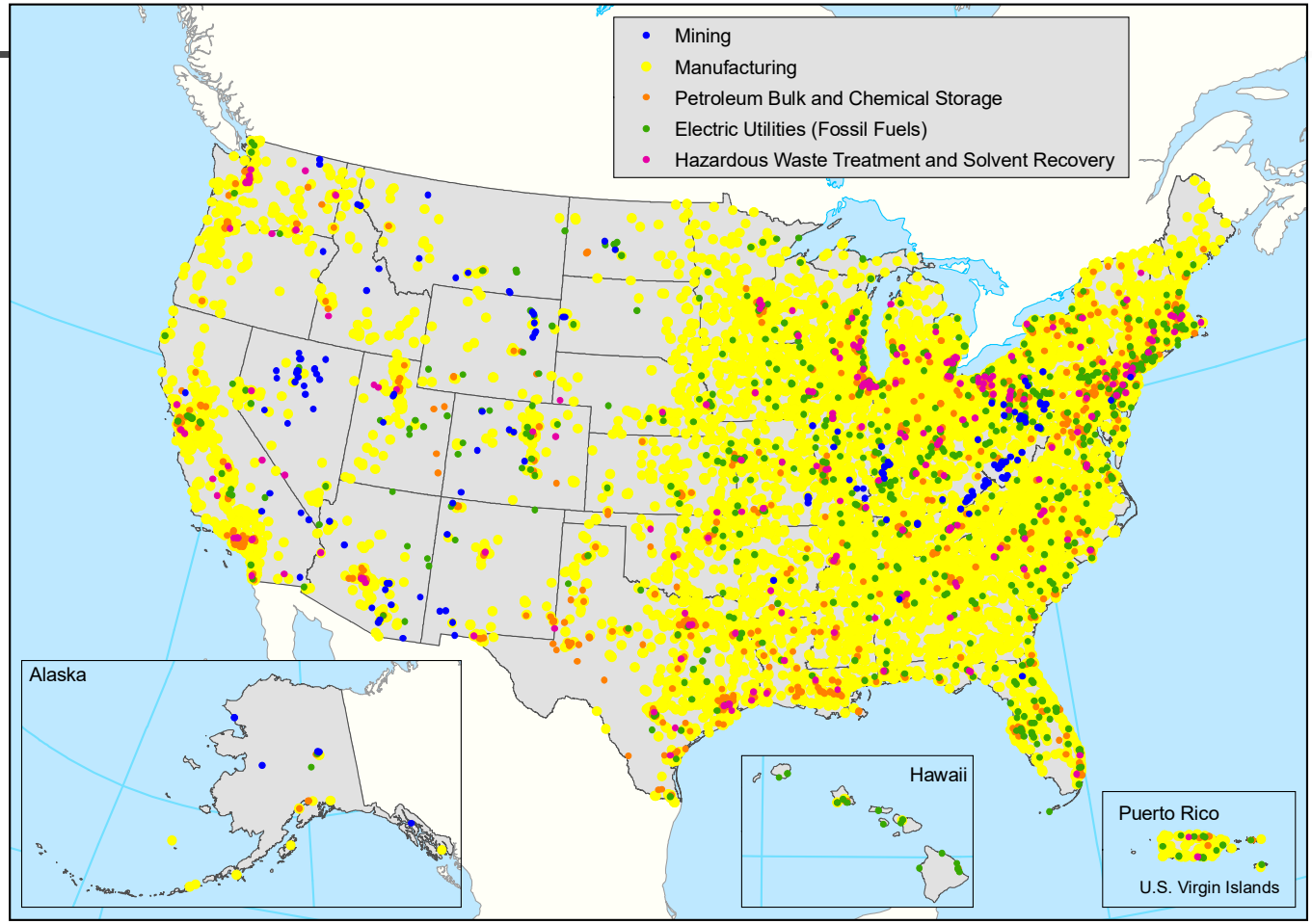


Other facilities not shown here include Electric Generating, Mining, Hazardous Waste Treatment, Chemical Distributors, Petroleum Distributors, and Federal Facilities .

Who Reports TRI Information?

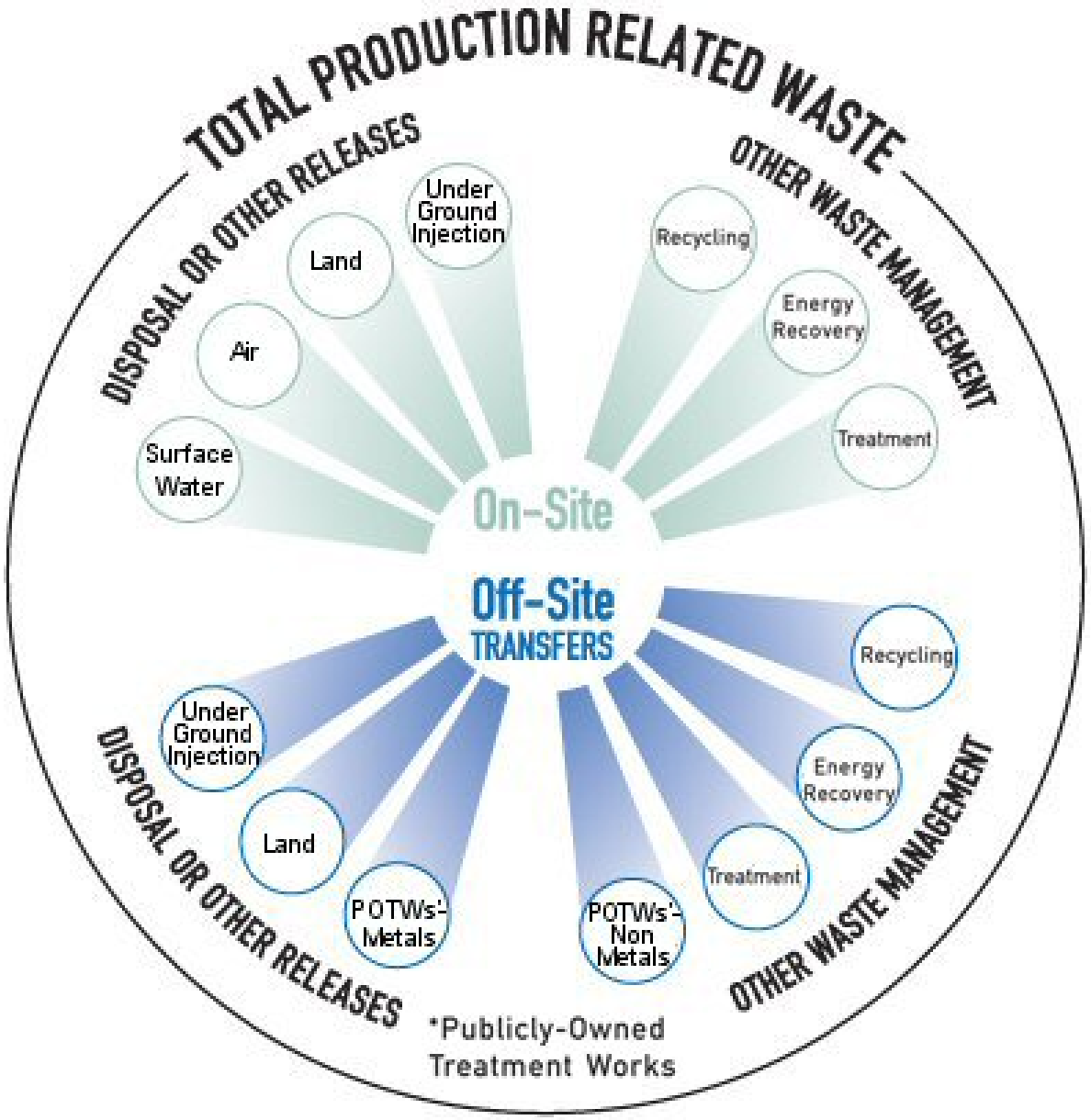
- Reporting Entities:
  - Identified industrial sectors
  - Facilities, not corporations
  - Size threshold of 10 employees – excludes small facilities
- Activity Thresholds:
  - Minimum manufacturing, processing, use
  - Chemicals of special Concern – lowered thresholds

Where are TRI Facilities Located?



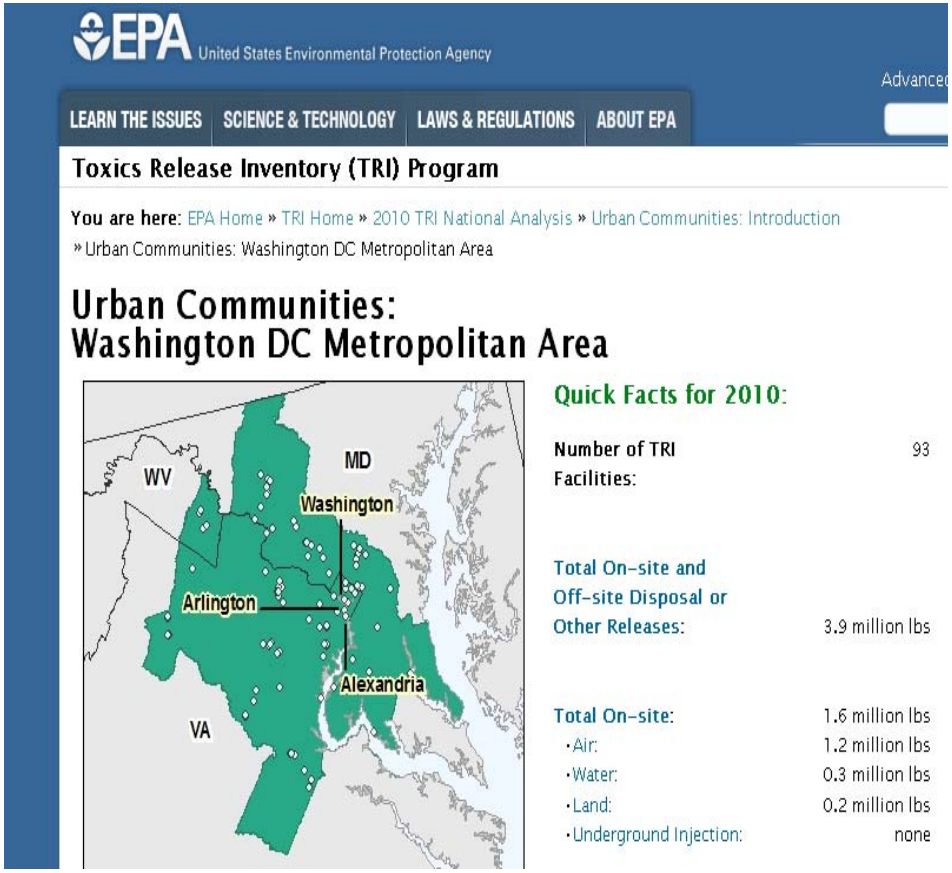
What is Reported?

* Covered Toxic Chemicals: Over 600
* Covered Releases
* Waste Management
* Trade Secrets



The Effectiness of TRI/PRTR

- Public Availability
- Widespread Use
  - Government, including EPA
  - Business, Civil Society, Academics
- Enforcement
  - civil penalty of up to $25,000 per day for continuing violation
  - Citizen suits available



Information Disclosure of Pollution/Chemicals Use

- Making Environmental Management More Effective and Accurate
  - Evaluate and identify pollution reduction strategies
  - Inform government decisions and priority setting
  - Reduce uncertainty and improve communication
- Promote Public Participation
- Inform community and consumer choices
  - Recruit Markets/Consumers power to provide behavioral incentives