American Planning Association
Georgia Chapter

Making Great Communities Happen

Environmental Planning

AICP EXAM REVIEW

February 12-13, 2010
Georgia Tech Student Center

Overview

- National Environmental Policy Act (NEPA)
- Clean Water Act
- Clean Air Act
- National Coastal Zone Management Act
- Resource Conservation & Recovery Act (RCRA)
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
- National Earthquake Hazards Reduction Act

Federal Environmental Regulation

National Environmental Policy Act of 1969

NEPA was the first of a suite of federal statutes upon which the contemporary environmental regulatory framework is established.

The Act established a process to review any federal projects and policies that could impact environmental quality.

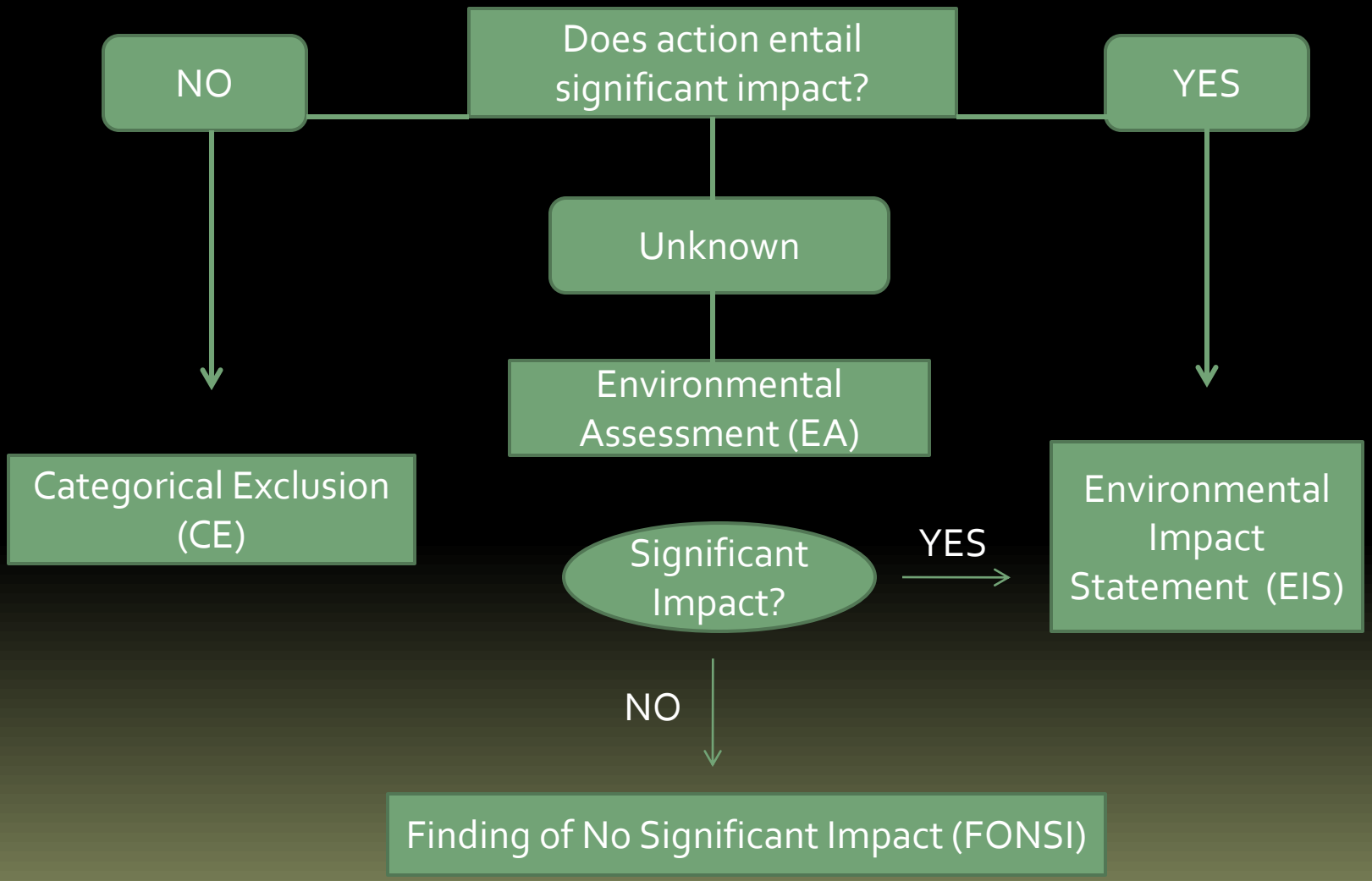
NEPA created the Council on Environmental Quality (CEQ) to draft regulations for environmental review and publish an annual report on national environmental quality.

National Environmental Policy Act of 1969

NEPA requires review of all proposed federal projects, funding, permits, policies, and actions for "significant" environmental impacts. NEPA requires review of state and local government, as well as private sector, actions requiring federal approval or permitting.

Courts have determined that the significance of an action is based on: 1) the extent to which the action will cause adverse environmental effects in excess of those created by existing uses; and, 2) the absolute quantitative adverse environmental effects of the action.

NEPA Process



NEPA – Elements of Environmental Impact Statements

1. Current conditions and the probable impact of the proposed action;
2. Any adverse environmental effects which cannot be avoided should the proposal be implemented;
3. Alternatives to the proposed action and their likely impacts;
4. The relationship between local short term uses of the environment and the maintenance and enhancement of long term productivity;
5. Any irreversible and irretrievable commitments of resources that would be involved in the proposed action should it be implemented;
6. Ways to minimize the negative impacts of the proposed action.

What NEPA is designed to do:

- Require agency and public participation in planning process
- Require disclosure about the action, alternatives, environmental effects, and mitigation
- Bring out environmental concerns of the affected publics
- Require environmental impacts to be considered during planning and decision making

What NEPA is not designed to do:

- Decide which alternative to chose
- Prevent environmental impacts from happening
- Prohibit any actions

Water Pollution

Clean Water Act

- Water Pollution Control Act of 1948
  - Federal role limited to expertise and advice to states

- Water Pollution Control Act of 1956
  - Research on interstate pollution control
  - Grants for wastewater treatment facilities

- Clean Water Acts of 1972, 1977, & 1987
  - States develop and enforce water quality standards
  - National Pollution Discharge Elimination System (NPDES) permits
  - More emphasis on effluent quality than water quality

- Safe Drinking Water Act of 1974 & 1986
  - National health-based standards for drinking water

Point and Nonpoint Sources of Pollution

- Point source pollutants are water or air pollutants discharged from an effluent pipe, smokestack, or tailpipe.

- Non point sources of water pollution are created from numerous and diverse land use and agricultural activities, such as urban stormwater runoff.

- Nonpoint sources of air pollution result from natural events, such as wildfires, or result from "secondary" air pollutants that form in the atmosphere from tailpipe or smokestack emissions.

Table 4-2
Clean Water Act Programs

1.	Section 201	Grants for construction of public sewage treatment plants.
2.	Section 208	State water quality standards and management plans, addressing the nondegradation of swimmable and drinkable waters and waters of "exceptional recreational or ecological significance," the identification and use of best management practices for the control of point and nonpoint pollution sources.
3.	Section 303(d)	State Total Maximum Daily Load process for prioritizing and implementing clean-up of impaired waterways. The state compiles a list of impaired waters by priority for clean-up, known as the 303(d) list.
4.	Section 305(b)	*Biennial Environmental Protection Agency Report* to Congress on the Nation's Water Quality, based on state-level data.
5.	Section 319	State plans and programs and federal loans and grants for the control of nonpoint source pollution and to publish reports.
6.	Section 402	National Pollutant Discharge Elimination System permit system for point and nonpoint sources of water pollution, including stormwater management permits and permits for confined animal feeding operations. This includes the monitoring of urban stormwater discharges into regulated streams.
7.	Section 403	Pretreatment of industrial sewage before discharge into municipal sewage treatment plants.
8.	Section 404	Wetlands permitting system for the draining and filling of wetlands (see Chapter 10).
9.	Section 503	Sewage sludge land application and disposal regulations.
10.	Section 604(b)	State water quality planning and assessment grants. Can be used for monitoring water quality and setting water quality standards.

Section 208

State of Washington Water Quality Standards

Parameter or Type	Freshwater Criteria	Marine Criteria
Temperature Waters Requiring Supplemental Spawning and Incubation Protection for Salmonid Species (Ecology publication) For more information on temperature criteria click here.	WAC-173-201A-200 (1)(c) Table 200 (1)(c)	WAC-173-201A-210 Table 210 (1)(c)
Dissolved Oxygen	WAC-173-201A-200 (1)(d) Table 200 (1)(c)	WAC-173-201A-210 Table 210 (1)(d)
Total Dissolved Gas	WAC-173-201A-200 (1)(f) Table 200 (1)(c)	No Marine Criteria for Total Dissolved Gas
pH	WAC-173-201A-200 (1)(g) Table 200 (1)(c)	WAC-173-201A-210 Table 210 (1)(f)
Turbidity	WAC-173-201A-200 (1)(e) Table 200 (1)(c)	WAC-173-201A-210 Table 210 (1)(e)
Bacteria	WAC-173-201A-200 (2)(b) Table 200 (1)(c)	WAC-173-201A-210 Table 210 (3)(b)
Nutrients For more information on nutrients criteria click here.	WAC 173-201A-230 (Code Reviser) Table 230 (1)	
Toxics For more information on toxics criteria click here.	WAC-173-201A-240 (Code Reviser)	WAC-173-201A-240 (Code Reviser) Table 240(3)
Radioactive Substances	WAC-173-201A-250 (Code Reviser)	
Natural Conditions and Narrative Criteria	WAC-173-201A-260 (Code Reviser)	

Section 303(d): Total Maximum Daily Load Standards (TMDLs)

How are TMDL's Calculated?

TMDL = WLA + LA + MOS

(WLA - waste load allocation, LA - load allocation, MOS - margin of safety)

WLA = daily load of pollutants permitted as point source discharges
LA = amount of pollution that nonpoint sources can discharge
MOS = margin of safety

Section 402: National Pollution Discharge Elimination System (NPDES)

- All facilities (including municipal wastewater treatment plants) discharging effluent into waters of the U.S. must obtain a National Pollution Discharge Elimination System permit from the U.S. EPA or state environmental protection agency (SPDES).

- Facility operators are required to meet technological effluent control standards to minimize discharges to receiving waters.

- Permits must be obtained for industrial facilities, publicly owned, treatment works (POTW), and concentrated animal feedlots.

- Stormwater runoff is addressed through Phases I and II of the NPDES program. Under Phase I, large industrial facilities, municipal separate storm sewers systems (MS_4), and construction activities disturbing more than 5 acres of land must obtain a permit. Under Phase II, MS_4s under 100,000 population and construction activities between 1 and 5 acres must also obtain a NPDES permit.

Phase I & II NPDES Permit Requirements

1. Public education and outreach on stormwater impacts
2. Public involvement/participation
3. Illicit discharge detection and elimination
4. Construction site stormwater runoff control
5. Post-construction stormwater management in new development and redevelopment (Low Impact Design – LID)
6. Pollution prevention/good housekeeping for municipal operations

Section 404: Wetlands Permitting

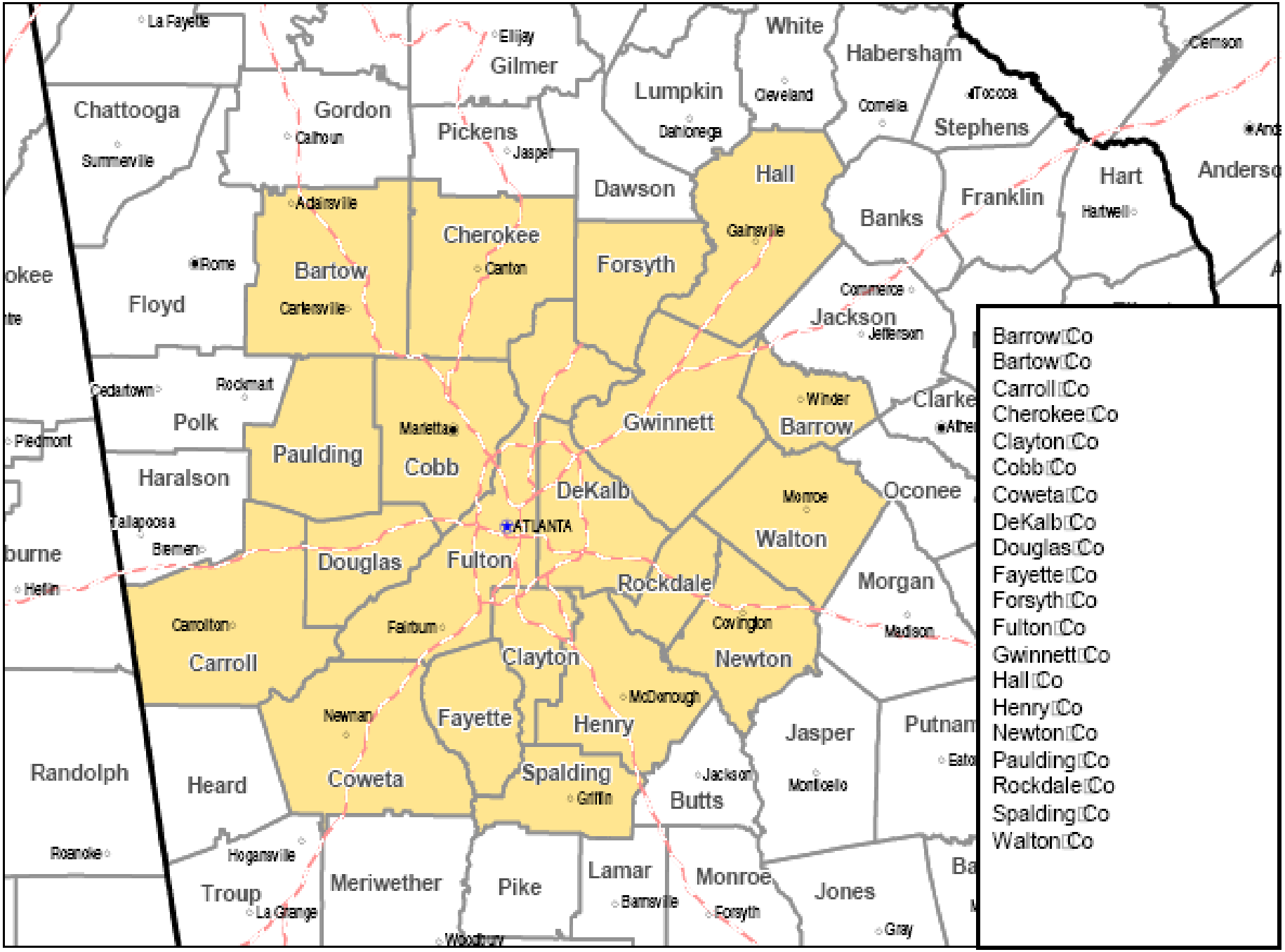
- Establishes a program to regulate the discharge of dredged or fill material into wetlands.
- The program is jointly administered by the U.S. Army Corps of Engineers and the Environmental Protection Agency. The Corps is responsible for the day-to-day administration and permit review and EPA provides program oversight.
- No discharge of dredged or fill material may be permitted if: (1) a practicable alternative exists that is less damaging to the aquatic environment or (2) the nation's waters would be significantly degraded.
- Permit review and issuance follows a sequence process that encourages avoidance of impacts, followed by minimizing impacts and, finally, requiring mitigation for unavoidable impacts to the aquatic environment. General permits are issued for specific classes of activities. Other, typically larger scale activities, require individual review by the Corps and an individual permit.

Air Pollution

Clean Air Act Amendments of 1990

Table 2: The CAA consists of nine separate titles	
Title I	National Ambient Air Quality Standards
Title II	Mobile Sources
Title III	Hazardous Air Pollutants
Title IV	Acid Deposition (also known as Acid Rain)
Title V	Stationary Source Operating Permits
Title VI	Stratospheric Ozone & Global Climate Protection
Title VII	Provisions Regarding Enforcement
Title VIII	Miscellaneous Provisions
Title IX	Clean Air Research

Atlanta, GA 8-hour Ozone Nonattainment Area



Title 1: NAAQS for Criteria Pollutants

Those that: 1) the emissions of which may be reasonably anticipated to endanger public health and welfare; and, 2) the presence of which in the ambient air results from numerous and diverse mobile and stationary sources.

Primary standards are set to protect public health.

Secondary standards are set to protect vegetation and buildings.

NAAQS have been developed for six criteria pollutants:

Lead (Pb)

Carbon monoxide (CO)

Nitrogen dioxide (NO_2)

Sulfur dioxide (SO_2)

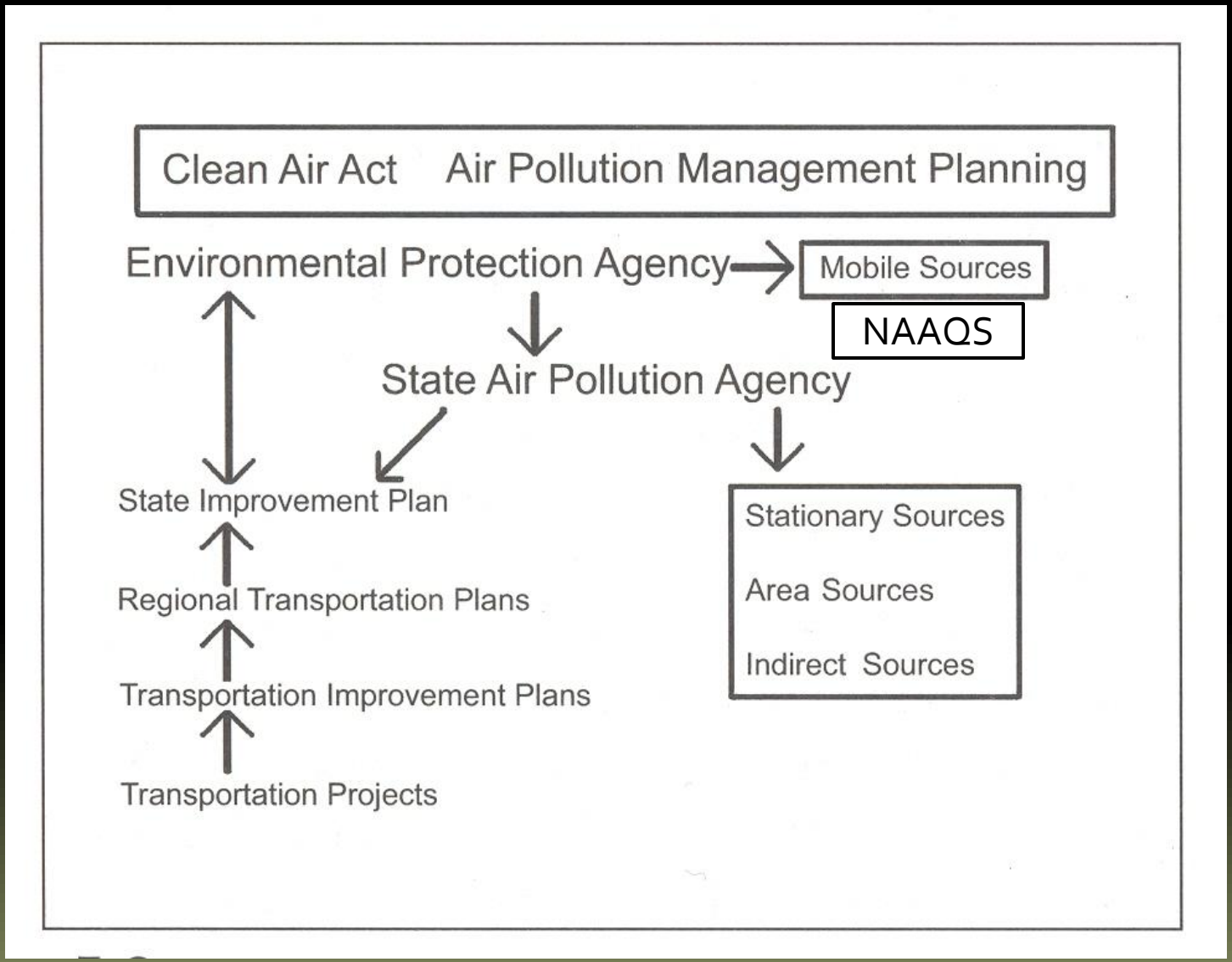
Particulate matter (PM10 & PM2.5)

Ozone (O_3)

National Air Quality Framework

The national framework for air quality management can be understood to operate on three levels. At the federal level, NAAQS are set to maintain an adequate standard of public health. At the state level, state implementation plans (SIPs) are developed by state environmental protection agencies to demonstrate how the NAAQS will be achieved. A SIP is a detailed description of the programs a state will use to carry out its responsibilities under the Clean Air Act. State Implementation Plans are collections of the regulations used by a state to reduce air pollution. At the level of the pollution emission source, plant operators must obtain Title V permits from state environmental protection agencies subject to the emissions limitations spelled out in the SIP. Auto manufacturers must meet technological control standards of Title II.

Clean Air Act



Title V: Permitting

Title V of the 1990 Clean Air Act Amendments requires all major sources (100 tons per year or more) of air pollution to obtain an operating permit. A Title V permit grants a source permission to operate. The permit includes all air pollution requirements that apply to the source, including emissions limits and monitoring, record keeping, and reporting requirements. It also requires that the source report its compliance status with respect to permit conditions to the permitting authority.

New Source Review

New major stationary sources of air pollution and operators of major stationary sources undergoing significant modifications are required by the Clean Air Act to obtain an air pollution permit before commencing construction. This process is called new source review (NSR) and is required whether the major source or modification is planned for an area where the national ambient air quality standards (NAAQS) are exceeded (nonattainment areas) or an area where air quality is acceptable (attainment or maintenance areas). Permits for sources in attainment areas are referred to as prevention of significant air quality deterioration (PSD) permits; while permits for sources located in nonattainment areas are referred to as nonattainment NSR (NNSR) permits. The entire program, including both PSD and NAA permit reviews, is referred to as the NSR program.

Coastal Zone Management

Coastal Zone Mgt Act of 1972

- The Coastal Zone Management Act (CZMA) provides federal funding, guidelines, and technical help for 30 coastal and Great Lakes states that voluntarily agree to draft plans and manage development in their coastal areas.

- Plans must include: 1) the boundaries of the zone; 2) land and water uses permitted in the coastal zone; 3) an inventory of flood zones, habitats of rare or endangered species, and areas best suited for development; 4) an inventory of public access and plans for public land acquisition; and 5) a provisions for coordination of federal, state, and local agencies in administering federal water and air pollution laws.

- CZMA is administered by the National Oceanic and Atmospheric Administration (NOAA)

Resource Conservation and Recovery Act (RCRA) of 1976

- The Act is intended to protect water supplies from the disposal of solid waste and empowers EPA to set minimum national standards for states to follow in issuing permits for new, existing, or expanded landfills – public or privately operated.

- RCRA regulates the location of landfills, operating procedures, the design of liners, and the monitoring of groundwater.


Toxic Waste

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 – CERCLA (The Superfund Law)

- Requires the EPA to identify hazardous waste sites and develop a National Priorities List of the most polluted sites
- Established a "superfund" of $1.6 billion to clean up abandoned sites
- Established a "strict liability" provision making all current and previous owners of a site liable for clean up costs, regardless of knowledge of waste, and a "joint and several liability" clause permitting EPA to require a limited number of owners to fund clean-up if others cannot be found
- CERCLA includes no funds for victims of hazardous waste pollution

Earthquakes

Earthquakes

National Earthquake Hazards Reduction Act of 1977

- Established the National Earthquake Hazards Reduction Program under the Federal Emergency Management Agency

- Intent of the Act is to: 1) identify zones of earthquake hazards; 2) develop earthquake resistant design and construction standards; 3) develop emergency preparedness and response plans for earthquake events; and, 4) educate the public about earthquake hazards.

Environmental Planning

QUESTIONS?