The Connecticut Council on Environmental Quality

Annual Report 1978

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STATE OF CONNECTICUT

COUNCIL ON ENVIRONMENTAL QUALITY

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January 11, 1979

The Honorable Ella T. Grasso
Governor, State of Connecticut
State Capitol Building
Hartford, Connecticut 06115

The Honorable Joseph J. Fauliso
Senate President Pro Tempore
Room 313, State Capitol Building
Hartford, Connecticut 06115

The Honorable Ernest N. Abate
Speaker of the House of Representatives
Room 203, State Capitol Building
Hartford, Connecticut 06115

Dear Governor Grasso, Senator Fauliso and Representative Abate:

It gives me great pleasure to transmit to you the Connecticut Council on Environmental Quality's Fourth Annual Report.

As you may note, the report is a much more detailed document than reports submitted by the Council in the past. While not an exhaustive review, the report points out areas of environmental concern and suggests other areas meriting further study, particularly economic costs and benefits of environmental regulation, solid waste and air quality.

During the past year, the Council has grappled with a number of complex and controversial issues. Because the members of the Council live in a number of different areas of the state and have varying interests and concerns, we believe that the Council has provided the citizens of the state with an impartial forum in which to voice their concerns and has provided a well balanced perspective in its deliberations and recommendations.

The workload of the Council on Environmental Quality has increased dramatically over the past year as is detailed in the report. The number of citizen requests has risen substantially and the Council has worked on several projects with the Department of Environmental Protection, including a Citizen's Summary of the Air Quality State Implementation Plan. Unfortunately, due to limited financial resources we have not always been able to completely fulfill public expectations.

It is hoped that this report will be of assistance to you and to members of the public. Connecticut has grown and prospered because of her excellent quality of life. Environmental considerations are of major importance as we plan for the future.

Finally, the members of the Council would like to thank our Executive Director, Mrs. Mary Ann Dickinson, who prepared the Annual Report. Without her tireless efforts this report would not have been possible. We would like to thank the DEP Commissioner, Stanley J. Pac, and his staff for their cooperation.

Respectfully submitted,

Donald L. MacKie
Chairman, CEQ

MEMBERS

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Preface

In its Fourth Annual Report, the Council on Environmental Quality addresses the major environmental issues and activities of 1977 as well as 1978, and provides a brief status report on new programs undertaken during those years by the Connecticut Department of Environmental Protection. The Report is intended by the Council to be an "overview" document, not an in-depth analysis of the effectiveness of DEP programs. In addition, an attempt was made to avoid duplication of the Administrative Report to the Governor, which carries detailed summaries of DEP's overall activities.

Section 22a-12(a) of the Connecticut General Statutes requires the Council to prepare and submit annually to the Governor and the General Assembly an environmental quality report, which sets forth the following:

(1) the status of the major environmental categories including, but not limited to, the air, the water, and the land environment;

(2) current and foreseeable trends in the quality, management and utilization of the environment and the effects of such trends on the social, economic and health requirements of the state;

(3) the adequacy of available natural resources for fulfilling human and economic requirements of the state in the light of projected population pressures;

(4) a review of the programs and activities of the state and local governments and private organizations with particular reference to their effect on the environment and on the conservation, development and utilization of natural resources; and

(5) a program for remedying the deficiencies of existing programs and activities, together with recommendations for legislation.

Due to the Council's previous fiscal restraints, the following report bridges a gap of four years, since the Third Annual Report was issued in April, 1975 describing the 1974 calendar year. During the intervening years, the Council suffered budgetary and staffing losses -- indeed, during 1976 the Council was not at all funded or staffed. This document is therefore intended as a summary status report. Staffing for the Council was hired in Spring of 1978, and the Council is planning to include some trend analysis and program evaluation, as required by statute, in the 1980 Annual Report.

The Council and the Executive Director wish to gratefully acknowledge the time and materials supplied by Department of Environmental Protection officials and staff. Without their assistance, this report could not have been prepared. The Council also wishes to acknowledge and thank those citizens who braved the winter blizzards of 1978 to testify at public hearings sponsored by CEQ for this annual report. Their contributions will be evident throughout the text. In addition, the Council is grateful for the capable assistance provided by interns and volunteers who assisted in the researching and writing of several sections of the report.

Part 1:

Activities of the Council

The Council on Environmental Quality consists of nine citizen members, five appointed by the Governor and four appointed by the leaders of the General Assembly. All members serve without compensation and are appointed for staggered six-year terms. The Council is assisted by a full-time Executive Director and Secretary, and part-time interns.

Perhaps the easiest way to categorize the Council's purely advisory role is to say that it is both "ombudsman" and "watchdog" for environmental protection concerns. Various sections of the Connecticut General Statutes set forth specific responsibilities for the Council:

1. The investigation of citizen complaints on environmental matters brought to its attention (Section 22a-13);

2. The review of all environmental impact statements prepared under the Connecticut Environmental Policy Act for state agency construction projects (Section 22a-1d);

3. The review of state agency construction plans, especially those plans which involve "the paving or building upon of land not previously paved or built upon" (Section 22a-12);

4. The review of applications for electric generating, transmission and cable TV facilities submitted to the Power Facilities Evaluation Council (Section 16-50j(f)); and

5. Preparation of an annual report on the state's environmental quality, to be forwarded to the Governor and the General Assembly (Section 22a-12).

During 1977 and 1978, the Council reviewed and commented upon four environmental impact statements prepared under the Connecticut Environmental Policy Act, and reviewed in addition five sets of construction plans under the requirements of Section 22a-12. These projects included state highways such as proposed Route 25, I-691, and Route 72, expansion and widening of state roads in Bloomfield, Norwalk and New Britain, and industrial parks in Mansfield and Middletown. Under Section 16-50j(f) comments were sent to the Power Facilities Evaluation Council concerning the siting of a telecommunications tower in Newtown. 48 citizen requests were received and investigated during 1978, many of which dealt with environmental problems described in detail in this report. Complaints were investigated on the Colchester, Cromwell, Canterbury, Montville and Seymour landfills; proposed I-84 and DEP's consistency ruling; local development problems, illegal permit activities along the shoreline, delayed enforcement problems within DEP, and a host of informational requests on roads, permit information, and proposed solutions to environmental problems.

Other activities undertaken by the Council during the past year include testifying at public hearings on the DEP's proposed regulations under CEPA, at legislative public hearings for coastal management, at meetings before the Commission on Environmental Protection and Economic Development during the preparation of their permit process report, and at various state and local regulatory hearings on wetlands permits, road projects, and others (usually at the request of Council members or citizens). In addition to the publication of this Annual Report, the Council plans to publish a Citizen's Guide to the Permit Process, a simple easy-to-read explanation of DEP's permit programs. Finally, under a special grant from the Regional Office of the Environmental Protection Agency, the Council began in late 1978 to assist the DEP in the preparation of its revised State Implementation Plan (SIP), required by the 1977 Clean Air Act Amendments.

Annual Report Public Hearings

On February 1 and February 15, 1978, the Council held public hearings in Hartford and New Haven for the purpose of soliciting public testimony for this report. A total of nine citizens testified at the February 1 Hartford hearing; ten testified at the February 15 New Haven hearing. Concerns were expressed about the siting of landfills in the state (Colchester, Seymour); the need for greater monitoring and enforcement in the Air Compliance Unit of DEP; the inactive state of the DEP Transportation Control Plan; the strong need for wise coastal management and planning; the problems in inland wetlands administration; the lack of adequate information and technical assistance from DEP; the need to encourage greater citizen participation in the decision-making process; and the need for greater enforcement power for local officials.

Part 2:

Overview of DEP

January 1, 1977 brought the Dept. of Environmental Protection a new commissioner -- its fourth. Stanley J. Pac came to the DEP from a former post as Commissioner of the State Dept. of Motor Vehicles, and brought many years of legislative experience to his new post as well. As the former Senate Chairman of the Environment Committee during the 1971 General Assembly, Pac was instrumental in the passage of legislation creating the Dept. of Environmental Protection as well as the Council on Environmental Quality.

In the words of Commissioner Pac, the first four years in DEP were "building years", years of creativity and challenge with the aid of strong public support. Reorganization, proliferation of new programs, and general confusion regarding the role of various units in DEP contributed to decision-making which was more reflective of "ad hocracy" rather than "bureaucracy". Over the years the agency has stabilized, although new programs and standards are still being developed. As DEP continues to gather operating experience, it faces tough permit decisions in many policy-making areas.

Commissioner Pac sees the present era in DEP as a time to "fine-tune" the state's existing efforts in environmental protection programs. No longer do environmental protection programs enjoy the broad public support they once did. Charges of improper decision-making and lack of attention to important environmental policies and programs have been made by environmental groups; yet, charges of obstructionism in needed economic development are levied by construction advocates. Steering a neutral course is a difficult charge.

Indeed, public concern over DEP led the Program Review Committee of the General Assembly to conduct an investigation in 1976 of the activities of DEP, particularly those dealing with the reorganization of the agency and the permit decisions of the Water Resources Unit. Many of the report's criticisms concerning lack of proper legal adoption of regulations, and staffing and decision-making in the Water Resources Unit, have now been remedied under Commissioner Pac.

Reorganization

No major reorganization is now contemplated for DEP by Commissioner Pac. A few piecemeal changes have been formalized, such as the transfer of Water Resources in the Division of Conservation and Preservation to the Division of Environmental Quality, and the transfer of Open Space Acquisition from the Division of Conservation and Preservation to the Office of the Commissioner. These changes have been codified into DEP's administrative regulations, and only the Coastal Area Management Program still lacks a permanent location and legal identification, although Commissioner Pac has indicated he will relocate CAM to his office.

Perhaps some reorganization should still be seriously considered. No comprehensive "central nerve center" presently exists within the agency to coordinate permit activities with other governmental decisions. (See Part 8). The two divisions of DEP, Environmental Quality and Conservation & Preservation, often act separately and at cross purposes. Indeed, it has been suggested that the two divisions actually be split into two separate agencies: a Department of Natural Resources and Conservation, and a Department of Environmental Quality. This is a major reorganizational change which deserves extensive research, and one that the CEQ will report in depth in the 1979 Annual Report.

Another area which may deserve greater attention is a Central Planning Office. The current Office of Planning and Coordination (the name has changed three times over the past five years) is staffed only to provide: recreation planning for the statewide outdoor recreation plan (SCORP); review of projects for environmental impact under federal and state laws; non-technical permit information; legislative liaison and limited capacity to issue position papers on historical projects. *Greater coordination of existing department-wide policies, as well as research into new areas of environmental responsibilities, should take place within this office; it should be staffed with representatives from technical units as well as existing planning staff. Conflicting activities between units could then easily be detected and studied by this Commissioner-level office.*

Funding

A significant item in DEP needing immediate attention is the long-proposed Office of Adjudication. Although formally approved in 1976, it remains unstaffed not due to lack of sufficient budgetary allotment but due to personnel approvals. Commissioner Pac strongly supports the establishment of this office, which will establish a new and much

needed branch of DEP to conduct neutral-party public hearings for DEP permit applications. Without such a division, present technical staff within the DEP units are required to play the dual role of hearing examiner as well as evaluator for permit applications, and often DEP hearing examiners are placed in the untenable position of ruling on evidence submitted by fellow staff workers.

It is the Council's belief that budgetary problems have been a deterrent to adequate environmental enforcement as well as a serious threat to comprehensive resource management. The Environmental Quality Division has suffered cutbacks in existing federal funding levels due to, among other reasons, decreased state-funded shares. The Conservation and Preservation Division's budget has barely kept pace with annual inflationary increases, and over time has eroded the agency's ability to continue to maintain state forest and park lands adequately. Connecticut's legislators and citizens must recognize the financial commitment necessary to maintaining a productive environment and an adequate and desirable recreational system.

Staffing

The Water Resources Unit, once reduced to serious staffing lows, has been gradually rebuilt. The unit is functioning well and regaining the public's confidence. However, other DEP units suffered similar staffing shortages. Personnel are lost due to simple attrition, and paperwork approval for refill of staff positions can often take many months, with delays aggravated by less than prompt scheduling of civil service exams, or flatout freezes on the hiring of replacement personnel. These freezes are often not publicized, and therefore the public is not aware that the agency or agencies have a reduced capacity to respond to their demands. In addition, staff positions are lost through budgetary maneuvers, wherein unfunded, but authorized, vacancies are lost in the next fiscal year's budget. The Division of Conservation and Preservation within DEP has lost many empty, but refillable positions in this manner. The bureaucracy holds up the necessary approvals for refill; and if the positions are not quickly refilled, the positions are lost in the next budgetary approvals.

Citizen Participation and Education

The early years at DEP were marked with a great commitment to stimulating public awareness of the proposed programs and new developments within the agency. The Information and Education Office in DEP is now fully staffed and moving quickly to renew that commitment. A Citizen Participation Coordinator has been added, as well as an Assistant Director for Education. Liaison Service to Conservation Commissions has been established, and the Citizen's Bulletin revamped and

newly-staffed. Public participation staff is also being hired for individual environmental quality units, as has been the case within the DEP Coastal Area Management Program since 1976.

In addition, DEP's Information and Education Section is developing an extensive environmental education program, including Library Resource Packets to be distributed on a state-wide basis to most school libraries; Teacher Resource Files, with up to 60 fact sheets and lesson ideas dealing with the natural sciences; Computer Based Teacher Resource Units; and various printing projects.

All of these actions should serve to increase public understanding of DEP's actions and decisions. However, the Council believes that the Commissioner should strive further to communicate personally on a regular basis with all groups -- particularly those providing a natural constituency for the agency. Increased information to and cooperative discussions with environmental leaders in the state should help to shed light on needed environmental policies, as well as serve to communicate to the citizens the DEP's needs and its proposed actions.

Part 3:

Legislative Changes in Environmental Laws

Most of Connecticut's significant environmental legislation was passed in the years between 1967 and 1971. Beginning with the passage of the Clean Water Act in 1967 and the Clean Air Act in 1969, Connecticut was a pioneer in attempting to regulate the development of discharges into its air and water. In 1971, omnibus legislation was passed creating a reorganized Department of Environmental Protection, combining units within the Dept. of Agriculture & Natural Resources and the Dept. of Health. Various commissions were consolidated and new programs were adopted. Between 1971 and 1974, legislation was enacted creating new environmental programs, with requirements for: impact evaluations of state agency actions; permits for activities conducted in inland wetlands; building of resource recovery facilities; and the adoption of a civil penalties program.

Since 1974, most legislative amendments have dealt with refining existing legislation, technically clarifying areas of weakness or confusion, and in general, "fleshing out" the environmental skeleton passed in the 1971 Omnibus Bill. However, other environmental areas have been addressed and will continue to deserve legislative attention as the years progress. Regulation of water company lands, acquisition of development rights for farmlands, and coastal management are in this category.

SECTION 1: LEGISLATION ENACTED IN 1977

Perhaps the most significant piece of environmental legislation enacted during the 1977 Session was a bill amending the Connecticut Environmental Policy Act (CEPA). CEPA, originally passed in 1973, requires that state agencies prepare environmental impact evaluations for any state-funded or sponsored project which may have a significant environmental impact. Thwarted over the years by statutory loopholes, the inability of the DEP to enact regulations, and a general misunderstanding of the purpose of the law, CEPA did not achieve significant compliance on the part of state agencies. Indeed, only three environmental impact evaluations had been prepared since the passage of the act, four years earlier.

The purpose of the 1977 CEPA Amendments was to more clearly define when an environmental impact evaluation would be prepared, and also to provide DEP with sufficient authority to enable it to issue regulations to implement the act. These regulations, subsequently drafted by DEP in 1978, would specifically spell out how an impact evaluation should be prepared and reviewed. (See Part 5, Section 4). The amendments also, for the first time, require an energy impact evaluation of state projects as a necessary ingredient in the preparation of environmental impact evaluations.

Several bills implementing the recommendations of the Connecticut Council on Water Company Lands were passed during the 1977 Session. The Council, established by the General Assembly in 1975, has as its primary responsibility the implementation of a program for the preservation of watershed lands throughout the state. Three bills proposed by the Council, and subsequently enacted into law by the General Assembly, dealt with: (1) a report on the short and long-term economic impact on water companies from the sale of their lands; (2) the prohibition of the sale or lease of certain water company lands for two additonal years; and (3) a requirement that DEP study various environmental aspects of water supply management.

SECTION 2: LEGISLATION ENACTED IN 1978

Several major environmental bills were passed during the 1978 Legislative Session. Many of them had been submitted in prior sessions, and had been discussed extensively over the years. Three major bills involving inspection and maintenance of automobiles, the Bottle Bill, and agricultural lands were enacted.

The Inspection and Maintenance Bill, with an effective date of 1980, was passed in response to Congressional directive. The 1977 amendments to the Federal Clean Air Act specify that states which have not attained ambient air quality standards for transportation-related pollutants must enact inspection and maintenance programs to limit the amount of automobile-related pollution generated within their borders. (See Part 4 , Section 1). Connecticut's Inspection and Maintenance Bill does not specify whether the inspection program will be run by the state, by local garages, or by an independent contractor. Although necessary details are missing from the bill, it is a step toward satisfying the federal requirements and toward development of comprehensive guidelines for the program.

After five years of defeat, the Bottle Bill's victory in 1978 was a symbolic statement. Now that the issues of solid waste disposal and resource recovery are rapidly becoming a most critical environmental problem (See Part 4 , Section 2), the positive vote on the Bottle Bill is a strong signal that legislators were equally aware of the dimensions

of the problem. The Bill becomes effective in 1980, and will require a deposit on all beverage containers. In addition, an anti-litter bill was enacted, taxing business to provide for public education concerning litter and recycling, litter pick-up, and the establishment and improvement of both municipal and private recycling programs.

The most significant piece of legislation enacted in the 1978 Session concerns The Preservation of Agricultural Lands. The bill mandates a two-year pilot program for the purchase of development rights for farmland, with financing provided by an initial $5 million appropriation. As a pilot program, its success will certainly be carefully weighed prior to the Legislature making any further appropriations. (See Part 5).

In other action, proposed coastal area management legislation was deferred for study during the 1978 Session, and legislation amending the commissioner's authority for regulation of solid waste facilities was passed. This particilar bill, Public Act 78-67, is further discussed in Part 4 , Section 2, of this report.

A listing of the above bills is provided below. Summaries are available from the Legislative Research Office concerning other environmental bills passed during the 1977 and 1978 General Assemblies.

FULL TITLES OF 1977 and 1978 PUBLIC ACTS

Public Act 77-514	AN ACT CONCERNING THE CONNECTICUT ENVIRONMENTAL POLICY ACT
Public Act 77-456	AN ACT CONCERNING PUBLIC ACQUISITION OF WATER COMPANY LANDS
Public Act 77-606	AN ACT CONCERNING THE COUNCIL ON WATER COMPANY LANDS
Public Act 78-16	AN ACT TO PROVIDE ECONOMIC INCENTIVES FOR CONSUMERS TO RETURN USED BEVERAGE CONTAINERS AND TO ENCOURAGE THE RECYCLING AND REUSE THEREOF
Public Act 78-67	AN ACT CONCERNING SOLID WASTE MANAGEMENT
Public Act 78-152	AN ACT CONCERNING COASTAL AREA MANAGEMENT
Public Act 78-232	AN ACT CONCERNING THE PRESERVATION OF CONNECTICUT AGRICULTURAL LANDS
Public Act 78-319	AN ACT CONCERNING LITTER CONTROL & RECYCLING
Public Act 78-335	AN ACT CONCERNING THE CONTROL OF MOTOR VEHICLE EMISSIONS

Part 4:

Environmental Quality Update

In fulfilling its legal responsibilities, the Council has an excellent opportunity to observe DEP in action. It comes into contact on a daily basis with the various operating units of the agency, and as a result of citizen complaints and environmental impact statement work, the Council has a first-hand opportunity to work closely with the regulatory units within the Environmental Quality Division. Many of the observations which follow in this section are a direct result of these daily observations. However, due to the limited staff within the Council, a detailed performance evaluation of every unit within the Environmental Quality Division is not possible at this time.

This part of the report will address each significant area of environmental responsibility within the Environmental Quality Division, discuss new developments, and briefly outline the program achievements. As stated in the Preface, it is not the Council's intention to duplicate the extensive information contained within DEP's Administrative Report to the Governor, which is publicly available as a separate document. Consequently, for many units and resource areas the discussion is limited.

The Council felt it could best serve the Governor, the General Assembly, and the citizens if it lent its expertise in the evaluation of one or two critical environmental problems, particularly those within the area of environmental regulation. Within the past year, the Council has had an opportunity to work closely with DEP's Solid Waste and Air Compliance Units. Since it is the Council's determination that Connecticut's deteriorating air quality and more specifically, its automobile-related air pollution, is a most severe environmental problem, air quality has been chosen by the Council as an issue to discuss in greater detail. In addition, due to the Council's recognition that solid waste landfill siting problems and slowness of resource recovery solutions were posing a severe policy problem for DEP, the issues involved with solid waste are discussed in detail as well.

SECTION 1: AIR QUALITY

Clearly, the most significant environmental problem facing Connecticut at the present time is the attainment of national air quality standards by 1982, as set forth in the Federal Clean Air Act. It is a problem of staggering dimensions: for photochemical oxidants (smog), levels in excess of the primary standards are frequently recorded across the state, sometimes by a factor of four; for carbon monoxide, statistics show that despite attempts to reduce carbon monoxide levels, 1977 was a record high year; for particulates, the state is violating the primary federal standard in certain urban areas, and is exceeding the secondary standard nearly statewide. Indeed, only for sulfur oxides and nitrogen oxides is the state considered "attainment", and the attainment for sulfur oxides is principally due to a nationally-recognized but controversial low-sulfur requirement instituted on a statewide basis in early 1972.

High air pollution levels have serious effects. A full quarter of a million Connecticut citizens, already suffering from various respiratory ailments, are deprived of their full range of normal activity every time that the air quality index reaches "unhealthy" levels; during the summer of 1977 unhealthy levels were reached one out of every three days. In addition, air pollution is costing Connecticut citizens as much as $94-$200 million per year due to damage costs, lost employment time, etc. (See Part 9, Economic Analysis). Most significantly, high air pollution levels pose an economic development constraint: unless a state can show progress toward achieving federal clean air standards, NO NEW MAJOR SOURCES OF AIR POLLUTION CAN BE PERMITTED, with the added possibility that federal funds for housing, sewage treatment, and highway construction will be curtailed if federal standards are not met.

The Major Pollutants and Their Effects on Health

Particulates, which consist of solids and liquids such as dust, smoke, mists and sprays, are caused by many types of industrial operations as well as the burning of fuels and incinerators. Particulates irritate and damage the respiratory tract. The extent of the health damage done by particulates depends a great deal on their chemical composition. Particulates often contain hazardous air pollutants such as asbestos, cadmium, mercury, iron and lead. Particulate levels have been reduced 25 percent since 1972, largely due to controls put on industrial sources.

Sulfur oxides (SO_x) are caused primarily by the burning of fuels containing sulfur for heating and electricity generation. Sulfur oxides are heavy, pungent gases which irritate the upper respiratory tract.

They also cause considerable plant damage and corrode iron and steel. Research shows even greater health damage from the synergistic effects of sulfur oxides and particulate matter and the combination of the two pollutants to form sulfates. The level of sulfur oxide pollution has been reduced approximately 50 percent since 1972. The easiest, cheapest and single most effective method of controlling sulfur oxide emissions is to control the amount of sulfur in fuel burned in the state. In 1972, Connecticut reduced the allowable amount of sulfur in fuel to .5 percent.

Nitrogen oxides (NO_x) are a family of chemicals containing harmless nitrogen. Usually only two nitrogen oxides are considered air pollutants -- nitric oxide and nitrogen dioxide. Nitric oxide is a relatively harmless gas which is formed when combustion takes place at very high temperature, such as in automobile cylinders or electric power plants. Nitric oxides are transformed, however, to nitrogen dioxide, a much more toxic gas. A study of school children in Tennessee showed that the breathing ability of those who lived in the area of high nitrogen dioxide emissions was significantly lower than that of children living in areas where pollutant levels were low. Nitrogen dioxide also harms vegetation by inhibiting growth and in combination with water vapor it becomes nitric acid (a corroder of metal).

Most importantly, all oxides of nitrogen must be considered since they, along with hydrocarbons, combine to form photochemical oxidants (ozone).

Carbon monoxide (CO) is caused almost entirely by the incomplete combustion of gasoline in motor vehicles. CO is a colorless, odorless, toxic gas which in high concentrations causes death. It replaces the oxygen in the blood stream, thus impeding the life-sustaining transfer of oxygen from the lungs to body tissue. Common symptoms of exposure to CO include nausea, headaches and drowsiness. High levels of CO will be found wherever there is a great deal of idling traffic - at intersections, inside parking garages, at toll booths, etc. CO dissipates in air very quickly over distance (i.e. the closer one is to the source, the higher the CO levels will be.) In Connecticut, 95% of carbon monoxide is emitted by motor vehicles.

Hydrocarbons (HC), a class of compounds containing carbon and hydrogen, are found especially in petroleum, natural gas and coal. In Connecticut, approximately 70 percent of hydrocarbon emissions come from motor vehicles. Hydrocarbons are also released into the air by evaporation. The oil industry is composed of many operations which produce hydrocarbon vapors - gasoline storage, tank truck filling, etc. Most hydrocarbons are harmful to man only in extremely high concentrations. The real danger of hydrocarbons is that they participate in the formation of photochemical oxidants.

TAELE 1

SUMMARY OF AIR QUALITY DATA*

POLLUTANT	PRIMARY AIR QUALITY STANDARD	MEASURED HIGH VALUE 1977 ***	SITE
Total Suspended Particulates (TSP)**	75µg/m^3 Annual Mean	81.3µg/m^3	Waterbury
	260µg/m^3 24-Hr. Average	332 µg/m^3	Hartford
Sulfur Dioxide (SO_2)	80µg/m^3 Annual Mean	37.8µg/m^3	New Haven
	365µg/m^3 24-Hr. Average	209 µg/m^3	Hartford
Nitrogen Dioxide (NO_2)**	100µg/m^3 Annual Mean	85.3µg/m^3	Greenwich
Photochemical Oxidants (Ozone) (O_3)	.08 ppm 1-Hr. Average	.335 ppm	Derby
Carbon Monoxide (CO)	9 ppm 8-Hr. Average	33.5 ppm	Stamford
	35 ppm 1-Hr. Average	49 ppm	Stamford

* Taken from 1977 Air Quality Summary - DEP Air Compliance Unit
** Measured Only Every 6th Day
*** Measured high values are in the same statistical base as the standard.

Photochemical oxidants (smog, ozone) are formed when nitrogen oxides and hydrocarbons combine in the presence of sunlight and warm temperatures. Ozone is an irritant of the respiratory tract and interferes with the normal function of the lungs. Frequent violations of the air quality standard for ozone were measured at every monitoring site in 1977. (See Table 2).

While most people are aware of the dangers of breathing some gases such as carbon monoxide, in Connecticut citizens breathe very high levels of photochemical oxidants and are unaware of the dangers to their health. The ozone problem is not a localized problem, but a problem which covers the entire state. Just as some pollution dissipates quickly over distance, the opposite reaction occurs with ozone. It is transported over large distances, with levels building as the air mass moves along.

Research has shown that ozone interferes with the normal function of the lung, causing such effects as decreased air ventilary function, aggravation of heart and lung disease, aggravation of asthma and other allergies, eye irritation, coughing and headache. But most importantly, ozone attacks the body's defenses, leaving a person more susceptible to respiratory infections.

Lead, which in its airborne form is caused principally by automobile exhausts, can harm human nervous, kidney, and blood-forming systems. Lead accumulates in the body, and exposure to high levels of lead may have severe and sometimes fatal consequences (such as brain disease, colic, palsy, and anemia). 90% of total air lead emissions come from automotive exhausts, particularly in urban areas; however, other important contributors are industrial sources such as non-ferrous smelting industries. The lead standard, adopted in September, 1978 by EPA, is the first primary standard issued since 1971. The Connecticut DEP has not yet determined which regions in the state violate the standard.

Polluted air holds a special threat to those already vulnerable -- children, the elderly and persons suffering from lung or heart disease. In Connecticut alone there are 600,000 cases of chronic lung and heart conditions. These people are advised to severely limit their activities during the summer months when Connecticut's ozone levels repeatedly violate health standards.

The Federal Clean Air Act and Its Amendments

Originally passed in 1970, the Federal Clean Air Act set requirements for achieving air quality in areas with air pollution levels above the medically-recognized threshold for protecting human health. This "threshold" was embodied in the Clean Air Act as the primary standard,

TABLE 2

1977 OZONE
1-HOUR CONCENTRATIONS

(parts per million)

SITE	1st HIGH	2nd HIGH	.80	0	.100	.200	.300	.400
Bridgeport-123	7/16/13			.276				
		7/16/15		.274				
Danbury-123	7/17/16			.285				
		7/17/17		.265				
Derby-123	7/16/14			.335				
		7/21/17		.323				
Eastford-001	5/23/17			.235				
		5/23/18		.235				
Enfield-123	8/29/16			.244				
		8/29/17		.227				
Greenwich-004	7/16/16			.225				
		8/4/18		.220				
Groton-123	7/16/16			.263				
		8/16/15		.259				
Hamden-001	7/16/14			.276				
		7/16/17		.270				
Hartford-123	7/13/17			.260				
		8/29/15		.255				
Morris-001	6/17/14			.210				
		6/17/15		.195				
Middletown-003	5/6/15			.216				
		7/17/16		.200				
New Haven-123	7/16/16			.333				
		7/16/15		.332				

Primary

Date is read as month/day/hour of occurrence

a federally-designated "ceiling" of air pollution necessary to protect human health. Secondary standards, or further reductions in air pollution levels, were also outlined in the act as eventual air quality goals. The original act mandated that individual states prepare State Implementation Plans (SIP's) in order to demonstrate how the primary standards would be met for various pollutants by mid-1977 and maintained and enforced thereafter. Connecticut prepared its first SIP in late 1971, and received approval from the Environmental Protection Agency in May, 1972. Since then, federal funds have largely supported Connecticut's air quality monitoring and enforcement efforts.

However, in 1977 Congress recognized that many states, including Connecticut, were having difficulties meeting the primary standard for most pollutants. The deadlines in the Clean Air Act were then amended, and new provisions concerning compliance with clean air policies were adopted. The date for achieving the primary standards was pushed from 1977 to December 31, 1982, with the provision that cities with severe oxidant and carbon monoxide problems could be granted an extension to December 31, 1987 (if additional conditions were met).

All states which have regions designated "non-attainment" under the 1977 Clean Air Act Amendments are now required to prepare and submit to the Environmental Protection Agency for approval a revised SIP showing the state's "reasonable progress" toward achieving the primary standards by 1982 (or 1987 for oxidants and carbon monoxide). Connecticut is now in the process of developing this revision for submittal in early 1979. However, in order for Connecticut's SIP to be approved, it must contain the following:

1. A demonstration of "reasonable further progress" toward achieving the 1982 standards, including the requirement that all "reasonably available" pollution control technology be used;

2. An emissions inventory for each non-attainment area;

3. Provision for "growth allowances", which would require new major sources of air pollution to "offset" their proposed air pollution by reducing existing levels of air pollution by the same amount;

4. A mechanism for preventing the significant deterioration of air quality in areas that have achieved the standards (in Connecticut, this will apply particularly to sulfur oxides);

5. A detailed permit procedure which will require that all new sources or modifications of existing sources will pollute no more than the lowest achievable emission rate.

6. A detailed timetable for achieving the oxidant and carbon monoxide standards no later than 1987; and

7. A process for incorporating public involvement in state decision-making on clean air issues.

Of special significance in the 1977 Amendments is the new provision for the "prevention of significant deterioration" (PSD) in areas where the air is already cleaner than the primary standard. Connecticut's SIP must in addition provide that when the standards are reached, no significant deterioration will be allowed to occur.

The 1977 Amendments contain serious penalties, or sanctions, which can be applied if Connecticut fails to make reasonable progress toward meeting the standards. These sanctions include a prohibition on major new sources of air pollution; withdrawal of federal funding for the DEP Clean Air Program, for highway projects, research grants, or other federal agency support. These are serious penalties which the business and industrial community is eager to avoid.

Progress in Developing Connecticut's SIP

Due to administrative problems within the DEP Air Compliance Unit and due to the lack of a permanent Director for over a year, no significant progress was made in developing a State Implementation Plan (SIP) for submittal to the Environmental Protection Agency until the Fall of 1978. Indeed, officials at Region I EPA were concerned that Connecticut would be one of the few New England states to miss not only the January 1 filing deadline, but the July 1, 1979 EPA approval date as well. Concern was expressed by EPA to the Governor and Commissioner Pac, and a special grant was awarded to the CEQ by EPA in October of 1978 to assist DEP with the development of the plan.

In September, 1978 a new Air Compliance Director was appointed, and work on preparing a SIP began in earnest. A special ad-hoc advisory panel was established to work with DEP on the development of air pollution control strategies for the SIP, with representation from government agencies, the Legislature, business and industry, and citizen groups. Task-oriented subcommittees were formed, gathering expertise from all branches of the public and private sectors, dealing with such diverse work elements of the SIP as stationary source controls, mobile source controls, economic growth, public participation, and development of regulations. Public hearings were scheduled for early January, and Commissioner Pac held the first press conference of his tenure as Commissioner of DEP to announce the establishment of the advisory board process and the timetable for development of the SIP. Public involvement in the development of the proposals was strongly urged.

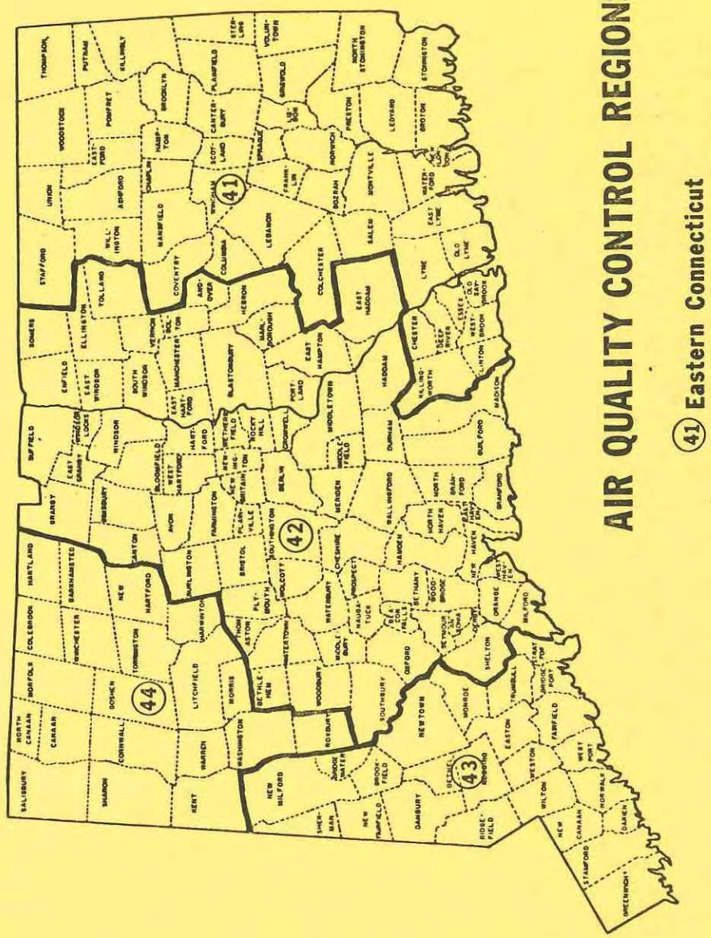


Figure 1

TABLE 3

COMPLIANCE WITH NAAQS OF CONNECTICUT'S AQCR'S

	PRIMARY OR SECONDARY	NAAQS	AQCR 41	AQCR 42	AQCR 43	AQCR 44
TSP	Primary	Annual	A	X	A	A
		24-Hour	A	X	A	A
	Secondary	Annual	X	X	X	X
		24-Hour	X	X	X	X
SO_2	Primary	Annual	A	A	A	A
		24-Hour	A	A	A	A
	Secondary	Annual	A	A	A	A
		24-Hour	A	A	A	A
OZONE	Primary	1-Hour	X	X	X	X
NOx	Primary	Annual	A	A	A	A
	Secondary	Annual	A	A	A	A
CO	Primary	1-Hour	U	A	A	U
		8-Hour	U	X	X	U
	Secondary	1-Hour	U	A	A	U
		8-Hour	U	X	X	U

X = Non-Attainment

U = Unclassifiable

A = Attainment

It is expected that the SIP will be completed in March, 1979 for submittal to the Environmental Protection Agency. Implementing regulations, however, will still need to be approved by the Regulations Review Committee of the Legislature, as all legal authority for enforcing the SIP must be in place prior to EPA approval on July 1, 1979.

The Council on Environmental Quality is confident that the Air Unit is making an honest and dedicated effort to prepare the SIP on time. The CEQ applauds the significant progress which has already been made, and urges that the strongest possible plan be developed.

SIP Strategies

Clean air will not be achieved in Connecticut without great sacrifice on the part of all sectors: business, government, and the individual citizen. All air pollution solutions are not easily adopted, and the SIP as developed by DEP will contain many provisions which will be expensive and unpopular. Some of the strategies which may be used are as follows:

1. For Stationary Sources (which are non-movable sources of air pollution such as power plants, factories, schools, hospitals, and any large installations with furnaces) control strategies will include limiting and carefully monitoring their pollutant emissions. Any major new sources of air pollution must be "offset" by concurrent emissions from existing sources within the area. New sources of emissions will also be required to be reduced to the lowest achievable emission rate (LAER) by pollution control equipment or techniques. This combined strategy of "offsets" and LAER must lead to a net overall improvement in air quality statewide. In addition, the revised SIP must provide for annual emission reductions for existing sources, which can only be achieved by requiring that plants install reasonably available control technology.

2. For Mobile Sources (such as cars, trucks and buses, which are still the major contributor to the state's air pollution problem) proposed strategies include annual inspections of automobiles to insure lowest possible emissions (legislation was already enacted by the 1978 General Assembly); increased use of public transit; car pool incentives; additional employer vanpooling programs; recovery of lost gasoline vapors at gasoline stations and gasoline storage areas; addition of air pollution control devices on gasoline-powered trucks or other heavy-duty vehicles; and review of all transportation plans to assure their consistency with clean air goals and programs.

Other transportation strategies could involve greater parking management; staggered work hours, increased planning and funding for light rail systems, exclusive busways and other public transit modes; setting a limit on the amount of vehicle-miles traveled; and incorporating traffic operation improvements.

3. To fulfill the PSD requirement (Prevention of Significant Deterioration), the SIP must indicate a process for guaranteeing that such deterioration will not occur. Strategies might include: pre-construction review of new stationary sources with emissions of 100 tons or more per year; a requirement that "best available" control technology be installed; a requirement that owners or operators demonstrate that the resource will not exceed the allowable standards, or increments, established within the SIP.

The Issue of Interstate "Transport"

Of great concern to the business community and state officials alike is the contribution that upwind states make to our already severe air pollution problem. DEP estimates that on summer days with wind conditions from the southwest, as much as 50% of Connecticut's oxidant problem may be due to the "transport" of air pollution (specifically oxidants, or ozone) from New York and New Jersey. Consequently, in mid-1978 the Connecticut Business & Industry Association, the Connecticut Conference of Municipalities, and the New England Legal Foundation filed suit against the Environmental Protection Agency and the states of New Jersey and New York for violating the intent of the Clean Air Act by allowing upwind states' emissions to travel to Connecticut. At issue is the uniform administration of standards and controls in all states across the country. Connecticut should not be penalized by having to solve the air pollution problems of other states.

However, it is important to note that even given the transport issue, Connecticut nonetheless violates the primary standards for oxidants by a factor of two on days with stagnant wind conditions. Transport further aggravates the level of violation, to be sure, but it does not in itself cause the violation for oxidants in Connecticut on all days.

It is imperative that the DEP develop a SIP which will adequately address Connecticut's own generated pollution. The Council on Environmental Quality further believes that the Environmental Protection Agency, in exercising its SIP approval authority over all other states, must be consistent in requiring stringent controls across the country which will ultimately minimize the transport problem.

Planning for "Clean Air" Transportation Systems

The transportation sector is by far the largest cause of Connecticut's smog problems (see Figures 2, 3 and 4). Recent DEP research shows that mobile sources may contribute as much as 50% to the particulate problem as well (see Figure 4).

DEP has been working on a plan to control transportation-related pollutants since 1973 when EPA informed the state that its current SIP was inadequate to meet air quality standards and was disapproved until a transportation control section was included. Clearly, under the 1977 Clean Air Act Amendments, such a section is mandatory for 1979 SIP approval. The strategies of a transportation control plan represent some of the most difficult societal changes environmental protection will require.

The DEP forecasts show Connecticut will not meet clean air standards for mobile source pollutants by 1982. To be eligible for an extension until 1987, the Clean Air Act requires the revised SIP to include all "reasonably available control measures."

It is important to indicate that EPA considers the following measures to be "reasonably available", and that they must be examined for inclusion in the SIP:

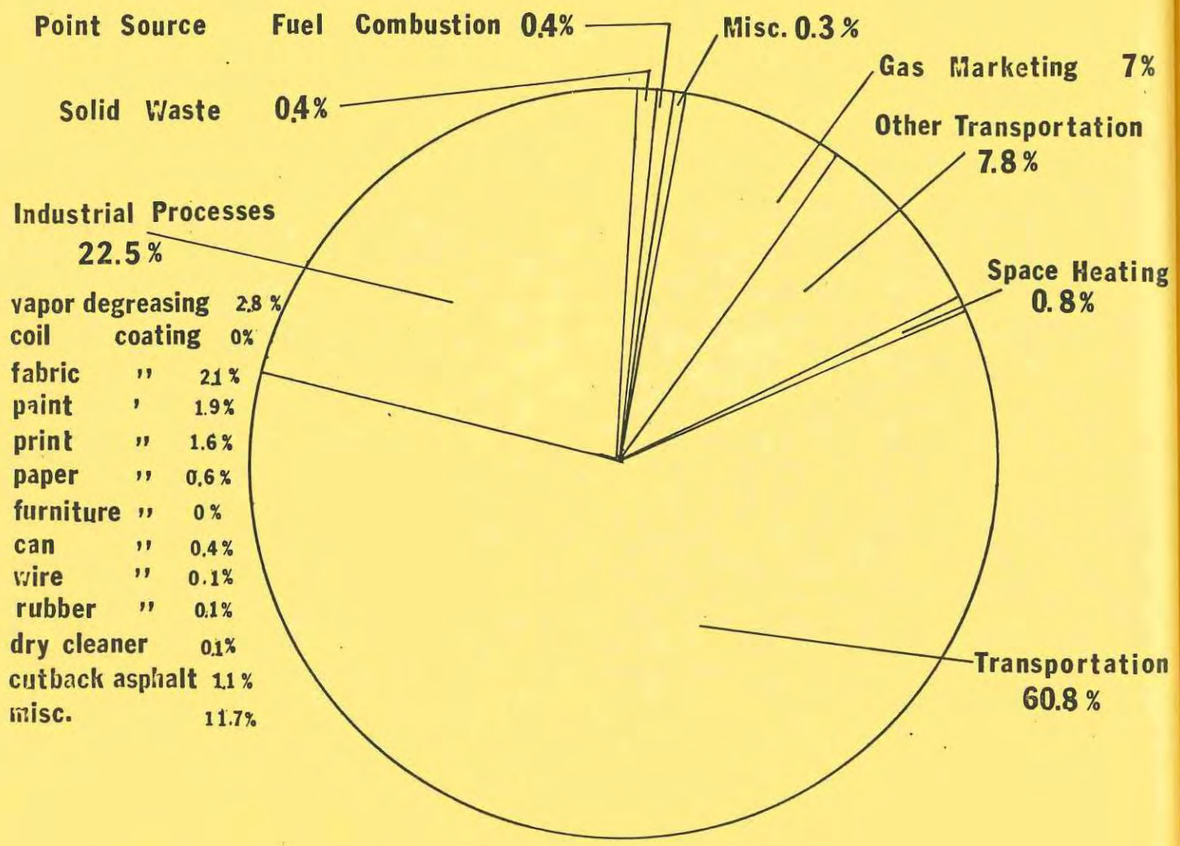
* Improved public transit
* Exclusive bus and carpool lanes
* Private car restrictions
* Long-range transit improvements
* On-street parking controls
* Park-and-ride and fringe parking lots
* Pedestrian malls
* Employer programs to encourage car and vanpooling, mass transit, bicycling and walking
* Bicycle lanes and storage facilities
* Staggered work hours
* Road pricing to discourage single occupancy auto trips
* Controls on extended vehicle idling
* Traffic flow improvements
* Alternative fuels or engines and other fleet vehicle controls
* Heavy-duty vehicle retrofit for pollution control
* Extreme cold start emission reduction programs
* Inspection & maintenance programs
* Vapor recovery controls
* Review of transportation plans to assure air quality consistency

Figure 2

HYDROCARBONS

RELATIVE CONTRIBUTION BY CATEGORY

STATEWIDE SUMMARY



TOTAL HYDROCARBONS=197,422 TONS PER YEAR

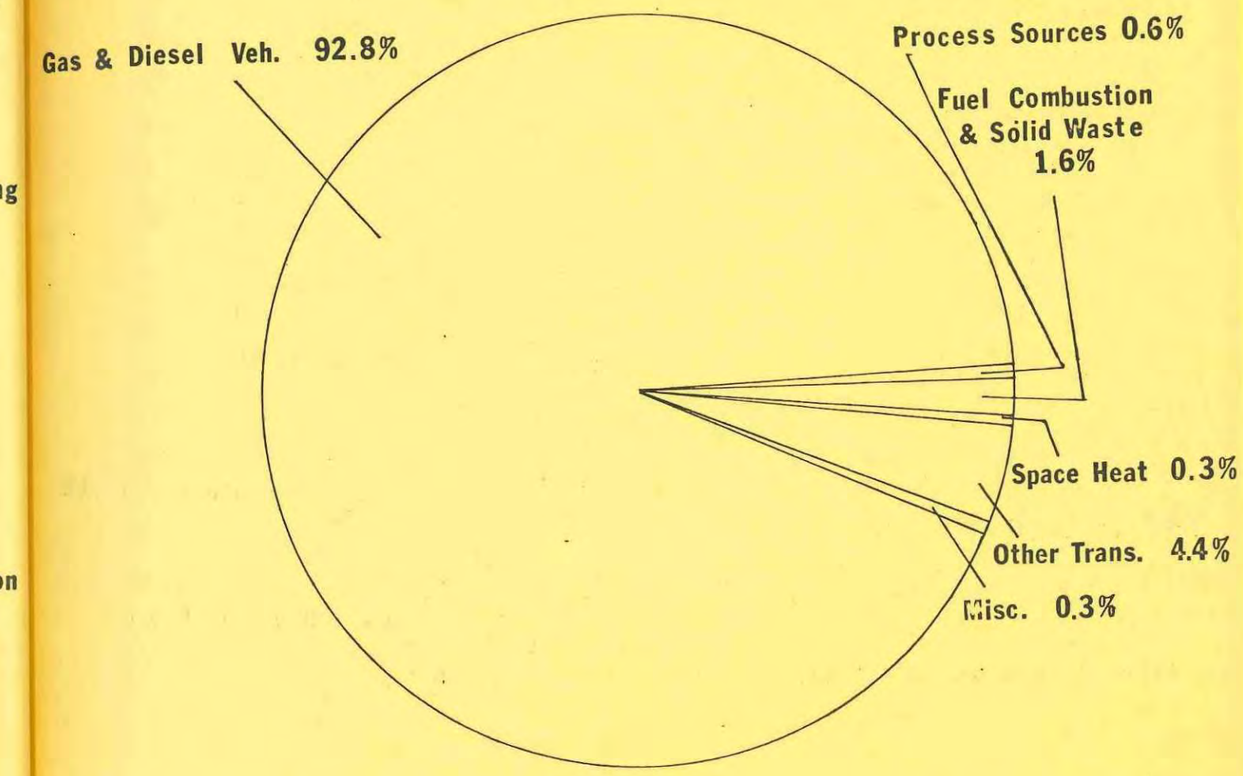
1976

Figure 3

CARBON MONOXIDE

RELATIVE CONTRIBUTION BY CATEGORY

STATEWIDE SUMMARY



TOTAL CARBON MONOXIDE=1,068,883 TONS PER YEAR

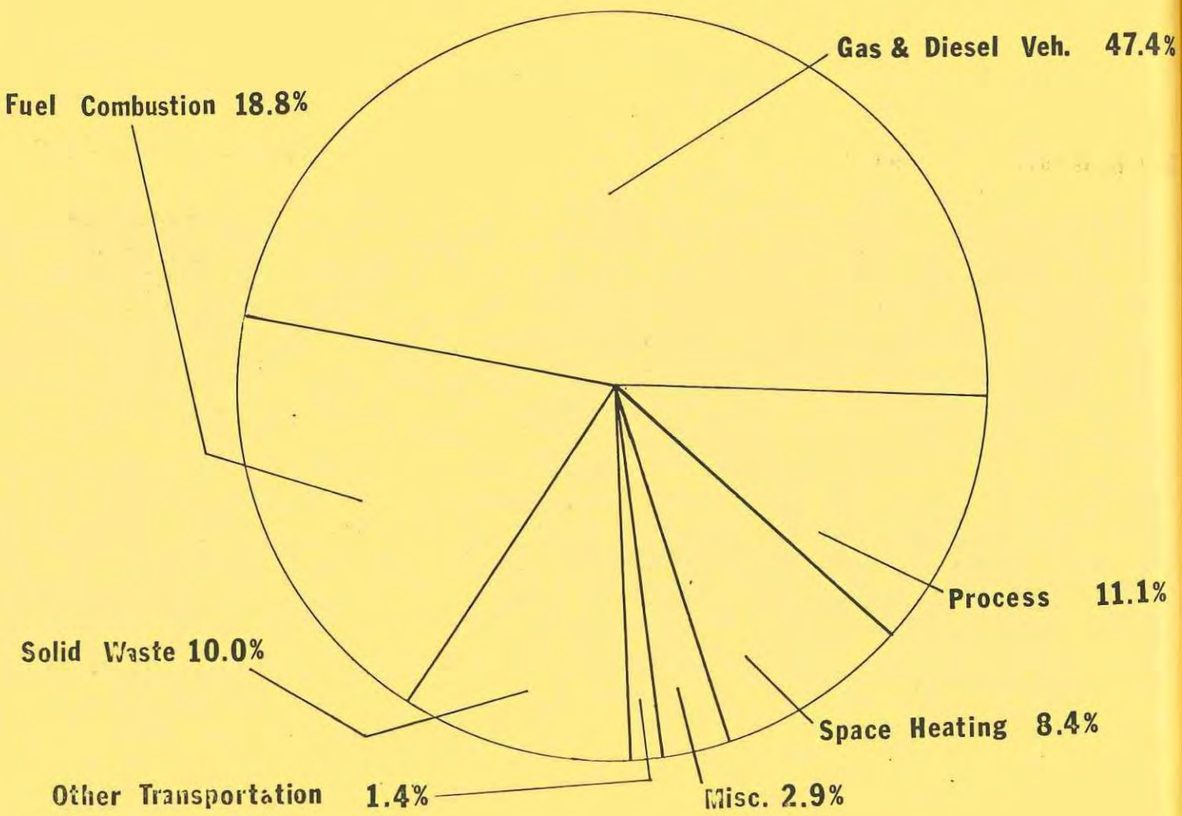
1976

Figure 4

PARTICULATES

RELATIVE CONTRIBUTION BY CATEGORY

STATEWIDE SUMMARY



TOTAL PARTICULATES=50,646 TONS PER YEAR

1976

Connecticut has already enacted some of the necessary transportation control plan measures. The 1978 Session of the General Assembly passed an annual inspection and maintenance program for automobiles which in the short-term will reduce emissions from Connecticut-registered automobiles. Limited carpooling and vanpooling programs established voluntarily by business and industry have been implemented.

An Indirect Source Permit Program, enacted in 1974, required that DEP regulate air quality emissions from "indirect sources" such as major new highways, airports, and shopping centers. In 1977 the program was limited to highways and airports, amid great controversy. Since then, the program has been the focus of inter-agency battles between the DEP and the Department of Transportation (DOT). DOT charges that the program is ineffective, costly, and time-consuming; DEP maintains that it is ineffective only because DOT pre-determines the necessary traffic figures so that a permit will automatically be granted. From the outset the intent of the program was to assure that achievement of the air quality standards would not be hindered by the construction of new indirect sources of air pollution, such as highways.

During 1977 and 1978 several major highway projects won approval from DEP amid public controversy. In 1977, Commissioner Pac ruled that building Interstate I-84 from Hartford to the Rhode Island stateline would be "consistent" with the goals of air quality. The widening of I-86 was granted an indirect sources permit. The construction of Route 25 from Bridgeport to Trumbull was granted an indirect sources permit, although not before 1983 or after 1991. And in September, 1978 Commissioner Pac ruled that an indirect source permit for the construction of Route 72 in Plainville would not be required, due to a definitional dispute with the DOT. Therefore, on October 26, 1978, the Council on Environmental Quality petitioned Commissioner Pac for a declaratory ruling on the indirect source program and these definitional disputes. The Council believed that clarification of these items was critical during the SIP development process. As of January 10, 1979, Commissioner Pac had not responded with a ruling. Clearly, disagreements regarding definitions, methodology, etc. must be ironed out if the program is to make a meaningful contribution to the air pollution cleanup effort.

The Council on Environmental Quality strongly urges that the DOT recognize its responsibility to provide transportation facilities which will meet the requirements and the spirit of the Clean Air Act; this includes a review of existing plans for highways and other facilities to reevaluate their justification in light of these stringent air quality requirements. Similarly, it is also the responsibility of the DEP to work cooperatively with DOT to assure early planning for "consistent" transportation options.

Historically, the burden of cleaning Connecticut's air pollution levels has fallen upon the business and industrial community. Generally, they have already done their fair share. The problem now facing Connecticut comes from the transportation sector -- mainly, the single passenger automobile.

In the words of EPA Administrator Douglas Costle, "Building highways is incompatible with solving our air pollution problem" (speech before the Connecticut Forest & Park Association Conference, 4.24.78). The Council trusts that this represents a commitment on the part of EPA to work with states to solve difficult transportation problems.

Certainly, the root of the problem is society's dependence upon the automobile. Unfortunately, public transportation facilities have not yet been sufficiently developed and marketed to enable consumers to take public transit rather than drive to work alone. The Council on Environmental Quality urges that public transportation facilities such as light rail, express bus, and vanpools be developed and incentives provided for their use. In the long-term, public transportation will be the only answer to solving Connecticut's increasing air pollution problem.

Transportation Plan Review

For the past four years the DEP, in cooperation with DOT, EPA, and citizen groups, has been trying to develop a program whereby all transportation plans would be reviewed by DEP to insure that air quality is improved. The Council on Environmental Quality hopes that such a program is fully implemented in the revised SIP, to include the following:

1. A requirement for a reduction in the number of vehicle miles traveled statewide;
2. A percent reduction goal assigned to each region to insure that the primary standards will be met no later than 1987;
3. A mandatory analysis and consideration of public transportation alternatives when highways are contemplated; and
4. A mandate that approval from DEP be required for all transportation projects.

Enforcement

The strategies in the revised SIP will be meaningless unless adequate enforcement is provided at the same time. Once the planning process is concluded, enforcement becomes the most important element in reaching clean air goals. In addition, monitoring air quality is crucial; without adequate monitoring data the cleanup progress cannot be measured or guaranteed.

The Council on Environmental Quality urges the Fnvironmental Protection Agency to fund the Connecticut Air Quality Program at a level where such enforcement and monitoring can be assured. Most importantly, however, the Council urges that state barriers to refilling state positions or utilizing state funds for positions be removed. In December, 1974 the Air Complaint Unit had 79 filled federal positions and 32 filled state positions; by November 1, 1978 the total number employed had dwindled to 54 federal positions and 24 state positions filled. Partially responsible for this decline is the reduction in the federal grant from EPA; equally responsible, however, are state procedures which hamper refilling of vacant positions.

Staffing problems have not been the unit's only difficulty. Enforcement has been sporadic for several air pollution programs which are chronic on the local level: odor, open burning, fugitive dust, demolition activities, and watchdogging new construction. Staff too few in number and located in Hartford often cannot take the time to drive an hour or more to a local community for a routine compliance check, particularly for a citizen odor complaint. Consequently, many nagging "nuisance" air quality problems do not receive the attention from the Air Compliance staff that they deserve.

The Council on Environmental Quality would like to recommend that the Air Compliance staff delegate specific programs (such as odor, fugitive dust, etc.)to certain local officials, such as health officers, along lines similar to the method presently employed for open burning. It is the Council's opinion that qualified public health officers can provide a secondary enforcement branch to DEP and eliminate the necessity of travelling long distances from Hartford for routine inspections. Programs as subjective as odor, for example, are also often best administered by local enforcement officers who are available at all times and who have a basic familiarity with the community. (See Part 8 of this report, Section 1).

Recommendations of CEPED

In March of 1978 the Commission on Environmental Protection and Economic Development (CEPED), formed under Special Act 76-59 to investigate environmental programs which might have an effect on Connecticut's economy, released a report on Air Quality which contained several key recommendations. The Council on Environmental Quality has reviewed this excellent report and wishes to endorse the recommendations contained therein, which are listed below:

A. Enact legislation for an Inspection & Maintenance Program in 1978 (already enacted by 1978 General Assembly)

B. Adopt California Vehicle Emission Standards in 1979

C. Double DOT expenditures on Capital Improvements for public transportation in the next two-year period

D. Require business to offer commuter incentives

E. Enact a review process to assure that transportation plans do not cause further degradation of air quality, but, in fact, improve the state's air quality

These should be seriously considerd by the 1979 General Assembly and the DEP as well in the adoption of its State Implementation Plan.

SOURCES

1. *Connecticut Air Quality Summary, 1977 (Table 2)*

2. *Draft Revised State Implementation Plan for Air Quality, Dec. 11, 1978 (Figures 1 through 4, Table 3)*

3. *Report of the Connecticut Commission on Environmental Protection and Economic Development; Part 1: Air Quality*

SECTION 2: SOLID WASTE

Ever since the passage of the 1973 Connecticut Resources Recovery Act, Connecticut towns have been patiently awaiting the end of their solid waste troubles. For the past ten years, Connecticut's municipalities have been faced with the glum prospect of either having their local landfill areas filled to capacity, or informed that their landfill or incinerator didn't meet pollution abatement standards and faced mandatory closure. A resource recovery system, which sifts out recyclable materials and turns garbage into usable energy or profit, couldn't have come too soon for many communities who are, literally, being buried in garbage.

Unfortunately, being the first with an idea does not always guarantee quick solutions. Although Connecticut was the first state in the country to adopt a comprehensive solid waste management planning and implementation system, it has yet to see the commercial operation of its first resource recovery facility.

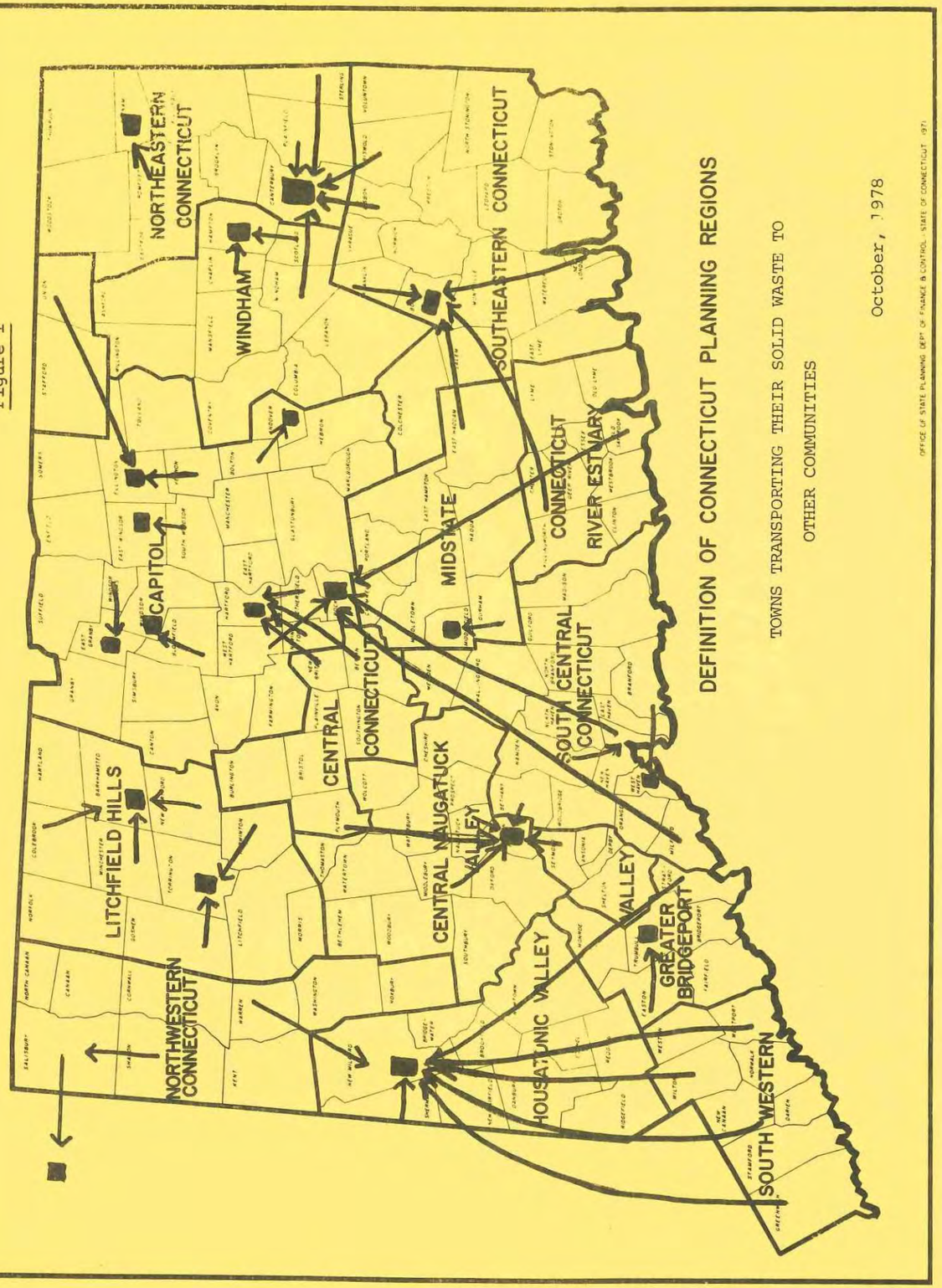
The Council on Environmental Quality has been deeply involved in solid waste issues during the 1978 year. Numerous citizen complaints concerning landfill operations in municipalities across the state were referred to the Council for resolution and investigation. Among these complaints were the Colchester Regional Landfill, siting of a new regional landfill in Seymour, the Montville Landfill, Cromwell Landfill, and the Canterbury Landfill. As a result of its work in the solid waste area, the Council feels that an in-depth look at solid waste management and planning for the state is in order.

The Problem

The dimensions of the solid waste crisis are staggering. Connecticut citizens generate over 6,000 tons of trash and assorted garbage per day; or put another way, over six lbs. per person per day. 95% of this refuse is disposed of at the presently existing 164 disposal sites of various types situated throughout the state, all of which are landfills at the present time. One graphic way to illustrate the amount of refuse produced per day and the disposal problem that it creates: the amount of waste produced by the state would cover over two acres of land three feet deep per day. To make matters worse, 51 Connecticut towns are now disposing of their refuse in landfills outside their town boundaries (see figure 1), and over 5,400,000 tons of solid waste will be generated by 1983 without a presently available landfill site.

Finding landfill sites for the disposal of this growing amount of refuse is a problem; however, it is an even more difficult task to find a landfill site that is suitable geologically and that will

Figure 1



DEFINITION OF CONNECTICUT PLANNING REGIONS

TOWNS TRANSPORTING THEIR SOLID WASTE TO OTHER COMMUNITIES

October, 1978

OFFICE OF STATE PLANNING DEPT OF FINANCE & CONTROL STATE OF CONNECTICUT (97)

not contaminate groundwater supplies. The U.S. Geological Survey (U.S.G.S.) completed in 1977 a reconnaissance survey of disposal areas throughout the state as part of its 208 contract, and DEP's Solid Waste Unit identified 22 landfill sites which are located in watersheds of public water supplies. Nine landfills were identified as located over aquifers (potential sources of water supply). An additional 12 were identified as polluting underground drinking water.

The Solid Waste Unit of the Dept. of Environmental Protection has management and enforcement authority over disposal operations within the state. However, only 40% of the 164 disposal sites have been issued permits by the Solid Waste Unit, due to late passage of legislation and regulations enabling the DEP to set standards. To further aggravate the situation, enforcement has been difficult and orders are outstanding at both municipal and private landfill operations.

The mere recognition that a significant amount of solid waste is generated within a town's borders does not necessarily spark community spirit toward resolving the problem. In many communities, particularly those which are densely populated, few available sites remain for the land disposal of community refuse. In addition, neighboring communities are unwilling to accept the solid waste burdens of another town.

In 1978 significant political battles occurred over the siting of various regional landfills: the Colchester Landfill; Seymour Landfill; and on-going operations at the Rocky Hill, Canterbury, and New Milford Landfills. Communities such as New Haven, Old Saybrook, Milford and West Hartford (all communities which shut down obsolete and polluting landfills or incinerators) were forced to seek regional solutions to their solid waste problems. It became readily apparent that other communities had difficulties coping with their own refuse disposal and were unwilling to dedicate their land for the purpose of receiving another town's solid waste.

As a result, Public Act 78-67 was passed. Enacted by the Connecticut General Assembly as a result of great political upheaval and legislative concern over solid waste solutions, it prohibited the Commissioner of Environmental Protection from closing down a landfill under existing law, unless he had a reasonable alternative. It further allowed Connecticut municipalities to regulate the siting of landfills within their borders, and presumably the transportation of solid waste within their borders as well.

Resource Recovery

With the passage of the 1973 Connecticut Solid Waste Management Act mandating resource recovery, Connecticut's solution seemed obvious.

Unfortunately, the small staff of the Conn. Resource Recovery Authority (CRRA) has encountered numerous problems, many of which are endemic to any new and developing technology: (1) technology development for resource recovery has not proceeded at the rate originally anticipated. The option chosen at the first Bridgeport Resource Recovery Facility, that of refuse-derived fuel, is a technology that is still in its infancy. While it may offer more flexibility and better economic characteristics, large-scale usage has not yet been demonstrated; (2) fewer towns than previously predicted are voluntarily joining the CRRA system (despite the garbage crisis!) due to available cheaper space at their own landfills, or due to the availability of outside hauling contractors; (3) CRRA's financing has been difficult given the reduced number of commitments from towns; and (4) for the first project, now under construction in Bridgeport, delays have caused slippage in the overall operational schedule.

The first resource recovery plant, located in Bridgeport and serving nine or more towns, will soon be completed. Testing began in 1978, and operational startup should take place sometime in early 1979. Both materials and energy will be recovered from municipal solid waste: materials recovered will include glass, aluminum and ferrous products; the combustible portion of the refuse will be processed into a pulverized fuel for burning at a nearby power plant. A second project serving 40 or more municipalities is now underway, and is tentatively slated for the Hartford area.

The start of commercial operation at Bridgeport and the establishment of a second project to serve the New Haven to Hartford corridor would result in an accomodation of approximately 50% of the state's solid waste.

Landfills

The Solid Waste Unit of the DEP has projected that approximately one half of the landfills serving the state's municipalities will be closed by 1980, due to having reached capacity or non-conformance with federal restrictions. Unfortunately, the establishment of new municipal or regional landfill sites is nearly impossible in many areas of the state, and at this time 53 municipalities are presently already transporting their solid waste outside their town boundaries.

Resource recovery may reduce significantly the amount of wastes slated for land disposal; however, it will not completely eliminate the need for continued landfill operation. Residues from resource recovery will still need to be landfilled, and there will be materials that will not be recyclable or recoverable that will have to be landfilled as well (such as bulky wastes). Indeed, estimates are that as much as 10-25% of the waste stream will not be recoverable and will need landfilling.

It is well-documented that the Solid Waste Unit within DEP is encountering significant difficulties in enforcing landfill regulations. Due to each community's desire to keep their disposal price-per-ton at the lowest cost possible, corners are cut and landfill operations are often sloppy. Significant incentives for compliance presently don't exist within the solid waste laws, and the passage of Public Act 78-67 makes it increasingly difficult for the Commissioner of DEP to fulfill his enforcement responsibilities.

Every new landfill site in the state must receive approval from the Solid Waste and Water Compliance Units of DEP. At the present time, these sites are not chosen by the state DEP but by the towns themselves, by the private developer, or the landowner. These landfill locations are then analyzed in a permit application by DEP engineers and geologists to determine possible impact to ground and surface waters. During the past several years, public attention has been drawn to the difficulties encountered in siting various landfills in Colchester, Seymour and Windham. It is becoming evident that a state-wide policy for environmentally sound landfill siting is badly needed.

A landfill is a bitter pill to swallow for any community. There are no guarantees that leachate will not emanate from the site itself at some undetermined future date. The question becomes: how to site a landfill so that groundwater supplies are protected to the greatest extent practicable, while still preserving the character of the state's streams and rivers? A landfill sited in an area of underground water supplies carries greater potential danger, since groundwater polluted with leachate can travel great distances before being discovered. Landfills sited near large surface water bodies have environmental consequences as well -- while they may not directly pollute groundwater, they may have a measurable effect on the water quality of the stream.

Regional landfills are becoming not only a short-term solution for towns joining the Resources Recovery Authority, but they will be a long-term component of the CRRA system itself. What is needed now is a comprehensive policy for the selection of landfill sites based on geological suitability, proximity to underground water supplies, location of drainage basins, and impact on surface water. Once such a policy is properly aired in a public forum it should be adopted by DEP for the future selection of all landfill sites throughout the state.

In an effort to deal with the landfill siting problem in early 1978 Commissioner Pac announced that he would consider the siting of regional landfills on state lands as a response to the passage of Public Act 78-67, since the DEP must consider the disposal options for land not presently under municipal regulation (hence state-owned

TABLE 1

DISPOSAL AREA LOCATIONS

Survey is compiled from existing data as of September 1978

A - monitoring wells
B - surface water sampling points
C - pollution problem study
1 - private wells affected
2 - aquifers affected
3 - documented ground water contamination
4 - watershed to public water supply
5 - permit status

R - regional
P - private
I - industrial
* - permit
c - to be closed
E- engineering underway for permit

Town	A	B	C	1	2	3	4	5
Andover-R		x						
Ansonia								E
Ashford-P		x					x	*
Avon	x							*
Barkhamsted-R								*
Beacon Falls-PR			x					*
Beacon Falls-P								*
Berlin-R	x	x	x					*
Berlin-R	x		x					*
Berlin-PR	x	x						
Bethel								E
Bethlehem		x						
Bozrah-PR	x	x				x		*
Bozrah		x						
Branford								E
Bridgeport	x							
Bristol	x		x		x	x		E
Brooklyn-P		x						*
Burlington								
Canaan								*
Canterbury-PR	x							*
Canterbury-PR								E
Canton		x						*
Cheshire	x		x				x	*
Chester		x					x	*
Clinton	x							*
Colchester-R		x						*
Colchester-PR		x						*
Columbia	x	x						*
Cornwall		x						
Cornwall								
Coventry		x						*
Cromwell		x	x				x	*
Cromwell-P		x						*
Danbury	x							E
Darien		x						*
Darien-PR								*
Deep River		x						E
Derby		x						*
Eastford		x					x	
East Granby-R		x						*
East Haddam								c
East Haddam								*
East Hampton		x						c
East Hartford								

Town	A	B	C	1	2	3	4	5
East Haven								
East Lyme		x						*
Easton	x				x			
East Windsor-PR		x						E
East Windsor-PR	x							*
Ellington		x						c
Ellington-P	x							*
Enfield	x		x					c
Enfield-PR								*
Essex		x						E
Fairfield			x					
Farmington	x					x		*
Glastonbury		x						*
Glastonbury	x							*
Granby								*
Greenwich		x	x					*
Groton	x	x	x				x	
Groton	x	x						
Guilford		x						*
Guilford		x						*
Haddam								*
Haddam								*
Hamden								
Hamden-PR		x						*
Hampton-PR		x					x	
Hartford		x						*
Hartland		x						
Hebron	x	x						
Kent								
Killingly	x	x	x				x	E
Killingworth		x						*
Killingworth								*
Lebanon		x						*
Ledyard	x	x					x	*
Litchfield							x	E
Lyme								
Madison		x						*
Manchester	x		x				x	E
Mansfield		x					x	*
Marlborough	x	x						*
Meriden	x					x		
Middlebury		x						
Middlefield-R	x	x						*
Middletown								
Middletown-P								*

TABLE 1, cont.

A - monitoring wells
B - surface water sampling points
C - pollution problem study
1 - private wells affected
2 - aquifers affected
3 - documented ground water contamination
4 - watershed to public water supply
5 - permit status

R - regional
P - private
I - industrial
* - permit
c - to be closed
E - engineering underway for permit

Town	A	B	C	1	2	3	4	5
Milford		x	x			x		*
Milford-PR								*
Monroe	x	x	x				x	c
Monroe	x	x						
Montville	x	x						
Montville		x						
Morris		x					x	*
Naugatuck-PR		x	x					*
New Canaan								
New Fairfield							x	
New Haven-R								*
Newington								*
New London-P		x						*
New London		x						
New London-PR								*
New Milford-PR		x						*
New Milford-I								
New Milford-I								*
New Milford-P								
Newtown	x				x			*
Norfolk		x						E
North Branford		x						
North Canaan								*
North Haven								*
North Haven								
North Haven-PR		x						*
N. Stonington		x						
Norwalk								E
Norwalk								*
Norwich-P	x	x						*
Old Lyme		x						*
Old Saybrook								*
Old Saybrook								*
Oxford		x						*
Plainville					x			
Plainville					x			
Plymouth								*
Plymouth								E
Portland					x			*
Preston								
Preston								*
Prospect		x						E
Putnam-R								*
Redding							x	E
Ridgefield								*
Rocky Hill-PR	x	x						*
Roxbury							x	

Town	A	B	C	1	2	3	4	5
Salem		x						*
Salisbury-P								
Salisbury-R								*
Seymour		x					x	*
Shelton-P								*
Simsbury								
Somers							x	
Southbury								*
Southington		x			x			*
Sprague	x							
Stafford		x						*
Stamford								
Stonington								
Stonington								
Stratford								*
Stratford								c
Suffield-P	x							*
Thomaston		x						
Thompson		x						E
Tolland	x							
Torrington								E
Trumbull		x					x	*
Union								*
Voluntown-P	x							*
Wallingford								*
Washington		x					x	E
Waterbury-PR		x						*
Waterbury		x						E
Waterbury								
Waterford		x						*
Watertown		x	x					*
Westbrook	x							*
West Hartford								*
West Hartford								
West Haven-P								*
West Haven-P	x							*
Weston	x		x			x		c
Westport								*
Westport								*
Willington		x					x	c
Wilton	x							*
Windham	x	x	x			x	x	*
Windham								*
Windsor-R	x							*
Woodbridge	x		x			x	x	*
Woodbury		x						*
Wolcott		x						*
Woodstock							x	

land). At that time the Council on Environmental Quality, as well as numerous environmental groups, petitioned the Commissioner to do the following:

1. Identify and evaluate all Connecticut land areas as to their suitability, from a natural resources and geological perspective, for future sanitary landfill siting. Such investigation should be carried out in cooperation with the Natural Resources Center and should be based on suitable geological and natural drainage characteristics.

2. Consider state park and forest land the last remaining alternative to be investigated by the Commissioner in the siting of these regional landfills.

3. Insure that any state park and forest land so designated for landfill location be land not subject to deed or other legal restrictions, and that such lands be submitted for legislative approval prior to being utilized for landfill solid waste disposal.

4. Cooperate with the Connecticut Resources Recovery Authority (CRRA) in the development and promotion of all methods of reducing the amount of waste in need of disposal in landfills.

In response to this appeal, Commissioner Pac indicated agreement with all four points and a promise that such a policy will be developed by the DEP within a short period of time. The Council hopes that such a policy will be coordinated with other state agencies, and will include transportation and economic considerations as well.

Need for Comprehensive Planning

Connecticut recognized in 1973 its responsibilities in the area of comprehensive solid waste planning, by adopting the original Solid Waste Management Plan prepared by General Electric, and by enacting the Solid Wastes Management Services Act of 1973 (which created the Connecticut Resources Recovery Authority). The General Electric Plan recommended a regional approach with a phased implementation of up to ten resource recovery plants in designated regions of the state. Its goals were environmentally sound disposal, volume reduction, and maximum recovery of resources. Indeed, Congress followed Connecticut's example by enacting the Resource Conservation and Recovery Act in 1976, which provides for joint Federal/State regulation of hazardous wastes, elimination of open dumps, significant state planning requirements (including the identification of local and state responsibilities in carrying out the plan), and involvement of citizens, industry and government in planning and implementation.

Although the GE Plan envisioned the closing of many of the municipal landfills located throughout the state, due to conflict with environmental laws and capacity closings, recent state and federal laws passed since 1973 now warrant a reevaluation of the GE Plan. Certainly the dislocations of a community's transfer from on-site disposal within a municipal landfill to resource recovery were not fully envisioned by the GE planners, nor were the inherent delays resulting in the CRRA implementation. In this regard, the Council on Environmental Quality concurs with the Solid Waste Management Advisory Council, a group of citizens and local officials appointed to assist the CRRA. The Advisory Council strongly believes that "the state's solid waste management plan should be updated, as soon as is reasonably possible, to reflect current state requirements and options/plans to meet these requirements. The Council further recommends that DEP and CRRA inputs be fully coordinated in establishing an up-dated plan and that due consideration be given to the 20 year plans established by each state planning region." *

The lack of a comprehensive plan for solid waste is similarly reflected in the administrative operations of the Solid Waste Unit of the DEP. Able to respond only to daily problem solving in a crisis-response mode, the Solid Waste Unit is not able to both deal with the continual "brush fires" and at the same time set a policy course for the future. As a result, the rift between the state's handling of the solid waste crisis and the local communities' perception of what needs to be done grows wider every day.

The Council on Environmental Quality strongly urges the Commissioner of Environmental Protection to reassess solid waste problems and the priority for solving them within the agency. In its view, the Council believes solid waste to be one of two severe environmental quality problems facing DEP, and as such, necessitates a greater expenditure of staff resources. Perhaps staff located within the Planning and Coordination Unit could be assigned on a full-time basis to assist with developing a state-wide solid waste management plan, and assisting the solid waste geologists and engineers in devising long-term strategies for resource conservation and recovery, as well as ultimate land disposal in areas where necessary.

One example of such needed planning is the comprehensive Landfill Siting Policy, which is presently being undertaken by the Solid Waste Unit in conjunction with the Natural Resources Center.

Source Reduction, Separation, and Recycling

Many of our refuse problems in Connecticut stem from the nature of our disposable economy and the life-style it encourages. The fact

* 1977 Annual Report, Connecticut Solid Waste Management Council

that each of us produces in excess of six pounds per day of refuse is sobering. The passage of the Bottle Bill by the 1978 General Assembly is one symbolic step toward a reduction in that volume of disposable materials; reductions of generated refuse at the "source" is one simple and obvious means toward reducing the stream of municipal refuse which must ultimately be disposed of in a reasonably environmentally sound manner. In addition to source reduction, curbside separation for recyclable newspaper, glass, and metal is another method for communities to recover resources, save valuable landfill space, and possibly earn a bit of profit. Although all communities can achieve these savings, there is an additional incentive for those communities which are not near the high population density areas needed for CRRA resource recovery plants. Certainly, these communities should benefit from the "soft technology" approach of source separation and recycling.

The Solid Waste Unit of DEP estimates that over 120 Connecticut municipalities already have some form of recycling program, with varying degrees of effectiveness. Most communities run municipal or private collection centers. At least 15 communities have curbside collection systems, with almost all of these collecting only paper.

As part of the need for greater comprehensive state-wide solid waste planning, the Solid Waste Unit of DEP is working more cooperatively with municipalities to establish source separation and recycling programs. This would seem to be an obvious answer to the increasing dilemma of unavailable landfill space, particularly since large resource recovery facilities will process only 50-60% of the solid waste stream. However, this will require extra staff time within the Solid Waste Unit to enable it to cope with the enforcement problems of the existing landfills as well as the development of possible solutions for recycling and for source separation in the future. In this regard, a closer working relationship between the CRRA and the DEP may prove beneficial.

Until changes in American society bring about packaging habits which will reduce the great stream of disposable material, we must resign ourselves in the interim to working out, in a rational and reasonable manner, the disposal of the state's nearly 10,000 tons of refuse per year. In this respect, it is a state-wide problem, not a problem carved into 169 separate towns.

Closure of Solid Waste Facilities by DEP

It has been hotly contended within the past several years that DEP is arbitrarily closing down over 80 solid waste facilities throughout the state without providing reasonable alternatives for those municipalities affected. As a result of these debates, Public Act 78-67 was passed. Research into DEP files, however, has disclosed an entirely different set of figures.

Since 1973 DEP has issued closure orders to 17 municipal landfills. Of the 17 orders issued, six facilities actually closed. The remaining 11 are still open, as they search for other alternatives. 11 municipal incinerators were ordered closed, all of which were violating federal Clean Air Act standards. Each municipal landfill ordered closed was closed with documented evidence of pollution of ground or surface waters of the state, or because the site had physically exhausted its capacity.

Since 1973, 75 letters were issued to municipalities, citing violations of solid waste standards. Following the issuance of the letters, many municipal facilities were brought into compliance, and the need to issue closure orders was eliminated.

The passage of Public Act 78-67 requires that DEP find an alternative for a town before closing down any facilities. It also requires that a municipality be permitted to regulate any refuse being brought into their town from another community. The effects of this legislation on rational, state-wide solid waste management remain to be seen.

Hazardous Waste and the Handling of Hazardous Materials

10-15% of all the chemical wastes generated within this country is "hazardous" in nature. According to the Environmental Protection Agency, 80% of the manufacturers of hazardous wastes dispose of these materials on the site of their manufacture; 20% of the producers dispose of the waste off-site, most without adequate environmental safeguards During 1978, nation-wide attention was directed to the problem of chemical and hazardous waste dumping, much of which was done illegally over the years. EPA has documented over 400 cases involving illegal dumping of materials and resulting in detrimental impacts.

A disturbing aspect of the hazardous waste disposal problem is that disasters similar to "Love Canal" in New York, in which birth defects and detrimental health effects occurred between 30-40 years after initial disposal of the chemicals into an obsolete canal, will have a far greater occurrence rate in the future. It generally takes between 20 and 25 years for most detrimental health effects to surface, and our disposal rate of hazardous wastes has greatly accelerated, since the petrochemical industry is now 64 times the size it once was when "Love Canal" was first filled.

Here in Connecticut, wells in Canton were closed after the State Department of Health found significant levels of carcinogenic solvent wastes in their waters. Dumping of the 800-1,000 barrels responsible for this pollution was believed to have been done by the now defunct Swift Company about 6-10 years ago and some two miles from the polluted wells. The responsibility of the subsequent owner for a former owner's action is being contested, and in addition, the responsibility of the town is being investigated.

In New England between 5-6% of all solid waste generated is hazardous in nature, totalling 1.2 million tons a year. Nearly half of these wastes are disposed of by illegal "midnight" dumping, since New England lacks a single comprehensive hazardous waste-handling facility.

Certainly, Connecticut has no such facility, and events surrounding the discovery of illegal hazardous waste dumping operations in Bridgeport and Plainfield further underscore the need for comprehensive planning.

In response to this, the Connecticut Industrial Waste Management Task Force is working to locate possible sites for the disposal of hazardous wastes within Connecticut. Appointed by Commissioner Pac, this Task Force includes over 40 representatives from industry, state and regional government, municipalities and citizens.

Administrative changes to address the problem are also being made. In November, 1978 Governor Grasso created under Executive Order a strategy for the handling of all hazardous materials in the State. A new unit, known as the Hazardous Materials Management Unit, was formed within the DEP Environmental Quality Division with as its chief responsibility the planning and state agency coordination of all hazardous materials management. In addition, the unit will be responsible for the duties currently assigned the Pesticide Control Unit, the oil and chemical spill section of the Water Compliance Unit, and the hazardous waste section of the Solid Waste Management Unit.

In addition to spills, public agencies must be concerned with the proper disposal of hazardous wastes. "These wastes present significant potential dangers to health, and warrant increased management on the part of all persons involved," states the August 31, 1978 Report of the Hazardous Materials Spills Environmental Emergency Taskforce forwarded to Governor Grasso. "These materials and their ultimate waste substances warrant a 'cradle-to-grave' management approach which includes appropriate monitoring, recordkeeping, spill prevention and response training, and appropriate recovery or disposal. This management includes the systematic control of the collection, source separation, transportation, processing, treatment, recovery and disposal of hazardous/industrial materials."

The Council trusts that the new unit will be a significant step forward in the solution of this problem.

SOURCES

1. *1977 Annual Report, Connecticut Solid Waste Management Advisory Council.*

SECTION 3: WATER QUALITY

One of the major goals of the Federal Water Pollution Control Act of 1972 is to restore the nation's waterways to a "fishable-swimmable" condition by 1983. Due to Connecticut's pioneering work in the area of water quality control, the state has made significant progress toward achieving the federal goal. 51% of the major stream miles in Connecticut already meet fishable-swimmable standards. From 1977 to 1978 alone there was an 8% improvement in the water quality of the state's major streams, the highest percentage increase of any state in the New England area.

In its August, 1977 Annual Report on the Environmental Quality in New England, the Boston Regional Office of the Environmental Protection Agency gives a status report on Connecticut's waterways:

> Water quality improvements were reported in the Naugatuck and Willimantic Rivers as the result of municipal and industrial cleanups. Connecticut's biological sampling program indicates that for the first time in several decades, the Naugatuck River is clean enough to support natural populations of fish and aquatic life. The Willimantic River is once again being stocked with trout after a ten year period, during which the river was too polluted to support any fish life. Also, fishing conditions in the Connecticut River have improved, and hopefully salmon will again be running in that waterway.
>
> Improvements are also evident in the Pawcatuck and Yantic Rivers. The entire mileage of both rivers, below standard last year, is reported to meet the fishable-swimmable standard this year.
>
> Major water pollution problems are still occurring in the Quinnipiac, Hockanum, Pequabuck, and Still Rivers, due mainly to industrial and municipal discharges and urban runoff. Combined sewer overflows cause severe pollution problems in the Connecticut River downstream of Hartford, the Thames River downstream of Norwich, and in coastal waters around the major urban centers of New Haven and Bridgeport.

TABLE 1

SUMMARY OF WATER QUALITY
State of Connecticut 1977

Major Water Areas (including mainstem & major tributaries)	Total Miles Assessed	Miles now meeting Class B (fishable/ swimmable) standards or better	Miles expected to be Class B or better by 1983	Miles now meeting State water quality standards	Miles not meeting State water quality standards	*Water quality problems	Source of Water Quality Problems M= Municipal I= Industiral CS= Combined Sewers NPS = Nonpoint Source
Connecticut	69	23	23	23	46	3,6	M, I, CS
Farmington	54	54	54	54	0	6	M
French	6	0	6	0	6	2, 5, 6	M, I
Hockanum	17	2	17	15	15	2, 3, 5,6	M, I, NPS
Housatonic	80	80	80	80	0	3,6	CS
Naugatuck	35	20	35	20	15	1,2,4,5,6	M, I, CS, NPS
Pawcatuck	11	0	0	0	11	2,5,6	M, I
Pequabuck	15	3	15	3	12	2,3,5,6	M, I, NPS
Quinebaug	42	0	42	0	42	2,5,6	M,I, NPS
Quinnipiac	34	7	34	7	27	2,3,5	M
Shetucket	18	7	18	7	11	2,6	M,CS, NPS
Thames	17	0	17	0	17	2,3,5	M, I, CS, NPS
Yantic	11	11	11	11	0	5,6	I, CS
Total	409	207	352	207	202		
%		51%	86%	51%	49%		

*Water quality problems
1. Harmful Substances; 2. Physical Modification (Suspended Solids, Temp., etc.);
3. Eutrophication potential; 4. Salinity, acidity, alkalinity;
5. Oxygen depletion; 6. Health Hazards-(coliform)

* FROM: Regional Administrator's Annual Report: Environmental Quality in New England, August, 1977, Environmental Protection Agency, Region 1 Office

Although coliform violations are still reported on all major streams assessed, dissolved oxygen levels have been steadily improving. 73% of the stations analyzed this year indicated a significant improvement in dissolved oxygen. In fact, 73% of the tests covering eight water quality parameters analyzed at 15 stations demonstrated significant improvement.

Wastewater Treatment

During 1977 and 1978, the Water Compliance Unit of DEP focused on expending Federal funds now made available to the state as a result of the release of funds formerly impounded. $70 million was spent, in conjunction with Connecticut municipalities, for the construction of collectors and sewage treatment facilities. An additional $160 million was obligated for spending. These expenditures will contribute significantly to alleviating the problem of sewage treatment and disposal; according to DEP, municipal sewage effluent is "80% of the problem of water quality."

A significant problem facing the Water Compliance Unit is the separation of sanitary and storm sewer systems in 17 large communities, including Hartford, New Haven, Bridgeport, Norwich, and Norwalk. These combined sewer systems overload treatment facilities during heavy rains, and they require reconstruction not only to separate storm and sanitary flow, but also to repair leaky systems which are now 60-70 years old. Unfortunately, separation of sewers necessitates an enormous expenditure of public funds. Water Compliance estimates that the 12 smaller communities could separate their storm and sewage systems for approximately $50 million, but that the five large cities mentioned about would need to spend a total of over $700 million.

Drinking Water

An aspect of water quality not regulated by the Dept. of Environmental Protection is the quality of drinking water for Connecticut citizens. The Federal Safe Drinking Water Act, passed in 1974, is implemented in Connecticut through the Environmental Health Division of the Dept. of Health. This agency certifies that every community water supply within the state serving two or more connections or 25 people meets minimum standards of purity. There are 1,079 community systems, and about 4,000 public non-community water supplies within the State of Connecticut. It is interesting to note that Connecticut was the second state in the nation to be awarded primary responsibility under the Federal Safe Drinking Water Act.

Areas of concern in the drinking water standards are: (1) microbiological quality; (2) toxic metals, including lead; (3) chlorides and sodium (the principal cause of which is road salting, water softeners, landfills); (4) pesticides; (5) radioactivity; and (6) organic compounds, such as chloroform and tri-halomethanes.

The enactment of the Federal Safe Drinking Water Act and subsequent regulation by the Environmental Protection Agency will require additional filtration plants, as well as additional water quality standards. These will be a great financial burden to municipalities and private water suppliers, but they are of critical health import to Connecticut citizens, especially where water sources are located in population centers where a wide variety of organic and inorganic compounds are introduced into both surface and groundwater supplies.

One approach to dealing with the problem of safe drinking water supplies is continued ownership of watershed land to maintain high quality reservoirs and aquifers. The Council on Water Company Lands released in 1977 a two-year study recommending controlled land use, water treatment and continued utility ownership of watershed land as a means of maintaining the quality of drinking water supplies in the state. As a result of the Council's study, legislation was enacted (See Part 3) providing a mechanism for regulating the sale of watershed land by private utility companies. Approval of utility land sales is tied to land classification criteria, as determined by the Council on Water Company Lands. The land classification criteria reflect the dual role of protected water supply land: (1) to eliminate certain contaminants and (2) to prevent the introduction of additional contaminants into the water supply system. These criteria would then be factored into the approval which the State Health Dept. must give before sales or change of use of watershed land can proceed.

The United States Geological Survey is currently researching the potential contamination of important groundwater supplies. Approximately 1,500 potential sources of groundwater have been investigated. Of these, approximately 10% have already showed contamination, according to the U.S.G.S. However, the quality of most of Connecticut's underground water supplies seems to be high at the present time, although the testing program is very limited.

As part of the year-long groundwater study, The DEP Natural Resources Center in cooperation with U.S.G.S. geologists and the 208 Program developed a map indicating the areas of the state in which sufficient groundwater exists to be a potential source of drinking water. These areas tend to follow the present and prehistoric courses of rivers, which deposited loose sand and gravel which serve as the most abundant underground storage material. Unfortunately for water quality, river basins are also the most heavily settled areas of the state and the location of most of the existing sources of contamination, such as septic tanks for sewage disposal, industrial waste disposal areas, road salt stock piles, landfills, gasoline storage tanks, and permitted discharges into surface waters.

"208"

Section 208 of the Federal Water Pollution Control Act recognized that these water quality problems cannot be solved by using technology alone. New concepts and techniques are needed to manage groundwater supplies and to control certain types of water pollution efficiently. Of great concern is generalized water pollution coming from non-specific, or "non-point", sources of pollution as opposed to "point" source pollution, which emanates from a discharge pipe or other identifiable site. Examples of "non-point" pollution include erosion and sedimentation from construction activities, runoff from agricultural lands, stormwater runoff, seepage or "leachate" from solid waste disposal sites, underground gas tanks, and undue contamination of groundwater from poorly planned septic systems.

Connecticut's "208" Program began in June of 1976 when the State of Connecticut received a grant of $1 million from EPA to begin a planning process to assess the contribution of "non-point" sources to the state's waters, and to develop a program to control "non-point" sources to the degree necessary in order to achieve the federal goal of "swimmable-fishable" water by 1983. The $1 million program consisted of considerable water quality-related inventory work with specific studies identified. Each regional planning agency was assigned a special study, based on water quality problems within its respective regions. Studies are also being undertaken by the Central 208 Planning Staff and by other agencies, such as the U.S.G.S. and CT. Council on Soil and Water Conservation, under special contract. "208" program studies cover areas such as lake eutrophication; groundwater inventory; industrial sludge; erosion and sedimentation; and urban and agricultural runoff.

In June of 1978 a series of public meetings were held throughout the state. Citizens had an opportunity to express their views concerning nagging water quality programs in their areas. In September 1978, the 208 Program and the DEP co-sponsored a two-day workshop on alternatives to sewers for Connecticut towns. The conference addressed a study prepared by the Dept. of Environmental Protection, which assessed the various options available to local communities. The proposed Sewer Avoidance Progarm does not obviate the need for each community to attain clean water standards; however, it recognizes that there are many ways in which these goals can be achieved without the need for installing expensive and resource-consumptive sewer collection and treatment systems.

SECTION 4: WATER RESOURCES

Overview

A source of confusion to many citizens is the fact that there are two separate units within the Division of Environmental Quality dealing with water-related matters: (1) The Water Compliance Division has as its primary responsibility the licensing and control of all discharges into the waters of the state. This includes sewers, discharges from industries, and "non-point" sources of pollution, such as agricultural runoff and road salt. (2) A vast array of water-related permits, however, are administered by yet another unit within the DEP - the Water Resources Unit. Several important areas of jurisdiction are located here, principally those permit programs which involve the protection of a resource already in place. The permit programs located within this unit are:

(1) a program for overseeing and coordinating the the inland wetlands and marshes of the state, and for implementing the program in 21 municipalities who have not chosen to implement the program on the local level;

(2) a program for licensing all activities in the tidal wetlands and marshes of the state;

(3) a program for licensing all structures built in tidal, coastal, or navigable waters;

(4) a program for permitting and monitoring new dredging and dredge "spoil" disposal operations;

(5) a flood management program, whose goal is the protection of life and property from coastal and inland flooding, including the construction of flood control projects, supervision of dams, and the regulation of encroachments within stream channels.

In 1977 the Water Resources Unit was the target of much public attention and numerous citizen complaints. From a staff of 23 professionals in 1974, the unit dwindled to only seven in 1976. Charges of improprieties in procedure led to an investigation by the Program Review Committee of the General Assembly in 1976, which disclosed certain "irregularities" in Water Resource Program decision-making. The report by the Program Review Committee indicted that greater attention should be given by the Commissioner to the rehabilitation of the unit.

1977 and 1978 were the rebuilding years for the Water Resources Unit. Ten empty positions were refilled, along with a new director. The Inland Wetlands Unit was staffed up to five positions, including a soils scientist and an engineer. Uniform procedures are now being developed in all of the water resources programs to address permit applications in a timely manner yet with a thorough technical review. Inconsistencies between various permit programs are also now being addressed.

Enforcement Problems

The Water Resources Unit could certainly utilize additional enforcement personnel. Recent statistics compiled by the Coastal Area Management Program show that violation rates are rampant. Of the structures built along the shoreline since 1939, when legislation was enacted requiring permits, over 70% have been built without the necessary approvals or in violation of permit conditions. The tidal wetlands statistics are even more shocking: a full 91% of all activities conducted in tidal wetlands in a three town sample were conducted either without a permit or in violation of a permit condition.

Clearly, accelerated enforcement efforts are necessary, and perhaps the utilization of administrative enforcement measures such as civil penalties (fines) would help as well. At the present time, the Water Resources Unit does not actively use such fines as an enforcement tool, although they are now authorized by statute and regulation for all water resources programs. However, the most significant enforcement drawback is the lack of adequate field inspector staff.

Although comprehensive enforcement procedures and staffing are required, consideration must also be given to the large number of existing violations. For structures, most of these violations are insignificant encroachments (such as piers), and to require that all presently illegal structures achieve compliance may be administratively difficult as well as environmentally marginal. A similar problem exists in the stream channel encroachment line program. A possible solution, particularly for the structures program, would be to "validate" in legislation all structures in place at a certain point in time, and to require consistent permit compliance from that date forward.

Wetlands

Due to added staff within the Inland Wetlands Program, it has a better enforcement mechanism than other water resources programs. Routine checks are made by inland wetlands staff of permit applications, both during and after approval is granted, to assure compliance with the law and DEP permit conditions. In addition, inland wetlands staff offers technical assistance, both engineering and biological, to municipal wetlands commissions. The Council hopes that the staff will strive to alert local wetlands agencies to insure that they are aware of available state assistance.

In 1977 an inland wetlands mapping loophole sent DEP into each of the 21 towns presently under state inland wetland regulation. At issue was the validity of the state maps adopted when the DEP inland wetland regulations were promulgated in 1973, and whether or not property owners had been properly notified of wetland boundaries. Consequently, all inland wetland maps used by DEP for state-regulated towns were readopted in public hearings and through formal administrative rule-making. It is unclear what the disposition is of violations which occurred prior to the readoption process.

In 1978 the DEP Inland Wetlands Program reviewed locally administered inland wetland regulations to assure conformance with the State Inland Wetlands Act, particularly with respect to setback requirements. Presently unresolved is the status of Fairfield's newly revised proposed regulations. Commissioner Pac has advised that the proposed regulations exceed the powers granted in the act and thus are not in conformance. The definition of watercourses as a regulated area is the major point in dispute. Fairfield's regulations define a watercourse as the area inundated during the 100-year flood. DEP Commissioner Pac, in a letter dated April 1, 1978, requested that Fairfield use verbatim the statutory definition of watercourse, which is a descriptive list of water bearing areas with no precise boundaries. (In practice, the Water Resources Unit of DEP uses the top of the banks as the boundary.) The outcome of this state/local disagreement is uncertain. If the Fairfield Wetlands Agency adopts the proposed regulations as recommended to them by their Conservation Director, it is likely that the issue will be resolved in court.

Mapping of Connecticut's tidal wetlands is still in progress. It is anticipated that additional tidal wetlands along the Connecticut River and on offshore islands will add approximately 130 acres to the 16,580 acres already mapped.* Statewide, 442 violations of the 1969 Tidal Wetlands Act have been observed.* Of these, over one third were significant fill, dredge, or construction activities. It is believed that on the order of 100 acres of tidal marsh have been illegally damaged during the nine years since the passage of the act. For comparison, the DEP Water Resources Unit maintains that approximately ten additional acres of healthy tidal marsh have been lost through permitted actions in that time.

One important tidal wetlands case deserves mention, as it continues to be the most significant challenge to the tidal wetlands law: the application by the Stratford Land and Improvement Company to dredge and fill 277 acres of the Great Meadows Marsh in Stratford. The original permit application was denied in 1970 by Joseph N. Gill, then Commissioner of Agriculture and Natural Resources, and that denial was litigated in Superior Court, where it was remanded to DEP for a new hearing in 1973. Proceedings for this second permit application have taken - literally - years. The first day of public hearing was June 15, 1976, and the last days was March 19, 1978 - a full 74 days of administrative hearings. At issue is the filling of one of Connecticut's last

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* According to a 1978 survey by Schaefer and Hasted of Yale University

great productive salt marshes and the integrity of the tidal wetlands law passed by the General Assembly in 1969. A recommended decision by the hearing examiner is expected some time early in 1979, and a decision by Commissioner Pac to follow soon thereafter. The final outcome is expected to face court challenge irrespective of the Commissioner's decision. Long-term participation by the Connecticut Conservation Association and others and the significant issues at stake virtually assure that this decision will be a landmark wetlands case.

A source of continuing confusion to citizens and permit applicants alike is an Army Corps of Engineers regulatory program, commonly referred to as the "404" Program (named after a section of the 1972 Water Pollution Control Act), which requires the Corps to regulate the disposal of fill or dredged materials in wetlands and non-navigable waters as well as navigable waters. There has been mixed reaction nationwide to the program; many states and localities do not consider the "404" Program to be simply water quality legislation, but rather a form of federal intervention in local land use decision-making. In a state such as Connecticut, "404" provides an extra layer of regulations, duplicating what is already regulated by state and local agencies.

Commissioner Pac stated in a letter to the Bloomfield Planning and Zoning Commission his department's policy on the "404" Program:

> While the Department of Environmental Protection would like to avoid the duplicative nature of the 404 Program, we do recognize the value of the program nationwide. Therefore, the Department would favor a compromise amendment to the 404 Program which would not prevent protection of nationally significant wetlands, but would allow for home-rule in those states, such as Connecticut, which have enacted their own wetland programs.

At the end of December, 1977, a bill passed both chambers of Congress allowing the Corps to delegate to the Environmental Protection Agency authority for 404 permitting in non-navigable waters. EPA could then delegate this authority to individual state agencies or local agencies with authority to implement wetlands programs. The Council on Environmental Quality concurs with Commissioner Pac and recommends that when EPA receives this delegation from the Corps of Engineers, that the Connecticut DEP apply for and be granted delegation for inclusion in the state Water Resources Program. This delegation will be mandatory under the proposed Coastal Management Program.

Erosion and Sedimentation

Soil erosion and sedimentation continues to be a nagging water resources and water quality problem, clogging reservoirs and harbors

with sediment and damaging aquatic ecosystems. Erosion and sedimentation source inventories have been recently completed as part of the 208 Water Quality Program. Major sources are agricultural runoff, urban storm runoff, stream and road banks, construction activities, winter sanding operations, surface mines, and unpaved roads and driveways. Much of this pollution could be avoided by sound land use practice.

Local planning and zoning commissions review all site plans and it is that body which would be best able to review plans to assure that adequate erosion and sedimentation measures are employed during and after construction. The Soil Conservation Service, through the Soil and Water Conservation Districts, is available to provide technical assistance for all aspects of erosion and sedimentation, not only agricultural problems. The SCS can also monitor compliance and thus be useful in municipal enforcement efforts. Since state projects are not subject to local regulation, some state-level review of sedimentation and erosion controls should be required of all state projects. Borrow and disposal areas for state projects should be under state control and erosion and sedimentation measures taken.

Unfortunately no comprehensive state policy exists, and although state enabling legislation has been passed, only a small fraction of Connecticut's municipalities have adopted sedimentation and erosion control ordinances. A new model sediment and erosion control ordinance and associated recommendations are being prepared by the mid-state RPA as part of the 208 Program. In order to combat this costly and damaging problem, municipalities must be encouraged, through education and incentives of technical and financial assistance, to exercise this option. If necessary, more stringent state legislation, perhaps patterned on the Inland Wetland Act, could be adopted. In addition, the state must provide for adequate control measures for all state projects. If the states are not able to bring the national problem under control, EPA may abandon the voluntary approach and seek to apply sanctions in the form of withholding grant money to states or localities which do not exercise adequate controls.

Shoreline erosion is also a serious problem. As part of its federal requirements, the DEP Coastal Management Unit will be developing a statewide planning process for shoreline erosion control. This planning process will identify areas of high erosion along the coast, with recommendations for solutions. This will help to eliminate the need for piecemeal shoreline erosion control projects which may serve to aggravate erosion problems in other areas.

Dredging and Dredge Spoil Disposal

Dredging and the disposal of dredged materials in Long Island Sound have been issues of great importance to both Connecticut and New York. In order to maintain navigation channels, docking and anchorage areas for vessels engaged in marine commerce, fishing and

recreational boating, periodic maintenance dredging must be conducted. Such maintenance dreding is not currently regulated by DEP.

Safe disposal of the dredge spoils is a serious environmental concern. Prior to April, 1977, no uniform policy existed to aid disposal decision-making on a Soundwide basis. Over the years, a number of federal and state statutes, regulations, policies, and criteria had governed the disposal activity in Long Island Sound. In April of 1977, through the cooperative efforts of the Connecticut DEP and the New York Department of Environmental Conservation, an interim management program was proposed for the management of dredged material activity in and around Long Island Sound. The program outlines controlled disposal at specified disposal points within four designated areas in Long Island Sound; the establishment of a technical advisory committee on disposal, composed of research scientists and cognizant state and federal interests; the establishment of operational guidelines for the evaluation of the potential polluting characteristics of dredged spoils; and the application of these operational guidelines on a case by case basis. In addition, the program calls for a long-term disposal area monitoring network and a long-term management program, including environmental assessments of both dredging and disposal.

Progress towards this ambitious program has been slow. An environmental impact statement on dredge disposal and site selection in Long Island Sound is being prepared by the Army Corps of Engineers. Due December 1979, this statement is required as part of a 1977 court settlement of a New London dredging case.

This year CEQ has responded to a proposal made by the Army Corps of Engineers in late 1978 to dredge Stamford and New Haven Harbors and to dispose of the spoils at the New Haven dumpsite. It is proposed to cap the highly polluted Stamford spoils with cleaner material from the New Haven Harbor. CEQ was represented at public workshops held in September and October and at the public hearing held on November 1, 1978.

CEQ stated in its testimony that:

> "It is imperative that this project be carried out under careful observation to provide data relevant to future capping projects which may be undertaken in Long Island Sound."

CEQ further recommended that the *dredging and dumping of the highly polluted Stamford East Branch spoil proceed only after a complete experimental design and work program for monitoring the emplacement, burial, and subsequent fate of the spoils is available. A supervisory committee, under the direction of the Army Corps of Engineers, should be established immediately which will provide technical advice and assistance.*

Public Hearings

The CEQ strongly believes that citizens should have ready access to DEP programs, and that hearing procedures throughout the department should be consistent. Presently the permit procedure for structures in tidal and navigable waters has no provision for public hearings, unlike both the dredging and tidal wetlands permit procedures.

The Council on Environmental Quality therefore recommends that the Commissioner of DEP be given discretion to hold public hearings on structures permit applications where deemed advisable, and specifically, that a public hearing be required upon receipt of a petition signed by 25 or more citizens. This will require legislative authorization.

SECTION 5: NOISE CONTROL

1977 was a banner year for noise control. Regulations which had been in process for over two years had several public hearings and were finally adopted by the Commissioner of DEP. Under Sections 22a-67 and 22a-69 of the Connecticut General Statutes, the Commissioner of DEP is required to establish a state-wide program of noise regulation. The statute requires that reasonable noise standards for major stationary sources be established and that the operation of any stationary noise source be regulated or restricted.

The regulations as adopted set allowable levels of noise (measured in decibels or dBA) for three different land-use zones, with a matrix giving the allowable dBA levels for noise emitted from each type of zone to each type of zone. Motor vehicles are excluded, since they are regulated by the Department of Motor Vehicles. Some important changes were made prior to the final adoption by the Commissioner: (1) existing sources are allowed an additional 5dBA above the standards, with a 24-month "phase-in" period to achieve compliance; (2) aircraft engine testing will be exempt, due to technical problems and substantial costs; and construction site noise will be exempt since it does not meet the definition of a "stationary source." Municipalities are given specific authority to regulate construction activities under Section 22a-73(b)(5), and the United States Environmental Protection Agency is now developing noise emission level standards for new construction equipment.

However, 1977 also marked the abrupt end of the Office of Noise Control with the retirement of its Director. Due to budgetary cutbacks within DEP, the Office of Noise Control was not immediately refunded. However, with the newly-revised noise regulations approved effective

June 15, 1978, plans were made to staff the Noise Program, and the office was recently reopened.

The Office of Noise Control handles approximately six complaints per week. Often complaints are referred to local authorities such as the town's health officer or zoning director.

In the future the Noise Office plans to aid local communities in adopting their own individual ordinances. Six towns have already done so and another dozen are presently working on adopting them. Presently, when a complaint is received from a town which does not have its own noise regulations, the infringement is handled by the state or town as a nuisance violation.

By having noise regulations and an enforcement office, Connecticut is one of the first states in the country to enter the field. Some of its regulations, however, are not overly restrictive -- construction noise is not covered nor is noise from farming equipment. In addition, a variance can be granted if "the regulations would impose an arbitrary or unreasonable hardship upon the applicant without equal or greater benefits to the public."

Physiological Effects

One of the most detrimental effects of noise is loss of hearing. Rare is the case where one loses complete hearing due to noise, although it is not uncommon to have acuteness of hearing decreased because of continuous exposure to noise. Decreased hearing which we too often attribute to old age may, in part at least, be attributable to many years exposure to excessive noise levels.

As a reference, the average office whurrs at 50 dBA or more; traffic is typically around 70 dBA. Some experts believe that hearing loss begins with exposure to noise of 70 dBA. 140 dBA of noise causes pain to some people. Certainly, the longer the exposure and the louder the noise, the greater the chance of loss of hearing. Directly, excessive noise can obscure warning device signals and shouts for help.

Another important side effect of noise is stress. A loud noise is often interpreted by the body as a "danger signal", although in reality it might not be. The body responds to dangers by releasing adrenaline. If a real danger does not exist, the adrenaline energy that the body has accumulated becomes nervous energy and increases blood pressure, anxiety and other stress-related symptoms. Noise has also been found to be a significant factor in colitis and other intestinal disorders related to stress.

The federal government will soon begin to label appliances with decibel-level measurements of noise each product emits. In addition, federal research is being undertaken with respect to industrial noise and technological solutions. Assistance to state and local governments is also being provided.

SECTION 6: LOCAL INVOLVEMENT

There are presently 154 municipal conservation commissions established throughout the state, 65 of which also serve as the official regulatory agency for inland wetlands permits. In addition, 89 separate Inland Wetland and Water Course agencies (or agencies combined with Planning and Zoning Commissions) carry out the inland wetlands mandate on the local level. All of these agencies, composed of volunteer citizens and technical experts, help to form the backbone of conservation involvement within the 169 Connecticut towns. The movement to create Land Trusts throughout the state has picked up momentum, and there are presently 69 officially-constituted tax-exempt Land Trusts established for the purpose of acquiring and preserving gifts or easements of open space lands. It is estimated that over 10,000 acres of land have already been preserved through this mechanism.

In May, 1978 "CACIWC" was born. Conservation commissions and inland wetlands agencies across the State united to form a new organization incorporated under a new name with a new constitution: The Connecticut Association of Conservation and Inland Wetlands Commissions (CACIWC), evolved from the former Connecticut Association of Conservation Commissions. In addition to expanding the former statewide organization to include inland wetland agencies, CACIWC adopted a new constitution which reorganizes the groups into eight regions. It also instituted an association newsletter, developed a new program to provide commissions with technical assistance, and elected officers and board members. A full-time assistant located within the DEP Information and Education Office was hired.

The Council applauds the new organization, and is confident that it will spearhead a new age of active involvement of local commissions all across the state.

Part 5:

The Use of Land

SECTION 1: PLAN OF CONSERVATION AND DEVELOPMENT

In early 1978, the Office of Policy and Management (OPM) released drafts of the updated Plan of Conservation and Development, revised in response to legislative mandate. The revised plan proposes, for General Assembly adoption, a "framework" of development and conservation goals. In a summary released for popular consumption, OPM describes the plan:

> This framework of state goals and policies, when established, shall provide an overall and long-term perspective for state government program planning, priorities, evaluation, targeting of resources, coordination and evaluation of plans, programs and investments. The plan recommends the priorities and patterns of development and conservation which most successfully address the development needs of the state while maintaining a balance with concerns for conservation and environmental quality. The plan is based on the premise that state government actions should serve as positive influences in encouraging and accomodating growth and development in form and location which best benefit the state community as a whole. Further, it seeks to apply the influence of state government actions toward the bending of developmental trends (which have been evident in wasteful development patterns, limitations of choice, increasing taxes at all levels) in order to provide for expansion of public facilities and services and avoidance of environmental degradation and loss of natural environmental values.

The plan provides for policies and goals in the following areas: (1) population and human development; (2) economic development;

(3) energy resources; (4) transportation services: (5) air quality; (6) housing: (7) food production; (8) water supply; (9) waste water management; and (10) land and water resources. The plan provides a land area classification system, which reflects the mapping of the policies and goals on the land base of Connecticut.

Following a comprehensive set of hearings held during the months of May and June, 1978 throughout the state, the plan is now being revised by OPM for submission to the 1979 General Assembly.

The CEQ strongly supports the need for coordinated land-use planning, and urges that the 1979 General Assembly carefully evaluate the proposals for implementation contained within the plan. Of special significance is the method by which the plan will be enforced: a goals and policies plan can only be as effective as its method of implementation.

SECTION 2: PRESERVATION OF AGRICULTURAL LANDS

After several years of consideration, the 1978 Session of the General Assembly enacted a measure to assist in the preservation of agricultural lands in the state. Public Act 78-232 established a $5 million pilot program to enable the state to purchase development rights for endangered farmlands. Participation by individual farmers in the program is voluntary, but once a farmer sells his development rights, it will be difficult to remove the agricultural restriction on his land's use. The state will reimburse the landowner for the development rights, the farmer continues to hold title to the property, and the resale of the property for agricultural purposes is not affected. The pilot program will terminate July 1, 1980, unless renewed by the General Assembly.

The loss of available farmland in Connecticut is increasing at an alarming rate. In slightly more than a decade, Connecticut has lost nearly half of its farms. The 1959 Census listed 8,266 farms in operation; in 1972 only 4,500. In certain sectors of the agricultural industry, the loss is more severe. The number of dairy farms has dropped from 7,686 in 1935 to around 900 today. As an example of the rapid decline of available land, less than three out of every four acres farmed ten years ago have remained in farming today.

There are many reasons for the loss of Connecticut's agricultural land: (1) rising land values; (2) declining farm profits; (3) rising costs of farmlabor; (4) exorbitant inheritance taxes; (5) new rules and regulations; (6) start-up difficulties for the new farmer; and

(7) neighborhood pressures.

In 1974 the Governor's Taskforce for the Preservation of Agricultural Lands (of which CEQ was a member) recommended: "To provide about one-third of its food, Connecticut should reserve at least 325,000 of its remaining 500,000 acres of agricultural land." The benefits, however, of preserving agricultural land are above and beyond those derived from maintaining our ability to provide food. Maintenance of large tracts of open space is important for many other reasons: (1) it provides absorption capacity for pollution: (2) it provides diversity and buffer zones for wildlife cover and food supply; (3) it maintains the hydrological cycle; and (4) it provides aesthetic enjoyment and balance with more densely developed zones.

The State Dept. of Agriculture has already received over 70 offers from farmers totalling 8,000 acres. Several requests involve large tillable tracts of land which are in immediate jeopardy of development, and which consequently are prime candidates for development-rights purchase under the new legislation. Clearly, however, the $5 million allocated for the pilot program is woefully inadequate; it will not even cover the costs of acquiring the land offered thus far. *It is therefore imperative that the General Assembly continue funding this vital program.*

SECTION 3: COASTAL AREA MANAGEMENT

The Coastal Area Management Program, presently located within the Environmental Quality Division of DEP, is a planning program funded under the Federal Coastal Zone Management Act of 1972. Its charge is to develop, by July of 1979, a "state-wide coastal management program" which will meet the requirements for federal approval and which will be submitted to the Governor and the General Assembly for implementation. Unlike other regulatory programs within DEP, the Coastal Area Management Program will not be a permit-issuing office; it will not evaluate each application for construction activity within the coastal area. Rather, the CAM Program will attempt to coordinate the existing maze of government regulation at the federal, state and local levels and to assist municipalities in making land use decisions which will conserve Connecticut's precious coastal resources.

The focus of coastal management is not solely environmental; under a mandate in the Coastal Zone Management Act, CAM is required by Congress to weigh the economic resources of the coastal areas as well. The CAM Program is the only balancing "land use planning" program that DEP now has. It will not legislate outright prohibitions

or attempt to dictate to municipalities which individual permits to deny. Instead, the CAM Program will establish a framework to enable coastal towns to make planning and zoning decisions based on their "coastal resource" base and developmental priorities. Within this framework will be specific standards and guidelines for preserving coastal resources, but the decision-making will continue to be at the local level.

A report prepared by the CAM Program and recently submitted to the Legislative Subcommittee on Coastal Management specifies that the authority for implementing and enforcing coastal management on the local level will be delegated to coastal municipalities in a manner similar to the present inland wetlands program. Special powers to review site plans for coastal resource concerns will be given to local planning and zoning boards. State and federal programs will be coordinated from the CAM office located within the DEP Central Office to eliminate costly delay and to ensure compatibility with locally-developed plans. And finally, federal funds for implementing the local plans will be made available on a continuing basis, provided that the program is passed by the Legislature and meets federal approval.

The development of the CAM proposals was assisted by a 24 member advisory board composed of state agency, regional planning agency, and citizen representatives. Preliminary legislation was submitted to the 1978 General Assembly, and although the full coastal management proposal was not enacted into law, a special legislative study committee was created to develop in the interim session a comprehensive coastal management bill. The CAM Program was directed to prepare the specific details for municipal participation as well as a model municipal coastal program as an illustration. Public hearings were held on the report submitted by the CAM Program in October and November of 1978, and the legislation is certain to be among the 1979 General Assembly's most important and controversial environmental bills.

SECTION 4: CONNECTICUT ENVIRONMENTAL POLICY ACT

The Connecticut Environmental Policy Act (CEPA), originally enacted in 1973, requires the preparation of environmental impact evaluations for all state agency-sponsored or funded projects which may have a significant effect on the environment. The law, however, remained inactive for years; regulations to implement the act were not officially promulgated by DEP due to a series of technical and legal loopholes. In 1977, amendments were passed to CEPA by the General Assembly which clarified the DEP's authority to promulgate regulations, specified additional standards for state agencies to follow, and clarified terms that were preventing effective implementation of the act.

In May of 1978, DEP issued a set of draft regulations, and public hearings were held on June 15 and June 19, 1978. After receiving testimony from citizens and interested officials, DEP revised the regulations and submitted them to the Attorney General and to the Regulations Review Committee of the Legislature for approval. They became effective on November 6, 1978.

As an agency required to review all environmental impact statements prepared under CEPA, the Council on Environmental Quality is concerned about thorough and effective implementation of the act. It applauds DEP for adopting comprehensive regulations, and looks forward to working with other state agencies in the review of documents prepared for state agency projects.

SECTION 5: RESOURCE CONSCIOUS LAND USE DECISION-MAKING

Land use decision-making takes place in a multitude of places: at the landowner level, at the municipal level, at the regional level, at the state level, and at the federal level. It takes place with or without planning: at the marketplace; in the permit arena; in the political arena. Most decision-making concerning local development is made in the forum of the municipal planning and zoning commission, although many state facilities (such as state highways) also help to shape developmental patterns.

The Plan of Conservation and Development (see Part 5, Section 1) has as its main goal the coordination of statewide land use decision-making so that resources are maximized and developmental mistakes minimized. At the heart of this concept is that decision-making (at all levels of government) should be based on the "carrying capacity" of the land -- that is, the ability of the land and its natural resources to withstand developmental pressures and still maintain its integrity.

The Natural Resources Center of DEP has assembled and has available the necessary natural resource information to enable wise state and local decision-making based on the ability of the land to support development. Specialized data is provided upon request to local commissions showing the suitability of a certain area for development from a geological, soils, hydrological, biological, and engineering perspective. In addition, a team of experts from these various disciplines, known as the Environmental Review Team, has been developed under contract with Resource Conservation and Development Areas. These teams are sent to various municipalities, upon request, to inventory the site suitability characteristics prior to planning and zoning decision-making. In this manner, local commission members are able to make balanced and informed decisions concerning the impact of

a certain type of development prior to its approval. Costly developmental mistakes, often requiring subsequent sewering at great expense to the community, can then possibly be avoided at the outset. (For further discussion of the Environmental Review Team concept and CEQ's recommendations, see Part 8).

However, not all the responsibility rests on the shoulders of the local communities. The State makes land use decisions every day in its normal activities: issuing environmental permits, building roads, building sewers. The State has, therefore, a significant responsibility to more closely monitor and evaluate the results of its own decisions. A central land use forum within DEP should be established in order to avoid conflicting state mandates, or conflicting programs between agencies. (For further discussion, see Part 8).

Sources:

1. *Plan of Conservation and Development, Office of Policy and Management, 1978*

2. *"Vanishing Land" White Paper, Connecticut Conservation Association, August-September, 1974*

Part 6:

Conservation & Preservation

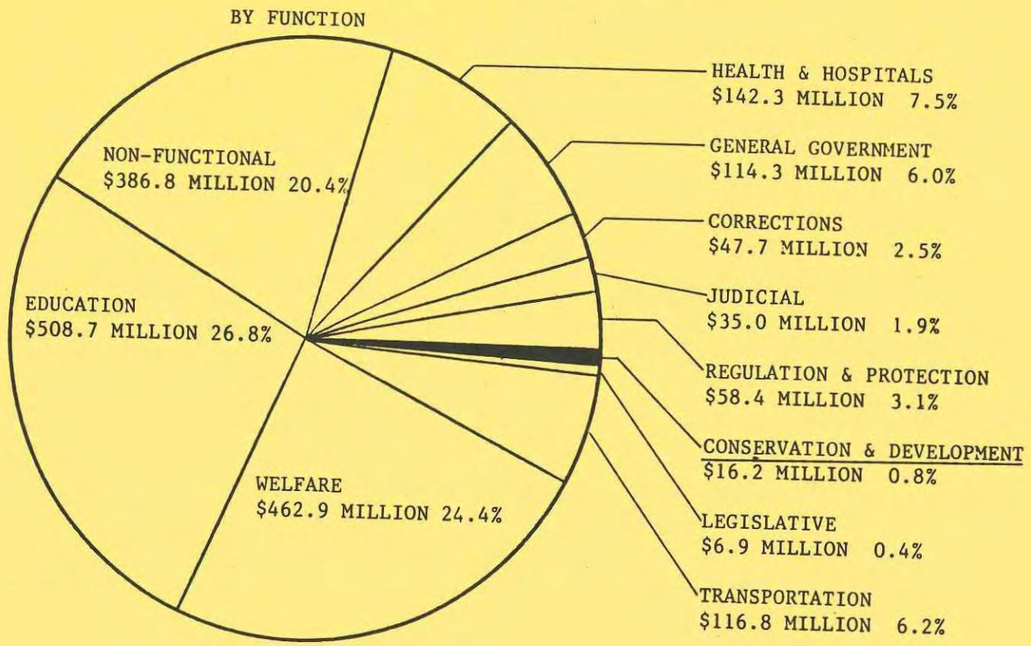
The Conservation and Preservation Division of the DEP is the silent "service arm" ofthe agency. Politically uncontroversial in comparison to its sister division, Environmental Quality, the Conservation & Preservation (C&P) Division often does not receive the priority policy attention that its programs justly deserve. Charged with the responsibility of protecting the state's existing resources such as its parks, forests, and wildlife, the division provides the basic services that millions of Connecticut citizens utilize every year: state park and forest recreational facilities; regulated hunting and fishing programs; boating facilities; and use of state lands for such diverse activities as hiking, forest management (including cordwood cutting), horseback riding, or snowmobiling.

The largest problem facing the division is its inability to respond adequately to public demand, to provide increased service, recreational opportunities, and management of state lands. Due to fiscal constraints, spiralling inflation, and rampant vandalism at state facilities, the division has only been able to respond in a minimal way to maintain an adequate level of service. This level of service, believes Deputy Commissioner Theodore Bampton, has been achieved only at the expense of proper maintenance of deteriorating state facilities.

With recreation now the country's largest single industry (sales in 1977 nationally of over $160 billion), it is important that the state recognize the significant contribution that the recreational industry makes to the state economy as well. Revenues in the form of taxes on equipment and products sold, license and permit fees, and user charges enrich the state coffers on an annual basis. Yet, state expenses for maintaining recreational activities continue to be minimal (see Figure 1). Consequently, the state must begin to recognize its responsibility to provide safe, adequate, and reasonably accessible recreational facilities for its expanding population.

FIGURE 1

GENERAL FUND RECOMMENDED APPROPRIATIONS
FISCAL 1977-78
TOTAL $1,896.0 MILLION*



NOTE: The Conservation and Development Appropriation is only 66% DEP budget

66% DEP Budget
34% Other agencies
100% Conservation & Development

SECTION 1: PARKS AND RECREATION

The Parks and Recreation Unit is responsible for the planning and administration of all recreation lands under the jurisdiction of the DEP. This includes recreational activities such as swimming, picnicking, camping, historic site visitation, trail use, and boating. Over 200 individual parks, forests, monuments, historic sites, and boating areas are operated and maintained, totalling over 191,000 acres of land. These areas are host to over 12 million recreational visitors each year.

Planning for new recreational facilities requires available staff and funding. During the past five years, very few new facilities have been planned. No new boat launching ramps have been built since 1972; no new snowmobile trails have been developed since 1972, despite greatly increasing snowmobile sales. At the present time, the system provides only 11 trails totaling 95 miles. One trailbike trail has been added, in addition to two horse camping areas. However, with one notable exception, the unit has not been able to plan large-scale facility development or expansion of existing areas due to lack of staff and funding.

Yet the number of recreational visits soars with each year. From 6,989,000 recorded park visitors in 1972, the total shot up to over eight million in 1974. Although park attendance does vary greatly with the weather, state park personnel must nonetheless be available to operate the parks during times of peak usage. With travel in other states becoming increasingly expensive, greater numbers of families are turning to Connecticut parks and forests for recreational use, and adequate facilities must be provided for this increased number of visitors.

The most significant undeveloped park resource at the present time is Silver Sands State Park. Located in Milford with frontage on Long Island Sound, this 207- acre park would provide an ideal opportunity for many urban residents to enjoy water-based recreational activities. Unfortunately, Silver Sands remains largely undeveloped and unusable for coastal recreation. As the site of the closed Milford landfill, the site of the present town solid waste transfer station, and the site of the town's sewage sludge disposal, the park needs massive rehabilitation before it can realize its full potential; such rehabilitation in the form of capping the landfill and developing the park for shoreline recreational use will cost over $16 million. When finished, its peak capacity will be 12,000 visitors, as compared with 10,000 visitors at Rocky Neck in East Lyme or 30,000 visitors at Hammonassett Beach in Madison.

Of the many responsibilities currently facing the Parks and Recreation Unit, perhaps the most pressing is the need for increased security to protect public safety and to curb vandalism. These

problems, especially severe in state parks near urbanized areas, can only be ameliorated by adding on-site surveillance in the form of personnel. Frequent inspections, both on foot and by vehicle, could significantly improve public safety and save unnecessary added costs for repair of structures or items damaged by vandalism. It would seem to be prudent and inexpensive insurance against problems while at the same time providing greater public service in an area of need.

SECTION 2: FORESTRY

The Forestry Program is an example of a service program which is not adequately funded, despite federal incentives and revenue sales. The unit is responsible for forest fire prevention and control, and technical and financial assistance to local fire departments; managing state-owned forest lands for activities such as cordwood cutting and the sale of sawed timber to local loggers and sawmillers; planting and selling of tree and shrub seedlings as "Conservation and Wildlife Buffer Bunches"; and providing technical assistance to private woodlot owners and assistance in certifying reclassification of private forest land for tax benefits. These services are provided to the public at minimal expense. However, many people are not able to obtain technical assistance due to decreased forestry personnel. The cordwood cutting program similarly has a waiting list of over 2,200 people (not due to a shortage in accessible cordwood, but instead due to a lack of sufficient DEP field personnel). Ironically, the federal government reimburses between 50-80% of the cost of forestry personnel, and the remaining state share is more than reimbursed by the revenues from the sale of forest products harvested from State lands. Despite this incentive, the unit has not been able to obtain the staff it desperately needs, both in the central office and in the regions.

Unfortunately, reduced forestry personnel impacts not only the level of public service, but the resource as well. 1976-1977 was a serious year for forest wildland fires, the control of which is the unit's responsibility. A total of 1,197 individual fires burned over 3,158 forested acres between 1977 and 1978. This increase in the number of wildland fires is directly related to reduced budget and staffing levels. Qualified personnel simply have not been provided to sufficiently coordinate the agency's fire-fighting contingency plans. As a result, the resource suffers and the burden of fire control is switched to the local communities.

SECTION 3: FISHERIES

The quality of the inland and marine fishery resources is the responsibility of the Fisheries Unit, which regulates both sport and commercial fishing in Connecticut waters. Over 215,000 inland sport fishermen were licensed by DEP in 1977; DEP estimates that an additional 200,000 unlicensed youngsters and 400,000 unlicensed

salt-water anglers increased the total to over 800,000 fishermen in all. Therefore, the unit strives to maintain the fishery resource at a level sufficient to withstand current use as well as to guarantee its availability for future generations. Marine finfish, lobster, and blue crab population levels must be similarly managed. As part of the unit's effort to assure adequate sport fishing and stable population levels, it stocked in 1977 over 825,000 catchable trout in addition to half a million fingerlings.

Similar to the Forestry Unit, the Fisheries Unit can claim available federal funding on a 75% reimbursement basis for special fisheries research, development, and management projects. Unfortunately, the state is not making adequate use of these available federal funding sources. Once again, it seems penny-wise and pound foolish to neglect fisheries management programs simply because of a lack of commitment for a net 25% cost, particularly when that same 25% cost is more than adequately reimbursed by license fees for both sport and commercial fishermen.

Connecticut River Salmon Restoration

Perhaps the most noteworthy fisheries program is the Atlantic Salmon Restoration Program Effort, initiated in 1966 as a cooperative effort between the U.S. Fish and Wildlife Service and the various river-basin states. A special restoration program was needed to bring the Atlantic Salmon back to the Connecticut River, where salmon runs were once plentiful. The construction of water-power dams during the early 19th century created barriers in the rivers, barring the salmon returning to spawn in the tributaries of the Connecticut River from wending their way upstream. Anadromous fish like the Atlantic Salmon and the Shad are salt-water fish which, after two years, return to their "home river" to spawn in upstream freshwater pools, and once the salmon runs were stopped in the Connecticut River, the fish did not return. Consequently, a special restoration program was undertaken, including construction of "fishways" over dams and "fishladders", in conjunction with the release of thousands of salmon smolts from Maine which, biologists hoped, would "imprint" with the Connecticut River when released upstream.

Results at first were slow. In 1974 the first salmon was reported returning to the Connecticut River to spawn. In 1977 seven salmon were identified in the River. But by July 6, 1978, a full 73 salmon had already been reported, with the Rainbow Dam on the Farmington River catching 55 live salmon which were climbing its fishway. DEP hopes that eventually as many as 40,000 Atlantic Salmon will be returning annually to spawn in the river and its tributaries.

SECTION 4: WILDLIFE MANAGEMENT

The Wildlife Unit of the C&P Division has the responsibility for planning and managing both game and non-game wildlife species in Connecticut, including habitat management and the release of game species (such as pheasants). Often criticized for devoting a disproportionate share of its time on game animals only, the Wildlife Unit has clearly suffered the same staffing shortfall of the other C&P units.

To be sure, of the 327 species of wildlife in Connecticut, 40 are indeed classified as game animals and are regulated by the Wildlife Unit in the form of restrictions on season times and bag limits. Specialized programs such as the Deer Hunting Permit and Management Program and the Pheasant-Stocking Program do absorb much of the unit's existing staff time. In 1977, the Unit stocked over 42,000 pheasants, an increase of over 4,000 over the earlier years.

However, the Wildlife Unit has not been able to receive budgetary approval for positions for non-game species management. There are at least 11 species of wildlife for which there is special concern. All are native non-game species whose existence in Connecticut is marginal. Survey work, research, public relations and habitat management are critically necessary to assure the survival of these species. The federal legislation which has been enacted authorizes reimbursements for state programs which qualify with acceptable program criteria and staff hired for this purpose. Unfortunately, to date no additional positions have been approved, and the Unit has had staff only for the limited research programs currently in process: waterfowl census and banding; deer population surveys; and wild turkey restoration.

Habitat management is unquestionably the single most important technique in preserving wildlife. The state loses many valuable acres of wildlife habitat each year; improving the quality of the remaining land is an available means of compensating for this loss. Unfortunately, the critical task of providing diverse wildlife food and cover cannot take place without specialized staff. The state presently has over 200,000 acres of wildlife management areas which could be more suitably managed for habitat diversity. Federal funding is also available on a 75% matching basis. However, to date no positions for this purpose have been approved.

SECTION 5: ENFORCEMENT OF RESOURCE CONSERVATION LAWS

Unlike the Environmental Quality Division, the Conservation & Preservation Division has a separate Enforcement Unit, staffed with Conservation Officers who spend most of their time in the field spot-checking for violations of the hunting, trapping, fishing, commercial fishing, game breeding, snowmobile, boating, and all other laws under

the jurisdiction of the division. The level of enforcement activity has risen sharply, given new programs that have been developed in response to state and federal legislation. In 1972-1973, 955 arrests were made; in 1977-1978 over 3,600 arrests were recorded, or a <u>four-</u> fold increase over a five-year period! Additional conservation officers have been requested but not approved, and the workload and number of overtime hours now being logged on an uncompensated basis is becoming a staggering burden. Radio communications to a central radio dispatcher are now being increased to between 16 and 24 hours a day, seven days a week, due to the increasing number of nighttime hours worked by state conservation officers on a routine basis.

SECTION 6: PROPERTY MANAGEMENT AND LAND ACQUISITION

Once combined into a C&P Unit entitled Land Acquisition, the two functions of land acquisition and state property management are now separate units: Land Acquisition is housed in the Office of the Commissioner, and Property Management is still located within the C&P Division. Land Acquisition handles all state acquisition of land and appraisals related to the acquisition of such land. In addition, the unit coordinates municipal open space grants-in-aid from the Federal Land & Water Conservation Fund and renders assistance to communities in the area of open space preservation. Clearly, land acquisition is a critical priority for the State given the rising costs of land values and the rapidly decreasing availability of open space for acquisition. The Council has identified land acquisition policies and procedures as an area for further study in 1979, especially in the area of timely accomodation of gifts.

The Property Management Unit, however, has the responsibility to maintain the property once it is acquired by the State, and to survey and map state holdings. In 1974 the Legislature enacted Public Act 74-250, mandating that the DEP survey the boundary lines of all state-owned park and forest lands by July 1, 1984. 80% of the lands under DEP's jurisdiction have never been surveyed; over 100,000 acres require new or updated surveys. Since the initial acquisition of some parcels, encroachments and takings of state property by private owners have occurred which the State is powerless to enforce until adequate surveys are made and property lines established. Public Act 74-250 provided $25,000 for an initial survey of selected parcels of land. The appropriation, originally intended as an annual appropriation, was not renewed by subsequent sessions of the General Assembly. Consequently, DEP is unable to fulfill the terms of the Act.

<u>Flood Control Projects</u>

As part of its property management responsibility, the Unit must maintain approximately 130 dams throughout the state. These dams range in size and complexity from large flood control structures to relatively minor dams used to impound wildlife marshes. Of greatest

concern are four massive earthen flood control structures with rubble stone surfaces built by the Army Corps of Engineers 15 years ago. The State agreed to maintain these structures, which involves the yearly spraying of stone surfaces with an approved herbicide to prevent woody plant growth (one dam alone has over 12 acres of surface area); clearing and removing branches, fallen trees and other debris from the impoundment areas, and maintaining the log booms to prevent clogging of the intake structures; repairing of concrete spalling on spillways; and painting and repairing gates, gate houses, fences, etc. Ten additional flood control structures built by the Soil Conservation Service must similarly be maintained. The faces of these dams are grassy surfaces which must be mowed twice each year to prevent woody growth and glass clumps from developing (involving hundreds of acres of mowing). Some of the structures need basic repairs to prevent erosion and subsequent breeching.

The height of these dams is such that they impound large quantities of water. The possibility of a 100-foot flood breaking thorugh a poorly-maintained dam to cascade down a river valley lined with residential development makes the maintenance of these dams a prime concern. To date, no additional staff have been approved for this critical need. The Council on Environmental Quality hopes that a natural disaster such as already occurred in other states will not need to occur in Connecticut before adequate attention is paid to this significant problem.

SECTION 7: OTHER PROGRAMS

In addition to the programs listed above, the C&P Division maintains five regional offices with field specialists from each of the central office units: fisheries and wildlife biologists, foresters, conservation officers, park supervisory personnel, and recreational specialits. All field personnel are headquartered in the regional offices, and they are the "action" arm of the division, with only a skeleton staff located in Hartford for overall program coordination. These vital offices are woefully understaffed and unequipped to carry out their assigned functions.

The C&P Division also is charged with the general care and management of the land and the buildings belonging to Indian reservations. It provides staff assistance to the Indian Affairs Council to work with tribes on housing and other related matters.

Finally, programs such as the Youth Conservation Corps and others are administered by the Division. The YCC and YACC are work programs for youngsters and unemployed persons of varied ages and socio-economic and racial backgrounds. Its work objectives are to accomplish needed conservation work on public lands, and provide gainful employment as well as an opportunity for the youngster to learn about conservation and natural resources. However, these programs are a significant supervisory responsibility and time drain for existing program staff.

SECTION 8: BUDGET AND STAFFING

Clearly, the C&P division is not adequately staffed to carry out all of its legislatively-required responsibilities. Explosively-increasing public demand for additional recreational facilities has hampered the division's ability to provide needed services. In addition, rampant inflation has eaten away at the budgetary increases which were awarded. Finally, vandalism at state facilities has further reduced the Division's financial capability to respond adequately to public service needs.

Table 1 shows a representative list of Conservation and Preservation activities during the 1977-1978 year, and Table 2 indicates revenues achieved from some of these activities, showing that $2.5 million is collected yearly for various conservation & preservation license and permit fees. Certainly, a large proportion of the state's expenditures for these C&P programs are partially compensated and offset by these revenues. In addition, federal reimbursements further reduce the C&P budget by a significant amount.

The C&P Division officially requested from Governor Grasso $7.7 million as a total budget for 1979-1980. This figure may seem high enough at first glance; however, after closer inspection the Council found the following:

79-80 Budget Request	$7,715,600
Personnel Costs	6,011,000
REMAINDER	$1,704,600

FIXED COSTS	
Utilities	200,000
Motor Vehicle, rentals	125,000
Gasoline	175,000
Fuel Oil	68,000
Fish Food	170,000
Pheasants	150,000
TOTAL	$888,000

% that Fixed Costs Consume from Budget	52%

After these fixed costs are subtracted, the Division is left with 48% of their original operating budget request. To make matters worse, these costs are fixed, irrespective of further executive and legislative cuts in the original request (which are certain). And up to this point no recreational services other than operating personnel have been provided!

TABLE 1

1977-78 Activities, C & P Division

1.	Boating safety Education Packets Issued	9,135
2.	Hunter Safety Education Packets Issued	5,719
3.	Deer Permits	13,455
4.	Lobster Licenses - all types	4,993
5.	Sporting Licenses Issued	238.955
6.	Trout Stocked	850,000
7.	Lakes and Streams Stocked	300
8.	Anadromous Salmonids Stocked	98,771
9.	Improved Wildlife Habitat (acres)	3,400
10.	Birds Released	43,000
11.	Public Assistance (Permits Served)	9,000
12.	State Recreation Area Attendance	7,672,000
13.	Number of Camper Days	443,000
14.	Water Sports Participants	110,000
15.	Public Forest Land Managed (acres)	185,000
16.	Tree and Shrub Seedling Production	1,800,000
17.	Acres of Private Woodland Managed	50,000
18.	Trained Fire Suppression Crewmen	3,000
19.	Fire Prevention Lectures/Demonstrations	40
20.	Summary of Offenses	3,682
21.	Warnings Issued	2,175
22.	Youth Conservation Corps:	
	Number of participants	176
	Appraised value of projects completed ($)	265,408

TABLE 2

REVENUES - FISCAL YEAR 1977-78
CONSERVATION & PRESERVATION DIVISION

Source	Amount
Fur Buyers	$ 750
Taxidermists	795
Game Breeders	2,116
Commercial Hatchery	330
Fishing Permits-Quinnebaug	2,159
Purse Seine Boat Reg.	3,050
Fishing - Shad	1,690
Fish & Game Licenses	988,847
Shad Permits	1,127
Hound Hunting Packs	50
Trapping Rights	
Bait Dealers	600
Comm. Blue Crab Lic.	
Personal Use Lobster Lic.	23,670
Comm. Fishing - Pot & Trawls	30,475
Comm. Fin Fishing Lic.	4,070
Comm. Bait Licenses	725
Resale of Lobsters	590
Deer Permits	104,710
Private Shooting Grounds	265
Trial Permits	949
Reg. of Private Waters	15
Sale of Venison	2,968
Pheasant Tags	995
Forest Products	185,000
Concessions	80,000
Camping fees	312,592
Parking fees	608,554
Admission fees	53,122
TOTAL:	$2,405,214

Prior to the creation of the DEP in 1971, the Board of Fish & Game (which is now only part of a larger C&P Division) had an equipment budget of $250,000; in 1977 the equipment budget for the entire C&P division was only $17,000, seven years later. Obviously, the reduced buying power of the dollar, coupled with aging equipment which in many instances should be replaced, are factors which make this $17,000 appropriation unworkable.

The budgetary constraints facing C&P can be be understood in the framework of fixed income and rising costs. Although the C&P budget has not appreciably been increased beyond the normal rate of inflation, the level of services which the agency has had to provide over the past eight years has risen sharply. Some examples are:

1. In the past 25 years, the number of licensed fishermen and hunters has doubled. In 1977, 238,000 hunting and fishing licenses were issued, with sales totaling over $1 million. These increased numbers of sportsmen in the field have produced an enforcement nightmare: within an eight year span, arrests increased by a factor of four to over 3,600 arrests in 1978.

2. Forestry's ability to cope with forest firest has decreased, yet the number of fires increases. In 1972-1973 only 329 individual fires required staff coordination and forest fire control; in 1977-1978 it had spiralled to 1,197 individual fires, or an increase of over 35%.

3. As state facilities deteriorate for lack of maintenance, funds and staff, peak usage over the past five years is a million more visitors.

4. The cordwood cutting program, which requires DEP forestry staff supervision, has grown at an enormous rate: 35 times more cords of wood are being cut this year than six years ago. In 1972 only 300 cords were cut; in 1977-1978, over 10,550 cords were cut, all under DEP supervision. As a result of a lack of personnel, there is now a waiting list of over 2,200 people.

5. The following new programs were added, with no increase in funding or staff: deer hunting and management program: Youth Conservation Corps; Indian Affairs Council; Quinnebaug Hatchery; Wildlife Buffer Bunch Program; and two state facilities (West Rock Ridge State Park and Bluff Point Coastal Reserve).

TABLE 3

State Funded and Authorized Positions
DEP Conservation & Preservation Division
Source: Governor's Budget

Budget Year	As Of	Positions Filled	Positions Vacant	Total
78-79	6/30/78	358	6	364
78-79	6/30/77	338	0	338
77-78	7/1/76	333	11	344
76-77	7/3/75	375	38	413
75-76	7/4/74	412	23	435
74-75	7/5/73	402	13	415
73-74	7/6/72	368	11	379
72-73	7/8/71	395	53	448
71-72	6/30/70 (pre-DEP)			
	Park & Forest	306	10	
	Fish & Game	104	4	
	Boating	10	1	
		510	15	525

SUMMARY

Overall loss in employees since 1970:	161
Percentage of work force lost:	31%
Approximate percentage of lost workforce which was non-clerical professional staff:	50-60%

NOTE: The above figures do not reflect a transfer of employees from the Conservation & Preservation Division to the Environmental Quality Division of DEP when the Water Resources and Land Acquisition Units were transferred. However, Water Resources personnel were not in the combined staffing positions in the Park & Forest, Fish & Game, or Boating Programs in 1971-72, and thus are not applicable. In addition, some land acquisition staff were located within the Commissioner's office of the Department of Agriculture and Natural Resources in 1971-72; these staff positions are also not included in the 1971-72 position totals.

Table 3 shows the loss of available C&P positions over time as a further indicator of the division's difficulty in coping with rising levels of service. 31% of the division's functional workforce has been lost over the past eight years, of which most were field and program management staff. Considering that DEP is a fraction of a percent of the state's overall expenditures (See Figure 1 on page 66) but yet is such a vital service agency, it seems astounding that these critical funding shortfalls cannot be more easily resolved.

The Council on Environmental Quality therefore wishes to urge the Governor and the leaders of the General Assembly to carefully examine the critical nature of funding for the Conservation & Preservation Division.

SECTION 9: RECOMMENDATIONS FOR CONSERVATION & PRESERVATION

The Council on Environmental Quality wishes to recommend the following:

1. That the Legislature adequately fund the programs of the Division of Conservation & Preservation, and that these programs be given a priority emphasis. Needed positions, particularly those for which federal matching money is available, should be funded and established immediately. Adequate funds should be provided for sufficient staffing of parks and development of recreational facilities.

2. That the Legislature consider establishing a fund for the collection of the unrefunded marine fuels tax for express use of the Conservation & Preservation Division, to be supplemental to their existing funding and to be used for development of new recreational facilities. These unclaimed and unrefunded marine taxes are simply channeled into the highway fund unless claimed by the individual boat owner with receipts to prove the gasoline purchases were for marine use. It has been estimated that ½% of the total gasoline sales tax revenues are due to boating activities, and that a refund could amount to as much as $1 or more per year. This money should be funneled back toward the user groups who unfairly paid the tax in the first place; it should not be allowed to meld into the general transportation pot. If established (Main, Minnesota and North Carolina have already done so) this fund could provide a sorely needed source of recreational revenue.

Part 7:

PCB in Connecticut: A Summary

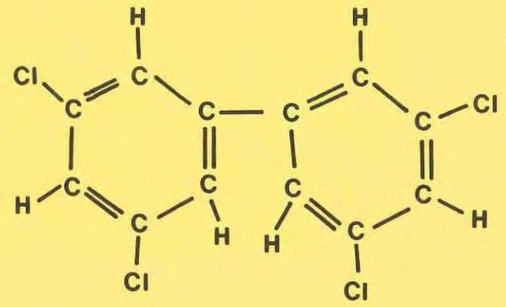
Connecticut citizens have been growing increasingly concerned about the potentially serious health and environmental effects of the nation's growing use of chemicals. Chemicals continue to be developed and introduced at a rapid rate (up to 1,000 new chemicals a year) which are found widely in home and industrial use.

In an effort to protect human health and the environment, Congress passed the Toxic Substances Control Act on October 11, 1976. This act requires that the Environmental Protection Agency regulate the production, use and health effects of all chemicals and requires testing of chemicals suspected of being harmful. If a chemical poses an unreasonable risk, the law offers several regulatory options, depending on the degree of risk. EPA may institute a ban, restrict its production, limit its use, or establish labeling or disposal requirements to protect human health and the environment.

One provision of the Toxic Substances Control Act requires EPA to phase out the uncontrolled manufacture, use and disposal of PCBs -- polychlorinated biphenyls -- a group of long-lasting, highly dangerous industrial chemicals known to have deleterious effects on the food chain and man. A special report on PCBs and their health effects follows.

SECTION 1: HISTORICAL DEVELOPMENT AND USE OF PCBs

PCB (polychlorinated biphenyl) is the generic name for a group of synthetic stable organic compounds consisting of two linked benzene rings with up to five chlorine atoms attached to each of them. DDT (dichlorodiphenyl-trichloroethane) has a very similar structure to PCBs, but PCB is a much more stable substance. PCB, unlike DDT, will not degrade after 15 years. PCBs form one of the most permanent and unchangeable organic compounds known, as enzymes cannot sever the bond between the biphenyl structure and the chlorine atom.



In fact, the only known effective method of destroying PCBs is to burn them at temperatures ranging between 2,000 degrees F and 2,700 degrees F. Obviously, only special industrial incinerators are capable of generating this extreme heat.

PCBs were first introduced in the U.S. by the Monsanto Company in 1929. Although this company was the sole U.S. manufacturer, several companies marketed PCBs under different trade names. Aroclor (by Monsanto) has been the one most widely used in this country, principally for industrial purposes.

Until 1971, when Monsanto's sales were restricted to use in "closed systems", they were found in: heat exchangers, hydraulic brake fluids, ironing board covers, adhesives and plasticizers, waxes for investment casting, carbonless carbonpaper, printer's ink, photocopy toner, paints, sealants, caulking compounds, soaps, and various electrical component parts.

PCB's popularity for industrial use is due to its unique chemical properties. In addition to its stability, PCB has a low solubility in water, low vapor pressure, low flammability, high heat capacity and low electrical conductivity. These properties allow PCBs to be effective for use as dielectric and heat transfer fluids. Because of its resistance to heat, PCB has been used instead of mineral oil as coolant in transformers and as a fire preventative in hospital and coal mines.

SECTION 2: DISTRIBUTION OF PBCs IN THE ENVIRONMENT

It is likely that PCBs have been entering the environment since their first industrial use. They are in the air, in the water and in the sediment. About 95% of all manufactured PCBs (~1.4 billion lbs.) will probably find their way into surface water, mainly through waste effluents or atmospheric fallouts. Industrial waste discharge and leaching from sanitary landfills are two means by which PCBs may enter the groundwater system.

Because of their low water solubility, PCBs generally do not travel far in the water column. They are easily adsorbed by fine particles and eventually settle into the bottom sediments. PCB concentrations appear to be higher in finer sediments than in coarser sediments. Sediment research is still progressing and conclusions being verified, but it has already been determined that one of every five bottom sediment samples taken nationally contained PCBs. Of bottom samples collected from 16 states, samples from 13 states contained PCBs in the range of 5.0 to 2,400 ppg, a significant accumulation.

On land, it is believed that 95% of the 1.25 billion lbs. of PCBs sold in the U.S. since 1929 are still in existence -- mostly in capacitors and transformers. It is known that 10-15 million lbs. of PCBs are put into U.S. landfills every year. Approximately 290 million lbs. are PCBs are thought to be accumulated in landfills now.

PCB's global distribution raises the possibility of airborne contamination. PCBs are probably adsorbed onto dust particles or are transported in a vaporous form. They are discharged into the air by several industrial processes, such as vapor exhaust from steam jet ejectors, evaporation from accidental spills and plant waste water, and from vacuum pump exhausts.

SECTION 3: HARMFUL EFFECTS OF PCBs

Once PCBs enter the environment, they affect those organisms living in that particular biome. In general, PCBs' toxicity relates to an organism's ability to metabolize and excrete the substance. These metabolic and excretory processes vary from species to species.

In each area, organisms are affected differently and from varying sources. In water, for example, fish may take in PCBs by consuming bottom sediments, consuming smaller contaminated organisms, and by just swimming in the water. It is believed that PCBs diffuse directly through the gills of fish. It is not certain how amounts of PCBs relate to the type of fish, their location or age. But it appears

that fish lower on the food chain contain less PCBs in their bodies than higher organisms.

Concentrations of PCBs in shellfish have been found to be relatively low. An interesting fact is that after spawning, oysters may lose up to 70% of their bodies' PCBs to their eggs, which have a high fat content. Consequently, the larvae are likely to have high concentrations of the toxin.

In birds that feed on fish, PCBs were found mainly in the livers and the brains of the animals. Unlike DDT, it seems that eggshell thinning is not a danger of PCB in predatory birds, although it has not been studied in aquatic birds. Embryo mortality is increased somewhat, however, reducing reproductivity in chickens and predatory birds.

PCBs may also be blamed for affecting the immunological systems of birds, causing severe abnormalities such as deformed beaks, four legs, and underdeveloped appendages.

It appears that prolonged laboratory feeding of PCBs to mice and rats mainly affects their livers. In tests performed, enlarged livers, malignant tumors in the liver and cancer cells in the liver were found.

Studies done with Rhesus monkeys showed that prolonged feeding of PCBs also produced enlarged liver size. However, internal bleeding, weight and hair loss, swelling of mouth and eyelids, decrease in hemoglobin levels, and ulcers and cysts also occurred. If PCB concentrations were high, death would occur. Most of the PCBs were found to be concentrated in the fatty tissues of the animal, although it was also seen in the liver, adrenals and pancreas.

In tests with monkeys, it was also discovered that PCBs do move through placenta; they were found in an infant born to a PCB-fed mother, over eight months after discontinuing the PCB diet. PCBs also seemed to cause conception difficulty in females, by increasing their metabolism of steroids.

As stated earlier, metabolism and excretion seem to be connected to PCB toxicity. It appears the increased metabolism and more rapid excretion in rats enables them to survive high doses of PCBs that would be fatal to monkeys. In monkeys, PCBs are quickly absorbed through the intestinal tract and then are slowly eliminated from their bodies. Consequently, large amounts of PCB remain in the body for long periods of time. Even after exposure stops, the body tissues are exposed to low doses of PCBs for an extended period of time. The concentration contained within the adipose tissue is metabolized when body fat is consumed, thus exposing the body to the toxin.

In humans, the most publicized demonstration of exposure to PCBs occurred in Yusho, Japan. In 1968, rice oil was accidentally contaminated with about 1,000 ppm PCBs and 5ppm PCDFs (an associated PCB chemical) from a leaking heat exchanger. About three to seven months later, symptoms appeared. The victims became sickened with dermal cysts, respiratory problems, abornmal skin pigmentation, face and hand swelling, abdominal pain, vomiting, and burning and soreness of eyes. Several newly born infants were also afflicted by the disease. The PCBs concentrated in the body fat, and thus were not quickly metabolized or excreted.

The "Yusho case" was, of course, an extreme, but it is known that humans are affected by prolonged exposure to PCBs. This toxicity usually manifests itself as "chloracne", the occupational disease associated with such exposure. Workers develop similar symptoms to those which appeared in the Yusho incident. Chloracne usually has a latent period of a few months, so symptoms develop sometime after the initial exposure. Symptoms may persist for years after exposure is halted.

The federal Food & Drug Administration set tolerance standards of total allowable exposure according to data supplied from the Yusho incident. Because of the control measures being taken, PCBs found in foods will be reduced rapidly over the next few years. PCBs have already been almost eliminated in diary products due to the prohibition of PCBs in farm equipment.

Fish found in PCB polluted waters, however, have generally shown no reduction in PCB levels. The contamination of fish, as found in the Housatonic River, seems to be a long-term problem. The Connecticut Dept. of Health has issued a warning advising citizens not to eat fish taken from the Housatonic (from Lake Lillinonah north to the Massachusetts state border) due to recorded levels of contamination. Analyses of fish samples indicate a level of PCB contamination which exceed the FDA standards of 5 ppm.

SECTION 4: STATE ACTION

Since the discovery of high levels of PCBs in sediment, fish and waterlife three years ago, the DEP, the Dept. of Health, and concerned citizen groups and individuals have been working to define the PCB problem. DEP began a regular testing program for PCBs in fish and sediment as part of their water quality program. In 1976, budgetary cuts prevented continued sediment testing. However, the 1978 General Assembly recognized the problem and enacted Special Act 78-50, appropriating $200,000 for the study and monitoring of PCB levels, specifically in the Connecticut portion of the Housatonic River Basin.

In September, 1978 a public meeting was held wherein members of the DEP and Department of Health (DOH) discussed a draft PCB priority list of objectives with the public. A PCB Program Guidance Committee was formed, which included DEP, DOH, the Conn. Academy of Science and Engineering, the Housatonic Watchdog Advisory Committee, and EPA as an ex-officio member. The Committee will advise on technical matters, policy matters, and citizen affairs regarding PCBs. Specifically, each agency has agreed to do the following:

(1) The Health Dept. will continue to publicize warnings concerning eating of fish from the Housatonic River. Fishermen who have already ingested PCBs, however, will be tested by DOH for various system abnormalities;

(2) The DEP will begin monitoring other bodies of water in the state for PCB contamination;

(3) A DEP inventory for locating presently used PCBs will be expanded;

(4) Sediment sampling and transport studies will be conducted by the DEP in cooperation with the U.S.G.S.; and

(5) The DEP will begin to establish a communication clearinghouse to collect and index all PCB-related literature.

DEP's main charge is to identify the source. The problem of PCBs must be carefully defined, and products which contain PCBs identified. In New York, studies costing $6 million were done on the Hudson River. As with the Housatonic in Connecticut, the Hudson was contaminated primarily by a General Electric Plant discharging PCBs in its wastewater. Several pieces of useful information were obtained from the N.Y. study, but little data can be extrapolated to the Housatonic. In addition, the N.Y. report contained no studies of PCB toxicity in humans nor any findings on the biological and chemical effects of PCBs in the environment.

The Hudson River Study dwelt heavily on PCB removal from the river. Dredging was, in fact, the actual recommendation, but would cost approximately $25 million. The Connecticut DEP is not convinced dredging is the best solution for the Housatonic, however, and part of the $200,000 will be spent in searching for alternative methods. Dredging might be considered for PCB removal in a specific area, but is not being considered as an answer to the widespread problem. PCBs should be dealt with on a systematic basis, and not limited to individual river basin solutions.

The CEQ would like to see the development of effective and proper disposal techniques for the PCBs which are presently contained in capacitors, transformers, and other consumer products. For PCBs which are already released, a solution will be difficult to find, but proper control is crucial in preventing further PCB contamination from accumulating and eventually reaching critical levels. A statewide program on PCBs should be developed, in addition to a special program of study for the Housatonic River. In this regard, CEQ supports the work of the Conn. Academy of Science & Engineering and recommends adoption of their proposed actions.

Sources:

(1) "PCB And The Housatonic River, A Review and Recommendations", Connecticut Academy of Science and Engineering (CASE), October 2, 1978.

(2) "PCBs - A Matter of Concern", Louise Sclafani, Yale School of Forestry and Environmental Studies, April 25, 1978. Prepared for the Housatonic Valley Association, Inc.

Part 8:

CEQ Recommendations

In fulfilling its statutory responsibilities for investigating citizen complaints and in preparing this annual report, the Council on Environmental Quality had the opportunity to work closely with the Dept. of Environmental Protection in various resource areas. As a result of direct observation of departmental programs, conversations with local officials and citizens, and conversations with Council members concerning problems of statewide impact, the following recommendations were evolved.

SECTION 1: ENFORCEMENT

Despite added staff in various units such as Air Compliance, Solid Waste and Water Resources, the Department remains unable to cope with its environmental quality enforcement needs. Permit programs are complex, and require almost daily monitoring in many areas to assure compliance, an impossible task in an agency with so many other responsibilities. As Deputy Commissioner Melvin J. Schneidermeyer puts it, "it is difficult to be both advocate, judge, jury, and cop, all at the same time."

With hundreds of DEP permits issued each year in each environmental quality unit, enforcement is becoming an increasing nightmare. Routine monitoring is proving insufficient to control rampant abuse of the law. In the Solid Waste Unit, landfill inspectors attempt to monitor carefully a facility's compliance with State solid waste regulations, but abuses and violations are widespread. In Air Compliance, many more violations are reported and detected than can be spot-checked in the field with available staff. In the Water Resources Unit, enforcement staff do not generally (other than for inland wetlands) inspect for permits issued on a regular basis unless complaints are logged or requests for inspections are made; routine monitoring to determine general violations or incremental depletion of the resource is nonexistent.

The Council has several recommendations in the area of enforcement:

(a) Strengthen the capability for administrative enforcement by expanding the use of the civil penalties program

The Council is aware that the Civil Penalties Program, as statutorily authorized in 1974 and as implemented by various administrative regulations in DEP, is not being extensively used throughout the agency. The reasons for this lack of use stem from "excessive" administrative overhead in handling the program, a legal contest that is currently in process, and the belief that violations referred to the Attorney General's Office for prosecution will be adequately resolved. CEQ will investigate further to determine whether civil penalties will be an added enforcement tool in certain programs, such as the Solid Waste Program, where landfill compliance is becoming a chronic problem.

(b) Delegate to local health officers enforcement authority for certain "nuisance" programs

In an effort to maximize resources available on the local level as well as on the state level, it would seem prudent for DEP to delegate certain "nuisance" permit programs to municipalities who are willing to accept such delegation and who have available staff to implement such a program. A prime candidate for this type of local delegation is the odor program, which involves a series of subjective evaluations. Due to the lack of enforcement personnel in the Air Compliance Unit, the odor control program is often the least enforced and the most poorly implemented program in the DEP Air Unit. The Council has been approached by a local public health officer with a request that it investigate the delegation of such authority to local health officers. DEP has indicated its tentative support for such delegation, particulary for the odor control program.

(c) Establish a mechanism for the monitoring of permit compliance, particularly in the Water Resources Unit

At the present time, the Water Resources Unit is solely reliant on citizen complaints for the detection of possible violations. Shoreline dredging and filling, filling in inland and tidal wetlands, and erosion and sedimentation problems are only brought to the attention of Water Resources staff members through the diligent communication of interested citizens. A mechanism should be investigated for the timely monitoring of permits issued, and for shoreline resources in general, to establish better awareness of compliance with the law. Although citizen surveillance is encouraged by DEP, it is by no means sufficient to assure protection from violations. A coastal management program, if adopted, should assist in this regard.

SECTION 2: PERMITS AND HEARINGS

Many public hearings have been a problem in DEP, principally because citizens have a difficult time understanding legally-adopted administrative procedures, and because permit programs are so complex and interwoven that citizens have difficulty separating one from another. The Council has developed a series of recommendations which, it hopes, will assist DEP in the refinement of the public hearings system.

(a) Notify town officials whenever a public hearing is scheduled

The Council is aware that many town officials, elected officers and planning and zoning commissioners, have been distressed to learn of a permit application in their town after the public hearing has been held. It seems diplomatic and courteous to notify municipal officials of a pending application and when a public hearing will be held in their town or in Hartford. In this manner, local officials cannot maintain that they have not received proper notice or were not aware that a certain facility had come before the DEP for a permit.

(b) Coordinate with town officials on permit decisions

To a certain extent, many local officials erroneously believe that DEP permits override local planning and zoning consideration (which they do not). A solution to this would be to require that DEP permits be issued subsequent to planning

and zoning decisions; in the case of wetland and water resources permits (which often require modifications to the original site plan), DEP activities should at least come to the attention of planning and zoning commissioners during the normal permit process. For example, in inland wetlands regulation, DEP asks developers to apply for wetlands approval prior to receiving local approval; however, a local planning and zoning commission would nonetheless be aware that a subdivision was being considered by DEP with ample opportunity for participation by local officials at the public hearing.

Similarly, town officials complain that they often do not receive routine notification of final decisions on DEP permits. The Council recommends that such notification take place within 30 days of the Commissioner's decision.

(c) Issue citizen participation guidelines on public hearing participation

Many citizens are frustrated and alienated by DEP's public hearing procedures, simply because they do not understand them. The passage of the Uniform Administrative Procedures Act in 1971 may have made procedures more straightforward for permit applicants, but they have provided a certain frustration for lay citizens who do not understand terms such as "party", "intervenor", "contested case", etc. The citizens have no concept of "ex-parte" communication, and what restrictions it places on their participation. The Council recommends that the DEP Information and Education Unit, now that it is fully staffed with citizen participation expertise, issue guidelines for citizens for public hearings which would explain the nature of the participation allowed and which would clarify various permit procedures. The Council is preparing a Citizen's Guide to the Permit Process in DEP, and this will serve to explain the various DEP permit programs to citizens who are interested. However, public hearing procedures, if unknown to the citizens, can severely hinder meaningful participation and serve to further alienate them from the governmental process.

An example of this confusion, DEP's administrative procedures for public hearings are significantly different than those for the Power Facilities Evaluation Council. Consequently, it requires "professional" citizens to be able to participate effectively before these two bodies.

(d) Increase permit coordination to reduce delay

A recently-released report by the Commission on Environmental Protection and Economic Development stresses the need for greater permit coordination and reduction in time delays. The Council wishes to strongly support this view, and to further recommend that greater permit coordination take place within DEP. At present, the Planning and Coordination Unit has only one staff member for full-time permit coordination, and consequently only routine administrative coordination of hearings and permit decisions can take place. Ideally, the Planning and Coordination Unit should have a subsection entitled Permit Coordination, composed of technical resource staff from each of the regulatory units, which can serve as a central "nerve center" for the agency on regulatory matters. Such an office could provide a one-stop permit application procedure, thus eliminating the need for an applicant to go to several DEP units at once. It could help to collapse various time schedules so that permit processes can run concurrently. Most importantly, it could serve to resolve conflicts when multiple permits are required (See Section 3(b)).

Another function of a Permits Coordination Section could be the eventual monitoring of all permits issued in DEP. At this point in time, no centralized information source exists concerning the cumulative depletion of resources on a statewide basis. This unit could perhaps develop a computer program which could, over time, evaluate the cumulative impact of the issuance of water quality, water resources, and other permits. Currently, no inter-unit coordination on this takes place.

(e) Establish the Office of Adjudication

The Council is concerned that sufficient budgetary funds and necessary personnel approvals have not been granted to DEP to allow the establishment of the long-awaited Office of Adjudication. It cannot be overemphasized that such an office is critically needed. By providing a division of impartial hearing examiners, the Office of Adjudication would effectively separate the role of "judge and jury" from the role of "advocate", thus freeing DEP to perform the role of providing substantive documentation on permit decisions. Presently, the same DEP staff serves as hearing officers as well as witnesses in permit hearings. Such a

system cannot and should not be allowed to work for a longer period of time.

The creation of an Office of Adjudication would have the additional advantage of offering citizens an impartial division with which to deal on public hearing procedures. The potential for standardizing procedures between units and for encouraging fuller citizen participation will be greater once an Office of Adjudication is established.

SECTION 3: NEEDED RESEARCH IN DEP

(a) Develop a Comprehensive Statewide Landfill Siting Policy.

The Council was astounded to learn of the present procedures used to site a facility as politically sensitive as a landfill. DEP evaluates only sites that are presented to them for geologic suitability, without the perspective of relating individual sites to a larger whole. Consequently, in searching for new landfill sites, no attempt has been made to canvass suitable "areas" for landfills -- areas which have more suitable geological conditions and which will produce minimum leachate to ground-water supplies. Instead, individual sites are chosen by municipalities and private developers, and presented to DEP for evaluation.

The Council firmly believes that landfill siting should involve an analysis of Connecticut's drainage basins, in conjunction with the Natural Resources Center and the U.S.G.S. Discharges permitted thus far and other forms of water pollution stress have been monitored and mapped by the U.S.G.S., and now drainage basin areas can be evaluated as to their suitability for accepting further types of discharge. Commissioner Pac has already agreed to inventory the state to determine the most suitable landfill siting areas, and the Council believes that landfill location permits should be issued in accordance with this inventory. Connecticut may then be able to determine "ideal" sites for landfills, those which will minimize potential pollution and potential endangerment of precious municipal and private water supplies. (See Part 4, Section 2, for further detail)

(b) Institute Greater Landuse Coordination Within DEP

As part of recommendation #2(d) above for the creation of a Permits Coordination Section, the Council believes that DEP should more carefully evaluate those proposals which require multiple permits. At present, a large development, such as an industry, requiring several permits from different regulatory units is evaluated by each unit separately, with no centralized review within the agency. As a result, one unit may not be aware of process changes required by another unit's decision.[1]

A Permits Coordination Section could perform a landuse coordinating function by convening various department experts from appropriate regulatory units whenever an application comes in requiring multiple permits, or whenever orders are issued to facilities with multiple permits. This review would assure a timely and smooth DEP response, and would also assure the "in-toto" review procedure suggested by the Commission on Environmental Protection and Economic Development Permit Process Report.

At one time, the Planning and Coordination Unit contained a Landuse Section. Perhaps such a section should be once again created in order to evaluate the overall landuse implications of various DEP Programs. For example, Water Compliance's Sewer Avoidance Program has definite landuse ramifications for Connecticut communities, and attempts should be made from a policy perspecitve to analyze the landuse and growth implications of such a program. Other programs, such as the Air Compliance Unit's Indirect Source Program and the Water Resource Unit's Flood Management Program also offer an opportunity for significant landuse evaluation. At this time, the Coastal Area Management Unit within the Environmental Quality Division is the only "landuse" related unit that the DEP now has. In view of the fact that environmental standards carry related landuse consequences, the development of a landuse policy should be carefully considered.

As further proof of this, the DEP's Air Implementation Plan required under the Clean Air Act Amendment of 1977 will carry serious growth implications for the state. An

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[1] For example, an order was issued by Water Compliance requiring that the Town of Bristol expand their sewage treatment facility to tertiary treatment; however, such expansion necessitates further construction in a wetland and floodplain.

analysis of the available growth margin from an air pollution perspective is intricately tied to development potential in major hotspot areas in the state. In addition, the air pollution concept of "prevention of significant deterioration" also carries with it potential landuse restrictions. Connecticut municipalities should be better informed of the landuse implications of various DEP programs, and DEP should provide an overall framework for the implementation of these programs to aid in that process.

(c) Assist The Department of Transportation in the Development Of Public Transportation Strategies

With ambient air levels nearly four times over the standard for oxidants, Connecticut's automobile-generated air pollution problem will require significant effort in all sectors in order to be solved. As a result, DEP should be working closely and cooperatively with the Dept. of Transportation to develop a transportation planning process which will address this severe need.

Of greater importance is the requirement to reduce VMTs (vehicle miles traveled) to achieve clean air goals, which will require the alteration of automobile ridership patterns. Perhaps the creation of a special taskforce composed of reserach people from both agencies would provide the catalyst for the development of innovative solutions to the transportation/air quality problem. Some of these solutions will surface in the DEP Revised State Implementation Plan (SIP), but many will need to be developed over a longer period of time. The Council urges that such consultation and discussions take place as soon as possible, so that the development of needed public transportation options can take place.

SECTION 4: LEGISLATIVE RECOMMENDATIONS

(a) Provide An Adequate DEP Budget

The Council strongly urges that the General Assembly continue to fund environmental protection at a level at which services and needed programs can be maintained. Of grave importance is the deteriorating state of our park and forest land, and it is critical that legislators ensure that these needed and heavily-used facilities continue to be maintained in a manner that will assure recreational opportunities for

Connecticut citizens. In addition, the Environmental Quality Division must be funded at a level sufficient to meet federal grant responsibilities.

Environmental protection, while of great importance to the welfare of the State, consumes less than 1% of the state's annual appropriations. The Council therefore urges that funding be increased for both divisions, in order to keep pace with inflationary increases, support and improve existing programs, and provide necessary new services.

(b) Enact Coastal Area Management Legislation

The Council recommends that a comprehensive program for the management of Connecticut's coastal resources be implemented by the 1979 General Assembly. The measure as presently proposed by the CAM Unit, and studied by the Legislative Subcommittee on Coastal Management, recommends a shared state/local coastal management program with state guidelines included in comprehensive legislation, and with local communities implementing locally-developed plans at the local planning and zoning level.

No one can dispute the fact that the Connecticut coast is valuable. Its resources have spawned residential, commercial and industrial development, and it has provided recreational enjoyment for centuries. Consequently, it is in the state's economic as well as environmental best interest to consider a rational method of preserving coastal resources while at the same time enhancing coastal economic development.

At the present time no coordinated or comprehensive plan exists. Unless our local shoreline communities are given the necessary tools, piecemeal development will occur without regard to the need for preservation of unique coastal resources. A brief inventory by the Council of the large number of permits issued monthly by the State Water Resources Unit, as well as those issued by local planning and zoning commissions along the coast, confirm that coordinated decision-making must begin immediately if the state is to continue to preserve its unique coastal character.

The Council therefore urges the adoption of this important legislation.

(c) Strengthen the Existing Solid Waste Laws

Integrally tied to DEP's difficulties with enforcement of the Solid Waste laws is the specter of Public Act 78-67 (See Part 4, Section 2). The Commissioner has reduced authority under this legislation to enforce compliance at a landfill, since closing becomes difficult without DEP providing an alternative. As a result, serious deficiencies exist in the solid waste laws.

The Council recommends that the General Assembly take a serious look at the implications of P.A. 78-67, and that it take steps to more completely define the state and local roles in the siting of landfills. In this regard, the Council has prepared Appendix C in this report containing a legal interpreation concerning the effects of P.A. 78-67 on various prior decisions. The suggestion is made that Connecticut adopt standards similar to those in California, where the state and local roles are more clearly defined. In this manner, Connecticut can proceed with the business of siting environmentally sound landfills and solving the "solid waste crisis".

In addition, the Council recommends that a mandatory injunction section be added to the solid waste laws, similar to that present in the Water Pollution Control statutes. With the addition of this provision, which is being proposed this Session, DEP would have the same kind of comprehensive enforcement capabilities that it now has in the Water Pollution Control Program. The illegal hazardous waste operation in Plainfield. for example, was halted only by this mandatory injunction statute within the water law. The Council therefore believes that such a section is a critical addition to the solid waste statutes.

(d) Establish An Escrow Fund For Pollution Problems Resulting From Landfills

The Council recommends the establishment of an escrow fund, to be created with funds from private sources, for the abatement of water pollution problems which may result from the siting of regional landfills. Of concern to the Council is possible groundwater contamination which may occur from the siting of landfills for the disposal of solid wastes; particularly in the case of a regional landfill, the host community should not be required to absorb the cost of remedial measures. For this reason, the Council suggests that an escrow fund be established,

possibly funded through solid waste permit and license fees, which could be used for the abatement of groundwater pollution problems.

(e) Expand and Clarify the Role of the Council

Since its creation in 1971, the Council on Environmental Quality has remained unchanged in scope. Its charge is that of an advisory agency, an agency providing review input not only on environmental impact evaluations and Power Facility Evaluation Council applications, but also on environmental policy matters in general. As an advisory agency, however, its legal status is somewhat unclear, especially with respect to citizen complaints and permit proceedings.

Appendix B contains draft legislation which the Council hopes to submit to the 1979 Session of the General Assembly. It clarifies that the Council may participate in permit and other regulatory proceedings, as often requested by individual citizens. It also clarifies that the Council remains a separate body from the Department of Environmental Protection, implied in the statute but not expressly indicated. The section concerning the Council's requirements for preparing the Annual Report to the Governor and the General Assembly is further clarified, especially regarding the Council's ability to review DEP activities.

In addition, the Council is seeking the authority to hold investigative public hearings and to forward specific recommendations for the resolution of citizen complaints to the Governor and the General Assembly. This authority is not expressly stated in the statute, although perhaps implied. As a result, the Council would favor its codification into the statutes.

(f) Provide Increased Environmental Review and Natural Resources Assistance

The most creative and significant program within the DEP which is non-regulatory in nature is the Natural Resources Center. Established for the specific purpose of providing baseline environmental data to local landuse decision-makers, the Natural Resources Center has played a significant role in helping to assure uniform landuse decisions based on a natural resource data base. Development errors made in the past, such as siting landfills over aquifers, should not be repeated now that the Natural Resources Center is in a position to coordinate natural resource information for local communities.

A significant program that the Center is involved with is the RC & D "environmental review team." At the request of a local municipality, state agency, or regional planning agency, a team composed of environmental experts in various disciplines (soil scientists, wildlife biologists, hydrologists, geologists, engineers, etc.) will visit a proposed developmental site and evaluate its natural resource characteristics. This expert review then becomes part of the information for use by local decisionmakers. It is a significant means of providing detailed scientific information on the ability of the land to support development to lay decision-makers who normally would not have this information at their disposal. the extent that Connecticut communities are able to utilize this resource, local development can take place in a rational and resource-conscience manner. Indeed, the Coastal Area Management legislation proposed for the 1979 General Assembly carries with it a similar voluntary program for environmental review.

Unfortunately, the environmental review team is composed of experts who carry full-time jobs in addition to their participation on the team. Substantial funding has never become available to sponsor sets of teams to serve regions throughout the state. The Council strongly urges that the legislature appropriate a modest sum of money to insure the creation and continued funding of environmental review teams in all of the RC & D or other regional areas of the state, to be made available to local communities free of charge. Their recommendations for development would become part of the record of every local development application, but these findings would not be binding upon the planning and zoning or inland wetland commission's decision.

An environmental review team provides the state with an opportunity to avoid disastrous development impact: failing septic systems in areas of poor soil drainage; intense development over areas of high priority water supply; improper development in sensitive natural resource areas, causing severe erosion or sedimentation; and excessive runoff causing severe flooding in many local communities.

Part 9:

Economic Analysis

Section 22a-12 requires the Council to outline in its Annual Report the "current and foreseeable trends in the quality, management and utilization of the environment and the effects of such trends on the social, economic and health requirements of the state." Throughout the preceding parts of the report, the Council has included these considerations in its examination of various environmental quality programs, such as air quality and solid waste. The Air Quality Section (Part 4 Section 1) points out the need for Connecticut to adopt a federally approvable State Implementation Plan to provide for increased economic growth without undue restrictions. The Solid Waste Section (Part 4 Section 2) outlines the economic and health effects of improper solid waste disposal. These considerations are an important dimension of environmental regulation, and are increasingly being factored into all new regulations proposed by federal and state governmental agencies.

Unfortunately, to date little concerted attention has been paid to accumulating the necessary data and background information to assess economic and social impact. State agencies such as Environmental Protection, Commerce, and the Office of Policy and Management have not had the resources nor the directive to tackle the massive research necessary.

However, in 1976 the General Assembly created the Commission on Environmental Protection and Economic Development, a special study commission established with the charge to study and report to the Governor and the General Assembly on the following:

> (1) A study of the economic costs and benefits to the citizens of the state for compliance with present state and federal environmental statutes and regulations including costs of goods and services, medical costs and eligibility for public and private grants; (2) a study of the economic and environmental costs and benefits associated with the relaxation of certain environmental regulations,

particularly where state regulations are different from and more stringent than federal regulations, including both the immediate and long term costs and benefits and an analysis of who is paying the costs and who is receiving the benefits; (3) a study of other sociological, psychological, and cultural costs or benefits to the citizens of the state for compliance with present environmental standards as opposed to relaxation of such standards; and (4) a proposal for a state policy for the balancing of environmental and economic considerations, which shall include recommendations for executive and legislative action.

Given the enormity of the task and little budgetary or staff resources, the Commission was not able to fully complete its charge. Two reports were prepared by the Commission on the subject of Air Quality and the Permit Process, and copies are available from the Department of Commerce.

CEQ'S EFFORTS

In an attempt to fulfill the statutory requirements for the Annual Report, the CEQ employed a 12-week intern to assist in writing a report evaluating the economic perspective to environmental regulation. Sufficient funding was not available to the Council to conduct an in-depth study, including gathering of new data on economic impact. However, the CEQ was able to produce a 50-page report summarizing the available information and making recommendations for further research. Copies of this report are available at the CEQ, Room 141, State Office Building.

Due to the length of the report, it is not possible to include the text in full. A section of the report, however, is included below as an overview and brief summary.

CEQ intends to pursue further research on economic and social impact, within the bounds of its available appropriations. Certainly, there should be a state commitment to studying this issue in greater detail. CEQ's efforts have exposed a lack of available data for definitive evaluation, and the Council recommends that sufficient resources be allocated to the Department of Commerce or the Office of Policy and Management to conduct comprehensive studies for use by the Governor, Legislature, and other agency decision-makers.

OVERVIEW AND SUMMARY

In the past, arguments based on aesthetics and effects on human health were generally accepted as sufficient reason for passing environmental laws and undertaking pollution control efforts. More recently, the economic dimension of protecting the environment has played an increasingly important role in statewide policy decisions affecting both our economy and our natural resources. Unfortunately, the relationship between environmental protection and the economy is poorly documented and not well understood. In an attempt to fill some of this void, this report focuses on the impacts of environmental control programs on the economy in Connecticut.

The study is divided into two sections: Environmental Costs and Economic Impacts. Both were examined as separate, yet interrelated units whose interaction influences the well-being of all of Connecticut's citizens.

The following nine points present a general summary of some of the major determinations of the report. A complete explanation of these conclusions is presented in the sections of the report.

1. *We are incurring substantial costs because of pollution.*

   Pollution generates costs through ill health, loss of man-hours of productive work, loss of recreational opportunities, lower crop yields, material deterioration, and physiological and aesthetic damages. In short, a polluted environment has serious economic consequences. For example, estimates of the damage costs of air pollution in Connecticut range between $94-$200 million.

2. *There is a serious lack of data on the economic impacts of environmental regulations.*

   Because of the complex makeup and reactions of pollutants, many of the cost factors are undetermined. Moreover, since many environmental costs and benefits involve non-market commodities, there are serious problems in placing monetary values on them. Consequently, estimates of pollution damage costs may often actually understate the true economic damage costs to Connecticut citizens.

   Similarly, the benefits accrued through environmental programs are often unquantified and therefore ignored in economic impact assessments. If the benefits of such programs were adequately expressed, they would generally exceed the program costs.

3. *Industry and Government are making major expenditures to abate pollution, and most of these are in response to federal legislation.*

Nationally, the amount spent for pollution control in 1977 was estimated at $40.6 billion, around $187 per capita. Responding largely to federal legislation, Connecticut industry spent $70.7 million for pollution abatement in 1976.

Although capital investment expenditures have been on a downward trend, operation and maintenance costs have increased. Water pollution accounted for the largest portion of total pollution abatement in the state, followed by air pollution and solid waste.

4. *Connecticut's environmental regulations are generally analogous to those on the federal level and in other states.*

Connecticut's environmental programs generally follow federal guidelines. With the possible exception of air pollution cleanup strategies (such as the sulfur standard), environmental quality standards have not created economic disadvantages for Connecticut's firms. In addition, the overall impact on the state's economy seems to be minimal.

5. *Environmental regulations have not placed serious constraints on the growth capabilities of Connecticut industry, nor have they discouraged companies from locating in our state.*

Capital investment for pollution abatement by Connecticut industry has been on a downward trend. A majority of Connecticut firms responding to a 17-firm survey indicated that environmental regulations had not resulted in any displacement of planned investments for other production purposes. Also, nearly half of the respondents claimed that environmental regulations had had "little" impact on their business, with a similar number claiming "moderate" impact.

Energy, transportation, taxes and the work force are all factors that influence economic growth in the state. The costs imposed by environmental regulations were generally felt by the companies surveyed to be subordinate to the costs from these other factors.

6. *Environmental regulations have created new areas of economic strength and diversity.*

As examples, a cleaner Long Island Sound has helped to revitalize the oyster industry in Connecticut; environmental programs have spawned a new industry - pollution control

equipment manufacturers; and the maintenance of a clean environment is helping the resurgence of the tourist industry, since nearly 40% of the tourist trade is associated with the coast and water-based recreation.

One of the major problems with the economy in Connecticut is the lack of diversification of job opportunities. By adding to the economic diversity in the state, environmental programs should have a long-term effect of increased stability.

7. *The future health of Connecticut's economy is linked to a clean environment and therefore an adherence to pollution control programs.*

Connecticut's economic base is shifting toward a less energy-intensive and less polluting industrial mix. Many of the companies involved in this shift are "quality of life" oriented, such as corporate headquarters, and are attracted to Connecticut because of its many amenities. Our ability to maintain this steady and diversified economic growth is contingent upon the continued abatement and control of pollution.

8. *Overall, environmental programs seem to have had a net positive effect on employment in Connecticut.*

Only one company in the Council's 17-firm survey claimed strict environmental regulations as a reason for leaving the state. Studies show that many industries that have incurred pollution control expenditures have actually increased employment.

The waste water treatment program has become the second largest public works employment activity, exceeded only by the federal highway program. During fiscal year 1978, waste water treatment grants should generate requirement for an estimated 2,700 jobs in Connecticut.

Future economic growth in the state is contingent upon the maintenance of a high quality of life. Future jobs, then, become related to a clean and healthy environment and an adherence to anti-pollution programs.

9. *Environmental programs have contributed only slightly to inflation.*

Pollution control programs have been estimated to add an average of 0.4 percent to the inflation rate. This increase appears insignificant when compared to the growth of other inflation contributors largely outside the range of environmental programs (for example, food and energy prices). If economic measures were adjusted to consider the improved outputs resulting from the benefits of environmental programs, which they currently don't include, the inflationary effects would seem even more modest.

Acknowledgements

The Council wishes to express its deep gratitude to those who generously contributed their time in the research and writing of this report. Without their expert and invaluable assistance, it could not have been prepared.

Special thanks are due to Karen Matczak, Ellen Harrison and Lois Jainchill of the CEQ staff, who have done yeoman service over the past year.

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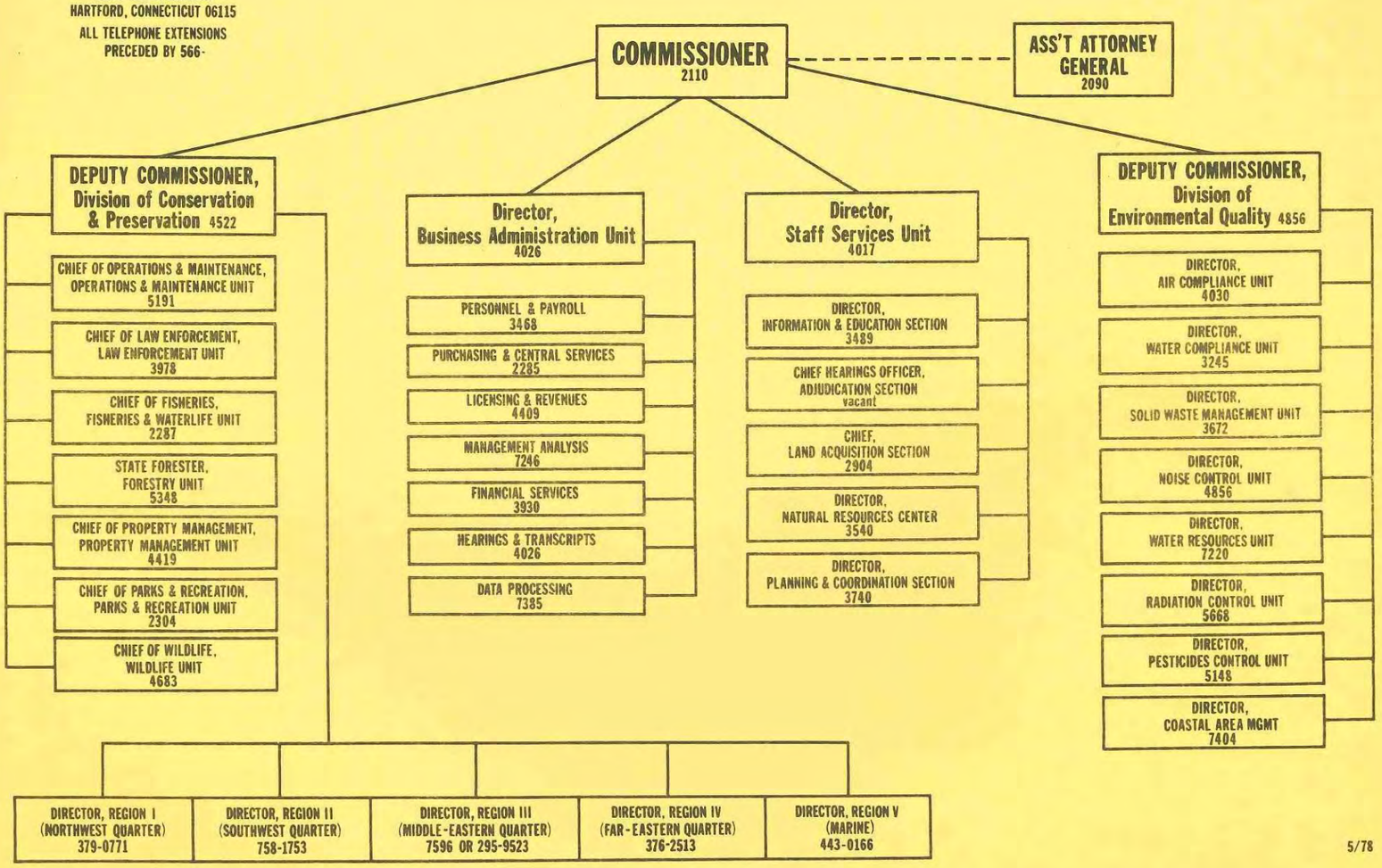
Appendix

DEPARTMENT OF ENVIRONMENTAL PROTECTION

General Mailing Address:

STATE OFFICE BUILDING
HARTFORD, CONNECTICUT 06115
ALL TELEPHONE EXTENSIONS
PRECEDED BY 566-



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APPENDIX A

APPENDIX B

AN ACT CONCERNING THE COUNCIL ON ENVIRONMENTAL QUALITY

Be it enacted by the State and House of Representatives in General Assembly convened:

Section 1. Section 319 of Public Act 77-614 is repealed and the following is substituted in lieu thereof:

There shall be a council on environmental quality which shall be AN AUTONOMOUS BODY AND within the department of environmental protection for administrative purposes only. Said council shall consist of nine members, five appointed by the governor, two to be appointed by the speaker of the house of representatives and two to be appointed by the president pro tempore of the senate. No member shall be allowed to serve more than eight years of any twelve-year period. The governor shall fill any vacancy by appointment for the unexpired portion of the term vacated. The chairman of said council shall be selected by the governor. Members of said council shall receive no compensation for their services thereon, but shall be reimbursed for necessary expenses in the performance of their duties. Said council shall hold one meeting each month and such additional meetings as may be prescribed by council rules. In addition, special meetings may be called by the chairman or by any three members upon delivery of forty-eight hours' written notice to each member. Five members shall constitute a quorum and not fewer than three votes shall be required for any final determination of said council. The council may ACCEPT FEDERAL FUNDS AND MAY employ an executive director, exclusive of the provisions of chapter 67, and such additional staff and consultants as may be necessary to carry out its duties, within available appropriations.

Section 2. Section 22a-12 of the Connecticut General Statutes is repealed and the following is substituted in lieu thereof:

(a) The council shall REVIEW THE ACTIVITIES OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SHALL submit annually to the governor an environmental quality report, which MAY INCLUDE BUT NEED NOT BE LIMITED TO THE FOLLOWING: (1) The status of the major environmental categories including, but not limited to, the air, the water and the land environment; (2) current and forseeable trends in the quality, management and utilization of the environment and the effects of such trends on the social, economic and health requirements of the state; (3) the adequacy of available natural resources for fulfilling human and economic requirements of the state in light of projected population pressures; (4) a review of the programs and activities of the state and local governments and private organizations, with particular reference to their effect on the environment and on the conservation, development and utilization of natural resources; and (5) a program for remedying the deficiencies of existing programs and activities, together with recommendations for legislation.

(b) The council shall have the authority to require submission by all state agencies, at all stages of development, of construction plans for review and comment by the council which shall include, but not be limited to, all plans of the department of transportation which anticipate the paving or building upon land not previously paved or built upon, and location or expansion of noise-producing facilities such as airports, and all plans of the department of public works which anticipate the paving or building upon land not previously paved or built upon, the construction of structures occupying a substantially greater air space than predecessor structures in the same location, and the location or expansion of noise or pollution-producing facilities such as heating plants; provided the function of the council with respect to such plans shall be advisory and consultative only.

(c) THE COUNCIL SHALL HAVE THE AUTHORITY TO REQUIRE THE SUBMISSION OF DOCUMENTS AND OTHER INFORMATION AS MAY BE NECESSARY TO CARRY OUT ITS DUTIES. THE COUNCIL MAY PARTICIPATE AND INTERVENE AS A PARTY IN ANY ADMINISTRATIVE PROCEEDING BEFORE THE COMMISSIONER OF ENVIRONMENTAL PROTECTION, AND MAY APPEAL ANY DECISION OF THE COMMISSIONER WHICH THE COUNCIL DEEMS TO ADVERSELY AFFECT THE NATURAL RESOURCES OF THE STATE.

Section 3. Section 22a-13 of the Connecticut General Statutes is repealed and the following is substituted in lieu thereof:

The Council is empowered to receive /and/, investigate AND MAKE RECOMMENDATIONS CONCERNING citizen complaints alleging violation of any statute or regulation in respect to environmental quality. When the chairman of the council determines that matters alleged in a citizen complaint cannot be resolved by referring the complaint to another appropriate regulatory agency, he shall so inform the commissioner of environmental protection who / may/ SHALL hold a hearing concerning such complaint, having given appropriate written notice and opportunity to be heard to all interested parties, and shall proceed thereon in accordance with the provisions of this title or the applicable provisions of those chapters or sections referred to in section 22a-6.

Section 4. This act shall take effect on passage.

STATEMENT OF PURPOSE: To clarify the responsibilities and authority of the Council on Environmental Quality.

APPENDIX C

The regionalization of solid waste disposal systems demands that a balance be reached between the need to attain statewide environmental goals and the municipal desire to retain local autonomy in land use controls. In 1973, Connecticut enacted a comprehensive solid waste management policy. (Conn. Gen. Stat. §19-524 et. seq.) which encourages the development of an interurban system of waste disposal. Under this system, the state Department of Environmental Protection is authorized to approve or deny applications for new waste disposal facilities in accordance with specific environmental criteria.

Heated disputes over the siting of waste management facilities have arisen, however, when regional policy has run counter to the preferences of local citizens. In 1978, Connecticut responded to this situation through legislation (An Act Concerning Solid Waste Management, Pub. A. No. 78-67 (1978)) which reduces the power of the Department of Environmental Protection by making local governments the final arbiters over decisions about their dumps. The law provides, in part, that the regional policy shall not be construed to limit the right of any local government to regulate, through zoning, land use for solid waste disposal. The legislation may thus be viewed as a victory for towns which have been the unwilling recipients of garbage brought in from cities under the regional program. Since this act has not yet been judicially interpreted, its effect upon Connecticut's regional solid waste management policy is unclear. A brief look at the events which led to the passage of the statute and the position taken by Connecticut courts on similar issues may aid in assessing the future of Connecticut's regional program.

The act was prompted in large part by Town of Colchester v. Re-

duction Associates, Inc., *39 Conn. LJ 37, 34 Conn Supp 177 (1977).* In Town of Colchester, state law was held to preempt local ordinances which conflict with the policy of regional waste management. The court stated that "while towns may regulate the use of land within their borders...they must not enact any ordinances or regulations which are in conflict with the state statutes and regulations promulgated thereunder." Id. at 8. A similar position was taken in Town of Rocky Hill v. Department of Environmental Protection, *154 Conn. 309, 225 A.2d 198 (1978).* In Town of Rocky Hill, an ordinance which prohibited the disposal of out of town refuse was invalidated. The court noted that although "the state has not reserved for itself exclusive authority to regulate the whole field of solid waste disposal, it has limited the authority of towns to the disposal of waste generated within their own boundaries." Id. *at 311.* Both decisions follow the traditional view that local ordinances will be recognized only to the extent that they do not conflict with the general law of the state.

Among the strongest proponents of the new law were Colchester residents who opposed the "dictatorship" of the Department of Environmental Protection and the Connecticut Resource Recovery Agency. (The latter agency was created in 1973 to establish a state solid waste disposal system to extract natural resources, such as metal and glass, from refuse and to convert some form of energy from combustible waste. See Murphy & Pappas, Senate Approves Landfill Measure, The Hartford Courant, April 14, 1978.) The Colchester residents felt that the state had created its own garbage crisis by closing down landfills without making provision for alternative sites or methods of disposal. (See Record of Public Hearing at Colchester High School, H.B. 5461, Feb. 28, 1978.) Consequently, the law also requires that the

Department of Environmental Protection provide reasonable alternative facilities before ordering the closure of any existing solid waste facility.

Connecticut's legislative reaffirmation of local autonomy in the solid waste area clearly vitiates the prior position of its judiciary on this and similar land use issues. Connecticut courts have never allowed local land use controls to insulate local decision-makers from the impact of state solid waste disposal policy. In Yaworski v. Town of Canterbury, 21 Conn. Sup. 347 (1959), for example, a municipal ban upon landfills which accepted refuse from other towns was held invalid. The court found that the local power to "regulate" waste disposal did not enable a municipality to "prohibit" such activity provided that the activity was conducted in accordance with all applicable state health requirements. Id. at 351. Thus, while towns may regulate solid waste disposal within their borders, this power does not extend to prohibition. The power of local governments to promulgate provisions to control solid waste disposal within local boundaries was again acknowledged in Town of New Milford v. SCA Services of Connecticut, *174 Conn. 146 (1977).* court, however,invalidated a law which authorized municipalities to approve or deny applications for regional facilities. The statute was deemed unconstitutional due to its inadequate guidelines for the municipal exercise of such power.

In other areas of land use planning, Connecticut courts have held state law precedent over local land use regulations. On the issue of the preservation of tidal wetlands, for example, state legislation protective of such areas was upheld over local zoning in Lauricella v. Planning and Zoning Board of Appeals of the Town of Greenwich, 32 Conn. Sup. 104 (1974). The

court in Lauricella stated that:

> If the general law is enacted after the ordinance covering the same field, it will take the place of the ordinance and supersede it. If the ordinance is enacted after the general law in conflict with it, the ordinance will be void.

Id. With regard to the regulation of outdoor advertising displays, the dominance of state law over local law was recognized in James J.F. Loughlin Agency, Inc. v. W. Hartford, 166 Conn. 305, 348 A.2d 675 (1974).

The regulation of state-licensed businesses may also lead to jurisdictional conflicts. The sale of intoxicants has traditionally been subject to state regulation. Local controls over such businesses are generally valid only if not in conflict with state regulations. Thus, political subdivisions in Connecticut may regulate liquor traffic in particular zones or districts, Grushkin v. Zoning Board of Appeals of City of Norwalk, 26 Conn. Sup. 417, 227 A. 2d 98 (1967), but a town may not, under the zoning power, limit the number of such outlets. Karp v. Board of City of Stamford, 156 Conn. 287, 240 A. 2d 845 (1968). The authority to impose these restrictions is delegated to the statewide liquor control commission.

Connecticut's solid waste disposal controversy indicates a need to clarify the allocation of land use control responsibilities among the various levels of government. Jurisdictional conflicts over waste disposal location or conditions of operation may be avoided through the careful definition of the state-local relationship. California's Solid Waste Management and Resource Recovery Act of 1972, Ann. Cal. Gov. Code title 7.3, is instructive in the jurisdictional limitations it places upon that state's Solid Waste Management Board:

> /The Board's standards/ may include the location, design, operation, maintenance, and ultimate reuse of solid waste processing or disposal facilities, but shall not include aspects of solid waste handling or disposal which are solely of local concern and not determined by the board to be of statewide concern, such as, but not limited to, frequency of collections, means of collection and transportation, level of service, charges and fees, designation of territory served through franchises, contracts or governmental employees, and purely aesthetic considerations.

Ann. Cal. Gov. Code title 7.3 at §66771.

The objectives embodied in Connecticut's comprehensive solid waste management policy demand that land use controls in this area attain regional and state, as well as local, goals. If decisions concerning solid waste disposal are made without regard to regional needs, the welfare of all of Connecticut's inhabitants may be adversely affected. Such decisions, therefore, should be shared at all levels, with public policy processes opened more widely to ordinary citizens. While municipal land use plans will remain vital, local decision-making processes concerning solid waste disposal practices must satisfactorily mesh with regional and state plans to avoid administration from a strictly local point of view.