

# **THE FEASIBILITY OF ENVIRONMENTAL REORGANIZATION FOR HAWAII**

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## FOREWORD

This report was prepared in response to Senate Concurrent Resolution No. 135 and House Concurrent Resolution No. 78 which were both adopted during the Regular Session of 1984.

The most difficult aspect of the task of studying the feasibility of a new organizational structure for environmental programs has been the decision concerning which programs should be included since many state programs have some effect on the quality of our environment. Limiting the possible components of a new organization to programs for pollution control, pesticide use, food purity, and environmental planning and education and dismissing the consideration of a "superdepartment" structure should not be construed as a denial of the importance of other environmental programs or as a judgment that a "superdepartment" is not feasible for Hawaii. We emphasize that any consideration of an environmental "superdepartment" which would include other programs such as conservation, land use, water management, wildlife, and coastal zone management should be made only as part of an overall executive reorganization study since such programs encompass major components of other state departments. While this report focuses on pollution control programs, it does not dismiss the importance of the interrelationships of other environmental programs.

This report is not presented as a panacea for Hawaii's environmental contamination problems. Rather, this report seeks to provide the Legislature with a base of information from which informed decisions can be made.

The findings and conclusions reached in this report could not have been achieved were it not for the cooperation and assistance of the professionals in the field who graciously gave their time. The research team found that most of the professionals interviewed were anxious to share their views because of a genuine concern about Hawaii's future and a desire for program improvement. We sincerely hope that the findings in this report will be received with the same cooperative spirit as any criticisms in this report are not intended to place blame on individuals but to be positive and constructive.

To all the resource persons listed in Appendix B and to the agencies across the nation who responded to our 49-state survey and telephone calls, we express our sincere appreciation. Special thanks are extended to the Environmental Council for devoting a large part of a meeting to discuss the feasibility of reorganization and to Maizie Mukai and the clerical staff of the Bureau for processing this report on a timely basis.

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Director

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## Chapter 1

### INTRODUCTION

Hawaii's most precious resource lies in the beauty and almost pristine state of its environment. Ironically, because Hawaii's pollution problems have been minimal as compared to areas on the mainland such as "Love Canal", this resource has been taken for granted and the State has been ill-prepared to deal with major environmental contamination emergencies. The citizens of Hawaii were rudely awakened from their state of indifference when in March, 1982, the island of Oahu experienced a food contamination crisis of unprecedented magnitude. The Department of Health (DOH) discovered and revealed that high levels of heptachlor epoxide, a metabolized form of the pesticide heptachlor which was sprayed on pineapple plants to eradicate ants, were found in milk and stopped the sale of all Oahu-produced milk and milk products. The order came almost two months after the initial discovery of heptachlor residue was made, and the public was angered and appalled that the government bureaucracy was unable to respond in a swift and confident manner.

There was much confusion as to which agencies were responsible for monitoring the various stages of milk production for public health purposes and whenever the DOH issued a statement assuring the public that the crisis was over and the milk was wholesome, more contaminated milk and milk products were found. To many, the DOH as the protector of the public health did not appear in control of the situation. A Senate Special Investigating Committee conducted lengthy hearings to determine the cause of the State's ineptness in responding to the crisis.<sup>1</sup> The Committee reprimanded the DOH and the Attorney General's Office for certain monitoring and recall procedures; questioned the propriety of certain actions of the Department of Agriculture (DOA), the Milk Commissioner, and the College of Tropical Agriculture and Human Resources to assist the dairy farmers; and accused certain milk processing companies of deceptive practices. The adequacy of the State's resources and the ability of the organizational structure to cope with major environmental emergencies were openly criticized as many months passed and the State continued to flounder in the management of the crisis.

In October, 1982, just as the furor over the heptachlor crisis began to subside, it was discovered that unacceptable levels of the pesticide endosulfan were found in watercress and that some farmers had used pesticides which were not approved for use on watercress because of a severe moth problem. The watercress problem raised questions as to the adequacy of the DOA pesticide use monitoring and enforcement program.

At about the same time, the DOH ordered the closing of a Mililani water well after having found high levels of dibromochloropropane (DBCP), a chemical which was banned in California in 1979 and which the DOH felt should also be suspended for use in Hawaii until the completion of local and national health studies.<sup>2</sup> Later, four Waipahu wells, two Kunia wells, and another Mililani well were shut down after traces of DBCP, ethylene dibromide (EDB), and trichloropropane (TCP) were discovered. Although the closing of a well due to pesticide contamination was not new to Oahu as a Kunia well had

been shut down in 1980 after unacceptable levels of EDB and DBCP were discovered, the residents of the Mililani area were extremely irate since not one but all of their drinking water wells were contaminated and they were fearful of the unknown health effects of exposure to the contaminated water over many previous years. Conflicting reports from the DOH, the Honolulu Board of Water Supply, and the Pesticides Hazard Assessment Project at the University of Hawaii coupled with the lack of conclusive data from the U.S. Environmental Protection Agency (EPA) regarding acceptable standards for the chemicals detected in Hawaii's drinking water raised questions as to adequacy of the State's drinking water monitoring and research programs.

It was apparent after the heptachlor crisis that the DOH and the DOA had to make many adjustments in their programs to strengthen and coordinate environmental monitoring, analysis, and research efforts. Yet, after having resolved many of the problems which emerged during the milk crisis, other problems, as noted above in the watercress and Mililani water well incidents, surfaced as new contamination incidents occurred.

In response to new public interest in pesticide contamination of drinking water, a joint legislative interim committee held an informational meeting on November 22, 1983 to review the State's capability to monitor and minimize contamination of water resources by pesticides. The interim committee made recommendations for the improvement of programs to provide for better contamination prevention, monitoring practices and procedures, information collection and dissemination, health risk assessments, and interagency coordination.<sup>3</sup> The recommendations for interagency coordination included requesting the Legislative Reference Bureau (LRB) to conduct a study on the feasibility of establishing a state environmental protection agency and empowering the Office of Environmental Quality Control (OEQC) to assume the lead role in coordinating all agencies in developing a groundwater contamination prevention strategy for the State prior to the feasibility study.

Finally, in January, 1984, many states reported the removal of grain-based foods from market shelves after having found high levels of EDB residues. The DOH began recalling muffin mixes from Hawaii's shelves as a precautionary measure after consulting with officials from the State of California and openly questioned the adequacy of the EPA's newly established guidelines for EDB residues in food.

The foregoing chain of events made clear that environmental contamination incidents of all types will continue to occur. Serious questions had been raised as to the adequacy of the State's programs in coping with future incidents. As a result, the 1984 Legislature enacted Act 275 to delegate to the OEQC, for a one-year period, the responsibility of coordinating an integrated statewide pesticide policy and adopted Senate Concurrent Resolution No. 135 and House Concurrent Resolution No. 78 (see Appendix A for text of resolutions) requesting the LRB to conduct the feasibility study which is the subject of this report.

The concurrent resolutions specifically directed the LRB to:

- (1) Consider the establishment of a state environmental protection agency, department, or comparable body to coordinate and address matters of environmental quality;

- (2) Examine the environmental protection agencies in other states including Florida, California, Washington, and Oregon;
- (3) Describe the roles of the Departments of Agriculture and Health in environmental protection with attention to the personnel positions available;
- (4) Evaluate the feasibility of consolidating the enforcement, regulatory, advisory, research, monitoring, and health assessment functions into one department;
- (5) Evaluate the inclusion of environmental quality research functions of the University of Hawaii;
- (6) Describe and evaluate the present functions of the OEQC;
- (7) Discuss the costs involved in forming a new agency;
- (8) Consider the organizational options in the context of a comprehensive plan for contaminants in the environment;
- (9) Consider whether the new agency should establish and carry out a manifest (cradle-to-grave) system for toxic and hazardous substances; and
- (10) Consider whether the new agency should develop and be responsible for educational and informational dissemination.

The scope of the study was difficult to ascertain as the resolutions called for the consolidation of "matters of environmental quality" but were ambiguous as to which programs should be considered. The resolutions seemed concerned about toxic and hazardous contaminants in the environment, yet they referred to the 1977 Commission on Organization of Government's recommendation to create a Department of Environmental Affairs and Natural Resources which would have merged the State's conservation, wildlife and game, and pollution control programs.

In order to provide for a manageable study, the scope was limited to pollution control and related programs. The primary reason for limiting the scope was that consideration of the establishment of an organizational structure that consolidates all other environmental quality programs such as wildlife protection and land use and water resource management would require a review of the entire executive branch of a magnitude beyond the capability of the resources of the LRB within the time constraints in the resolutions. The LRB considered the inclusion of conservation programs but decided against it since the resolutions focused on contaminants in the environment and even with the limitation to pollution control programs, the study involved too many issues. The LRB recognizes that a major problem confronting the DOH in minimizing pollution is that it does not have control over, and at times even input in, decisions which affect the environment such as those concerning land use, water development, and economic development. In arriving at this decision to limit the scope, the LRB does not dismiss the importance of the interrelationships of other environmentally related programs with pollution control programs. Rather, the LRB believes that conflicts

involving all such functions are more effectively addressed through interagency planning and coordination.

The LRB also believed it would be inappropriate for the LRB to consider the water use management function in the context of creating a consolidated environmental organization when a legislatively established Advisory Study Commission on Water Resources has been reviewing the state water resource management program for the past two years and is in the process of consolidating all water functions under the control of one agency and developing a state water code.

The study focuses on the pollution control-related functions performed by the DOH and the DOA and the planning, coordination, and education functions of the OEQC, the Environmental Council, and the University of Hawaii Environmental Center. The primary objectives of the study were to: (1) identify the problems of the current organizational structure in administering Hawaii's pollution control programs; (2) ascertain whether or not the problems warrant structural reorganization to create a new agency; and (3) propose options for reorganization, if warranted.

To accomplish these objectives, the LRB research team reviewed relevant literature in environmental program administration and organizational structures; reviewed state and federal environmental laws to ascertain the functional responsibilities of various state and federal agencies in pollution control and related programs; surveyed the forty-nine other states regarding their experiences with environmental reorganizations; and conducted interviews with various environmental officials in the State (see Appendix B for a list of persons consulted).

This report presents the findings of the LRB research team. It is emphasized that the assessment of the problems in the current system has been based on the problems as perceived by the persons interviewed who are directly involved in the programs. Accordingly, where there were differences in opinion, this report has attempted to note such differences. The reader is cautioned not to construe this report as an audit of the State's environmental protection program since the LRB did not conduct an audit. Statements concerning program effectiveness have only been made if the LRB was able to obtain EPA program evaluations as there were no state program evaluation reports available to the LRB. The report should be viewed as a status report of the administration of environmental programs with general observations as to the weaknesses in the system which will require legislative attention. It is hoped that this report will assist the Legislature in determining new policy directions for Hawaii's environmental protection program.

## Chapter 2

### FEDERAL ENVIRONMENTAL LAWS

Many states did not take an active role in protecting the environment until Congress established national pollution control programs and provided substantial funding to carry out the programs. The Department of Health has noted that federal programs have had a negative influence on state programs in that the multitude of federal environmental laws often embody different policies which lead to conflicting situations without the administrative mechanism for resolving the conflicts. This has resulted in confusion and a more complicated administrative system from the State's standpoint.<sup>1</sup> This chapter summarizes the major federal legislation under which most state pollution control programs were developed.

#### National Environmental Policy Act

The National Environmental Policy Act (NEPA) of 1969,<sup>2</sup> signed into law on January 1, 1970, was the first of several pieces of federal legislation signifying a new environmental awareness in the United States during the 1970s. The Act's intent to require federal agencies to incorporate environmental concerns into their decision making processes is implemented through the requirement of a detailed environmental impact statement (EIS) when a major action or major legislation with environmental impact is proposed. The EIS process requires consultation with other relevant agencies at all levels of government as well as public involvement.

The NEPA also created a full-time Council on Environmental Quality, appointed by the President, to monitor environmental trends, analyze federal actions and policies and their impact on the environment, and assist in the preparation of an annual report on environmental quality. The Council issued guidelines and later adopted regulations to govern federal agency compliance with the NEPA's EIS requirements.

A subsequent law enacted in April, 1970, created within the Executive Office of the President an Office of Environmental Quality charged with providing staff and support to the Council on Environmental Quality and assisting federal agencies in appraising facilities and activities which affect environmental quality.<sup>3</sup> The Council's chairperson was designated as the Director of the Office of Environmental Quality. Although the NEPA did not mandate the establishment of state programs, the Act was significant because many states enacted "little NEPAs" requiring similar environmental assessments for state-funded projects. Moreover, many states created a state advisory body similar to the federal Council on Environmental Quality for similar purposes.

#### Reorganization Plan No. 3

In December, 1970, President Nixon's Reorganization Plan No. 3 created the independent Environmental Protection Agency (EPA) by consolidating regulatory functions from several different federal agencies. The EPA,

headed by an administrator appointed by the President and confirmed by the Senate, was assigned the Department of Health, Education and Welfare's functions in air pollution control, solid waste management, radiation, and drinking water; the Department of Interior's water pollution control program and part of its pesticides research program (relating to the effects of pesticides on fish and wildlife resources); the Department of Agriculture's duties in the registration of pesticides and regulation of their use; the Food and Drug Administration's authority to set tolerance levels for pesticides in food under the Federal Food, Drug and Cosmetic Act; responsibility for radiation protection standards in the general environment from the former Atomic Energy Commission; and other radiation-related duties of the Federal Radiation Council. In the message to Congress accompanying the reorganization plan, the President noted that the consolidation of these environmental functions within the EPA would assure that new environmental problems were not created in the process of controlling existing problems. The decision to vest responsibility in an independent agency was based on the concern that existing federal departments had primary missions which, in many cases, conflicted with their environmental responsibilities so it was necessary to establish an independent body under which the standard setting functions would be centralized. As will be discussed in Chapter 7, the creation of the federal EPA led many states to create similar bodies at the state level. The laws administered by the federal EPA are summarized below.

### **Clean Air Act**

The Clean Air Act of 1970,<sup>4</sup> as amended in 1977, has as its goal the protection of public health and welfare from the harmful effects of air pollution. The Act established national pollution standards which set the pattern for standards established by the individual states. The EPA establishes two types of national ambient air quality standards which specify maximum concentrations of different air pollutants in the outdoor air: primary standards which protect the public health with an adequate margin of safety and secondary standards which protect the public welfare. The Clean Air Act requires that all states meet primary standards by December 31, 1982, although extensions until December 31, 1987 were allowed for two of the pollutants. The Act requires states to develop, subject to EPA approval, state implementation plans detailing strategies and time frames under which the EPA's primary and secondary air quality standards will be achieved, maintained, and enforced. If a state fails to prepare an acceptable plan, the EPA must impose its own plan, and if a state fails to enforce its plan, the EPA may step in to do so.

The EPA also establishes (1) standards under the prevention of significant deterioration provision of the Act to prevent degradation of air quality in such places as national parks and wilderness areas where air quality is exceptionally good; (2) new source performance standards limiting emissions from stationary sources such as power plants and cement plants; (3) national emission standards for hazardous air pollutants from new and existing stationary sources; and (4) emission standards for new motor vehicles and new motor vehicle engines.



## Federal Water Pollution Control Act

The Federal Water Pollution Control Act<sup>5</sup> enacted in 1956 and subsequent amendments form the basis for the EPA's current water pollution control program. The most important amendments in 1972, known as the Clean Water Act, significantly changed the federal government's focus from water quality standards to effluent limitations.<sup>6</sup> The Clean Water Act declares a national goal of eliminating all discharges of pollutants into the navigable waters by 1985 and an interim goal of making the waters "fishable and swimmable" by 1983. The Act requires the EPA to establish (1) criteria for state development of water quality standards; (2) effluent limits for discharges of pollutants from industrial and municipal sources; (3) pretreatment standards for sources discharging into publicly-owned treatment systems; and (4) effluent limitations for toxic chemicals. The Act requires the states, subject to EPA approval, to establish water quality standards which designate uses for water bodies such as drinking water or recreation, and water quality criteria, which are numerical concentrations of pollutants necessary to protect the waters for the designated uses. The mechanism governing the attainment of water quality standards is the national pollutant discharge elimination system (NPDES), a permit system administered by the EPA or qualifying states to regulate all waterborne discharges.

Another major component of the Act is the construction grants program which provides federal matching funds for the construction or major modification of publicly-owned wastewater treatment plants to enable states to comply with water quality standards and criteria.

The Act also charges the Secretary of the Army with administering a permit system to regulate the dumping of dredged or fill material into navigable waters, subject to EPA approval. States meeting federal requirements may assume primary responsibility for the construction grants program as well as the dredge and fill permit program; however, no state has requested delegation of the dredge and fill permit function as yet.<sup>7</sup>

## Safe Drinking Water Act

The Safe Drinking Water Act of 1974,<sup>8</sup> as amended in 1977, requires the EPA to establish national drinking water standards but gives the states primary enforcement responsibility. The EPA's primary drinking water standards specify maximum contaminant levels (MCLs) designed to protect the public health while secondary standards specify MCLs to protect the public welfare in such matters as taste, odor, and appearance of the water. If a state fails to comply with national standards or fails to satisfy requirements for state programs, the EPA must establish and enforce a public water supply program.

The Safe Drinking Water Act also establishes a separate underground injection control program. The Act requires the EPA to designate states which must develop a program to regulate the injection of waste into the ground to protect drinking water supplies from potential contamination. Injections must be authorized by a permit with the permit applicant providing assurance that drinking water sources will not be endangered by the

injections.

### **Resource Conservation and Recovery Act**

The Resource Conservation and Recovery Act of 1976 (RCRA)<sup>9</sup> succeeded the Solid Waste Disposal Act of 1965 which was intended to assist state and local governments in improving their solid waste management capabilities. The RCRA demonstrates a marked shift from traditional solid waste management concerns to resource conservation and recovery and stringent hazardous waste management. The hazardous waste component of the RCRA requires the EPA to list hazardous wastes subject to management and further requires the establishment of standards for the generation, transport, treatment, storage, and disposal of such designated wastes. A permit system allows the monitoring of treatment, storage, and disposal facilities while a national manifest system allows the tracking of wastes from their generation as wastes to ultimate disposal. EPA regulations govern hazardous waste identification, record keeping, labeling, packaging, monitoring, and reporting as well as construction standards for facilities. The Act authorizes states to develop and operate their own hazardous waste programs if the state program is "substantially equivalent" to the federal program. If states do not assume program responsibility, the EPA must administer the program.

The solid waste management component of the Act encourages states to develop environmentally sound solid waste management plans within federal guidelines in order to receive financial and technical assistance from the EPA. The EPA guidelines require the closing or upgrading of open land dumps and prohibit the formation of new open dumps. The EPA has no authority to operate a solid waste program in the absence of state action.

### **Comprehensive Environmental Response, Compensation and Liability Act**

The Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA),<sup>10</sup> more commonly known as Superfund, was enacted to eliminate the threats to public health and the environment from hazardous substances and uncontrolled hazardous waste sites in a cost-effective manner. The Act authorizes two types of federal action: emergency removal of hazardous substances released into the environment, and long-term remedial cleanup of hazardous waste sites. The CERCLA requires revision of the National Contingency Plan, originally established under the Federal Water Pollution Control Act to govern spills of oil or other hazardous substances into the nation's waterways, to include a hazardous substance response plan for land-based releases. The National Contingency Plan outlines the procedures to be followed and the responsibilities of federal, state, and local agencies in response actions. The CERCLA provides that the persons responsible for contaminant releases are liable for the costs of cleanup and damage to the environment, thus federal action occurs only when the responsible parties cannot be found or do not take the necessary action, or immediate action is required. The Act requires the EPA, with state assistance, to compile a list of 400 priority sites for long-term remedial action and requires state participation in the cleanup effort. States are required to share the cost of remedial cleanup and provide an acceptable hazardous waste

disposal site to accept waste from the cleanup site.

### **Toxic Substances Control Act**

Congress enacted the Toxic Substances Control Act of 1976 (TSCA)<sup>11</sup> to prevent unreasonable risks of injury to health or the environment associated with the manufacture, processing, distribution in commerce, use, or disposal of new or existing chemical substances. The Act requires manufacturers to notify the EPA of any proposed manufacture of new chemical substances or proposed significant new use to allow scrutiny of the health and environmental effects of the chemical substance or new use. The EPA may require the manufacturer to conduct testing if the EPA finds that a substance is suspected of presenting an unreasonable risk of injury, that insufficient data exist to evaluate the risk, and that testing is necessary to provide such data. Upon finding that a substance does present an unreasonable risk to health or the environment, the EPA may prohibit or limit the manufacture, processing, distribution in commerce, use, or disposal of the substance. The Act directs an Interagency Testing Committee to develop and maintain a list of existing chemicals recommended for testing priority. The Toxic Substance Control Act singles out polychlorinated biphenyls (PCBs) by banning its manufacture, processing, distribution, and uses other than totally enclosed uses after 1979 and authorizes the EPA to regulate the labeling of materials containing PCBs and PCB disposal.

Unlike other federal laws discussed in this chapter, the TSCA does not mandate the establishment of state programs to implement the federal act. The TSCA does allow the EPA to award grants to states for toxic substance control programs.

### **Federal Insecticide, Fungicide and Rodenticide Act**

Congress enacted the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)<sup>12</sup> in 1947 and made major amendments in 1972 which broadened the scope of pesticides regulation from only those involved in interstate commerce to all pesticides used in the United States.

The FIFRA authorizes the EPA to regulate the pesticides distributed in commerce and used in the United States through (1) a registration process requiring manufacturers to provide test data on the health and safety effects of the chemical; and (2) a classification process in which the EPA classifies pesticides for general use or restricted use, the latter category restricted to use by persons certified by the EPA or an EPA-certified state program. The EPA may restrict, suspend, or cancel the use of any registered pesticide or pesticide product if it is found to pose an unreasonable threat to human health or the environment. The Act allows the EPA to delegate to states the operation of applicator certification programs as well as the primary enforcement authority for pesticide laws. When a state does not act on a violation, whether or not a state has primary enforcement authority, the EPA may act. Finally, the Act authorizes states to issue experimental use permits and to register pesticides for "special local needs" under certain conditions.

A related provision codified in the federal Food, Drug and Cosmetic Act requires the EPA administrator to prescribe tolerances for pesticide chemical residues in or on raw agricultural commodities and allows the administrator to exempt a pesticide chemical from the requirement to set a tolerance or to establish a tolerance at zero.<sup>13</sup> The Food and Drug Administration (FDA) is responsible for the enforcement of tolerance levels in foods and based on the tolerance levels prescribed by the EPA, sets levels of pesticide chemical residues at which enforcement action must be taken by the FDA. The United States Department of Agriculture is responsible for similar enforcement of pesticide residues in meat and poultry products.

### Noise Control

The Noise Control Act of 1972 and Quiet Communities Act of 1978<sup>14</sup> direct the EPA to establish noise emission standards for products determined to be major sources of noise. The EPA must regulate the labeling of products emitting noise capable of adversely affecting public health or welfare or products sold on the basis of effectiveness in reducing noise. The EPA must also establish emission standards for railroads and motor carriers while the Federal Aviation Administration must establish standards for aircraft.

Although these laws and regulations to implement these laws exist, the lack of recent congressional appropriations for the noise program has prevented the EPA from enforcing the noise laws and from providing grants to states for noise programs.<sup>15</sup>

### Radiation Control

The EPA's radiation responsibilities are derived from portions of the Atomic Energy Act of 1954, the Public Health Service Act of 1962, the Safe Drinking Water Act of 1974, the Clean Air Act amendments of 1977, and the Uranium Mill Tailing Radiation Control Act of 1978.<sup>16</sup> The EPA's major responsibilities include the development of generally applicable environmental standards, the development of federal radiation guidelines, and environmental radiation monitoring. The EPA in cooperation with the FDA provides guidance to federal agencies on the medical use of x-rays. Finally, the EPA is authorized to assist the states in radiation control efforts and to establish cooperative programs with the states.

## Chapter 3

### HAWAII'S ENVIRONMENTAL LAWS

As early as 1939, the Territory of Hawaii had a broad law delegating to the Board of Health (after statehood the delegated authority went to the Department of Health) the responsibility of regulating sanitation, drainage, water systems, sewage systems, and treatment works construction projects.<sup>1</sup> The Board of Health was also responsible for implementing an air pollution control program beginning in 1957.<sup>2</sup>

The Hawaii Food, Drug, and Cosmetic Act was initially enacted in 1941;<sup>3</sup> however, the provisions regarding tolerance levels for pesticide chemicals were not included in the law until 1957 when the law was amended "to more closely conform" to the Federal Food, Drug, and Cosmetic Act.<sup>4</sup> The pesticide tolerance levels provision currently in effect was enacted in 1967 following further changes to the federal law.<sup>5</sup> The law empowers the Department of Health to adopt rules prescribing tolerances for any added poisonous or deleterious substances, food additives, and pesticide chemicals in or on raw agricultural commodities stricter than or in addition to those prescribed by the federal government.<sup>6</sup>

An economic poisons law enacted in 1945 authorized the Board of Commissioners of Agriculture (BCA) to regulate the sale, registration, and labeling of substances for the prevention, destruction, or repulsion of insects, fungi, bacteria, weeds, rodents, or any form of plant or animal life that are pests.<sup>7</sup> In 1949, the Territorial Legislature enacted a weed control law requiring the BCA to regulate the sale, storage, disposal, and application of herbicides.<sup>8</sup>

As a result of the enactment of the National Environmental Policy Act of 1969 (NEPA), the creation of the federal Environmental Protection Agency (EPA) in 1970, and the enactment of the Clean Air Act of 1970, the Clean Water Act of 1972, and major amendments to the Federal Insecticide, Fungicide and Rodenticide Act, Hawaii's laws underwent major revision during the seventies in preparation for the implementation of new federal mandates and the receipt of grant funds. A new era for pollution control programs in Hawaii began in 1970 with an emphasis on planning and coordination to achieve a comprehensive program for optimum environmental quality. Nationally, the focus was on abatement and clean up of polluted areas by treating or prohibiting pollutant discharges to meet federally established standards. Compared to other states, Hawaii's pollution problems were not as serious and Hawaii's environment was still considered pristine. Accordingly, the direction of Hawaii's environmental laws was more preventive than remedial in nature. This chapter briefly describes the chronological development of the major laws underlying Hawaii's current pollution control programs.

#### 1970

**Creation of the Office of Environmental Quality Control** - The first of the series of new laws was Act 132, Session Laws of Hawaii 1970, which established the Office of Environmental Quality Control (OEQC), the

Environmental Council,<sup>9</sup> and the Environmental Center. The purpose of this Act was to "stimulate, expand and coordinate efforts to determine and maintain the optimum quality of the environment of the State."<sup>10</sup> The Legislature was aware of the surge of environmental quality legislation recently enacted or pending enactment at the federal level and was concerned that Hawaii was not prepared to cope with the impending federal program mandates in view of the complexity of environmental problems and the fragmentation of the State's efforts.<sup>11</sup>

The underlying intent of the Legislature appears to have been the establishment of a mechanism to provide for the orderly development and implementation of environmental protection programs in Hawaii. The Act intended that the OEQC coordinate all state environmental efforts by coordinating the actions of various governmental agencies; contracting research projects with the University of Hawaii and other appropriate organizations; initiating public educational programs; advising the Governor and the Legislature on long-range plans for environmental quality control; and offering advice and assistance to private industry, governmental agencies, or other persons upon request.

The Act also established the Environmental Council to be the liaison between the OEQC Director and the general public and to advise the Director on ecological and environmental quality matters. The Environmental Center was created to stimulate, expand, and coordinate education, research, and service efforts at the University of Hawaii.

**Waste Management** - To facilitate the receipt of federal grant funds, the Legislature enacted a law to provide for the establishment and operation of a program for waste management, including cooperative planning by the state and county governments, state technical assistance to the counties, and utilization of private enterprise.<sup>12</sup> The law required the Department of Health (DOH) to develop a waste management plan subject to review by a Waste Management Commission created by the law. The DOH was authorized to make grants to state agencies and counties for waste management plans and programs. The University of Hawaii was required to conduct training courses for waste management personnel as well as research and demonstration projects on waste management.

**Noise** - The Legislature enacted a law to regulate excessive noise by empowering the DOH to set noise level standards for various sources and different areas in the State.<sup>13</sup>

1971

The Governor issued an Executive Order on August 23, 1971 to establish an environmental impact assessment system based on the federal system established by the NEPA.<sup>14</sup> The Executive Order required state agencies to prepare environmental impact statements for actions involving the use of state lands or state funds and designated the OEQC as the administering agency. The Executive Order also required state agencies to monitor, evaluate, and control their activities "so as to protect and enhance the quality of the environment".

## 1972

The Legislature, in an attempt to conform Hawaii's laws to newly enacted federal laws--the Clean Air Act and the Clean Water Act--amended Hawaii's environmental protection laws by deleting the provisions for air pollution, water pollution, waste management, and excessive noise and consolidating these provisions in a new chapter entitled "Environmental Quality".<sup>15</sup> The omnibus act gave the DOH broad powers to adopt rules to control and prohibit air pollution, water pollution, noise pollution, solid waste pollution, and "any other form of pollution found in this State". The DOH was empowered specifically to adopt quality standards, issue permits, permit variances from regulations, charge fees, inspect pollution sources, and take enforcement and emergency action. In the areas of air pollution, water pollution, noise pollution, and solid waste pollution, the DOH was authorized to conduct and supervise research programs to determine the causes, effects, and hazards of pollution; develop monitoring and control techniques; and conduct educational and training programs on pollution prevention, control, and abatement.

During that same session, the Legislature repealed the Economic Poisons and Weed Control laws and enacted the "Hawaii Pesticides Law" which was modeled after the Federal Insecticide, Fungicide and Rodenticide Act as amended in 1972.<sup>16</sup>

## 1973

The Legislature adopted a resolution requesting the Governor to appoint a temporary commission on statewide environmental planning to provide policy guidance for state general planning and to assign responsibilities to appropriate agencies for implementing state policies and plans.<sup>17</sup>

The Temporary Commission on Statewide Environmental Planning submitted a report of its recommendations on November 6, 1973 entitled, "A Plan for Hawaii's Environment". The Commission recommended, among other things, (1) the enactment of a Hawaii Environmental Policy Act to state Hawaii's intention to follow an environmental ethic and to enumerate goals and policies to guide decision makers; (2) the creation of a state planning council to coordinate state and county planning, assist in the development of a state general plan, and further implement the policies of the proposed policy act; and (3) a requirement that the Environmental Council monitor the progress of implementing the policy act by annually recording and reporting to the Legislature the actions taken by all levels of government.<sup>18</sup>

## 1974

This was a significant year for environmental legislation in Hawaii since until this point, most of the legislation appeared to be aimed at responding to federal mandates and facilitating the receipt of federal funds. In 1974, the focus of environmental legislation was on the planning of programs tailored to meet state needs and goals.

**Environmental Policy Act; Environmental Impact Statements** - The Legislature adopted a statement of environmental policy which was based on the Temporary Commission's proposal<sup>19</sup> and enacted a law to codify the environmental impact statement (EIS) system established by Executive Order of the Governor.<sup>20</sup>

The Environmental Policy Act recognized the interrelationships of all program activities to the environment and articulated the environmental concerns that must be considered by state agencies in the development of programs. Areas of concern included population; land, water, mineral, visual, air, and other resources; flora and fauna; parks, recreation, and open space; economic development; transportation; energy; community life and housing; education and culture; and citizen participation.

The EIS law created an Environmental Quality Commission to administer the EIS system in the place of the OEQC. The Commission was empowered to adopt rules to: (1) prescribe the contents of the EISs; (2) prescribe procedures for the submission, distribution, review, and acceptance or nonacceptance of EISs; (3) establish appeal procedures; (4) set criteria for acceptability; (5) exempt certain classes of actions; and (6) prescribe procedures for public information and access. The Commission, composed of ten private citizen members appointed by the Governor<sup>21</sup> with the OEQC Director serving in ex-officio capacity, was placed in the Governor's Office without staff support. In the absence of funds for staff the Governor directed the OEQC to furnish all necessary support to the Commission in implementing the EIS law.<sup>22</sup>

**Soil Erosion and Sediment Control** - As a result of efforts by the DOH, the 1974 Legislature recognized that construction and agricultural activities contribute to increased erosion and sediment problems which in turn affect the quality of the coastal waters for purposes of navigation, recreation, and aquatic resources. Because the erosion and sediment control problem involved a concerted effort from the DOH which was responsible for water quality, the Soil and Water Conservation Districts responsible for voluntary conservation and protection of land and water resources, and the counties which were responsible for land use development activities, a law was enacted requiring the DOH to adopt statewide standards for soil erosion and sediment control and requiring the counties to enact ordinances in accordance with such standards.<sup>23</sup>

## 1976

**Safe Drinking Water Law** - Although the federal Safe Drinking Water Act was passed in 1974, the state law enabling the DOH to assume responsibility for the federal program was not enacted until 1976.<sup>24</sup> The state law prohibited state primary drinking water regulations less stringent than the national regulations in effect and required the DOH to adopt and implement procedures to enforce regulations including monitoring, inspection, record keeping, and reporting procedures that comply with federal regulations. Public water systems subject to regulation were defined as any system having at least 15 service connections or serving 25 or more persons regularly,



The drinking water law empowered the DOH to bring administrative and civil enforcement actions against water systems in violation of standards and further authorized the Director of Health to take action when a contaminant was found in or likely to enter a public water system. The law required the DOH to adopt a plan for the provision of safe water during emergencies and made the public water systems which were not in strict compliance with regulations responsible for notifying the DOH and the local communications media of the conditions and extent of health effects. The Act further required the DOH to establish an underground injection control program and to provide for cross connection and back flow prevention controls.

**Solid Waste** - With increasing awareness of the decreasing supply of natural resources and interest directed to the establishment of a resource recovery and recycling system, the DOH proposed and the Legislature enacted a law to clearly define the ownership of solid waste.<sup>25</sup> Without such definition, the Legislature claimed it would be difficult to intelligently plan for a waste recovery system requiring a constant and continuous supply of waste.<sup>26</sup>

## 1978

**Wastewater Treatment Personnel** - The Legislature found that many private sewage treatment plants were experiencing failures which resulted in conditions adverse to public health. As the failures were largely attributable to the inadequate operation and maintenance of the treatment plants, a law proposed by the DOH was enacted to require the certification of all wastewater treatment personnel.<sup>27</sup> To administer the program, a Board of Certification consisting of nine members appointed by the Governor was established. Under the law, all wastewater treatment plants, except cesspools and septic tank facilities connected to an individual household and certain industrial wastewater treatment facilities, would be classified by size, type, character of wastewater to be treated, physical conditions affecting the plant, and the skill, knowledge, and experience required of an operator. The law prohibited the operation of any wastewater treatment plant not under the direct supervision of an individual certified as an operator in a classification corresponding to the classification of the plant.

## 1982

**Environmental Disclosure Law** - This law was enacted to provide the public with notice of any anticipated changes in the control and the sale of a substantial portion of the assets of publicly owned Hawaii corporations since such changes could have a substantial effect on the environment of this State. The law requires any person owning ten per cent or more of any class of voting securities of any Hawaii corporation to file a disclosure statement with the OEQC before making any purchases of five per cent or more additional stock during a twelve-month period.<sup>28</sup>

1983

**Merger of the Environmental Quality Commission and Environmental Council** - Experience with the EIS system for nine years revealed that there was much confusion in the process and the roles of the Environmental Quality Commission (EQC), the Environmental Council, and the OEQC. Act 140, Session Laws of Hawaii 1983, was enacted to streamline the review process, to merge the EQC and the Environmental Council, and to realign their functions with the OEQC. The law abolished the EQC and the Environmental Council and assigned a reconstituted Environmental Council<sup>29</sup> and the OEQC the responsibility of administering the EIS law. Under the new law, in addition to being the liaison between the Director of OEQC and the general public, the Council was given the rulemaking authority for the EIS law and made responsible for ruling on appeals of nonacceptance of statements. The OEQC was assigned most of the EQC's administrative tasks such as the acceptance of statement filings and the publication of notices of filing and acceptance or nonacceptance.

**Food, Drug, and Cosmetic Act** - In response to the inability of the DOH to obtain production records from dairies and associated businesses during the heptachlor crisis, the Legislature enacted a law proposed by the DOH empowering the Director of Health to demand records concerning the manufacture, distribution, or sale of food, drugs, devices, cosmetics, or consumer commodities.<sup>30</sup> The Legislature believed that the ability to demand records would aid in investigations of questionable practices and in determining the effectiveness of recalls.<sup>31</sup>

**Hawaii Feed Law** - In 1982, when heptachlor residues from pineapple tops used as feed were found in food products, a gap in the law was discovered in that certain feed materials, such as the pineapple tops, were exempt from adulteration testing. The 1983 Legislature addressed this problem by enacting a law proposed by the Department of Agriculture to enable the Department to conduct adulteration testing for all animal feeds other than that for domestic pets.<sup>32</sup>

1984

**Drinking Water** - In response to the perceived problems during the Oahu water well contamination incidents, the Legislature amended the drinking water law to require rather than allow the Director of Health to take necessary actions to protect the public health when a contaminant is present in or is likely to enter a public water system and could present an imminent and substantial danger to the public.<sup>33</sup> The amended law also required a public water system failing to meet certain regulatory requirements to include any corrective action being taken in the notification to the DOH and the local communications media of such failure.

**Integrated Statewide Pesticide Management Policy** - Recent problems regarding the contamination of drinking water by pesticides raised concern over the inadequate coordination of pesticide management activities in this State. Consequently, Act 275, Session Laws of Hawaii 1984, was enacted to require the OEQC, for a period of one year, to coordinate all affected agencies involved in the prevention, monitoring, and mitigation of ground

water contamination. Specifically, the Act required the OEQC to: (1) coordinate studies to determine the movement and fate of pesticides in soils, potable water sources, animal feed, and food products; (2) coordinate the monitoring of all aquifers and surface water sources by the DOH and Board of Water Supply; (3) assist the DOA in developing, compiling, and maintaining a data base of pesticide use patterns and practices to enable identification of areas where ground water contamination is most likely to occur; (4) coordinate the development of a pesticide action plan which clearly defines each agency's responsibilities, needs, and procedures in preventing pesticide-related contamination; (5) coordinate the establishment of a mandatory reporting system for all pesticides sold and distributed in Hawaii; (6) assess the feasibility of a record-keeping requirement for the application of all restricted use pesticides in Hawaii; (7) coordinate the preparation by the affected agencies of a contingency plan, including a communication and information network, to provide for effective state response during emergencies involving pesticides or other toxic or hazardous substances; (8) develop criteria, supplemental to federal standards, to assess the risks associated with pesticide contamination; and (9) coordinate and disseminate, on behalf of the affected agencies, all public information on pesticide-related environmental and health matters.

To assist the OEQC in carrying out its new responsibilities, the Legislature created a technical advisory committee on pesticides composed of the chair of the Environmental Council, representatives from the DOA, DOH, DLNR, Honolulu Board of Water Supply, and the University of Hawaii, and five at-large members. The OEQC Director was empowered to accept grants-in-aid or grants, contract for services, enlist the aid of community and private organizations in information gathering and dissemination activities, hire individuals from relevant fields, including an environmental toxicologist, and adopt necessary rules. The Legislature appropriated \$160,000 for the purposes of this Act; however, the additional functions are scheduled for repeal on June 30, 1985.

**Food, Drug, and Cosmetic Act** - To strengthen the enforcement capabilities of the DOH, the Food, Drug, and Cosmetic Act was amended to allow the Director of Health, instead of the courts, to impose administrative penalties for violations of the Act. The Act empowered the Director to establish tolerance levels and regulatory or action levels by reference to federal regulations or guidelines established by the EPA and the FDA as the regulations or guides become effective from time to time without going through the time-consuming rulemaking process under the Administrative Procedure Act.<sup>34</sup>

After the enactment of the 1983 amendment to the Food, Drug, and Cosmetic Act empowering the Director of Health to demand records regarding the manufacture, distribution, or sale of food, drugs, devices, cosmetics, or consumer commodities, it was found that there was no provision in the law authorizing the Director of Health to require the keeping of such records. Accordingly, the Food, Drug, and Cosmetic Act was amended to include a provision authorizing the Director of Health to adopt rules requiring a person to keep such records.<sup>35</sup>

## Chapter 4

### CURRENT ORGANIZATION OF ENVIRONMENTAL HEALTH PROGRAMS

#### PART I. DEPARTMENT OF HEALTH

The Department of Health (DOH), headed by a Director of Health with an advisory Board of Health, is charged by law with administering "programs designed to protect, preserve, care for, and improve the physical and mental health of the people of the State."<sup>1</sup> The Director of Health and members of the Board of Health are appointed by the Governor with the advice and consent of the Senate.<sup>2</sup>

The DOH accomplishes its mission through its seven divisions for medical health services, family health services, communicable disease, county/state hospitals, dental health, Waimano Training School and Hospital, environmental protection and health services, and mental health. The neighbor islands are serviced by district health offices and all components of the department are provided support services through the research and statistics office, health promotion and education office, administrative services office, personnel office, and health information systems office.

Hawaii's health department is unique among state health departments because it performs public health care delivery functions which are usually performed by county health agencies in mainland states. In particular, the DOH operates 13 hospitals throughout the State in addition to providing direct physical, mental, and dental health services (see Exhibit 1 for organizational structure).

The DOH, with 4,870.45 authorized positions<sup>3</sup> is the third largest state department.<sup>4</sup> Because of the DOH's size, it has four deputies to assist the Director of Health in administering the department: (1) the Deputy Director for Administration; (2) Deputy Director for Health; (3) Deputy Director for County/State Hospitals; and (4) Deputy Director for Environmental Health.

Several entities are administratively attached to the DOH, including the State Health Planning and Development Agency, the Developmental Disabilities Council, the Commission on the Handicapped, and the Office of Environmental Quality Control.

#### Deputy for Environmental Health

The Deputy Director for Environmental Health, who is appointed by the Director of Health, is responsible for the policy making aspects of the Environmental Protection and Health Services Division (EPHSD) operations and for overseeing the administration of the programs by the Division Chief. Due to the DOH's size and diversity, the Deputy is given great flexibility to run the division with the full support of the Director. The Deputy keeps the Director apprised of the general status of the Division's programs and of problems which might require the Director's intervention. The Deputy's staff includes a state-funded secretary and a federally-funded environmental

planner who is responsible for planning and coordinating the EPHSD programs involving federal funds.

### Environmental Protection and Health Services Division

The Environmental Protection and Health Services Division (EPHSD) was most recently reorganized in February 1984 to include three offices attached to the Division and six branches (see Exhibit 2). As currently organized, the EPHSD contains the Litter Control Office, the Office of Narcotics Enforcement, and the Staff Services Office, in addition to the Environmental Permits Branch, Pollution Investigation and Enforcement Branch, Wastewater Treatment Works Construction Grants Branch, Noise and Radiation Branch, Sanitation Branch, and Vector Control Branch. All of the offices and branches report directly to the Division Chief who is a career employee responsible for the day-to-day operations of the EPHSD.

The Division has 229 permanent and eight temporary state-funded positions; 13 permanent and 20 temporary federally-funded positions; and two permanent state positions in the Vector Control Branch funded by the Department of Transportation. The EPHSD's operating budget for fiscal year 1983-84 was \$7,329,289 or four per cent of the total DOH operating budget of \$169,504,630.<sup>5</sup>

The Deputy Director is housed within the offices of the Director of Health on the third floor of Kinau Hale, the Health Department building, while the Division Chief and Staff Services Office are located on the ground floor of that building. The branches and offices, however, are scattered with the Pollution Investigation and Enforcement, Environmental Permits, and Wastewater Treatment Works Construction Grants Branches located in the Amelco Building complex in Kakaako; the Sanitation and Noise and Radiation Branches located in the Immigration Service complex on Ala Moana Boulevard; the Vector Control Branch in Mapunapuna, the Litter Control Office on Koula Street in Kakaako, and the Office of Narcotics Enforcement on Bishop Street. Curiously, the Drinking Water Section, which is part of the Sanitation Branch, is housed in the Amelco Building.

According to the Director, Deputy Director, and Division Chief, communications within the EPHSD in recent years have improved after the heptachlor crisis. A new policy to improve intradivision communications was implemented early in 1984. Branch chiefs are required to submit monthly reports to the Deputy Director itemizing the highlights of activities and problems within their respective branches. The monthly reports are circulated to all branch chiefs prior to the monthly meeting involving the Deputy Director, Division Chief, and the branch chiefs where problems are discussed according to an agenda set by the Deputy Director. Recently, the Deputy has also reemphasized that communications from the branches should proceed through the Division Chief with the intent of discouraging branch chiefs from by-passing the Division Chief and consulting directly with the Deputy Director on routine matters.

Although the EPHSD has its own staff services office, the Division receives additional support from the DOH Administrative Services Office, the Director's Office, Personnel Office, and the district health offices on the

neighbor islands. These services include budget, management, fiscal, and facilities support. The DOH estimated that 1.86 per cent of these resources are attributable to the EPHSD's pollution control and drinking water programs.<sup>6</sup> The pollution control and drinking water programs accounted for \$2,563,351 or 1.5 per cent of the DOH's operating budget for fiscal year 1983-84.<sup>7</sup>

A description of the functions performed by different components of the EPHSD follows, including the personnel resources available to each unit. The environmental responsibilities of the district health offices on the neighbor islands are considered separately at the end of the section.

**Litter Control Office.** The Litter Control Office administers the State's litter control program. The program's main activities are public education and the coordination of volunteer litter control efforts. The office was established by Act 2, Session Laws of Hawaii, First Special Session, 1977, and initially placed under the Deputy Director's office. In 1981, the Litter Control Office was placed under the EPHSD to recognize the program officially on the organizational chart in order to establish continuity for funding purposes since many of the positions were funded by the former Comprehensive Employment and Training Act and the State Comprehensive Employment and Training program. The Office has one permanent and four temporary state-funded positions (see Exhibit 3). A 1983-85 Executive Budget request to convert the four temporary positions to permanent status was denied by the Legislature.

**Office of Narcotics Enforcement.** The Office of Narcotics Enforcement (ONE) was established in February 1984 as a separate office under the EPHSD as part of a reorganization which abolished the former Food and Drug Branch of which the narcotics section was a part. The ONE enforces narcotics and prescription drug laws with a staff of nine permanent and three temporary employees (see Exhibit 3).

**EPHSD Staff Services Office.** The EPHSD's Staff Services Office consists of five permanent employees, including a public health administrative officer, a public participation coordinator, a planner, an environmental health specialist, and an accountant. The Staff Services Office is responsible for coordinating the planning, programming, budgeting, and personnel activities of the Division with the requirements of the DOH Administrative Services and Personnel Offices and the Department of Budget and Finance. All requests from the branches and offices within the Division for expenditure of funds and personnel action, as well as proposed budgets with program justification, must be submitted to the staff services office for approval before review by the Deputy or Director of Health. The planner in the Staff Services Office is primarily responsible for the planning and coordination of division program activities involving state-funded programs, i.e., vector control, sanitation, noise, and litter. The Office is also responsible for conducting public participation programs required by federal law for environmental programs and for providing public information and education on environmental programs. A Clerical Support Unit, which provides secretarial services to the Division Chief and clerical services to the Deputy and Staff Services Office, consists of two permanent and one temporary employees (see Exhibit 3).

**Environmental Permits Branch.** The Environmental Permits (EP) Branch is a technical review branch which issues pollution control permits for air pollution, water pollution, and solid waste sources. The Branch ensures that pollution control standards are met by appropriate safeguards for the construction and operation of sources required under federal or state law. The Branch consists of two sections: (1) the Air and Solid Waste Permits Section and (2) the Wastewater Permits Section.

The air and solid waste permits section is responsible for state permits issued under the federal Clean Air Act and the state solid waste law. It coordinates the activities of the air advisory committee which guides the development of a comprehensive state air program, reviews and approves applications for solid waste management permits, and coordinates county solid waste programs with applicable state and federal requirements. The wastewater permits section which is responsible for monitoring the State's nearshore waters for compliance with water quality standards and effluent discharges, issues permits under the national pollutant discharge elimination system (NPDES). It regulates the operations of private sewage treatment plants, administers the Federal Small Business Loan program for the EPA to assist private businesses in obtaining funds for private sewage treatment plants, and implements the state underground injection control (UIC) program in accordance with the Safe Drinking Water Act. The Branch is authorized 16 permanent positions, of which 11 are engineers, one is a geologist, and four are clerical positions. Eleven positions are state-funded and five positions are federally-funded (see Exhibit 4).

**Pollution Investigation and Enforcement Branch.** The Pollution Investigation and Enforcement (PIE) Branch conducts monitoring and enforcement activities for the permits issued and the standards set by the EP Branch. The PIE consists of three sections: (1) Environmental Control Section #1; (2) Environmental Control Section #2; and (3) Compliance Monitoring and Enforcement Section. The environmental control sections conduct all monitoring activities for air, water, and solid waste for the permits and standards regulated by the Air and Solid Waste Permits Section of the EP Branch, with each section responsible for a geographical sector of the City and County of Honolulu.<sup>8</sup> The Compliance Monitoring and Enforcement Section is responsible for determining compliance with permit or regulation requirements under the NPDES program administered by the Wastewater Permits Section of the EP Branch. The PIE Branch performs routine and special studies monitoring and brings enforcement action against violators. The Branch is authorized 19 permanent employees including 15 environmental health specialists with science degrees, two engineers, and two clerical positions. Eighteen positions are state-funded while one position is federally-funded (see Exhibit 5).

**Wastewater Treatment Works Construction Grants Branch.** The Wastewater Treatment Works Construction Grants (WTWCG) Branch administers the construction grants program through which public wastewater treatment facilities and systems are constructed or upgraded. Until 1981 this program was administered by the EPA and the EP Branch provided coordination assistance. When Hawaii received full delegation of the program from the EPA, it was required to establish a separate branch specifically for the construction grants program. The Branch is responsible for the oversight of

private sewage treatment systems and the wastewater treatment operators' certification program.<sup>9</sup>

The WTWCG Branch is composed of three sections: (1) the Grants Management Section which is responsible for the processing and approval of construction contracts; (2) the Planning/Design Section which is responsible for reviewing and certifying construction plans and specifications to assure compatibility with community needs and federal requirements; and (3) the Construction/Operations Section which is responsible for overseeing the operation and maintenance of all public wastewater treatment works, and coordinating the training and certification programs for treatment works operators. The Branch has three permanent state-funded positions, consisting of two engineers and one clerical position, and three permanent federally-funded engineer positions. There are also 13 federally-funded temporary positions consisting of four engineers, one general construction inspector, one building construction inspector, three planners, one accountant, one contracts assistant, and two clerical positions (see Exhibit 6).

**Noise and Radiation Branch.** The Noise and Radiation Branch administers statewide programs of community noise control, radiation control, and ventilation control, including permit issuance and enforcement actions. The Branch has two sections: (1) the Radiation and Ventilation Section and (2) the Noise Control Section (see Exhibit 7).

The Radiation and Ventilation Section is responsible for regulating the use of x-ray units and radioactive materials to ensure protection from hazardous exposure, administering the radiological technology licensing program for the Board of Radiologic Technologists, and regulating air conditioning and ventilation installations to protect the public from abnormal and inadequate ventilation. The Section has three permanent state-funded positions: an engineer who is responsible for the ventilation program, and two environmental health specialists who are responsible for the radiation program.

The Noise Control Section is responsible for the regulation of noise to protect the community from excessive noise. The Section conducts surveys of noise from vehicular and other sources and investigates complaints of excessive noise. There are nine permanent state-funded environmental health specialist positions in the Section.

Although Hawaii has not received delegation for a hazardous waste management program, the Branch has a hazardous waste management program component which currently consists of one person funded by an EPA grant who conducts limited inspections for the EPA.

**Vector Control Branch.** The mission of the Vector Control Branch is to minimize the dangers and annoyance caused by public health vectors by suppressing outbreaks of potential vector-borne diseases, preventing the encroachment of new vectors and vector-borne diseases from abroad, and providing relief to the public from severe vector nuisances. The Branch is unique among branches in the EPHSD as it has a separate office for training, research, and development services. The Branch works closely with epidemiologists in the DOH Communicable Disease Division in investigating



outbreaks of diseases. The Vector Control Branch has 36 permanent state-funded positions, two of which are funded by the Department of Transportation for port surveillance (see Exhibit 8).

**Sanitation Branch.** The Sanitation Branch prevents the creation of environmental sanitation hazards among the population and promotes good environmental sanitation conditions. The Sanitation Branch is the largest branch in the Division with five sections: three geographical sanitation sections and separate sections for the drinking water and food products programs. The Branch contains a total of 44 permanent positions, of which 43 are state-funded and one is federally-funded. There are six federally-funded temporary positions (see Exhibit 9).

The three sanitation sections are the Central, Kapahulu, and Lanakila Sections. The Central Section serves the entire island of Oahu with seven area sanitarians for general sanitation program activities in the rural Oahu area, i.e., inspection of dwellings, boarding homes, schools, institutions, restaurants, barber shops, laundries, mortuaries, individual household cesspools or aerobic treatment units, septic tanks and other private sewage disposal systems, farms, food vending operations, and markets; and seven sanitarians for specialized milk, food, and housing inspections in the City of Honolulu. The Kapahulu and Lanakila Sections conduct the general sanitation inspections in East Honolulu and West Honolulu respectively with a food establishment specialist and a group of district sanitarians in each section.

Until February 1984, the DOH had a separate Food and Drug Branch that was headed by a Chief who received much criticism for the handling of the heptachlor milk contamination problem. After that Chief retired from state service effective December 31, 1983, the EPHSD was reorganized. The Food and Drug Branch became the Food Products Section within the Sanitation Branch, and the narcotics portion of the former Food and Drug Branch became the new Office of Narcotics Enforcement (ONE).

The Food Products Section administers the Hawaii Food, Drug, and Cosmetic Act by ensuring the purity and truthful labeling and advertising of food, nonprescription drugs, devices, and cosmetics and the standards of identity of food through an inspection and enforcement program. The Section also administers several specific food laws and issues various food-related permits as well as permits for the sale of certain poisons.

The Drinking Water Section of the Sanitation Branch administers all aspects of the State's drinking water program, including the issuance of permits to supply drinking water and the enforcement of federal and state requirements. The Drinking Water Section operates much like a branch in administering the drinking water program since its program is different from the other sanitation programs. Four of the section's positions (three engineers, one secretary) are permanent, state-funded positions, while the remaining five positions (three engineers, two environmental health specialists) are temporary, federally-funded positions.

**District Health Offices.** The district health offices (DHO) on the neighbor islands provide health services on a smaller scale than is provided for the City and County of Honolulu. In the environmental health services area, the DHO personnel tend to be generalists because the staffs of DHOs

are smaller and, unlike their Oahu counterparts, they must perform duties in several different areas. For example, neighbor island sanitarians perform some of the duties of food inspectors and environmental health specialists as well as sanitarians in investigating complaints involving food products and noise. The Oahu EPHSD branches provide staff support to the DHOs for activities that require more expertise or additional personnel.

The DHO on the island of Hawaii has 47 permanent positions from the EPHSD, including 15 persons from the Sanitation Branch, two persons from the PIE Branch, and 30 persons from the Vector Control Branch. The Maui District Health Office is staffed by 25 permanent EPHSD employees, including ten from the Sanitation Branch, one person from the PIE Branch, and 14 persons from the Vector Control Branch. The Kauai District Health Office's 16 EPHSD positions include seven persons from the Sanitation Branch, one person from the PIE Branch, and eight persons from the Vector Control Branch (see Exhibits 10, 11, and 12).

#### **Medical Health Services Division--Laboratories Branch**

The DOH Laboratories Branch provides diagnostic and consultative services to physicians, institutions, and various federal, state, county and city agencies for the diagnosis and control of disease and the control of water, dairy, and food products. The Branch evaluates and approves the operation of laboratories, licenses laboratory directors and technicians, and conducts limited public health research. Most of the laboratory analyses required by the divisions within the DOH are performed by this Branch.

The Branch has five different analytical laboratory sections (medical microbiology, sanitary microbiology, chemistry, virology, and air pollution) in addition to a clerical support section and a supply section serving all laboratory sections (see Exhibit 13). The DOH laboratories on Maui, Kauai, and Hawaii are equipped to perform only microbiological laboratory analysis. The laboratory's sections in sanitary microbiology, chemistry, and air pollution perform virtually all pollution control, food, and drinking water analysis for the EPHSD.

The DOH estimated that of the total analyses performed by the laboratory, pollution-related analysis comprises 25-30 per cent of the chemistry section's work, 15-20 per cent of the sanitary microbiology section's work, and 100 per cent of the air chemistry section's work.<sup>10</sup> The DOH also estimated that pollution-related monitoring accounts for 20 per cent of the total laboratory work while an additional 16-25 per cent was attributed to the drinking water program.

The DOH laboratory is certified for several different types of laboratory analysis: the chemistry section is certified for the chemical analysis of drinking water and wastewater by the EPA; the air section is certified for chemical analysis of air pollutants by the EPA; the sanitary microbiology section is certified for bacteriological analysis of food and shellfish by the U.S. Food and Drug Administration (FDA); the sanitary microbiology section and district health office laboratories are certified by the EPA for the bacteriological analysis of drinking water and wastewater as well as the bacteriological analysis of milk and milk products by the FDA.<sup>11</sup> Although

the FDA does not have a certification program for the chemical analysis of food, it does require laboratories to follow standardized methods which have been developed by the Association of Analytical Chemists and approved by the FDA.<sup>12</sup> The chemistry section follows such standardized methods when conducting analysis for DOH enforcement purposes.

The Laboratories Branch is staffed by 54.5 permanent employees including 13 persons on the neighbor islands. In addition, the Branch has three federally-funded positions in the Air Pollution Section. After the pesticide contamination incidents, the Legislature provided funding for three additional positions for the pesticide in food project; however, these are limited term rather than permanent civil service positions.

While certain air pollution samples are collected by the Air Pollution Section of the Laboratories Branch, most of the sample collection for other substances is performed by the DOH program personnel from the EP Branch, PIE Branch, and Sanitation Branch. Consequently, the Laboratories Branch staff meets each year with different users of the DOH laboratory services in order to schedule required laboratory analysis. The results of routine laboratory analysis are routed directly from the laboratory to the requesting branch within the DOH. The requesting branch may ask the Laboratories Branch to look for specific suspect contaminants on the basis of field surveys or other information. When an unusually high level of a substance routinely monitored is suspected, the laboratory technicians contact the requesting branch to notify the requestor or verify maximum allowable limits for regulatory purposes. Irregular results from laboratory analysis are sent to the Medical Health Services Division Chief, Deputy Director for Environmental Health, and the Director of Health. This procedure was in effect at the time of the heptachlor incident but has been reemphasized since then.<sup>13</sup> In such situations, management determines the persons to be notified and actions to be taken. When analysis reveals the presence of new substances, depending on past trends and the substance and levels involved, the requesting branch and Laboratories Branch may send a sample to a mainland regulatory laboratory for confirmation.

#### **Communicable Disease Division--Environmental Epidemiology Program**

In 1982, as a result of occurrences like the heptachlor contamination of milk, complaints about herbicide use in the Queen's Gate area, complaints about the hydrogen sulfide emitted from a geothermal project, and the high level of mercury in swordfish, the DOH retained the services of an environmental epidemiology consultant to investigate human health effects of contaminants in the environment. Realizing the need to continue epidemiological studies in Hawaii, the DOH, in 1983, submitted a biennial budget request for authorization to establish an environmental epidemiology program in the Communicable Disease Division. The Environmental Epidemiology Program, as approved by the Legislature for the 1983-85 biennium, called for an environmental epidemiologist to work in cooperation with a toxicologist from the EPHSD<sup>14</sup> in identifying potential and actual illnesses caused by non-communicable environmental agents. The DOH planned to implement the program in phases, first hiring an environmental epidemiologist and clerk typist in the Communicable Disease Division, followed

by a toxicologist in the EPHSD, and later by an epidemiological specialist in the Communicable Disease Division to perform field work; however, the last two positions were deleted because of budget constraints.

Since the program's inception, the environmental epidemiologist has been retained on a contractual basis.<sup>15</sup> The environmental epidemiologist works very closely with EPHSD staff and rarely consults Communicable Disease Division staff. The program also relies heavily on the resources of the DOH Research and Statistics Office which conducts an annual health surveillance survey of the statewide population and relies on the U.S. Centers for Disease Control for technical advice and information concerning national trends. While the investigation of public complaints consumes much of the program's resources at present, long-term studies are planned in such areas as the health effects of leaded gasoline and baseline data on geothermal emissions.<sup>16</sup> The program involves multidisciplinary investigative activities and requires cooperation from the Department of Agriculture's Pesticides Branch, the Division of Occupational Safety and Health of the Department of Labor and Industrial Relations, the University of Hawaii School of Public Health, and others.

#### Office of Environmental Quality Control (OEQC)

The Office of Environmental Quality Control (OEQC) is given a broad range of responsibilities under state law. Section 341-4, Hawaii Revised Statutes, requires the Director of the OEQC to serve the Governor in an advisory capacity on all matters relating to environmental quality control and grants the OEQC:

...such powers delegated by the Governor as are necessary to coordinate and, when requested by the Governor, to direct pursuant to chapter 91 all state governmental agencies in matters concerning environmental quality.

The Director has more specific duties in calling attention to environmental problems, conducting research or arranging for research, encouraging the public acceptance of proposed administrative and legislative actions, receiving complaints, recommending programs and legislation, initiating educational programs, and providing advice and assistance to private and public parties, all within the broad framework of enhancing environmental quality.<sup>17</sup> In addition, the OEQC is responsible for administering the environmental impact statement (EIS) law and provides staff support to the appointed Environmental Council. Despite its broad mandate, the OEQC has rarely engaged in coordinative and environmental advocacy and educational activities. With the greater availability of state funds in the early seventies, the OEQC contracted for research projects in the area of growth management and carrying capacity. Since the late seventies, a lack of public support for environmental issues and a low level of funding have limited the OEQC's role to overseeing the implementation of the EIS law.

The OEQC was attached to the Governor's Office for administrative purposes until 1980 when it was placed under the DOH for administrative purposes as part of a major reorganization effort to group programs within

the principal departments according to common purposes and related functions.<sup>18</sup> The OEQC is authorized 11 permanent positions; however, one position has been vacant since 1981, two have been vacant since 1982, and one position has never been established (see Exhibit 14 for organizational structure).<sup>19</sup> The DOH estimates that .17 per cent of DOH administrative services are attributable to OEQC's support. The Office's operating budget in FY 1983-84 was \$309,163.

The 1984 Legislature assigned the OEQC additional responsibilities to coordinate the establishment of an integrated pesticide policy, coordinate government agency responsibilities and programs in the area of pesticide use and environmental quality; conduct, contract for, and coordinate research on pesticide use; and serve as a central clearinghouse for information collection, classification, and dissemination.<sup>20</sup> Although funds were appropriated for these tasks, the OEQC was given only one year to accomplish them. Members of the technical advisory committee on pesticides were not appointed by the Governor until late in October, 1984 and the first meeting occurred in early November.

### Environmental Council

The fifteen-member appointed Environmental Council is directed by law to:<sup>21</sup>

...serve as a liaison between the director [of environmental quality control] and the general public by soliciting information, opinions, complaints, recommendations, and advice concerning ecology and environmental quality through public hearings or any other means and by publicizing such matters as requested by the director....

The Council is advisory to the Director, who, in turn, is an advisor to the Governor. The Council is required by law to make an annual report on the progress of state, county, and federal agencies in achieving the State's environmental goals and policies. With the 1983 merger of the Environmental Quality Commission (EQC) and the Environmental Council, the EQC's powers to render advisory rulings in EIS disputes were transferred to the new Council.

## PART II. DEPARTMENT OF AGRICULTURE

The state Department of Agriculture (DOA) was originally established in 1903 as the Board of Commissioners of Agriculture and Forestry of the Territory of Hawaii. Today the Department of Agriculture is headed by the Chairperson of an eight-member Board of Agriculture (including the Chairperson of the Board of Land and Natural Resources who serves as an ex-officio voting member) appointed by the Governor and is charged by law with promoting:<sup>22</sup>

...the conservation, development, and utilization of agricultural resources in the State; assist[ing] the farmers...and any others engaged in agriculture by research projects, dissemination of

information, crop and livestock reporting service, market news service, and any other means of improving the well-being of those engaged in agriculture and increasing the productivity of the lands, and administer[ing] the programs of the State relating to animal husbandry, entomology, farm credit, development and promotion of agricultural products and markets, and the establishment and enforcement of the rules on the grading and labeling of agricultural products.

The DOA has 318 permanent employees, 12 federally-funded employees, and 100 temporary workers. The DOA's Planning and Development Office and Administrative Services Office service the Department's six functional divisions: Animal Industry, Agricultural Loan, Measurement Standards, Marketing and Consumer Services, Milk Control, and Plant Industry (see Exhibit 15 for organizational structure). The divisions range in size from the Milk Control Division with eight employees to the Animal Industry Division with 113 permanent employees. A brief description of the functions performed by the DOA divisions with pollution control-related responsibilities follows below.

The Marketing and Consumer Services Division serves consumers and agricultural producers by improving the market quality of agricultural commodities and promoting fair trade and honesty in the marketing of farm products, improves the efficiency of agriculture production and marketing, and promotes Hawaiian agricultural food products. Housed within this Division is the Commodities Branch which ascertains the market quality of agricultural, horticultural, and processed commodities, including the chemical analysis of commercial animal feeds for guaranteed nutritive values, drug additives, and other ingredients. After the heptachlor incident revealed that no agency was testing pineapple greenchop used as cattle forage for adulteration, the DOA was charged by law with a new responsibility involving the testing of a broader range of feeds for adulteration.<sup>23</sup>

The Plant Industry Division protects agricultural industries and natural resources from the entry and spread of detrimental insects, diseases, noxious weeds, and other pests, and minimizes the adverse effects of pesticides on the environment. The two branches within the Division that are pertinent to this study are the Plant Pest Control Branch and the Pesticides Branch. The Plant Pest Control Branch protects Hawaii's agricultural enterprises and natural resources through an integrated program of biological, chemical, mechanical, and regulatory control of insects, weeds, disease, and snail pests which are currently established or which may enter the State and cause economic losses. The Pesticides Branch promotes and ensures the safe and discriminate use of pesticides to minimize adverse effects of pesticides on the environment and enable the agricultural industry to continue the use of pesticides.

The Plant Pest Control Branch has 27 permanent and 17 temporary state employees while the Pesticides Branch has 7.5 permanent employees and two federally-funded employees (see Exhibit 15 for Pesticide Branch organizational structure). The 1984 Legislature approved the addition of four new permanent employees to the Pesticides Branch which will allow the branch to conduct additional field inspections.

The Animal Industry Division assists Hawaii's livestock and poultry industries through the control and prevention of pests and disease; conducts meat and poultry inspection programs; maintains the state livestock brand registry, and operates the quarantine program for all animals coming into the State.

The DOA under the current administration operates with frequent intradepartmental communication. The Chairperson has weekly meetings with division chiefs and meets with branch chiefs once a month or once every two months. The division chiefs also meet with branch chiefs on a weekly basis.

The Advisory Committee on Pesticides was established by Act 58, Session Laws of Hawaii 1972, to advise and assist the DOA in developing or revising laws and regulations to carry out the provisions of the Hawaii Pesticide Law and to advise the DOA on pesticide problems. The Committee has been inactive, meeting only when there were proposed rule changes concerning pesticides. Recently, however, the DOA instituted quarterly meetings with the intent of using the Committee as a conduit for relaying information to the industry.<sup>24</sup>

### PART III. UNIVERSITY OF HAWAII

#### Environmental Center

The University of Hawaii Environmental Center was established in 1970 to:<sup>25</sup>

...stimulate, expand, and coordinate education, research, and service efforts of the university related to ecological relationships, natural resources, and environmental quality, with special relation to human needs and social institutions,...

The 1970 Act which created the OEQC and the Environmental Center specified that a portion of the Act's appropriation would be expended by the Center "in accordance with a yearly contract, the terms and provisions of which shall be mutually agreed upon by the director of environmental quality control and the president of the university of Hawaii".<sup>26</sup> The annual contract included such services as reviewing proposed environmental legislation and environmental impact statements, establishing environmental education courses at the university, and conducting research.

The OEQC and Environmental Center in 1977 agreed to discontinue funding the Center's operations through the OEQC.<sup>27</sup> The Center has since received its funds through the University of Hawaii system from the budget of the Office of Research Administration. In the past the Center has coordinated research projects and conducted research on its own. More recently, funding constraints have limited the Center's efforts to reviewing environmental impact statements and circulating them among UH departments for additional comments. Guided by a policy committee of faculty members from throughout the State, the Center reviews proposed legislation and environmental regulations and permits. The Center assists the EPHSD, particularly the Environmental Permits Branch, in reviewing permit

applications and providing other technical assistance or advice. The Center is currently authorized a position count of three full-time equivalents.

### **School of Public Health**

The School of Public Health provides educational and research opportunities in the broad areas of community health administration, international health, and public health sciences, including environmental health and epidemiology. Individual faculty members have informal contacts with program staff in the EPHSD and frequently participate in collaborative research with the DOH.

### **School of Medicine**

The School of Medicine provides instruction and conducts research in the field of medicine. The School has about 120 full-time faculty members involved in research; however, very few projects, if any, concern environmental health. The School conducts toxicology research in a number of areas. Informal consultation between the DOH and the School occurs occasionally and the DOH has funded some research by the School, primarily in the infectious disease area.

### **College of Tropical Agriculture and Human Resources**

The College of Tropical Agriculture and Human Resources (CTAHR) provides educational and research opportunities in all aspects of agricultural, natural resource, and human resource systems. The CTAHR has ten departments, all of which are involved in pesticide research in some fashion. The department that is most active is the Agricultural Biochemistry Department which devotes about one-fourth to one-third of its time to pesticide research. Much of the Department's work involves studies required for new pesticide uses for minor crops under a program sponsored by the U.S. Department of Agriculture. The Department's laboratory also analyzes feed and pesticide samples for the DOA under a cooperative agreement and as part of such analytical work, participates in two national quality assurance programs: one by the American Association of Feed Control Officials and the other under the EPA's formulation and water contaminants programs.

The Department's laboratory has 2.2 full-time equivalents chemists who spend 1.5 per cent of their time supervising pesticide analysis performed by graduate analytical chemists. The CTAHR estimated that 80 per cent of its budget for research and extension is from state general revenues<sup>28</sup>.

Closely connected with the CTAHR is the Hawaii Institute of Tropical Agriculture and Human Resources (HITAHR) which is composed of the Agricultural Experiment Station and the Cooperative Extension Service (CES). As a program funded by the U.S. Department of Agriculture's land grant program, the CES promotes new methods in agricultural production and resource conservation, home economics, and community development through community education with an emphasis on practical demonstrations. The CES is the outreach arm of the HITAGR which disseminates research findings of



CTAHR and the Experiment Station. The Experiment Station conducts scientific investigations and experiments regarding the principles and applications of agricultural science in the areas of the physiology of plants and animals; diseases, insects, and parasites; agronomy, soils, food science, food processing, agricultural engineering, biochemistry, human and animal nutrition; breeding and genetics; and culture, production and marketing.

### **Pesticides Hazard Assessment Project**

The Pesticides Hazard Assessment Project (PHAP), a project maintained by the Pacific Biomedical Research Center at the University of Hawaii, has existed since 1965 under several different names. Prior to PHAP, the project was called the Hawaii Epidemiologic Studies Program and the Hawaii Community Studies on Pesticides Project.<sup>29</sup> The PHAP began as one of 12 nationwide projects originally established by the U.S. Public Health Service and later funded by the Environmental Protection Agency (EPA) to research the effects of pesticides on human health. By 1983 the 12 projects had been reduced to five and the Hawaii project had experienced a reduction in EPA funding from \$400,000 a year to \$150,000 a year.<sup>30</sup> As a result of the heptachlor contamination incident, the PHAP expects to receive EPA funding of approximately \$1 million through 1988 to continue its research.<sup>31</sup> This year's \$200,000 award is being cost-shared by the University of Hawaii for an additional \$100,000 while the 1984 Hawaii Legislature appropriated \$50,000 for the project.<sup>32</sup>

While EPA funds are expended in accordance with the PHAP's cooperative agreement with the EPA, state funds allow project staff to provide information, laboratory analysis, and other assistance to government agencies and the public upon request.

### **Water Resources Research Center**

The University of Hawaii's Water Resources Research Center (WRRC), since its establishment in 1964, has undertaken extensive research in a wide variety of areas relating to water resources, including but not limited to, the hydrologic cycle; supply and demand for water; conservation and best use of available water supplies; methods to increase water supplies; and the economic, legal, social, engineering, recreational, biological, geographical, and ecological aspects of water problems. The WRRC plans, conducts, and coordinates university water resources research projects; serves as the fundamental research unit of the State for water resources, and assists in resolving Hawaii's problems in water planning, development, and conservation. Although the WRRC is funded for only 9.25 positions, the WRRC in 1984 utilized the services of 25 faculty members, 15 professional and technical staff members, and 55 graduate and undergraduate students, all from a diverse range of university departments.<sup>33</sup> Roughly one-half of the WRRC's research projects is funded by state general funds while the other one-half is funded by grants and contracts from federal, state, and local government agencies and private organizations.

The WRRC has an advisory committee on water resources consisting of 13 members representing the DLNR, the DOH, the county departments of water

supply, the National Weather Service, the Hawaiian Sugar Planters' Association, the U.S. Institute of Pacific Islands Forestry, the U.S. Geological Survey, the Soil Conservation Service, and the U.S. Army Corps of Engineers.

## Chapter 5

### ENVIRONMENTAL HEALTH PROGRAM ADMINISTRATION

The programs within the Environmental Protection and Health Services Division (EPHSD) can be categorized into two groups: (1) pollution control which includes programs for air quality, water quality, solid waste, tolerance levels of chemicals in food, hazardous waste, noise, and litter; and (2) community health services which includes sanitation, drinking water, food inspection, vector control, narcotics and drug control, and low-level radiation control. For the purposes of this study, the discussion in this chapter is limited to the EPHSD pollution control programs and the drinking water, food inspection, and radiation control programs. This chapter also discusses the Department of Agriculture's pesticide program and the environmental impact statement program.

Pollution control programs in Hawaii are governed primarily by federal laws administered by the federal Environmental Protection Agency (EPA). Although Hawaii has been delegated primacy for administering the water quality, air quality, drinking water, wastewater construction grants, and pesticide programs, the EPA provides much of the funding and consequently maintains a close watch over Hawaii's program implementation. The EPA and the State annually devise an agreement and work plan setting forth specific goals and tasks for each program as well as the personnel, equipment, and other resources required to accomplish each task. The State is required to submit to the EPA periodic status reports and monitoring data and the EPA conducts semiannual program evaluations. Should the EPA find any of Hawaii's programs inadequate, it has the authority to rescind the primacy delegation and assume responsibility for the program. The EPA administers those programs, such as toxic substances and hazardous waste disposal, for which Hawaii does not have primacy delegation.

The administration of pollution control programs is somewhat confusing since some programs in the EPHSD are organized by functions, i.e., the Environmental Permits (EP) Branch does all the technical review and issues all permits under the air quality, water quality, and solid waste laws, while the Pollution Investigation and Enforcement (PIE) Branch does all the monitoring and investigation for enforcing the permit conditions. On the other hand, programs like noise, litter, food inspection, and drinking water are organized such that a branch or section performs most, if not all, of the functions relating to the area. Moreover, in most of the program areas, certain related functions are performed by other state, county, or federal agencies.

The following is a description, by program area, of the functional relationships of the state, county, and federal agencies with pollution control program responsibilities.

#### Water Pollution

The Department of Health (DOH) is the agency delegated the responsibility for the administration of programs under the federal Clean Water Act. The State's water quality plan, commonly called the "208 Plan",

derived its name from Section 208 of the 1972 amendments to the Federal Water Pollution Control Act which requires states to develop areawide waste treatment management processes. The "208 Plan", which was developed during 1977 and 1978 by the DOH with input from the four counties, guides the implementation of Hawaii's water quality program. The State's water quality program consists of three components: (1) setting water quality standards; (2) limiting effluents for direct discharges of pollutants from industrial and municipal sources and indirect discharges from sources such as erosion and sedimentation, stormwater runoff, dredge and fill material, vessel pollution, and salt water intrusion; and (3) controlling residual waste disposal to protect surface and underground water quality.

The DOH, by rule, has established water quality standards for Hawaii by designating particular uses for all bodies of water in the State and prescribing appropriate water quality criteria for such uses.<sup>1</sup>

In order to control the effluent from direct pollutant discharges, i.e., from sewage treatment plants, sugar mills, and power plants, into navigable waters, the EP Branch issues permits under the EPA's National Pollutant Discharge Elimination System (NPDES) program. The EPA oversees this program and reviews all permit applications prior to permit issuance by the EP Branch. The EP Branch also issues permits under a state program which allows the discharge of waste into designated areas called zones of mixing where water quality standards may be exceeded under specified conditions.

Other agencies are primarily responsible for the control of pollutants from indirect sources, but the DOH sets the standards and reviews permits for dredge and fill activities, hydrologic modifications, and other activities which may affect water quality.<sup>2</sup> The counties control soil erosion and sedimentation from urban lands through grading ordinances which specify standards for various types of soil and land uses that include criteria, techniques, and methods for the control of erosion and sedimentation resulting from land-disturbing activities.<sup>3</sup> The counties are also responsible for the control of urban stormwater runoff.<sup>4</sup>

The State's 15 Soil and Water Conservation Districts (SWCDs) are responsible for the implementation of erosion and sedimentation controls for agricultural lands. The SWCDs cooperate with the counties in implementing grading ordinances by reviewing plans and inspecting grading activities, and provide various types of technical assistance in erosion and sedimentation control.<sup>5</sup>

Most Hawaiian harbors are subjected to sediment deposition which can adversely affect the navigation of ships in the harbors. Such sedimentation requires constant dredging and disposal of the dredged material. Construction projects on or near water bodies, including wetlands, may involve dredging and or filling of the area. The U.S. Army Corps of Engineers is responsible for the issuance and enforcement of permits for the discharge of dredged or fill material into navigable waters. The Corps also issues permits for dredging projects not involving discharge, by persons other than the Corps. The DOH formally reviews all Corps-issued permits for the discharge of dredged or fill material; however, it only has informal review of Corps-permitted dredging projects.<sup>6</sup>

Vessel pollution results from discharges of litter and trash, ship ballast tanks, oil spills, and sewage and wastewater from ships and small boats. Discharges of vessel litter and trash and ship ballast tanks are prohibited by rules of the State Department of Transportation. Oil spills are primarily regulated by the U.S. Coast Guard although the State Department of Defense, in cooperation with the Coast Guard, has established emergency plans and procedures for dealing with oil spills in state waters. The Coast Guard regulates the discharge of sewage from vessels.<sup>7</sup>

The responsibility for disposing of domestic sewage is currently shared by the state and county governments although it is intended that the responsibility eventually will be assumed entirely by the counties.<sup>8</sup> The DOH, through its Wastewater Treatment Works Construction Grants (WTWCG) Branch regulates the construction and location of private disposal systems<sup>9</sup> and, through the Sanitation Branch, regulates the use of individual wastewater systems such as cesspools or household aerobic units<sup>10</sup> which are designed to dispose of not more than 800 gallons of residential wastewater a day. The counties are responsible for determining which communities will be serviced by such systems and for constructing and operating the public sewer systems in accordance with DOH standards.

The WTWCG Branch, in administering the Clean Water Act's grants program for the construction of municipal sewage treatment plants, works very closely with the county public works departments to ensure that new facilities or improvements to existing facilities are planned, designed, constructed, operated, and maintained in accordance with federal guidelines. The WTWCG Branch is also responsible for the administration of the State's certification program for treatment works operators. This program was established in 1978 to facilitate the prevention of failures of treatment works through the proper operation and maintenance of the systems.<sup>11</sup>

The DOH oversees Oahu's pretreatment program to ensure that the indirect dischargers into the municipal sewer systems, i.e., commercial laundries, restaurants, electroplators, food manufacturers, and printers, meet the federal guidelines for discharging toxic substances.

The PIE Branch, the enforcement arm of the EP and WTWCG Branches, conducts (1) ambient water quality monitoring to ensure that the water quality standards in the receiving bodies of water are maintained and (2) pollutant source monitoring to ensure that the effluent discharges under the NPDES and zone of mixing permits are in compliance with requirements. The DOH maintains monitoring stations along most beaches and coastal shorelines of the State to obtain baseline data for water quality conditions in such areas. Samples gathered during the many ongoing monitoring programs include ambient water, sediment cores, effluents from point source discharges, and tissues from fish and shellfish. The samples are analyzed by the Laboratories Branch for chemical, physical, and biological characteristics and the data are used to explain trends, identify and assess water quality problems, establish water quality baselines, and suggest more intensive surveys and enforcement actions. Both the sampling and laboratory analysis procedures follow stringent quality assurance guidelines required by the EPA.<sup>12</sup> The PIE Branch also conducts intensive surveys (usually for a one-year period) or trend monitoring (for approximately five years) of particular areas when unusual results appear in the routine monitoring program. All

samples collected by the PIE Branch for monitoring purposes are analyzed by the DOH Laboratories Branch.

The EPA program evaluations of the water pollution control program have been generally favorable, but have cited the need for improvements in the areas of planning and coordination among the branches responsible for construction grants and water quality standards development and enforcement.

Section 342-32(4), Hawaii Revised Statutes, requires the DOH to conduct research on the causes, effects, and hazards of water pollution, the purity and potability of water, and the means to monitor water quality or to effect the proper disposal of sewage, drainage, and waste. Most of the DOH research in this area is conducted by the branches with the specific program responsibility and is regulation-oriented for compliance monitoring, complaint investigation, and enforcement action purposes. Because the DOH lacks highly skilled technicians and scientists, it relies heavily on research conducted by the EPA especially in areas of toxicity and health risk assessment of pollutants, and on the University of Hawaii for scientific expertise in such areas as hydrology, engineering, geology, agronomy and soil science, microbiology, and public health.

The Water Resources Research Center (WRRC) is probably the most involved of the University of Hawaii research units in projects that are of direct interest and use to government agencies primarily because the Center's mission statement includes, among other things, serving as the fundamental research unit of the State for water resources and assisting in meeting water resources planning, development, and conservation needs in Hawaii. In the past the DOH funded various contracts with the WRRC concerning effluent reuse and coliform significance in nearshore waters and it continues to rely on the WRRC for conducting technical studies as they are required. The Deputy Director for Environmental Health, as a member of the WRRC steering committee, is apprised of the kinds of projects that are being considered and can provide insight to the WRRC as to the DOH's research needs.

The WRRC has conducted research to assist state and county agencies in furthering water quality protection efforts. Examples of recent projects concerned such topics as: (1) significance of the effect of sunlight on bacteria in marine waters on measurements and interpretation of water quality; (2) biological monitoring at Sand Island sewage outfall, the data from which helped to obtain a waiver from the EPA for modification of the secondary treatment requirement at the Sand Island facility; (3) waste injection problems and guidelines for Oahu; and (4) airport stormwater runoff quality.<sup>13</sup>

The WRRC serves as a review agency for the EP Branch in wastewater and solid waste permit applications. The WRRC periodically provides technical review in areas of leachate analysis, groundwater monitoring data, receiving water monitoring data, data on benthic organisms, and other areas in which the DOH may not have the necessary staff expertise. The DOH Laboratories Branch consults with the WRRC on the development of criteria for acceptable levels of bacteria in waters. Since many of the studies conducted by the WRRC and other university research units are highly technical, the Environmental Center of the University of Hawaii occasionally assists the EP Branch by translating some of the technical aspects into lay terms.

The U.S. Army Corps of Engineers conducts, on an on-going basis, various water quality study and assessment projects while the U.S. Geological Survey collects data on the quantity and quality of surface and groundwaters.<sup>14</sup>

In recent years, there has been increased activity in groundwater research because of the pesticide contamination of drinking water wells on Oahu. These projects are discussed in the section on pesticides which follows in this chapter.

## Air Pollution

The federal Clean Air Act requires the EPA to establish national primary and secondary ambient air quality standards and the states to adopt State Implementation Plans (SIP) to provide the control strategy to achieve such standards. The State of Hawaii Air Quality Control Region was designated by the then Secretary of Health, Education, and Welfare on August 13, 1970, and the DOH as the State's designated Air Pollution Control Agency submitted Hawaii's SIP to the EPA Administrator in January, 1972.<sup>15</sup> Hawaii's SIP imposes air quality standards that are more stringent than the national primary and secondary ambient air quality standards.

The EP Branch reviews all applications for permits to discharge pollutants into the air and issues permits to approved sources. Such permits are subject to review by the EPA prior to issuance. The EPA has delegated to the DOH full responsibility for administering permit programs for the (1) Prevention of Significant Deterioration (PSD) of air quality; (2) Federal New Sources Performance Standards; and (3) National Emission Standards for Hazardous Air Pollutants. The PIE Branch plans the monitoring schedules for all required air quality monitoring, inspects facilities, and collects air samples during inspections which are analyzed by the Laboratories Branch. The air quality monitoring stations at the DOH headquarters and at Sand Island which contain equipment to record levels of those pollutants such as carbon monoxide that require "automatic" or frequent and continuous sampling or readings are maintained by the Air Pollution Section of the Laboratories Branch.

While the DOH is responsible for the enforcement of the ambient air standards and permit compliance, the county police departments assist in the enforcement of the regulations prohibiting visible emissions from mobile sources while the county fire departments assist in the enforcement of the open burning regulations. The Department of Agriculture (DOA) assists in the control of noxious agricultural sprays and chemicals for pest control since it is responsible for the regulation of pesticide marketing and use.<sup>16</sup>

The DOH conducts research on the causes, effects, hazards, or means to monitor or abate sources of air pollution, but as in the case of water quality, most research is limited primarily to compliance monitoring. The environmental epidemiology program, however, has been conducting a long-term baseline study of the health effects of hydrogen sulfide emissions from geothermal wells in the Puna area and it is hoped that more such baseline studies can be conducted by this program in the future.<sup>17</sup> Occasionally, the College of Tropical Agriculture and Human Resources at the University of

Hawaii is involved in air pollution research if the DOH perceives that the problem is caused by agricultural operations.<sup>18</sup>

The DOH records did not contain any record of recent evaluations for the air program except for the National Air Audit and a mid-year evaluation, both conducted in 1984. The audit report commended Hawaii's program and its staff, but criticized the split of monitoring responsibilities between the air pollution laboratory staff and the PIE Branch. The audit recommended that the network design and sample collection responsibilities of the PIE Branch be transferred to the air laboratory staff. The DOH response to the recommendation was that (1) the network design being based on PSD requirements, emission inventory, and permits should remain with the EPHSD branches; and (2) the sample collection by the PIE Branch is more cost effective since samples are collected during PIE inspections and the air laboratory does not have the resources to perform additional tasks.<sup>19</sup>

### Drinking Water

The Board of Land and Natural Resources (BLNR) is the state agency charged with the responsibility of protecting Hawaii's groundwater resources. Accordingly, the BLNR is empowered to designate certain areas in the State as groundwater control areas. In such designated areas, the drilling of wells and the withdrawal of water are regulated by permits issued by the Department of Land and Natural Resources (DLNR). In areas that have not been designated a groundwater control area, the county departments of water supply issue permits. The DLNR routinely routes copies of well drilling permits to the DOH Drinking Water Section; however, the DOH is not always notified when the DLNR itself is the well driller. The Drinking Water Section, upon notification of the permit issuance, notifies well drillers of state regulations for drinking water sources.

The Drinking Water Section of the Sanitation Branch regulates all drinking water systems having a minimum of 15 service connections or regularly serving a minimum of 25 individuals as required by federal and state law. Systems serving fewer persons or providing water on an irregular basis are not regulated. The Drinking Water Section sets the drinking water quality standards, and reviews and approves plans and specifications for new drinking water systems and extensions to existing systems before the water system may deliver water to consumers. Hawaii has adopted the federal standards for drinking water, but the Director of Health is empowered to take action in the absence of federal standards as was the case in 1982 when the director ordered the closing of several wells contaminated by dibromochloropropane (DBCP), ethylene dibromide (EDB), and trichloropropane (TCP).<sup>20</sup>

The Drinking Water Section solicits comments on applications for new drinking water sources from the Water Resources Research Center, the DLNR, the U.S. Geological Survey, the county in which the proposed source is located, and the Soil Conservation Service if the proposed source is a surface water source.

Engineers from the Drinking Water Section conduct sanitary surveys of existing water systems at the rate of ten per cent of all systems each year.



Routine water sampling as required by federal regulations for turbidity and radiological, microbiological, and organic and inorganic chemical contaminants is performed by Drinking Water Section personnel who collect chemical samples and by registered sanitarians in the Sanitation Sections of the Sanitation Branch who collect microbiological samples. All persons who collect samples are trained and certified by the Drinking Water Section supervisor in accordance with EPA requirements. The DOH Laboratories Branch performs sample analysis.

Although drinking water purveyors are required under federal law to perform sampling analysis to ensure the purity of the drinking water they deliver, the DOH conducts all chemical sampling analysis for the approximately 180 drinking water systems in the State. The neighbor island water supply systems do not have laboratories certified to conduct chemical or microbiological analysis and must rely on the DOH. The Honolulu Board of Water Supply (BWS) performs its own microbiological analysis.<sup>21</sup> The BWS does have limited chemical analysis capabilities for the investigation of customer complaints about the appearance or taste of the water, but does not conduct routine chemical analysis for regulatory purposes. When impurities are found, the BWS reports such findings to the DOH whose laboratory tests for harmful chemicals and bacteria.

Since 1979, groundwater monitoring in Hawaii for DBCP and EDB has been conducted jointly by the DOH and DOA. Although the monitoring was undertaken partly in response to the EPA's request, the DOA and DOH monitoring surpassed what the EPA had requested. Previously, the DOH only monitored chemicals as required under the Safe Drinking Water Act, but since the water contamination problem in 1982, the monitoring program has been expanded to include broad spectrum screening for other agricultural and non-agricultural chemicals.<sup>22</sup> The BWS assumed responsibility for maintenance monitoring of these unregulated compounds at the contaminated wells after the DOH had conducted the initial monitoring to assure quality control of the samples and laboratory analysis. The BWS also initiated the construction of systems to clean up several of the contaminated wells as part of its responsibility as a water purveyor to provide pure water to the consumer.

As part of the federal Safe Drinking Water Act's requirements, the DOH has in place an "Emergency Plan for Safe Drinking Water" to provide drinking water when normal water system service is disrupted by emergencies such as droughts, chemical spills, floods, or earthquakes.

Due to the recent interest and activity regarding groundwater, the Drinking Water Section has been more intensively involved in cooperative planning and program implementation efforts with many agencies outside of the DOH such as the Pesticides Branch of the DOA, the Water Resources Research Center, the county water departments, and the DLNR. The EPA evaluations of the drinking water program, since its inception, have been highly laudatory.

The program has relied upon the EPA for establishing new drinking water standards since the EPA has far more laboratory and health risk assessment expertise. However, in 1982, the EPA failed to provide recommendations on permissible levels of certain pesticides found in Oahu drinking water sources. Several research projects have been conducted on

the potential effects of pesticides on groundwater supplies since 1982. The research projects are discussed in the section on pesticides later in this chapter.

## **Solid Waste**

Unlike the water and air quality programs, the EPA encourages but does not require a solid waste management plan and the EPA is not required to operate a solid waste program in the absence of state action. In keeping with the spirit of the federal law, the DOH developed a solid waste management plan for Hawaii which: (1) identifies the responsibilities of the DOH, the counties, and the EPA in the development and implementation of the state plan; (2) prohibits the establishment of new open dumps and requires solid waste disposal in sanitary landfills or other environmentally sound method if not used for resource recovery; and (3) requires the closing or upgrading of existing open dumps by September, 1984.<sup>23</sup> The DOH has adopted rules which set criteria for the siting, design, construction, financial responsibility, and operation of solid waste treatment, storage, transport and disposal systems.<sup>24</sup>

Hawaii's State Solid Waste Management Plan incorporates the individual county solid waste management plans. Although public hearings on the state plan were held during September 1981, the plan is still in draft form and has yet to be finalized. The State issues permits for the operation of solid waste disposal facilities and assumes only regulatory responsibilities for solid waste disposal facilities. Limited state-operated disposal facilities, however, are provided for Kokee State Park and Kalaupapa settlement. Solid waste management facility planning and implementation are performed by the county governments, military, and private sector.<sup>25</sup>

## **Hazardous Waste**

From 1981 through 1983, the EPA and DOH participated in a cooperative arrangement wherein the DOH received a grant under the Resource Conservation and Recovery Act (RCRA) for the purpose of pursuing authorization for the state operation of a hazardous waste program. As part of the grant program, DOH received assistance for program planning and development and conducted local inspections for the EPA. During that period there was no progress in the development of a hazardous waste program plan suitable to the EPA. In 1982, the DOH reported to the Legislature on the requirements for implementing a hazardous waste program for Hawaii and recommended that the State seek full authorization "only if the State is willing to commit funds to operate the program totally, if necessary" since there was no way of ensuring continued federal funding.<sup>26</sup>

Since October 1983, after the DOH formally notified the EPA of its intent not to pursue final authorization, the EPA assumed the responsibility for administering the hazardous waste program in Hawaii, but retained the DOH on a contract to conduct limited inspections on its behalf. This limited inspection program is operated out of the Noise and Radiation Branch. The DOH is presently working on a proposal for a new cooperative agreement with the EPA to coordinate federal and state hazardous waste management

responsibilities under the RCRA.<sup>27</sup> The intent of the agreement is to assure the efficient allocation of public funds to minimize duplication of effort and to avoid confusion in the regulated community during the interim period while the State applies to the EPA for full authorization of the program. If this agreement is approved by the EPA, the State will be responsible for: (1) administering the manifest system, conducting immediate follow-up activities, and identifying necessary remedial or enforcement action; (2) assisting the EPA by providing technical assistance to the regulated community; (3) conducting compliance inspections including record reviews; and (4) identifying RCRA compliance violations, conducting follow-up activities of violations identified, and providing the EPA with such information. The EPA will be responsible for: (1) overseeing the State's operations; (2) receiving and approving all permits; (3) training the DOH staff to perform inspections; (4) conducting all sampling activities; (5) and taking enforcement actions.<sup>28</sup>

**Toxic Substances** - The State does not have a program to regulate toxic substances. This area is regulated by the EPA through its Region IX office.

### **Pesticides**

The EPA reviews pesticide products and sets requirements for their registration and use; classifies pesticides into general and restricted use; and requires certification programs for applicators. The EPA also establishes tolerance levels for pesticide residues on food and feed crops after harvesting and is empowered to restrict the use of or cancel pesticides found to cause unreasonable risk to human health or the environment.

The Department of Agriculture (DOA) issues licenses for pesticides sold, offered, distributed or transported within the State if pesticides meet all labeling requirements under the Hawaii Pesticides Law, Chapter 149A, Hawaii Revised Statutes. The DOA also issues permits to sellers and distributors of restricted use pesticides.<sup>29</sup> Registration by the DOA of pesticides for special local needs for minor crops, issuance of state experimental use permits, and emergency exemptions to allow use of pesticides to control unanticipated pest crises require final approval from the EPA. After consultation with the pesticide advisory committee and the Director of Health, the DOA is authorized to cancel or ban pesticides. The disposal of pesticides and pesticide containers is regulated under the DOH's solid waste program.<sup>30</sup>

To enforce pesticide laws in Hawaii, the DOA is authorized, under state law, to enter property to examine and inspect application methods and equipment, and examine and collect samples of plants, soil, and other materials. The monitoring and inspection program is established under a cooperative agreement with EPA Region IX. Like the DOH pollution control programs, EPA's Region IX keeps close watch over the DOA's administration of Hawaii's pesticides program. This includes agreement by the EPA and DOA on an annual work plan with goals and tasks to be accomplished by the program, periodic status reports made to the EPA, and semiannual EPA evaluations. Under the cooperative agreement's terms, the DOA conducts complaint investigations and use inspections to assure compliance with label directions by agricultural operators and commercial pest control operators, e.g., tent fumigators and industrial pest control facilities.<sup>31</sup> The DOA also conducts market surveillance and monitors imported goods at the point of

entry. Because the DOA has inadequate resources to monitor all of the nearly 4,000 certified applicators, 110 licensed dealers, and ports of entry, the DOA targets its inspections by crops, pesticides, and persons with histories of violations.

A Memorandum of Understanding between the DOA and the DOH authorizes the DOH to deputize DOA personnel when pesticide misuse is suspected or known and misuse has a public health significance. Under the terms of the Memorandum, the DOA must notify the DOH of any complaints or information pertaining to pesticides as they relate to environmental health and the DOH must inform the DOA of any complaints or information relating to pesticide use and possible effects on humans, the environment, and crop, plant, poultry, or livestock products.<sup>32</sup>

The DOA is also responsible for testing for the adulteration of commercial feeds for non-domestic animals. Until 1983 when testing for adulteration began, commercial feeds were chemically analyzed only for guaranteed nutritive values, drug additives, minerals, non-protein nitrogen, and other ingredients. The law was amended to include adulteration testing when it was discovered, during the heptachlor crisis, that no agency was responsible for such testing. Since the sampling procedure for adulteration testing is more complex, such testing occurs every other month with one-half of the samples tested for adulteration.<sup>33</sup>

Under a Memorandum of Agreement in existence since 1965, the Agricultural Biochemistry Laboratory of the College of Tropical Agriculture and Human Resources (CTAHR) analyzes all pesticide samples from market surveillance, field inspections, and complaint investigations for the DOA's pesticide enforcement program as well as the samples taken for the DOA's regulation of animal feed.<sup>34</sup>

The DOA is responsible for providing a certification program for pesticide applicators, but contracts with the Cooperative Extension Service (CES) to provide the formal training. The DOA's pesticide inspectors attend all regularly scheduled certification courses to document attendance and administer exams. The DOA inspectors also conduct special training sessions or hands-on tutorials when a particular problem in the field arises as part of the ongoing pesticide enforcement education program.

Educational programs are offered by the DOA to assist the inspectors in performing their jobs more efficiently. Inspectors are sent to technical workshops on the mainland conducted by the EPA or in-house workshops conducted by the DOA. For example, a political scientist was brought in to provide the inspectors with a social-political perspective of their enforcement role, and a foreign language instructor was brought in to assist them with language barrier problems they encounter in the field with foreign speaking farmers.

The CES conducts the formal classes for the applicator certification training program. The CES offers educational programs to farmers which contain a component on the safe and legal disposal of empty pesticide containers. The CES also provides information to farmers, businesses, agencies, and the public through publications, formal and informal class

instruction, media presentations, farm and firm visits, demonstrations, and trials.

The EPA's evaluations of the pesticides program have been consistently full of praise for the effective and efficient management of the program, excellent analytical support from the CTAHR, high quality of the record keeping and inspections, and aggressiveness of the compliance and enforcement program.

During the Mililani water well contamination incident, the DOA jointly conducted groundwater monitoring with the Drinking Water Section of the DOH and the DOA initiated a soil study to determine the rate of movement and persistence of EDB in soil under local conditions in order to identify the contamination source. While the DOA did not feel at the time that environmental monitoring was within its area of responsibility, it participated because of the importance of obtaining such data and the absence of a clear responsible agency.

The Department of Agricultural Biochemistry and other departments within the CTAHR develop data for establishing tolerances for new pesticides to be used on Hawaii's crops. The CTAHR also conducts laboratory and field studies concerning pesticide efficacy and residue data.

In a cooperative project with the Department of Engineering of the University of Hawaii and the DOA, the WRRRC plans to expand the DOA-initiated water analysis and soil movement study by studying the migration of contaminants in the Pearl Harbor aquifer in order to better understand the geologic mobility of pesticides.<sup>35</sup> As part of its current agreement with the EPA, the Pesticides Hazard Assessment Project (PHAP) at the University of Hawaii has been conducting analysis of drinking water samples taken from specific drill sites for the purpose of developing a methodology for the rapid assessment of the potential for pesticides to move through soils and contaminate the groundwater. While both the WRRRC and the PHAP projects appear duplicative, the former is more involved with the mineralogy of soils and rocks to determine the maximum depth at which perching of pesticides will occur, and the latter concerns theoretical modeling techniques and approaches and their usefulness for long-term assessments for Hawaii.

Research on the human health effects of pesticides has been conducted to a limited extent. Prior to the establishment of the environmental epidemiology program in the DOH, the PHAP was the only active research unit in Hawaii that was conducting environmental epidemiological studies.<sup>36</sup> One of the reasons offered by the DOH for establishing the program in the 1983-84 biennial budget request was that PHAP was in the process of discontinuing most of its work in the area due to an expected decrease in federal funding. The PHAP in 1982 compared levels of heptachlor epoxide in mother's milk after the milk contamination with frozen milk samples obtained prior to the contamination period. Since the pesticide residues did not disappear after the exposure as had been anticipated, the PHAP sought and received funds from the EPA to continue its investigation. The DOH Research and Statistics Office conducted a study on the effects of heptachlor contamination on pregnancy outcomes, collaborated with the DOA in investigating alleged effects of herbicide drift from a golf course, and conducted a collaborative study with several groups on the health effects of a pesticide spill near a

drinking water source.<sup>37</sup> The DOH environmental epidemiology program conducts independent environmental epidemiological investigations in addition to collaborative studies with the Research and Statistics Office.

### Food Tolerance Levels and Inspection

The EPA, as part of the pesticides registration process, requires pesticide manufacturers to submit an acceptable standard for pesticide residues on the agricultural commodities to which the pesticide will be applied. The EPA bases its tolerance levels on research data developed by the manufacturer and recommends to the Federal Food and Drug Administration (FDA) action levels at which enforcement action should be taken.<sup>38</sup> The DOH is empowered to set tolerance levels independently under section 328-13, Hawaii Revised Statutes, but has not yet done so because it lacks the personnel and resources to conduct the health risk assessment studies necessary to produce conclusive findings that can withstand legal challenges. Because such studies involve extensive, long-term research, Hawaii, like many other states, must rely on the EPA's tolerance levels and the FDA's action levels for enforcement purposes.

To be sure, the DOH now has an environmental epidemiology program in place which is capable of making recommendations to the Director of Health with regard to actions concerning substances not regulated by the State or the EPA. The environmental epidemiology program, however, is still in its infancy, with only one epidemiologist on staff who spends most of the time on complaint investigations. Accordingly, the DOH is inclined to continue relying on the standards that have been established at the federal level.

The FDA has no jurisdiction over locally produced and consumed animal feed and milk products in Hawaii, but is responsible for enforcing the federal Food, Drug, and Cosmetic Act, including action levels for pesticides, in all foods moved interstate and imported from foreign countries. Hawaii's FDA office is staffed by three inspectors who collect samples of food products including those food products that do not travel interstate. The FDA routinely routes to the DOH Food Products Section test results received from FDA regional laboratories. If regulatory action is required, the Food Products Section is able to take such action more quickly than the FDA. The U.S. Department of Agriculture enforces tolerance levels for meat, eggs, and poultry products traveling interstate.

At the state level, the Food Products Section of the DOH's Sanitation Branch enforces the FDA's action levels by conducting inspections and collecting samples of food products, usually at the wholesale level. The Food Products Section also collects samples of milk and milk products from milk processors. While federal regulations govern the frequency of taking milk samples, there exists no regular schedule of inspection or sample collection for other foods. As a result of public concern during and after the heptachlor crisis, the frequency of testing milk for adulteration was increased from a semiannual to a monthly basis.

The DOH Laboratories Branch conducts chemical and microbiological analyses of such samples. When levels of chemicals are found at or above the FDA's action level, the DOH is empowered to remove the contaminated food

from the food chain. The DOA's Meat Inspection Branch inspects locally produced and consumed meat, eggs, and poultry products while the DOA's Commodities Branch enforces tolerance levels for animal feed.

During the heptachlor contamination period when the contamination of wild birds and game was suspected, the DLNR tested for pesticide residues in deer meat and game birds with analytical assistance from the CTAHR. The DOH was consulted as to the field measures necessary to prevent future contamination.

## Noise

Excessive noise standards are established by rules of the DOH to control vehicular noise and other noises in the community. Presently, the community noise program administered by the DOH Noise and Radiation Branch applies only to the island of Oahu. The enforcement responsibility for the program is shared between the DOH and the Honolulu Police Department. The noise program's permit system controls the amount, duration, and intensity of noise produced by certain activities such as construction. The City and County of Honolulu's Comprehensive Zoning Code also contains noise limitations according to zoning districts; however, the city's enforcement efforts depend to a large extent on the State's noise program inspectors to record noise levels for regulatory action. Noise standards in the workplace are set and enforced by the Division of Occupational Safety and Health in the Department of Labor and Industrial Relations.<sup>39</sup>

## Litter

The DOH Office of Litter Control promotes, coordinates, and implements the litter control program in the State. The office serves as the coordinator for state agencies, local governments, and various organizations in the anti-litter effort. Unlike the other EPHSD units which perform regulatory functions, the Office primarily engages in promotional work to encourage voluntary cooperation and conducts educational programs to instill the anti-litter ethic. There is very little contact, if any, with other branches or offices in the EPHSD in the administration of the litter program.

## Radiation

Although Hawaii does not have primary responsibility for radiation control, the DOH Noise and Radiation Branch maintains a radiation control program which requires the registration of all radioactive materials used in the State, regardless of whether such materials are required to be licensed by the U.S. Nuclear Regulatory Commission. In order to monitor the public's exposure to radioactive substances the Branch conducts use inspections. As part of a national environmental radiation monitoring system, the Branch collects samples of air, drinking water, and milk which are sent to an EPA laboratory for analysis. The Branch also services public complaints about nonionizing radiation, i.e., exposure to microwaves and radio frequency waves, and contacts the EPA if studies are needed.

## Environmental Impact Statements

Hawaii's Environmental Impact Statement (EIS) law was not enacted until 1974; however, as a result of the enactment of the National Environmental Policy Act, the Governor issued an executive order in 1971 requiring state agencies to prepare environmental impact statements for actions involving state lands or state funds.<sup>40</sup> The Office of Environmental Quality Control (OEQC) was designated in the Executive Order as the agency responsible for the administration of the EIS system. When the EIS law was enacted in 1974, a new body, the Environmental Quality Commission (EQC) consisting of representatives from various environmental, industry, and scholarly interests, was designated as the administrative body for the implementation of the system.

The EIS law encompasses far more than proposed developments involving state or county funds or state or county lands as it includes projects proposed by private parties in certain sensitive areas of the State or involving certain changes in land use plans.<sup>41</sup> Under the law, any state or county agency proposing a project, or granting permit approval of an applicant's project, first must determine whether the proposed project would have a significant impact on the environment. The agency then issues either a negative declaration stating that an EIS is not required, or a finding that an EIS is required. If an EIS is required, the agency or the applicant must prepare a statement which discloses certain information.<sup>42</sup> The EIS is made available for public review and comment and the preparer is required to respond in writing to all public comments. After the public review period, the governor, or mayor if the action involves county land or funds, accepts the statement. Statements for private actions are accepted by the agency which first received the permit application and determined that a statement was necessary. While acceptance of an EIS does not mean approval of the project, it indicates that the agency or applicant has adequately disclosed the necessary information and complied with procedural requirements. Such formal acceptance is required before the project may proceed.

The OEQC's role in the EIS process is to publish a periodic bulletin listing various agencies' determinations of the need for an EIS, the availability of EISs for public review and comment, and the acceptance or nonacceptance of statements. The OEQC also reviews individual EISs to determine whether they adequately disclose the necessary information and accepts statements on the Governor's behalf. The Environmental Council adopts administrative rules on procedural matters, hears appeals of nonacceptance of statements, and in cases involving two or more agencies where there is a question of responsibility of preparing the EIS, the OEQC determines which agency is responsible.



## Chapter 6

### PROBLEMS IN THE CURRENT SYSTEM

Before the merits of reorganization can be discussed, the problems with the current system must be identified and assessed. House Concurrent Resolution No. 78 and Senate Concurrent Resolution No. 35 allude to a need to coordinate and reorganize the state environmental monitoring and risk assessment functions in order to cope with present and future dangers to the public of contaminants in the environment. While not mentioned in the resolutions, this call for coordination and reorganization is assumed to have arisen from the problems which surfaced between the Department of Health, the Department of Agriculture, the Honolulu Board of Water Supply, and the University of Hawaii research agencies during the heptachlor and Mililani water well contamination crises. To identify and assess the problems in the current system, the LRB relied on the candid opinions of the various persons interviewed who are or had been directly involved in the administration of the State's pollution control programs.

In addition to interviewing administrators in various pollution control programs, the LRB polled the agencies to ascertain the magnitude of the coordination problem and the existence of other problems in the system.<sup>1</sup> While the agencies had differing views on all the problems, most agreed that inadequate funding for monitoring and research was a problem and that the lack of state funds or competing budget interests was the primary cause. While a few felt that there was confusion as to a clear lead agency, coordination was not considered a major problem in the system today (see Table 1 for a summary of agency responses). It should be noted that most agencies felt that many coordination problems of the past have already been adequately addressed by improved communications and clarification of responsibilities between agencies. This chapter discusses the LRB's findings.

#### 1. Low Priority of Environmental Policies; Lack of Environmental Consciousness

The gravest problem with Hawaii's pollution control programs, which is the root of the other problems, is the lack of commitment to the environmental policies stated in various Hawaii laws. A 1978 amendment to the Constitution of the State of Hawaii provides residents with "the right to a clean and healthful environment, as defined by laws relating to environmental quality, including control of pollution and conservation, protection and enhancement of natural resources."<sup>2</sup> Hawaii's Environmental Policy Act requires the consideration of environmental impacts in government decision making as does Hawaii's environmental impact statement law.<sup>3</sup> These environmental policies are often ignored, however, in the pursuit of other statewide goals articulated in the Constitution and state law.

The Hawaii State Planning Act, chapter 226, Hawaii Revised Statutes, was intended to provide an orderly basis for decision making among conflicting objectives, yet the Act has possibly added more confusion by articulating objectives in virtually every area of government programs, without a prioritization among objectives. More specifically, the overall goals to achieve (1) a strong, viable economy, (2) a desired physical environment,

Table 1

# OPINIONS OF STATE ENVIRONMENTAL AGENCIES ON THE CURRENT SYSTEM\*

## 1. Problems in the System

Inadequate or incoherent overall state policy for environmental protection (inadequate implementation of policy was considered a major problem) .....	4
Absence of a mechanism to resolve conflicts between different departments' activities affecting the environment .....	5
Inadequate funding for monitoring .....	7
Inadequate funding for research .....	7
Duplication of effort (respondents were generally more concerned about the gaps in coverage rather than duplication) .....	3
Absence of clear lead agency or action plan during emergency situations (one respondent noted that there is need for a clear lead agency for day-to-day operations; another noted need for clear authority for prevention purposes) .....	6
Inadequate gubernatorial support .....	3
Inadequate legislative support (one respondent specified inadequacy in the area of preventive efforts) .....	4
Other:	
Cronyism and incompetence .....	1
Problems magnified out of proportion .....	1
Inadequate planning to get most of monitoring; lack of coordinated effort .....	1

## 2. Reason for Problems

Lack of state funds; competing budget interests .....	4
Goal conflicts .....	1
Lack of candor and inadequate communication between agencies and with public; reluctance of agencies to overstep each other .....	2
Programs scattered; no clear direction .....	3
Inadequate public education regarding contamination and risks .....	1
Lack of qualified personnel; state agencies not abreast with state-of-the-art .....	3
Inadequate equipment .....	1

## 3. Would a separate department or agency improve conditions?

Yes 5

No 5

\*The agencies polled were: Department of Health, Department of Agriculture, Office of Environmental Quality Control, Environmental Council, Environmental Center, College of Tropical Agriculture and Human Resources, Pesticide Hazard Assessment Project, Water Resources Research Center, School of Public Health, and the School of Medicine.

and (3) physical, social, and economic well-being are inarguably desirable, but in practice one goal must often be compromised to realize another. Decision makers can conveniently pick and choose among the different state plan objectives to justify any decision with a battery of goals from one particular area of the plan.

If there is an official prioritization of state policies, it is usually found in the Governor's State-of-the-State Message or in legislative program statements. During the past decade, the Executive Branch and the Legislature have repeatedly emphasized the importance of economic development by placing the goal to achieve a strong, viable economy over the others. Thus, while environmental protection is often expressed as part of state policy, its implementation is usually perfunctory, at best. Funding support is minimal except during crisis situations.

The primary reason for this lack of commitment to implement environmental goals is that such goals are not glamorous like those to encourage geothermal and high technology developments; nor are they immediately critical to the public such as those to increase job opportunities or to deliver public health care services. Hawaii has been fortunate in that it has not experienced the catastrophic contamination problems of other states; therefore, the thrust of Hawaii's environmental health program is preventive rather than remedial. Preventive programs, unfortunately, are not visible to the general public and, as such, they lack lobbying support. Pollution control program administrators have had difficulty in recent years garnering support to bolster their program capabilities in view of anticipated contamination problems in the future. Most people are oblivious to pollution control programs until a pollution problem directly affects them. Only when a crisis occurs, such as the heptachlor and Mililani water well contamination incidents, is there any real concern and support for pollution control programs. Unless there is widespread public concern, those in a position to do so generally will not actively promote a program.

The lack of commitment to implement environmental goals has resulted in another problem...the absence of an environmental consciousness in decision makers. While a decision maker will automatically consider the economic impacts of a pending decision, this is not the case for environmental impacts. For example, when the Environmental Protection Agency (EPA) proposed the banning of ethylene dibromide (EDB) for agricultural use, the Governor wrote a letter on behalf of the Pineapple Grower's Association of Hawaii urging the EPA not to cancel the pesticide's registration for agricultural use in Hawaii because of the importance of the ailing pineapple industry to Hawaii's economy.<sup>4</sup> This letter was apparently written without considering the effects on human health, despite the fact that the DOH was then embroiled in EDB-contaminated water problems. It may not have occurred to the Governor that the Director of Health should be consulted on the matter since the primary concern was to assist the pineapple industry. The Legislature is similarly lacking in environmental consciousness when considering economic development issues. Unless decision makers develop an environmental consciousness, environmental goals will continue to be sacrificed, whether intentionally or not, for economic development goals.

It was intended that the Office of Environmental Quality Control, the Environmental Council, and the Environmental Center would stimulate and

expand environmental efforts, generate public awareness, and develop an environmental consciousness in this State, but since their efforts have been directed primarily to the implementation of the EIS law, there has been a void in this area. In fairness to these agencies, it should be noted that resource problems have forced them to concentrate on those functions, like the EIS process, that are clearly mandated by law.

The DOH has been criticized for its nonaggressive and reactive approach in administering pollution control programs. While this criticism may be too harsh, the LRB believes that the lack of commitment to environmental objectives at the executive and legislative levels has contributed to a "relaxed attitude" on the part of the DOH's environmental program staff. For many years, the Governor has maintained a spending policy which encourages spending only to maintain current services and discourages new program expenditures. As a result of this policy, there is an attitude prevalent among government administrators that they must make do with existing resources and that it is an exercise in futility to seek program expansion funds because the request will not pass muster with the Department of Budget and Finance.

Unfortunately, some administrators of pollution control programs use this spending policy to rationalize the "status quo" posture of their programs. There is no motivation to improve program implementation or to aspire after the environmental objective of the State Planning Act. This kind of attitude has permeated the program levels to the extent that regulatory programs are planned according to how much money is available rather than what is required to protect the public health. Program administrators argue over responsibility for performing particular functions because of funding problems and in the process appear to lose sight of their primary mission to protect the public health. If the environmental administrators cannot communicate to the public and the policymakers the importance and urgency of developing pollution control programs to prevent crises, the battle is lost before it is even fought.

## **2. Lack of Statewide Planning and Coordination**

Agencies at all three levels of government perform environmental protection functions and it is difficult to coordinate the activities of all three levels since the programs operate under different authorities and with different objectives. To make matters worse, there is no lead agency or coordinating mechanism with sufficient authority for the integrated implementation of pollution control programs in this State.

There is no comprehensive functional plan for pollution control. Pollution control programs are covered under the State Health Plan through broad descriptions of environmental health programs and similarly broad objectives. The objectives, however, are based on little more than maintaining the status quo of programs administered by the EPHSD. The Plan does not provide for priority direction and leadership responsibility for matters involving more than one agency, nor does it adequately recognize potential conflicts with other agencies in the environmental programs area.

Minimal basic planning and coordination activities for the DOH's pollution control programs are carried out by one planner who reports to the Deputy Director and is responsible for the federally-funded pollution control programs and another planner who reports to the Division Chief and is responsible for the state-funded programs. The federal programs planner coordinates the DOH's activities with other government agencies as necessary to carry out the EPA/State agreement and work plans. The state-funded planner coordinates the DOH's activities with other government agencies in the review of EISs and other land-use related permits requiring the DOH's review and in state programs involving other state or county agencies, such as sewage treatment. The planning and coordination activities of these two planners, however, are primarily project specific at the operations level. What seems to be lacking is a broader-based multidisciplinary planning and coordinating capability that would enable the DOH to assume a more informed and aggressive leadership role in interconnecting pollution control and related programs at the policy level.

A previous Deputy Director, citing an EPA recommendation to expand the planning office, attempted, unsuccessfully, to establish an environmental programs planning and development office attached to the Deputy Director's Office.<sup>5</sup> The reorganization proposal intended to develop or seek out multidisciplinary professionals to augment the existing staff and to establish a strong coordination element to direct the individual programs and to utilize expertise in the development of relevant and effective solutions. The rationale for the proposal was that:<sup>6</sup>

Problems and solutions have become so complex that the [EPHSD] organizational structure is unable to respond to program needs in a timely and professional manner. Moreover, the professional competence and expertise of the staff within the organization become quickly outdated and irrelevant to the changing times.

The heptachlor and Mililani water well contamination crises revealed the need for a better coordination of public information dissemination, especially during emergency situations. The Environmental Council noted the following in its 1983 report:<sup>7</sup>

There is a need for a coordinated process to disseminate information to the public in crisis times without causing public panic or doubt which can result from official news releases of different agencies.... A uniform public information system should be set up for each state agency to preclude a lack of coordinated responses. Along with an information dissemination procedure, there is a need to establish a process whereby the public can express its concerns in crucial times without setting up major public meetings.... There is a need for more education on the public's part about risk assessment and decision making....

Under the current organizational structure, the interagency planning and coordination function would appear to be the responsibility of the Office of Environmental Quality Control (OEQC) since the OEQC was established as a planning and coordinating agency for statewide environmental matters. A 1979 report by the legislative auditor found that "OEQC has not adequately coordinated, stimulated, and expanded the efforts of state agencies to

maintain environmental quality".<sup>8</sup> This finding still applies in 1984, as the OEQC's Director admits that the OEQC has concentrated its efforts on administering the EIS system rather than other functions because of position vacancies, inadequate funding, and unclear statutory authority.<sup>9</sup> Several persons interviewed have noted that if the OEQC were operating as the law intended, the OEQC would have been the appropriate entity to bring different parties together during the milk and water contamination crises to discuss joint remedial action, and there would be no need for a structural reorganization. The OEQC has noted, however, that unless funds are provided, it could not, with its present staff and budget, perform such coordination functions.

An encouraging sign is that the OEQC in November, 1983, made an effort to broaden its role by co-sponsoring a conference with the DOH and the Hawaii Public Health Association on "Environmental Risk Assessment and Its Implications on Public Policy" to provide a much needed forum for Hawaii's agencies. In addition, new found recognition of the OEQC's coordinating potential is apparent as the 1984 Legislature delegated to the OEQC the responsibility of coordinating the establishment of an integrated statewide pesticide policy with appropriate funding. Included in the law delegating this responsibility to the OEQC were specific mandates and authorizations for the OEQC to effectively carry out its new responsibility.<sup>10</sup> While this additional responsibility delegated to the OEQC appears to be the kind of impetus needed to proceed with integrated program planning in environmental protection, the OEQC was given only one year (July 1, 1984 to June 30, 1985) to accomplish its complex tasks and its work was delayed until November due to problems concerning the release of funds and the Governor's appointment of members to the technical advisory committee. At the time of this writing, the Bureau could not ascertain the effectiveness of the OEQC in carrying out its new responsibilities.

Another statewide coordination problem concerns the administration of the EIS system. In 1979, a Legislative Auditor's report criticized the administration of the EIS system, accused the OEQC of usurping the powers of the Environmental Quality Commission, and recommended that the Commission be given its own staff independent of the OEQC. Subsequently, in 1983, the Commission merged with the Environmental Council and the responsibility for implementing the EIS program was split between the OEQC and the new Environmental Council. While there is less confusion with two rather than three bodies, problems still exist because the various permit functions are so decentralized. For the past several years, the Governor's Inter-Governmental Task Force for Permit Simplification has been attempting to streamline the development permit system. Among the recommendations of the Task Force is the establishment of a state environmental lead agency responsible for determining the need for EISs and accepting EISs.<sup>11</sup> Under the present system, the agency first receiving a permit application determines whether an EIS is required but this procedure has resulted in inconsistent handling of permit requests. The OEQC and a working committee of the Task Force are examining the EIS process and exploring the feasibility of establishing a lead environmental agency to determine the need for EISs on behalf of other state agencies.

### 3. Inadequate Resources

Inadequate staffing and funding is a frequent complaint of government program administrators and the environmental area is no exception. Federal funds for environmental programs have dropped dramatically in recent years and the State, faced with its own fiscal problems, often has had to fund the shortfall.

The Director of OEQC faults inadequate personnel and financial resources for its failure to engage in interagency coordination and public education programs. The OEQC received significant state funds for research during the 1970s, but the Director claims these funds are no longer available.

Perhaps the most evident problem area is the DOH laboratory resources. During the pesticide contamination incidents the DOH laboratory appeared inadequate for the necessary analysis. Inadequate personnel resources and insufficient glassware limited the number of samples which could be analyzed such that the milk from all dairies could not be tested simultaneously. In addition, the necessity of sending samples to other laboratories<sup>12</sup> before taking official action as in the heptachlor incident or for confirmation of the DOH findings by laboratories with more sensitive equipment raised questions as to the adequacy of the DOH laboratory.

A few university scientists interviewed noted that the DOH laboratory lacked the capability of other laboratories in the State, both in professional expertise and analytical equipment. In response to such criticism, DOH laboratory administrators admitted that entry-level chemists were too inexperienced to perform regulatory laboratory work which is highly stressful since enforcement decisions are based on the analysis. The administrators also noted the difficulty in attracting experienced chemists since the compensation rate of the DOH chemists is the same as that of chemists at the Honolulu Board of Water Supply (BWS)<sup>13</sup> who do not have the same stressful regulatory responsibilities.

As to the equipment, the DOH reported that with the recent addition of two major pieces of equipment within the past year, its laboratory is now adequately equipped. However, several DOH program administrators noted that the DOH laboratory was established at the current site in 1960 on a temporary basis until a complete laboratory facility could be built. Since the facility was intended for use as office space, its cramped layout hinders efficient laboratory analysis.

The 1982 Legislature authorized three new positions for the Laboratories Branch for the pesticide in food project to upgrade services and meet the increased demands for pesticide analysis of milk and other food products.<sup>14</sup> The DOH request for conversion of these positions to permanent status for the 1983-85 biennium was denied by the Legislature, and the program continues on a temporary basis.

Although the EPHSD program administrators view staff training as essential, travel funds to send program staff to out-of-state training courses sponsored by the EPA and the Food and Drug Administration are among the first items that suffer from state budget cuts.

The drinking water and food inspection program supervisors indicated that they have made repeated requests to the Division for additional staff positions. The drinking water program's staff problems are discussed in a later section. Food sampling for adulteration does not occur on a regular basis and the adequacy of the sampling frequency is questionable. For example, when local watercress was found to be contaminated by a pesticide in October 1982, the DOH revealed that watercress and other vegetables had not been checked for pesticides for at least a year, due in large part to the resources devoted to milk sampling for heptachlor.<sup>15</sup> The 1982 milk contamination incident was not solely to be blamed for the apparent neglect of other food products, however, as only 52 fresh vegetable samples were taken for pesticide analysis in 1980. Food inspection is limited further by the funds available to pay for samples taken for analysis. According to the Food Products Section, the budget for food samples is approximately \$1,200 a year.

The environmental planner has also requested assistance in fulfilling the EPHSD's planning and coordination activities but has received no assistance.

The DOA pesticides program faces resource limitations as well although these have been eased to some degree by the 1984 Legislature's authorization of four additional inspectors for the program. Because the program must regulate dealers, process pesticide registrations, and monitor ports of entry as well as monitor applications in the field, the DOA estimates that on a random basis, the average user will be inspected only once in 15 years.

#### 4. Difficulty in Regulatory Decision Making

The public lacks confidence in some of the decisions made in the pollution control area primarily because it is not aware of the procedures regulatory agencies must follow before taking action and the difficulty in obtaining reliable scientific data.

The DOH has been criticized by some university scientists for not using state-of-the-art methodology and for being overly cautious and taking too much time in arriving at decisions concerning human health risks. In its defense, the DOH maintains that regulatory actions must be based on sound and proven methodology in order to withstand court action. According to the DOH Laboratories Branch Acting Chief, since it takes many years to establish reliable analytical methods for regulatory purposes, the methods employed by regulatory bodies like the DOH are not always state-of-the-art like those used for research purposes. Moreover, to ensure a sound basis for a decision, regulatory agencies usually must seek confirmation of unusual findings by other regulatory laboratories.

Another problem is that obtaining the data for a health risk assessment requires years of research and there is little information available on the human health effects of environmental conditions or specific contaminants, in Hawaii as well as nationwide. The DOH like many state agencies relies on the EPA to provide such information because states usually do not have the long-term research capabilities of the federal government. Recently, however, EPA has trailed behind some states in establishing environmental standards or tolerance levels for contaminants, and the DOH is concerned about the EPA's shortcomings.



During the heptachlor and water contamination incidents beginning in 1982, the DOH, in need of technical information on which to base regulatory action, realized that the necessary information and advice were not readily available through the EPA. The DOH sought the advice of Hawaii's medical community and scientists, but there was great disagreement on what constituted dangerous levels of heptachlor epoxide in milk for what subgroups of the population, and the long-term health effects of exposure. There were data from tests on laboratory animals but no data on humans to guide those advising the public. The only existing numerical guideline was the FDA's action level which determined when regulatory action could be taken for milk traveling interstate. The DOH had a firm basis for removing milk from grocery shelves but much less justification for assuring nursing mothers that their milk was safe. Indeed, the EPA's heptachlor action level assessment rendered on September 10, 1982 warned that there may be subchronic risks of liver damage because of the 17-month exposure period.<sup>16</sup>

Similarly, the EPA provided the State with available studies but would not offer advice on safe levels of dibromochloropropane (DBCP), ethylene dibromide (EDB), and trichloropropane (TCP) in drinking water. A health risk subcommittee of the Governor's Task Force on Water Contamination reviewed the available studies on laboratory animals and subsequently made recommendations to the EPA on acceptable levels of DBCP and EDB. However, the subcommittee found no information on the health effects of TCP except for a Russian study which had not been translated. Despite the fact that the DOH closed some wells having contaminant levels above that which DOH considered acceptable, the DOH does not feel confident about using the same levels as enforceable standards until the EPA establishes national standards. The difficulty in relying on the EPA, aside from the delays, is that EPA may decide against establishing standards if it feels that the contaminants found in Hawaii do not warrant the establishment of national standards.

Hawaii's situation is further complicated by the fact that there are few, if any, environmental epidemiologists and toxicologists in the State who can perform the needed analysis. The DOH's environmental epidemiologist noted that California is able to conduct various advanced studies because its program has a staff of about 100 environmental epidemiologists.

Another factor contributing to the difficulty in obtaining information on which to make regulatory decisions is that today's laboratory equipment is more sensitive and can detect extremely low levels of contaminants, i.e., in parts per billion and per trillion, but cannot effectively identify and quantify substances at such low levels. Moreover, it is difficult to make conclusive findings in health risk studies when the contamination levels are so low. Unlike other states, Hawaii's contamination levels are usually very low and, therefore, even more difficult to assess.

Even if Hawaii had the best research and technological resources, it would still be difficult to make decisions on the long-term health effects of contaminants. Richard Pratt, a political scientist at the University of Hawaii pointed out that:<sup>17</sup>

...Hawaii's milk episode is illustrative of a pattern emerging to define the relationship between science, policy and politics....

The point is not that health science has nothing to offer or that...some progress is not being made in understanding the connection between environment and chronic disease.

But it is to note that what its practitioners can say relative to the requirements of policy formation and implementation often is very limited. With a little careful listening between the lines it is not hard to hear the competent and conscientious researcher declaring "I don't know", while other institutional voices argue compellingly that something else must be said.

Pratt also explained that "Those who wait for advice should understand the difficulties in formulating it and consequently the degree to which subsequent policy is or is not informed by something other than bureaucratic predispositions, interest group lobbying, or someone's best guess about what sort of action is most likely to reduce active protest from affected parties."<sup>18</sup>

## 5. Problems in the EPHSD

**Relationships with other agencies** - Since the EPHSD is responsible for most of the State's pollution control programs, it is incumbent on the EPHSD to initiate and maintain cooperative relationships with other agencies to ensure that pollution control programs are implemented effectively. Unfortunately, the EPHSD is not aggressive enough in this area. Communications between the DOH and the DOA, criticized during the heptachlor and water well contamination crises, have improved; however, both departments acknowledge that more improvement is needed. The relationship between the Pesticides Branch and the Drinking Water Section is reportedly very good, but the Food Products Section reports that it does not receive sufficient information on pesticide use practices from the DOA to establish food inspection priorities. Moreover, communication between the Deputy Director for Environmental Health and the DOA Deputy, the primary link between the two departments, is far from ideal as the DOA has reported not always being notified by the DOH of pesticide-related health incidents. While the Deputy Director for Environmental Health did not intend to withhold information from the DOA Deputy as it was assumed that the DOA inspectors at the field level would notify their superiors, the formality of the communication between deputies should not have been neglected.

The Memorandum of Agreement (MOU) and Milk Action Plan have been widely presented as evidence of the cooperative relationship between the two departments. In practice, neither department seems to take the documents seriously. The Drinking Water and Food Products Sections reported to the LRB staff that they were not aware of the MOU and the deputies of both departments could not produce the final signed agreement upon the Bureau's inquiry. These documents are useless if they are only symbolic resolutions ignored and forgotten after they are signed.

Communication between DOH and the Department of Land and Natural Resources (DLNR) occurs primarily at the staff level, but coordination and cooperation appear lacking as there are frequent conflicts that often go unresolved. The DLNR customarily routes to the DOH Drinking Water Section copies of well drilling permits issued by DLNR; however, the DLNR does not

always notify the DOH when the DLNR itself is drilling the well. This has resulted in several instances of questionable well sitings, including a Maui well sited below the underground injection control line established to protect drinking water sources from contamination by underground waste injections; a well near a Mililani banana patch with a high probability of heavy pesticide use; a well in Honokaa below the hospital's cesspool; and a well in Makakilo next to a sewage treatment plant.<sup>19</sup> In addition, during the development of the administrative rules for the underground injection control program, the DOH received strong opposition from the DLNR regarding the proposed sections on geothermal development. Because of the opposition, the adoption of the rules was delayed until the DOH finally agreed that the rules would not apply to geothermal development unless specific provisions were later developed.<sup>20</sup>

There is great need to improve the DOH's relationship with the University of Hawaii research units if the EPHSD intends to benefit from the research expertise at the University and to avoid conflicting statements made to the media regarding the applicability of research data to its decisions for regulatory actions. There seems to be a mutual lack of understanding of what the regulatory agencies and the research units do and how they can work together. The EPHSD should take a more aggressive role in improving relationships and establishing a cooperative atmosphere, especially since it is doubtful that the EPA can be depended on for data applicable to Hawaii.

**Lack of Divisionwide Goals and Leadership** - Notwithstanding the limitations imposed by federal program mandates, the EPHSD does not have a clearly articulated divisionwide mission statement which outlines state goals, objectives, and priorities. This has contributed to the existence of programs that are narrowly focused and administered in a compartmentalized manner rather than as part of an integrated system of environmental protection. There is a tendency to "pass the buck" between branches and other government agencies, and a lack of cooperative spirit among elements that must cooperate.

The absence of an articulated divisionwide plan would not be a problem if there was strong leadership from the Deputy Director or the Division Chief. This, however, does not appear to be the case as many persons interviewed both inside and outside the DOH reported that there is minimal and perfunctory communication between the Deputy Director or Division Chief and the branch chiefs. The branches, and even some sections, operate quite independently of higher level direction, making decisions which are usually rubber stamped by the Deputy Director or Division Chief. At other times, when a branch chief is unwilling to make a decision without guidance from a higher level, an issue may go unresolved.

The physical separation of different branches in the EPHSD and the Division Chief and Deputy Director has some effect on the flow of information on day-to-day activities and problems. Although the Deputy Director, Division Chief, and some branch chiefs do not believe the separation is a problem, the LRB feels that the separation fosters independent branch operations and weakens control from the Division level.

Some of the persons interviewed believe that the EPHSD's organization partly by program and partly by function provides less accountability than if

the division were organized purely by program area. For example, sewers are handled to some extent by the Environmental Permits Branch, Pollution Investigation and Enforcement Branch, Wastewater Treatment Construction Grants Branch, and the Sanitation Branch. If the EPHSD had a divisionwide plan which clearly defines the responsibilities of the different branches in a particular area and if the branch chiefs communicated effectively and worked cooperatively, the current organizational structure would not be a problem. Unfortunately, this has not always been the case.

The lack of divisionwide goals and forceful leadership contributes to the EPHSD's inability to develop an appropriate organizational structure to handle its programs. Over the past decade, the EPHSD has proposed numerous reorganizations of the Division, but most of the proposals approved were piecemeal changes due to federal requirements for grant funds. While the LRB believes, as will be discussed later in this chapter, that the Department of Budget and Finance (B&F) has hindered program reorganization attempts, the EPHSD does not seem aggressive enough in seeking the B&F's approval of reorganizations that have divisionwide impact. The Food and Drug Branch reorganization effort is a good case in point. Initially, the reorganization proposal involved the abolishment of the Food and Drug Branch and the establishment of a Food Products Section in the Sanitation Branch and an Office of Narcotics within the EPHSD. The proposal also sought to move the Drinking Water Section to the Environmental Permits Branch because "...to merely place the Food and Drug Section in the Sanitation Branch without moving the Drinking Water Program would overtax the administrative capability of the Chief Sanitarian."<sup>21</sup> The underlying reason for the proposed reorganization was to "...create a more effective and efficient organization by combining similar functions and disciplines into the same organizational units."<sup>22</sup> The EPHSD also noted that "While the immediate goal of this proposed reorganization is to strengthen the Food and Drug Program within the State by reducing responsibilities and, in effect, increasing the available manpower, it is recognized that to do a patchwork reorganization is worse than no reorganization."<sup>23</sup>

Interestingly, when the Department of Budget and Finance rejected the move of the Drinking Water Section, the EPHSD still proceeded with the Food and Drug Section change, despite its concern about the Sanitation Branch becoming too large, despite its strong reasons for moving the Drinking Water Section, and despite its plan for a more effective and efficient organization. The piecemeal change has led to more problems. The Food Products Section operates as if it was still a branch since the size of the Sanitation Branch makes it difficult for the Chief Sanitarian to provide the needed attention. This is particularly noteworthy when it is remembered that the two EPHSD programs subjected to the most stress in recent years were the drinking water and food inspection programs, both under the Sanitation Branch. The Food Products Section staff also has a problem with low morale because the reorganization ostensibly to strengthen the program has deemphasized the program.

In light of the above, the LRB cannot understand the reasoning behind the decision to proceed with the partial reorganization.

**Drinking Water Program** - Another problem in the EPHSD concerns the Drinking Water Section. The Drinking Water Section operates much like a

branch in administering the drinking water program since its program is distinct from the other sanitation programs. Since 1980, the EPA's semiannual program evaluations have recommended that the section be upgraded to branch status, noting that section status is inappropriate for a high visibility program with frequent need to take emergency action. The EPA's Mid-Year Evaluation for FY 1982 noted:<sup>24</sup>

The [program] is still organized as a section on an interim basis under the Sanitation Branch. When first developed in 1977, the [program] was organized as a section to provide initial administrative structure and direction since it was not clear how the program would develop. Since then, the program has been delegated and developed into a program of statewide presence.

Despite such recommendations from the EPA, the EPHSD has never attempted to convert the program to branch status and the EPHSD was vague and evasive as to the reasons why.

The Section's nine positions include four permanent state-funded positions and five temporary federally-funded positions, a curious situation for an apparently well-established, permanent program with statewide responsibilities. Except for the Wastewater Treatment Works Construction Grants program, which by nature is not a permanent program, most of the positions in the major pollution control program areas, over a period of time, have been converted to state-funded, permanent positions. Other federally-funded positions in the EPHSD are of permanent rather than temporary status.

The Section has a high turnover rate and a chronic vacancy problem which are attributable to the difficulty of finding employees to take temporary positions. The vacancies in the program have not only overburdened the current staff but also have resulted in the loss of federal funds.<sup>25</sup> The temporary status of federally-funded positions in the Drinking Water Section apparently stems from a lack of Division support to convert them to permanent status. Despite the inclusion of statements in annual work plans agreed upon between the EPA Region IX and the DOH that the DOH will seek conversion of the temporary positions to permanent status, the DOH has not requested such conversion through the executive budget process. The EPA's Mid-Year Evaluation for FY 1983 noted the following:<sup>26</sup>

The program called for the Health Department to petition the 1983 legislature for four permanent Federally-funded positions. This was not done. It was explained that until the existing temporary positions are filled, the legislature would not consider creating additional permanent positions.

The basis for this statement of legislative policy is questionable as the DOH has not yet requested the permanent positions. A 1983 request by the Drinking Water Section supervisor to petition the 1984 Legislature to convert six positions to permanent status was dismissed at the Division level on the grounds that "...the guidelines for the Supplemental Budget preclude requesting position count, changes in funding or other action relating to the situation in the Drinking Water Program."<sup>27</sup> The Director of Finance, on the other hand, has stated that despite budget constraints, the Department of

Budget and Finance will consider requests by departments on a case-by-case basis and that it does not have a policy which would preclude such departmental requests.<sup>28</sup> Although the request for conversion of the Drinking Water Section positions was not pursued by the EPHSD, the EPHSD included in the 1983-85 Executive Budget a request to convert to permanent status the four temporary positions in the highly visible Litter Control Program. The request, however, was denied by the Legislature.

The LRB cannot help but conclude that personality conflicts are the cause of problems in the Drinking Water program. The LRB is concerned that with the protection of drinking water from contamination being a major environmental issue for this decade, if the internal arguing continues, this State may find itself without the appropriate personnel and resources to address problems that may arise.

## **6. Inadequate Support from Staff Agencies**

Section 26-38, Hawaii Revised Statutes, authorizes the Director of Health, with the Governor's approval, "to establish or abolish...any division or other administrative unit to achieve economy and efficiency and in accord with sound administrative principles and practices and procedures." In practice, reorganizations are governed by Administrative Directive No. 78-4, as amended, and involve review by the Department of Budget and Finance (B&F) as well as by the unions whose members are involved in the proposed reorganizations. Over the past ten years, the EPHSD has proposed several internal reorganizations intended to allow the Division to more effectively carry out its duties, many of which were disapproved by the B&F. Much of the discussion between the different groups is unrecorded and the DOH files do not clearly show the rationale for the B&F's final disposition of the reorganization requests.

A DOH status report to the EPA dated April 15, 1981 noted that:<sup>29</sup>

The activity to reorganize the Division has met very limited success. While several minor reorganizations have been approved, the major changes have met serious roadblocks. Although the detailed criteria for organization is not documented, there are certain general rules imposed upon organization structure by the Department of Budget and Finance in their [sic] role of implementing the Governor's Executive Directive on the subject. The general rules that affect the reorganization of the environmental programs are related to the number of sections in a branch and the number of personnel in a section. For example, the attempts to elevate the construction grants unit to a branch would result in a branch of seven personnel consisting of two sections of three each. This is not acceptable by Budget & Finance. The implementation of ad hoc organizations is not allowed by the Executive Directive and due to bargaining unit considerations. DOH is continuing to address the problem of organization but cannot predict when this problem will be resolved.

According to the Director of Finance, each reorganization request must be weighed on its own merits. The B&F has no written guidelines for

ascertaining whether or not a proposal is sound. If no written guidelines exist and there is no record of the discussions between the B&F and the requesting department, a budget analyst can effectively block a reorganization proposal without proper consideration of its merits. Moreover, rather than limiting the review to management considerations, the B&F's analysts can make programmatic judgments for which they may not be qualified.

The reorganization approval process was also the cause of an unnecessary delay in filling the DOA's four pesticide inspector positions authorized by the Legislature for fiscal year 1984-85. Under the process, the B&F requires departments to submit a reorganization request whenever new positions are added. As of August 30, 1984, the DOA could not fill the urgently needed positions because B&F demanded that the DOA justify the positions with statistical data despite the fact that the positions had already been justified through the executive budget process the year before.

Another example of staff agency problems concerns the Department of Personnel Services (DPS) which appears to take a long time in reviewing requests for establishing new positions. The Director of Health reported personally requesting the Director of Personnel Services to expedite position reclassifications, but with no success. While the Director of Personnel Services was sympathetic and accommodating, the problem lay in the bureaucratic operation of the system. The DPS classification system is viewed as unreasonably inflexible. For example, for the new environmental epidemiology program, the DOH could not establish a permanent environmental epidemiologist position because the only existing epidemiologist class requires an M.D. rather than a Ph.D. Another example concerns the OEQC's request to convert positions from non-civil service to civil service positions which not only resulted in long delays, but created a curious situation whereby the OEQC had difficulty finding applicants with environmental backgrounds because the positions, which were previously titled environmental health specialists, were established in the planner class which did not require environmental health knowledge or experience.

While B&F and DPS staff may be performing their jobs, their actions sometimes are contrary to the belief that staff agencies exist to support line agencies serving the public. This reinforces the belief of agencies that having to go through B&F and DPS hinders rather than helps their operations.

## Chapter 7

### STATE ORGANIZATIONAL STRUCTURES FOR ENVIRONMENTAL PROGRAMS

Elizabeth H. Haskell and Victoria Price in *State Environmental Management: Case Studies of Nine States* reported their 1970-1971 analysis of nine states which had consolidated environmental programs in new agencies outside of state health departments.<sup>1</sup> While their views were based on the early development and not the full maturity of those states' environmental agencies, their observations were often repeated in the Council of State Governments' comprehensive report on state experiences in environmental reorganizations which followed in 1975.<sup>2</sup> The two reports reached different conclusions about the preferred organizational structure for environmental programs. Haskell and Price preferred a separate cabinet level department for pollution control programs rather than a larger environmental "superdepartment" which combined pollution control with conservation and resource management programs.<sup>3</sup> They cited the experience of Minnesota and Illinois in confining environmental program consolidation to pollution control as having provided clear analytical focus for the new agency and less disruption in programs.

Haskell and Price rejected the superdepartment structure based on analyses of such departments in Wisconsin and New York. They believed that attempting to combine pollution control with conservation and resource management as the two states had done was counterproductive, generalizing that environmental superdepartments seemed to be more trouble than they were worth, at least in the short run. They noted that the big new departments lacked a sharply defined mission and suffered considerable administrative confusion. Further, the anticipated close integration of the two inherently dissimilar sets of programs did not occur and the programs continued to operate independently. They cautioned states against losing the opportunity to create a strong pollution control advocate in government by bringing pollution control into unavoidable competition with conservation concerns in a superdepartment. Though they did not conduct a case study of a health department state, Haskell and Price argued that in a health department, pollution control programs were stifled by competition with unrelated health programs, the limited human health focus of pollution issues, and a traditionally weak enforcement posture against polluters.<sup>4</sup>

Significantly, Haskell and Price concluded that it is more appropriate for elected governors to make policy decisions on conflicts between two different program areas such as pollution control and conservation than leaving such decisions to a superdepartment head.<sup>5</sup> The authors also believed that public debate among advocates of different goals would promote public understanding and participation in government. Such a position does not account for the fact that in many states, the governor may discourage public disagreement among state agencies and prefer that department heads resolve their own problems instead of relying on gubernatorial conflict resolution.

As Haskell and Price had done earlier, the Council of State Governments (CSG) report divided state environmental organizations among three models: the health department model, the "little EPA" model, and the environmental



superagency model. The little EPA was defined as an agency responsible only for pollution control programs (air quality, water quality, and solid waste) while the superagency was defined as an agency responsible for the three major pollution control programs and at least one other state conservation or development program. The CSG categorized sixteen states under the health department model; twelve states under the little EPA model; and fifteen states under the superagency model. Several states did not fit into any of the models because their air, water, and solid waste pollution programs were administered by separate agencies.<sup>6</sup> The perceived advantages and disadvantages of each organizational model as noted by the CSG and Haskell and Price are displayed in Table 2.

The CSG found that reorganization occurred in four different contexts: (1) as a response to substantive program changes, i.e., the establishment of more environmental programs having broader scope; (2) as a response to political demands for change; (3) as a response to overall executive management considerations, involving overall restructuring of the executive branch; and (4) as a response to actions of the federal government and other states.<sup>7</sup>

Between 1967 and 1974, reorganization occurred in more than 30 states with two-thirds occurring between 1969 and 1972.<sup>8</sup> Nearly one-half of the reorganizations between 1967 and 1974 were part of overall executive reorganizations. Only Minnesota underwent an environmentally specific reorganization before 1969 while all the reorganizations in 1970 were environmentally specific. The report, however, points out that the 1970 creation of the federal Environmental Protection Agency (EPA) was the single most important catalyst to state reorganizations. Further, the federal initiative not only spurred the states to reorganize, but also led them to adopt a similar organizational form. The primary objective of reorganization usually determined the organizational form as executive restructuring was more likely to result in the creation of superagencies while environmentally specific reorganizations led to the creation of little EPAs. This is due to the fact that a frequent objective in executive reorganization is a reduction in the number of officials reporting directly to the governor.

More important than a comparison of the number of states having different structures was the CSG's attempt to determine the relationship of the different structures to perceptions of the degree of integration and coordination among environmental programs in the particular states. In the absence of useful objective indicators, the CSG sought the subjective evaluations of environmental program officials as well as state budget and planning officers, gubernatorial aides, and legislative service agency staff for this task.<sup>9</sup> Of particular interest is the extent of communication among different environmental programs. The CSG found that communication and contact among air, water, and solid waste program officials took place no less frequently in health departments than in either superagencies or little EPAs and that superagencies appear to have achieved only slightly higher levels of contact among pollution control program officials and officials in conservation and development areas.<sup>10</sup> The 1975 study also revealed a difference in leadership style between health department heads and the heads of superagencies and little EPAs, in that the heads of both superagencies and little EPAs seemed to exercise greater central direction and control in the pursuit of coordination while health department directors tended to rely more

Table 2

## ADVANTAGES AND DISADVANTAGES OF DIFFERENT ORGANIZATIONAL FORMS

	Advantages	Disadvantages
HEALTH DEPTS	<p>Are historically responsible for environmental protection efforts and thus should retain responsibility.</p> <p>Are large enough to reduce duplication and realize significant economies of scale in providing administrative and other support services (laboratories).</p> <p>Rely on public health considerations as the central criteria in establishing environmental quality standards.</p> <p>Have close ties with local health agencies which would eliminate the need to establish new intergovernmental relationships [or separate field offices].</p>	<p>Are historically ineffective in achieving environmental goals.</p> <p>Are often charged with a reluctance to take an aggressive regulatory approach, preferring to negotiate with polluters.</p> <p>Perceived as less likely to be responsive to non-health related environmental factors.</p> <p>May be too large for effective administration.</p> <p>Force environmental programs to compete with medical health service programs which usually have higher priority.</p>
LITTLE EPAs	<p>Have limited and clearly defined agency missions and thus few conflicting program objectives.</p> <p>Do not force environmental programs to compete with different programs for limited resources.</p> <p>Demonstrate a symbolic commitment by state government to environmental objectives.</p>	<p>Lack structural integration with conservation or development programs.</p> <p>May include establishment of an institutionalized responsibility for environmental coordination within state government.</p> <p>Reinforce strong individual program identities rather than respond to the need for more extensive integration and coordination.</p>
SUPER-AGENCIES	<p>Usually have cabinet level status and thus more influence than little EPAs.</p> <p>Size and diversity of departments become assets as the public interest on environmental issues wanes.</p> <p>Foster broader ecological perspective among state officials.</p> <p>Are expected to facilitate increased integration and coordination between pollution control programs and conservation or development programs located in the same agency.</p> <p>In executive reorganizations, reduce the number of agencies with which a governor must deal and increase agency responsiveness to gubernatorial direction and control.</p>	<p>Do not exhibit real integration and coordination among constituent programs and thus may be little more than holding companies for independent program divisions.</p> <p>Do not produce officials with broader ecological perspectives.</p> <p>Fail to resolve the fundamental difference between pollution control programs which are regulatory and conservation programs which involve resource management.</p> <p>Force pollution control and conservation or development programs to compete for funds, staff, and influence and more established conservation and development programs can be expected to dominate.</p>

Source: Elizabeth Haskell and Victoria Price, State Environmental Management: Case Studies of Nine States (New York: Praeger Publishers, 1973); Council of State Governments, Integration and Coordination of State Environmental Programs (Lexington, Ky.: 1975).

on lateral communications and accommodative relationships among program officials to achieve coordination.<sup>11</sup>

The CSG survey illustrated different perceptions on the question of whether integration and coordination among programs were taking place through organizational consolidation. The CSG found that over 75 per cent of superagency state respondents felt that effective integration and coordination were occurring primarily through the environmental agency, while the majority of respondents from health department states did not believe there was significant integration and coordination at the time. Little EPA state respondents were split between environmental program officials who felt that such integration and coordination were occurring and oversight officials who did not.<sup>12</sup>

The CSG also probed the relationship between organizational structure and the size and degree of urbanization among the states, finding that:<sup>13</sup>

...[t]he most populous States have exhibited a strong tendency to adopt a superagency organizational format, whereas the overwhelming majority of small and medium-sized States employ either a health department or little EPA approach.

In smaller, less developed, less urbanized States, where state governments are smaller, a larger number of separate organizational entities can probably be managed much more easily. Both coordination and overall executive management may take place frequently through informal means, and there is less need to rely on structured relationships to achieve these ends.

The CSG concluded that while there is no ideal type of consolidated agency appropriate to all states, other factors being equal, the little EPA and superagency models were preferable to health departments in most states.<sup>14</sup> The CSG also noted that while the little EPA model is suited to states desiring a new emphasis and stature for environmental programs, the superagency would prove the more enduring organizational structure because of the expanding scope of state governments in all states. The CSG further noted that the issue of organizational type is often overemphasized because the most important determinant of an agency's effectiveness will invariably be its leadership. The CSG believed, "[s]trong leadership can, with effort, overcome an agency's structural deficiencies, but weak leadership will undermine even the best organizational structure."<sup>15</sup> Finally, the CSG noted that regardless of the organizational form, the adoption of nonorganizational coordinative techniques is absolutely essential to developing linkages among the environmentally related programs, particularly between the pollution control and development programs since it would be virtually impossible to consolidate all environmentally related programs.<sup>16</sup>

## LRB Survey Results

Following a review of the environmental laws of each state, the Legislative Reference Bureau (LRB) conducted a written survey of state environmental agencies in mid-1984, using questions based in part on the survey used by the CSG, to ascertain whether a new trend has evolved since

1974. See Appendix C for brief summaries of each state's division of environmental program responsibilities. Of the 49 states receiving the questionnaire, eight states failed to respond.<sup>17</sup>

For the purpose of analyzing the survey results, the states were categorized into five models differing slightly from the models used by the CSG: (1) health or social service departments administering pollution control programs; (2) pollution control agencies, defined as entities without full cabinet level status administering only pollution control programs; (3) pollution control departments defined as agencies with full cabinet status administering only pollution control programs; (4) consolidated agencies, defined as agencies with full cabinet status administering pollution control programs in addition to at least one other function such as water use management, pesticides regulation, or natural resources management; and (5) unconsolidated agencies, representing states where more than one agency administers the three basic pollution control programs for air quality, water quality, and solid (including hazardous) waste. The LRB classification differed from the CSG classification by distinguishing between pollution control agencies with and without cabinet level status; recognizing pesticide programs as an additional responsibility in categorizing superagencies; and recognizing reorganizations taking place since 1975. The CSG's classification and the LRB's classification are shown in Table 3.

Hawaii, like 13 other states, has retained pollution control programs in its state health department. Three states are characterized as pollution control agencies and four others as pollution control departments with cabinet level status. Twenty-three states share the most common organizational structure, a consolidated agency having pollution control programs and at least one other function such as water use management, pesticides regulation, or natural resource management. Finally, six states have pollution control programs scattered among more than one state agency. Survey results reveal that several states are currently considering reorganization of pollution control programs, although two are doing so as part of overall executive reorganizations.<sup>18</sup> Further discussion will be limited to the 41 states that responded to the Bureau's survey.

Haskell and Price and the CSG noted the possible dangers of pollution control programs having to compete with other programs in a natural resource department. To gauge such imbalance, the LRB survey inquired into the priority ranking of pollution control among different program areas in the consolidated departments. All survey respondents in consolidated departments but one gave pollution control high priority. The lone exception said pollution control had average priority. One New Jersey respondent elaborated on the intradepartmental competition, noting that because more critical issues surfaced in environmental quality, those programs usually had priority over natural resource programs for staff and budget. Haskell and Price had observed the opposite situation in conservation-oriented Wisconsin.<sup>19</sup>

The definition of different structural models in this analysis and the resulting distribution among models produced very tenuous generalizations about organizational structures. The survey was much more helpful in eliciting individual comments and descriptions of coordinating mechanisms from different states. Appendix C provides summaries of each state's administration of environmental programs.

Table 3  
CLASSIFICATION OF STATE ENVIRONMENTAL ORGANIZATIONS

LRB			CSG		
<b>HEALTH DEPARTMENTS (14 States)</b>			<b>HEALTH DEPARTMENTS (16 States)</b>		
Arizona	Kansas	Oklahoma	Alabama	Indiana	North Dakota
Colorado	Maryland	South Carolina	Arizona	Kansas	Oklahoma
Hawaii	Montana	*Tennessee	Colorado	Maryland	Rhode Island
Idaho	New Mexico	Utah	Hawaii	Montana	South Carolina
Indiana	North Dakota		Idaho	Nevada	Tennessee
<b>CONSOLIDATED DEPARTMENTS (23 States)</b>			<b>LITTLE EPAs (12 States)</b>		
Alabama (A)	Maine (A)	Pennsylvania (K)	Arkansas	Maine	Ohio
Alaska (B)	Massachusetts (G)	Rhode Island (L)	Florida	Minnesota	Oregon
Connecticut (C)	Michigan (H)	*South Dakota (M)	Illinois	Nebraska	South Dakota
Delaware (D)	Mississippi (I)	Vermont (J)	Iowa	New Mexico	Wyoming
Florida (E)	Missouri (I)	*Washington (N)	<b>SUPERAGENCIES (15 States)</b>		
Georgia (D)	Nevada (J)	Wisconsin (D)	Alaska (a)	Massachusetts (d)	North Carolina (e)
Iowa (F)	New Jersey (C)	*Wyoming (O)	Connecticut (b)	Michigan (b)	Pennsylvania (f)
Kentucky (F)	New York (H)		Delaware (b)	Missouri (c)	Vermont (c)
<b>POLLUTION CONTROL AGENCIES (3 States)</b>			Georgia (b)	New Jersey (b)	Washington (a)
Illinois			Kentucky (c)	New York (b)	Wisconsin (b)
*Minnesota			<b>PARTIALLY CONSOLIDATED OR UNCONSOLIDATED AGENCIES (7 States)</b>		
Ohio			California	Texas	
<b>POLLUTION CONTROL DEPARTMENTS (4 States)</b>			Louisiana	Virginia	
*Arkansas	Nebraska		Mississippi	West Virginia	
*Louisiana	Oregon		New Hampshire		
<b>UNCONSOLIDATED AGENCIES (6 States)</b>					
*California (P)					
New Hampshire					
North Carolina					
Texas					
Virginia					
West Virginia					
*Did not respond to LRB survey.					
(A) Includes coastal zone or critical areas management.			(a) Includes coastal zone and/or critical areas management.		
(B) Includes public health sanitation, radiation protection, pesticides.			(b) Includes conservation programs and coastal zone and/or critical areas management.		
(C) Includes conservation programs, coastal zone or critical areas management, water use management, radiation protection, pesticides.			(c) Includes conservation programs.		
(D) Includes conservation programs, coastal zone or critical areas management, water use management.			(d) Includes conservation programs, coastal zone management, agriculture, law enforcement planning, and other miscellaneous programs.		
(E) Includes coastal zone or critical areas management, water use management.			(e) Includes conservation programs, coastal and/or critical areas management, industrial development, community assistance, law enforcement planning, and other miscellaneous programs.		
(F) Includes water use management.			(f) Includes forestry and parks and recreation programs.		
(G) Includes conservation, coastal zone management or critical areas management, water use management, mineral resources, and agriculture.					
(H) Includes conservation, coastal zone or critical areas management, water use management, mining.					
(I) Includes conservation, water use management, mining.					
(J) Includes conservation, water use management.					
(K) Includes coastal zone or critical areas management, conservation, mining, radiation protection.					
(L) Includes coastal zone or critical areas management, conservation, agriculture, environmental impact statements, pesticides.					
(M) Includes conservation, and water use management, mineral resources, radiation protection.					
(N) Includes coastal zone or critical areas management, water use management, environmental impact statements, and permit coordination.					
(O) Includes mining.					
(P) California's air, water, and solid waste programs are under the umbrella of the Secretary of Environmental Affairs; however, the Boards administering the three programs operate quite independently.					

Source: Council of State Governments, Integration and Coordination of State Environmental Programs (Lexington, Ky.: 1975), p. 20.

In general, 23 of the 41 responding states had some type of interagency council. The states that had such interagency bodies had differing opinions of their effectiveness as five or 22 per cent felt the council was very effective; 13 or 56 per cent felt the council was moderately effective; and three or 13 per cent felt the council had limited effectiveness.<sup>20</sup>

Of particular concern to this study was the existence of emergency mechanisms or plans. Although the survey asked specifically about such mechanisms governing contaminants in the environment or in food or drinking water, some respondents may have included civil defense plans in this category whether or not the plans specifically included situations other than those involving non-radioactive contaminants or natural disaster. With this caveat, 37 states claimed they had some type of emergency plan or mechanism. In 23 of those states, the environmental agency had some powers to direct the actions of other state agencies. Frequently, however, the governor or emergency management or civil defense agency had greater powers to direct state agency actions.

Like the CSG, the LRB found little difference between the different organizational structures in the frequency of agency staff contact with other agencies. Over 65 per cent of each type of agency had daily or weekly contact with staff in agencies with related programs.

The survey listed eight coordinating techniques and asked respondents to rate the effectiveness of each technique and select the most effective technique. As the CSG had found earlier, the most frequently selected coordinating technique was the consolidation of environmental functions in one agency. There was little agreement on other techniques. Interestingly, environmental program staff in health departments did not consider their departments to be consolidated although health departments often include more environmentally-related programs such as drinking water, solid waste, and food regulation.

The survey also listed several potential problems that might hinder the integration of pollution control and related policies and programs and asked respondents to select the three most significant problems in their states. The problems are displayed according to frequency in Table 4 below.

The lack of funding which is a significant problem in Hawaii was rarely mentioned by survey respondents, although the problem of "conflicts between pollution control concerns and other priority governmental functions" may be construed as including funding priority.

The LRB survey found that while at least eight additional major reorganizations occurred since the CSG survey, showing a slight but increasing trend toward consolidated departments, reorganization alone will not provide for a more integrated and effective environmental program.<sup>21</sup> Most states with recent reorganizations failed to clearly articulate the reasons for the reorganizations in the LRB questionnaire; however, some states that did provide a reason indicated that political considerations played a large role in reorganization matters. Further, as the CSG study pointed out, the conditions or variables which govern reorganization decisions differ not only from state to state, but also over time. South Carolina, after having established a separate pollution control authority in 1970, moved pollution

Table 4

RANKING OF PROBLEMS HINDERING INTEGRATION OF POLLUTION CONTROL AND  
RELATED POLICIES AND PROGRAMS BY ORGANIZATIONAL STRUCTURE

Problems	Organizational Structure					Total
	Health Depts.	Pollution Depts.	Pollution Agencies	Consoli- dated Depts.	Unconsoli- dated Agencies	
Political resistance to change	4 (.16)	1 (.17)	--	8 (.18)	4 (.16)	17 (.16)
Conflicts between pollution control concerns and other higher priority governmental functions (e.g. economic development)	4 (.16)	--	2 (.33)	8 (.18)	1 (.04)	15 (.14)
Fragmented organizational responsibility	2 (.08)	1 (.17)	--	4 (.09)	5 (.20)	12 (.11)
Absence of overall policies or objectives	3 (.12)	2 (.33)	--	5 (.11)	2 (.08)	12 (.11)
Structure of federal organization and programs	2 (.08)	--	2 (.33)	3 (.07)	4 (.16)	11 (.10)
Lack of effective intergovernmental coordination (federal, regional, local)	3 (.12)	--	2 (.33)	2 (.04)	3 (.12)	10 (.09)
Administrative or professional resistance to change	2 (.08)	--	--	4 (.09)	3 (.12)	9 (.08)
69 Failure to translate overall policies and objectives into specific plans and programs	--	1 (.17)	--	5 (.11)	1 (.04)	7 (.07)
Lack of adequate information on environmental resources, population, economic trends, and public and private activities affecting the environment	1 (.04)	--	--	3 (.07)	1 (.04)	5 (.05)
Other - Lack of funding/resources	3 (.12)	--	--	1 (.02)	1 (.04)	5 (.05)
Poor implementation of environmental programs	--	1 (.17)	--	1 (.02)	--	2 (.02)
Other - Changing federal policies and implementation	1 (.04)	--	--	--	--	1 (.01)
Other - Lack of direct state land use authority	--	--	--	1 (.02)	--	1 (.01)
Lack of executive leadership	--	--	--	--	--	0
TOTAL RESPONSES	25	6	6	45	25	107

Note: Percentages may not add due to rounding.

control functions back into a reorganized Department of Health and Environmental Control in 1973.<sup>22</sup> Different New Mexico officials have found both a separate agency and a reconstituted health department unsuitable as a separate environmental agency was established in the 1970s and subsequently pollution control programs were moved back into the health department. A new organizational proposal for New Mexico is expected to be made to the 1985 legislature to create a separate environmental agency once again.<sup>23</sup>

The LRB survey confirmed the findings of previous organizational studies that each state must determine structural consolidation based on its peculiar needs and that reorganization is not a panacea for coordination problems.



## Chapter 8

### WEIGHING THE OPTIONS

#### PART I. PAST REORGANIZATION PROPOSALS

The creation of a new department for environmental programs is not a new idea to Hawaii as proposals for reorganization have been made in the past for different reasons. In the context of an open space study that focused largely on land use to control growth and visual qualities of the environment, a private consultant in 1972 recommended the creation of a Department of Environmental Planning and Growth Guidance which would have the powers of the Department of Planning and Economic Development, the Land Use Commission, and the Office of Environmental Quality Control.<sup>1</sup> The proposed reorganization was based on the need "to concentrate within a single department the vital functions and powers of planning, environmental protection, and land use control", as the consultant believed the new department would allow the State to evaluate the "environmental impacts of all governmental actions in the context of the total environment", something not possible under the fragmentation of the State's powers relating to environmental affairs.<sup>2</sup> The report made little mention of the Department of Health's (DOH) pollution control programs partly because this recommendation preceded most of the pollution control laws enacted in the 1970s. The report noted that several states had combined environmental protection functions with conservation, resource management, or land use planning functions.

The Temporary Commission on Statewide Environmental Planning in 1974 discussed the proposed reorganization but could not agree on the necessity or desirability of the reorganization.<sup>3</sup>

The Governor's Ad Hoc Commission on Operations, Revenues and Expenditures (CORE) was created in 1974 to examine selected areas in state government operations and expenditures. The CORE in its analysis of environmental programs utilized principles set forth by the Council of State Governments<sup>4</sup> for reorganization and found that no reorganization was necessary in the environmental area because:<sup>5</sup>

...the State's environmental organization seems to have the proper authorization, responsibilities, and organizational framework to fulfill the objective of the environmental protection program. The implementation of environmental policies are being carried out effectively by manageably sized agencies.

The CORE noted that a reorganization of the Environmental Protection and Health Services Division as well as the assignment to the DOH of additional pollution control responsibilities as a result of legislation enacted in 1974 would require time to be implemented before they could be evaluated.<sup>6</sup> The CORE also found that the findings in the comprehensive report on state environmental management by Elizabeth H. Haskell, an analyst of environmental public policy and organizations, and Victoria S. Price, an environmental consultant, brought into "serious question the claim of potential benefits that might be achieved in combining many different programs into one department".<sup>7</sup> The CORE chose to ignore the recommendation of Haskell and

Price to create a separate department for pollution control matters. In addition to several recommendations in the areas of management information systems, personnel practices, fiscal management, and the State's revenue structure, the CORE also recommended the creation of a commission to study government reorganization.

The 1977 Commission on Organization of Government (COG) recommended the creation of a Department of Environmental Protection and Natural Resources which would encompass the existing Department of Land and Natural Resources (DLNR) with the addition of DOH's pollution control programs and the Office of Environmental Quality Control. The pesticides program was left with other agricultural programs under a Department of Economic Development and Community Affairs. The rationale behind the merger of the DLNR and the DOH's pollution control programs was presented in a single paragraph:<sup>8</sup>

Environmental programs in the...[DOH and OEQC] would be shifted...in order to preserve and strengthen their visibility. Currently the environmental planning activities of the ...[OEQC] are separated from their implementation functions lodged with the [DOH].... By combining environmental and natural resource programs into one organization trade-offs can be addressed in a systematic manner.

This recommendation was part of a major executive reorganization proposal to reorganize state government functions from among the existing seventeen departments to thirteen superdepartments. The purpose of this proposal was to reduce the number of individuals reporting directly to the Governor. No records were found describing the disposition of the COG recommendations although some people have noted that the general mood at the time was that the reorganization proposal was too radical a change and would be too costly.

## PART II. THE CURRENT PROPOSAL FOR CHANGE

The Legislature's primary concern in calling for this study as set forth in the adopted Resolutions was to find a means to improve the coordination of environmental programs to ensure that the State possessed the capability of dealing with future environmental contamination incidents. To achieve this purpose, there are two options to consider: (1) maintaining the present structure with administrative changes, or (2) creating a separate department or independent agency.

In considering these options, the Legislative Reference Bureau (LRB) notes that the present structure of environmental programs provides for adequate consolidation with the pollution control programs under the DOH and pesticide regulation under the Department of Agriculture (DOA). The placement of most of the pollution control programs under the DOH is not inappropriate when it is remembered that the DOH is also responsible for drinking water and food adulteration. Contrary to the opinion of Haskell and Price that health departments are not perceived as a satisfactory organizational structure in which to carry out effective pollution control programs, health department proponents believe that environmental programs

in this and future decades must be viewed with a public health perspective. Accordingly, the DOH is an appropriate locus.

On the other hand, the DOH can be viewed as too large an organization to provide pollution control programs with the aggressive leadership that is required for the magnitude of pollution control problems that are surfacing now and are expected to occur in the future. While the Deputy for Environmental Health oversees the administration of the program, the Deputy may not have equal leverage when dealing with other department heads who choose to ignore concerns raised by the Deputy about program conflicts with environmental health matters. Policy redirection at the executive and legislative levels could improve and enhance environmental programs without reorganization by emphasizing the priority of environmental concerns relative to other program areas, setting guidelines for resolving program conflicts, and channeling additional resources to the environmental area. Such redirection, however, is subject to change with each election of new officials and would not have the permanence provided by the establishment of a separate department or agency. Further, while administrative changes can be made in an existing department, as Haskell and Price observed, when a new policy direction is sought establishing a new structure is often easier since "it always takes more political and administrative energy to halt an organization, turn it around, and start it moving on another policy route."<sup>9</sup>

### **PART III. MAINTAINING THE PRESENT STRUCTURE**

If the present structure is maintained, many administrative changes would be required. The following discussion presents the issues that must be addressed.

#### **Improving Program Management in the EPHSD**

The nature of the internal problems of the Environmental Protection and Health Services Division (EPHSD) suggests that such problems are attributable to the loose management style of the EPHSD rather than the placement of the program in a large health department. The EPHSD must develop an integrated divisionwide environmental health program with clearly articulated priorities, policies, and directions to be carried out by the branches and offices within the EPHSD. The independent operation of different programs within the EPHSD is preventing the EPHSD from assuming the cohesive stance necessary to carry out its duties in protecting the environment and public health. The EPHSD also must develop better relationships with other departments and become more assertive in advocating pollution control goals when the programs of other departments or agencies come into conflict with its programs. The EPHSD's initiative in this regard may help other departments or agencies develop an appreciation for environmental concerns and support the State Environmental Policy Act.

## Improving Interagency Coordination

Other states report varying degrees of success with formal coordinating mechanisms such as interagency councils, memoranda of understanding, or emergency response plans. Interagency councils comprised of department directors with environmental programs and programs that affect the environment could establish overall policies and resolve conflicts that occur between departments. The Council of State Governments noted that cabinet councils without specific issues to address may lapse into meaningless discussion groups.<sup>10</sup> Indeed department heads already are overburdened with attending various committee, task force, and commission meetings and often send staff members to attend such meetings for them, without the accompanying authority to make decisions or commitments on behalf of the department. Haskell and Price observed that one such interagency cabinet council discussed only topics on which consensus could be reached or topics that did not adversely affect any one agency.<sup>11</sup>

One apparently successful interagency council that exists in this State is the Governor's Agriculture Coordinating Committee which is established under Chapter 164, Hawaii Revised Statutes. Represented on the Committee are the Departments of Agriculture, Planning and Economic Development, Land and Natural Resources, Transportation, and Hawaiian Home Lands and the College of Tropical Agriculture and Human Resources. The Committee is responsible for guiding state agricultural development and has been successful in its efforts. The LRB believes, however, that its success is largely attributable to the high priority of agricultural development in this State, which accounts for the fact that the Committee has had little difficulty in obtaining funds or cooperation from other agencies to conduct its mandated activities.

An alternative to an interagency council is a coordinating body attached to the Governor's office with comprehensive planning responsibility to interconnect pollution control and related programs. Haskell and Price noted the importance of comprehensive planning and recommended that such planning functions not be assigned to line executive agencies involved in day-to-day operations and crises resolution since there is a strong tendency for such a planning staff to lose the long-term analytical perspective and become more crisis management-oriented. It is also difficult for a line agency to sustain a planning effort that extends beyond that agency's jurisdiction. Haskell and Price instead recommended that such planning be carried out at the top of the State's organizational structure--in the Governor's office--since it has a broad view of the executive branch and has the highest decision-making power needed to settle interagency disputes. While some may feel that the Governor's office should not be saddled with such responsibility, Haskell and Price argued that "[t]he governor should not be shielded from the clash of environmental and other state objectives, such as economic development. These clashes are some of the most significant statewide issues today."<sup>12</sup>

Another mechanism that might improve interagency coordination is the formulation of a contingency plan for a broad range of emergencies. The plan would identify a lead agency depending on the type of emergency, spell out the roles of the lead agency as well as other agencies, and formalize a communications network. The State of Hawaii Plan for Emergency Preparedness is directed to situations involving enemy attack although the plan does state that "capabilities and resources developed for operational use

in a wartime situation also are authorized for planning and use in a natural or man-caused disaster, to include a terrorist incident or accidental missile launching".<sup>13</sup> Separate procedures guide agency action in hazardous material spills and natural disasters. These documents, however, address only specific situations. When a slightly different situation occurs, agencies may be unwilling to assume responsibility or may duplicate or contradict the efforts of other agencies.

There is a need for the formulation of an emergency plan that would apply to a broad range of situations. If such a plan is devised, however, its procedures must be communicated to the staff who will be responsible for implementation. The Plan must be continuously updated and practice procedures initiated to emphasize the plan's importance. Otherwise, the plan may be filed away and forgotten after the crisis is over like the Milk Action Plan and the Memorandum of Understanding on pesticide misuse. The Council of State Governments, in a study of emergency management in the states, noted the importance of the role of administrators in implementing emergency response programs and cautioned that:<sup>14</sup>

States with highly formalized, elaborately detailed procedures may choose not to follow them in times of emergency, while states that may be short on written guidelines often have developed informal response networks that, by virtue of long-time personal relationships among the principals and frequent activity, are efficient systems that meet the challenges posed by any given incident.

### **Transfer of the Pesticides Program**

Much of the concern regarding interdepartmental coordination emanated from the belief that the DOA's mission to promote agriculture prevented it from adequately regulating pesticide use to protect the environment and public health. Particularly during the heptachlor crisis, the Department of Agriculture (DOA) and UH College of Tropical Agriculture and Human Resources (CTAHR) appeared overly concerned with the economic losses that might befall the dairy industry if pesticide-contaminated milk were pulled off market shelves. Consequently, there was a call for the transfer of the pesticides program from the DOA to the DOH.<sup>15</sup> Although the proposed legislation in 1983 failed to pass the Legislature, this issue is still unsettled.

Despite the strong argument concerning the DOA's conflict in goals, there are many reasons which justify leaving the program under the DOA. First, the Environmental Protection Agency in semiannual evaluations of the state program has applauded the DOA's administration of the program. Transfer to the DOH whose Environmental Protection and Health Services Division (EPHSD) has experienced administrative and communication problems may not result in more effective pesticides regulation. Second, the DOA noted that the pesticide users it regulates, in particular the small farmers, play an important part in the DOA's regulatory program.<sup>16</sup> Because the farmers trust the DOA and rely on the department to assist them, the DOA maintains that the farmers do not hide their problems from the DOA. The CTAHR emphasized that pesticides regulation must be viewed as part of the larger background of agricultural systems.<sup>17</sup> The DOH without a knowledge

of pesticide labeling requirements on which enforcement depends and without comprehensive knowledge of alternative pest control methods, chemical as well as mechanical and biological, would be ill-equipped, at the present time, to deal with pesticide use regulation. While personnel from the Pesticides Branch would be transferred to the DOH if the program function is transferred, other resource personnel within the DOA from the Plant Pest Control Branch would not. The CTAHR also emphasized the educational aspects involved in regulation, noting that teaching proper methods to users is as important as policing users to uncover violations. The UH Environmental Center in testifying on a bill proposing the transfer of the pesticides program noted that the major enforcement problem was inadequate resources and personnel for monitoring and that it had not been shown that DOA was failing to carry out its duties because of any conflict in mission.<sup>18</sup>

While the pesticides regulatory function at the federal level was transferred from the U.S. Department of Agriculture (USDA) to the EPA as a result of Congressional dissatisfaction with the USDA's lack of enforcement because of the agency's conflicting roles to promote increased food production while regulating pesticide use,<sup>19</sup> many states' pesticides programs remain in the agriculture departments, even if separate departments for environmental affairs exist.<sup>20</sup> In the LRB's review of state environmental laws, it was found that no state health department currently administers a regulatory program for pesticide use.

#### PART IV. ESTABLISHING A NEW DEPARTMENT OR AGENCY

The decision to reorganize requires a determination as to which organizational form is more appropriate for Hawaii. The advantages of a department are that (1) the department head with cabinet level status will have more leverage in dealing with major program issues that conflict with programs of other departments; and (2) the organization with its own administrative structure will have the flexibility and capability of expanding and changing as new program needs arise in the future.

The primary advantage of an independent agency is that it would be less costly to operate. A new agency could be attached to an existing department, similar to the OEQC's attachment to the DOH for administrative purposes. The agency would operate independently of the department but would not have to establish its own administrative apparatus for fiscal, budget, personnel, and other administrative matters. A new department must have such an administrative apparatus as well as a director and deputy director with salaries at the same level as existing state departments.

Regardless of organizational type, additional personnel and new equipment and supplies will be required. Office space will be a problem since both organizational types would function more efficiently if all program units are located in one building and it will probably be difficult to find one location to house the entire staff.

If an independent agency is established, the LRB believes it should be administratively attached to the Governor's office or perhaps a staff department like the Department of Budget and Finance. The LRB dismissed the idea of an organizational structure like the Hawaii Housing Authority

because (1) a state level EPA would not require the powers of a public corporation and (2) an organization headed by a commission of members appointed by the governor and which in turn appoints the agency's director may dilute the program's responsiveness and accountability to the governor, legislature, and general public. Although administratively attached agencies are intended to operate independently and only depend on the department for the processing of fiscal, budget, personnel, and other administrative matters, there are those who believe that the department can strongly influence the operation of the independent agency. Accordingly, to avoid any doubts about the independence of the agency, it should not be attached to a line department.

If reorganization is the choice, it must be decided which functions would be placed under a new agency. This report's scope was limited to pollution control programs and excluded coastal zone management, land use, fish and wildlife, and water use regulation programs as possible components of a new environmental agency because the removal of other programs from other agencies would be no mere environmental reorganization but would result in imbalance among existing agencies that would require an executive reorganization. Moreover, the LRB believes that limiting the organization to pollution control programs would provide a clearer focus of the new organization's mission. Accordingly, it is recommended that the components that are to be included in a new department or agency should be similar to those administered by the federal EPA: the pollution control functions (including air quality, water quality, solid waste, hazardous waste, radiation control, noise, and litter) of the EPHSD, the pesticides regulation function of the DOA, the drinking water and food tolerance level setting function of the DOH, and the environmental epidemiology program of the DOH. The regulation of radiologic equipment for medical purposes and the food inspection functions should remain under the DOH since such functions are distinctly health related. It should be noted that it is imminent that the State's role in regulating hazardous waste will expand in the future since the federal law was recently amended to include regulation of small generators of hazardous waste.<sup>21</sup> Hawaii has been relying on the EPA to oversee the program since there are only a few large generators of hazardous waste in this State.

Regardless of organizational type, there should ideally be a separate laboratory facility with proper staff and equipment. This, however, would be very costly since very little, if any of the DOH's laboratory staff and equipment could be transferred to a new agency. An alternative to establishing a new laboratory would be a contractual arrangement between the new environmental department and the existing DOH, as occurs in several states. One uncertainty in such an arrangement is the priority of the environmental department's needs relative to the health department's needs. The LRB believes it would be best to contract the services of the DOH until the separate department or agency is able to plan for and establish a proper laboratory facility.

An independent agency would probably be more effective if its components were limited to pollution control programs while a separate department could include other environmental components such as water management or conservation if such expansion is desired in the future.

The LRB made a preliminary determination of the minimum personnel requirements for a new department, the more expensive of the two reorganization options, and estimated that the minimum additional start-up cost would be about \$718,511 (see Appendix D for the details of this estimate). While most of the positions already exist within the DOH's Environmental Protection and Health Services Division and the DOA's Pesticide Branch, a few new positions would have to be established. The cost for the new positions and an estimated overhead cost comprise the start up cost. It must be noted that this estimate does not include office space rental if a new facility is required to house the new department. In estimating these costs, the LRB did not change the current status of the branches and sections or the applicable civil service ratings although many may be upgraded to division or branch status under a new department. If a new department is created several changes must be considered. While the LRB believes that the new organization should have major units for research, planning, program implementation, and administrative services, it did not consider structural issues involving the individual programs such as the establishment of separate divisions for air quality, water quality, solid waste, and hazardous waste; upgrading of the drinking water program from section to branch status; or placement of the Litter Control Office within a division. Such decisions should only be made after a comprehensive program evaluation of the current system and the development of a program implementation plan.

Haskell and Price warned that states should realize that reorganizations may cost much in terms of time, political resistance, continuity of programming, and morale of transferred personnel.<sup>22</sup> They also observed that in real dollars, new organizations will receive more public money rather than less because of increased expectations for action. On the positive side, significant benefits could be realized from changing key officials and established power structures. Haskell and Price believed:<sup>23</sup>

The new personnel hired often have fresher ideas and a more vigorous sense of commitment to the programs and new policies than seasoned bureaucrats. New program mixes give new perspectives on problems and policies and can thereby increase responsiveness and effectiveness in government.

## PART V. OTHER FACTORS TO CONSIDER

A consideration that often assumes an undue amount of influence in considering Hawaii's options is the experiences of other states. Chapter 7 provided a summary of other states' experiences in administering environmental health programs with an emphasis on organizational structure. It should be emphasized that there is no ideal arrangement for environmental program administration and that while other states' experiences are instructive, Hawaii must seek the change most appropriate for its unique needs. Further, it should be remembered that although many states have chosen to establish separate organizational structures for pollution control programs, each did so for different reasons, many of which do not necessarily apply to Hawaii in 1984. It should also be remembered that 13 states, besides Hawaii, have retained environmental health programs in state health departments, some after making conscious decisions to do so, and some



after having established new agencies and then moving the programs back into the health departments.<sup>24</sup>

Many other considerations are involved in any proposal to create a new department. The outcome of the OEQC's temporary assignment to coordinate state agency actions involving pesticides will certainly affect the OEQC's credibility as a coordinating body in environmental affairs. Should the OEQC's efforts prove successful in the pesticides area, an expansion of the OEQC's specific coordinating responsibilities could serve as a more viable alternative to the creation of an interagency council. The Water Commission's pending proposals for an administrative body to administer a water use permit system will also affect any discussion of a separate environmental agency.

Finally, the influence borne by a strong manager should not be overlooked. The Council of State Governments cautioned:<sup>25</sup>

It is important to emphasize...that organization structure can be, and often is, overemphasized. There are other factors, such as leadership, which are equally or more important in determining organizational effectiveness in the pursuit of coordination. State officials often focus upon structure as a panacea. But good leadership can make an antiquated and outdated organizational structure function effectively, and bad leadership will ultimately fail to make policies and programs work, regardless of how well-designed the organization structure of an agency is.

## Chapter 9

### CONCLUSIONS AND RECOMMENDATIONS

One point that was evident throughout the course of this study was that pollution control programs are interrelated with many other programs such as water management, land use, transportation, and recreation and it is difficult to obtain a clear picture of how the responsibilities of other agencies affect the implementation of pollution control programs. There is a need for improved program coordination, but the LRB does not believe that the establishment of a separate department is the best way to achieve this. Rather, the LRB believes that what is needed is the development of a comprehensive plan which views pollution control programs from a global perspective, transcends departmental and governmental lines, and addresses interagency conflicts between pollution control programs and other program objectives such as economic development.

Whether or not the Legislature chooses the option to reorganize, if the State is serious about having a strong pollution control program that can address the environmental contamination issues of the future, there must be a genuine policy commitment from both the executive and legislative branches to assign a higher priority to pollution control programs. Without such a commitment, no change can be effective since the allocation of resources in this State is contingent on program priorities.

Following the policy commitment, a comprehensive pollution control action plan which clearly defines the roles of all agencies with related functions must be developed. If a new organization is created without a comprehensive plan, it is likely that the same problems that exist in the system today will continue. The Council of State Governments (CSG) noted that to be effective, planning must be comprehensive in terms of subject matter and participation in the planning process itself. The plan must include formal linkages between pollution control and other environmentally related state programs; provide for the reconciliation of both environmental and nonenvironmental values and objectives; and involve large segments of both the administrative and political leadership of state government, including a leadership role by the governor.<sup>1</sup> Individual program plans, like the State Implementation Plan for Air Quality and the "208" Water Quality Plan, are not really coordinative although they might recognize the functional responsibilities of different agencies.

Regardless of the organizational form, if there is inadequate program planning and resources, integration and coordination problems will still occur.

The LRB believes that a separate department should eventually be established, not because of coordination needs, but because the State must place greater emphasis on pollution control programs to be prepared for contamination problems of the future. The establishment of a separate department at least will be a symbolic commitment of the State's priority to protect the environment. This finding is not made on the basis that the Department of Health (DOH) is an inappropriate locus for pollution control programs. Rather, it is to emphasize that the field of pollution control is rapidly expanding and is important enough to warrant consideration of

departmental status. This finding is also made with the recognition that solutions to pollution control problems require a multidisciplinary approach which is not available in the present system. A new department should help to develop this approach by bringing together the necessary expertise to examine problems from a total environmental perspective.

The LRB believes that before a new department can be created, a solid foundation must be built. In addition to the policy commitment and comprehensive action plan discussed earlier, there is need for a comprehensive evaluation of the present program operations and the development of a departmental program plan. Without these prerequisites, a new department will only inherit the problems of the present system and will not be able to improve conditions. If the Legislature chooses not to proceed with the establishment of a new department, the groundwork will at least assure more efficient operation of the present structure. With this in mind, the Bureau concludes that the present structure should be maintained for the time being with certain changes as recommended below.

#### **1. Expansion of the Office of Environmental Quality Control (OEQC)**

Rather than creating an interagency council, it is recommended that the OEQC be given explicit statutory authority and the necessary resources to develop a comprehensive pollution control action plan, including provisions for emergency response, and to coordinate the implementation of pollution control programs. In order for the OEQC to accomplish this more effectively, it is also recommended that the OEQC be administratively attached to the Governor's office. Such attachment would provide the OEQC with more stature and possibly more leverage in dealing with other agencies. Moreover, if the OEQC is to develop a comprehensive action plan which will guide the operations of the DOH as well as other departments and agencies, it would not be appropriate for the OEQC to be placed, even for administrative purposes only, in the DOH or any other line department. The EIS responsibilities of the OEQC and the attachment of the Environmental Council should not be affected by a change in OEQC's locus since the EIS function is a staff rather than line function due to its coordinative and adjudicative nature.

The OEQC should be given additional resources to develop its research, planning, coordinating, and educational functions. These areas are recognized by pollution control administrators as the weak areas in the present system. Education is especially important if this State intends to raise the environmental consciousness of the general public and obtain public support for environmental protection programs. Yet, there is no strategic environmental education program in this State. If a new department is created in the future, it is recommended that the OEQC be retained under the Governor's office with its interagency planning and coordination functions since it will still be necessary to have an agency that is divorced from regulatory functions in order to interconnect state programs.

#### **2. Redirection of the Environmental Council**

The Environmental Council should address broader environmental issues instead of confining its efforts to the environmental impact statement process.

The Council should begin by devoting more time to its responsibility of serving as the liaison between the public and the Director of the OEQC. It should take a more active role in monitoring the progress of state, county, and federal agencies in achieving the State's environmental goals and policies and in making appropriate recommendations to the Governor and the Legislature. The monitoring and advisory functions will assume even more importance after the OEQC has developed a comprehensive environmental protection action plan.

### 3. Internal Changes in the EPHSD

Whether or not the Legislature proceeds at a later date with the establishment of a new department, administrative changes within the Environmental Protection and Health Services Division (EPHSD) must be made. The EPHSD must provide greater policy direction, establish intradivision priorities, and exercise greater control over individual programs. The LRB recommends that the Department of Health contract for a management audit of the EPHSD to ascertain whether or not the programs are carrying out their program goals in an efficient and effective manner and to assist the EPHSD in developing a program planning and evaluation mechanism. An audit would help to determine whether the division should be reorganized to run more efficiently and to resolve unsettled problems such as upgrading the status of the Drinking Water Section, improving cooperation among program units, and maintaining tighter control of the branch operations. Following an audit, a divisionwide program plan which clearly articulates divisionwide goals, establishes program priorities, and defines the roles of each unit within the division and their relationships within the division and with other agencies can be developed.

The EPHSD should be more aggressive in obtaining cooperation from other agencies especially the Departments of Agriculture and Land and Natural Resources on matters that affect its pollution control programs. As the protector of the environmental and public health, the EPHSD must be more assertive in presenting the environmental position when other state programs come into conflict with pollution control programs. While other state departments and agencies bear some responsibility for recognizing the adverse effects their programs may have on the environment, the EPHSD's initiative is required to constantly remind and enlighten other departments and agencies.

Because of the serious concern over pesticide contamination of food and groundwater, the EPHSD should initiate more frequent and regular meetings with the DOA to ensure that each department understands what the other is doing and to improve the exchange of information between departments at both the management and staff levels. There should be a clarification of agency responsibilities, either statutorily or by inclusion in the comprehensive action plan, where jurisdictional uncertainties exist in environmental monitoring and prevention measures for pesticide contamination. It should be noted that the coordination of a pesticides action plan which defines agency responsibilities is one of the tasks the OEQC is working on as a result of Act 275, Session Laws of Hawaii 1984. If these problems can be resolved, the LRB does not see the need for transferring the pesticides function out of the DOA until such time that the State is ready to establish a separate department.

#### **4. Research**

Scientific research conducted by the research units at the University of Hawaii should remain with the University. It is unrealistic to expect the University to conduct research projects as dictated by the needs of the pollution control agencies when most of the University's research units conduct research through grant funds from sources other than the state general fund. The EPHSD, with the support of the Director of Health, must instead work to establish better communication with the University research units. Although statutorily established, the Environmental Center is not being used to coordinate the DOH needs with the University's research, educational, and service functions. Regardless of why or how this situation evolved, the DOH must take the initiative to improve relationships with the Environmental Center and the University in order to benefit from the available expertise.

There should be more meaningful interaction so that the DOH and the University are more aware of what each is doing and how they can assist each other. If the DOH truly desires research assistance, it should provide research funds to the University for the conduct of specific projects. While the LRB believes that the DOH should be more aggressive in developing a better relationship with the University, it is noted that the University as a public institution has, in addition to its academic and research functions, a community service responsibility. The University, therefore, should increase its efforts to cooperate with and assist state agencies in realizing environmental goals and should refrain from public criticisms and contradictory statements that are not constructive.

The DOH, with the establishment of the environmental epidemiology program, is developing its own research capability which is directly beneficial to the EPHSD's monitoring and enforcement programs. It is recommended, however, that this program be permanently established and transferred to the EPHSD so that the EPHSD can have a technical research component which can serve as the bridge between the EPHSD and research organizations from the University of Hawaii, the federal government, and the private sector.

#### **5. Hazardous Waste Program**

Although the Bureau did not examine this area in depth, it must be pointed out that when the State decides to assume delegation of the hazardous waste program from the EPA, it will be required, under federal law, to have a manifest (cradle-to-grave) system for the proper identification, tracking, and disposal of such waste whether or not a new department is established.

#### **6. Improving Staff Services**

The Legislature should request the Governor to reassess the present reorganization process for the purpose of establishing guidelines for structural changes in organizations and requiring the keeping of official records of discussions between departments and the Department of Budget and Finance so as to avoid inconsistent reorganization decisions. At present Administrative Directive No. 1978-4 only provides instruction on the steps required to obtain reorganization approval and limited guidelines on reorganizations and personnel management considerations but does not offer

policy guides for acceptable structures. The Legislature should request the Department of Personnel Services to reassess its present classification system regarding the establishment of new positions to allow for more flexibility and for the timely establishment of new job titles when a justifiable need arises.

### Concluding Observations

In considering these recommendations, the Legislature should recall that the problems and inadequacies of this State's pollution control programs stem from the low priority of environmental goals relative to economic development and other state goals. Accordingly, no major improvement can occur without the earnest support and policy commitment from the executive and legislative branches. Rhetorical policy statements emphasizing the importance of protecting the environment and human health are often forgotten when a choice must be made between prohibiting the use of a chemical to protect groundwater from possible contamination and maintaining the economic viability of an agricultural industry. Laws without substance and legislative and executive commitment are destined to be ineffective.

Improving the State's environmental protection efforts requires a comprehensive program of planning, program implementation and coordination, research, and public education. The problems in the current system are the result of a fragmented program approach with resources concentrated primarily on program implementation and little or no attention given to interagency planning and public education. If this fragmented program approach is allowed to continue, even a separate department cannot be successful in coping with environmental contamination problems.

Haskell and Price placed the whole issue of improving environmental problems in perspective with the following observation:<sup>2</sup>

States' institutional difficulties have been, in part, a lack of motivation to act aggressively enough against polluters and, in part, a lack of legal, financial, and analytical capability to solve waste management and resource problems. The two parts may, in fact, be one. History shows that when governments are fully motivated to cure a social problem, the ways and means are usually found to do so.

The motivation should not be difficult to mobilize when it is understood that contamination problems will not go away if they are ignored, and that the quality of life for Hawaii in the future rests on the policy decisions that are made today to protect the environment and public health.

## FOOTNOTES

### Chapter 1

1. The Senate Special Investigation Committee was established by the adoption of Senate Resolution No. 73 of the 1982 Legislative Session calling for an investigation during the interim period. The Committee submitted Special Committee Report No. 3 to the Senate on February 2, 1983. The impetus for the special investigation was a preliminary report issued by the Senate Health Committee on March 31, 1983 entitled, "Heptachlor-Milk Contamination Controversy Preliminary Report."
2. Honolulu Advertiser, March 31, 1981, p. B-8; Honolulu Star-Bulletin, August 1, 1981, p. A-6.
3. See House Special Committee Report No. 3-84 or Senate Special Committee Report No. 1, Twelfth Legislature, 1984, State of Hawaii.

### Chapter 2

1. Hawaii, Department of Health, Hawaii Health Messenger, Vol. 42, No. 2 (Honolulu: 1979), p. 3.
2. 42 U.S.C., secs. 4332-4335, 4341-4347, 4361.
3. 42 U.S.C., sec. 4372.
4. 42 U.S.C., sec. 7401 et seq.
5. 33 U.S.C., sec. 1251 et seq.
6. Council on Environmental Quality, Environmental Quality 1981 (Washington: 1982), p. 52.
7. Council of State Governments, Book of the States 1982-83 (Lexington, Ky: 1982), p. 588.
8. 42 U.S.C., sec. 300f et seq.
9. 42 U.S.C., sec. 6901 et seq.
10. 42 U.S.C.A., sec. 9601 et seq.
11. 15 U.S.C., sec. 2601 et seq.
12. 5 U.S.C., sec. 136 et seq.
13. 21 U.S.C., sec. 346a.
14. 42 U.S.C., sec. 4901 et seq.
15. Telephone conversation with Vicki Tshako, Information Specialist, Environmental Protection Agency, Hawaii Office, October 26, 1984.
16. U.S., Environmental Protection Agency, Your Guide to the U.S. Environmental Protection Agency (Washington: 1982), p. 19.

### Chapter 3

1. 1939 Haw. Sess. Laws, Act 103.
2. 1957 Haw. Sess. Laws, Act 60.

3. 1941 Haw. Sess. Laws, Act 318.
4. 1957 Haw. Sess. Laws, Act 140; House Standing Committee Report 477 on House Bill 532, Territorial Legislature, 1957, Territory of Hawaii.
5. 1967 Haw. Sess. Laws, Act 152; House Standing Committee Report 236 on House Bill 358, Territorial Legislature, 1967, Territory of Hawaii.
6. Hawaii Rev. Stat., sec. 328-13.
7. 1945 Haw. Sess. Laws, Act 60.
8. 1949 Haw. Sess. Laws, Act 357.
9. The Council consisted of no more than fifteen members, appointed by the Governor with the Director of the Office of Environmental Quality Control as the chair, representing the mass media; relevant disciplines, i.e., environmental design, natural, physical and social sciences, technologies, social ethics and philosophy; the university; business and industry; public and private schools and colleges; and voluntary community groups and associations.
10. 1970 Haw. Sess. Laws, Act 132.
11. Senate Committee Report 488-70 on Senate Bill 1132-70, Fifth Legislature, 1970, State of Hawaii.
12. 1970 Haw. Sess. Laws, Act 144; House Standing Committee Report on House Bill 1283-70, Fifth Legislature, 1970, State of Hawaii.
13. 1970 Haw. Sess. Laws, Act 147.
14. The LRB could not obtain the number of the executive order even after checking with the Offices of the Governor and Lieutenant Governor, the OEQC, and the State Archives.
15. 1972 Haw. Sess. Laws, Act 100.
16. 1972 Haw. Sess. Laws, Act 58.
17. The commission was composed of: the planning directors of each county, public members from each county nominated by the respective mayors; the heads of the Department of Agriculture, Department of Budget and Finance, Department of Education, Department of Health, Department of Labor and Industrial Relations, Department of Land and Natural Resources, Department of Planning and Economic Development, Department of Social Services and Housing, Department of Taxation, Department of Transportation, Land Use Commission, and Office of Environmental Quality Control; a county council member from each county; a member of the Senate; and a member of the House of Representatives. Senate Concurrent Resolution No. 14, H.D. 1, Seventh Legislature, 1973, State of Hawaii.
18. Hawaii, Temporary Commission on Statewide Environmental Planning, A Plan for Hawaii's Environment, November 6, 1973.
19. 1974 Haw. Sess. Laws, Act 247.

20. 1974 Haw. Sess. Laws, Act 246.
21. The Commission was composed of ten members appointed by the Governor with at least part of the membership representing labor, management, the construction industry, environmental interest groups, real estate groups, and the architectural, engineering, and planning professions.
22. Hawaii, Office of the Legislative Auditor, General Audit of the Office of Environmental Quality Control, Audit Report No. 79-2 (Honolulu: 1979), p. 27.
23. 1974 Haw. Sess. Laws, Act 249.
24. 1976 Haw. Sess. Laws, Act 84.
25. 1976 Haw. Sess. Laws, Act 184.
26. House Standing Committee Report 582-76 on House Bill 3075-76, Eighth Legislature, 1976.
27. 1978 Haw. Sess. Laws, Act 169.
28. 1982 Haw. Sess. Laws, Act 53.
29. The new law requires that a new council be appointed with terms effective January 1, 1984 but required that at least ten members from the old council and Environmental Quality Commission be among the members. The composition of the council was restated to specify representation from agriculture, public health, the visitor and construction industries, real estate, and research and educational institutions with environmental competence.
30. 1983 Haw. Sess. Laws, Act 148; House Standing Committee Report 101 on House Bill 1087, Twelfth Legislature, 1983, State of Hawaii.
31. Senate Standing Committee Report 776 on House Bill 1087, Twelfth Legislature, 1983, State of Hawaii.
32. 1983 Haw. Sess. Laws, Act 214.
33. 1984 Haw. Sess. Laws, Act 268.
34. 1984 Haw. Sess. Laws, Act 12; Senate Standing Committee Report 204-84 on Senate Bill 1512, Twelfth Legislature, 1984, State of Hawaii.
35. 1984 Haw. Sess. Laws, Act 12.

#### Chapter 4

1. Hawaii Rev. Stat., sec. 26-13.
2. Hawaii Rev. Stat., secs. 26-31 and 26-33.
3. The figure is for fiscal year 1985 and includes positions authorized through all means of financing. Information provided by the Department of Budget and Finance.
4. The first and second largest departments are the Department of Education and the University of Hawaii with position counts of 12,351.65 and

4,890.20, respectively. Information provided by the Department of Budget and Finance.

5. Department of Health response to LRB preinterview questionnaire hereinafter referred to as DOH questionnaire response.
6. Pollution control programs include the Pollution Investigation and Enforcement Branch, Environmental Permits Branch, Noise and Radiation Branch, and Wastewater Treatment Works Construction Grants Branch. DOH questionnaire response.
7. Ibid.
8. District health offices on the neighbor islands have their own inspectors although the Honolulu office does provide support as needed to the district offices.
9. 1978 Haw. Sess. Laws, Act 169; House Standing Committee Report 729-78 on Senate Bill 350, Ninth Legislature, 1978, State of Hawaii.
10. DOH questionnaire response.
11. Hawaii, Department of Health, State Health Plan, Technical Reference Document (Honolulu: 1981), p. III-171.
12. Follow-up telephone call with Glenn Kobayashi, Acting Chief, Laboratories Branch, Department of Health, November 2, 1984.
13. Interview with Glenn Kobayashi, Acting Chief, and Wayne Iwaoka, Chief Chemist, Laboratories Branch, Department of Health, September 7, 1984.
14. Although the original plan was to have a toxicologist, it was later decided that one was not necessary since the environmental epidemiologist would be able to obtain information from mainland toxicologists through consultation or contract on an as needed basis. Interview with Dr. Bruce Anderson, Environmental Epidemiologist, Department of Health, September 18, 1984.
15. The Department of Personnel Services (DPS) classification system does not have an epidemiologist class requiring a Ph.D. instead of an M.D. and the position could not be permanently established. The DOH has indicated its intent to continue the environmental epidemiology program on a permanent basis and, accordingly, is in the process of requesting an environmental epidemiologist classification from the DPS in order to permanently establish the position.
16. Interview with Dr. Bruce Anderson, Environmental Epidemiologist, Department of Health, September 18, 1984.
17. Hawaii Rev. Stat., sec. 341-4(b).
18. 1980 Haw. Sess. Laws, Act 302.
19. The vacancies are attributable to lengthy delays in converting the positions to civil service classifications when the positions were vacated. While the OEQC was attached to the Governor's Office, the positions were exempt from civil



service requirements. Statewide budget restrictions have also delayed the hiring of new staff. Telephone conversation with Letitia Uyebara, Director, OEQC, October 11, 1984.

20. 1984 Haw. Sess. Laws, Act 275.
21. Hawaii Rev. Stat., sec. 341-6.
22. Hawaii Rev. Stat., sec. 26-16.
23. 1983 Haw. Sess. Laws, Act 214.
24. Interview with Jack Suwa, Suzanne Peterson, Charles Yasuda, and Lyle Wong, Department of Agriculture, August 30, 1984.
25. Hawaii Rev. Stat., sec. 341-5.
26. 1970 Haw. Sess. Laws, Act 132.
27. Hawaii, Office of the Legislative Auditor, General Audit of the Office of Environmental Quality Control, Audit Report No. 79-2 (Honolulu: 1979), p. 5.
28. University of Hawaii preinterview questionnaire, July 27, 1984.
29. Department of Agriculture's testimony before the legislative Joint Interim Committee to Review the State's Capability to Monitor and Prevent Contamination of Water Resources by Pesticides, November 22, 1983.
30. Honolulu Star-Bulletin, February 8, 1983, p. A-1.
31. Honolulu Star-Bulletin, August 13, 1983, p. A-3.
32. Pesticide Hazard Assessment Project's response to LRB preinterview questionnaire.
33. Interview with Dr. Stephen Lau, Director, Water Resources Research Center, October 1, 1984.

## Chapter 5

1. Chapter 54, Rules of the Department of Health.
2. Hawaii, Department of Health, Water Quality Management Plan for the State of Hawaii - Summary (December 1980), hereinafter referred to as the "208" Plan, p. 6-6.
3. Hawaii Rev. Stat., sec. 180C-2.
4. "208" Plan, pp. 13-1 to 13-7.
5. Ibid., pp. 12-1 to 12-11.
6. Ibid., p. 15-4.
7. Ibid., pp. 15-5 to 15-6.
8. This has been the stated intent since the formulation of the "208" Plan; however, the transfer process has been delayed because of disagreements between the counties and the DOH. The DOH adopted new rules for private wastewater treatment works and individual wastewater systems (Chapter 57) which remove the

requirement of state approval of the construction and location of private treatment works and, in effect, force the counties to assume control of a function without funding support.

9. Many areas throughout the State, especially on the neighbor islands, are serviced not by municipal sewers but by private systems. The majority of private treatment plants are located in coastal areas isolated from the major urban areas and most of these plants use subsurface disposal because of the high costs of regulatory requirements for effluent discharges into state waters.
10. "Household aerobic unit" means a water tight receptacle which receives domestic water from one dwelling unit or from other sources generating organic matter over a period of time, and allows the clarified effluent to discharge outside the tank into a disposal system. Chapter 57, Rules of the Department of Health.
11. 1978 Haw. Sess. Laws, Act 169.
12. "208" Plan, p. 7-1.
13. Annual Report, 1981-1982, University of Hawaii, Water Resources Research Center (Honolulu: 1982), pp. 13-52.
14. Hawaii, Department of Health, State Health Plan, Technical Reference Document (Honolulu: 1981), p. III-14.
15. Hawaii, Department of Health, Air Pollution Control Implementation Plan (Honolulu: 1972).
16. Hawaii, Department of Health, State Health Plan, p. III-13.
17. Interview with Dr. Bruce Anderson, Environmental Epidemiologist, Department of Health, September 18, 1984.
18. College of Tropical Agriculture and Human Resources response to LRB preinterview questionnaire.
19. Letter to Melvin Koizumi, Deputy Director for Environmental Health, from R. Michael Stenburg, Chief, Air Operations Branch, U.S. Environmental Protection Agency, Region IX, June 27, 1984.
20. Since no standards existed for the three chemicals in drinking water, the wells were not in violation of any standards. However, the Director of Health was able to take such action because of the Director's duties to protect the public health and welfare and because there were alternate water sources to serve the affected communities. Although the Governor's Ad Hoc Committee on Groundwater Contamination established recommended standards for DBCP and EDB based on available information, the DOH does not plan to formally adopt standards for these contaminants unless the EPA does so. Interview with Charles Clark, Director of Health; Melvin Koizumi, Deputy Director for Environmental Health; and Leslie Matsubara, Deputy Director for Administration, August 23, 1984.

The Ad Hoc Committee's recommendations were transmitted to the EPA which has since issued a health advisory, or nonenforceable guidelines for the states, which include the two contaminants found in Hawaii water supplies. Interview with Thomas Arizumi, Drinking Water Section Supervisor, Department of Health, September 13, 1984.

21. Interview with Kazu Hayashida, Manager and Chief Engineer, Honolulu Board of Water Supply, September 20, 1984.
22. Department of Health's testimony before the legislative Joint Interim Committee to Review the State's Capability to Monitor and Prevent Contamination of Water Resources by Pesticides, November 22, 1983.
23. Hawaii, Department of Health, Solid and Hazardous Waste Management in Hawaii, A Report to the Eleventh State Legislature, 1982 Session (Honolulu: 1981).
24. Chapter 58, Rules of the Department of Health.
25. Solid and Hazardous Waste Management in Hawaii, p. 2.
26. Ibid., p. 17.
27. Telephone conversation with Brian Choy, Environmental Planner, Department of Health, October 26, 1984.
28. Memorandum of Understanding Between the United States Environmental Protection Agency, Region IX, and the Hawaii State Department of Health, draft dated October 25, 1984.
29. In 1982 there were 3,064 pesticides registered for sale and distributed in Hawaii. In 1983 there were 110 licensed dealers in Hawaii. Department of Agriculture's testimony before the Joint Interim Committee to Review the State's Capability to Monitor and Prevent Contamination of Water Resources by Pesticides, November 22, 1983.
30. Chapter 58, Rules of the Department of Health.
31. Cooperative Enforcement Agreement between the DOA and the Environmental Protection Agency, Region IX, for fiscal year 1984.
32. Memorandum of Understanding Between the Hawaii State Departments of Agriculture and Health with respect to (1) Alleged Misuse of Pesticides and (2) Damage by Pesticides to Crops, Plants, Poultry, or Livestock Except Dairy Animals, Pesticide Use and Pesticide Exposure to Man, Environment, and Products, revised 1984 but undated. The Bureau could not locate a dated and signed Memorandum although both departments have agreed to the revised Memorandum.

The Memorandum is believed to have been in existence for at least twenty years. The DOH and DOA records do not indicate the date of the first Memorandum; however, a 1969 report noted that a similar Memorandum was signed on September 23, 1964. The Bureau could not determine whether the Memorandum has continued in effect since that time. Hawaii, Department

of Agriculture, Evaluation of Pesticide Problems in Hawaii (Honolulu: 1969), p. 100.

33. Annual Report, Fiscal Year 1983, Department of Agriculture, State of Hawaii (Honolulu: 1984), p. 13.
34. Memorandum of Agreement Between the University of Hawaii and the Department of Agriculture, State of Hawaii, dated January 23, 1978, as amended July 1, 1978 and July 1, 1982.
35. In 1983 the WRRC worked with the DOA to study the persistence and movement of EDB in soil on Oahu. Subsequently, the 1984 Legislature appropriated \$60,000 to the WRRC for an expanded study of fumigant residues in soil, saprolite, and perched water in high, medium, and low percolating fields over the Pearl Harbor basal aquifer. The WRRC and the OEQC both noted the importance of this project in understanding the distribution and movement of pesticides in Hawaiian soils. Yet, as of October 1984, the \$60,000 still had not been released to the WRRC. Interview with Dr. Stephen Lau, Director, Water Resources Research Center, October 1, 1984; FY-84 Water Quality Management Planning Program Grant Workplan by Element and Subelement, July 13, 1984, pp. 8-10.
36. Interview with Dr. Bruce Anderson, Environmental Epidemiologist, Department of Health, September 18, 1984.
37. See Hawaii, Department of Health, Research and Statistics Office:  
  
Health Assessment of a Community with Pesticide Contaminated Drinking Water, R&S Report No. 42 (Honolulu: 1982).  
  
An Investigation of the Possible Effect of Heptachlor Contamination of Milk on Pregnancy Outcome of Oahu Women Residents, R&S Report No. 46 (Honolulu: 1983).  
  
The Queen's Gate Investigation, R&S Report No. 49 (Honolulu: 1984).
38. While the EPA's tolerance levels for pesticide residues on raw agricultural commodities are published in the Federal Register, the FDA's action levels are not. Instead, the action levels are listed by industry in the FDA's Compliance Policy Guides.
39. Hawaii, Department of Health, State Health Plan, Technical Reference Document (Honolulu: 1981), p. III-49.
40. Executive Order signed by the Governor on August 23, 1971. The Governor's Office, Lieutenant Governor's Office, State Archives, and the OEQC could not provide the Bureau with the number of the Executive Order.
41. Section 343-5, Hawaii Revised Statutes, subjects proposed developments in the following areas to the EIS requirements: the state conservation district, the shoreline area, any historic site listed on the national or Hawaii registers of historic places and the Waikiki-Diamond Head area of Oahu. Amendments to county general

plans not initiated by the county also require an environmental assessment.

2. Section 343-2(9), Hawaii Revised Statutes, requires that an EIS disclose the environmental effects of a proposed action, effects of a proposed action on the economic activities arising out of the proposed action, measures proposed to minimize adverse effects, and alternatives to the action and their environmental effects.

## Chapter 6

1. Prior to the interviews, a preinterview questionnaire was sent to the Department of Agriculture, the Department of Health, the Office of Environmental Quality Control, the College of Tropical Agriculture and Human Resources, the Water Resources Research Center, the School of Medicine, the School of Public Health, and the Pesticide Hazard Assessment Project. The questions in the questionnaire were presented to the Environmental Center and the Environmental Council during the interview session. The questionnaire included questions concerning the agency's functional roles in environmental health programs and relationships with other agencies; the agency's opinions as to the problems in the current organization; and the agency's opinion on the creation of a new organizational structure for environmental affairs.
2. Hawaii Const., art. XI, sec. 9.
3. Hawaii Rev. Stat., chapters 343 and 344.
4. Honolulu Advertiser, September 28, 1983, p. A-1. Honolulu Star-Bulletin, September 29, 1983, p. A-3.
5. Memorandum from the Director of Health to Governor George R. Ariyoshi through Eileen R. Anderson, Director of Finance, October 25, 1979; memorandum from the Director of Health to Governor George R. Ariyoshi through Eileen R. Anderson, Director of Finance, January 9, 1980; and memorandum from the Deputy Director for Environmental Health to Chief, Budget, Planning and Managing Division, Department of Budget and Finance, January 9, 1980.
6. Hawaii, Department of Health, Hawaii Health Messenger, Vol. 42, No. 2 (Honolulu: 1979), p. 1.
7. Hawaii's Environment: the Tenth Annual Report of the Environmental Council 1983 (Honolulu: 1983), p. 3.
8. Hawaii, Office of the Legislative Auditor, General Audit of the Office of Environmental Quality Control, Audit Report No. 79-2 (Honolulu: 1979), p. 9.
9. Interview with Letitia Uyebara, Director, Office of Environmental Quality Control, August 28, 1984.
10. The OEQC was directed to (1) coordinate studies of potentially toxic and hazardous pesticides used in the State to determine the movement and

fate of such pesticides used in solid, drinking water, animal feed, and food products; (2) coordinate systematic monitoring of all aquifers and surface waters by the DOH and Board of Water Supply; (3) assist the DOA in developing, compiling, and maintaining a data base of historical and current pesticide use patterns and practices to facilitate identification of areas where pesticide contamination is most likely to occur; (4) coordinate the development, by each agency of a pesticides action plan which clearly defines each agency's responsibilities, needs, and procedures for preventing or mitigating pesticide-related contamination; (5) coordinate the establishment of a mandatory reporting system for all pesticides sold and distributed in the State; (6) assess the feasibility of a record-keeping requirement for the application of all restricted use pesticides in Hawaii; (7) coordinate the preparation, by the affected agencies of a contingency plan to provide for the State's preparedness and ability to respond effectively in emergency situations involving pesticides or other toxic or hazardous substance; (8) develop criteria, supplemental to the federal standards, to assess the risks associated with the contamination of water, food products, and the environment by pesticides; and (9) coordinate and disseminate on behalf of the affected agencies all public information on pesticide-related environmental and health matters. 1984 Haw. Sess. Laws, Act 275.

11. Memorandum to Susumu Ono, Chairman, Board of Land and Natural Resources, Department of Land and Natural Resources, et al. from George R. Ariyoshi, Governor, re: Report of the Intergovernmental Task Force for Permit Simplification, September 5, 1984.
12. During the heptachlor crisis, samples of milk were sent to a San Francisco USFDA laboratory for analysis before the DOH would render a decision. Hawaii, Report of the Senate Special Committee Investigating Heptachlor Contamination of Milk (Honolulu: 1983), p. 47. During the water well contamination, certain samples were being analyzed by the University of Hawaii College of Tropical Agriculture and Human Resources since the College had more sensitive equipment and samples were sent to laboratories in Ohio, Maryland, and California. Honolulu Advertiser, July 13, 1983, p. A-3; Honolulu Star-Bulletin, October 12, 1983, p. A-3.
13. Interview with Glenn Kobayashi, Acting Laboratories Branch Chief, and Wayne Iwaoka, Chief Chemist, September 7, 1984.
14. Hawaii, Department of Budget and Finance, The Multi-Year Program and Financial Plan and Executive Budget for the Period 1983-1989 (Budget Period: 1983-1985), Volume II, p. 1028.
15. Honolulu Advertiser, October 16, 1982, p. A-1.
16. Hawaii, Report of the Senate Special Committee Investigating Heptachlor Contamination of Milk (Honolulu: 1983), p. 234.
17. Richard Pratt, "The Great Hawaiian Milk Crisis: Politics, Policy and the Public's Health," p. 12. Unpublished paper, University of Hawaii, 1983, to be published in the forthcoming Social

Process in Hawaii, Vol. 31, 1985, Department of Sociology, University of Hawaii.

18. Ibid., p. 10.
19. Interview with Thomas Arizumi, Drinking Water Section Supervisor, September 13, 1984.
20. Letter from Charles G. Clark, Director of Health, to Frank M. Covington, Director, Water Management Division, U.S. Environmental Protection Agency, Region IX, March 1, 1984; telephone conversation with Dennis Lau, Environmental Permits Branch Chief, November 5, 1984.
21. Memorandum from the Director of Health to George R. Ariyoshi, Governor, through the Director of Finance, December 2, 1982, p. 6.
22. Ibid., p. 3.
23. Ibid., p. 6.
24. EPA FY-82 Mid-Year Evaluation of the Water Quality Management on Public Water Supply Supervision, and Underground Injection Control Programs, p. 1.
25. See EPA FY-84 Mid-Year Evaluation of the Public Water Supply Supervision Program Grant, p. 1; EPA FY-83 Mid-Year Evaluation of the Public Water Supply Supervision Program Grant, p. 1; letter from Dave Jones, Chief, Arizona/Hawaii/Nevada Branch, Environmental Protection Agency, Region IX, October 6, 1982.
26. Ibid., p. 1.
27. Memorandum from Robert W. Rhein, Public Health Administrative Services Officer, EPHSD, to Supervisor, Drinking Water Program, August 12, 1983.
28. Interview with Jensen Hee, Director of Finance, and James Nakamura, Budget Division Chief, October 2, 1984.
29. Hawaii, Department of Health, Status Report on Completion of Work Plan Requirements and Expenditures (Honolulu: 1981), p. 28.
5. Ibid., p. 255.
6. The Council of State Governments placed the following states in this category: California, Texas, New Hampshire, Virginia, West Virginia. The Bureau has added North Carolina to this group because although air and water quality programs are functions of a consolidated department, the solid and hazardous waste programs remain in a separate agency.
7. Council of State Governments, pp. 24-25.
8. Ibid., pp. 26-28.
9. Ibid., p. 13.
10. Ibid., p. 84.
11. Ibid., p. 48.
12. Ibid., p. 49.
13. Ibid., pp. 29, 32.
14. Ibid., p. 87.
15. Ibid., pp. 87-88.
16. Ibid., p. 88.
17. Arkansas, California, Louisiana, Minnesota, South Dakota, Tennessee, Washington, and Wyoming. Although California sent an organizational chart accompanied by a letter explaining its organization and Louisiana sent the LRB a copy of its environmental laws, they did not complete the questionnaire.
18. Indiana, New Mexico, and Maine are considering reorganization of environmental programs while New Hampshire and Virginia are considering environmental reorganization as part of overall executive reorganization.
19. Haskell and Price, p. 110.
20. The other two states in one question indicated that their states participated in interagency councils but in another question indicated that interagency councils were not used.
21. Survey results showed that at least eight major reorganizations have occurred since the CSG survey in 1974, with "major" defined as being of such magnitude that the state would move from one organizational category to another. Environmentally specific reorganizations occurred in Alabama, Florida, Iowa, Mississippi, Nevada, and Rhode Island while environmental reorganization occurred as part of overall executive reorganizations in New Mexico and North Carolina. There were internal or minor reorganizations in eight other states: Alaska, Arizona, Kansas, Maryland, Massachusetts, Michigan, New Jersey, and Utah.
22. South Carolina Department of Health response to Legislative Reference Bureau questionnaire, July 13, 1984.
23. Telephone conversation with W. Mark Gruber, Environmental Planner, New Mexico Health and

## Chapter 7

1. Elizabeth Haskell and Victoria Price, State Environmental Management: Case Studies of Nine States (New York: Praeger Publishers, 1973), hereinafter referred to as Haskell and Price. The report expanded upon a previous study by Elizabeth Haskell Managing the Environment: Nine States Look for New Answers (Washington: Woodrow Wilson International Center for Scholars, 1971).
2. Council of State Governments, Integration and Coordination of State Environmental Programs (Lexington: 1975), hereinafter referred to as the Council of State Governments.
3. Haskell and Price, pp. 249-254.
4. Ibid., p. 245.

## Chapter 8

1. Overview Corporation for Hawaii Department of Planning and Economic Development, State of Hawaii Comprehensive Open Space Plan (Honolulu: 1972), p. 159.
2. Ibid., pp. 159-160.
3. Hawaii Temporary Commission on State-Wide Environmental Planning, A Plan for Hawaii's Environment; A Report of the... (Honolulu: 1973), p. 27.
4. The CSG's eight principles relating to environmental organization are:
  - A. There must be clear-cut mechanisms for environmental standards setting, enforcement, and decision-making. Confusion of responsibility must be avoided.
  - B. The scope of agency responsibility should be as comprehensive as possible, recognizing that environmental concerns are too pervasive to include everything.
  - C. In defining the agency's responsibility, the primary emphasis must be on man's needs--protection of public health and general well-being--with secondary emphasis on other factors.
  - D. To be effective the agency should be provided by legislation with the "police powers" needed to protect public health.../because/it is virtually impossible to define all possible environmental problems...
  - E. There should be broad public interest representation on regulatory, policy, and advisory bodies.
  - F. Environmental regulatory responsibilities should be separated organizationally from activities of the state government relating to promotion, development, and exploitation.
  - G. It is essential that appropriate interrelationships be provided by statute with local governments so as to utilize the combined efforts of local and state governments.
  - H. Provision should be made via legislative mandate for consideration of environmental quality goals in connection with the related state governmental functions such as transportation, public utility regulation, agriculture, and land-use planning.
5. Hawaii, Ad Hoc Commission on Operations, Revenues and Expenditures, Committee on Health and Social Sciences, "CORE Research Memo No. 21 Environmental Protection and Planning" (Honolulu: 1974), p. 11.
6. Governor's Ad Hoc Commission on Operations, Revenues and Expenditures, CORE Report to the Governor (Honolulu: 1974), p. B-124.
7. Ibid., p. B-124.
8. Government Organization Commission, "Tentative Recommendations on State Executive Branch, State-County Fiscal Relations, and Limitations on Expenditures" (Honolulu: 1976), p. 12.
9. Elizabeth H. Haskell and Victoria S. Price, State Environmental Management: Case Studies of Nine States (New York: Praeger Publishers, 1973), p. 37.
10. Council of State Governments, Integration and Coordination of State Environmental Programs (Lexington: 1975), p. 69.
11. Haskell and Price, p. 63.
12. Ibid., p. 261.
13. Office of the Director, State Civil Defense, State of Hawaii Plan for Emergency Preparedness, Vol. I, Operational Civil Defense, Basic Plan.
14. Edward D. Feigenbaum and Mark L. Ford, Emergency Management in the States (Lexington, Ky: Council of State Governments, 1984), p. 2.
15. Honolulu Advertiser, February 4, 1983, p. A-20.
16. Interview with Jack Suwa, Chairperson, Board of Agriculture; Suzanne Peterson, Deputy to the Chairperson; Charles Yasuda, Plant Industry Division Chief; and Lyle Wong, Ph.D., Pesticides Branch Chief, August 29, 1984.
17. Interview with Noel Kefford, Dean, College of Tropical Agriculture and Human Resources, and John Hylin, Director, Department of Agricultural Biochemistry, September 6, 1984.
18. Senate Committees on Agriculture and Health, joint hearing on Senate Bill No. 1064, February 28, 1983.
19. U.S., General Accounting Office, Report to the Congress of the United States: Stronger Enforcement Needed Against Misuse of Pesticides (Washington: 1981), p. 4.
20. The Bureau wrote a letter to the Regional Administrator, Environmental Protection Agency, Region IX, inquiring whether the EPA preferred administration of state pesticides enforcement programs by any particular type of state agency. The Bureau had not received a response at the time of this writing.
21. Pub. L. 98-616.
22. Haskell and Price, p. 249.
23. Ibid.
24. The thirteen states are Arizona, Colorado, Idaho, Indiana, Kansas, Maryland, Montana, New Mexico, North Dakota, Oklahoma, South Carolina, Tennessee, and Utah. Tennessee did not respond to the LRB survey, but according to its laws,

pollution control programs are in its health department.

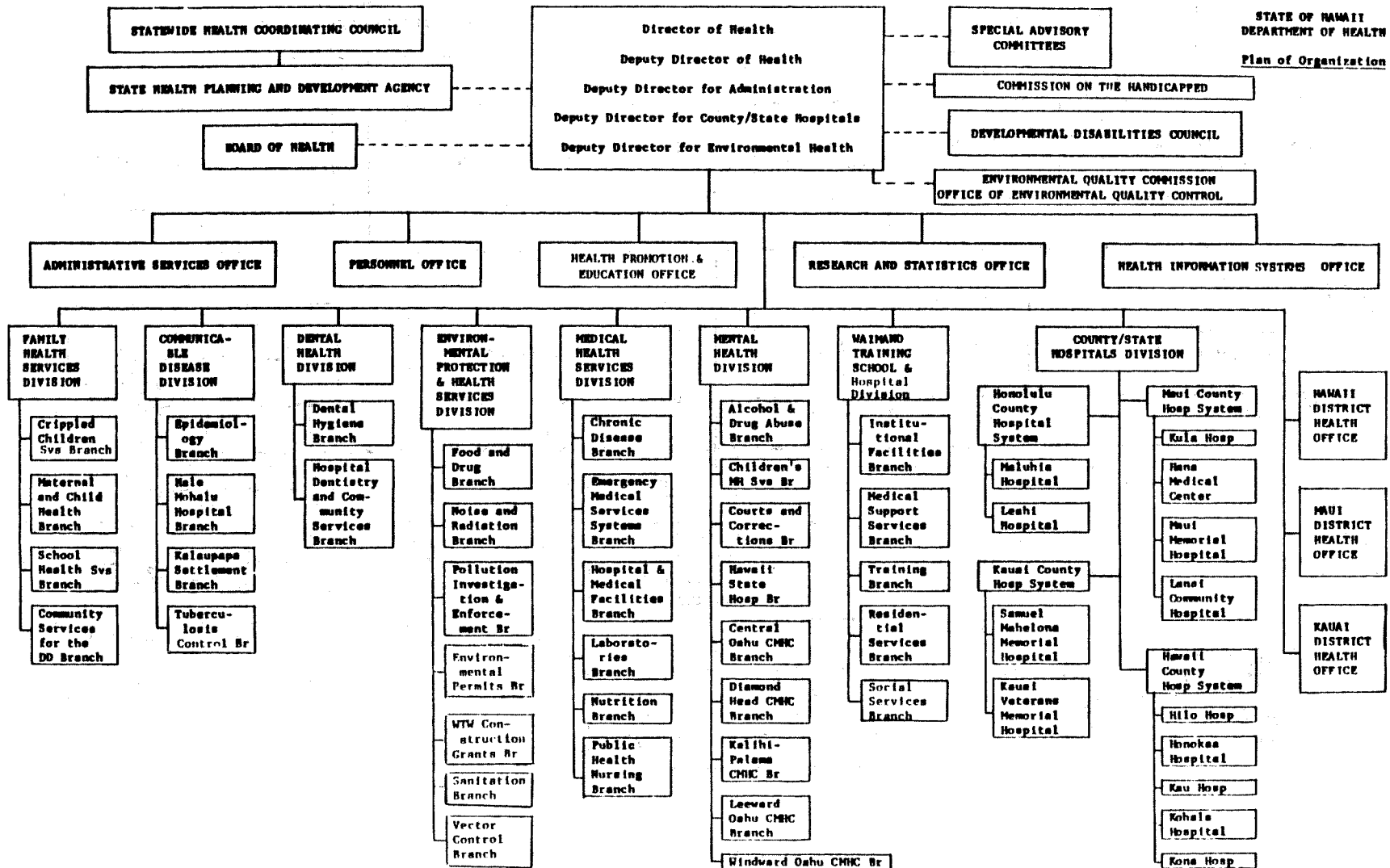
South Carolina and New Mexico created separate agencies but later moved pollution control programs back to the health department.

25. Council of State Governments, p. 53.

#### Chapter 9

1. Council of State Governments, Integration and Coordination of State Environmental Programs (Lexington: 1975), pp. 63-64.
2. Elizabeth Haskell and Victoria Price, State Environmental Management: Case Studies of Nine States (New York: Praeger Publishers, 1973), p. 243.


# EXHIBIT 1

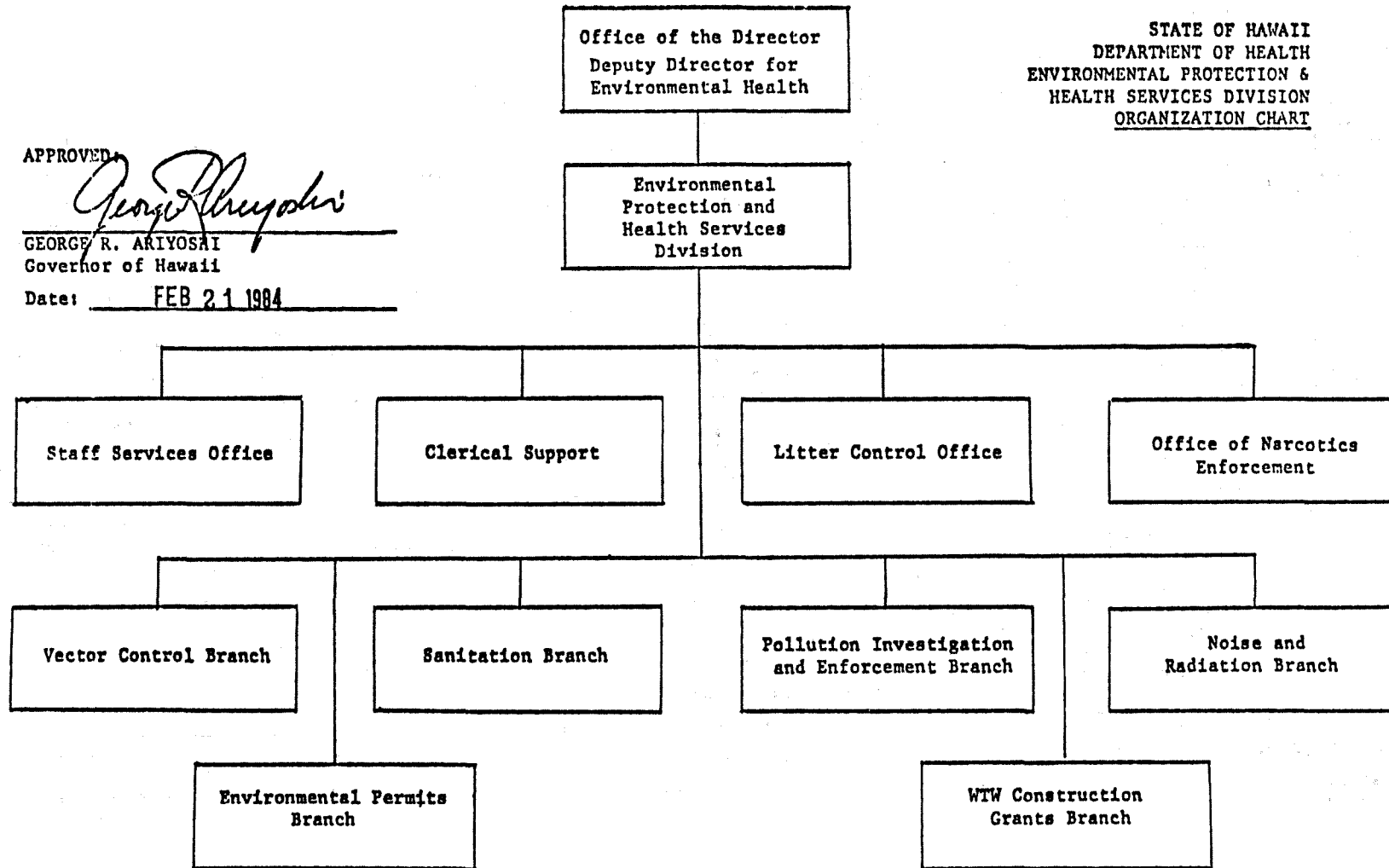


As of June 30, 1983

EXHIBIT 2

STATE OF HAWAII  
DEPARTMENT OF HEALTH  
ENVIRONMENTAL PROTECTION &  
HEALTH SERVICES DIVISION  
ORGANIZATION CHART

APPROVED:   
GEORGE R. ARIYOSHI  
Governor of Hawaii  
Date: FEB 21 1984





# EXHIBIT 3

STATE OF HAWAII  
DEPARTMENT OF HEALTH  
ENVIRONMENTAL PROTECTION &  
HEALTH SERVICES DIVISION  
PROPOSED POSITION CHART

OFFICE OF THE DIRECTOR  
DEPUTY DIRECTOR FOR  
ENVIRONMENTAL HEALTH

SR-26 Planner VI F23812

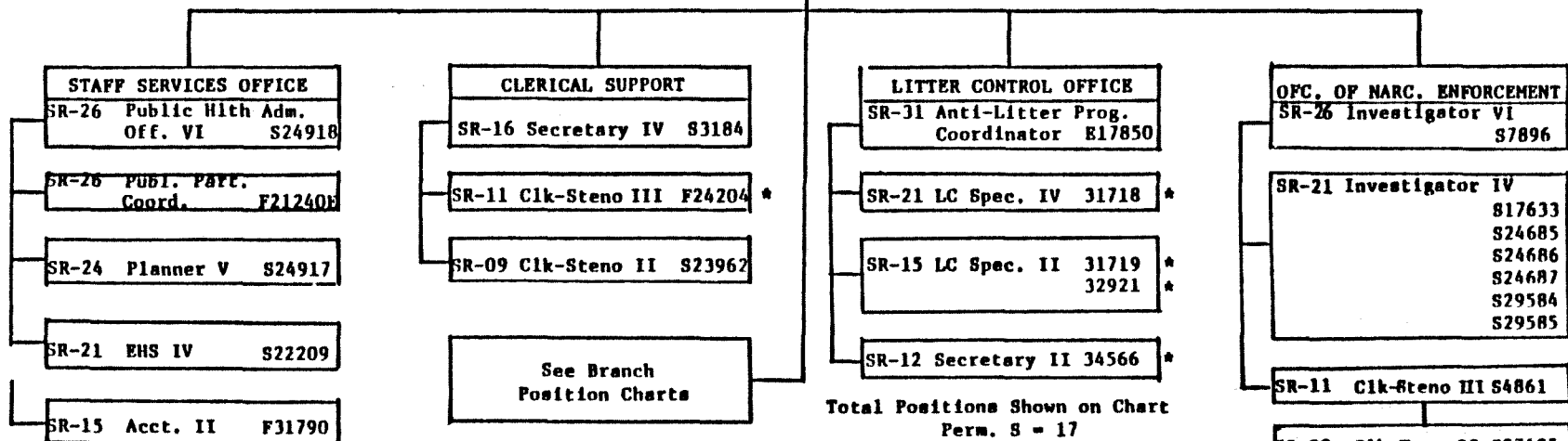
SR-18 Priv. Secy I 823125

Environmental Protection &  
Health Services Division  
EM08 Eng. Prog. Admin.  
S3164

APPROVED:

*George R. Ariyoshi*  
GEORGE R. ARIYOSHI  
Governor of Hawaii

Date: FEB 21 1984



\* Temporary position

Total Positions Shown on Chart

Perm. S = 17

" F = 3

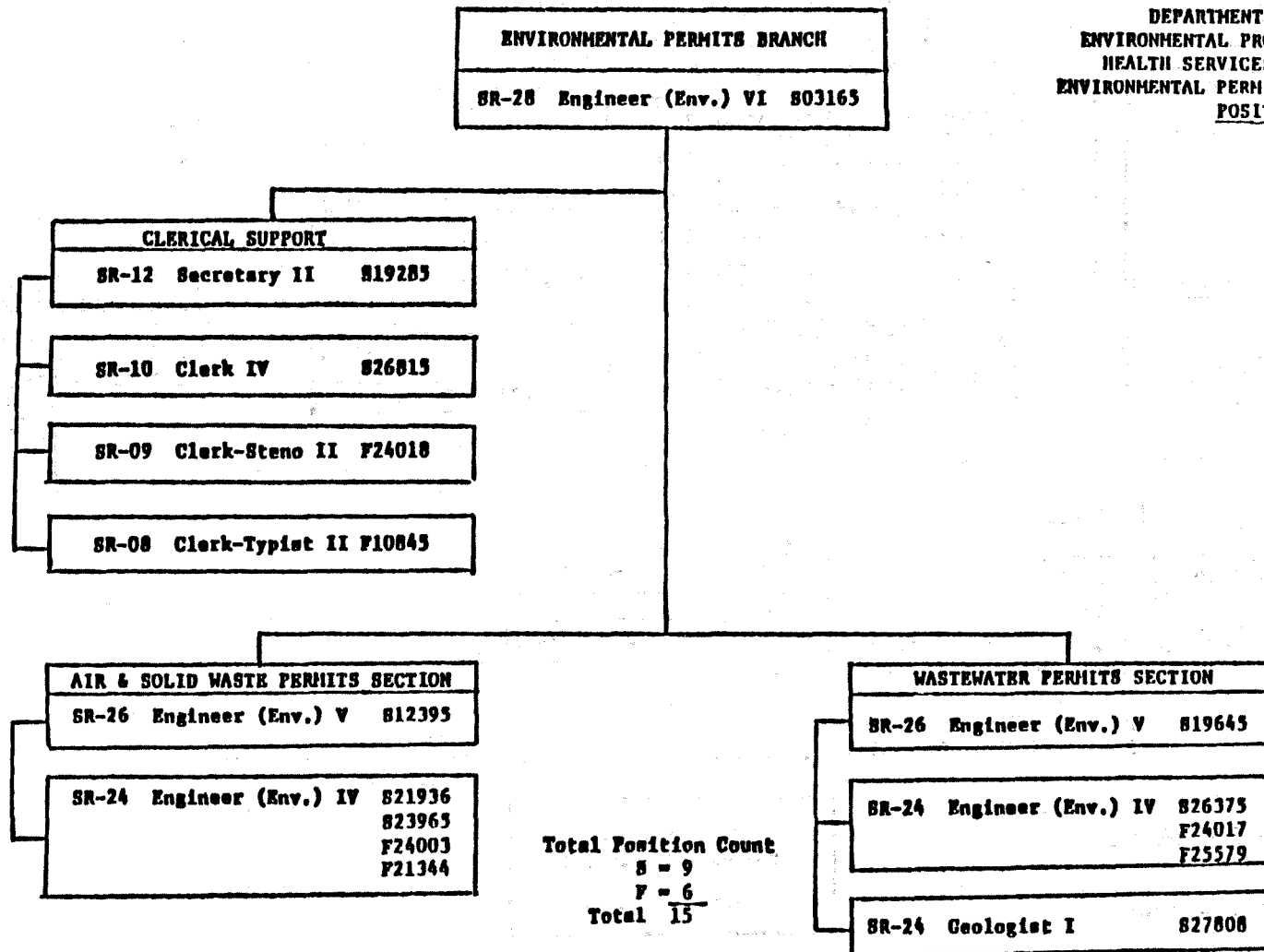
Temp. S = 4

" F = 1

Total = 25

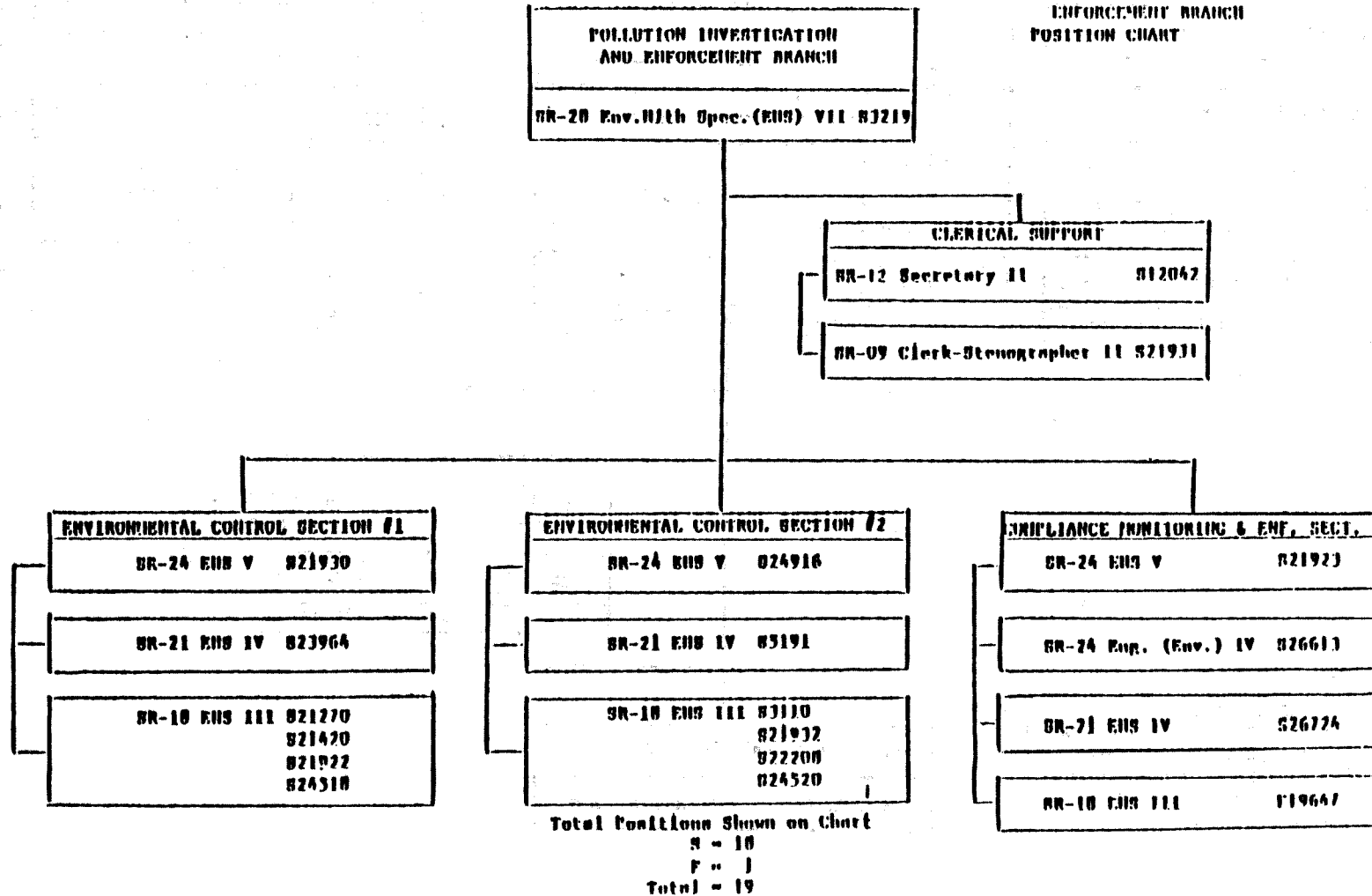
# EXHIBIT 4

STATE OF HAWAII  
DEPARTMENT OF HEALTH  
ENVIRONMENTAL PROTECTION &  
HEALTH SERVICES DIVISION  
ENVIRONMENTAL PERMITS BRANCH  
POSITION CHART



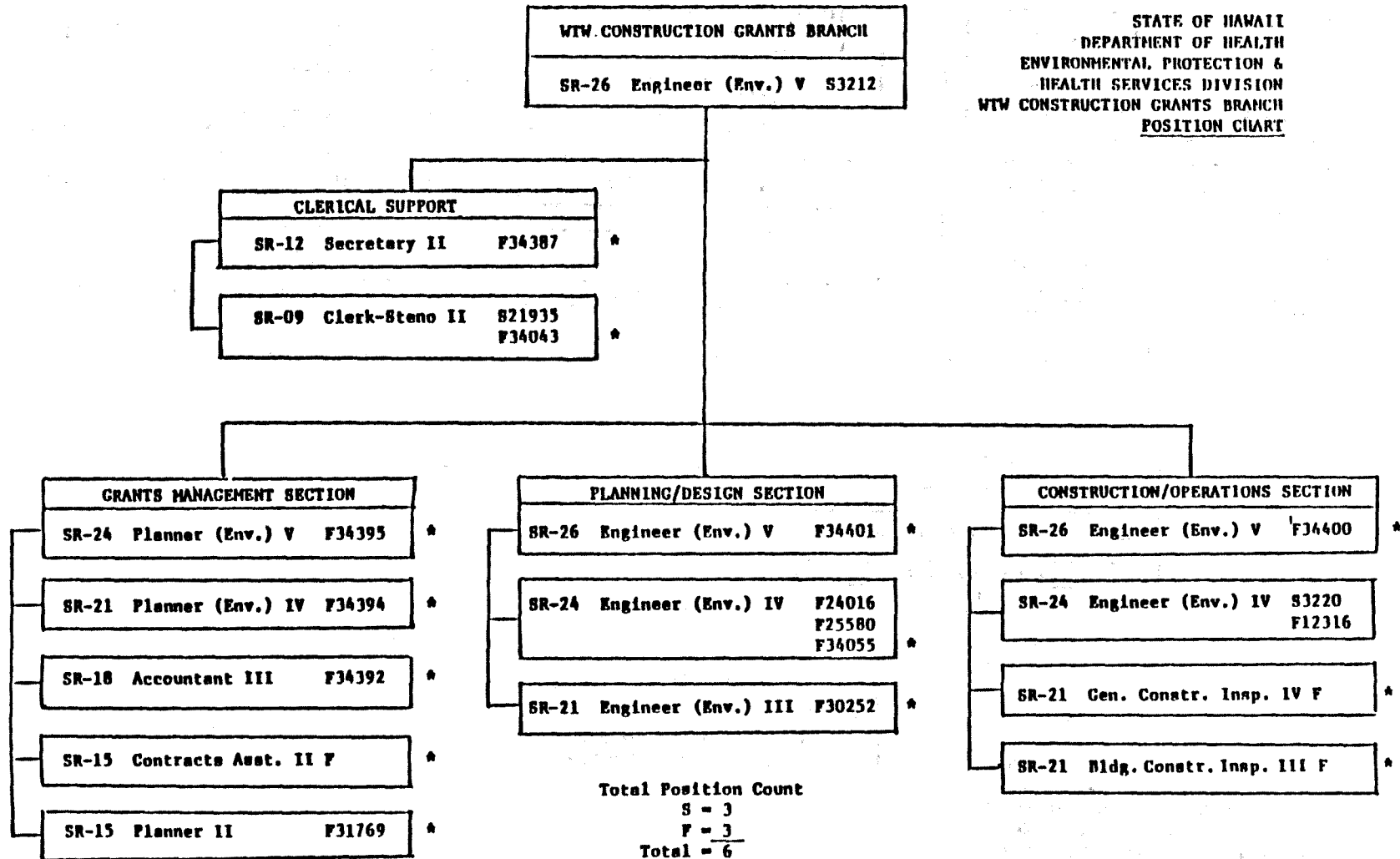
# EXHIBIT 5

STATE OF HAWAII  
DEPARTMENT OF HEALTH  
ENVIRONMENTAL PROTECTION & HEALTH  
SERVICES DIVISION  
POLLUTION INVESTIGATION &  
ENFORCEMENT BRANCH  
POSITION CHART



# EXHIBIT 6

STATE OF HAWAII  
DEPARTMENT OF HEALTH  
ENVIRONMENTAL PROTECTION &  
HEALTH SERVICES DIVISION  
WTW CONSTRUCTION GRANTS BRANCH  
POSITION CHART



Total Position Count  
S = 3  
F = 3  
Total = 6

Temporary F = 13

\* Temporary with appropriate NTE date

# EXHIBIT 7

APPROVED:

*George R. Ariyoshi*  
 GEORGE R. ARIYOSHI  
 Governor of Hawaii

Date:

FEB 21 1984

## NOISE AND RADIATION BRANCH

SR-28 Env. Hlth Spec. (EHS) VII S3218

STATE OF HAWAII  
 DEPARTMENT OF HEALTH  
 ENVIRONMENTAL PROTECTION &  
 HEALTH SERVICES DIVISION  
 NOISE AND RADIATION BRANCH  
PROPOSED POSITION CHART

### HAZARDOUS WASTE PROGRAM \*

### CLERICAL SUPPORT

SR-12 Secretary II S3213

SR-09 Clerk-Stenographer II S21937

### RADIATION AND VENTILATION SECTION

SR-24 Eng. (Env.) IV S3203

SR-21 EHS IV S3080

SR-18 EHS III S8621

Total Positions Shown on Chart

Perm. S = 15

### NOISE CONTROL SECTION

SR-24 EHS V S26067

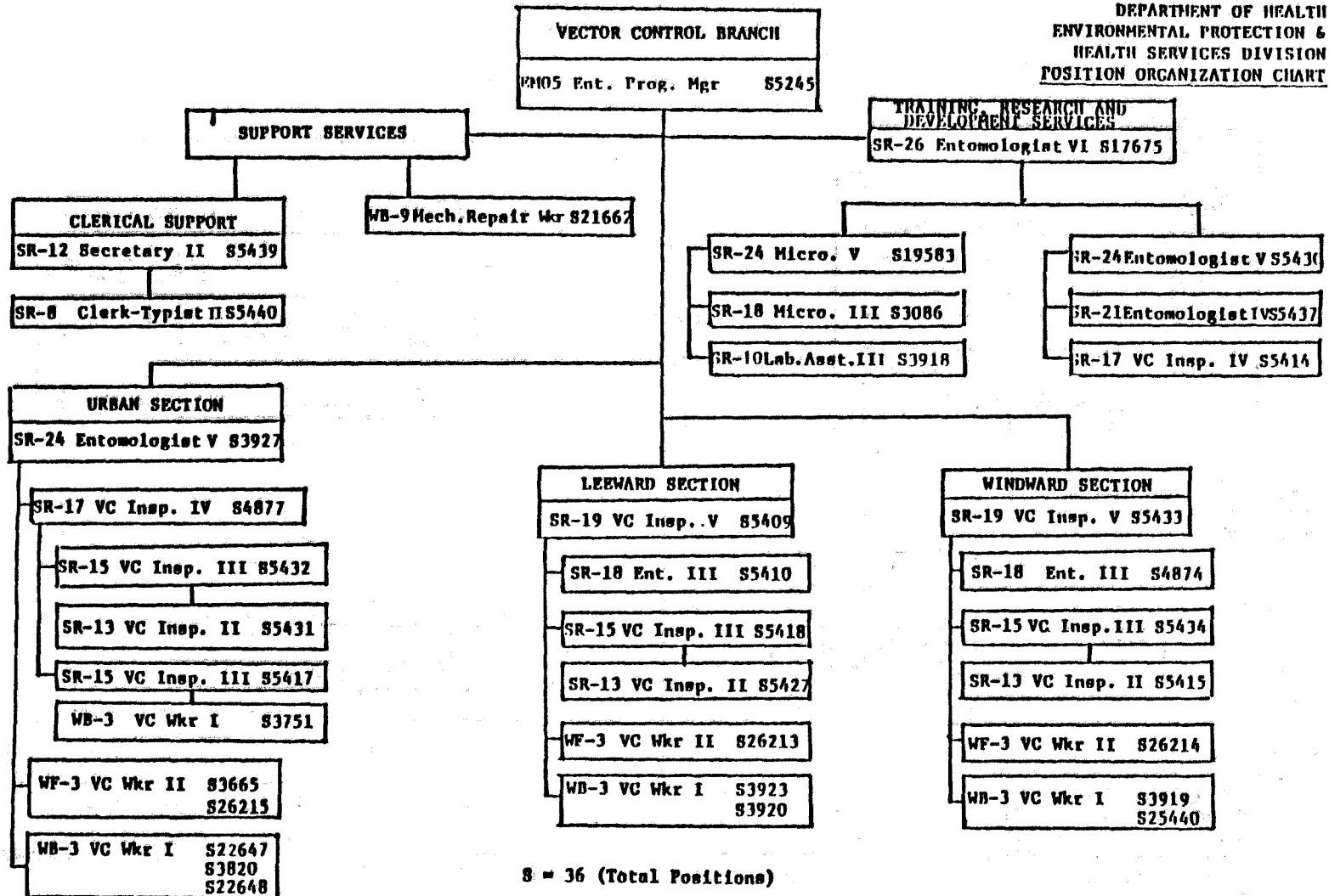
SR-21 EHS IV S21938  
 S21939

SR-18 EHS III S24517  
 S24521  
 S26063  
 S26064  
 S26065  
 S26066

\* Annual contract with Research Corporation, U.H.

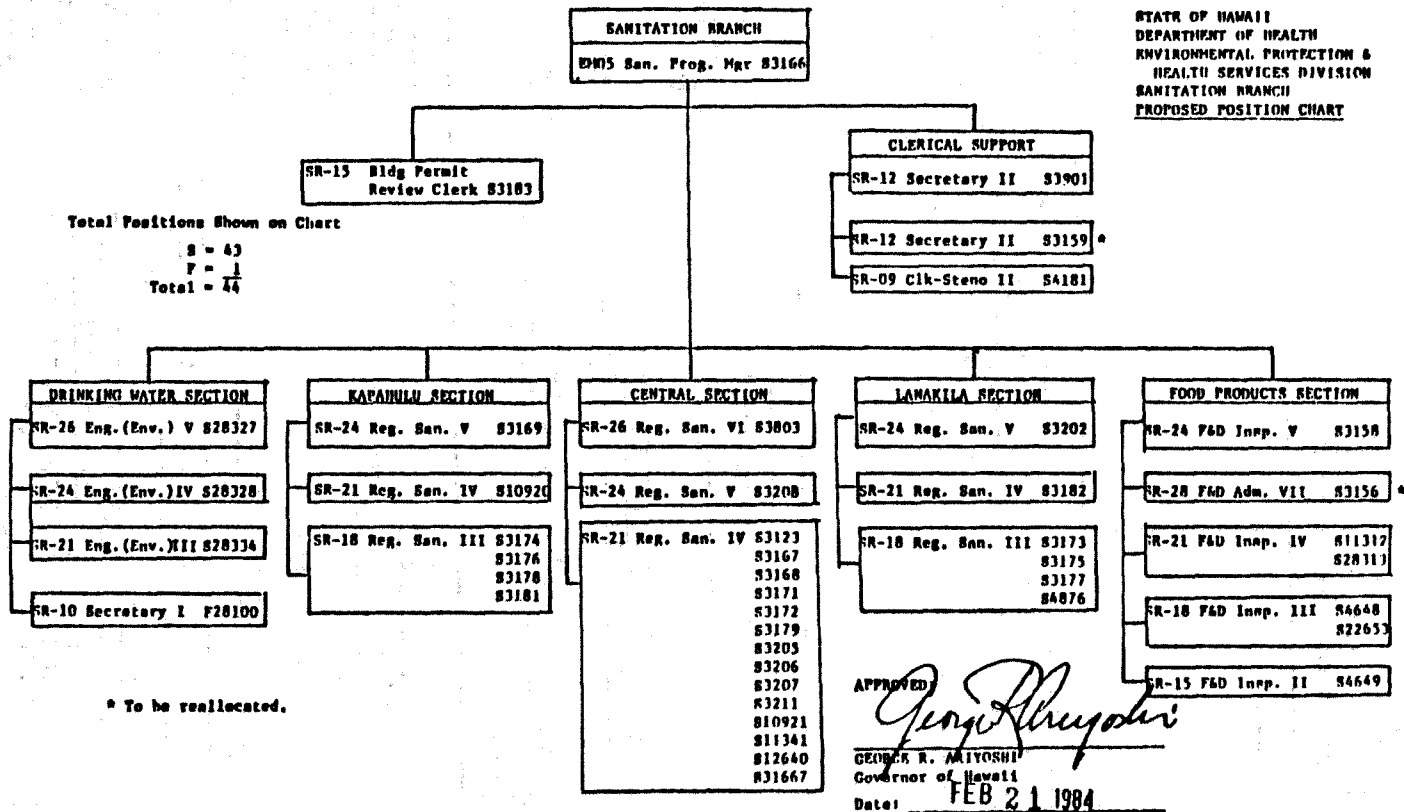
# EXHIBIT 8

STATE OF HAWAII  
DEPARTMENT OF HEALTH  
ENVIRONMENTAL PROTECTION &  
HEALTH SERVICES DIVISION  
POSITION ORGANIZATION CHART



# EXHIBIT 9

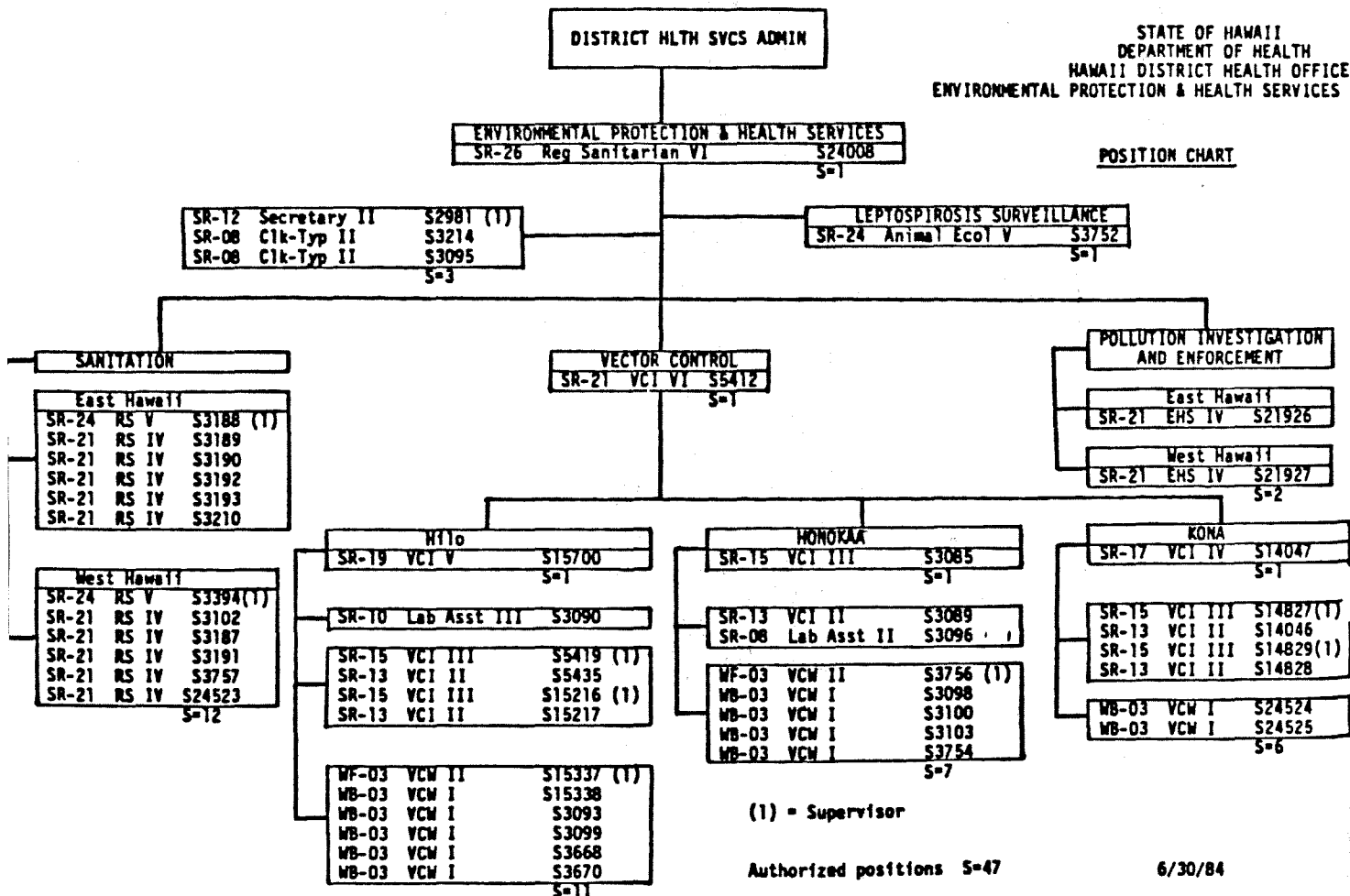
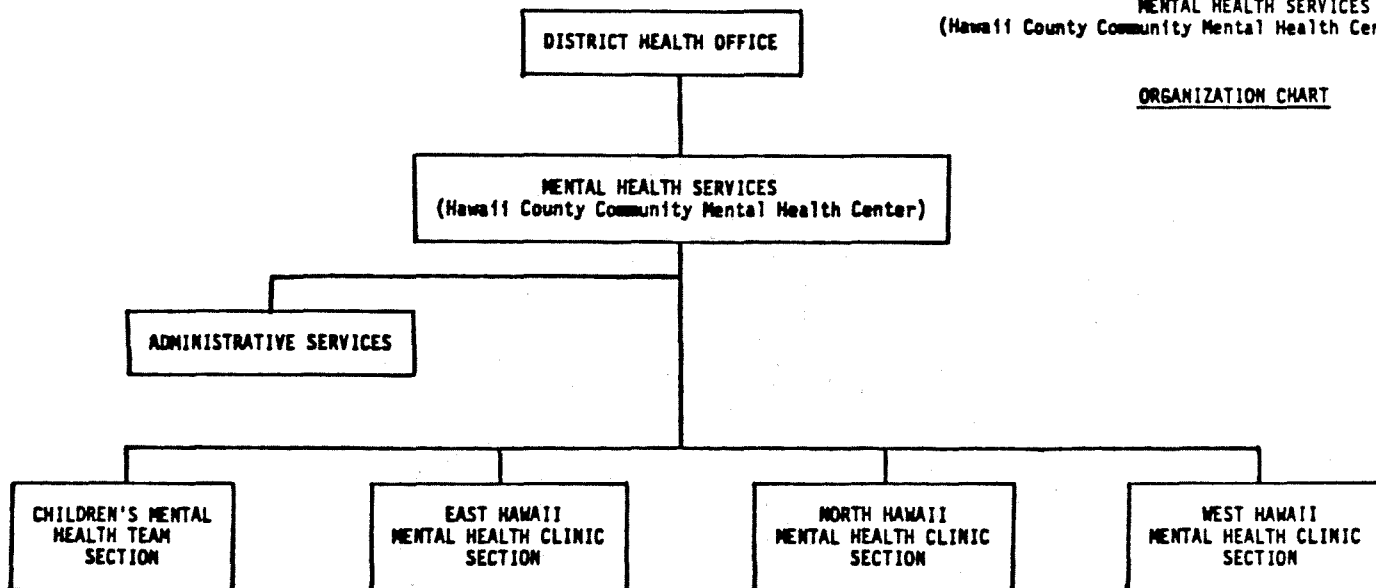
STATE OF HAWAII  
DEPARTMENT OF HEALTH  
ENVIRONMENTAL PROTECTION &  
HEALTH SERVICES DIVISION  
SANITATION BRANCH  
PROPOSED POSITION CHART



# EXHIBIT 10

STATE OF HAWAII  
DEPARTMENT OF HEALTH  
HAWAII DISTRICT HEALTH OFFICE  
MENTAL HEALTH SERVICES  
(Hawaii County Community Mental Health Center)

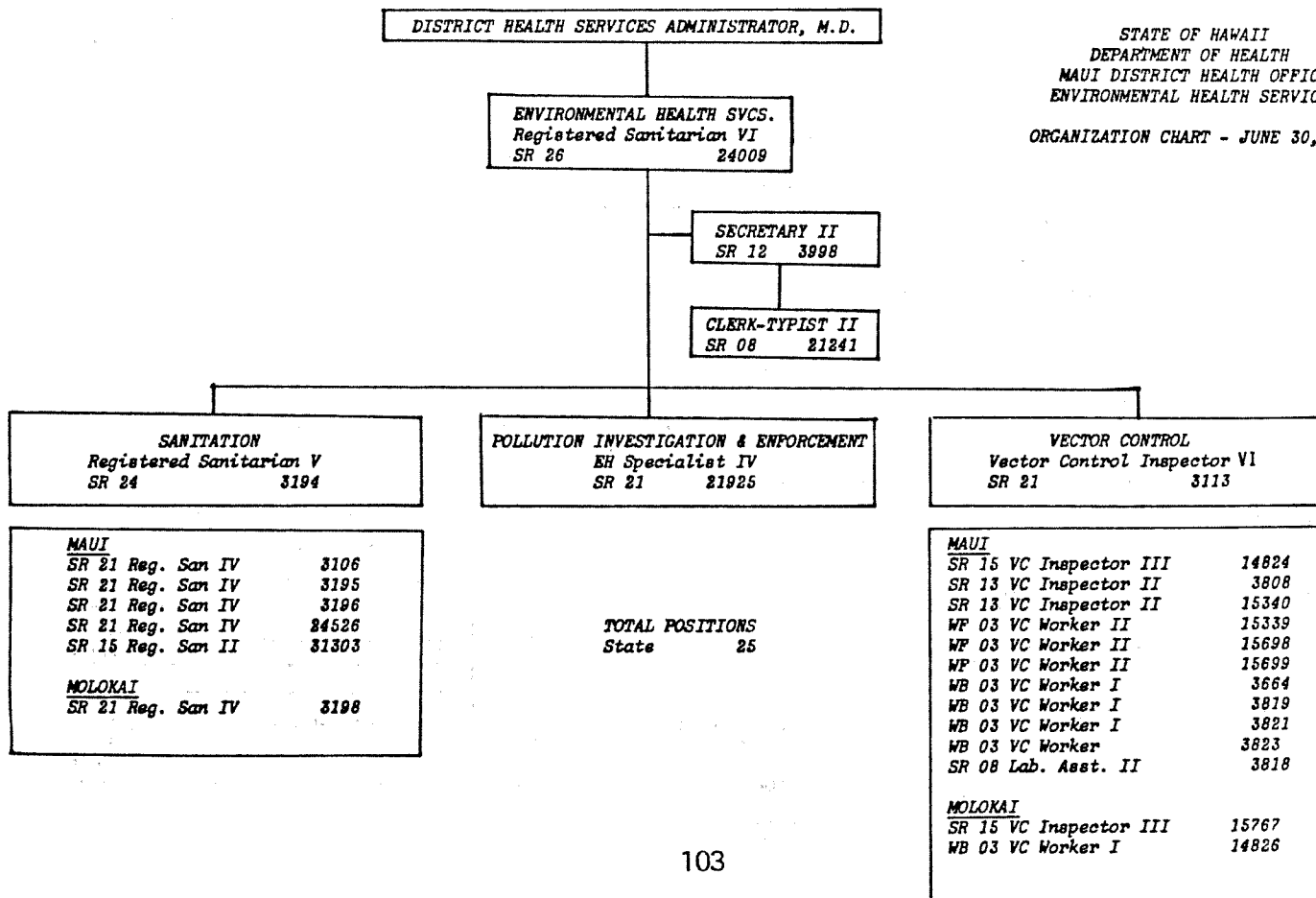
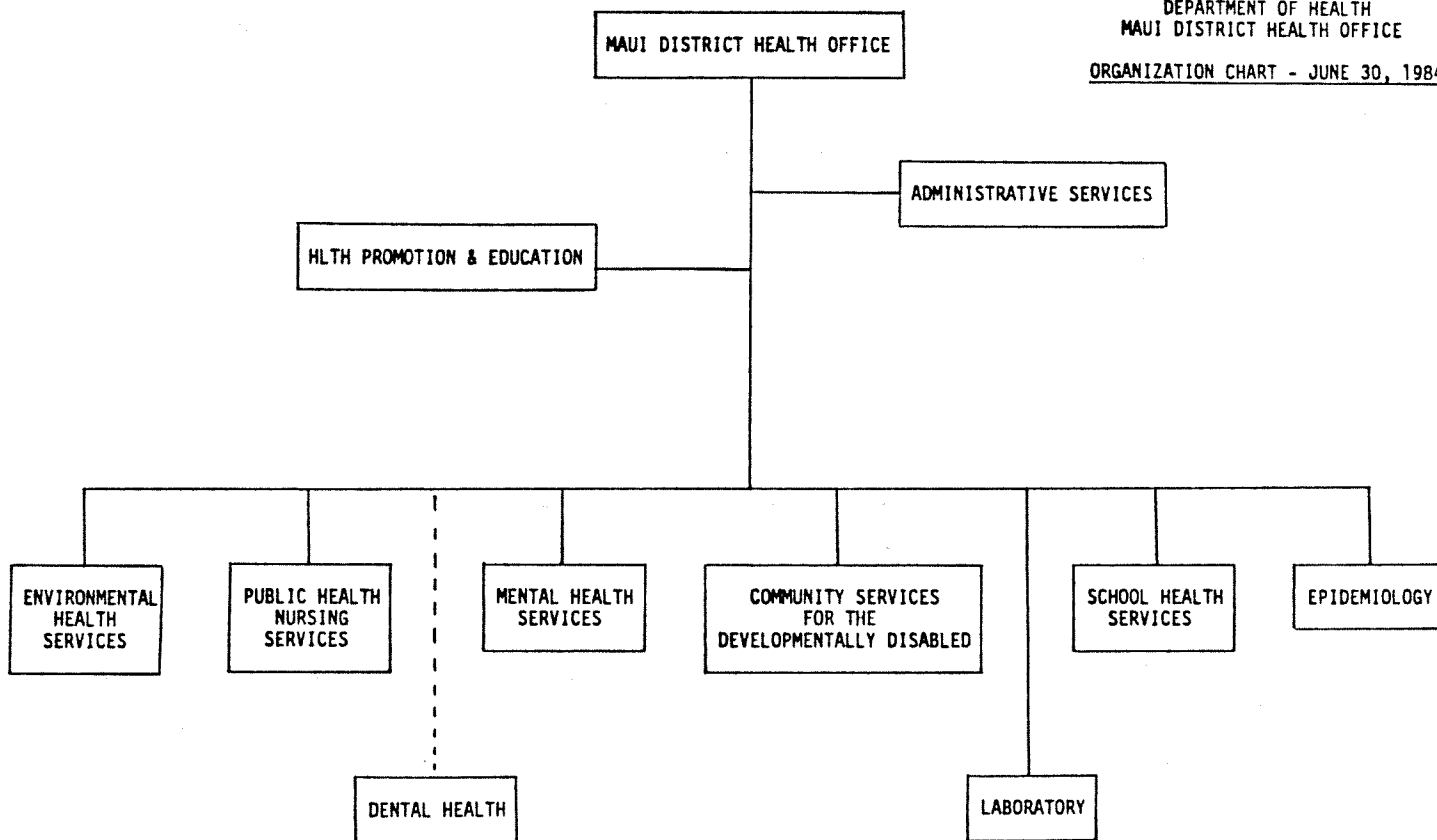
## ORGANIZATION CHART





# EXHIBIT 11

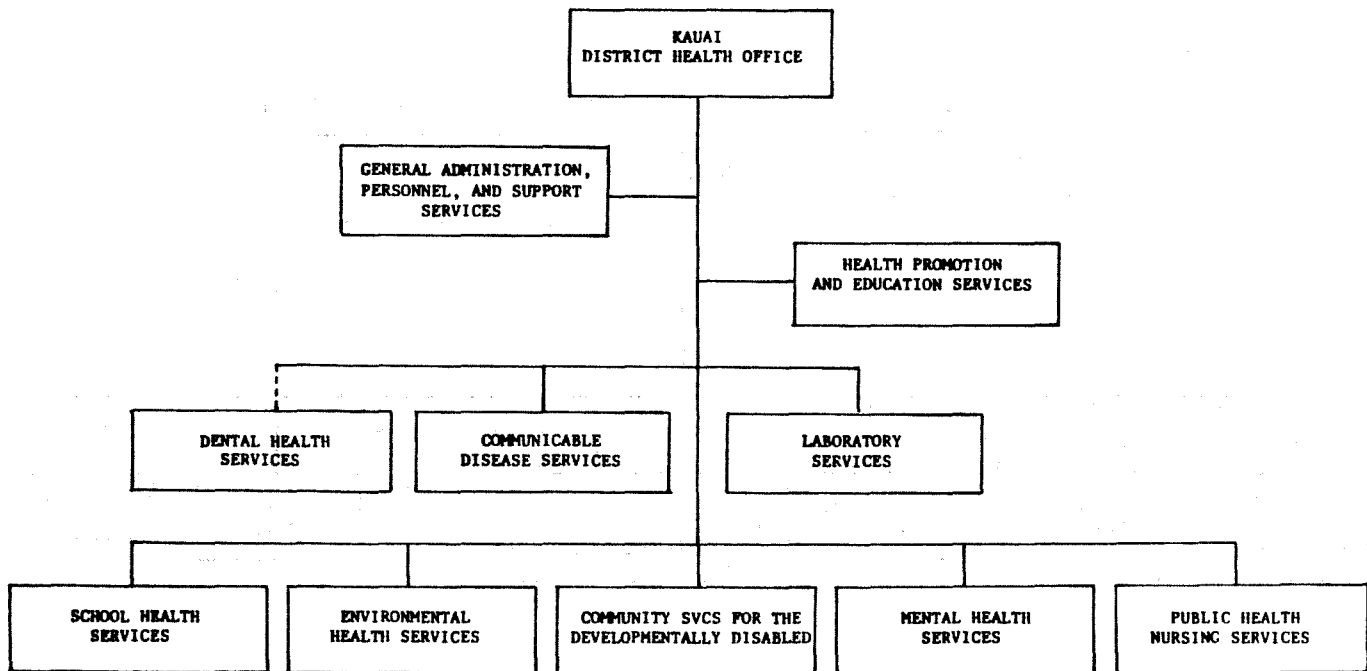
STATE OF HAWAII  
DEPARTMENT OF HEALTH  
MAUI DISTRICT HEALTH OFFICE  
ORGANIZATION CHART - JUNE 30, 1984



# EXHIBIT 12

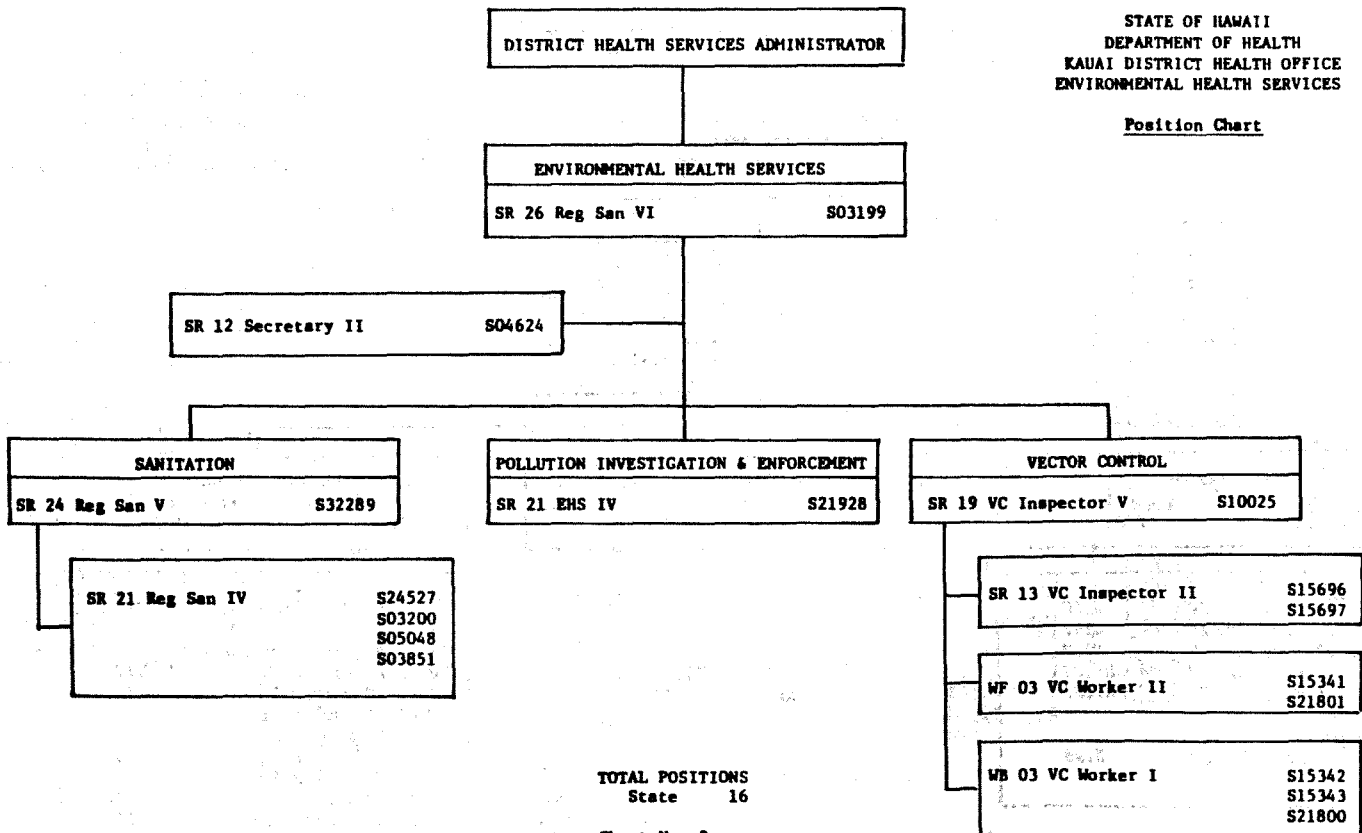
STATE OF HAWAII  
DEPARTMENT OF HEALTH  
KAUAI DISTRICT HEALTH OFFICE

## Organization Chart



STATE OF HAWAII  
DEPARTMENT OF HEALTH  
KAUAI DISTRICT HEALTH OFFICE  
ENVIRONMENTAL HEALTH SERVICES

## Position Chart



TOTAL POSITIONS  
State 16

Chart No. 3

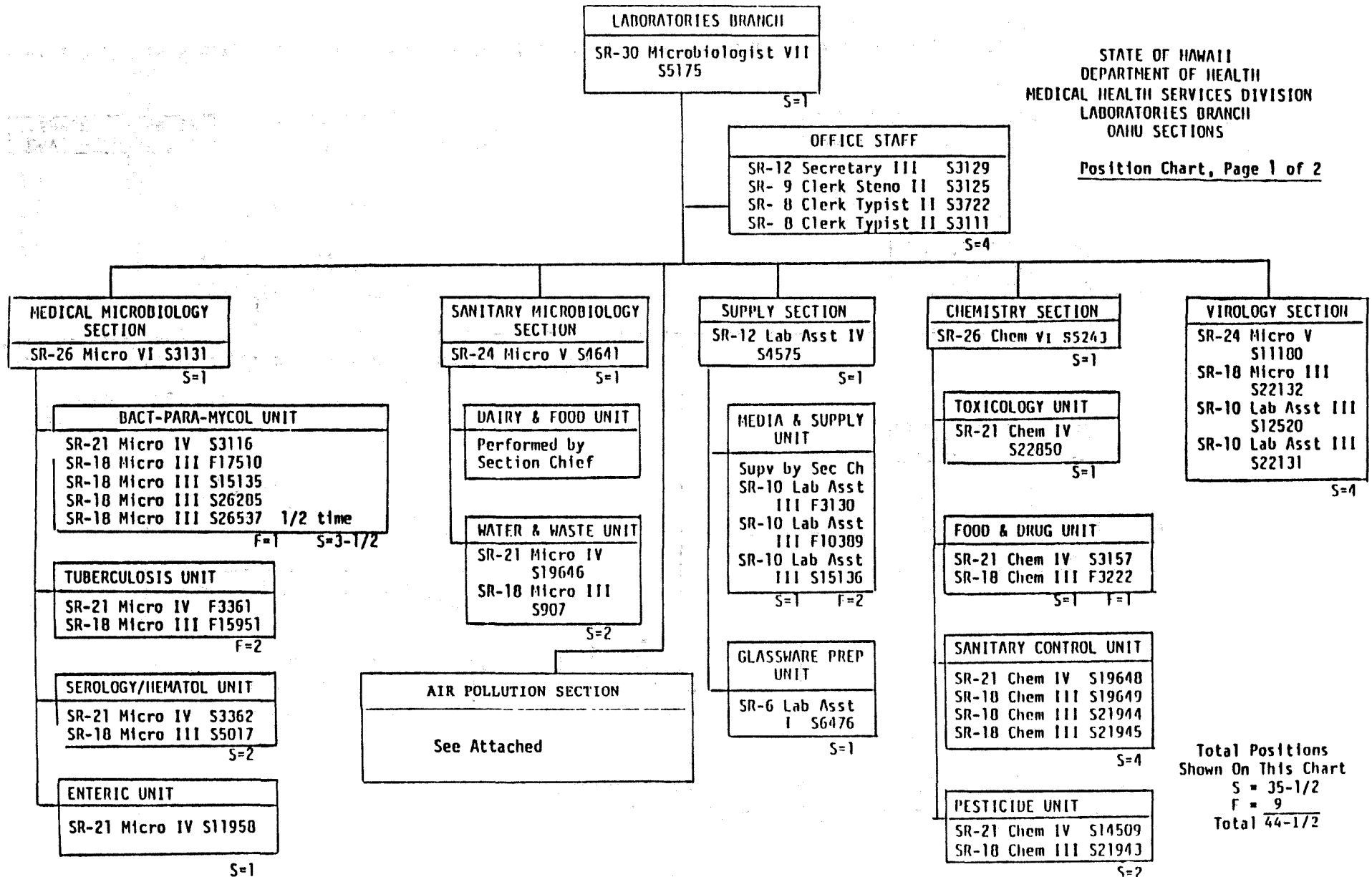
6/30/84

# EXHIBIT 13

STATE OF HAWAII  
DEPARTMENT OF HEALTH  
MEDICAL HEALTH SERVICES DIVISION  
LABORATORIES BRANCH  
OAHU SECTIONS

Position Chart, Page 1 of 2

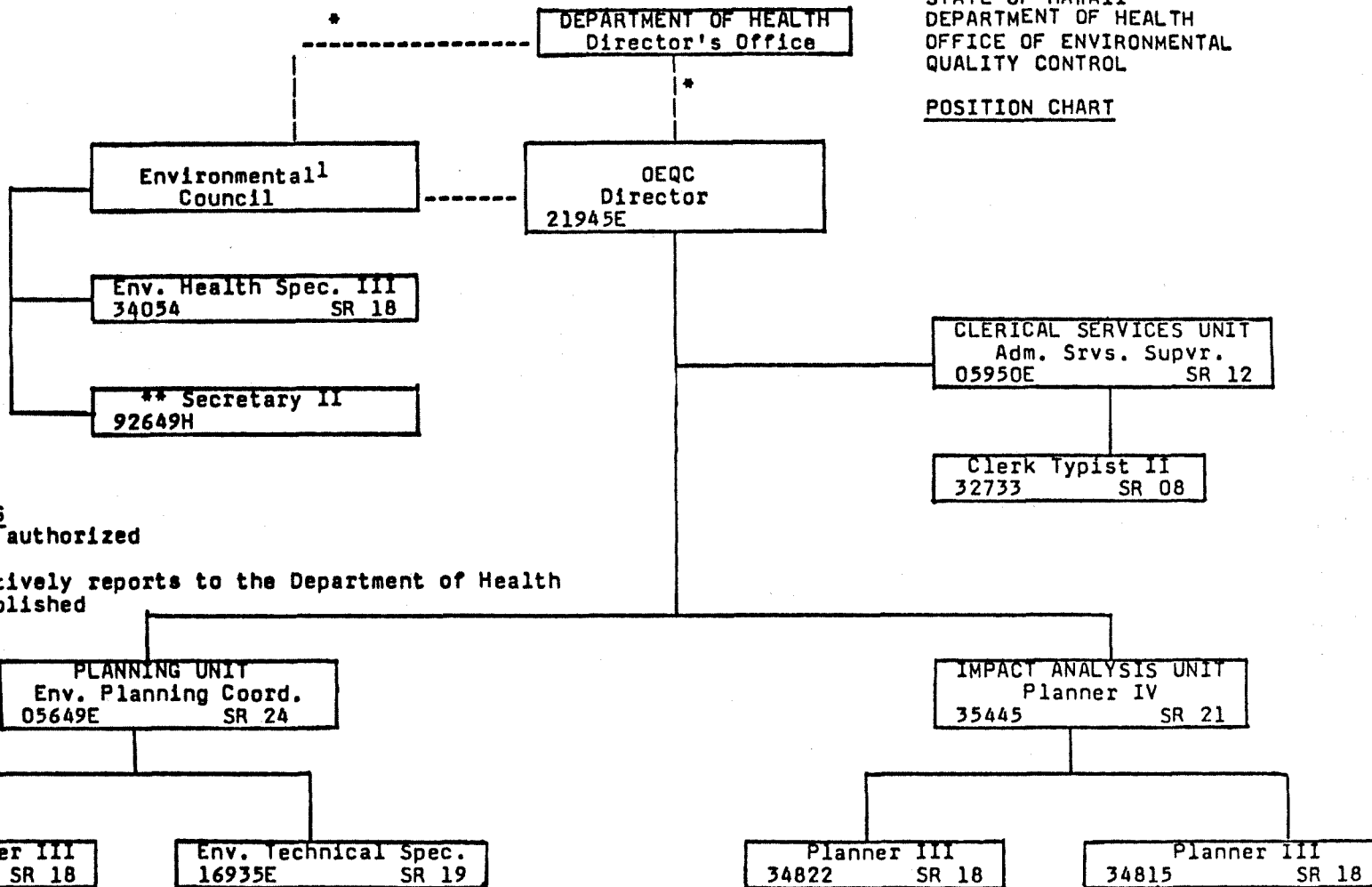
105



# EXHIBIT 14

STATE OF HAWAII  
DEPARTMENT OF HEALTH  
OFFICE OF ENVIRONMENTAL  
QUALITY CONTROL

## POSITION CHART



## POSITIONS

11 State authorized

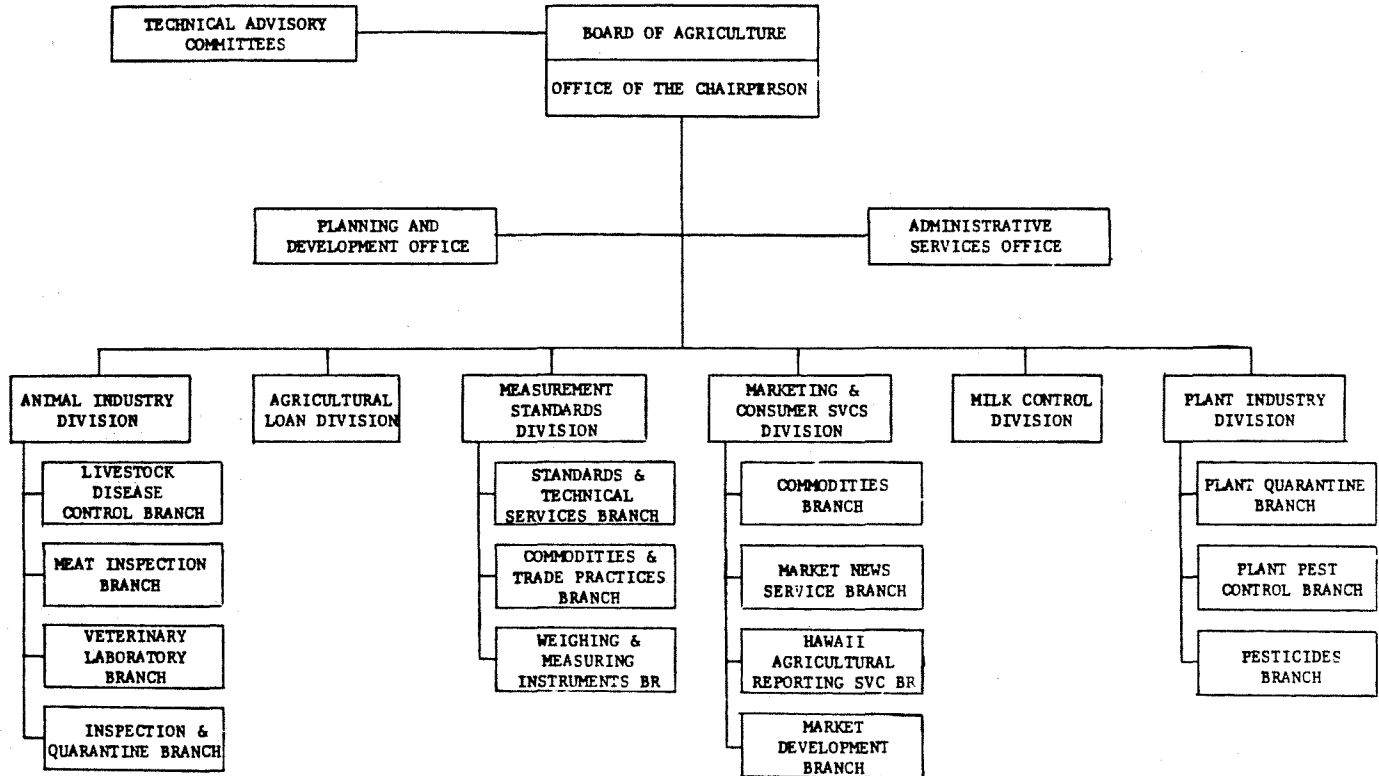
\*Administratively reports to the Department of Health

\*\*To be established

<sup>1</sup>Act 140 SLH 1983 merged the Environmental Quality Commission with the Environmental Council.

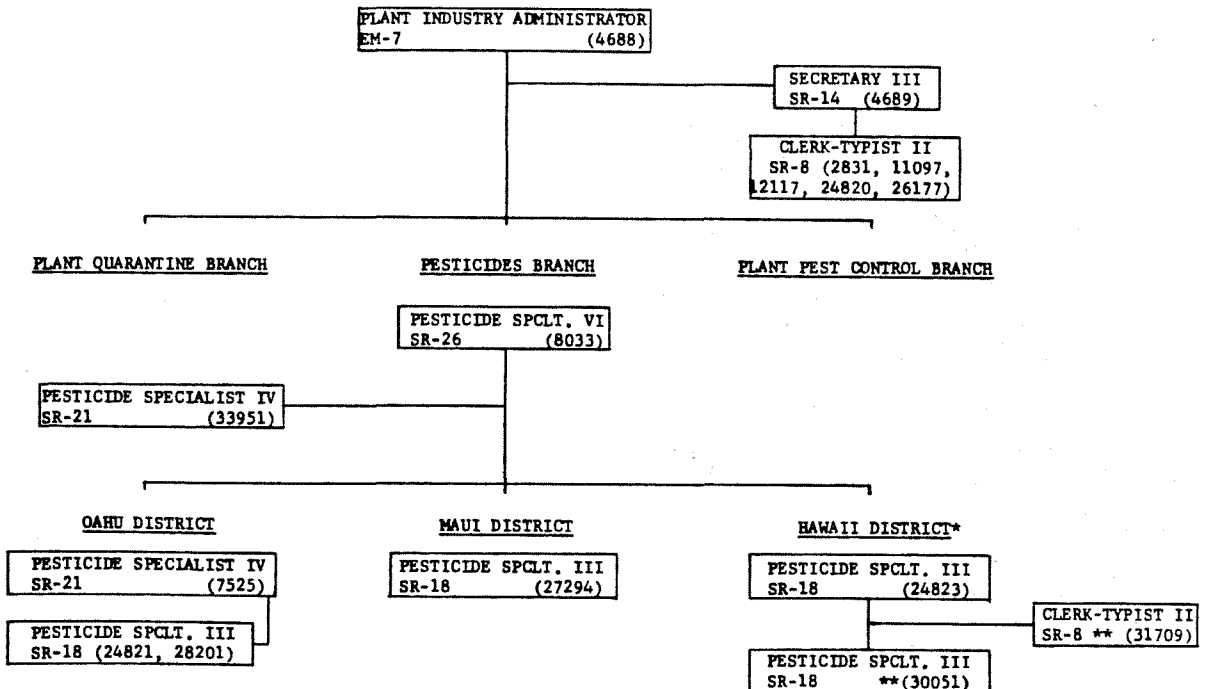
# EXHIBIT 15

STATE OF HAWAII  
DEPARTMENT OF AGRICULTURE  
PLAN OF ORGANIZATION



PLANT INDUSTRY DIVISION  
PESTICIDES BRANCH  
Position Organizational Chart

1984-10



\* Noxious Weed Spclt. III, pos. no. 4862, performs non-conflicting functions 50% of the time.  
\*\* Temporary positions funded by EPA; renewable annually.

HOUSE OF REPRESENTATIVES  
TWELFTH LEGISLATURE 1984  
STATE OF HAWAII

H.C.R. NO. 78

Page 3

H.C.R. NO. 78

## HOUSE CONCURRENT RESOLUTION

REQUESTING A STUDY OF ESTABLISHING A STATE ENVIRONMENTAL PROTECTION AGENCY, DEPARTMENT, OR COMPARABLE BODY TO COORDINATE AND ADDRESS MATTERS OF ENVIRONMENTAL QUALITY.

WHEREAS, the dangers to the environment from toxic wastes, pesticides, hazardous substances, and other contaminants are being increasingly recognized by federal, state, and local authorities across the country; and

WHEREAS, as Hawaii moves into the field of high technology industries, there is a greater likelihood that new and unknown risks will be introduced into the State from the use of hazardous and toxic substances used by these industries; and

WHEREAS, such increased risk necessitates more intensive monitoring by governmental agencies to safeguard the public health and safety; and

WHEREAS, the Joint House-Senate Interim Committee to Review the State's Capability to Monitor and Prevent Contamination of Water Resources by Pesticides has already noted that there is a great need for coordination and reorganization of state environmental monitoring and risk assessment functions; and

WHEREAS, the Council of State Governments reports that thirty-one states have already established a separate agency with responsibility for environmental protection; and

WHEREAS, it is important that the general public be informed and educated about environmental matters in Hawaii in view of this State's unique and fragile subtropical environmental characteristics which include many rare or endangered species, unique geographical and geological characteristics, pure water, and clean air, all of which are under pressure from constantly growing urbanization; and

BE IT FURTHER RESOLVED that this study of organizational options be carried out within the context of a comprehensive plan for contaminants in the environment; and

BE IT FURTHER RESOLVED that the Bureau consider whether this body should establish and carry out a manifest (cradle-to-grave) system for toxic and hazardous substances; and

BE IT FURTHER RESOLVED that the Bureau consider whether this body should develop and be responsible for educational and informational dissemination; and

BE IT FURTHER RESOLVED that the study be submitted to the Legislature 20 days prior to the convening of the Regular Session of 1985; and

BE IT FURTHER RESOLVED that certified copies of this Concurrent Resolution be transmitted to the Director of the Office of the Legislative Reference Bureau, the Director of Health, the Chairperson of the Board of Agriculture, the Chairperson of the Board of Land and Natural Resources, the Director of the Office of Environmental Quality Control, and the President of the University of Hawaii.

OFFERED BY:

Tom Olaner  
Ouis Kijabu-SaballaM. H. H. H.  
Dand M. H. H.Anna M. H.  
Viggin Sabell  
Robert S. H. H.  
Robert S. H. H.

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EEZ

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H.C.R. NO. 78

Page 2

WHEREAS, the need for centralizing and organizing environmental jurisdictions in the State has been recognized previously in the February 1977 State of Hawaii Reorganization Plan which recommended that the Department of Land and Natural Resources evolve into a Department of Environmental Affairs and Natural Resources; now, therefore,

BE IT RESOLVED by the House of Representatives of the Twelfth Legislature of the State of Hawaii, Regular Session of 1984, the Senate Concurring, that the Legislative Reference Bureau is requested to conduct a study of establishing a state environmental protection agency, department, or comparable body to coordinate and address matters of environmental quality; and

BE IT FURTHER RESOLVED that this study should include an examination of the environmental protection agencies created in other states including Florida, California, Washington, and Oregon; and

BE IT FURTHER RESOLVED that this study should also include a review of why the recommendations in the 1977 State Reorganization Plan were never implemented; a description of the roles of the Departments of Agriculture and Health in environmental protection with attention to the personnel positions available for this function; an evaluation of the feasibility of consolidating enforcement, regulatory, advisory, research, monitoring and health assessment functions into one department; an evaluation of including the environmental quality research functions of University of Hawaii at Manoa research institutes and departments including the College of Tropical Agriculture and Human Resources, School of Medicine, School of Public Health, Pacific Biomedical Research Center's Pesticide Hazardous Assessment Project, and the Water Resources Research Center; and a description and evaluation of the present functions of the Office of Environmental Quality Control; and

BE IT FURTHER RESOLVED that the Bureau review and evaluate the alternative forms of such a body including a department, an agency attached to a department including the possible enhancement of the responsibilities and capabilities of the Office of Environmental Quality Control, or an agency such as the Hawaii Housing Authority, and discuss an estimate of the costs involved in forming such a body; and

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## SENATE CONCURRENT RESOLUTION

REQUESTING A STUDY OF ESTABLISHING A STATE ENVIRONMENTAL PROTECTION AGENCY, DEPARTMENT, OR COMPARABLE BODY TO COORDINATE AND ADDRESS MATTERS OF ENVIRONMENTAL QUALITY.

WHEREAS, the dangers to the environment from toxic wastes, pesticides, hazardous substances, and other contaminants are being increasingly recognized by federal, state, and local authorities across the country; and

WHEREAS, as Hawaii moves into the field of high technology industries, there is a greater likelihood that new and unknown risks will be introduced into the State from the use of hazardous and toxic substances used by these industries; and

WHEREAS, such increased risk necessitates more intensive monitoring by governmental agencies to safeguard the public health and safety; and

WHEREAS, the Joint House-Senate Interim Committee to Review the State's Capability to Monitor and Prevent Contamination of Water Resources by Pesticides has already noted that there is a great need for coordination and reorganization of state environmental monitoring and risk assessment functions; and

WHEREAS, the Council of State Governments reports that thirty-one states have already established a separate agency with responsibility for environmental protection; and

WHEREAS, it is important that the general public be informed and educated about environmental matters in Hawaii in view of this State's unique and fragile subtropical environmental characteristics which include many rare or endangered species, unique geographical and geological characteristics, pure water, and clean air, all of which are under pressure from constantly growing urbanization; and

WHEREAS, the need for centralizing and organizing environmental jurisdictions in the State has been recognized

BE IT FURTHER RESOLVED that the Bureau consider whether this body should establish and carry out a manifest (cradle-to-grave) system for toxic and hazardous substances; and

BE IT FURTHER RESOLVED that the Bureau consider whether this body should develop and be responsible for educational and informational dissemination; and

BE IT FURTHER RESOLVED that the study be submitted to the Legislature twenty days prior to the convening of the Regular Session of 1985; and

BE IT FURTHER RESOLVED that certified copies of this Concurrent Resolution be transmitted to the Director of the Office of the Legislative Reference Bureau, the Director of Health, the Chairperson of the Board of Agriculture, the Chairperson of the Board of Land and Natural Resources, the Director of the Office of Environmental Quality Control, and the President of the University of Hawaii.

OFFERED BY:

*Gerald T. Flanagan*

APR 09 1984

I hereby certify that the foregoing is a true and correct copy of Senate Resolution No. 135 which was duly adopted by the Senate of the State of Hawaii on

APR 19 1984

Dated: APR 30 1984

*[Signature]*  
Assistant Clerk of the Senate

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previously in the February 1977 State of Hawaii Reorganization Plan which recommended that the Department of Land and Natural Resources evolve into a Department of Environmental Affairs and Natural Resources; now, therefore,

BE IT RESOLVED by the Senate of the Twelfth Legislature of the State of Hawaii, Regular Session of 1984, the House of Representatives concurring, that the Legislative Reference Bureau is requested to conduct a study of establishing a state environmental protection agency, department, or comparable body to coordinate and address matters of environmental quality; and

BE IT FURTHER RESOLVED that this study should include an examination of the environmental protection agencies created in other states including Florida, California, Washington, and Oregon; and

BE IT FURTHER RESOLVED that this study should also include a review of why the recommendations in the 1977 State Reorganization Plan were never implemented; a description of the roles of the Departments of Agriculture and Health in environmental protection with attention to the personnel positions available for this function; an evaluation of the feasibility of consolidating enforcement, regulatory, advisory, research, monitoring and health assessment functions into one department; an evaluation of, and including, the environmental quality research functions of University of Hawaii at Manoa research institutes and departments, including the College of Tropical Agriculture and Human Resources, School of Medicine, School of Public Health, Pacific Biomedical Research Center's Pesticide Hazardous Assessment Project, and the Water Resources Research Center; and a description and evaluation of the present functions of the Office of Environmental Quality Control; and

BE IT FURTHER RESOLVED that the Bureau review and evaluate the alternative forms of such a body including a department, an agency attached to a department including the possible enhancement of the responsibilities and capabilities of the Office of Environmental Quality Control, or an agency such as the Hawaii Housing Authority, and discuss an estimate of the costs involved in forming such a body; and

BE IT FURTHER RESOLVED that this study of organizational options be carried out within the context of a comprehensive plan for contaminants in the environment; and

## Appendix B

### RESOURCE PERSONS

1. Paul Aki, Branch Chief  
Pollution Investigation and Enforcement Branch  
Department of Health
2. Valerie Ako  
Acting Administrative Services Officer  
Department of Health
3. Thomas Anamizu, Branch Chief  
Noise and Radiation Branch  
Department of Health
4. Bruce Anderson, Environmental Epidemiologist  
Communicable Disease Division  
Department of Health
5. Elisabeth Anderson, Division Chief  
Medical Services Division  
Department of Health
6. Thomas Arizumi, Drinking Water Section Supervisor  
Sanitation Branch  
Department of Health
7. Brian Choy, Environmental Planner  
Environmental Protection and Health  
Services Division  
Department of Health
8. Charles G. Clark, former Director of Health  
Department of Health
9. Doak Cox, Director  
Environmental Center  
University of Hawaii
10. Environmental Council  
Chair: James W. Morrow  
Members: John Bose II  
Royce S. Fukunaga  
Kenneth Ishizaki  
Noboru Larry Iwami  
Chris Jansen  
Jack Kellner  
Bert Y. Kimura  
George Krasnick  
Wayne P. Law  
Leonard K. P. Leong  
Jake Manegdeg  
Wallace Miyahira  
Cynthia H.H. Thielen
11. Gregory Gomes, Chair  
Advisory Study Commission on Water Resources
12. Kazu Hayashida, Manager and Chief Engineer  
Honolulu Board of Water Supply
13. Jensen Hee, Director  
Department of Budget and Finance
14. Robert C. Howell, Investigator-in-Charge  
U.S. Food and Drug Administration, Hawaii Office
15. John Hylin, Chair  
Agricultural Biochemistry Department  
University of Hawaii
16. James Ikeda, Branch Chief  
Vector Control Branch  
Department of Health
17. Wayne Iwaoka, Chief Chemist  
Laboratories Branch  
Department of Health
18. Noel Kefford, Dean  
College of Tropical Agriculture and  
Human Resources  
University of Hawaii
19. Glenn Kobayashi, Acting Branch Chief  
Laboratories Branch  
Department of Health
20. Melvin Koizumi  
Deputy Director for Environmental Health  
Department of Health
21. Tsutomu Kubota, Branch Chief  
Sanitation Branch  
Department of Health
22. James Kumagai  
Former Deputy for Environmental Health  
Department of Health
23. Dennis Lau, Branch Chief  
Environmental Permits Branch  
Department of Health
24. Stephen Lau, Director  
Water Resources Research Center  
University of Hawaii
25. Calvin Masaki, Deputy for Administration  
Department of Health
26. Leslie Matsubara, Director  
Department of Health
27. F. De Wolfe Miller, Environmental Epidemiologist  
School of Public Health  
University of Hawaii
28. James Nakamura, Acting Chief  
Budget, Planning and Management Division  
Department of Budget and Finance
29. Representative Tom Okamura, former Chair  
Committee on Energy, Ecology, and  
Environmental Protection  
House of Representatives
30. Suzanne Peterson, Deputy  
Department of Agriculture
31. Jerry Pinell, Management Analyst  
Department of Agriculture
32. Robert Rhein, Public Health Administrative Officer  
Environmental Protection and Health  
Services Division  
Department of Health
33. Terrance Rogers, Dean  
School of Medicine  
University of Hawaii



34. Barbara Siegel, Director  
Pesticide Hazard Assessment Project  
University of Hawaii
35. Shinji Soneda, Division Chief  
Environmental Protection and Health  
Services Division  
Department of Health
36. Kelvin Sunada, Planner  
Environmental Protection and Health  
Services Division  
Department of Health
37. Jack K. Suwa, Director  
Department of Agriculture
38. Maurice Tamura, Food Products Section Supervisor  
Sanitation Branch  
Department of Health
39. Malcolm Tomooka, Administrative Officer  
Communicable Disease Division  
Department of Health
40. Vicki Tsuhako, Information Specialist  
U.S. Environmental Protection Agency  
Hawaii Office
41. Dennis Tulang, Branch Chief  
Wastewater Treatment Works Construction  
Grants Branch  
Department of Health
42. Letitia Uyehara, Director  
Office of Environmental Quality Control
43. Nohealeimamo Vaughan, Personnel Officer  
Department of Agriculture
44. Charles Yasuda, former Division Chief  
Plant Industry Division  
Department of Agriculture
45. Lyle Wong, former Branch Chief  
Pesticides Branch  
Department of Agriculture

## Appendix C

### ENVIRONMENTAL ORGANIZATIONS OF OTHER STATES

The summaries of environmental organizations of other states contained in this Appendix were compiled from information obtained through the LRB review of state environmental laws, responses to the LRB survey from other states, and follow-up letters or telephone calls to several states. Some summaries contain more detail than others because the LRB was not able, within the time constraints of this study, to obtain more detailed information from some states.

### HEALTH DEPARTMENTS

#### Arizona

Arizona's pollution control programs, except for noise abatement, are administered by the Department of Health Services (DHS). Despite being included in a health department, pollution control programs reportedly are ranked high in the DHS's program priorities. Arizona reported that its pollution control and related programs are generally coordinated and noted that the major problems which significantly hinder integration of pollution control and related programs are resource limitations, the absence of overall policies or objectives, and political resistance to change.

The DHS also administers public health programs including the drinking water and food purity programs while the Commission on Agriculture and Horticulture administers the program regulating pesticide use.

Arizona has a Water Quality Control Council composed of representatives from the DHS, Game and Fish Commission, Oil and Gas Conservation Commission, Land Commission, Department of Water Resources, Agricultural College of the University and seven citizens appointed by the Governor. The Council establishes state policy for water quality standards.

#### Colorado

The Colorado Department of Health (DOH) administers the state's water quality, drinking water, air quality, solid waste management, hazardous waste management, and noise abatement programs in addition to public health programs which include the regulation of drinking water and food quality. The regulation of pesticide use is primarily the responsibility of the Department of Agriculture, but the DOH reported joint involvement in this area. Despite its placement in a health department, pollution control programs are given a high priority in the overall departmental program. Colorado does not have any interagency environmental policy council or other coordinating mechanisms. Colorado's pollution control and related programs are considered to be generally coordinated and the problems which significantly hinder further integration are political resistance to change,

absence of overall policies or objectives, and lack of effective intergovernmental coordination.

## Idaho

The Idaho Department of Health and Welfare (DHW) administers programs for water quality, air quality, solid waste, hazardous waste, and drinking water in addition to programs in public health, food purity, and welfare. Pesticide use regulation is the responsibility of the Department of Agriculture. Idaho reported that pollution control programs have an average priority ranking in the DHW's overall program primarily due to limitations on the funding and effectiveness of the environmental division created by its placement in a large social services agency.

The Governor of Idaho has a Natural Resources Agencies Subcabinet which consists of the DHW, and the departments of Fish and Game, Agriculture, Parks, Water Resources, and Lands. The Subcabinet is used for general policymaking in the natural resources area, not only for environmental issues. The DOH maintains an emergency response program and actively participates in a statewide emergency disaster response program.

Overall, the pollution control and related programs in Idaho are considered generally coordinated and the factors which significantly hinder further integration are conflicts between pollution control concerns and other higher priority governmental functions, administrative or professional resistance to change, and political resistance to change.

While Idaho reported that a separate environmental agency would likely be more useful to the state, the Legislature has not been generally supportive of a strong environmental agency.

## Indiana

Environmental policy for state programs in Indiana is set by the Environmental Management Board (EMB) which consists of the Secretary of the Board of Health, the Director of Natural Resources, the Director of the Division of Economic Planning of the Department of Commerce, the Chair of the Air Pollution Control Board, the Chair of the Stream Pollution Control Board, and six members appointed by the governor. The Department of Health (DOH) is responsible for the implementation of environmental programs in accordance with policies established by the EMB. The DOH administers the water quality, air quality, solid waste, and hazardous waste programs in addition to public health programs which includes the regulation of food purity. The drinking water program in Indiana is a fully state-funded program as the state has not accepted "primacy" from the EPA. Pesticide use is regulated by the Department of Agriculture.

Indiana reported that the placement of pollution control programs in a health department has not affected its budget or program priorities. Environmental programs comprise about one half of the department and due to the large size of the program, the governor created a commission to study

environmental programs and determine whether or not a separate agency should be established. The Commission recently recommended that the governor consider the separation; however, action by the governor is still pending.

Pollution control and related programs in Indiana are considered to be closely coordinated and the coordinating technique employed by the state that has been most effective is the consolidation of environmental functions in one agency.

## Kansas

Programs for air quality, water quality, solid waste, and hazardous waste are administered by the Kansas Department of Health and Environment (DHE). The DHE also administers programs in public health, including food purity and drinking water. The pesticide use program is administered by the Department of Agriculture; however, the DHE administers programs which address the pesticide use as it relates to the toxic effects such use may have on humans and the environment. The DHE pesticide programs include controlling the level of pesticides in the ambient air; researching the effects of chemical exposure of users; and educating the health professionals as to symptoms resulting from exposure to chemicals. Kansas reported that its pollution control and related programs are closely coordinated and noted that the consolidation of functions in one agency and leadership by the governor have been the most effective coordinating mechanisms employed by the State. Priority for pollution control programs in the DHE ranks high and virtually all environmental responses are coordinated.

## Maryland

The Maryland Department of Health and Mental Hygiene (DHMH) administers the water quality, drinking water, air quality, solid and hazardous waste management, and noise abatement programs in addition to its public health, food regulation, and radiation protection duties. A 1981 executive order transferred to the DHMH some water and waste management responsibilities originally under the Department of Natural Resources in order to remove the confusion and inefficiency that existed due to an overlap of regulatory functions of the two departments. State pesticide use laws are administered by the State Chemist under the supervision of the Secretary of Agriculture.

Maryland has a cabinet-level State Development Council charged with the responsibility of shaping the course of the state's environmental future and an emergency response plan for large scale public health emergencies. The Council consists of the Lieutenant Governor, and the Secretaries of Agriculture, Economic and Community Development, Health, Natural Resources, Transportation, and Planning. The DHMH also reported the existence of an Emergency Telephone System designed to provide responses to valid public health situations requiring departmental action. The DHMH also has an emergency response plan for large scale public health emergencies.

Pollution control activities of the department are considered closely coordinated with those of other agencies, and leadership by the governor was cited as the most effective technique to promote interagency coordination. The lack of intergovernmental coordination; lack of adequate information on environmental resources, population, economic trends, and public and private activities affecting the environment; and conflicts between pollution control concerns and other higher priority governmental functions were cited as the major problems that significantly hinder further integration of programs.

The DHMH reported that pollution control activities of the department are closely coordinated with those of other agencies, and indicated that leadership by the governor is the most effective technique to promote interagency coordination. Lack of effective intergovernmental coordination conflicts between pollution control concerns and other higher priority governmental functions, and lack of adequate information on environmental resources, economic trends, and public and private activities affecting the environment were cited as the major factors hindering further program integration.

## Montana

The Montana Department of Health and Environmental Sciences (DHES) has primary responsibility for water pollution, drinking water, air pollution, solid waste, and hazardous waste programs in addition to its public health and food regulation functions. The Department of Agriculture administers pesticide use laws.

Montana has a Natural Resources Cabinet Subcommittee which considers interagency environmental matters and is composed of the Directors of the Departments of Natural Resources and Conservation; Agriculture; Health; Education and Safety; Lands; Commerce; Fish, Wildlife and Parks; and a member of the Governor's staff.

As a result of a livestock feed contamination incident which affected several states, Montana's state and federal agencies work closely together in similar emergencies with one person responsible for public information. Montana's pollution control and related functions are considered closely coordinated, but the DHES warned that organizational structure doesn't cure problems, and that the best way to achieve coordination is to have people who believe in coordination at the program level.

## New Mexico

The Health and Environment Department (HED) has primary responsibility for programs concerning water quality, drinking water, air quality, and solid and hazardous waste management as well as public health, food regulation, radiation control, and environmental health and worker safety. The department is overseen by an Environmental Improvement Board which promulgates environmental regulations and standards. The Water Quality Control Commission which adopts water pollution standards and regulations and serves as the state water pollution control agency is administratively attached to the HED but assigns responsibilities to several

state agencies including the HED. The Department of Agriculture regulates pesticide use under the direction of New Mexico State University's Board of Regents; the Board of Regents, in turn, is advised by the Pesticides Advisory Board.

A Council on Environmental Quality serves as an advisory body to the governor on policies and objectives to promote the improvement of environmental quality. New Mexico also has an Environmental Subcabinet composed of agencies affected by the environmental decisions of the department. The effectiveness of this subcabinet has been limited by the extent to which department heads are committed to considering interagency environmental issues, but it was reported that there is an attempt to revive the interest and activity of this subcabinet.

New Mexico's emergency management act specifies agency responsibilities in all emergencies where public health or safety is threatened. New Mexico reported that its pollution control and related activities are loosely coordinated in New Mexico and cited the lack of effective intergovernmental coordination, fragmented organizational responsibility, and an absence of overall policies or objectives as the major problems which significantly hinder further integration of pollution control and related programs.

After a 1971 reorganization created a separate agency for pollution control and a 1978 executive reorganization which brought pollution control programs back into the health department, further environmental reorganization is being considered today. The Governor plans to propose to the 1985 legislature the creation of a new environmental department on the basis that there is a philosophical difference between environmental protection and public health issues and that a cabinet level department would have increased visibility and attention from the Governor as well as the Legislature. New Mexico officials could not recall the specific reasons for the shifting from the separate environmental agency to the health department in 1978.

## **North Dakota**

The Department of Health regulates water pollution, drinking water, air pollution, solid waste, hazardous waste, and noise in addition to its administration of public health, radiation control, and occupational safety and health programs. The Department of Health cooperates with the appointed State Water Commission in adopting water quality standards, while an appointed Water Pollution Control Board composed of department heads and public members advises the Department of Health on water pollution matters generally. The Laboratories Department regulates pesticides and other poisonous substances in food and the Agriculture Department regulates pesticide use under the direction of a Pesticide Control Board. The Pesticide Control Board is comprised of the Commissioner of Agriculture and two designees from the North Dakota State University of Agriculture and Applied Science.

Pollution control and related activities are considered to be generally coordinated in North Dakota. Financial resources, the federal programs

organizational structure, and conflicts between pollution control concerns and other higher priority governmental functions are considered the major problems which hinder further integration of pollution control and related programs.

## Oklahoma

The Department of Health has primary responsibility for programs concerning water quality, safe drinking water, air quality, solid and hazardous waste management, and noise abatement as well as public health and food purity. The Department of Agriculture regulates pesticide use.

The Pollution Control Coordinating Board comprised of representatives of seven state agencies with environmental management responsibilities and five citizen experts is charged with coordinating pollution control programs, establishing public information programs, receiving reports of violations, and taking action to compel compliance with pollution laws in the absence of action by the appropriate agency. A Governor's Reform Committee may consider consolidation of environmental programs in its review of government organization. Oklahoma reported that its pollution control and related activities are generally coordinated and cited administrative or professional resistance to change, political resistance to change, and conflicts between pollution control concerns and other higher priority governmental functions as the major problems hindering further integration.

## South Carolina

The Department of Health and Environmental Control (DHEC) administers programs in the areas of water quality, drinking water, air quality, solid and hazardous waste management, noise abatement, and shellfish and recreational waters, as well as public health. The Governor's Natural Resources Forum, comprised of agency directors with responsibilities in environmental quality, wildlife, and water and land resources, establishes environmental policy.

After the 1970 creation of a separate Pollution Control Authority, with the State Board of Health retaining authority to control pollution to protect the public health, confusion and duplication of effort led the South Carolina General Assembly in 1973 to recombine the two agencies into the DHEC. The department is overseen currently by a citizen Board of Health rather than a board comprised solely of health professionals. South Carolina reported that its pollution control and related activities are closely coordinated and cited gubernatorial leadership as the most effective coordinating technique. The DHEC noted that conflicts between pollution control and non-pollution control programs are rare but when they occur they are resolved through a conference of affected parties convened by the DHEC head. The DHEC cited the fragmented organizational responsibility, structure of federal organizations and programs, and changing federal policies and program implementation as the major problems hindering further integration of environmental programs.

## Tennessee

Tennessee's Department of Public Health administers the state's programs in air pollution, water pollution, drinking water, solid waste, and hazardous waste in addition to its public health and radiation protection functions. The appointed Water Quality Control Board and Air Pollution Control Board set air and water quality and drinking water standards, respectively. The Solid Waste Disposal Control Board shares with the Commissioner of Health some authority to establish regulations, grant permits, and approve sites for solid and hazardous waste disposal. The Department of Agriculture regulates pesticides use and food purity laws.

## Utah

The Utah Department of Health administers programs for water quality, air quality, solid waste, and hazardous waste, in addition to its public health programs which include the regulation of drinking water and purity of food. The Department of Agriculture regulates the use of pesticides in the state. The DOH is a member of the Utah Resource Development Coordinating Committee which consists of all agencies having to do with resource development in the state. Pollution control and related programs are considered to be generally coordinated in Utah and the lack of funds is reportedly the major problem hindering further integration of pollution control and related policies.

## CONSOLIDATED DEPARTMENTS

### Alabama

Prior to 1982, the environmental functions were scattered with the air pollution control, drinking water, solid waste management, hazardous waste management, and environmental health laboratory under the Department of Health; the water quality functions under the Water Improvement Commission; the coastal zone permitting functions under the Coastal Area Board; and the waterworks personnel certification functions under the Board of Certification of Water and Wastewater Systems Personnel. As a result of a study commissioned by the Office of the Governor to achieve a more coordinated approach to environmental protection and associated permitting functions, the Department of Environmental Management (DEM) was created in 1982.

The DEM administers programs for water quality, drinking water, air quality, solid waste management, hazardous waste management, and coastal zone management. The Department of Agriculture and Industries administers the pesticide use and food purity programs. Environmental policy is set by an Environmental Management Commission which also appoints the Director of the DEM. Alabama considers its environmental programs closely coordinated and attributes this to the consolidation of all environmental functions into one agency. Alabama believes that program consolidation has proven to be a major improvement in the management and coordination of environmental efforts; however, it has not eliminated all problems. While Alabama did not



elaborate, it indicated that new problems were introduced after reorganization. After two years of experience, however, the DEM reported that the advantages of reorganization have outweighed the disadvantages.

## Alaska

The Department of Environmental Conservation (DEC) which was created in 1971, administers Alaska's programs for water and air pollution control, solid and hazardous waste management, drinking water, public health sanitation, pesticide use, food purity, and low-level radiation. The DEC is also involved with coastal zone management (assists local governments in developing coastal zone management plans and ensuring that developments are compatible with such plans), land use planning (subdivision review), and wetlands management. The day-to-day work is performed by field staff in regional and district offices throughout the state and the DEC operates two sophisticated laboratories.

Alaska has a mini cabinet of resource agency heads which serves as an interagency body for environmental policy purposes. In addition, there is a Tuesday club, composed of resource agency heads, the DEC staff, and the Governor's staff, which meets weekly to discuss issues and resolve problems. Alaska reported that its pollution control programs are closely coordinated and that it is not presently contemplating any reorganization of environmental programs. The most effective coordinating techniques in Alaska have been the consolidation of all environmental functions in one agency, the environmental impact statement review process, and a centralized environmental information system. The DEC cited political resistance to change, conflicts between pollution control concerns and other higher priority governmental functions, and the absence of overall policies and objectives as the major factors hindering further integration.

## Connecticut

The Department of Environmental Protection (DEP) administers Connecticut's pollution control programs as well as programs concerning radiation control, pesticide use, land use management, coastal zone management, forestry parks and recreation, fish and wildlife, and water use management. The drinking water program is administered by the Department of Health Services while the food purity and contaminant tolerance level setting responsibilities are under the Department of Consumer Protection. This organizational arrangement was accomplished in 1971 when there was a need for more and better coordination. Connecticut reported that its pollution control and related programs are closely coordinated and could not identify factors which have significantly hindered the integration of pollution control and related policies and programs.

Connecticut reported that it has a statewide environmental emergency plan which coordinates the actions of different state and local agencies with pollution control-related functions in the event of an environmental emergency.

## Delaware

The Department of Natural Resources and Environmental Control (DNREC) administers the pollution control programs as well as the coastal zone management, water use management, land use management, and wetlands programs in Delaware. Although the DNREC reported that it administers the safe drinking water program, the Delaware Code Annotated has a general law (there is no safe drinking water act) stating that the Board of Health is responsible for the sanitary protection of all water supplies, including standards for biological, physical, and chemical quality. The Board of Health administers the food purity law while the pesticides use law is administered by the Department of Agriculture.

Delaware has a State Emergency Response Team under the Division of Environmental Control which investigates all incidences regarding hazardous materials, substances, and oils. Specifically for fish kills, there is a written agreement between the DEC and the Division of Fish and Wildlife regarding their roles in resolving fish kill problems.

Delaware reported that its pollution control and related programs are closely coordinated and that the establishment of comprehensive environmental functional plans to guide all agencies' actions relating to pollution control has been the most effective coordinating technique. Political resistance to change, absence of overall policies or objectives, and failure to translate overall policies and objectives into specific plans and programs were cited as major problems hindering further integration of pollution control and related programs.

## Florida

The Department of Environmental Regulation (DER) was created in 1975 because the Legislature wanted to consolidate all pollution control programs into a single agency and combine state water quality and water quantity functions. Florida reported that, thus far, the reorganization has been quite effective particularly for the coordination of the permitting functions.

In addition to the pollution control and water use programs, the DER administers the coastal zone management program. While the DER sets the standards for the drinking water program, the monitoring and enforcement for this program is conducted by the DER in conjunction with the Department of Health and Rehabilitative Services (DHRS) with the DER responsible for the water systems and the DHRS responsible for private wells for individual homes and bottled water vendors. The Department of Agricultural and Consumer Services administers the pesticides and pure foods laws. All analytical laboratory work for the pollution control, drinking water, and pesticides program is conducted under the direction of the State Chemist.

The Florida Statutes contain a specific provision requiring the Director of Health and Rehabilitative Services and all state agencies to be available to perform duties at the direction of the DER. Florida reported that under this provision they have asked the State Natural Resources, State Game and Fresh Water Fish Commission, and the Department of Health and Rehabilitative

Services to do sampling. This power, however, is not used frequently and there has not been any resistance recently.

Florida reported that its pollution control and related programs are closely coordinated and maintained that the most effective coordinating technique has been the consolidation of most environmental functions into one agency. To promote coordination with other programs, the DER agency head meets, on an individual and regular basis, with the heads of the DHRS, water management districts, and the planning department. Florida also has (1) an Interagency Management Committee composed of the heads of all resource/development oriented agencies which was established to coordinate resource activities and resolve disputes among programs; and (2) a Groundwater Task Force composed of resource agency heads to coordinate programs to protect groundwater and to clean up contamination of groundwater.

Administrative or professional resistance to change; political resistance to change; and the lack of adequate information on environmental resources, population, economic trends, and public and private activities affecting the environment were cited as the major problems which significantly hinder further integration of pollution and control and related programs.

## Georgia

The Georgia Department of Natural Resources (DNR) administers the water quality, drinking water, air quality, solid waste management, and hazardous waste management programs in addition to the programs for coastal zone management, parks and recreation, fish and wildlife, water use management, historic sites, and endangered species. Although the DNR administers both conservation and pollution control programs, it reported that pollution control programs receive high priority in the department. Pesticides regulation is under the Department of Agriculture.

## Iowa

The Iowa Department of Water, Air and Waste Management (WAWM) was established in 1983 to combine the water rights and flood plain management functions previously with the state Natural Resources Council and the environmental protection functions previously with the Department of Environmental Quality. The WAWM is headed by an executive director; however, there is a Water, Air, and Waste Management Commission appointed by the Governor which establishes policy; advises, consults and cooperates with other agencies; and issues orders and directives to insure integration and coordination of the department's programs.

The pollution control programs administered by the WAWM include the state's water quality, safe drinking water, air quality, solid waste management, and hazardous waste management programs. Pesticide use regulation is with the Department of Agriculture.

Iowa considers its pollution control activities and related programs closely coordinated primarily because of the consolidation of environmental functions into one agency and leadership by the governor. Iowa also reported that it has an Interagency Resource Council which coordinates the activities and resources of the state on a broad range of topics. Members of the Council include designees from the Department of Agriculture, Department of Transportation; the Energy Policy Council, the Conservation Commission, the Department of Soil Conservation, the Development Commission, the Geological Survey, and the WAWM. In addition, Iowa has a general plan which was established to forestall occurrences of coordination problems in real-life emergencies. The plan provides for resource mobilization/coordination and delineates agency duties, authorities and communication channels for use in responding to major threats to the public health and safety from human caused and natural accidents or disasters.

Political resistance to change, administrative or professional resistance to change, and conflicts between pollution control concerns and other higher priority governmental functions were cited as the major problems which significantly hinder further integration of pollution control and related programs.

## Kentucky

The Kentucky Department for Environmental Protection (DEP) is part of the Natural Resources and Environmental Protection Cabinet which was created in 1973. The DEP administers the pollution control programs for water, air, drinking water, solid waste, and hazardous waste. The Department of Agriculture administers the pesticide use program. The DEP also has the statutory responsibility for a noise abatement program but none exists due to budgetary constraints. The DEP also is responsible for water management planning and works with other departments in the Cabinet to develop management practices specific to certain industrial practices. Coordination of the environmental regulatory programs with the natural resources management issues takes place at the executive level through regular staff meetings. Additionally, staff from the three departments in the Cabinet often meet to coordinate issue specific problems. Another coordinating mechanism available in Kentucky is the Environmental Quality Commission (EQC) which is an advisory body appointed by the governor. The EQC advises the Cabinet and reviews agency decisions. Through this policy advisory role, the EQC assists the Cabinet in coordinating and reviewing issues.

Kentucky reports that its pollution control and related programs are loosely coordinated; however, the DEP is involved in the development of interagency agreements on specific issues which delineate responsibilities and outline coordination procedures. The success of such agreements reportedly vary with the significance of the issue. The problems in Kentucky which significantly hinder the integration of pollution control and related programs are the conflicts between pollution control concerns and other higher priority governmental functions, the absence of overall policies or objectives, and poor implementation of environmental programs.

## **Maine**

The Department of Environmental Protection (DEP) in Maine administers the water quality, air quality, solid waste, and hazardous waste programs. The DEP also has regulatory responsibility over land use management, limited water use management responsibility, and shared responsibility for coastal zone management with the state planning office. The drinking water function is with the Department of Human Services and the pesticides regulatory functions are with the Department of Agriculture, Food and Rural Resources. Maine reported that its pollution control and related programs are closely coordinated and attributed this primarily to the consolidation of environmental functions and leadership by the governor. There are working agreements between the key agencies to share data, skills, lab support and, as needed, decision making. In the area of hazardous materials incidents, there are more formal arrangements which include the state police and civil defense offices. Fragmented organizational responsibility, failure to translate overall policies and objectives into specific plans and programs, and the structure of federal organizations and programs were cited as the major problems which significantly hinder further integration of pollution control and related programs.

Maine also reported that it is considering the possibility of reorganizing environmental programs. As part of the state's sunset review, it is possible that a few scattered programs from other agencies may be transferred to the DEP. The programs include, pesticides, drinking water, stream alteration, and the land use regulation commission.

## **Massachusetts**

The Executive Office of Environmental Affairs in Massachusetts oversees five agencies including the departments of Environmental Quality Engineering (DEQE); Environmental Management; Metropolitan District Commission; Fisheries, Wildlife & Recreational Vehicles; and Food & Agriculture. The DEQE administers the pollution control programs, water use management, and the drinking water program while the other departments administer the conservation and recreation programs. Pesticide use is regulated by the Department of Food and Agriculture. Massachusetts, with one of the most comprehensively consolidated environmental structures reported that functional consolidation, leadership by the governor, and the environmental impact statement review process are the most effective coordination mechanisms used in that state.

Massachusetts reported that there is some overlap between the DEQE and the Department of Public Health (DPH) since the DEQE develops and enforces standards and guidelines for human exposure to toxic substances through environmental media while the DPH is responsible for prevention in other media such as food and indoor air. The DPH works together with the DEQE to establish standards for the workplace environment.

Fragmented organizational responsibility, conflicts between pollution control concerns and other higher priority governmental functions, and the

absence of overall policies or objectives were cited as the major problems which hinder further integration of pollution control and related programs.

## Michigan

The Department of Natural Resources (DNR) is responsible for programs concerning water quality, air quality, solid waste, and hazardous waste, as well as those for drinking water, land use management, coastal zone management, forestry, parks and recreation, fish and wildlife, water use management, and oil, gas, and mineral resource management. The Department of Agriculture administers the pesticide use program. The DNR was created in 1973 as part of an overall executive reorganization to reduce the number of principal agencies in the state. While the issue of creating a separate Environmental agency has surfaced many times in Michigan, it was reported that the evidence from the success of the present organizational strategy continues to thwart such efforts.

Michigan reported that its pollution control and related programs are closely coordinated and attributes this to the consolidation of environmental programs and leadership from the governor. One example of the governor's leadership is the establishment of the Cabinet Council on Environmental Protection within the Office of the Governor in 1983 consisting of the directors of the Departments of Natural Resources, Agriculture, Management and Budget, and Public Health; the Attorney General; the Chair of the Michigan Environmental Review Board; and the Executive Secretary of the Toxic Substance Control Commission. The Council has been directed to (1) inventory the quality of the state's environment and resources and the programs related thereto to identify and propose solutions to the most imminent and serious threats to the quality of the natural environment and resources in Michigan; (2) plan for coordinated management and action involving future emergencies and imminent threats to the public health, safety, and welfare; and (3) review and develop recommendations to the governor concerning such issues as safeguarding the food chain, hazardous waste disposal, the state's laboratory capacity, public information on risks involving hazardous waste, and promoting relationships between the scientific community and the state government.

## Mississippi

The Mississippi Department of Natural Resources administers the water quality, air quality, solid waste, and hazardous waste management programs in addition to the programs for parks and recreation, water use management, mineral leasing, geological survey, dam safety, and surface mining. The Department of Agriculture administers the pesticide use program. Prior to this organizational structure which was established in 1979, there was a multitude of independent agencies with related functions. The present organizational structure has provided for more efficient management of environmental and natural resources under a unified leadership and has also saved personnel resources and dollars for Mississippi. Mississippi reported that pollution control programs rank high in the department's overall priority.

Mississippi reported that the pollution control activities of the department are closely coordinated with related programs of other agencies and cited the consolidation of all environmental functions in one agency as the technique most effective in coordinating environmental activities in the state. Political resistance to change, the structure of federal organizations and programs, and conflicts between pollution control and other higher priority governmental functions were cited as the major problems hindering further integration of environmental programs.

## Missouri

The Department of Natural Resources (DNR) administers water pollution, drinking water, air pollution, solid waste, and hazardous waste programs in addition to programs for parks, water use management, energy, and geological resources. The Air Conservation Commission and Clean Water Commission, appointed bodies attached to the Department, not only adopt regulations and establish regulatory standards but are also designated as the state air and water pollution agencies under federal pollution laws. The Hazardous Waste Management Commission, another appointed body attached to the Department, until 1981 had the authority to adopt hazardous waste standards. The Department of Social Services administers the food and drug law while the Department of Agriculture regulates pesticide use.

An emergency response plan governs state and local agency action in hazardous substance emergencies and a 24-hour emergency response team is available on call. The DNR reportedly attempted to hold quarterly meetings with one agency but a lack of commitment put an end to that effort. The DNR reported that its pollution control and related programs are loosely coordinated and cited administrative or professional resistance to change, fragmented organizational responsibility, and failure to translate overall policies and objectives into specific plans and programs as the major problems hindering further integration of environmental programs.

## Nevada

As a result of a 1977 reorganization of environmental programs, pollution programs which were formerly under the Department of Human Resources were combined with conservation programs in the Department of Conservation and Natural Resources (DCNR). The Department of Conservation and Natural Resources is responsible for water quality, air quality, solid and hazardous waste management, forestry, parks, water use management, state lands, and historic preservation. A State Environmental Commission which consists of six agency representatives and four public members serves as the policy-setting, regulation-adopting, and variance-granting body for environmental programs. The Department of Human Resources administers the safe drinking water and food purity programs while the Department of Agriculture has jurisdiction over pesticide use. The 1977 reorganization left the drinking water program with the Department of Human Resources' Health Division because of the program's close relationship to public health, the availability of laboratory facilities, and the existence of statewide field offices.

The DCNR contracts with the Department of Human Resources Division of Health for laboratory and field services including inspection of minor wastewater treatment facilities, permit issuance for and inspection of septic systems, and some sampling and complaint investigation. The DCNR noted that because it lacks field offices and staff and must contract for these services, the reorganization has not been totally effective or satisfactory.

The DCNR indicated the pollution control activities are generally coordinated and cited conflicts between pollution control concerns and other higher priority governmental functions, fragmented organizational responsibility, and political resistance to change as the major problems hindering further integration of environmental programs.

## New Jersey

The New Jersey Department of Environmental Protection (DEP), like its counterpart in New York, was created on Earth Day in 1970. THE DEP combines natural resources responsibilities in coastal zone management, forestry, parks, fish and wildlife, marine and ocean resources, water use management, and open space acquisition programs with pollution control responsibilities for water quality, drinking water, air quality, solid waste management, hazardous waste management, noise abatement, radiation protection, and pesticide use regulation. The DEP is assisted in an advisory capacity by the Advisory Council on Solid Waste Management, the Hazardous Waste Advisory Council, Clean Air Council, Pesticide Control Council, and Commission on Radiation Protection. The Department of Health administers the food purity program.

The DEP has an emergency coordinator who triggers coordination with other agencies and an emergency radio control room prepared with appropriate notification and coordination procedures. This system evolved from forest fire management to encompass other departmental activities. The Department's Office of Science and Research includes a Risk Assessment Unit to assess the degrees of potential human health hazards from exposure to toxic substances.

A New Jersey official noted that if New Jersey's limit on state departments were higher, a separate department for natural resources might be considered. There is little conflict between the pollution control and natural resources programs; however, it was noted that in budget and staffing conflicts, the natural resources programs inevitably take the back seat to the pollution control programs where critical issues constantly surface. New Jersey officials indicated that pollution control programs are generally coordinated and cited the lack of effective intergovernmental coordination, lack of direct state land use authority, and conflicts between pollution control concerns and other higher priority governmental functions as the major problems hindering further integration of pollution control and related programs.



## New York

The New York Department of Environmental Conservation (DEC) created in 1970 administers laws in the areas of water quality, air quality, solid and hazardous waste management, and noise abatement in addition to programs in land use management, coastal zone management, forestry, fish and wildlife, water use management, marine resources, mineral resources, and pesticide use. A State Environmental Board, comprised of ten agency directors and six public members, advises the Commissioner of the DEC and approves environmental standards and regulations submitted by the Commissioner. An appointed body of six private citizens, the Council of Environmental Advisors, advises the Governor on environmental policy matters. The Department of Health administers the safe drinking water program and the Department of Agriculture and Markets handles food purity programs.

The DEC reported that pollution control and related activities are closely coordinated in New York and cited the environmental impact statement review process as being the most effective coordinating mechanism. Failure to translate overall policies and objectives into specific plans and programs; lack of adequate information on environmental resources, population, economic trends, and public and private activities affecting the environment; and the lack of effective intergovernmental coordination were cited as the major problems hindering further integration of pollution control and related programs.

## Pennsylvania

The Department of Environmental Resources (DER) administers Pennsylvania's programs in water quality, drinking water, air quality, solid and hazardous waste management, and radiation protection in addition to both conservation and resource development programs in coastal zone management, forestry, parks, limited water use management, coal and other mineral mining, and oil and gas management. The Environmental Quality Board, comprised of 21 cabinet officers, legislators, and citizens, adopts all environmental regulations and is involved in some general policymaking. The Department of Agriculture has jurisdiction over food purity and pesticide use laws.

The DER reported that it utilizes many advisory committees and coordinating committees in its operations. The DER believes that pollution control and related programs are generally coordinated and considers as major problems hindering further program integration the failure to translate overall policies and objectives into specific plans and programs; the structure of federal organization and programs; and the lack of adequate information on environmental resources, population, economic trends, and public and private activities affecting the environment.

## Rhode Island

Rhode Island in 1977 transferred its pollution control programs from its health department to the Department of Environmental Management (DEM). The Department of Environmental Management implements programs in water

quality, air quality, and solid and hazardous waste management in addition to its duties in wetlands preservation, forestry, parks, fish and wildlife, agricultural land preservation, agricultural marketing, environmental impact analysis, and pesticide use regulation. An Environmental Standards Board adopts the air and water quality standards implemented by the Department while an Advisory Council on Environmental Affairs advises the Governor, the Environmental Standards Board, and the DEM's Director on environmental issues. The Department of Health administers drinking water and food purity programs. The Solid Waste Management Corporation, a public corporation, was created for the purposes of planning, constructing, financing, and operating solid waste management facilities and providing solid waste management services to municipalities and persons. State law requires much stricter environmental monitoring of pesticides than in other states. The DEM must monitor waters of the state, soils, crops for human or animal consumption, places where food is served commercially, food and feed processing establishments and wildlife.

### **South Dakota**

According to the South Dakota statutes, the environmental programs went through several changes over the past decade. Until 1979, South Dakota had a little EPA organizational structure which was created in 1973 as a part of an overall executive reorganization. In 1979, the Department of Environmental Protection was abolished and the environmental protection functions were transferred to the Department of Health. Then, in 1981, the environmental protection functions were transferred from the Department of Health to the Department of Water and Natural Resources (DWRN).

The programs administered by the DWRN include water quality, air quality, solid waste, hazardous waste, and drinking water in addition to its duties concerning water management and resource conservation programs.

The Department of Agriculture administers the pesticide use program while the Department of Health is responsible for food purity.

### **Vermont**

As a result of an executive reorganization in 1970, functions of three state agencies, the Departments of Forests, Parks and Recreation, Fish and Wildlife, and Water Resources and Environmental Engineering, were placed under the jurisdiction of an umbrella agency called the Agency of Environmental Conservation. The Agency is responsible for programs in water quality, drinking water, air quality, solid and hazardous waste management as well as forestry, parks, fish and wildlife, water use management, and public building management. The Water Resources Board adopts water quality standards while the Solid Waste and Air Quality Variance Board grants variances from solid waste and air quality regulations. The Department of Health administers the food and drug law and the Department of Agriculture regulates pesticides.

Interdepartmental coordination occurs through weekly meetings of state agencies to review development proposals as part of Vermont's land use process. As result of this mechanism, it was reported that Vermont has experienced excellent coordination in environmental affairs. Vermont rated consolidation of programs in one agency as the most effective coordinating technique.

## **Washington**

The Washington Department of Ecology (DOE) administers the state's air quality, water quality, solid waste, and hazardous waste programs, in addition to programs for water use regulation, coastal zone management, and low and high level nuclear waste management. The state Air Pollution Control Board establishes air quality standards and enforces its standards if no local air pollution control authority exists. An Ecological Commission advises the DOE Director and has veto power over the department's administrative rules. The DOE also coordinates the joint processing of permits and administers the environmental impact statements law.

The Department of Agriculture administers the food regulation and pesticide use programs while the Department of Social and Health Services administers the state's drinking water program.

## **Wisconsin**

The Department of Natural Resources (DNR) established in 1967, administers Wisconsin's programs in water quality, drinking water, air quality, solid and hazardous waste management as well as conservation functions in coastal zone management, forestry, parks, fish and wildlife, and water use management. The DNR operates under the direction and supervision of a Natural Resources Board. A body corporate, the Wisconsin Solid Waste Recycling Authority, is empowered to acquire, construct, develop, and operate solid waste recycling facilities and may lease or sell to any person all or any portion of a waste management project. The Authority's activities must be in compliance with the DNR's standards. The Department of Agriculture administers the food purity and pesticide use laws.

Coordination occurs through a cabinet level committee which establishes environmental policy and resolves disputes among affected agencies, and through the Pesticide Review Board which was founded because of coordinating difficulties which arose with the pesticide DDT. The DNR also has memoranda of understanding with the Departments of Agriculture and Health and Social Services which govern agency responsibility in emergencies. The DNR considers pollution control activities to be closely coordinated in Wisconsin and cited consolidation of all environmental functions in one agency, the creation of an interagency policy council, and the environmental impact statements review process as coordination techniques which have been successful in Wisconsin. Factors hindering further integration of pollution control and related programs reportedly are the conflicts between pollution control concerns and other higher priority governmental functions,

administrative or professional resistance to change, and political resistance to change.

## Wyoming

The Department of Environmental Quality administers programs for air quality, water quality, solid waste, and land quality under the direction of and rules established by the Environmental Quality Council and with the advice of separate advisory boards for air quality, water quality, and land quality. The department's land quality duties include the regulation of surface coal mining. The Department of Health and Social Services administers the drinking water law while the Department of Agriculture administers the pesticides and food purity laws.

## POLLUTION CONTROL AGENCIES

## Illinois

The Illinois Environmental Protection Act of 1970 reorganized environmental programs and created the Pollution Control Board (PCB), the Department of Energy and Natural Resources (DENR), and the Environmental Protection Agency (EPA). The PCB is a full-time board which establishes state environmental policies and serves as the court of original jurisdiction for environmental matters with power to fine polluters and order them to stop polluting. The EPA is responsible for administering the programs to implement the policies of the PCB. The DENR provides research and technical studies upon which the environmental programs are based. The EPA administers programs for water quality, air quality, solid waste, hazardous waste, and noise abatement. The drinking water program is also administered by the EPA, except for the non-community systems which are regulated by the Department of Public Health. Pesticide use regulation is the responsibility of the Department of Agriculture.

Illinois reported that its pollution control and related programs are loosely coordinated and that the problems which significantly hinder further integration of pollution control programs are the structure of the federal organization and programs; the lack of effective intergovernmental coordination; and conflicts between pollution control concerns and other higher priority governmental functions.

## Minnesota

The Minnesota Pollution Control Agency (PCA) was created in 1967 to consolidate the administration of water, air, and solid waste pollution programs. Pesticide use is the responsibility of the Department of Agriculture. The establishment of the PCA was initiated by the legislature to create a highly visible, strong advocate of environmental clean-up.

Minnesota also has an Environmental Quality Board consisting of the Director of Energy, Planning and Development, Director of the PCA, the Commissioner of Natural Resources, the Commissioner of Agriculture, the Commissioner of Health, the Commissioner of Transportation, a representative of the Governor's Office, and five public members appointed by the governor. The Board, originally called the Governor's Council of Environmental Quality, was established on an ad hoc basis by executive order in 1972 and statutorily established in 1973. The Board's statutory duties include determining environmental problems of interdepartmental concern, initiating interdepartmental investigations, coordinating interdepartmental programs to ensure compliance, reviewing legislation proposed by state agencies which affect the environment, and advising the governor. The Board also administers the environmental impact statements program. In 1983, the Board was also charged with the responsibility of coordinating water resource management and planning and administering federal water resources planning with multiagency interests.

In a telephone call to Minnesota it was noted that while the Board is unable to resolve all conflicts and coordinate all actions among agencies with environmentally related functions, the Board has been generally successful in those areas where there has been a commonly perceived need for the agencies to act on a problem or where there is no one agency responsible. Recently, the Governor appointed a Task Force to review the Board's activities to determine whether or not it should be continued. The Task Force found that the Board is an especially valuable entity since it provides public access to environmental policy formulation.

## Ohio

Ohio's Environmental Protection Agency (EPA) administers programs for water quality, drinking water, air quality, and solid and hazardous waste management while the Department of Health has responsibility for noise abatement. The Department of Agriculture regulates food and administers the pesticides program with policy direction from and coordinating efforts by the Interagency Pesticide Advisory Committee.

The Governor has appointed "cabinet clusters" to conduct long-range planning in a variety of areas including the environment. The cabinet-clusters are expected to produce a strategic plan for Ohio by the end of 1984. The state has an emergency notification procedure in place to alert all agencies. The Ohio EPA reported that its pollution control and related activities are generally coordinated and cited the structure of federal organization and programs, the lack of effective intergovernmental coordination, and the conflicts between pollution control concerns and other higher priority governmental functions as major problems which significantly hinder further integration of pollution control and related programs.

## POLLUTION CONTROL DEPARTMENTS

### Arkansas

The Department of Pollution Control and Ecology (DPCE) administers the pollution control programs in Arkansas with oversight provided by the Pollution Control Commission (PCC). The PCC consists of members from the State Board of Health, the Fish and Game Commission, the Oil and Gas Commission, the Soil and Water Conservation Commission, and three members appointed by the Governor. The PCC nominates the Executive Director of the DPCE who is appointed by the Governor. Drinking water, food purity, and radiation control programs are administered by the State Board of Health, while the pesticide use program is administered by the State Plant Board.

### Louisiana

The Department of Environmental Quality, which is headed by a Secretary appointed by the Governor, administers the programs for air quality, water quality, solid waste, and hazardous waste. The drinking water and food purity programs are administered by the Department of Health and Human Resources, and pesticide use is regulated by the Department of Agriculture.

The rules and standards for environmental programs are established by the Environmental Quality Control Commission. The Commission is composed of the Secretary of Natural Resources, Secretary of Wildlife and Fisheries, Secretary of Health and Human Resources, Secretary of Commerce, Commissioner of Agriculture, Secretary of Transportation and Development, and Secretary of Culture, Recreation and Tourism, with the Attorney General serving as legal counsel to the Commission.

Louisiana also has a cabinet level council located in the governor's office called the Governor's Resources Development and Environmental Quality Council. The Council which was established statutorily in 1983 consists of the Governor, Secretary of Environmental Quality, Secretary of Wildlife and Fisheries, Secretary of Natural Resources, Secretary of Health and Human Resources, Secretary of Public Safety, Commissioner of Agriculture, Secretary of Transportation and Development, one Senator appointed by the Governor, and one representative appointed by the Speaker of the House of Representatives. The Council is required by law to meet bimonthly; set goals; coordinate personnel, actions, equipment for emergencies; plan strategies and agency responses during emergencies; and recommend procedures for reduction of overlapping efforts, activities or actions by different agencies. If there is disagreement regarding any procedure, action, overlap, or conflict of responsibility, the governor makes the final decision.

### Nebraska

The Department of Environmental Control (DEC) which was established in 1971 administers programs in water quality, air quality, and solid and

hazardous waste management in accordance with the environmental standards and regulations adopted by the Environmental Control Council. The Governor appoints the Director of Environmental Control from a list of names submitted by the Council. The Department of Health is responsible for Nebraska's drinking water program and the Department of Agriculture regulates pesticide use and food purity programs.

An interagency body coordinates policy on water quality and quantity and air quality issues with associated water and air agencies including the Department of Water Resources, Department of Agriculture, Natural Resources Commission, the university, and state and local air groups. A contingency plan outlines different agencies' responsibilities in dealing with environmental problems. The DEC reported that pollution control and related activities are generally coordinated in Nebraska and cited the absence of overall policies or objectives, failure to translate overall policies and objectives into specific plans and programs, and poor implementation of environmental programs as the major problems hindering further integration of pollution control and related programs.

## Oregon

The Department of Environmental Quality (DEQ) administers air pollution, water pollution, solid waste, hazardous waste, and noise programs under the policy direction of and regulations and standards established by the Environmental Quality Commission. The DEQ's Director is appointed by the Commission rather than the Governor. The Department of Agriculture administers food regulation and pesticides programs while the Department of Human Resources administers the drinking water program and conducts food inspections as requested by the Department of Agriculture.

The DEQ reported that pollution control and related activities are generally coordinated and that coordination is handled through interagency committees formed as problems arise and through interagency memoranda of understanding. The Oregon Accident Response System governs agency actions in oil spills, volcanic eruptions, nuclear disaster and other emergencies. A mechanism through which local planning is coordinated with broader environmental needs and problems is the requirement that the Department of Land Conservation and Development approve all land use plans.

The DEQ cited, as the major problems hindering further integration of pollution control and related programs, the fragmented organizational responsibility, absence of overall policies or objectives, and political resistance to change.

## UNCONSOLIDATED AGENCIES

### California

California's air quality program is administered by the Air Resources Board; the water quality program is administered by the Water Resources Control Board; and the solid waste program is administered by the Solid Waste Management Board. Although the three boards have been under the administrative control of the Secretary for Environmental Affairs since 1975, it appears that most real authority has remained with the individual boards as was the case when the programs were under the Resources Agency, an umbrella organization for conservation and natural resources programs.

The Department of Health Services under the Health and Welfare Agency administers the hazardous waste, drinking water, and food purity programs, while the Department of Food and Agriculture is responsible for pesticide use regulation. According to California law, the Director of Agriculture is required, after consultation with the Department of Health Services and the Air Resources Board, to evaluate the health effects of pesticides which may be emitted into the air and determine the need for control measures for each pesticide identified as a toxic air contaminant.

### New Hampshire

Three different agencies administer New Hampshire's basic pollution control programs. The appointed Water Supply and Pollution Control Commission carries out water pollution and drinking water responsibilities; the Air Resources Agency manages the state's air quality program; and the Department of Health and Welfare, in addition to its public health, welfare, and food regulation duties, administers solid and hazardous waste programs. The Air Resources Commission advises the Air Resources Agency, adopts air pollution rules, and advises the Governor and the Council of Resources and Development on air pollution matters, while the Governor and Council appoint the Air Resources Agency Director. A Solid Waste Management Board establishes solid waste management policies, adopts regulations, and hears appeals from decisions of the Department of Health and Welfare. Pesticide use is the responsibility of the Department of Agriculture.

The Council of Resources and Development, composed of 11 department heads and chaired by the director of state planning, is required by law to consult upon common problems in the field of natural resources and their development, make biennial reports and recommendations to the Governor and council, and make studies and recommendations concerning changes to effectively coordinate the work of the agencies represented on the council. An unusual provision in New Hampshire's law makes recommendations adopted by a majority vote of the Council binding on the affected agencies represented on the Council, unless the recommendations conflict with existing laws or rules. The Council is also required to resolve conflicts concerning water management and supply. According to New Hampshire officials, further agency coordination occurs through memoranda of agreement.



New Hampshire officials reported that pollution control and related activities are generally too loosely coordinated. The Water Supply and Pollution Control Commission reported the existence of a coordinating mechanism for environmental emergencies including oil spills, hazardous waste incidents, and degradation of drinking water quality.

New Hampshire reported that executive reorganization is currently under review. The health department noted that there is great concern in New Hampshire that many environmental health decisions are being made without the benefit of a health perspective and was interested to hear that Hawaii is considering the breaking of this vital link between health and the environment.

## **North Carolina**

The Department of Natural Resources and Community Development (NRCD) administers North Carolina's water quality and air quality programs under the direction, regulations, and standards of the Environmental Management Commission. The Environmental Management Commission is comprised of 13 members appointed by the Governor and four members appointed by the General Assembly. The NRCD also carries out programs in conservation areas including land management, coastal management, forestry, parks, fish and wildlife, water use management, and a major non-environmental program, community development. The Department of Human Resources is responsible for solid waste, hazardous waste, and drinking water programs. The Department of Agriculture administers pesticide laws under the regulations of a Pesticides Board. The Department of Agriculture is also responsible for food purity.

Confusion over agency responsibilities in a 1979 spill of polychlorinated biphenyls (PCBs) resulted in the development of an Emergency Response Plan assigning responsibilities for all state agencies and coordinating local involvement. The NRCD indicated that its pollution control activities are loosely coordinated with other agencies' pollution control-related functions and cited political resistance to change, fragmented organizational responsibility, and the lack of effective intergovernmental coordination as the major problems hindering further integration of pollution control and related programs.

## **Texas**

Air quality is regulated by the Air Control Board; water quality, including the regulation of industrial solid waste, is regulated by the Department of Water Resources; drinking water, food purity, and municipal solid waste programs are administered by the Department of Health Resources; and pesticide use is regulated by the Department of Agriculture.

Pollution control programs in Texas are considered to be generally coordinated and among the factors Texas officials cited as significantly hindering further integration of pollution control and related programs were the structure of federal organization and programs, political resistance to change, administrative or professional resistance to change, lack of effective

intergovernmental coordination, fragmented organizational responsibility, and conflicts between pollution control concerns and other higher priority governmental functions.

## Virginia

Like New Hampshire, Virginia law entrusts three different agencies with the basic pollution control responsibilities. The Department of Health under the Secretary of Human Resources regulates drinking water, solid waste, and hazardous waste in addition to its public health and limited food regulation duties. The State Water Control Board and the Air Pollution Control Board, both appointed by the Governor, administer the water pollution and air pollution programs, respectively. The Water Control Board and Department of Health share jurisdiction over sewerage systems and sewage treatment works. The Department of Agriculture and Consumer Services administers pesticide use and food regulation programs.

The Council on the Environment, comprised of environmental agency heads and citizens and served by an administrator appointed by the Governor and a full-time staff, is a policymaking and coordinating body which advises the Governor and General Assembly on environmental matters. The Council's staff is charged by law with developing uniform management and administrative systems which assure cohesive environmental policies. As part of its coordinating duties there is specific statutory provision for an expedited or coordinated permit system. Other coordinating techniques include the establishment of interagency task forces to deal with problems as they arise, memoranda of understanding, and an emergency plan under which the Office of Emergency Services coordinates responses. The emergency plan was recently expanded to include recent hazardous and radioactive materials accidents and the Tylenol contamination incident. Virginia reported that there are several studies underway to determine whether or not there is a more effective method of organizing environmental management agencies.

Only one of the three Virginia officials responding to the LRB questionnaire felt that pollution control and other activities are closely coordinated; one respondent felt that such activities are generally coordinated and the other felt that they were at times loosely and generally coordinated although this individual repeatedly emphasized frequent agency head and staff interface with other agencies. The factors cited by the officials as most hindering to further integration of pollution control and related programs in Virginia were the lack of adequate information on environmental resources, population, economic trends, and public and private activities affecting the environment; administrative or professional resistance to change; political resistance to change; fragmented organizational responsibility; failure to translate overall policies and objectives into specific plans and programs; the structure of federal organization and programs; and the lack of effective intergovernmental coordination.

## West Virginia

West Virginia's Department of Natural Resources (DNR) is responsible for water quality and solid and hazardous waste management programs in addition to forestry, fish and wildlife, and coal mining programs. The Water Resources Board establishes water quality standards and regulations for the department. An Air Pollution Control Commission administers the state's air quality program while the Department of Health administers the drinking water and food inspection programs and the Department of Agriculture regulates pesticide use.

The DNR indicated that pollution control programs are loosely coordinated with pollution control-related programs of other agencies and cited fragmented organizational responsibility, the absence of overall policies or objectives, and the structure of federal organizations and programs as the major factors hindering further integration of pollution control and related programs. The DNR further noted that environmental programs are split among eight state agencies and recommended against following West Virginia's example.

## Appendix D

### COST ESTIMATE FOR A NEW DEPARTMENT

Since there are many unknowns regarding a desirable structure for a new department and possible capital costs, this estimate is made only for operational costs using minimum personnel salaries as the base. The minimum salaries for each salary range are used in this estimate because there is no way of predicting (1) whether or not the incumbents in the positions that are transferable will indeed move to the new department and (2) when turnovers might occur in those positions prior to the establishment of a new department. It is emphasized that the estimate for start-up cost, the amount required in addition to current levels of funding for environmental programs to establish a new department, will be much greater if all incumbents choose to transfer with the positions. It must also be remembered that while the LRB has not included the Office of Environmental Quality Control (OEQC) in the new department, there must be concomitant additional costs incurred for program expansion of the OEQC in order to adequately provide for an improved statewide pollution control program.

While the LRB believes that any new department should be housed in a single building or complex, this estimate assumes that the new department will be housed in existing state facilities and will not be required to pay additional rent. The estimate also assumes that federal funding of certain environmental program positions will continue and that there will be at least three divisions in the new department. Generally, the new positions required to be established are to provide administrative services for the department and services that are being provided to environmental programs from other units within the Departments of Health and Agriculture. The twenty-six new positions include the following:

- (1) 4 positions for the Director's Office;
- (2) 6 positions for the Administrative Services Office, assuming that three positions from the EPHSD staff services office can be transferred to the new department;
- (3) 3 division chief positions;
- (4) 1 environmental health specialist position to conduct radiation monitoring activities, assuming that the existing positions in the Noise and Radiation Branch performing such duties must remain with the DOH to perform the medically-related radiation functions;
- (5) 2 environmental health specialist positions for the drinking water program to perform sample collection activities on Oahu currently performed by the sanitarians in the Sanitation Branch;
- (6) 1 research statistician and 1 secretary for the research and planning unit, assuming that the environmental epidemiology program staff of the Communicable Disease Division, the

planner from the office of the Deputy for Environmental Health, and the public participation coordinator and environmental health specialist under the EPHSD staff services offices can be transferred to the new department;

- (7) 1 higher ranking environmental health specialist and 1 secretary for each neighbor island county to head the district office;
- (8) 1 environmental health specialist for each neighbor island county to perform drinking water sample collection and other monitoring functions currently performed by the sanitarians in the Sanitation Branch;
- (9) 1 secretary for the pesticides unit of the new department, assuming that 1 clerk typist can be transferred from the Department of Agriculture's Plant Industry Division; and
- (10) 1 pesticide specialist position for Hawaii district office since the Department of Agriculture has one noxious weed specialist currently performing pesticide duties 50% of the time and it would be difficult to continue this arrangement under a new department.

This estimate should only be used to obtain a general idea of the minimum requirements of a new department and should not be used as a final determination of cost. An accurate cost package can only be developed after a program evaluation of the current system has been conducted and a departmental plan has been developed.

**MINIMUM PERSONNEL REQUIREMENTS FOR  
A SEPARATE DEPARTMENT**

Salary Range	Position Title	# Trans- ferable	# New	Salary at Step B or at Minimum Amount	Federally Funded	New Costs
<u>Director's Office</u>						
	Director		1	\$ 50,490		\$ 50,490
SR 20	Private Secretary II		1	18,828 <sup>a</sup>		18,828
	Deputy Director		1	47,520		47,520
SR 18	Private Secretary I		1	17,484 <sup>a</sup>		17,484
<u>Admin. Services</u>						
EM 05	Staff Services Officer		1	28,884		28,884
SR 12	Secretary II		1	14,244		14,244
SR 08	Clerk-Typist II		1	12,600		12,600
SR 11	Clerk-Steno III	1		13,812		
SR 21	Environ. Hlth. Spec. IV	1		20,016		
SR 18	Accountant III	1		17,628		
SR 12	Account Clerk IV		1	14,244		14,244
SR 11	Pre-Audit Clerk I		1	13,812		13,812
SR 15	Personnel Technician VI		1	15,672		15,672
EM 06	Division Chiefs		3	90,900		90,900
<u>Litter Control</u>						
SR 31	Program Coordinator	1		31,440		
SR 21	Litter Cont. Spec. IV	1		20,016		
SR 15	Litter Cont. Spec. III	2		31,296		
SR 12	Secretary II	1		14,244		
<u>Pollution, Investigation and Enforcement</u>						
SR 28	Environ. Hlth. Spec. VII	1		27,372		
SR 24	" " " V	3		68,580		
SR 21	" " " IV	3		60,048		
SR 18	" " " III	9		158,652		
SR 21	Engineer III	1		20,916		
SR 12	Secretary II	1		14,244		
SR 09	Clerk-Steno II	1		12,936		
<u>Environmental Permits</u>						
SR 28	Engineer VI	1		27,372		
SR 26	" V	2		50,112		
SR 24	" IV	7		114,300	45,720	

Salary Range	Position Title	# Trans-ferable	# New	Salary at Step B or at Minimum Amount	Federally Funded	New Costs
SR 21	" III	1			20,016	
SR 24	Geologist I	1		22,860		
SR 12	Secretary II	1		14,244		
SR 09	Clerk-Steno II	1			12,936	
SR 08	Clerk-Typist II	1			12,600	
SR 10	Clerk IV	1		13,344		
<u>Wastewater Treatment Works Construction Grants</u>						
SR 28	Engineer VI	1		27,373		
SR 26	" V	2			50,112	
SR 24	" IV	5		22,860	91,440	
SR 21	" III	1			20,016	
SR 24	Planner V	1			22,860	
SR 21	Planner IV	1			20,016	
SR 18	Accountant III	1			17,628	
SR 15	Contracts Asst II	1			15,648	
SR 15	Planner II	1			15,648	
SR 21	Gen. Constr. Insp. IV	1			20,016	
SR 21	Bldg. Constr. Insp. III	1			20,016	
SR 12	Secretary II	1			14,244	
SR 09	Clerk-Steno II	2		12,936	12,936	
<u>Noise and Radiation</u>						
SR 28	Environ. Hlth. Spec. VII	1		27,372		
SR 24	" " " V	1		22,860		
SR 21	" " " IV	2		40,032		
SR 18	" " " III	4	1	88,140		17,628
SR 12	Secretary II	1		14,244		
SR 09	Clerk-Steno II	1		12,936		
<u>Drinking Water</u>						
SR 26	Engineer V	1		25,056		
SR 24	" IV	4		22,860	68,580	
SR 21	" III	1		20,016		
SR 18	Environ. Hlth. Spec. III	2	2	35,256	35,256	35,256
SR 10	Secretary I	1		13,344		
<u>Research, Planning, Information</u>						
SR 28	Environ. Epidemiologist	1		27,372		
SR 21	Epidemiological Spec. IV	1		20,016		
SR 08	Clerk-Typist II	1		12,600		
SR 26	Planner VI	1		25,056		
SR 26	Pub. Part. Coord.	1		25,056		
SR 21	Environ. Hlth. Spec. IV	1		20,016		

Salary Range	Position Title	# Trans- ferable	# New	Salary at Step B or at Minimum Amount	Federally Funded	New Costs
SR 24	Research Stat. V		1	22,860		22,860
SR 12	Secretary II		1	14,244		14,244
<u>Hawaii District Office</u>						
SR 24	Environ. Hlth. Spec. V		1	22,860		22,860
SR 21	" " " IV	2		40,032		
SR 18	" " " III		1	17,628		17,628
SR 18	Pesticide Spec. III	3	1	52,884	17,628	17,628
SR 12	Secretary II		1	14,244		14,244
SR 08	Clerk-Typist II	1		12,600		
<u>Maui District Office</u>						
SR 24	Environ. Hlth. Spec. V		1	22,860		22,860
SR 21	" " " IV	1		20,016		
SR 18	" " " III		1	17,628		17,628
SR 18	Pesticide Spec. III	1		17,628		
SR 12	Secretary II		1	14,244		14,244
<u>Kauai District Office<sup>b</sup></u>						
SR 24	Environ. Hlth. Spec. V		1	22,860		22,860
SR 21	" " " IV	1		20,016		
SR 18	" " " III		1	17,628		17,628
SR 12	Secretary II		1	14,244		14,244
<u>Pesticides (neighbor island positions are in county district offices)</u>						
SR 26	Pesticide Spec. VI	1		25,056		
SR 21	" " " IV	3		60,048		
SR 18	" " " III	3		35,256	17,628	
SR 08	Clerk-Typist II	1		12,600		
SR 12	Secretary II		1	14,244		14,244
TOTAL		104	29	\$2,104,676	\$550,944	\$610,734



Laboratory Services Contract<sup>c</sup> ..... \$ 458,824

Estimated Operational Cost<sup>d</sup> ..... \$3,583,082

Salaries	\$2,104,676
+Federal funds	550,944
+Lab services	390,000
	<u>\$3,045,620</u>
÷ .85 =	\$3,583,082

Estimated Start-Up Cost<sup>e</sup> ..... \$ 718,511

New costs	\$ 610,734
÷ .85 =	718,511

- a. Although the minimum salary is used, secretaries to directors and deputies are civil service exempt positions and may be compensated at any amount within the salary range.
- b. It is assumed that Kauai's pesticide regulation program will continue to be provided through the Oahu office.
- c. Assumes that the new department will contract laboratory services from the Department of Health. The amount is based on the estimated portion of the Laboratory Branch's operational budget attributable to the pollution control and drinking water programs, including salaries and administrative overhead of about 15%. This lab service estimate was made solely for the purpose of obtaining an approximate figure for this cost estimate and should not be used for any other purpose. Since the State is presently budgeted for these services, this amount will not be considered as part of the start-up cost for a separate department.
- d. Assumes that salaries comprise 85% of operational cost with about \$655,985 or 15% attributable to costs other than salaries.
- e. Assumes that salaries comprise 85% of operational cost with about \$104,666 or 15% attributable to costs other than salaries.

## Appendix E

### GLOSSARY OF ACRONYMS USED

BCA	(Territorial) Board of Commissioners of Agriculture
B&F	State Department of Budget and Finance
BLNR	State Board of Land and Natural Resources
BOA	State Board of Agriculture
BWS	City and County of Honolulu Board of Water Supply
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CES	University of Hawaii Cooperative Extension Service
CTAHR	University of Hawaii College of Tropical Agriculture and Human Resources
DBCP	Dibromochloropropane
DHO	State Department of Health, District Health Office
DLNR	State Department of Land and Natural Resources
DOA	State Department of Agriculture
DOH	State Department of Health
DPS	State Department of Personnel Services
EP	State Department of Health, Environmental Permits Branch
EPHSD	State Department of Health, Environmental Protection and Health Services Division
EDB	Ethylene dibromide
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
EQC	State Environmental Quality Commission
FDA	U.S. Food and Drug Administration
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
HITAHR	Hawaii Institute of Tropical Agriculture and Human Resources

<b>LRB</b>	Legislative Reference Bureau
<b>MCL</b>	Maximum Contaminant Level
<b>NEPA</b>	National Environmental Policy Act
<b>NPDES</b>	National Pollutant Discharge Elimination System
<b>OEQC</b>	State Office of Environmental Quality Control
<b>ONE</b>	State Department of Health, Office of Narcotics Enforcement
<b>PCB</b>	Polychlorinated biphenyls
<b>PHAP</b>	University of Hawaii, Pesticide Hazard Assessment Project
<b>PIE</b>	State Department of Health, Pollution Investigation and Enforcement Branch
<b>PSD</b>	Prevention of Significant Deterioration
<b>RCRA</b>	Resource Conservation and Recovery Act
<b>SIP</b>	State Implementation Plan
<b>SWCD</b>	Soil and Water Conservation District
<b>TCP</b>	Trichloropropane
<b>TSCA</b>	Toxic Substances Control Act
<b>WRRC</b>	University of Hawaii Water Resources Research Center
<b>WTWCG</b>	State Department of Health, Wastewater Treatment Works Construction Grants Branch