Strategic Plan for Hawai‘i’s Environmental Protection Programs

Hawai‘i State Department of Health
January 1999

Strategic Plan for Hawai'i's Environmental Protection Programs

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The Health State
HAWAI'I DEPARTMENT OF HEALTH

Hawai'i Department of Health

Message from the Governor
The Honorable Benjamin Cayetano

State has clear environmental goals

Partnerships

Benjamin J. Cayetano
Governor
State of Hawai'i

Balanced environmental protection

Thank you for your interest in the protection of Hawai'i's environment. As you are well aware, we are blessed with an environment that is both beautiful and healthful. In order to keep it that way as we enter the 21st century, the State has set clear environmental goals and developed concrete strategies to accomplish our goals.

We recognize that partnerships are needed to successfully and responsibly manage our use of the environment; therefore, we have made partnerships with the private sector, the general public and local government a strong component of our work.

Recently, the Department of Health (DOH) environmental management programs sponsored such a partnership composed of representatives from all sectors throughout the state. This group—called the Environmental Management Advisory Group—collaborated with DOH staff for over a year to improve upon the strategic plan developed within the Department. The product of that cooperative effort is this report: Strategic Plan for Hawai'i's Environmental Protection Programs.

The Strategic Plan discusses the history of environmental protection in Hawai'i, elaborates on the functions and details of our environmental programs, and maps out in clear detail how we will manage the environment in the future. The plan also contains measurable environmental outcomes which we aim to accomplish within specified time frames.

Please join us in our efforts to maintain the beauty of Hawai'i's environment through balanced environmental protection. Contact DOH to find out how to become more involved in protecting Hawai'i's environment. Mālama Hawai'i!

With warmest personal regards,

Aloha,

BENJAMIN J.CAYETANO

Message from the Director of Health

Aloha.

For several decades in Hawai'i, as in the rest of the nation, crisis management, expanding regulations and increased spending have been the characteristics of environmental protection efforts. That crisis management has been aimed at environmental problems which have been sometimes real and sometimes perceived.

In the Hawai'i Department of Health we began to question the value of continuing this approach. If we are going to be effective in preserving the quality of air, water and land in Hawai'i, we see the need to go beyond simple response to the latest crisis or regulatory mandate.

New approach needed to preserve the environment within appropriate economic context

The traditional "command and control" approach to environmental protection has reduced major end-of-pipe sources of pollution. However, we must find new approaches if we expect to preserve environmental quality in the future and we must find them against a realistic economic backdrop. The currently depressed economy of our state makes our tasks even more challenging.

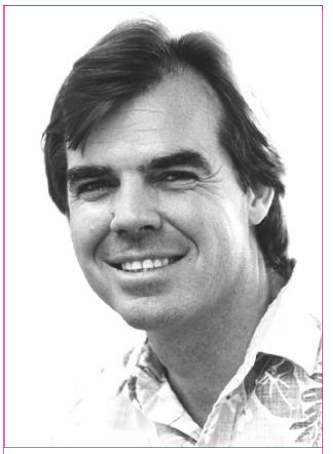
This strategic plan is intended to serve as a road map for our efforts. We see this plan as a living document and expect that it will be modified to address future challenges and expectations.

Recognizing the challenge, management principles have been adopted that encourage partnerships and a risk-based approach to environmental protection. We now have tools to assess risk, allowing us to focus limited resources on the most important environmental problems. We've streamlined permitting to be more efficient and effective. We are developing methods to measure and assure compliance and are investigating incentives to reduce pollution. We view environmental enforcement not as an end in itself, but an important tool in reaching our goals.

Limited resources require carefully identified targets

Various stakeholder groups helped our development of the environmental goals outlined in this document. We all recognize the need for additional participation in developing goals that are meaningful to the public, and plan more public outreach to achieve this. An advisory committee from various stakeholder groups has reviewed the plan and will periodically evaluate our progress as we implement the plan, and recommend improvements.

We appreciate your interest in how we hope to sustain our fragile environment, our health, our economy, and the quality of life we enjoy in Hawai'i.



Bruce S. Anderson, Ph.D
Director
Department of Health

BRUCE S. ANDERSON, PH.D.

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Hawai‘i Environmental Protection Programs Strategic Plan

Introduction

The Hawai‘i Department of Health’s (DOH) managers and staff recognize the need to continuously improve our environmental management practices and policies. Our environmental protection program has set out to fundamentally change our approach to environmental management. We have streamlined our permitting, and we use risk assessments and a priority-setting system to focus on environmental problems of greater magnitude.

New approach to environmental management

DOH has developed environmental goals for its programs. Specific benchmarks for each goal allow progress to be clearly measured; the programs can be accountable for attaining these goals. Program managers within the Department initially developed the goals, in consultation with their staffs. The goals were reviewed by our Environmental Management Advisory Group to ensure that the objectives which we set and the manner in which we carry out our responsibilities meet the needs of the Hawai‘i community.

We are pleased with the progress our environmental programs have made, and are excited about the vision, mission, goals, and strategies that have been identified as we move forward with new approaches for protecting Hawai‘i’s unique environment.

Both the plans of individual programs and this introductory chapter were developed through extensive consultation among DOH staffs and with numerous stakeholders in the environmental protection process. The following chapters consist of plans drawn up by each of DOH’s environmental protection branches and offices.

Proactive Pollution Prevention

By finding ways to prevent pollution, we avoid performing costly clean-ups. Community volunteers, for example, paint signs alerting people that all things dumped into sewers go to the ocean. As all of us learn how to prevent pollution, we become better equipped to care for our environment.

Plans created in consultation with stakeholders

Background

Historical Perspective

Federal laws sometimes more appropriate for the continental U.S.

Since the 1970s, laws have been passed for the protection of our nation's environment. These national laws include: the Clean Air Act to protect air quality, the Water Pollution Control Act (Clean Water Act) to protect coastal and inland surface waters, the Resource Conservation and Recovery Act and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) to protect the environment from hazardous substances, and the Safe Drinking Water Act to protect the quality of drinking water. These laws led our State to develop environmental pollution programs with a mandate and mission to protect and enhance environmental quality for the people of Hawai'i.

However, the standards and policies required by these federal laws have sometimes been more appropriate for the continental United States. The State of Hawai'i must continue to be active in the formation of national environmental policies to ensure applicability to Hawai'i's unique environment. Effort and resources must be directed to activities that result in quantifiable and significant public health and environmental benefits in Hawai'i.

As an island state, Hawai'i's people and environment are unique compared to those in the continental United States. That requires that we also be unique in our approach to protection of our environment and natural resources. We must be able to develop our environmental protection programs in the manner that best protects our unique and diverse environmental resources.

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Over the past few decades, we have become witnesses to how fragile our environment is through the emergence of various environmental problems and events including:

Water contamination *In the early 1980s, the pesticides ethylene dibromide (EDB), dibromo-chloropropane (DBCP) and trichloropropane (TCP) were detected in Central O'ahu drinking water wells. Additional contaminants including atrazine, dieldrin, hexazinone, tetrachloroethylene, trichloroethylene, chlordane and others have been detected in our water supplies in different areas of the State. These incidents show that our groundwater resources are vulnerable to chemical contamination. We have become more vigilant in our efforts to monitor the quality of our drinking water (drinking water monitoring parameters have increased from 23 to more than 83), as well as in our efforts to prevent its contamination (through the implementation of preventive efforts such as the source water protection program).*

Coastal water pollution *In 1989, the Exxon Houston broke its mooring off Barbers Point, causing an oil spill which impacted the West O'ahu coastline. The University of Hawai'i released a study in 1993 which concluded that a major oil spill in Hawai'i would cost the state billions of dollars. Hawai'i's dependency on imported oil makes us vulnerable to a major oil spill. The Hawai'i State Legislature passed a five-cent per barrel tax on petroleum products to fund an oil spill planning, preparedness, prevention and response program.*
In 1996, a Chevron pipeline leaked, spilling more than 20,000 gallons of

fuel oil into Pearl Harbor. An extensive cleanup effort, costing millions of dollars, involved multiple agencies and parties. As a result, the Hawai'i State Legislature passed a bill authorizing the department to implement a Pipeline Safety Program in an effort to prevent future spills.

Oil spill into Pearl Harbor led to Pipeline Safety Program

Air pollution *In 1995, refineries at Campbell Industrial Park inadvertently released pollutants that impacted neighboring businesses and residences. This provided first hand evidence of the potential impacts when residential development encroaches on and begins to merge with industrial activities. To meet this challenge, a coordinator was hired to improve communication among industries and neighboring residential developments as these potentially incompatible land uses have become increasingly integrated.*

Continued population increases in our state have resulted in conflicting land-use decisions and an incremental degradation of our natural environment. Land is being removed from agricultural and conservation zoning to meet our growing housing needs. This has led to deteriorated watersheds, decreased recharge of our groundwater aquifers, and increased erosion of our land, causing runoff and sedimentation that pollute our coastal waters. The competition for limited land has brought potentially polluting sources into close proximity with our valued natural resources.

Proactive and strategic planning have become all the more crucial. Hawai'i has invested heavily in planning in recent years, through such efforts as the Hawai'i Environmental Risk Ranking Project and two goal-setting reports produced in 1994 (Goals, Strategies and Benchmarks for DOH Environmental Management Programs) and 1996 (The State of Environmental Protection in Hawai'i).

Last year, we revisited our analysis of residual risks, defining issues which we believe are not being addressed adequately. Some, such as cesspool failures, polluted runoff from roads, and increased operation of illegal dumps fall under DOH's purview. Others, such as the contamination of our streams and aquifers by pesticides, require collaboration with other government agencies. This fresh look at our universe of environmental problems prompted changes in our planning, which are reflected in this document.

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Organizational Structure

The environmental management programs represent a small portion of the Department of Health. Of the department's several thousand personnel, the environmental programs comprise approximately 400 staff at any given time. Figure 1 displays the organizational chart for the environmental health section of the department. This plan reflects the work of the entire Environmental Management Division, the Environmental Planning Office, the Hazard Evaluation and Emergency Response Office, and the Noise, Radiation and Indoor Air Quality Branch within the Environmental Health Services Division.

Types of DOH environmental programs

Environmental Health Administration

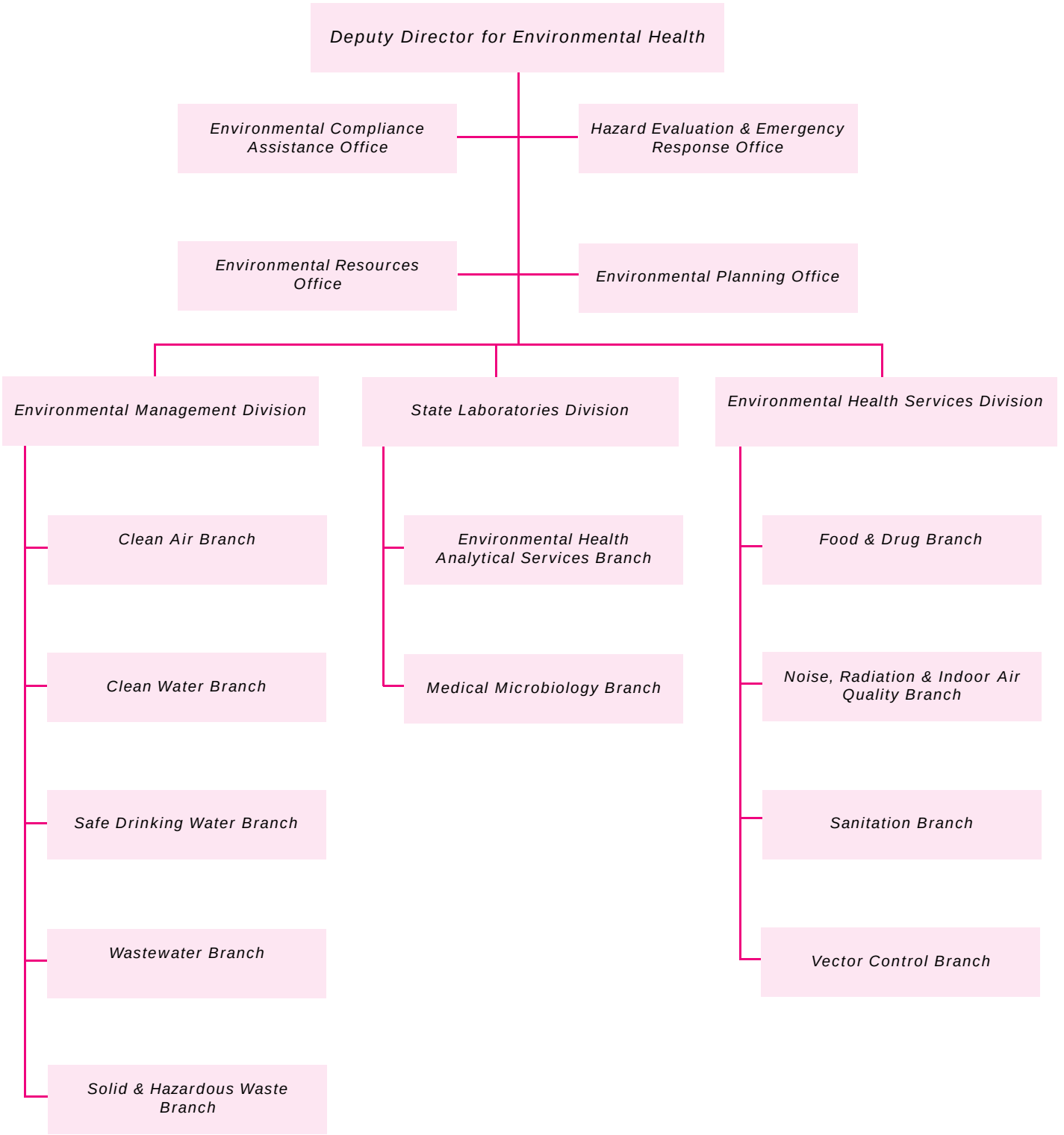

Fig. 1
December 1998

Legal authority

Most of our federal funding comes from the U.S. Environmental Protection Agency (EPA). We work very closely with our regional EPA office in San Francisco to ensure that federal laws and regulations established for environmental protection are carried out in the most effective manner possible for Hawai'i. While Congress has given EPA authority to implement federal laws, EPA has delegated many of those responsibilities to Hawai'i.

EPA policies have a strong impact on our activities, whether or not the state has delegated responsibility. Constant communication with our EPA counterparts in San Francisco is the norm, and semiannual planning sessions have become our standard practice. We have requested and received comments from EPA on our strategic planning efforts, which have been incorporated into this report.

EPA delegation of pollution control authority

Through program delegation, often called "primacy," EPA delegates to DOH the authority to carry out a pollution control program required by a federal law. Fully delegated programs include the National Pollutant Discharge Elimination System (NPDES) permit program in the Clean Water Branch, the safe drinking water program in the Safe Drinking Water Branch, and the landfill and incinerator permit programs in the Solid and Hazardous Waste Branch. Additional water, waste and air permit programs, including Underground Injection Control, Underground Storage Tanks, Hazardous Waste, Sewage Sludge Management and Clean Air Covered Sources, are in the process of being delegated under the following criteria:

- *State laws and rules shall be equal to or more stringent than federal laws and rules;*
- *States shall have adequate resources to fulfill the requirements of the program activities necessary to implement and enforce state and federal laws and rules; and*
- *States shall report to EPA on their compliance with program requirements and shall be subject to audit.*

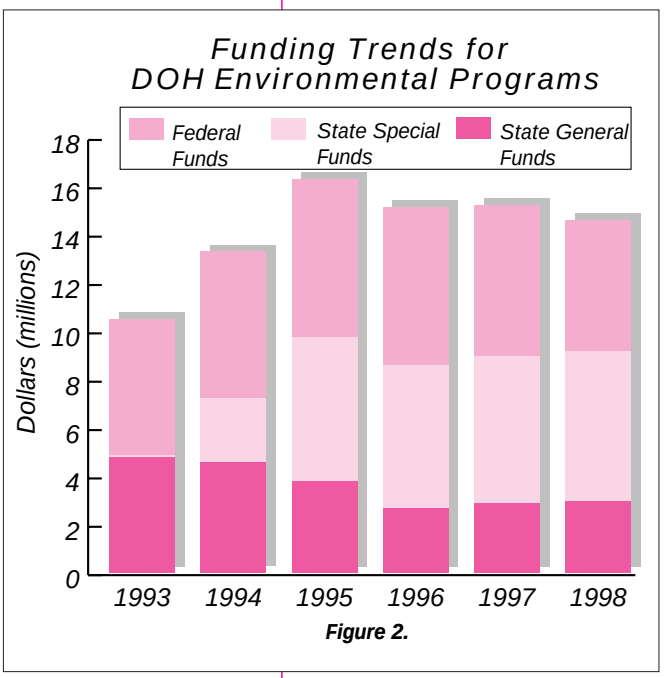

Figure 2.

Program delegation gives DOH the authority to: (1) customize EPA's national programs for state use, provided that minimum federal requirements for program implementation are met; (2) process and sign permit applications with minimum EPA oversight; and (3) take the lead in enforcement actions that result from documented violations of permit conditions, and pursue violations arising from activities that do not require permits. Program delegation makes DOH the lead agency for processing permits; EPA retains only a reviewer role.

State laws must be equal or stronger than federal ones

Cost savings for both the state and permittees result from tailoring delegated programs to state needs. By carrying out review and approval of applications within the state rather than at EPA, processing time is reduced.

Funding

When we analyze effectiveness, we must always consider the resources available to get the job done. Figure 2 shows the trend in DOH's environmental protection funding over the past several years. While state general funds have dropped precipitously, special and federal funds increased significantly. Our strategy is to shift program support costs from state general funds to special funds, where possible and appropriate. Federally-mandated programs often have relatively fixed federal funding and increasing responsibilities. Some programs such as the Clean Air Program, which regulates major sources of emissions, are almost entirely funded with special funds. In general, federal funding levels are established state-by-state by the use of federal pass-through formulas, not by local program priorities. DOH has come to rely heavily on special funds to address the expanding responsibilities we face; we expect this trend to continue.

Public/Private Partnerships

Partnership formed with the community and with businesses allow DOH to ensure a higher level of environmental protection. For example, our partners can help by monitoring the quality of our streams, or by participating in beach and stream clean-ups.

Strategic Issues

DOH staff does not have sole responsibility, nor the capacity, to accomplish our ambitious Vision and Mission independently. Nonetheless, we strive to play the strongest role possible. As we embrace this challenge, we recognize the necessity of enlisting support from the larger Hawai'i community. When the citizenry of our state becomes more aware of the status of Hawai'i's environment, we believe we will be more effective in reaching these shared objectives.

Management Principles

DOH's management principles represent our priorities in doing business as a public service agency. While our job includes much more than the principles listed, we emphasize these principles because they go beyond standard operating procedures to reach a higher level of excellence. Our management principles are threefold: Public/Private Partnerships, Risk-based Management, and Proactive Pollution Reduction. These three principles provide a common focus for all DOH programs, and are applied consistently across program activities.

Public/Private Partnerships

Partnerships with community groups and business organizations ensure that DOH maintains open lines of communication, for a clearer understanding of the decisions made on behalf of environmental protection. Through community-based advisory groups, DOH collaborates with numerous stakeholders on a variety of issues, most recently in this goal-setting effort. DOH also supports protection efforts sponsored and led by community groups formed to deal with issues important to those in the areas.

Strategic Issues Overview

Vision
An island environment that is clean and safe

Mission
To Protect and enhance evnironmental quality for the people of Hawai'i

Management Principles
- *Public/private partnerships*
- *Risk-Based management*
- *Proactive pollution reduction*

The Environmental Management Advisory Group is a mutual partnership formed by DOH. The group is composed of representatives from a cross section of the public who interface most frequently with environmental concerns. The task force has advised us during our goal setting process, extensively reviewed and commented on our Strategic Plan, and designed a communication plan which will enable the Department to conduct public outreach efforts so that the entire Hawai'i community can be a partner in reaching Hawai'i's environmental goals. This outreach will enable the Department to communicate its goals to broad segments of the population, and we'll use the feedback to ensure that the Department's goals are in harmony with the needs of our state. The Department hopes that as these goals achieve public acceptance, there will be an equal degree of public involvement in their implementation so that all citizens can play a role in achieving greater environmental protection. This task force represents a unique approach to environmental goal setting; it has provided a forum through which the Department's goals can be reviewed and revised in accordance with such "real world" feedback.

Risk-Based Management

Risk-based management means solving the biggest risks, or threats, to public health and ecosystems before expending time and expertise on less threatening situations. Government often reacts to crises whenever they arise, resulting in shooting at targets before taking careful aim. Attention-grabbing headlines often proclaim newly found environmental catastrophes. But a shocking headline does not always indicate a true health threat.

The solution to this dilemma is to aim, then shoot. Consider the risk (or threat) to public health and the environment when deciding which problems to address and in what order. If careful examination of an environmental crisis reveals a serious problem, then solving that problem becomes a priority. If not, other, higher risk issues are top priority.

Focusing protection efforts on the highest risk issues means more serious problems are solved first. For example, our community risk-ranking project identified a public concern regarding indoor air quality; our response was to establish an indoor air quality program. This risk-based approach can be applied every day, as multiple issues arise. Attempting to solve all of them at once would dissipate our resources–an ineffective approach. Risk-based decisionmaking evaluates the balance of the economic impact of environmental protection with the level of risk involved, to avoid overspending on problems with little or no risk to people or the environment.

Proactive Pollution Reduction

Pollution can be dangerous to those exposed to toxic materials, can harm wildlife and sensitive ecosystems, and is clearly a drain on our economy. When we stop pollution from being created in the first place, we are always better off. DOH has chosen to set as a priority the proactive reduction of pollution as our preferred approach. Our policies favor prevention over clean up, and we encourage reuse over disposal.

HAWAI'I ENVIRONMENTAL GOALS

AIR QUALITY . . .
To Protect and enhance Hawai'i's air quality for the health of our people.

LAND . . .
To protect Hawai'i's land from pollutants that endanger people and the environment, and to rehabilitate contaminated lands.

GROUNDWATER . . .
To protect Hawaii's groundwater from contamination for drinking, irrigation and other appropriate uses.

INLAND WATER . . .
To protect and restore the quality of Hawai'i's streams, wetlands, estuaries and other inland waters for fish and wildlife, recreation, aesthetic enjoyment and other appropriate uses.

COASTAL WATER . . .
To ensure that Hawai'i's coastal waters are safe and healthy for people, plants and animals.

Risk-Based Management

This illegal dump could pose a serious risk if the barrels contain a highly toxic material, and if people are exposed. High risk situations are a high priority for DOH to address. If the barrels are empty, and no one can access the site, then the risk is lower .

Deterence is the goal, backed by effective enforcement

When promoting pollution reduction or remediating past contamination problems, we seek to ensure that the best available technology is employed. For those cases where an environmental violation has been identified, we maintain a rigorous and effective enforcement program to deter future occurrences.

Challenges

Citizen education an important component

Everyone needs to take responsibility for the condition of Hawai'i's environment. To obtain information from the public on locations and types of environmental pollution that they want solved, and to educate citizens on some of the technical aspects of environmental management, DOH must expand its community-based environmental management programs, while maintaining the basic regulatory programs.

We are working for flexibility to carry out our federally-delegated programs on the basis of environmental priorities; the challenge is to carry out our mandate to implement EPA's regulatory programs in Hawai'i while involving the public through education and outreach.

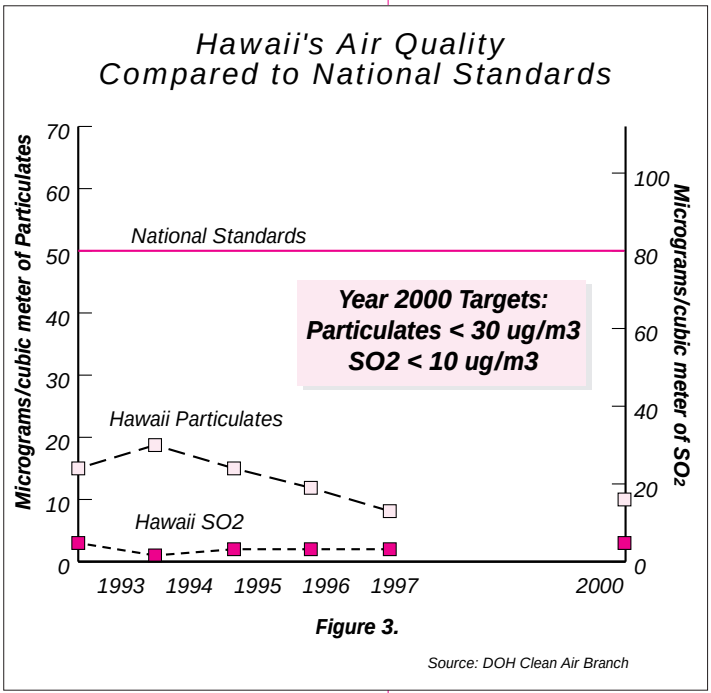

Figure 3.

Source: DOH Clean Air Branch

Environmental Goals

In pursuit of our mission, the Department of Health has adopted five broad goals for protecting Hawaii's air, lands, and waters.

To meet the challenge of each of these goals, our environmental programs have developed plans identifying how Hawai'i's air, lands, and waters will be protected. These plans show where we have been, where we expect to be (objectives), how we will get there (strategies), and how we know that we have reached our goals and objectives (indicators). The objectives we have developed are focused on improving management and control programs by using indicators that, for the most part, are aimed at measuring environmental quality and reducing the amount of waste generated or released into our environment.

Five goals to protect Hawai' i environment

Air Quality

Hawai'i's skies are an example of how beautiful the air above us can be. Hawai'i is blessed with being a set of islands, and is not impacted by pollution from neighboring states. Because we have little heavy industry, our sources of manmade pollution are relatively few. However, as with any state that has metropolitan areas, we have some industrial sources of air pollution. We regulate and monitor these sources. Special monitoring equipment has been installed around some of our larger sources to identify problems, provide early warning of unplanned releases to communities, and prevent future releases. The largest source of air pollution in Hawai'i is volcanic emissions from Kilauea on the island of Hawai'i. Special monitors have also been placed around the island to inform neighboring communities when volcanic air pollution is particularly heavy.

Evidence of Hawai'i's overall high air quality can be seen in Figure 3. Levels of particulates (dust) and sulphur dioxide near our largest industrial area are far below those which the federal government has set for concern. Indeed, air quality in this area surpasses federal standards by 44% for particulates, and by 98% for sulphur dioxide.

Volcanic emissions are the largest air pollution source

Releases of toxic chemicals into the air have been steadily dropping in recent years, as shown in Figure 4. Our target for the year 2000 for all air quality measures is to prevent any increase in pollutant levels. Attaining level emissions will be a challenge, considering the projected increase in population.

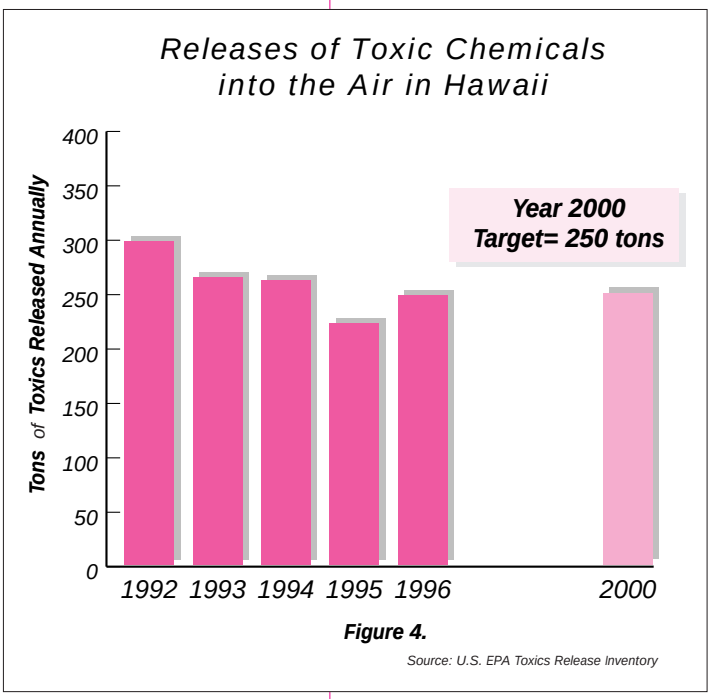

Figure 4.

Source: U.S. EPA Toxics Release Inventory

Land

Protecting land from pollution is central to preserving our entire natural environment. Pollutants that spill onto land inevitably evaporate into the air, seep into our groundwater aquifers, or flow into our streams and then to the ocean. Toxins that are left behind can threaten the health of those that are exposed. Through more prudent use of hazardous materials and enforcement of laws governing such substances, we are confident we will reduce the risk of harm to our people and our environment.

DOH concentrates first on reducing the source of pollutants that might contaminate the land, and then on limiting the places and ways toxins can find their way onto our lands. Decreased generation of wastes, especially hazardous wastes as shown in Figure 5, is the best way to avoid problems with waste later. The next best scenario is to reuse or recycle the waste, as displayed in Figure 6. We have seen a steady increase in the percentage of solid waste that is reused or recycled. As recycling increases, so too does the amount of waste diverted from our landfills. Thus, less land is required for landfills.

In those cases where waste does spill onto land and cause problems, timely cleanup is required. As you can see in Figure 7, great strides have been made in cleaning up underground storage tank sites. Since 1993, the UST program has overseen the cleanup of almost 300 sites where underground storage tanks were leaking. A target level of 100 sites restored annually is the goal for the near future, until we get ahead of the curve and have fewer sites that need cleaning.

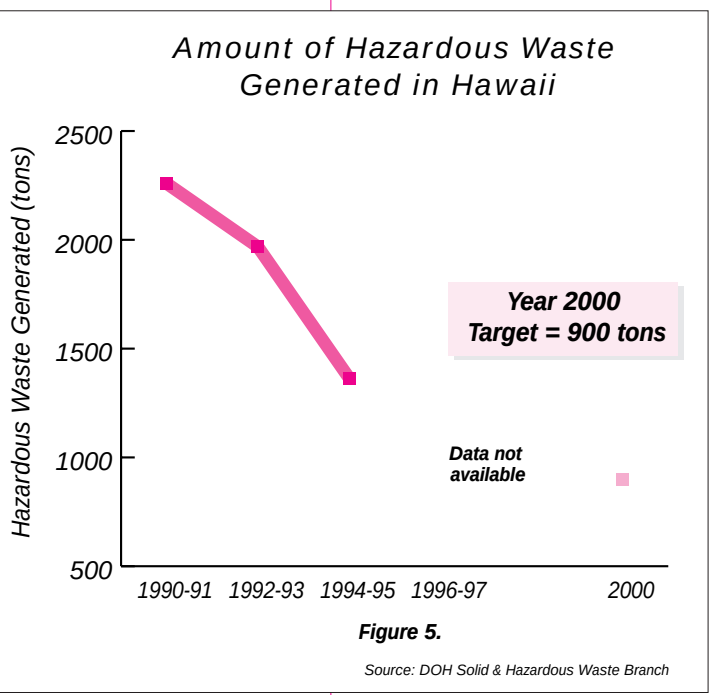

Figure 5.

Source: DOH Solid & Hazardous Waste Branch

Challenge is to prevent further aquifer contamination

Groundwater

Groundwater, the hidden source of 95% of our drinking water, might seem safe from problems because it is buried deep beneath the surface. With time, however, many substances spilled on, or applied to, the land can seep through the surface into our valuable aquifers—many substances already have. Traces of pesticides, fertilizers and other chemicals have been found in many of Hawai'i's aquifers. Most of that contamination originated from the use of pesticides and from other practices which occurred decades ago.

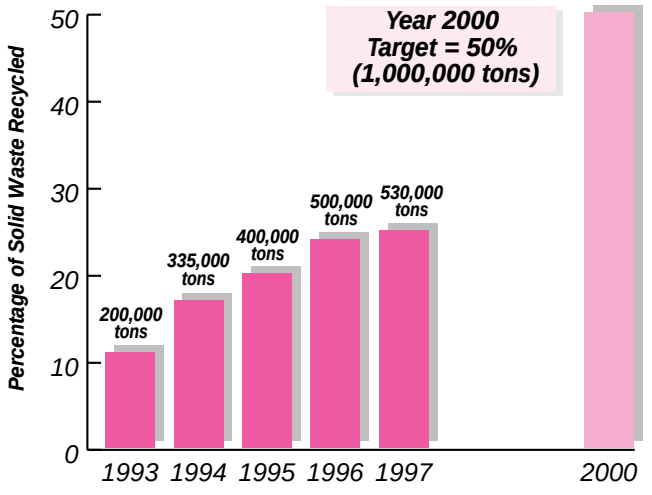

Figure 6.

Source: DOH Office of Solid Waste

Our challenge is to prevent further contamination to our aquifers. One of the best techniques for protecting our well water is to safeguard the area around a well. Because activities within a well's zone of influence may lead to contamination of the groundwater, we take special care to shield the wellhead and surrounding area from exposure to dangerous chemicals.

Because some of the contaminated aquifers are sources of drinking water, we must oversee the protection, treatment and cleanup of groundwater to assure it is safe to drink. Our monitoring program ensures contaminants are detected when they appear, and are removed before drinking water is distributed to homes and businesses. The next chart, Figure 8, indicates the number of people who receive treated groundwater. Thirteen percent of people drinking water from public systems receive water that requires chemical removal and disinfection in order to make it safe to drink. Roughly one-half of the population drinks water that is chlorinated to some extent, often to prevent growth of bacteria during storage. That leaves about a third of the community receiving water which is safe as it is and requires no treatment whatsoever.

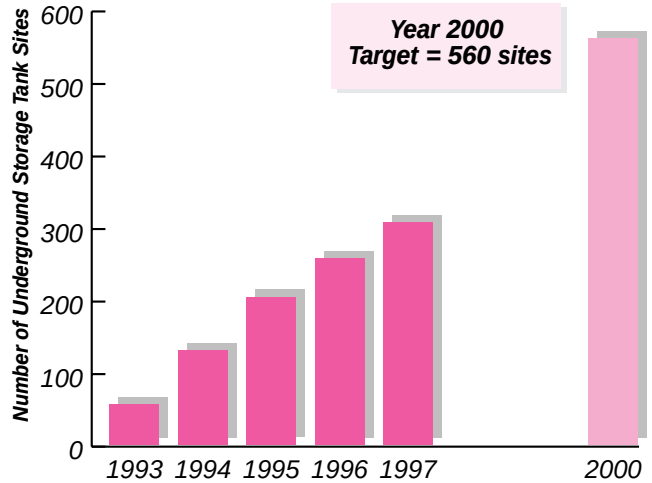

Figure 7.

Source: DOH Solid & Hazardous Waste

Inland Water

The DOH increasingly focuses its attention toward upstream sources of pollution. To protect coastal waters, the inland waters that flow to the ocean must also be protected. The lands adjacent to inland waters must be managed well, too, if we hope to keep our inland water bodies safe to enjoy. We collaborate with community groups and other government agencies to promote sound land management practices and protective water quality measures. By responding quickly to tips received from our citizens, we can address pollution problems promptly. Through managing the pollutant inputs to our streams and waterways, we are confident we will see improved water quality in our inland waters.

Coastal Water

Hawai'i's coastal waters are valued by our residents, visitors, and those who harvest its bounty. By keeping a watchful eye on our recreational coastal areas, DOH protects the public from exposure to unsafe conditions. Routine monitoring ensures that water in our near-coastal areas is safe and clean. If a sewage or chemical release taints a swimming area, DOH investigates and orders that signs be posted to close the area (see Figure 9). We also regularly inspect wastewater treatment plants to ensure that they are operating properly (to reduce the incidence of sewage spills). These facilities have shown improvement since 1993 in meeting our operation and maintenance requirements, as displayed in Figure 10. In addition to compliance inspections, we strongly promote recycling of treated water through financial incentives and funding of effluent reuse projects. Figure 11 shows the steady advance in recycling, and our ambitious target of 25% reuse by the year 2000.

Coastal waters are a Hawai'i treasure

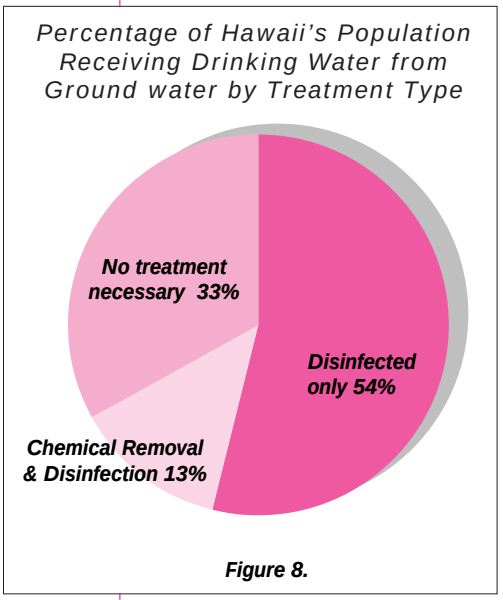

Figure 8.

Ecological Protection

As a public health agency, DOH is mandated to protect the environment to ensure that human health is not compromised. However, environmental protection also includes protection of our ecosystems. Unhealthy conditions for ecosystems often spell trouble for human health as well. DOH's efforts to protect ecosystems are exemplified in our water quality pollution control and management programs.

Water quality improvements are meant to enhance chemical, physical and biological characteristics of a water body. However, water quality improvement efforts are often measured only by evaluation of chemical water quality constituents (such as nutrients) or physical sources of degradation (such as sedimentation or temperature). The aquatic life inhabiting a water body can also be used as a measure of "health" of a water body. This is because the community of plants and animals reflects both past and present chemical and physical conditions of the water body. Plant and animal community composition is influenced by both natural processes and human-caused impacts. In general, with increasing watershed degradation, there is a decrease in the biological integrity of the community of plants and animals inhabiting a stream. A method to evaluate the biological integrity of streams in Hawai'i is being developed at DOH.

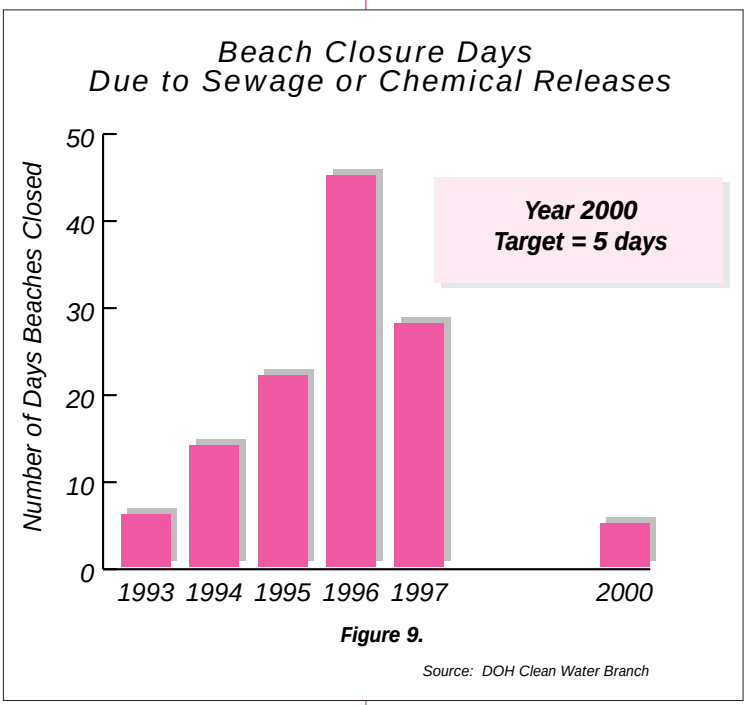

Figure 9.

Source: DOH Clean Water Branch

Multimedia Issues

Ancient Hawaiians practiced a form of resource management focused around watersheds, or ahupua'a. By emphasizing the relationship among the elements within an ahupua'a, they recognized that stream water quality cannot be addressed apart from the condition of the land, and that whatever occurs inland from the coastal areas often impacts the beaches and coral reefs. Modern environmental managers have rediscovered the value of this approach, and DOH has adopted it as well.

Department promotes watershed management initiatives

Watershed-Based Management

For environmental management to be successful, it must become everyone's responsibility. We encourage community groups, especially, to enter into partnerships with agencies at the federal, state and county level of government in order to identify problems and recommend and help implement solutions to a variety of local needs in the areas of water, air, and waste management. The department has begun to play a significant role in initiating and encouraging these watershed management initiatives. Two recent projects stand out as "success stories" - the West Maui and the Ala Wai Canal Watershed Management Projects. Both projects brought together a wide variety of interested parties from the targeted watersheds in order to both determine the source of the problems and to propose solutions. In West Maui, after in-depth studies were conducted, a watershed "owners' manual" was produced to outline the issues and propose ways all of the potential owners could help to address the challenges faced. In the Ala Wai Canal watershed, an extensive community visioning process was held to identify community environmental values and incorporate them into any conclusions. The Ala Wai effort continues through a process of providing small grants to community groups so they can implement appropriate solutions for their areas.

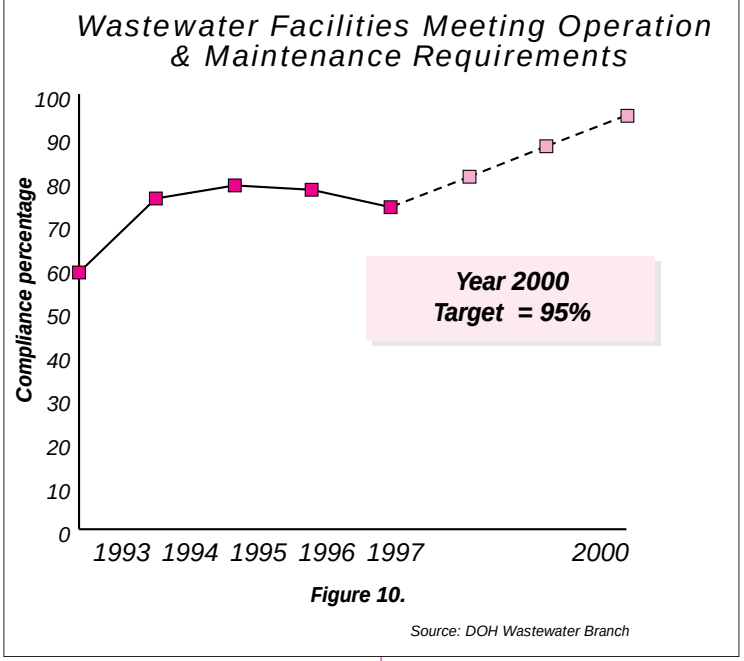

Figure 10.

Source: DOH Wastewater Branch

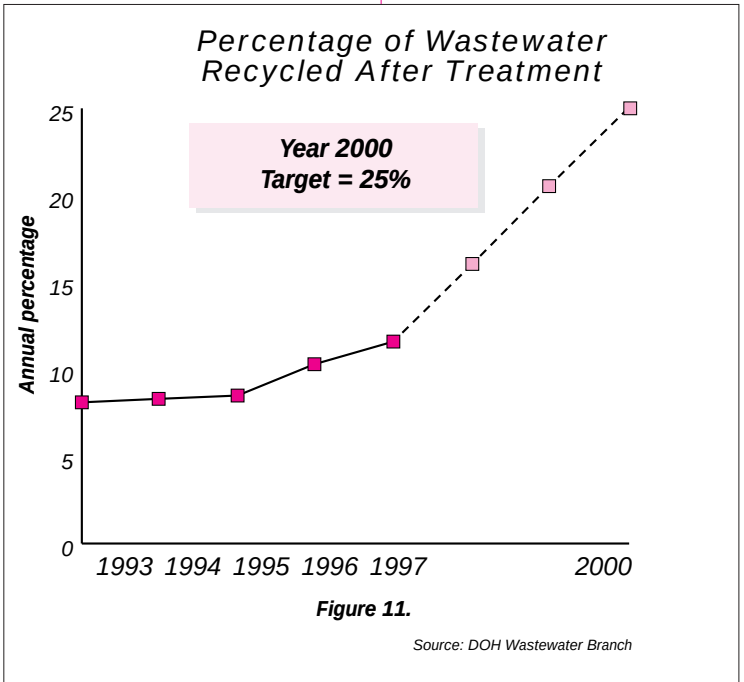

Figure 11.

Source: DOH Wastewater Branch

Another watershed-based project, the Source Water Protection Program Plan, relies on extensive public outreach and community involvement in order to define and implement voluntary groundwater protection measures in the areas around drinking water wells and surface sources of drinking water to prevent potential pollutants from entering our potable water supplies.

Major challenges still exist before we accomplish and expand watershed management initiatives statewide. DOH will continue to support community-based initiatives for watershed-based management.

Source Water Protection Program Plan relies on public outreach

Program Integration

In order for multimedia solutions to be put into practice, individual programs within DOH must work together to accomplish a unified goal. The project in the Ala Wai Canal watershed is a good example of DOH's use of this approach. A list of issues to be addressed in the watershed was drawn up, and each program selected those components of the work that the staff could accomplish.

Regulatory Compliance

Within DOH compliance means ensuring that everyone meets the pollution control requirements described in federal and state law, and has both voluntary and regulatory aspects. Our policy is to promote voluntary compliance by educating permit holders and others on basic regulatory requirements, and attempting to solve problems before they reach the enforcement stage. For example, DOH has recently established an Environmental Compliance Assistance Office for the purpose of providing a point of access for small businesses, facilitating communications with the small business community, and helping to resolve disputes among small businesses, DOH and EPA.

Advisory committees help assure rules are equitable

To ensure that administrative rules are equitable and drafted from the point of view of problem-solving, DOH has customarily formed advisory committees that include representatives from groups affected by the proposed rules. In this way, the regulated community can assist in designing rules that facilitate compliance rather than make it difficult for permit holders and others to meet the requirements.

When enforcement is necessary, we apply a recent enforcement agreement entered into with EPA that clarifies the relative roles and responsibilities of DOH and EPA in carrying out enforcement actions in the state. A total of 46 positions are allocated to enforcement in the federally-funded branches as follows: Clean Water (4); Safe Drinking Water (4); Wastewater (7); Clean Air (16); Solid & Hazardous Waste (8); and Noise, Radiation & Indoor Air Quality (7). In general, DOH is the lead agency for enforcement actions taken within fully delegated programs; EPA is the lead agency for the non-delegated programs. As more programs are delegated, more of the responsibility for enforcement will fall to the state. Penalty policies have been developed by all delegated programs to ensure that penalties are consistently and appropriately applied.

DOH has recently established an Environmental Compliance Assistance Office for the purpose of providing a point of access for small businesses, facilitating communications with the small business community, and helping to resolve disputes among small businesses, DOH and EPA.

Interagency Coordination

In addition to integration within DOH, other government agencies at the state, federal and county level play a role in managing our environment. Where those responsibilities overlap, coordination is required to get the job done efficiently. DOH collaborates with agencies at all levels through interagency task forces (on such issues as coastal zone management, soil runoff, and land use planning), and with our own advisory group, called the Environmental Management Advisory Group, which includes, in addition to community members, representatives of numerous state, federal and county agencies. Examples of linkages among state agencies with environmental management responsibilities, especially the Departments of Agriculture and Land & Natural Resources, and the Coastal Zone Management Program in the Department of Business, Economic Development and Tourism, are given in the individual program plans which follow this chapter.

Permit Streamlining

Streamlined permits remove inappropriate barriers

Certain activities require a permit from DOH before execution. Reviewing and approving viable applications takes time, and is a necessary part of the environmental protection process. However, lenghty review of projects that will not cause environmental protection concerns can lead to unwanted delays. DOH has found ways to remove inappropriate barriers from activities that were unduly delayed under the previous permit system.

General permits help streamline process

We have instituted a "permit by rule" approach for certain activities that require compliance with environmental laws without the use of a protracted permitting process. This approach dramatically speeds up the approval process for activities with minor impacts that are carried out in a number of different locations.

Another change in the permitting process for certain activities is the use of a "general permit." This practice requires applicants to obtain a permit for the general type of activity, but they are not required to obtain a special permit tailored to the specific activity. A person who violates the rule or the general permit is subject to the same penalties as the person who violates an individual permit. These new approaches will allow permitting staff to spend more time in the field evaluating both compliance and the effectiveness of existing controls.

DOH's permit streamlining activities are coordinated with those of other agencies, especially the Department of Business, Economic Development and Tourism, in a proactive approach to ensuring that efficiency is achieved without compromising environmental protection goals.

A person who violates the rule or the general permit is subject to the same penalties as the person who violates an individual permit. These new approaches will allow permitting staff to spend more time in the field evaluating both compliance and the effectiveness of existing controls.

Public Outreach and Education

In order to ensure that Hawaii's people understand and have an opportunity to comment on DOH's environmental goals, strategies and indicators, we formed an outreach committee consisting of members from both the private and public sectors, the Goals Communication Team (GoComm). The GoComm advised us on the clarity and content of our public education materials on environmental goals, and assisted with the development of a public communication plan, including text and a slide show for use statewide. The "Goals" presentation has been repeated in many venues during the past two years, and has served well to introduce DOH's environmental management policies to a wide audience.

Subsequently, we expanded the scope of the GoComm to include review and comment on the contents of this plan, added members from a broader range of stakeholders, and renamed the group the Environmental Management Advisory Group (EMAG). The EMAG will continue to advise DOH on environmental policy matters, and has begun a second public outreach project, "Environmental Heroes." The Environmental Heroes project is funded by both donations and a grant from EPA ($10,000); funds are being used to develop and air a series of public service announcements on the value of pollution control and environmental protection.

EMAG continues to advise DOH on environmental pollicy

DOH managers and staff also frequently conduct outreach efforts on program-specific topics; these efforts are described in the individual program plans.

Conclusion

This plan was developed through extensive consultation between DOH staff and with numerous stakeholders interested in the environmental protection process. The DOH wishes to express much gratitude to those involved in the Environmental Management Advisory Group for volunteering many hours to provide substantial recommendations for improving this plan (see list of those involved below). This document is greatly improved because of your involvement.

The following chapters consist of program-specific plans drawn up by each of the DOH's environmental protection branches and offices. If the content seems overly technical and complicated, that is because the laws and science behind environmental protection are similarly complex. Questions regarding the plan can be directed to the Environmental Planning Office at (808) 586-4337.

Environmental Management Advisory Group (EMAG) Members

Janet Ashman, Environmental Specialist
Hawai'i Agricultural Research Center

Vince Bagoyo, Lanai Water
Vice President
Lanai Company, Inc.

Kat Brady, Coordinator
Ahupua'a Action Alliance

Mike Buck, Administrator,
Division of Fish and Wildlife
Department of Land and Natural Resources

Tamar Chotzen, Executive Director
Hawai'i Nature Center

Dan Davidson
Land Use Research Foundation

Dick Poirier, Office of Planning
Department of Business, Economic Development, and Tourism

David Kimo Frankel, Director
Sierra Club, Hawai'i Chapter

Gary Gill, former Director
Office of Environmental Quality Control

Michael Hamnett, Ph.D.
University of Hawai'i

Alex Ho, Environmental Engineer
City and County of Honolulu

Gordon Ishikawa
U.S. CINCPAC Staff

George Kaya, Executive Assistant
County of Maui

H. Peter L'Orange
Hawai'i Leeward Planning Conference

Vicki Tsuhako, Manager
EPA Pacific Islands Contact Office

Colleen Murakami, Education Specialist
Department of Education

Dr. Steve Olive, Office of Planning
Department of Business, Economic Development & Tourism

Elizabeth Pa Martin, Director
Native Hawaiian Advisory Council

James Rispoli, Managing Principal
Dames and Moore
Gary Slovin, Partner
Goodsill Anderson Quinn and Stifel

Hannah Kihalani Springer, Trustee
Office of Hawaiian Affairs

Donna Kiyosaki, *former Chief Engineer*
Department of Public Works, County of Hawaii

Troy Tanigawa, Solid Waste Project Specialist
County of Kauai

Cindy Thompson, President
Thompson Matheny Corporation

Murray Towill, President
Hawai'i Hotel Association

Ron Walker
U. S. Fish and Wildlife Service

Dr. Lyle Wong, Plant Industry
Division Administrator
Hawaii Department of Agriculture

Scott Seu, Manager
Environmental Department, Hawaiian Electric Company

Darrell Young, Government
Activities Representative
BHP Hawaii

As a public health agency, DOH is mandated to protect the environment to ensure that human health is not compromised. However, environmental protection also includes protection of our ecosystems.

Environmental Management Advisory Group (EMAG) Affiliate Members

Joan Bennet
Joan Bennet Communications

Kit Brizuela
Native Hawaiian Advisory Council

Henry Curtis
Life of the Land

Stuart Hayashi
Headquarters, USARPAC

Steve Kubota
Ahupua'a Action Alliance

Clyde K. Yokota, P.E.
Naval Base, Pearl Harbor

Environmental Planning Office Strategic Plan

Background

Historical Perspective

Federal Laws and Regulations

Environmental laws have become increasingly complex, and additional increments in environmental improvement are more difficult to achieve. The complicated nature of environmental protection has required crisis policy development and the extensive use of planning. The Environmental Planning Office (EPO) was established to fulfill that need.

Complexity of laws led to crisis policies and planning

Recently, the federal U.S. Environmental Protection Agency (EPA) has promoted the use of combined grants called Performance Partnership Grants (PPG) to achieve multi-disciplinary environmental objectives. Starting in 1998, the EPO has received a PPG to conduct planning, policy and coordination functions.

Organizational Structure

The EPO has six staff members to implement the following functions. These functions are listed in approximate order of priority, although priorities vary with seasonal deadlines. For example, the legislative coordination function becomes the top-priority task during the annual sessions, then in early summer the grants' preparation function dominates the work schedules of EPO staff.

Two State-funded program positions are assigned to land use planning reviews and provision of Geographic Information System (GIS) services. Planning and policy, outreach, additional technical support and information management, and grants preparation are carried out by three federally-funded program staff, including the EPO manager, who also ensures that all of the functions are integrated where needed and carried out in a timely manner. One federally-funded secretarial position provides clerical support for all of the EPO's functions. Duties are reassigned or low priority work delayed in order to accommodate the legislative coordination function during the annual legislative session.

Land use planning review, technical sup - port and information management

Planning and Policy Function

Strategic planning and policy discussions, and drafting and review of documents are conducted within the format of a series of planning meetings with one or more committees made up of representatives from each applicable Environmental Health Administration (EHA) environmental or public health management-related programs.

Land use planning review function

The EPO staff are directly responsible for coordinating environmental management program comments on all land use planning documents received by the DOH, and also for compiling coordinated replies to correspondence on environmental management issues received in the office of the Director of Health.

Work plans now reviewed for consistency with strategic plans

Legislative coordination function

From early January to late May in each calendar year, and as needed at other times, the EPO provides legislative liaison services for EHA programs.

Grants' Preparation

The EPO collects, reviews and submits annual federal work plans for the EHA. Annual work plans will, beginning in FY-98, be reviewed for consistency with the programs' strategic plans.

Water Quality Monitoring

EPO's stream assessment programs develops water quality standards to preserve recreational use of the state's waters.

Technical Support/Information Management

The EPO provides technical and information management support to other EHA programs in their use of Geographic Information Systems (GIS) and databases.

A Technical Advisory Committee (TAC) will be formed to provide a peer review function on technical and scientific policies, proposals and reports produced by the DOH, as submitted for use by the DOH.

The EPO also seeks to protect recreational users of Hawaii's waters from minor gastro- intestinal illnesses, and serve to protect aquatic ecosystems from damaging pollutant levels, through developing reliable water quality standards and improving methods of water quality monitoring. The EPO's Stream Assessment Program, which is focused on development and implementation of rapid biological and habitat assessments for aquatic communities in streams as a component of water quality monitoring, is a watershed-based activity that will be used to develop indicators for Hawaii's streams.

Outreach Function

The DOH's public advisory committee for the Goals and Indicators Project, now known as the Environmental Management Advisory Group (EMAG), will be retained as an external policy advisory body to the DOH. The EMAG will serve to review the DOH's strategic plan for consistency with previously developed environmental goals and indicators, and advise the DOH on effective ways to educate the public and solicit public comment on the DOH's environmental management policies.

Outreach activities also include public presentations and preparation and distribution of brochures describing the DOH's environmental management initiatives and results in Hawaii.

Strategic Issues

EPO provides support to other environmental offices

Program Mission

The mission of the Environmental Planning Office is to enhance environmental management by the other offices and divisions within the Environmental Health Administration through providing planning assistance, coordination services, information management and legislative support.

Challenges

1. *Implementing, with excellence, the numerous functions of the office with only one or fewer staff members per area of responsibility.*

2. *Enlisting the vital participation of staff from other programs in the planning process.*

Prioritized Objectives & Strategies

Developing a long-term strategic plan is assigned to the EPO

A. Strategic Planning and Policy

Develop a long-term strategic plan jointly with the EPA that clearly states and integrates goals, management strategies, and priority areas for all the DOH environmental programs.

Strategy:

❑ *Organize, setup, and facilitate DOH meetings; provide staff support for three DOH media-specific working groups (air, water, and waste); distribute draft documents for review and comment by DOH managers and the deputy director for environmental health; edit and format documents to achieve uniform style; draft documents where necessary; keep the EPA informed of progress on at least a quarterly basis through conference calls and written reports; coordinate joint planning sessions with the EPA; keep planning process on schedule.*

ENVIRONMENTAL PLANNING OFFICE CURRENT ANNUAL BUDGET

STATE GENERAL FUNDS	***$110,764***
STATE SPECIAL FUNDS	***$ 31,500***
FEDERAL GRANT FUNDING	***$233,000***
TOTAL FUNDING	***$375,264***

B. Land Use Planning Review

Prevent chronic degradation of the environment at the beginning of the development process by addressing environmental concerns early in the land use decision-making process.

Strategy:

❑ *Coordinate comments from environmental programs on land use planning documents (e.g. development plans, zoning change requests, etc.) received by the DOH which require an evaluation of potential pollution problems and/or control methods to mitigate the potential problems.*

Careful review of land development plans and zoning change requests can reduce potential pollution

C. Legislative Coordination

Liaise with other EHA programs to assure timely and coordinated legislative document review and submission to the legislature.

Strategy:

❑ *Provide legislative liaison services for EHA programs. These services include preparation and explanation of documents describing legislative procedures and policies for the current year, review of legislative bills and testimony, copying and distribution of testimony in time for committee hearings, preparation of documents summarizing the status and fate of bills as they move through the legislative process, and preparing final summaries of legislative actions taken on all bills affecting EHA programs.*

D. Grants Coordination

Improve environmental efficiency and efficacy through proper document coordination, handling, and accessibility.

Strategy:

❑ *Provide grants' preparation services, and compile and make available to the public current administrative rules, written plans and policies, applied research*

Overseeing grants and providing library catalog of public review documents

reports prepared by DOH contractors, and other relevant reports. Review all work plans, work plan amendments, plans, policies and reports for consistency with strategic plans; prepare application pages; obtain signatures; transmit applications to the EPA; maintain grant files; provide required grants- and contracts-related information to the EPA; provide staff with information on the State Procurement Code, especially contract requirements; maintain and update library materials related to strategic planning and maintain an up-to-date on-line library catalog of program documents available for public review.

E. Technical Support / Information Management

Improve environmental management through expanding the use, and enhancing the quality of environmental information used for environmental protection, and by setting state standards for surface water quality.

Strategies:

- ❑ *Provide scientific and technical advice, GIS mapping services, coordinated comments on land use, data analysis and reduction services, and assist with identification of environmental, public health, and administrative program indicators, or locate sources of such information (documents, or experts from other agencies or institutions); ensure that both strategic plans and annual program activities are based on up-to-date scientific results that are valid in Hawaii's environment, and that accurate maps are used to summarize the geographic relationship between stressors (potential pollution sources) and receptors (humans and ecosystems); update the DOH's worldwide web pages at least annually, or when program changes need to be reported.*

- ❑ *Obtain, from DOH programs, a list of desired statewide GIS maps and a list of databases, or sections of databases, suitable for placement on the DOH computer network and on the DOH's worldwide web pages.*

ENVIRONMENTAL PLANNING OFFICE LEGAL AUTHORITY

FEDERAL LAW

- ***Clean Water Act (P.L. 92-500)***
- ***Federal Water Quality Act Amendments (P.L.100-4)***

FEDERAL REGULATIONS

- ***Code of Federal Regulations, Title 40, Subchapter D – Water Programs, Parts 122, 123, 124 (Subparts A&B,) and 125***

STATE LAW

- ***Hawai'i Revised Statutes Chapter 342D-Water Pollution***

STATE REGULATIONS

- ***Hawai'i Administrative Rules, Title 11, Chapters 54 – Water Quality Standards***

Critical to determine the maximum daily load a watershed can handle

- ❑ *Describe baseline conditions in State surface waters; develop reliable, risk-based water quality standards and improve methods of water quality monitoring; prepare and revise a State Water Quality Management Plan in cooperation with the State Commission on Water Resources Management; and revise the Clean Water Act 303(d) list of impaired waters.*

- ❑ *Develop reliable biological and land use assessments for use in preparing Total Maximum Daily Load (TMDL) estimates on a watershed basis. Development of procedures for conducting biological assessments for streams are coordinated with Department of Land and Natural Resources staff with responsibilities for the management of aquatic resources. Computations of the pollutant loading components of TMDLs are a low priority, but required by the EPA.*

- ❑ *Coordinate development of a relational database for EHA programs that will support agency and public access to non-confidential permit and compliance*

information about facilities holding federal permits, and is compatible with computer networks used for permit tracking in other agencies at the State and county level of government.

Public advisory and technical advisory committees

F. Outreach

Obtain feedback from DOH stakeholders regarding our environmental management policies; improve communication with agencies that play an important role in the management of Hawaii's environment; and receive technical peer reviews of scientific policies and documents.

Strategy:

- ❑ *Establish and provide staff support to an external public advisory committee called the Environmental Management Advisory Group (EMAG) and a technical review group called the Technical Advisory Committee (TAC). Hold at least quarterly meetings of each group. Plan and setup EMAG and TAC committee and subcommittee meetings; provide staff support to the EMAG and the TAC; coordinate communications among the EMAG, the TAC, the DOH and the EPA; provide briefings on EMAG and TAC activities; and develop outreach materials for committee use.*

Stakeholder and public outreach

Departmental staff attend public meetings to engage the community in discussing environmental concerns.

Provide a mechanism for communicating pertinent information about Hawaii's to all concerned residents and businesses.

Strategy:

- ❑ *Organize and establish a Speakers' Bureau comprised of DOH staff and volunteers; provide one or more training workshops for Bureau members; assist in the development of presentation materials; coordinate presentation schedules.*

Performance Measures

Strategic Planning and Policy

- ❑ *Development of a joint DOH/EPA strategic plan and enforcement agreement.*

Technical Support / Information Management

- ❑ **Assessments of aquatic communities and habitats in Hawaii's streams for purposes of development of the Clean Water Act 303(d) List of Water Quality-Limited Segments and TMDLs.*

- ❑ *Development of updated Water Quality Standards.*

- ❑ *A new indicator, based on aquatic life use attainment in streams, is under development.*

(This measure has been designated a 'Core Performance Measure' by EPA, and will be tracked by the DOH to report both locally and nationally.)*

Clean Air Branch Strategic Plan

Introduction

At most times and in most places in our mid-ocean state, we enjoy the best air quality in the nation. However, as in any metropolitan area, we do have sources of air pollutants; the Department of Health diligently regulates and monitors these sources. Our measurements demonstrate that Hawai'i's air quality is better than that required by federal and state standards for air pollution control. It is also notable that Hawai'i's Ambient Air Quality Standards for carbon monoxide, nitrogen dioxide, and ozone are more stringent than the National Ambient Air Quality Standards.

Hawai'i air quality is bet - ter than federal require - ments

Air pollution sources are regulated through the promulgation of rules and the issuance of air permits. Air quality is monitored by a network of air analyzers and meteorological equipment installed throughout the state, especially in areas of special interest to the air program. Monitoring data are used to detect trends in air quality, and provide feedback on program effectiveness.

In certain instances, the Department of Health conducts special studies or projects of interest. One of the special project topics is the agriculture practice of burning sugar cane before harvesting. The Department has established two particulate stations on Maui to monitor ground-level effects from cane burning. Evaluations are also being conducted on the effectiveness of burn forecasting, which utilizes weather, topographical, and local meteorological information to minimize smoke impact to communities and residential areas.

Volcanic emissions major source of air pollution

The Hawai'i vog study will help us better understand the health impacts of volcanic haze.

The Hawai'i Vog Study is another special project which the Department has undertaken to better understand the characteristics and health impacts of volcanic haze (vog). Two air quality monitoring stations have been established on Hawai'i, which is the island most impacted by the vog. A Vog Index Hotline, which utilizes air quality data to depict vog levels, is maintained and updated for the benefit of the residents. Although the ambient air monitoring will continue, the Department has completed the physical and chemical characterization of the vog and is proceeding with the health study phase to determine the effects of vog on school children.

Air quality monitoring stations track burning and vog

Campbell Industrial Park is closely monitored

Air quality in Campbell Industrial Park (CIP) on O'ahu, which is zoned and occupied by heavy industry but also rapidly encroached upon by the growing city of Kapolei, is another area of interest to the Department. The Branch monitors air quality with three monitoring stations located adjacent to the Park. Although the monitoring data indicate that air quality is good, air pollution incidents do occur at times as a result of equipment malfunctions or breakdowns. In an effort to determine the type and concentration of the CIP air pollutants, the Department conducted special air sampling studies which gave low level results. The Department is assisting the CIP Air Quality Task Force, created by the 1997 Legislature, in assessing the air quality of the area and evaluating air planning strategies to accommodate future CIP growth.

Motor vehicles significant air pollutant source

Motor vehicles are another important air pollutant sources in Hawai'i. As the population of Hawai'i grows, the number of motor vehicles is also expected to grow. However, continual improvements in technology, strict federal limits on internal combustion engine emissions, and turnover in the older vehicle population should stabilize pollution levels well below the National Ambient Air Quality Standards. The Department of Health is not considering implementation of a motor vehicle emissions program at this time, but will continue to monitor carbon monoxide levels in ambient air.

In addition to its regulatory duties, the Department of Health will continue to work proactively with the public and the regulated community on air-related issues to ensure that appropriate air pollution control technologies are used, and to implement pollution prevention and energy conservation measures. Air program efforts include developing and conducting informational workshops and meetings on air pollution topics; obtaining and distributing educational material and brochures; and attending neighborhood and association meetings to present information, discuss issues, and respond to questions.

Finally, the Department of Health will develop plans, strategies, and program revisions as necessary to implement the provisions of the federal Clean Air Act. As the need arises, the Department of Health will propose enabling legislation to correct deficiencies in current statutes; draft, revise, or update state rules and standards to meet or exceed federal requirements; and review the State Implementation Plan for adequacy in maintaining compliance with the National Ambient Air Quality Standards.

Clean Air Branch Legal Authority

Federal Law

- **Clean Air Act and Amendments**

Federal Regulations

- **Code of Federal Regulations, Title 40, Subchapter C – Air Programs, Parts 50,51,52.21,53,58,60,61,63 and 70**

State Law

- **Hawai'i Revised Statutes Chapter 342B-Air Pollution Control**

State Regulations

- **Hawai'i Administrative Rules, (HAR), Title 11, Chapter 59 – Ambient Air Quality Standards**
- **HAR, Title 11, Chapter 60.1 - Air Pollution Control**

Background

Historical Perspective

Federal Clean Air regulations date to late '60s

In the late 1960s, concerns over air pollution led Congress to enact the Clean Air Act of 1967, which created the authority to establish air quality standards, and the Clean Air Act of 1970, which set the foundation for national regulatory efforts. In response, the Hawai'i Department of Health promulgated Public Health Regulations, Chapter 43, Air Pollution Control (1972), in order to protect and maintain our ambient air quality. Program staff originally focused on controlling total suspended

particulates from such sources as bagasse boilers, incinerators, process industries, and motor vehicles, and on controlling fugitive dust, and established the basic framework for registration and permitting of pollutant sources, air sampling and source testing, and enforcement and penalties.

Hawai'i DOH has federal delegation for air program

The federal Clean Air Act Amendments of 1977 added the Prevention of Significant Deterioration (PSD) permit program. The intent of Congress was to bring nonattainment areas into compliance with the national ambient air quality standards and to prevent significant air quality degradation for those areas in attainment. The Hawai'i Department of Health has federal delegation for the air program, and continues to administer the PSD program through the permitting process.

Fee program supports costs of federally man - dated air program

The federal Clean Air Act amendments of 1990 mandated the establishment of new permit programs for operations and air toxics, as well as programs for fees, small business assistance, more effective monitoring and enforcement, and improvements in data management methods. In response, the Clean Air Branch chose to restructure the air permitting program, which at the time consisted of an Authority to Construct Permit, an Air Permit to Operate, and the federally- delegated PSD permit process, and to consolidate all the permitting requirements into one air permit. Funding changes required by the 1990 amendments led to the establishment of a fee program to support all direct and indirect costs of the federally mandated program. Currently, fees support approximately 90% of the air program and are derived from air permit application fees and annual emissions fees.

GOAL: TO PROTECT AND ENHANCE HAWAI'I'S AIR QUALITY FOR THE HEALTH OF THE PEOPLE.

Organizational Structure

The Clean Air Branch consists of three main sections. The functions of these sections include:

Engineering Section

- *Review and approve/disapprove applications for air permits for potential air pollution sources.*
- *Evaluate the: (a) potential impact of an air pollution source on ambient air quality using dispersion modeling techniques; and (b) control technology, operations, and fuels consumed to assess the types and potential air emissions from the various sources.*
- *Compile and maintain a statewide air emissions inventory for air pollution sources.*

CLEAN AIR BRANCH
CURRENT ANNUAL FUNDING

STATE GENERAL FUNDS		**$200,000**
FEDERAL GRANT FUNDING		
AIR PROGRAM ACTIVITIES	$250,000	
AIR LABORATORY SUPPORT	$200,000	
ASBESTOS AIR FUNDS	$150,000	
SUBTOTAL		$600,000
CLEAN AIR SPECIAL FUND (NONCOVERED)		**$300,000**
CLEAN AIR SPECIAL FUND (COVERED)		**$2,500,000**
TOTAL FUNDING		**$3,600,000**

Monitoring Section

- *Monitor stationary source activities for compliance with applicable rules and permit conditions, and recommend enforcement actions in response to violations.*
- *Conduct annual inspections of major sources and investigate incidents and complaints.*
- *Establish and maintain the ambient air monitoring network and, as necessary, conduct special air monitoring studies (in conjunction with the Air Laboratory).*

Enforcement an important part of program

- ❑ *Compile, assess, and manage data retrieved from the monitoring stations, and producing graphs and reports.*

Enforcement Section

- ❑ *Initiate case development for alleged violations, determine penalties, draft and issue violation notices, and assist and participate in conferences and hearings.*
- ❑ *Assess, propose, or comment on corrective measures, settlement agreements, penalties, and administrative or court actions.*
- ❑ *Conduct "smoke reading" training classes to provide continuing certification of inspectors in techniques for evaluating visible smoke.*

Partnering with industry for emission monitoring

Tesoro refinery at Campbell Industrial Park, O'ahu

Funding

Our state general funds support five positions: Branch Manager, Secretary, and three Environmental Health Specialists for the agriculture burning permit program. The agriculture burning permit program is unable to obtain adequate program support fees from economically-strapped small farmers, and must rely on general funds to support the three agricultural burning program staff. Federal grant funds support the ambient air quality monitoring stations and network, and also support some noncovered source activities. The federal Clean Air Act specifically requires that money in the Clean Air Special Fund, Covered, can only be used to fund direct and indirect costs associated with the permitting, monitoring, and enforcement covered source activities, the air toxics program, the fee program, and the small business assistance program. The Clean Air Special Fund, Noncovered, supports all noncovered source activities, including the agriculture burning permit program.

Revenues in the Clean Air Special Fund are derived from air permit application fees, annual emissions fees, and the agriculture burning permit fees. The bulk of the revenues is generated from the annual covered source fees, based on the calculated tons (actual emissions) of regulated air pollutants emitted during the prior calendar year. The covered source program is fully supported by fees; the noncovered source activities are not and are supported by the combination of covered/noncovered annual emissions fees, agriculture burning permit application fees, state general funds (personnel costs), and federal grant funds.

Strategic Issues

Protection through strong program and cooperation

Program Mission

The mission of the Clean Air Branch is to protect Hawai'i's air environment through a strong and effective statewide air program, and through the cooperative efforts of governmental bodies, affected facilities, communities, and the general public.

Challenges

1. *To maintain Hawai'i's high level of ambient air quality through permitting, monitoring, and enforcement, while recognizing that continued growth and industrial development in the state will continue.*
2. *To work in partnership with industry in regulating and monitoring air emissions in accordance with federal and state requirements, resulting in more timely, acceptable, and appropriate permit and enforcement actions.*

Monitoring stations set for all islands

Prioritized Objectives & Strategies

Objective A. *Establish ambient monitoring stations and conduct special ambient studies where applicable to describe ambient air quality throughout the state. Continue to monitor the ambient air quality and compare results to the existing standards.*

Strategy:

- ❑ *Establish monitoring stations on all major islands of the state. On an annual basis, evaluate the performance of the individual monitoring stations and determine whether the data objectives have been achieved, whether the data are valid, and whether the stations should be changed or relocated. Continue to upgrade and maximize the efficiency of the monitoring stations. Identify special monitoring programs and obtain funding. Depending on the availability of resources, conduct air monitoring in those areas of concern or of special interest, such as ambient air quality impacts from volcanic emissions and sugarcane burning.*

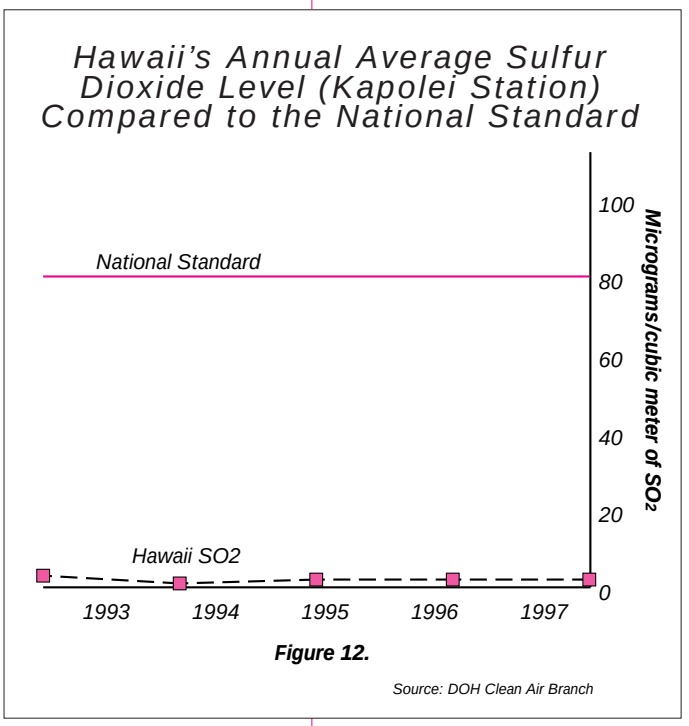

Figure 12.

Source: DOH Clean Air Branch

Objective B. *Maintain an effective inspection, compliance, and enforcement program for stationary sources, agricultural burning activities, miscellaneous fugitive emission-causing activities, and adequately take and track appropriate enforcement actions.*

Strategy:

- ❑ *Inspect stationary sources and agricultural burning activities for compliance with permit conditions and applicable federal and state laws, rules, and standards. Investigate public complaints and inquiries and respond accordingly. For violations, proceed with timely and appropriate enforcement actions. Maintain effective internal tracking procedures.*

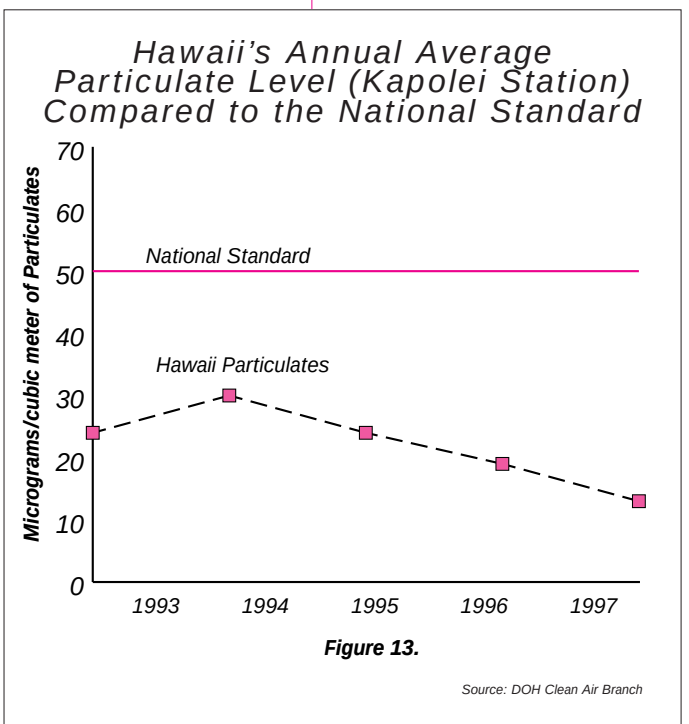

Figure 13.

Source: DOH Clean Air Branch

Objective C. *Closely monitor air sources. Obtain, compile, and review for accuracy air emissions data from air sources.*

Strategy:

- ❑ *Ensure that stack testing is performed, continuous operational and emissions monitoring are maintained, and data reported, as appropriate. Maintain an accurate emissions inventory. Evaluate, compile, and transfer the emissions data into an appropriate database.*

Efficiency improvements planned for permitting

Objective D. *Enhance the efficiency of the air permitting process.*

Strategy:

- ❑ *Review permitting procedures and improve efficiency as appropriate. Continue to strive towards simplifying the permit process without compromising its regulatory effectiveness. Provide the technical staff with adequate training on federal requirements and regulatory changes.*

Hawaii's Highest 8-Hour Average for Carbon Monoxide (Honolulu Station) Compared to the National Standard

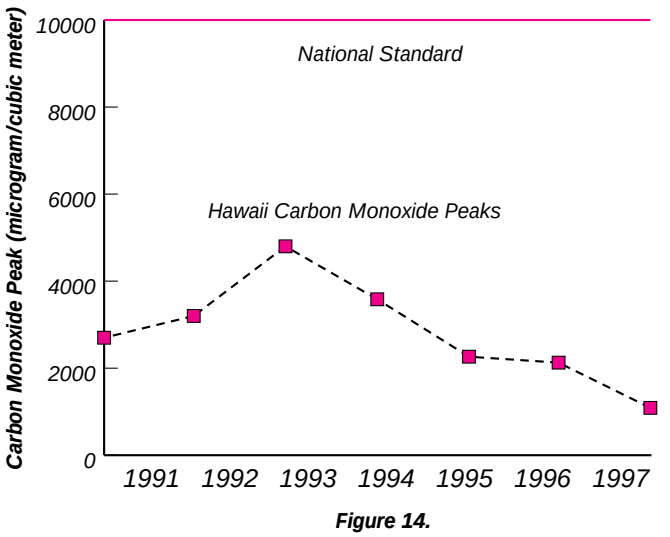

Figure 14.

Source: DOH Clean Air Branch

Performance Measures

Objective A. *Establish ambient monitoring stations and conduct special ambient studies where applicable to determine the ambient air quality throughout the state. Continue to monitor the ambient air quality and compare the results to the existing standards.*

Performance Measures:

- ❑ **Trends in air quality for each of the six criteria air pollutants.*
- ❑ **Trends in emissions of toxics air pollutants, and annual levels of air toxics in Hawai'i as reported in the U.S. EPA Toxic Release Inventory.*
- ❑ *Number of ambient air quality monitoring stations in the statewide network.*
- ❑ *Comparison of Hawai'i's data for sulfur dioxide, particulate matter, and carbon monoxide to the National Ambient Air Quality Standards.*

(These measures have been designated 'Core Performance Measures' by EPA, and will be tracked by DOH and reported both locally and nationally.)*

Get baseline measures for all parts of the state

Objective B. *Maintain an effective inspection, compliance, and enforcement program for stationary sources, agricultural burning activities, and miscellaneous fugitive emission-causing activities, and adequately take and track appropriate enforcement actions.*

Performance Measures:

- ❑ *Number of complaints on stationary sources received/responded to.*
- ❑ *Number of complaints on open burning received/responded to.*
- ❑ *Number of complaints associated with fugitive dust, odors, and miscellaneous activities received/responded to.*
- ❑ *Number of inspections of stationary sources.*
- ❑ *Number of inspections of agricultural burning sources.*
- ❑ *Number of notices of violations issued.*

Objective C. *Closely monitor air sources. Obtain, compile, and review for accuracy air emissions data from air sources.*

Performance Measures:

- ❑ *Number of stationary sources submitting data on continuous emissions monitoring, operating parameters, and fuel specification and usage.*
- ❑ *Number of source performance tests conducted on stationary sources.*

Objective D. *Enhance the efficiency of the air permitting process.*

Performance Measures:

- ❑ *Number of complete stationary source permit applications received.*
- ❑ *Number of stationary source permits issued.*
- ❑ *Number of complete agricultural burning permit applications received.*
- ❑ *Number of agricultural burning permits issued.*

Conclusion

As the state's population increases, a corresponding increase in impacts on Hawai'i's air environment is expected. The Department of Health maintains a strong air quality program that is responsive, timely, and proactive in its environmental role and service to the people of Hawai'i.

Responsive, timely air program key to Hawai'i's future

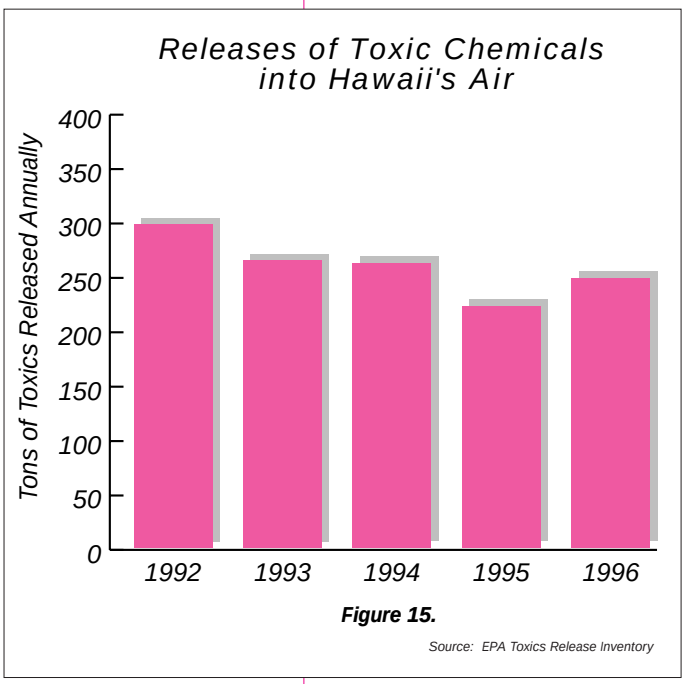

Figure 15.

Source: EPA Toxics Release Inventory

Noise, Radiation & Indoor Air Quality Branch
Indoor Environments Section Strategic Plan

Background

Historical Perspective

In the past, the only indoor air quality services other than the air conditioning and ventilation plan reviews were provided by the Occupational Safety and Health Division of the Department of Labor and Industrial Relations. These services were restricted by the federal Occupational Safety and Health Act (OSHA) to only those complaints of poor air quality in the workplace. In response to the risk ranking studies and the legal restrictions of OSHA, Hawai'i's request for federal funds to establish an indoor air program was acknowledged by the U.S. Environmental Protection Agency (EPA); and funds were allocated from the Clean Air Act for an Indoor Air Quality program in Hawai'i.

Indoor air quality needs led to reorganization of programs

In July 1992, the Air Conditioning and Ventilation program was administratively assigned to the former Noise and Radiation Branch. In 1994, Act 234 was adopted to establish the Indoor Air Quality program within the Department of Health. This act amended the current Chapter 321, Hawai'i Revised Statutes, to add a new Part XXXIII on Indoor Air Quality, under Sections 321-411, 412 & 413. In July 1995, a reorganization was acknowledged which incorporated the Indoor Air Quality program into the Noise, Radiation & Indoor Air Quality Branch (NRIAQB).

In July 1996, an Integrated Air Quality program was developed by combining all indoor air activities into the present Indoor Environments Section. This resulted in the transfer of the Asbestos Abatement Office from the Clean Air Branch to the Noise, Radiation & Indoor Air Quality Branch. In July 1997, a final reorganization was acknowledged which established the Integrated Air Quality programs into the Indoor Environments Section. This reorganization combined the functions and responsibilities of the Air Conditioning and Ventilation program, Asbestos and Lead Abatement programs, and the existing Indoor Air Quality program.

Assessing indoor air conditions in Hawaii's schools

The first order of business for the Indoor Environments Section is to assess the extent of any indoor air quality problems in our schools.

Asbestos management required in schools

The federal Toxic Substance Control Act (TSCA), Title II, Asbestos Hazard Emergency Response Act (AHERA), Public Law 99-519, was signed into law in 1986. The EPA promulgated regulations (40 CFR, Part 763, Subpart E), which apply to requirements to implement a state program. The act mandates that schools shall identify, test, evaluate and control asbestos-containing materials in all school buildings. Every school is required to develop and have available an asbestos management plan. Another part of AHERA (Section 206; 15 U.S.C. 2646) deals with mandatory training and accreditation of persons who perform certain types of asbestos-related work in schools. Subsequently, in 1990, Congress enacted ASHARA (Public Law 101-637), which amended AHERA to extend some of the training and accreditation requirements to persons performing such work in public and commercial buildings. Under AHERA, states are required to adopt a state accreditation program that is no less stringent than that described in the Model Accreditation Plan, under authority of 15 U.S.C. 2646(b)(2), and the amended Model Accreditation Plan (40 CFR, Part 763).

Law requires public to be protected from exposure to airborne contaminants

The Clean Air Act (CAA) requires the EPA to develop and enforce regulations to protect the general public from exposure to airborne contaminants that are known to be hazardous to human health. In accordance with Section 112 of the Clean Air Act, EPA established the National Emission Standards for Hazardous Air Pollutants (NESHAPS). Asbestos was one of the hazardous air pollutants regulated under Section 112. In November 1990, a revised NESHAPS regulation, 40 CFR Part 61, was promulgated by the EPA. The Asbestos NESHAPS regulation protects the public by minimizing the release of asbestos fibers during activities involving the processing, handling, and disposal of asbestos-containing materials.

The Residential Lead-Based Paint Hazard Reduction Act of 1992 (Title X) amended the Toxic Substances Control Act (TSCA) by adding a new title to TSCA directing the EPA to promulgate regulations which reduce the risk of lead exposure to the public. The primary purpose of Title X is to establish clear requirements, standards and safeguards governing the conduct of lead-based paint assessment and abatement activities.

Lead-based paint hazard reduction

In August 1996, the EPA published the final rule under 40 CFR Part 745 - Lead; Requirements for Lead-Based Paint Activities in Target Housing and Child-Occupied Facilities. Section 402(a) sets forth training and certification requirements for contractors and individuals engaged in lead-based paint activities in housing built before 1978 and child-occupied facilities. It also ensures that training programs are accredited and standards are set for performing lead-based paint activities. Section 403 provides for identification of lead-based paint hazards, lead-contaminated dust, and lead-contaminated soil. Until final regulations are developed, an Interim Guidance on Identification of Lead-Based Paint Hazards was issued in the Federal Register in September 1995.

Indoor Environments Section Legal Authority

Federal Law

- ***Clean Air Act***
- ***Toxic Substance Control Act***
- ***Residential Lead-Based Paint Hazard Reduction Act of 1992 (Title X)***

Federal Regulations

- ***Code of Federal Regulations, Title 40, Part 61 National Emissions Standards for Hazardous Air Pollutants***
- ***CFR, Title 40, Part 763, Asbestos Hazard Emergency Response Act***

State Law

(Hawai'i Revised Statutes - HRS)

- ***HRS Chapter 321-11(3) - Location, Air Space, Ventilation***
- ***HRS Chapter 321-1(27) - Lead Accreditation Program***
- ***HRS Chapter 321-411, 412, 413 - Indoor Air Quality***
- ***HRS Chapter 342P - Asbestos***

State Regulations

- ***Hawai'i Administrative Rules, (HAR) Title 11, Chapter 39 - Air Conditioning and Ventilation***
- ***HAR, Title 11, Chapter 501,502 & 503 - State Asbestos Rules (Proposed)***

Recognizing the need to address lead-based paint hazards, the State, in 1994, enacted Act 219 which amended the current Chapter 321, Hawai'i Revised Statutes (HRS), to add a new subsection, 321-11(27) authorizing the DOH to develop, review, approve or disapprove an accreditation program for specially trained persons pursuant to the Residential Lead-Based Paint Hazard Reduction Act of 1992 (Public Law 102-550).

State authorized DOH to oversee lead-based paint training

Organizational Structure

Organizationally, the Indoor Environments Section consist of four primary programs. The functions and responsibilities of the four programs include the following:

Four programs in Indoor Environments Section

Indoor Air Quality Program

- ❑ *Administers the provisions of Chapter 321, Hawai'i Revised Statutes, Part XXXIII, relating to Indoor Air Quality.*
- ❑ *Develops and implements an indoor air quality assessment program for publicly owned buildings to measure, analyze and evaluate exposure levels of indoor air pollutants and determine health effects and health risks.*
- ❑ *Assesses, develops and recommends appropriate mitigating measures toward reducing and preventing indoor air pollutants.*
- ❑ *Develops and implements a comprehensive public outreach program, providing informational and educational materials and training on indoor air pollutants, their health effects, health risks and techniques in exposure reduction.*
- ❑ *Establishes and coordinates an indoor air quality assessment network of state agencies and facility managers to identify, assess, and correct indoor air pollution problems.*
- ❑ *Implements a program for the approval of plans to construct ventilation systems, the inspection of ventilation system construction, and the monitoring of existing ventilation systems for proper maintenance.*
- ❑ *Develops standards and regulations requiring statutory authorities and enforcement programs.*

INDOOR ENVIRONMENTS SECTION
CURRENT ANNUAL FUNDING

STATE GENERAL FUNDS	***$74,676***
FEDERAL IAQ GRANT FUNDING	***$91,986***
FEDERAL NESHAPS GRANT FUNDING	***$91,865***
FEDERAL AHERA GRANT FUNDING	***$238,508***
FEDERAL STATE LEAD GRANT FUNDING	***$184,022***
TOTAL FUNDING	***$681,057***

Air Conditioning/Ventilation Program

- ❑ *Administers the provisions of Chapter 321, Hawai'i Revised Statutes; and Hawai'i Administrative Rules, Chapter 11-39, pertaining to Air Conditioning & Ventilation Systems.*
- ❑ *Reviews and approves air conditioning and ventilation system permits to assure the adequate and healthful design, construction, installation and operation of comfort air conditioning and ventilating systems.*
- ❑ *Inspects and monitors permitted air conditioning and ventilation system to assure proper installation and maintenance.*
- ❑ *Assesses existing air conditioning and ventilation systems through measuring ventilation rates for the protection of the public from abnormal and inadequate ventilation.*
- ❑ *Investigates public complaints of inadequate building ventilation, and associated poor indoor air quality; inadequate cooling of occupied spaces; and emissions*

Review of design, construction, installation and operation of air conditioning and ventilation systems

Abatement program approves plans for asbestos removal

from ventilation systems.

- ❑ *Conducts assessments of ventilation rates and associated heat stresses within school classrooms to assure optimum learning environment for students.*

Asbestos Abatement Program

- ❑ *Administers the provisions of Chapter 342P, Hawai'i Revised Statutes, relating to Asbestos.*
- ❑ *Implements the provisions of the Federal Asbestos Hazard Emergency Response Act (AHERA).*
- ❑ *Implements the provisions of the Federal National Emission Standards for Hazardous Air Pollutants (NESHAPS).*
- ❑ *Maintains a certification program for inspectors, management planners and project designers.*
- ❑ *Reviews and approves management plans for asbestos removal in all schools within the State.*

Lead program conducts surveys of schools

- ❑ *Conducts pre-demolition inspections to assure all asbestos is removed prior to building demolition.*
- ❑ *Provides technical assistance to individuals, businesses, and agencies within the State and Federal.*

State Lead Program

- ❑ *Administers the provisions of Chapter 321, Hawai'i Revised Statutes, relating to Lead.*
- ❑ *Implements the EPA's lead education and outreach program.*
- ❑ *Implements the EPA's Residential Lead-Based Paint Hazard Reduction Act.*
- ❑ *Implements an accreditation program of personnel performing lead-based paint activities.*
- ❑ *Conducts statewide lead-based paint surveys of preschools, day care centers, and kindergartens.*
- ❑ *Establishes a communication network of state programs and their responsibilities and capabilities associated with lead abatement.*

Strategic Issues

Program Mission

Program ensures resources are directed to greatest risks

The mission of the Indoor Environments Section (IES) of the Noise, Radiation and Indoor Air Quality Branch is to ensure core functions through community health assessments, provision and access to essential services, and solutions of problems inimical to health; and to ensure that resources are directed at those problems that pose the greatest risk to the public's health and the environment.
The mission of the IES is accomplished through implementing the following statewide programs:

- *Indoor Air Quality*
- *Asbestos Abatement*
- *Lead Abatement*
- *Air Conditioning & Ventilation Systems*

In recent years, the public has become increasingly aware of the significant problem of poor indoor air quality. National and local risk-ranking polls amongst environmental scientists and concerned citizens reveal that indoor air quality ranks very high on the list of unmet environmental health needs. Research has shown that some of the largest exposures to critical pollutants occur indoors, due to the fact

that people spend approximately 90 percent of their time indoors. Although indoor sources produce relatively small amount of pollution, unacceptable concentrations occur because the pollution is mixed in a relatively small volume of air.

Some of largest exposures to pollutants occurs indoors

People who may be exposed to indoor air pollutants for the longest period of time are often those most susceptible to the adverse effects of indoor air pollution. Such groups include the young, the elderly, and the chronically ill, especially those suffering from respiratory or cardiovascular diseases. Numerous publications have reported that indoor air pollutants, such as tobacco smoke, volatile chemicals, combustion by-products and particles, biological contaminants, microorganisms, etc., pose serious public health threats, and may cause respiratory illness, multiple chemical sensitivities, and skin and eye irritation. Recent studies have clearly shown that the most recognized root-causes of many indoor air problems arise from poorly designed and maintained mechanical ventilation systems.

INDOOR ENVIRONMENTS SECTION
GOAL: TO PROTECT AND ENHANCE INDOOR AIR QUALITY FOR THE HEALTH AND WELFARE OF HAWAI'I'S POPULATION

Challenges

Challenges remain in establishing comprehen - sive program

Given the diversity, complexity, and scope of the Indoor Environments Section programs, it is critical that efforts to protect Hawai'i's population become more focused on opportunities for public health improvement.

Develop and establish a comprehensive integrated Indoor Environments Section

Major challenges still exist in developing and establishing a comprehensive and integrated IES, encompassing all significant program functions (Indoor Air Quality, Air Conditioning & Ventilation, Asbestos & Lead). Act 234/1994 was adopted to establish an indoor air quality program, but with no resources were provided. Through funding provided by EPA, and initiatives for developing an integrated indoor environments program, the results of the environmental risk ranking project, as well as public needs, may be appropriately addressed.

Public health and environmental protection must be based on appropriate assessment of indoor air pollutants and risks to human health and the environment. Those activities which pose the greatest risk must be given priority for resource and program commitment.

Train technically qualified and competent staff

In order to successfully implement a comprehensive integrated indoor air quality program, staff must be appropriately trained to accomplish all functions and activities within the section.

Develop and maintain partnerships between the State and communities

More emphasis on part - nerships with govern - ment agencies, public and industry

Emphasis must be placed on partnerships among the State's Indoor Environment Programs and other government jurisdictions (federal, state and county counterparts), industry, and the general population. Balancing the enforcement of public health and environmental laws in partnerships with the regulated community will pose a challenge to achieving quality indoor air for Hawai'i's population.

Develop and maintain comprehensive public outreach

The protection and enhancement of public health and the environment requires that the general population be adequately and appropriately informed and educated.

Public outreach is key to program success

The regulated community, the general public and government jurisdictions must be educated and aware of program initiatives to maximize and assure the implementation of the indoor air quality programs.

Acquire appropriate funds to support program implementation

With the reduction of State general funds and potential for the decline of federal funding, other means of financing IES activities must be sought. The integrated Indoor Environments Program will require creative budgeting to assure that all program initiatives are implemented.

Regulatory development

Administrative rules need review and amendment

Departmental administrative rules, particularly with regards to Hawai'i's indoor air quality, asbestos and lead, must be developed and adopted to assure adequate protection for the State's population. Current administrative rules must be reviewed and amended to appropriately reflect updated standards. Policy development must be continued to assure the implementation of the department's rules.

Prioritized Objectives & Strategies

Objective A. *Develop and establish a comprehensive integrated Indoor Environments Section.*

Strategy:

- ❑ *A comprehensive and integrated Indoor Environments Section must be developed and operational to consolidate the indoor air, air conditioning & ventilation, asbestos and lead programs. Development of plans, strategies, and program revisions must be implemented to assure efficiency and effectiveness.*

A comprehensive and integrated Indoor Environments Section must be developed and operational to consolidate the indoor air, air conditioning & ventilation, asbestos and lead programs.

Objective B. *Develop and implement training programs for all IES staff.*

Strategy:

- ❑ *Train IES staff in all program areas, including indoor air, air conditioning and ventilation, asbestos, and lead abatement. Extensive training all in program areas will support the implementation of a comprehensive integrated indoor air quality program.*

Objective C. *Develop and implement a comprehensive public outreach program.*

Strategy:

- ❑ *Public outreach and public education activities must be directed at Hawai'i's population, including the regulated community and the general public. Emphasis must be placed on educating building and facilities managers on health effects, health risks and mitigation strategies of indoor air pollutants. Brochures will be developed to provide the general public with indoor air quality information, with particular emphasis on Hawai'i's problems. A significant activity will be the statewide implementation of EPA's "Indoor Air Quality Tools for Schools" project.*

Objective D. *Develop and implement an assessment program of indoor air pollutants.*

Assessment of public buildings needs to be conducted

Strategy:

- ❑ *Conduct indoor air assessments on public buildings. The assessments will be accomplished through monitoring and analysis of indoor air and ventilation rates. Monitoring data and results will be utilized to determine the type of indoor air pollutants common to Hawai'i, and to develop program strategies to address health effects, health risks, exposure levels, mitigation and abatement of indoor air pollutants.*

Objective E. *Respond to complaints related to indoor air quality problems and achieve resolution.*

Strategy:

- ❑ *The IES will inspect facilities with indoor air problems; conduct measurements, analyses and assessments of indoor air pollutants. The program will attempt to achieve 100 per cent resolution of problems in order to accomplish the program's mission of providing adequate protection for the general public. Complaint response is a significant activity, since it may also be utilized to support an indoor air assessment program.*

Responding to com - plaints of poor indoor air quality

Objective F. *Continue implementation of the Federal Asbestos Hazard Emergency Response Act and the National Emission Standards for Hazardous Air Pollutants.*

Strategy:

- ❑ *The IES will continue implementing federal initiatives, including maintenance of a certification program for inspectors, management planners and project designers; review and approval of management plans for asbestos removal in all schools within this state; review and approval of building demolition and renovation with asbestos; conduct of pre-demolition inspections to assure all asbestos is removed prior to building demolition; and taking appropriate enforcement actions.*

The IES will inspect facilities with indoor air problems; conduct measure - ments, analyses and assessments of indoor air pollu - tants. The program will attempt to achieve 100 per cent resolution of problems in order to accomplish the program's mission of providing ade - quate protection for the general public.

Objective G. *Implement targeting strategies set forth in the latest EPA Asbestos Strategy to select asbestos projects for inspection.*

Strategy:

- ❑ *The emphasis of this targeting strategy is to require inspections based on priority. Each notifying asbestos demolition/renovation contractors who performs four or more removals during the fiscal year must be inspected at least once a year.*

Objective H. *Continue implementation of the Federal Residential Lead-Based Paint Hazard Reduction Act of 1992 (Title X).*

Strategy:

- ❑ *The IES's lead abatement program implements the EPA's lead education and outreach program; conducts statewide lead-based paint surveys of preschools, day care centers and kindergartens; and develops and implements an accreditation program for specially trained persons responsible for lead-based paint abatement.*

Objective I. *Develop and maintain an effective inspection, enforcement and compliance program.*

Effective inspection and enforcement

Strategy:

- ❑ *Inspection of facilities will support compliance with applicable Federal and State laws, rules, and regulations, and with permit conditions.*

Objective J. *Enhance the review and permitting capabilities of the Air Conditioning and Ventilation program.*

Strategy:

- ❑ *Evaluate and permit air conditioning and ventilation systems in a timely manner. Permitting of air conditioning & ventilation systems must be continued to maintain quality indoor environment by assuring proper design, construction, installation and maintenance of air conditioning and ventilation systems.*

Evaluate permit requests in timely manner

Consultation with affected constituencies

Objective K. *Provide consultative services and interpretation.*

Strategy:

- ❑ *The IES will continue to provide consultative services and interpretations to various segments of the public, in particular to the regulated community, including government agencies, environmental consultants, architects, engineers, contractors, facility management and public officials.*

Objective L. *Develop partnerships with Hawai'i's communities.*

Strategy:

- ❑ *The IES will develop partnerships with the community to assure that public health and environmental concerns are appropriately addressed. A networking program will be developed to coordinate indoor air quality activities at all levels of government (state, federal and county), consultants, industry and the general public in order to enhance the capabilities of the program.*

Objective M. *Develop and update standards and regulatory programs.*

Strategies:

Seek final adoption of asbestos rules

- ❑ *The indoor environments programs will develop/update and adopt standards and regulations to address all indoor air programs. Enforcement programs must be developed to support program regulatory measures.*
- ❑ *The program will focus on final adoption of the State Asbestos Rules, and the development of revised and updated Air Conditioning & Ventilation Rules.*

Performance Measures

Program performance measures will be revised to conform to the newly-developed integrated Indoor Environments Section. Further program planning will be necessary to establish meaningful performance indicators. The following current performance indicators are being utilized

Performance Measures:

Evaluating performance

- ❑ *Number of complaints received and the percentage of complaints resolved.*
- ❑ *Number of facilities inspected; and percentage of facilities in compliance with applicable regulations, laws and rules.*
- ❑ *Number and type of indoor air pollutants identified and addressed.*
- ❑ *Number of workshops and meetings conducted; number of task forces or working groups established; and the number of brochures developed and disseminated.*
- ❑ *Number of consultation calls and meetings.*
- ❑ *Number of personnel trained.*
- ❑ *Number of completed permit applications received and issued.*
- ❑ *Number of completed Asbestos Notifications received.*
- ❑ *Number of schools required to comply with asbestos management plans and percentage of schools in compliance.*
- ❑ *Number of schools provided with the Indoor Air Quality "Tools for Schools"; and percentage of schools actively participating in this program.*
- ❑ *Number of preschools, day care centers and kindergarten survey for lead-based paint; and the percentage of facilities indicating presence of lead-based paint in child assessable areas.*

Solid and Hazardous Waste Branch Strategic Plan

Background

Historical Perspective

Federal Laws and Regulations

Solid Waste Program

The Resource Conservation and Recovery Act (RCRA) passed in 1976 included a section on solid waste management (Subtitle D). The Criteria for Classification of Solid Waste Disposal Facilities and Practices, Code of Federal Regulations (CFR) Title 40, Part 257, was promulgated in September 1979 to provide minimal regulatory control, primarily focused on industrial and commercial disposal and Municipal Solid Waste (MSW) issues until the mid-1980s. Subtitle D of 40 CFR 258 regulations were proposed in the early 1980s. Those regulations were finally published in 1988 and promulgated in October 1991.

Providing oversight to ensure a job well done

An inspector from the UST section oversees the installation of a new tank.

Underground Storage Tank Program

In 1984, Congress responded to the increasing threat to groundwater posed by leaking USTs by adding Subtitle I to RCRA. Subtitle I required EPA to develop a comprehensive regulatory program for USTs storing petroleum or certain hazardous substances.

Congress directed EPA to publish regulations that would require owners and operators of new and existing USTs to prevent, detect and clean up releases. At the same time, Congress banned the installation of unprotected steel USTs and piping beginning in 1985.

Threat to groundwater from leaking under - ground storage tanks

In 1986, Congress amended Subtitle I of RCRA and created the Leaking Underground Storage Tank Trust Fund, which is to be used for two purposes:

1. To oversee cleanups by responsible parties.

2. To pay for cleanups at sites where the owner or operator is unknown, unwilling, or unable to respond, or which require emergency action.

The 1986 amendments also established financial responsibility requirements. Congress directed EPA to publish regulations that would require UST owners and operators to demonstrate they are financially capable of cleaning up releases and compensating third parties for resulting damages.

In 1988, EPA finalized the technical and financial responsibility regulations for USTs.

"Cradle to grave" management of hazardous waste

Hazardous Waste Program

Passage of the Resource Conservation and Recovery Act in 1976 required the U.S. Environmental Protection Agency to promulgate regulations for the proper management of hazardous waste from "cradle to grave". The federal regulations were promulgated in 1980 with the intent that states would accept delegation for managing an equivalent state program.

Environmental stewardship is good for business

The waste minimization program works with island businesses in reducing their hazardous waste generation at the source. Shown in this photo is the Grand Wailea Resort which recently won an award for their proactive response to environmental issues.

Back in 1982, the Department of Health's Environmental Planning Office accepted a grant from EPA to develop and implement a hazardous waste program. A planner was responsible for activities agreed to in the work plan. However, it soon became apparent that there was no administrative or financial support for the agreement and for the state to seek authorization. In 1983, the state gave the program back to EPA.

However, by 1984 improper management of hazardous waste was fast becoming a national and statewide concern, prompting another attempt to establish a Cooperative Agreement through a grant and work plan agreement between Hawai'i and EPA. In 1985 the state was given a grant and work plan commitment to implement a compliance and inspection, permits technical review, and technical assistance program. The Cooperative Agreement was signed with the intent that the state seriously work towards delegation of the program.

State history

Solid Waste Program

The solid waste program is functionally the oldest of the environmental management activities within the branch (circa 1969). However, it has only been since 1991, with the passage of the Integrated Solid Waste Management Act, that a formal, structured program has been in place.

Solid waste program is oldest by function

In the early 1970s a single environmental engineer within the Pollution Technical Review Branch was responsible for regulatory oversight of landfills (which were primarily open dumps), transfer stations and salvage facilities. The primary regulatory control was related to sanitation issues such as odor and vector control, windblown debris and uncontrolled burning. At that time, Title 11, Chapter 46 of the

Hawai'i Administrative Rules (HAR) was the regulatory authority (effective 7/30/74). During this initial regulatory period, open dumps and burn landfilling practices were phased out and sanitary landfilling practices were put in place.

With the passage of Hawai'i Revised Statutes (HRS) 342, Environmental Quality, in 1980, a more comprehensive revised rule, Title 11, Chapter 58 HAR, was promulgated in November 1981, by the Environmental Permits Branch (EPB). Although the regulatory requirements relating to solid waste management and disposal were significantly expanded, program resources were still limited to a single engineer and solid waste facilities received only minimal oversight.

Office of Solid Waste Management established in '91

A model recycling program

An example of a successful recycling program is the one established at the Grand Wailea Resort in Maui.

In 1989 the legislature divided HRS 342 into media-specific statutes, placing Solid Waste Pollution regulations under HRS 342H, creating the Used Oil Recycling program under HRS 342N, and establishing Lead Acid Battery Recycling under HRS 342I. Two new positions were created to focus on recovery of used oil. Over the next two years the program worked closely with industry to insure commercially generated used oil was recovered and to initiate residential oil recovery efforts. In 1991 the Office of Solid Waste Management (OSWM) was established by Act 324-91 and codified as HRS 342G, Integrated Solid Waste Management (ISWM). The Solid Waste Coordinator and a staff of three focused their efforts on insuring landfill owner/operators understood upcoming regulations (i.e., 40 CFR 258) based upon the federal Resource Recovery and Conservation Act (RCRA).

In 1992, the state statutes were amended to comply with federal statutes. A new solid waste inspector position was created and a vacant engineer position was filled. Rule revisions that incorporated the RCRA Subtitle D requirements and functional standards were developed. A new recycling planner position initiated the review of County ISWM plans. The program received the State's first Pollution Prevention (P2) grant. Then in 1993, RCRA Subtitle D requirements were promulgated. The OSWM focused efforts on the renewal of landfill permits, expansion of outreach and education programs, and funding of a county oil recovery program. Key legislation included the establishment of a solid waste tipping fee surcharge and tire recycling.

Key legislation in 1994 established a Glass Advance Disposal Fee (ADF) and the Clean Hawai'i Center. In 1995, the legislature established a state recycling coordinator position.

State UST regulations must be as stringent as federal ones

Underground Storage Tank Program

In 1986, the Governor signed Act 197 into law (HRS 342, Part VI - Underground Storage Tanks). The purpose of this Act is to establish state standards to protect Hawai'i's public health and the environment from ground and surface water contamination resulting from leaking USTs. The State's regulations must be as stringent as the federal regulations. Currently, the State's regulations are being drafted. The rule is expected to be finalized by fall of 1998. The Governor also designated the Department of Health as the implementing agency. In 1989, HRS 342 Part VI was bifurcated into HRS 342L - Underground Storage Tanks.

In 1990, Act 317 was signed by the Governor into law (HRS 342L-36.5). This Act requires the DOH to perform a study for the purpose of establishing an actuarial sound financial assurance fund to help owners and operators to meet the federal financial responsibility requirements which were adopted to ensure adequate funding to pay for the clean-up of future releases and associated liability costs from USTs. In 1991, Act 267 amended HRS 342L-36.5 Financial Responsibility guarantee fund to HRS 342L.36.5 Underground Storage Tank fees. This requires DOH to collect UST fees. The fees are placed into a separate account of the Hawai'i Capital Loan revolving fund for the purpose of making loans to business to replace, upgrade, close, take remedial action and cleanup releases from USTs. In 1992, HRS 342L-36.5 was again amended to require DOH to collect UST fees until December 1993.

Replacing the old with the new

New fuel tanks are installed after obsolete and unsafe tanks were removed.

In 1993 the Governor signed Act 300 into law which imposed a 5 cents per barrel tax on petroleum to fund oil spill planning, preparedness, prevention and response.

Hazardous Waste Program

The Hazardous Waste Program was housed in the Noise & Radiation Branch where the Environmental Health Specialists (EHS) conducted inspections, provided technical reviews of permits and closure plans, and provided technical assistance to the regulated community. A tremendous effort was made to assist the regulated community to attain compliance and be made aware of existing federal hazardous waste regulations.

The Hazardous Waste Program continued to prosper with the addition of new permanent state funded EHS's. The program was eventually removed from the Noise and Radiation Branch in 1987 and established as a separate office; in 1991 the office was renamed the Solid & Hazardous Waste Branch of the Environmental Management Division. By 1989 the hazardous waste statutes were promulgated under Hawai'i Revised Statutes 342-J, which fulfilled the first step towards obtaining state authorization.

Despite advances made in the state program, many administrative setbacks both on the part of the state and EPA, along with employee turnovers, continued to plague the program. Consequently, promulgation of the state hazardous waste rules was not realized until nearly five years later, on July 18, 1994.

The program staff and management are committed to achieving authorization, and continue to prepare for eventual full delegation of the program to the state. Currently, the state rules are being revised to incorporate additional new federal regulations. Within the next two years we anticipate submittal of another authorization package to EPA.

Eventual delegation of hazardous waste program to rest with the state

Organizational Structure

Functionally, the SHWB consists of three implementing sections, one support group and Program Administration. The implementing sections are organized in line with statutory authorities. The support group is designed to provide administrative and technical support to the implementing sections. Generally, the major responsibilities of each section are as follows:

Office of Solid Waste Management (OSWM)

- ❑ *Solid Waste Management (Landfills, SW Incinerators, Transfer Stations, Recycling and Composting Facilities, Illegal Dumping)*
  - *Permitting*
  - *Inspections*
  - *Complaint Response*
  - *Enforcement*
  - *Technical Assistance & Training*
  - *Regulatory & Policy Development*
  - *Requests for Public Records / Information*
- ❑ *Special Waste Management (Used Oil Transport & Recycling, Lead Acid Batteries, PCS Remediation, Scrap Tires, Motor Vehicle Scrap & Salvage, Medical Waste)*
  - *Permitting*
  - *Inspections*
  - *Complaint Response*
  - *Enforcement*
  - *Technical Assistance & Training*
  - *Regulatory & Policy Development*
  - *Requests for Public Records / Information*
- ❑ *Alternative Waste Management (Recycling, Composting, Pollution Prevention)*
  - *Education & Outreach*
  - *Technical Assistance*
  - *Financial Assistance*
  - *Coordination of County Waste Reduction Activities*
  - *Market Development*

Underground Storage Tank Section

- ❑ *Underground Storage Tank Program*
  - *Inspections*
  - *Provides outreach and training*
  - *Reviews clean closure reports*

List of program responsibilities

SOLID & HAZARDOUS WASTE BRANCH
CURRENT ANNUAL FUNDING

STATE GENERAL FUNDS	***$212,341***
STATE SPECIAL FUNDS	***$710,000***
STATE REVOLVING FUNDS	***$453,263***
FEDERAL GRANT FUNDING	***$1,485,433***
TOTAL FUNDING	***$2,861,037***

- *Processes Request for Public Records*
- *Regulatory and Policy development*
- *Enforcement*

Solid & Hazardous Waste Branch Legal Authority

Federal Law

• Resource Conservation and Recovery Act (RCRA)

Federal Regulations

• Code of Federal Regulations, Title 40, Subtitles C,D & I

State Law

(Hawai'i Revised Statutes - HRS)

• HRS Chapter 342G - Integrated Solid Waste Management

• HRS Chapter 342H - Solid Waste Pollution

• HRS Chapter 342I - Special Waste Management

• HRS Chapter 342J - Hazardous Waste/Used Oil Recycling

• HRS 342L - Underground Storage Tanks

State Regulations

• Hawai'i Administrative Rules, (HAR) Title 11, Chapter 58 - Solid Waste Management Control

• HAR, Title 11, Chapter 104 - Infectious Waste Management

• HAR, Title 11, Chapter 260-280 - Hazardous Waste Management

❑ *Leaking Underground Storage Tank Program*
- *Oversight LUST remediation*
- *Site visits*
- *Provides outreach and training*
- *Process Request for Public Records*
- *Regulatory and Policy development*
- *Enforcement*

Hazardous Waste Program

❑ *Regulatory Program*
- *Permitting/closures/corrective action review*
- *Inspection*
- *Enforcement*
- *Complaint response*
- *Technical assistance & training*
- *Small business assistance*
- *Regulatory & Policy Development*
- *Requests for Public Records/Information*

❑ *Waste Minimization*
- *Education & Outreach*
- *Technical Assistance*
- *Coordination with other media & branches*
- *Inspection audits*

Strategic Issues

Program Mission

The mission of the Solid and Hazardous Waste Branch (SHWB) is to ensure environmentally sound and economically cost effective management of all solid and hazardous waste generated within the State. The SHWB accomplishes this mission through the promotion of pollution prevention and waste minimization activities, the development of proactive partnerships with both generators and the regulated community and the prevention of releases or threats of releases of petroleum, hazardous substances, pollutants or contaminants into the environment through aggressive enforcement of environmental laws and regulations.

Challenges

Integration internally and externally

The functions of the SHWB programs are partially shared by other programs within the department. Specifically, we share the responsibility for addressing petroleum and hazardous substance contamination with the HEER Office. We need to ensure that a coordinated and integrated approach to hazardous substance and petroleum contamination is coordinated with these programs.

- *State Commitment to Environmental Issues*
- *Inter-Agency Commitment to Recycling*

Regulatory implementation of rules

Office of Solid Waste Management

While the current rules, Title 11 Chapter 58.1, were revised and promulgated in 1993, the previous rules dated from 1981 and the revisions were driven by the need to comply with federal Municipal Solid Waste Landfill regulations. Due to the lack of time to fully address non-landfill issues and the subsequent changes in federal regulations, technologies and management strategies relating to activities such as Used Oil Recycling, Medical Waste, and Sewage Sludge Composting, the existing rules require significant housekeeping changes to provide the regulated community with a more accurate document, streamline permitting and compliance activities and improve program efficiency.

Revisions to state law driven by federal requirements

Hazardous Waste

The Hazardous Waste Program promulgated state rules on July 18, 1994. We are currently in the process of revising the rules to adopt new federal regulations that became incrementally effective from June 1993 to May 1998.

Underground Storage Tank/Leaking Underground Storage Tank

Rules have been drafted, including permit requirements for new facilities and a field citation program for enforcement.

Policy and regulatory development

We should be prepared to legally accept the challenges of delegation. Acceptance of program authorization requires a commitment to ensure compliance with environmental regulations. Program capabilities must be expanded to insure the capacity to meet the requirements of delegation.

We should be prepared to legally accept the challenges of delegation. Acceptance of program authorization requires a commitment to ensure compliance with environmental regulations. Program capabilities must be expanded to insure the capacity to meet the requirements of delegation.

Rule implementation will also require the development of guidance and policy direction. All existing operating policies should be refined and amended to address any shortfalls.

Acquire and train technically qualified and competent staff

We expect a 25 percent increase in staffing within the next year. It is possible that during the next three years close to 50 percent of the staff will be new and 80 percent will have less than 4 years of experience. We must continue to acquire the best qualified people and invest in training them to be technically competent in their jobs.

Funding to support mission implementation

With the reduction in General Funding, various programs have identified and developed dedicated funding sources to cover basic program operations. The Branch should educate the legislature, the regulated community and the general public as to the benefits of strong programs and propose expanding those dedicated funding sources to cover all State-funded operations where appropriate.

SOLID & HAZARDOUS WASTE BRANCH

GOAL: TO PROTECT HAWAI'I'S LANDS FROM POLLUTANTS THAT ENDANGER PEOPLE AND THE ENVIRONMENT, AND TO REHABILITATE CONTAMINATED LANDS

Education needed about benefits of strong waste management programs

Fundamental Principles

Prevent the generation of waste.

We believe pollution prevention and recycling are the most effective means for protecting the environment and reducing costs for waste management.

An essential part of our job is to promote prevention opportunities to the public,

Promoting prevention and recycling

the regulated community, responsible parties, consultants, and contractors. Permit conditions shall require pollution prevention and waste diversion measures as conditions of operation.

Achieve Better Waste Management and Restore Contaminated Sites.

Improper hazardous and non-hazardous waste management and disposal threatens nearby communities and natural resources (i.e. groundwater, streams, beaches, oceans, and wildlife). These releases to the environment result in costly cleanups.

We will identify and prioritize activities (within our regulatory control) that pose the greatest risk to human health and the environment. We will then direct our resources to those highest risk activities by developing program plans, technical assistance, and outreach and education as well as regulatory actions.

Improper hazardous and non-hazardous waste management and disposal threatens nearby communities and natural resources (i.e. groundwater, streams, beaches, oceans, and wildlife). These releases to the environment result in costly cleanups.

Sensible Policy development and implementation, founded on sound scientific principles.

We will employ the concept of risk management when deciding on enforcement actions or site remediation approaches. Timely and effective environmental results may require decision making based upon best available information balanced with sound scientific principles. Delaying decisions to ensure detailed data collection and testing can result in greater environmental and economic harm.

Our actions and policies will be kept simple, understandable, and easily implemented. We will consider creative solutions and approaches to provide any flexibility allowed within the law.

Ensure Compliance with Laws to Protect Public Health and the Environment.

We will maintain a strong enforcement presence to deter non-compliance. Conventional enforcement tools will be used on the most significant risks to human health and the environment.

We will offer the use of compliance assistance tools, to achieve and maintain compliance.

Compliance Assistance Tools

The SHWB programs shall develop working partnerships with the regulated community, providing technical assistance and promoting proper operations as an element in prevention of releases and mitigation of environmental impacts.

Responsible parties should be given the opportunity to voluntarily conduct and finance the appropriate response action before enforcement.

Establish An Effective Management Structure

The SHWB programs will select and maintain the best qualified people, and will invest in the necessary training to ensure they are technically competent in their jobs.

Managers and staff are equally accountable for identifying and implementing common sense policy which is environmentally protective, and share responsibility for fiscal and resource decisions, and for maintaining a professional image and providing quality service.

Managers nurture positive staff morale by commending quality performance, and establishing clear performance expectations.

While managers have final decision making authority, they recognize that staff are a technical resource and solicit their input.

Managers and staff equally accountable

Prioritized Objectives & Strategies

Prevent the generation of waste.

Objective A. By 2005, increase recycling and decrease the quantity and toxicity of waste generated.

1. *Reduce the generation of municipal solid waste (inc. commercial, special, industrial, etc.) in Hawai'i to 1.8 million tons per year (10% reduction from 1995 baseline).*

Strategies:

- ❑ *Increase awareness of "Full Costs" of waste management, and promote development of 'pay-as-you-throw' programs for residential collection*
- ❑ *Support national efforts towards reduction in both wholesale and retail packaging.*

2. *Divert 50% of the solid waste generated from disposal through recycling, composting, and other means.*

Strategies:

- ❑ *Implement bans on the disposal of commercial cardboard, office paper, newspaper and glass*
- ❑ *Provide: (a) technical and financial assistance to the Counties in implementing their Waste Diversion Plans; (b) financial incentives (avoided cost payments) to materials processors (i.e., glass container program); (c) technical assistance and funding for local market development; (d) for the necessary investment in infrastructure by promoting the development of "recycle parks" on state or county lands; and (e) planning assistance to commercial generators in developing and implementing waste minimization and recycling activities*
- ❑ *Increase: (a) awareness of "Full Costs" of waste management, and promote the development of 'pay-as-you-throw' programs for residential collection; and (b) outreach and education efforts to general public and commercial sector*
- ❑ *Expand the number and capacity of composting facilities in Hawai'i*
- ❑ *Promote the use of local compost in state and county projects*

Recycling Christmas Trees

The DOH coordinates annually a community-wide Christmas tree recycing program. Each year, the number of trees recycled into mulch increases.

Objective B. By 2005, reduce by 25% (base year 1995) the quantity of toxic pollutants released, disposed of, treated, or combusted for energy recovery.

Year 2005 goal: reduce toxic pollutants by a quarter

Strategies:

- ❑ *Provide education and outreach to promote materials substitution, more prudent use of hazardous materials, alternative technologies & recycling. Encourage facilities to maintain smaller stockpiles of hazardous materials*
- ❑ *Continue with Pollution Preventions/Waste Minimization outreach education*
- ❑ *Conduct streamlined inspections and technical/educational assistance*

Work progresses on controlling risks at 400 contaminated sites

- ❑ *Work with the regulated and non-regulated community to insure that appropriate methods to prevent releases (i.e. weekly inspections of waste drums and safety training for personnel are being met).*
- ❑ *Develop a small business assistance program*

Achieve Better Waste Management and Restore Contaminated Sites.

Objective A. By 2005, reduce or control the risks to human health and the environment at 400 contaminated sites.

1. Reduce the incidence of illegal dumping in Hawai'i by 50% and reduce the number of "open dumps" by 50%.

Strategies:

- ❑ *Increase: (a) enforcement efforts focusing on illegal dumping and the operation of "open dumps"; (b) public awareness of the environmental impacts of open dumps; and (c) awareness of the benefits in the use of compost to horticulture and agriculture industry*
- ❑ *Educate contractors and haulers of environmental liabilities and penalties*
- ❑ *Ensure the proper management of used motor oil and lead acid batteries through education, financial assistance and enforcement*
- ❑ *Provide technical assistance, training and financial incentives promoting C&D recycling*
- ❑ *Provide P2 assistance to recreational boaters, restaurants, resorts, and auto salvage facilities.*

By 2005, 90% of all solid waste facilities will be managed according to practices that prevent dangerous releases to the environment.

2. Clean-up of highest risk contaminated sites.

Strategies:

- ❑ *Develop a simple risk-ranking assessment checklist which will facilitate the allocation of resources and enforcement decisions*
- ❑ *Conduct site inspections to ensure that sites are properly evaluated.*
- ❑ *Encourage more voluntary cleanup and partnerships between the SHWB programs and the regulated facilities.*

Objective B. By 2005, 90% of all solid waste facilities will be managed according to practices that prevent dangerous releases to the environment.

Strategies:

- ❑ *Develop operational guidelines and best management practices for solid waste facilities.*
- ❑ *Expand the permit by rule program.*
- ❑ *Conduct: (a) timely review of permit applications and operational plans; and (b) routine evaluation of operational plans.*

Sound scientific principle base

Sensible Policy development and implementation, founded on sound scientific principles.

Objective A. Develop internal policies and procedures to improve program operating efficiencies.

Strategies:

- ❑ *Conduct annual review of program needs.*
- ❑ *Develop Environmental Health Administration work groups to ensure program consistency.*

Objective B. Provide technical guidance and oversight to regulated community involved in the cleanup of sites and waste management.

Strategies:

- ❑ *Use the expertise of the regulated community and consultants to develop needed technical assistance, educational and outreach programs.*
- ❑ *Develop clear, concise technical guidance documents relating to cleanup standards and disposal of special wastes (i.e. fluorescent light bulbs, low level PCS and PCB contaminated soil)*
- ❑ *Conduct annual reviews of guidance documents and assess needs of the regulated community.*

Technical guidance for regulated community

Ensure Compliance with Laws to Protect Public Health and the Environment.

Objective A. By 2005, ensure full compliance with laws intended to protect human health and the environment.

Strategies:

- ❑ *Expand and expedite enforcement actions.*
- ❑ *Work towards State Program Approval of the UST program.*
- ❑ *Provide technical guidance and oversight to regulated community, including those involved in the cleanup of release sites.*
- ❑ *Maintain an effective compliance/monitoring program through increased field presence.*
- ❑ *Develop: (a) streamlined inspection procedures; and (b) simple, straightforward field citation rules for the UST and various Solid Waste programs.*
- ❑ *Work towards full delegation of the Hazardous Waste Program.*
- ❑ *Enforce cleanup requirements for hazardous waste facilities undergoing closures and corrective action.*
- ❑ *Increase enforcement efforts focusing on illegal dumping and the operation of "open dumps".*

By 2005, ensure full compliance with laws intended to protect human health and the environment. . . .
Bring all municipal solid waste (MSW) landfills into full compliance with State and Federal regulations.

Objective B. By 2005, bring all municipal solid waste (MSW) landfills into full compliance with State and Federal regulations.

Strategies:

- ❑ *Expedite the closure of the two remaining major unlined MSW landfills by 2000.*
- ❑ *Increase owner (county) awareness of operational requirements and budgetary needs.*
- ❑ *Provide: (a) technical assistance to owners and operators relating to new regulations (i.e., financial assurance, gas management, alternative groundwater monitoring); and (b) landfill operators' training and mandate operator certification as an element in the landfill permit.*
- ❑ *Expand and expedite enforcement actions for operational violations.*
- ❑ *Creatively utilize the existing staff and share their talents (i.e. engineers, geologists, toxicologists) to review high-risk contaminated sites.*

Moving to close two major unlined solid waste landfills by 2000

Performance Measures

Better waste management

Prevent the generation of waste.

Performance Measures:

- ❑ *Solid waste reused or recycled as a percentage of total solid waste generated.*
- ❑ *Quantity of hazardous waste generated.*
- ❑ *Reduction of solid waste landfilled and incinerated.*
- ❑ *Per capita generation of municipal solid waste.*

Achieve Better Waste Management and Restore Contaminated Sites.

Performance Measures:

- ❑ *Number of illegal landfills/dumps closed.*
- ❑ *Number of RCRA Subtitle C cleaned and closed.*
- ❑ *Number of leaking UST sites receiving notices of "no further action."*
- ❑ *Number of solid waste facilities properly managed.*

Sensible Policy development and implementation, founded on sound scientific principles.

Performance Measures:

- ❑ *Number of streamlined procedures.*
- ❑ *Number of technical guidances/policies.*

Ensure Compliance with Laws to Protect Public Health and the Environment.

Performance Measures:

- ❑ *Number of RCRA Subtitle C facilities in compliance.*
- ❑ **Number of USTs equipped to meet leak detection and upgrade requirements.*

(These measures have been designated 'Core Performance Measures' by EPA, and will be tracked by DOH and reported both locally and nationally.)*

Hazard Evaluation and Emergency Response Office Strategic Plan

Introduction

The Hazard Evaluation and Emergency Response (HEER) Office serves the people of the State of Hawai'i by providing state leadership in addressing all aspects of releases of hazardous substances into the environment. Our work includes preventing, planning for, responding to, eliminating, and enforcing environmental laws related to hazardous substance releases or risks of release. The HEER Office will accomplish this mission through the use of fundamental management principles such as: addressing the highest risk to human health and the environment first; preventing contamination rather than cleaning up after the fact; basing decisions on sound scientific principles and common sense; cooperative partnerships; and valuing our employees.

Response to all types of releases into environ - ment

The HEER On-Scene Coordinators (OSCs) are the primary state responders to all major incidences of chemical or oil releases into the environment and are available around the clock. They work closely with all other federal, state, county, and private sector responders, including the U.S. Environmental Protection Agency (EPA), U.S. Coast Guard, Hawai'i Civil Defense, County fire departments, and County police departments. Their duty is to contain and minimize the impact to human health and environment resulting from these releases. Once a release is contained, they coordinate or direct necessary short-term remediation efforts.

The other core function of the HEER Office is to direct long-term remediation of all land that has been contaminated by chemical and oil releases. This cleanup effort will assure that the public health of the people of this state is protected, and that groundwater, coastal water, inland water and air will not be further contaminated. In the future, the HEER Office will move towards a leadership role in the prevention of any chemical or oil releases. This will be consistent with the management principle that preventing contamination is preferred over cleaning up releases after the fact. Several preventive programs have been identified in the strategic plan. Implementing these programs should help to preserve the magnificent environment that we enjoy in Hawai'i.

Our work includes preventing, planning for, responding to, eliminating, and enforcing environ - mental laws related to hazardous sub - stance releases or risks of release.

Background

Historical Perspective

Federal Laws and Regulations

In 1980, Congress passed the Comprehensive Emergency Response, Compensation and Liability Act (CERCLA), P.L. 96-510. CERCLA, also referred to as Superfund, created a federal tax on the chemical and petroleum industries and provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA authorized two kinds of response actions: short-term removals when prompt

CERCLA response actions

response is necessary; and long-term remedial response actions for serious hazardous substance releases warranting placement on EPA's National Priorities List (NPL). CERCLA also broadened the National Contingency Plan, the federal government's blueprint for responding to both oil spills and hazardous substance releases, to cover emergency removal actions.

Superfund program

In 1986, the Superfund Amendments and Reauthorization Act of 1986 (SARA), P.L. 99-499, was passed. SARA reflected EPA's experience in administering the complex Superfund program during its first six years, and made several important changes and additions to the program. SARA required EPA to revise the Hazard Ranking System (HRS) to ensure that it accurately assessed the relative degree of risk to human health and the environment posed by uncontrolled hazardous waste sites that may be placed on the National Priorities List. Also, in 1986, the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) was passed. EPCRA, known as Title III of SARA, was enacted to improve offsite safety around chemical facilities. EPCRA created a supplemental emergency preparedness federal funding base for chemical emergency preparedness at county and state levels. EPCRA required that the governor appoint a State Emergency Response Commission (SERC); the SERC would establish Local Emergency Planning Committees (LEPC).

Federal oil pollution laws

In 1990, the Oil Pollution Act of 1990 (OPA 90) was passed. OPA 90 amended EPA's oil pollution prevention regulations, promulgated under Section 311(j)(1)(C) of the Clean Water Act. It addresses marine transportation and non-transportation related facilities and requires them to prepare and implement a Spill Prevention Control and Countermeasures Plan (SPCC Plan) to prevent any discharge of oil into navigable waters of the United States and adjoining shorelines. In addition, these facilities are required to prepare and submit a Facility Response Plan (FRP) on actions to be taken in the event of an oil release.

The most visible Superfund issue at that time was the proposed listing, due to pesticide contami - nation, of Central O'ahu drinking water well sites on the EPA National Priorities List.

State history

Prior to the mid-1980s, the Department of Health (DOH) had a limited role in Superfund- related activities. The Region IX Regional Response Team (RRT) was active and the Hawai'i State Civil Defense Agency provided state, and lead agency representation on the RRT for Hawai'i. EPA Region IX funded six U.S. Coast Guard CERCLA billets in Hawai'i to provide response support for EPA during this period.

The most visible Superfund issue at that time was the proposed listing, due to pesticide contamination, of Central O'ahu drinking water well sites on the EPA National Priorities List. A number of emergency response and removal actions were also conducted in Hawai'i by EPA during this period, particularly relating to abandoned barrels of solvents and pesticides.

In 1985, the DOH was assigned responsibility by Governor Ariyoshi for implementing the Chemical Emergency Preparedness Program, as developed by EPA, thus creating the HEER Office. This precursor program to the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) program set the stage for DOH's future involvement in environmental response.

In 1988, the Hawai'i State Legislature enacted the Hawai'i Environmental Emergency Response Law, Chapter 128D, HRS. This law established a $150,000 Environmental Response Revolving Fund (ERRF) for emergency response and removal actions, and also funded one temporary position. Consequently, in 1989, the U.S.

Coast Guard announced that EPA was terminating the funding of the six CERCLA-funded billets, requiring DOH to develop and implement a plan of action to establish state and county response capability. As a result, each county established Hazardous Materials (HAZMAT) Teams; the City and County of Honolulu has a full-time 15-person team. In addition, DOH established three full-time On-Scene Coordinator (OSC) positions in the HEER Office. These positions were filled by January, 1992.

State history of pollution control

In 1989, DOH received a Superfund Core grant and a Preliminary Assessment and Site Inspection (PA/SI) grant from EPA Region IX. Through the Core grant, two staff on interagency assignment from EPA were hired to assist in program development and drafting substantial revisions to HRS Chapter 128D.

The Hawai'i Environmental Response Law:

In 1990, HRS 128D was retitled as "The Hawai'i Environmental Response Law" (HERL), and expanded to include remedial response activities and enhanced enforcement authority. As an interim measure, until state rules were promulgated in 1995, HERL adopted the National Contingency Plan (NCP) as the primary strategy for implementing federal regulations under CERCLA. In 1993, the Environmental Response Revolving Fund in HRS 128D began receiving funds for oil spill planning, preparedness, prevention, and response through the authorization of a five cents per barrel tax on petroleum. In 1995, HAR Chapter 11-451, State Contingency Plan, was adopted. The adoption of the State Contingency Plan replaced usage of the National Contingency Plan under Chapter 128D. In 1997, Part II, Voluntary Response Program (VRP) was added to Chapter 128D. Also, the fees collected pursuant to Chapter 128E and going to the State General Fund were instead placed in the Emergency Response Revolving Fund (ERRF) and used for emergency planning. In 1998, the maximum allowable balance of the Environmental Response Revolving Fund was increased from $7 million to $20 million.

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Hawai'i Emergency Planning & Community Right-to-Know Act:

In 1993, Chapter 128E, HRS, Hawai'i Emergency Planning and Community Right-to-Know Act was enacted in response to the passage of the federal Emergency Planning and Community Right-to-Know Act. In 1997, fees collected from EPCRA reporting requirements were placed in the Emergency Response Revolving Fund for use by the local emergency planning committees to plan, prepare, and respond to any hazardous material (HAZMAT) emergencies in their districts.

Major Oil Spill Preparation

In late 1991 and early 1992, the HEER office participated in the preparation of a coordinated response to a major oil spill in State waters through the U.S. Coast Guard's Area Contingency Plan (ACP). The DOH Deputy Director for Environmental Health (DDEH) is the Vice-Chairperson of the ACP. In 1993, the University of Hawai'i completed a study of the impacts of a major oil spill in Hawai'i. The report concluded that a major oil spill would cost the state approximately $7.6 billion.

Oil spill impacts

In 1993, the Governor signed Act 300, SLH 1993, into law, imposing a five cents per barrel tax on petroleum to fund oil spill planning, preparedness, prevention and response. Also during that year four new positions were funded to conduct land based oil release responses. The acquisition of these positions allowed the original four On-Scene Coordinators (OSCs) to disinvest in long-term land based responses and focus on emergency response and preparing for a major oil release. Participation in oil spill exercises was made a priority by the office in 1994, an

Pearl Harbor spill tested response plans

effort that was tested in May 1996, when a pipeline transporting fuel oil ruptured near Hawaiian Electric's Waiau Power Plant, spilling fuel oil into Pearl Harbor. Major cleanup efforts were initiated by multiple parties such as the United States Coast Guard, the United States Navy, Chevron, Hawaiian Electric, and DOH. Response costs have run into the millions of dollars. After this incident, the 1997 Legislature established a pipeline safety committee within the DOH to monitor pipelines transporting hazardous substances.

Department of Defense/State Memorandum of Agreement

State cam be reim - bursed for overseeing cleanup on military installations

In 1992 the director of health signed the Department of Defense/State Memorandum of Agreement (DSMOA). This agreement allows the DOH to receive reimbursement for costs incurred in providing oversight services to military installations conducting environmental cleanup activities in Hawai'i. In late 1993 and 1994 four positions were established to conduct oversight, and a technical assistance contract was executed with the University of Hawai'i. Because EPA is not overseeing response action at non-National Priority List sites, State involvement in oversight of military response actions remains important.

Federal Superfund Activity in Hawai'i

Four sites ranked high enough for placement on EPA's priority list

During the 1990s, four sites in Hawai'i scored high on the Hazardous Ranking System and were placed on the EPA's National Priority List: Schofield Barracks (1991); Pearl Harbor (1992); Naval Computer and Telecommunications Area Master Station (1994); and Del Monte in Kunia (1994). In addition, in 1994 EPA conducted a major action at Keehi Lagoon to remove improperly disposed waste containers. EPA and State actions and investigations resulted in an indictment of the alleged responsible parties by the Federal Bureau of Investigation.

State Superfund Activity

In 1995, the Honolulu Harbor project, an area-wide study involving multiple potentially responsible parties (PRPs), was designated as a state Superfund site. The project involved requests for information from various land owners and operators and the formation of a core work group of PRPs. The work group will hire a consultant to consolidate the environmental data and identify data gaps, and will conduct the investigation under a voluntary agreement with the DOH.

Remediation/Cost Recovery

Cost recovery by responsible parties is included as part of an agreement between Del Monte Fresh Produce (Hawai'i) and the DOH. Procedures for continual reimbursement of cleanup oversight costs are being established as the Remediation Section of the HEER Office grows. Cost recovery will be included as a part of future agreements with other PRPs. Recovered costs are returned to the revolving fund.

Cost recovery agreement with Del Monte

In 1996, a Technical Guidance Manual (TGM) was developed within the HEER Office to assist consultants, land owners, and facility operators with site cleanups. The TGM explains the response action procedures recommended by the HEER Office, and has been widely requested in the community.

Natural Resource Damage Assessment

Natural Resource Damage Assessment (NRDA) is the process by which resource management agencies determine and collect restoration funds when hazardous

material spills or hazardous waste sites harm natural resources (land, fish, wildlife, plants, air and water managed by the government on behalf of the public). Federal and state trustees are designated to recover natural resource damages. The primary Federal trustees are the Department of Interior (including the Fish and Wildlife Service, the National Park Service, and the Bureau of Land Management), the National Oceanic and Atmospheric Administration within the Department of Commerce, and the Department of Agriculture's Forest Service. In compliance with CERCLA, the Director of Health was designated (1988) as the State of Hawai'i Natural Resources Trustee. Subsequently, in 1991, the Director of Health and the Chairperson of the State Board of Land and Natural Resources were designated as co-trustees under the Oil Pollution Act of 1990.

Collecting restoration funds

Voluntary Response Program

In 1997, the Voluntary Response Program (VRP) was approved by statute. The VRP allows interested parties to work with the DOH on a voluntary basis to assess and cleanup properties that may be contaminated. Participants pay for DOH oversight and monitoring of their work. The VRP is expected to speed up cleanup of contaminated sites. In 1998, underground storage tanks (USTs) became eligible for cleanup under the VRP, and prospective purchasers of contaminated properties became eligible to receive an exemption from future liability based upon VRP action.

The VRP allows interested parties to work with the DOH on a voluntary basis to assess and cleanup properties that may be contami - nated. Participants pay for DOH over - sight and monitoring of their work.

Enforcement

In 1990, with the passage of the Hawai'i Environmental Response Law, civil and injunctive penalties were authorized. Included were: punitive treble damages against those failing to comply with administrative orders to remove or remediate; up to $50,000 per day for failure to comply with an administrative order; and injunctive action to prevent any violation of HERL. Criminal penalties were added in 1995 with the promulgation of HAR Chapter 11-451, State Contingency Plan. Criminal penalties were previously authorized under Chapter 128D, but could not be implemented without adequate rules. Included were: civil penalty not greater than $10,000 per day for failure to report a hazardous substance release immediately; and a Class C felony or civil penalty of not greater than $100,000 per day for knowingly releasing a hazardous substance of reportable quantity.

The enforcement abilities of the HEER Office have increased with the assistance of the Attorney General's Office. An Environmental Crimes Task Force has been recently formed to assist in the prevention of illegal disposal activities involving hazardous substances.

Risk Assessment Management / Hazard Evaluation

In 1997, the Department was authorized to establish permanent exempt positions for toxicologists. Health risks had been previously assessed by contract and staff epidemiologists, and more recently by a contract toxicologist. At this time, risk assessment and hazard evaluation is performed through one toxicologist and two epidemiologist positions.

Health risk assessment now provided by permanent toxicologist position

The HEER Office toxicologist and epidemiologists serve as DOH's environmental health experts on poisons and pathogens. They assess risks to human health and assist in providing guidelines and procedures for public health advisories or for the elimination of these risks from the environment. They also serve as expert spokespersons in their respective fields.

DOH specialists on poisons and pathogens

Organizational Structure

Prior to 1997 all staff reported directly to the office manager. To increase efficiency, the HEER Office has reorganized the structure of the office and created supervisor positions. The office has also reorganized into two implementing sections (Emergency Preparedness and Prevention, and Site Discovery, Assessment and Remediation), two support sections (Program Development and Hazard Evaluation, and Administrative Support), and program management. The implementing sections are organized in line with site response activities, i.e., emergency response; long term site assessment; and remediation. The support sections are designed to provide administrative and technical (toxicological) support to the implementing sections. The Toxicology function will also provide support to the other environmental programs, as well as other state departments. Generally, the major responsibilities of each section are as follows:

Emergency Preparedness and Prevention
- ❑ *Emergency Response*
- ❑ *Emergency Planning*

Site Discovery, Assessment and Remediation
- ❑ *Contaminated Site Discovery*
- ❑ *Assess Relative Risk of Contaminated Sites*
- ❑ *Complete Assessment of Risks*
- ❑ *Contamination Cleanup*

Program Development and Hazard Evaluation
- ❑ *Regulation and Policy Development*
- ❑ *Enforcement Assistance*
- ❑ *Risk Assessment/Evaluation*

Administrative Support
- ❑ *Clerical Support*

HAZARD EVALUATION & EMERGENCY RESPONSE CURRENT ANNUAL FUNDING

STATE GENERAL FUNDS	$307,000
STATE REVOLVING FUND LOAN FEES	$1,253,000
DEPARTMENT OF DEFENSE/STATE MEMORANDUM OF AGREEMENT	$210.000
EPA SUPERFUND CORE GRANT	$300,000
SUPERFUND COOPERATIVE AGREEMENT	$300,000
VOLUNTARY RESPONSE PROGRAM	$100,000
TOTAL FUNDING	$2,470,000

Funding

Decline in federal funds expected

The HEER Office funding summary is presented in the chart on this page. It is expected that federal funding will decline during the next three to five years. We expect Superfund Core Grant funding may hold steady and that the decline will be from a slight decrease in Superfund Cooperative Agreement funding.

Strategic Issues

Program Mission

Leadership, support and partnership role

The mission of the HEER Office is to protect human health, public welfare, and the environment and to provide state leadership, support and partnership in preventing, planning for, responding to, eliminating, and enforcing environmental laws related to releases or threats of releases of hazardous substances, pollutants or contaminants.

Specifically, the program will act to:
- ❑ *Prepare for and respond, in a timely and effective manner, to releases of hazardous substances and oil into the environment.*

- ❑ *Prepare for and respond to all media related (air, land and water) releases during non-routine state working hours (off-hours).*
- ❑ *Locate, investigate, and assist in the cleanup of lands with prior releases of hazardous substances, pollutants or contaminants.*
- ❑ *Prevent harmful releases of oil and hazardous substances into the environment.*
- ❑ *Evaluate the risks associated with releases of chemicals into the environment and other environmental risks to public health and the ecosystem.*

Fundamental Management Principles

Address highest risk sources first.

Risk-based management

As a fundamental principle, the HEER Office stresses the application of risk-based management principles by addressing the highest risk to human health and the environment first. This approach will affect program planning, as well as the process of managing contaminated sites. Given the limited resources available, priority will be given to environmental health issues which affect communities over those which affect individuals.

Specialists identify risks

Trained personnel test the contents of a waste container to identify the contents and assess any risks posed by the container.

Prevention of contamination is preferred to cleaning up releases after-the-fact.

The preferred management approach is to prevent environmental damage before it occurs. In conducting response actions, the containment of contamination should be a priority. The preferred management approach is to mitigate risks before they occur. The use of in-situ technology will be considered when appropriate.

Decisions based on balancing sound scientific principles and common sense approaches to achieving environmental results. Decisions should be based on sound scientific principles and common sense. Decisions should not be mired in detailed scientific theory at the expense of timely and effective environmental results. The concept of risk management should be considered in order to return contaminated property to beneficial use.

Cooperation/partnership as a preferred approach to release response. Responsible parties should be given the opportunity to voluntarily conduct and finance appropriate response actions before enforcement commences.

Prevention goal

Employees are our most valuable resource

Employees' roles

Our employees must be afforded full and open opportunity to identify weaknesses and propose improvements to operations or products. They must also be afforded participation in activities affecting our working environment, and given the opportunity to improve their knowledge and skills.

Actions should be kept simple, understandable, and easily implemented.

A broad spectrum of creative solutions and approaches within the flexibility available under law should be utilized.

Coordinated Actions

Actions which may affect other programs should be coordinated to ensure that problems are not transferred to other environmental media programs.

Working with other agencies

Continually Improve Processes

Legal and administrative processes should be improved to promote quicker and fairer response actions.

Challenges

A. Emergency Response

Adequately prepare for, and respond in a timely and effective manner to, releases of hazardous substances and oil into the environment utilizing risk based management principles.

Addressing the highest risks first

Given the limited resources available, the HEER program faces the challenge of addressing the highest risk to human health and the environment first. The program must address those issues which pose the greatest risk to the population of Hawai'i, giving priority to environmental health issues which affect communities over those which affect individuals.

Balancing sound science with common sense

Decisions of the office should be based on sound scientific principles and common sense in an effort to achieve environmental results. Decisions should not be mired in detailed scientific theory at the expense of timely and effective environmental results. The concept of risk management should be considered in order to return contaminated property to beneficial use.

HEER Office

GOALS: Primary: To protect Hawai'i's lands from pollutants that endanger people and the environment, and to rehabilitate contaminated lands.

Secondary:

To protect Hawai'i's groundwater from contamination for drinking, irrigation and other appropriate uses.

To protect and enhance Hawai'i's air quality for the health of the people.

To protect and restore the quality of Hawai'i's streams, wetlands, estuaries and other inland waters for fish and wildlife, recreation, aesthetic enjoyment and other beneficial uses.

To ensure that Hawai''s coastal waters are safe and healthy for people, plants, and animals.

B. Pollution Prevention

Proactively preventing contamination

The HEER Office is in a key position to take a proactive stance to prevent releases of hazardous substances and oil in the environment instead of simply cleaning up releases after the fact. If threats can be mitigated before they occur, the public and environment will be best served. The use of in-situ technology should be considered when appropriate.

Developing an oil spill prevention program.

The goal is prevention

During 1994 the HEER Office funded a UH study of the State's capability to respond to a major oil spill and to assess options for institutionalizing additional release prevention measures. The authors recommended a number of alternatives which can be implemented to prevent accidental release of petroleum. These recommendations need to be formalized into an effective program.

Pipeline safety committee set up within DOH

In 1997, a pipeline safety committee was established within the DOH for administrative purposes only. The committee was initiated in response to the 1996 Waiau oil spill. The pipeline safety committee and its work will be part of the prevention program.

C. Partnerships

Strengthening Internal Partnerships
The functions of the HEER office are partially shared by other programs within the department. Specifically, the program shares the responsibility for addressing oil and hazardous substance contamination with three programs within the Solid and Hazardous Waste Branch: the Office of Solid Waste Management (OSWM); the Hazardous Waste Management Program; and the Underground Storage Tank Program. The HEER program needs to ensure that a coordinated and integrated approach to hazardous substance contamination is facilitated with these programs.

HEER facilitates coordination among DOH programs for oil spills

Strengthening External Partnerships
An essential element in fulfilling the HEER Office mission is to integrate with the general public, the regulated public, and other governmental agencies (especially the U.S. Coast Guard, the EPA, the county fire departments, and the county and State Civil Defense agencies) for oil and hazardous substance prevention and response. These relationships should be fostered and improved to facilitate cooperation, effectiveness, and efficiency when coordinating a response action. In addition, the program needs to continue to create better relationships with the local military commands to facilitate partnerships for addressing long-term response actions and to establish coordinated emergency response actions.

Partnerships can be more effective in clean-up

Promoting partnerships
Cooperation and partnerships are our preferred approach to release response. Responsible parties should be given the opportunity to voluntarily conduct and finance appropriate response actions before enforcement.

Enhancing emergency commissions
The State Emergency Response Commission (SERC) and the Local Emergency Planning Commission (LEPC) forums provide mechanisms for bringing together all the response agencies to discuss policy and technical issues. These organizations also have the potential for advocating and for soliciting funds to correct deficiencies within the response community.

The HEER office needs to promote these organizations by increasing the effectiveness of the SERC as a policy and planning body which sets the standard for HAZMAT response in the State. We need to find ways to encourage greater community and private participation.

Emergency Response

When drum sites, such as the one above, are reported, emergency response crews are dispatched to assess and address any risk posed.

D. Administrative

Maintaining qualified staff
Acquiring and training technically qualified and competent staff continues to be a challenge. Most of the staff have been in their current sections for over one year. We will continue to invest heavily in training staff to be technically competent. We expect a 30 percent increase in staffing within the next year and another 5 to 10 percent increase in subsequent years. It is possible that, during the next three years, nearly 50 percent of the staff will be new and 80 percent will have less than 4 years of experience. We must continue to acquire the best qualified people and to invest in training them to be technically competent in their jobs.

Need for technically qualified staff

We will continue to invest heavily in training staff to be technically competent. We expect a 30 percent increase in staffing within the next year and another 5 to 10 percent increase in subsequent years. . . . We must continue to acquire the best qualified people and to invest in training them to be techni - cally competent in their jobs.

In addition, because there is a commitment in Hawai'i that environmental programs will base their decisions on risk to human health and the environment, we will maintain a toxicologist on staff to identify and evaluate risks to human health and the environment.

Employees are our most valuable resources and must be afforded a full and open opportunity to identify weaknesses and propose improvements to operations or products. They must also be afforded participation in activities affecting our working environment, and given the opportunity to improve their knowledge and skills.

Improving office processes
Legal and administrative processes require improvements to promote quicker and fairer response actions. Actions should be kept simple, understandable, and easily implemented. We will analyze and incorporate a broad spectrum of creative solutions and approaches using flexibility available under the law.

Actions which may affect other programs should be coordinated to ensure that problems are not transferred to other environmental media programs.

Ensuring adequate funding
It is anticipated that the current funding level from EPA grants will decline during the next three to five years. The primary funding challenge is maintaining the oil tax for the Environmental Response Revolving Fund (ERRF). Authorization to spend the funds collected via the Tier II reporting fee has been legislatively approved.

Prioritized Objectives & Strategies

Objective A. Be constantly prepared, utilizing risk based management principles to respond in a timely and effective manner to releases of hazardous substances and oil into the environment.

Preparation is best defense against hazardous or oil releases

Since the HEER Office began tracking hazardous substance release notifications, it has processed over 4,000 notifications. Last year the office received 559 notifications and, although most of the notifications are for small and relatively nonthreatening releases, approximately 20 percent require the office to conduct some type of response action.

A response action can be a simple visual inspection, or can require extensive emergency and long-term remediation. Because of the large number of notifications and responses it is difficult to adequately address all notifications.

To meet the program's objective, we must streamline the existing response process and use program resources more efficiently. Program resources can be maximized by avoiding duplication and integrating staff with similar programs, both internal and external to the DOH. In addition, providing adequate staff training will facilitate quicker and better decisions. We must also try to strengthen outside organizations which share similar responsibilities in order to ensure protection of the entire state.

Response actions

1. *Improve the preparedness of federal, state and local entities to respond to releases of petroleum and hazardous materials into the environment, utilizing risk-based management principles and effective partnerships.*

Strategies:

The HEER Office is vested with the mandate to provide statewide leadership in preparing for and responding to hazardous substance releases. The DOH deputy director for environmental health chairs the State Emergency Response Commission (SERC) and the HEER Office supports the SERC. The HEER Office must lead the way in the assessment of response capabilities and initiation of solutions to statewide problems. In so doing, the HEER Office must utilize risk based management principles for prioritizing incidences, and must employ effective partnerships when feasible to maximize available resources. Specific strategies to accomplish this objective are:

Response process must be streamlined

- ❑ *Develop partnership memorandum of agreements (MOAs) with the federal, state, and county response organizations to clearly identify roles and responsibilities in the event of an oil or hazardous substance release.*
- ❑ *Build effective partnerships with all stakeholders.*
- ❑ *Implement an effective means of funding the Local Emergency Planning Commissions (LEPCs).*
- ❑ *Provide assistance such that the LEPCs and State Emergency Response Commission (SERC) hold productive meetings and generate effective state and local emergency response plans and actions.*
- ❑ *Focus the SERC on the most important Statewide issues through their better understanding of risk-based management principles..*
- ❑ *Initiate the development of SERC subcommittees to formalize statewide response policy.*
- ❑ *Assess response capabilities and ensure that the state is prepared to respond to, and mitigate releases of hazardous substances by participating in the practice of all federal, state and local hazardous materials response plans (e.g. Federal Response Plan for Hazardous Substance Materials Releases During Natural Disasters, State Civil Defense hazardous material response training, etc.). Also assist in the periodic amendment of the plans.*
- ❑ *Participate in oil spill exercises.*

HEER OFFICE LEGAL AUTHORITY

FEDERAL LAW

- ***Comprehensive Environmental Response, Compensation and Liability Act of 1980 (P.L. 96-510)***
- ***Superfund Amendments & Reauthorization Act (SARA) of 1986 (P.L.99-499)***
- ***SARA Title III, Emergency Planning and Community Right-to-Know Act of 1986***
- ***Oil Pollution Act of 1990***

FEDERAL REGULATIONS

- ***40 CFR Part 300, National Oil and Hazardous Substance Pollution Contingency Plan***
- ***40 CFR Part 302 Designation, Reportable Quantities, and Notification***

STATE LAW

(Hawai`i Revised Statutes - HRS)

- ***HRS Chapter 128D - Hawai'i Environmental Response Law***
- ***HRS Chapter 342E - Hawai'i Emergency Planning and Community Right-to-Know Act***

STATE REGULATIONS

- ***Hawai`i Administrative Rules, (HAR) Title 11, Chapter 451 - State Contingency Plan***

2. *Integrate the DOH's response and cleanup programs, utilizing risk-based management principles and effective partnerships.*

Build partnerships with stakeholders

Strategies:

The HEER Office's emergency response and enforcement functions have evolved at different rates over the past ten years. Integrating these functions in the HEER Office to create a seamless response program is a priority. In addition, related activities of the Solid and Hazardous Waste Branch (SHWB), including the Office of Solid Waste Management (OSWM), with the activities of the HEER Office will also establish a more effective and efficient environmental clean up program in the DOH. Specific strategies to accomplish this objective are:

Integration of response and cleanup is needed

- ❑ *Develop a HEER working group to institute a seamless response program in the HEER Office. The working group should be empowered to recommend changes in specific functional areas in order to create consistency among emergency response, site identification, site assessment, site investigation, remedial investigation, remediation actions, hazard evaluation and risk management activities.*
- ❑ *Develop a DOH working group on program consistency. The working group should be empowered to recommend changes in specific programs in order to create consistency among the coordinating programs (i.e., the SHWB programs and the HEER Office).*
- ❑ *Develop and implement working MOAs between OSWM, SHWB and HEER, wherever there are duplicate authorities or responsibilities, in order to eliminate program overlap.*
- ❑ *Increase open and honest communication within the department.*
- ❑ *Share resources in an effort to be more efficient and to demonstrate a "team concept."*

3. *Enhance and improve capabilities to identify and assess hazardous substances and petroleum contaminated sites.*

Strategies:

The HEER Office now has the resources to conduct both long-term and emergency response activities. Previously, the program was staffed with only On-Scene Coordinators for conducting emergency responses. As such, remedial sites were addressed in an informal manner. Both emergency response and remedial response sections are developing more formalized approaches to identifying, assessing and remediating sites through clear policy and technical guidance. This approach should result in more consistent implementation and legally defensible decisions. In addition, program relationships with potentially responsible parties need to be formalized in writing. All site visits, conversations, meetings or other contacts where site-specific information is discussed should be documented. We also will formalize our internal system for collecting and processing new sites. The following are specific strategies:

Develop a HEER working group to institute a seamless response program in the HEER Office. The working group should be empow - ered to recommend changes in specific functional areas

- ❑ *Develop an annual strategic site discovery plan.*
- ❑ *Enhance the notification and initial assessment phases of site discovery.*
- ❑ *Look for administrative and legal amendments to current policy and laws in order to streamline the remediation process.*
- ❑ *Provide outreach to local consultants on methods of investigation and remediation.*

Formalized approaches to site remediation

- ❑ *Enhance our data and file management system.*
- ❑ *Work with the military to address the worst sites on military land.*
- ❑ *Identify and respond to the 10 worst, non- military sites in Hawai'i.*
- ❑ *Assess all potential and actual contamination of potable groundwater and pursue appropriate response action.*
- ❑ *In cases of petroleum product release, conduct rapid removal of the free product to prevent further contamination of land.*
- ❑ *Document all site visits and response actions.*
- ❑ *Implement the Brownfields Targeted Site Assessment Program and the Brownfields Economic Development Initiative Program.*

4. *Enhance and improve capabilities to clean up hazardous and petroleum waste sites.*

Strategies:

The HEER Office capabilities have been hindered by a lack of personnel resources and limited expertise in technical matters. To address this shortfall, increased training and training plans have been developed for each staff member. In addition, outside contracts have been established to fill technical deficiencies. These two strategies should establish technical expertise within the program. Other capabilities needing to be addressed are: administrative, enforcement, contractual agreements for all of the long-term sites being overseen; and implementing the Voluntary Response Program. The following are specific strategies:

Strategies for site management

- ❑ *Identify legislative changes.*
- ❑ *Develop minimum staff training requirements based upon position type.*
- ❑ *Train staff to increase competency in their duties and to expand integrated cross-training.*
- ❑ *Develop contracts to provide technical assistance.*
- ❑ *Develop enforcement capabilities*
- ❑ *Enter into formal agreements for all non-emergency sites.*
- ❑ *Implement the Voluntary Response Program (VRP).*

Objective B. Prevent harmful releases of oil and hazardous substances into the environment.

Preventing releases is always preferable to addressing releases once they have occurred. This is especially true in Hawai'i with regard to oceanic oil releases, since a UH report has estimated that a catastrophic oil release could cost the state approximately $7.6 billion. Therefore, an oceanic oil release prevention program must be instituted as soon as possible.

In addition, the HEER Office recognizes that prevention programs for hazardous substance releases are limited and that it should take the lead in this area.

Other capabilities needing to be addressed are: administrative, enforcement, contractual agreements for all of the long-term sites being overseen; and implementing the Voluntary Response Program.

1. *Implement an oil spill prevention program in Hawai'i.*

Strategies:

The strategy for this objective is to implement appropriate recommendations from the UH report and to implement an oil spill prevention program similar to the non-regulatory portion of the EPA Region IX Oil Pollution Prevention Program. Funds have been budgeted from the Emergency Response Revolving Fund to accomplish this task. The following are specific strategies:

Catastrophic oil release could cost state billions.

- ❑ *Implement appropriate recommendations of the UH "Oil Preparedness and Prevention" study.*
- ❑ *Implement an oil spill prevention program which will assist in gathering information and to help foster partnerships with industry in improving hazardous substance management practices.*

2. *Implement a Pipeline Safety Program.*

Strategies:

The Hawai'i State Legislature passed a bill authorizing the DOH to implement a Pipeline Safety Program. This program was the result of the 1996 Chevron fuel oil spill near the Hawaiian Electric Company's Waiau Power Plant. The oil spill entered Pearl Harbor, causing extensive and costly cleanup activities. In an effort to prevent future spills, the program will look into ways of preventing such spills from reoccurring.

Pipeline safety program authorized

- ❑ *Implement appropriate measures as recommended by the Pipeline Safety committee.*
- ❑ *Locate and map all working pipelines.*
- ❑ *Develop and implement pipeline inspection and testing procedures.*

3. *Implement a Clean Air Act (CAA) Section 112(r) Risk Management Program.*

Strategies:

During FY-99, the HEER Office plans to implement the CAA 112(r), Risk Management Program (RMP). The program is intended to prevent accidental releases of chemicals posing high risks to human health and the environment, and to communicate chemical information to the public. Two positions will be funded by the 105 Air Grant and the Title V Covered Sources Fund. The following are specific strategies:

- ❑ *Establish two new Environmental Health Specialist positions.*
- ❑ *Determine if legislative and regulatory authorities are needed.*
- ❑ *Work with EPA to prepare necessary notification information and documents.*
- ❑ *Notify the affected businesses of their requirements.*
- ❑ *Work closely with the Small Business Advocate.*
- ❑ *Communicate the chemical information to the public.*

During FY-99, the HEER Office plans to implement the CAA 112(r), Risk Management Program (RMP). The program is intended to prevent accidental releases of chemicals posing high risks to human health and the environment, and to communicate chemical information to the public.

4. *Implement an EPCRA Inspection Program.*

Strategies:

The HEER Office intends to implement the Chapter 128E, Hawai'i Emergency Planning and Community Right to Know Act (EPCRA) inspection program.

Prior to the promulgation of rules, the HEER Office plans to participate with EPA in EPCRA compliance visits to such sites as food manufacturer companies to determine compliance with Chapter 128E, HRS. The following are specific strategies:

- ❑ *Develop administrative rules for 128E, Hawai'i Emergency Planning and Community Right-to-Know Act.*
- ❑ *Participate in EPCRA compliance visits with EPA to determine compliance with Chapter 128E, HRS.*

Objective C. Provide the DOH with technical expertise in assessing the risks to human health of poisons and pathogens. Assist the department in communicating these risks to its programs and the general public. Maintain an ongoing core of qualified environmental technical experts.

Community right-to-know

The state and the department are addressing and responding to environmental contaminations with limited resources. It is imperative that these resources be applied effectively to the highest risks to human health and the environment. Risk-based management principles have been identified in these plans as the basis for guiding these decisions. Maintaining a solid core of environmental technical experts to assess and advise the environmental programs on risks is a priority.

Strategy:

- ❑ *Replace any vacancies in the toxicology or epidemiology positions quickly, provide adequate training on new technology, and seek additional positions, as necessary to support the programs of the department and the general public. In addition, if other environmental technical expertise is needed, the department should contract for such expertise.*

Performance Measures

A. Be constantly prepared, utilizing risk based management principles, to respond in a timely and effective manner to releases of hazardous substances and oil into the environment.

Performance Measures:

1. **Number of high priority facilities which have human exposure to risks controlled.*
2. **Number of high priority facilities which have groundwater releases controlled.*
3. **Number of Superfund cleanups initiated and/or completed.*
4. *Remediation or improvement in the condition of the top 10 "worst" State and federal sites in Hawai'i.*
5. *Reduction in the number of older remediation sites on the backlog list (i.e. the sites being actively worked on will be new spills and releases and only a few or none with old releases). The backlog of sites will be eliminated from the State's site list by enforcement actions or through the VRP. A similar indicator is the number of sites remediated and removed from the State's site list.*
6. *Reduction in the damage (public health, ecological, and economic) caused by a release, and the cost of responding to a release due to quick and efficient response actions.*
7. *Overall effective use of DOH environmental resources for high priority risk responses based upon risk-based management principles.*

(These measures have been designated 'Core Performance Measures' by EPA, and will be tracked by DOH and reported both locally and nationally.)*

B. Prevent harmful releases of oil and hazardous substances into the environment.

Performance Measure:

1. *Documented results from pollution prevention programs instituted by the partnership of the hazardous substance and oil community.*

The State's hazardous evaluation and emergency response capacity has evolved considerably in the last twelve years. Today, the HEER Office has a capable team of trained evaluators and responders who are continuously dealing with chemical and oil releases in the environment. In addition, it has developed the capacity to work towards a systematic cleanup of new and past releases. The one final component of the HEER program is to develop and implement a meaningful pollution prevention program which will minimize any ill effects to the people of Hawai'i and our magnificent environment. Let us all work together towards these ends.

Apply resources to highest risks

Be constantly prepared, utilizing risk based management principles, to respond in a timely and effective manner to releases of hazardous substances and oil into the environment.

Trained team for response

Safe Drinking Water Branch Strategic Plan

Introduction

Drinking water key for all living creatures

The dependence of all living creatures on drinking water (fresh water) makes protection of drinking water quality one of the most significant environmental protection activities in Hawai'i. Safe drinking water is needed by everyone to sustain life and promote and maintain sanitary conditions. Drinking water quality is regulated by the State, and distributed potable water supplies are directly consumed by all of Hawai'i's residents and visitors. The protection of this valuable resource involves many seemingly unconnected activities - from the protection of groundwater to analyzing drinking water for contaminants, requiring effective drinking water treatment, protecting water systems from backflow, and insuring the use of approved piping and faucet materials. Each step in the process plays a significant role in the overall protection of drinking water quality, and many of the activities are ranked "high priority" because they protect the quality of drinking water from different contaminants in different ways.

Number of Drinking Water Systems Statewide, by Island

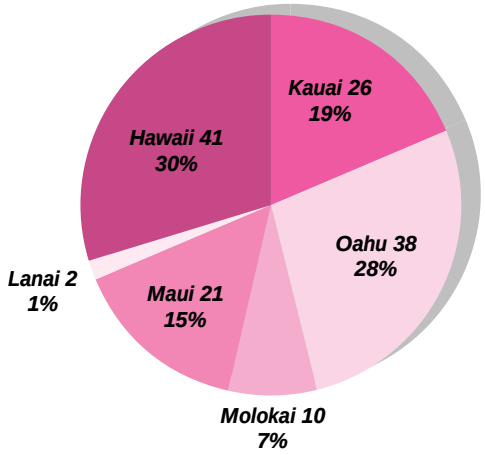


Figure 16.

Introduction

Historical Perspective

Federal Laws and Regulations

In the early 1900s the U.S. Public Health Service (PHS) was vested with the responsibility for assuring the safety of national drinking water supplies, and in 1914 began the process of setting standards for chemical and microbial contaminants in drinking water. In 1974, Congress passed the Safe Drinking Water Act (SDWA), which imposed regulations on public water systems (defined as systems serving 25 or more persons at least 60 days per year, or possessing 15 or more service connections). The SDWA also established authority for states to develop an Underground Injection Control (UIC) program to protect underground sources of drinking water from contamination from waste disposal wells. Hawai'i currently has 138 public water systems.

Drinking Water Systems Statewide, by Ownership

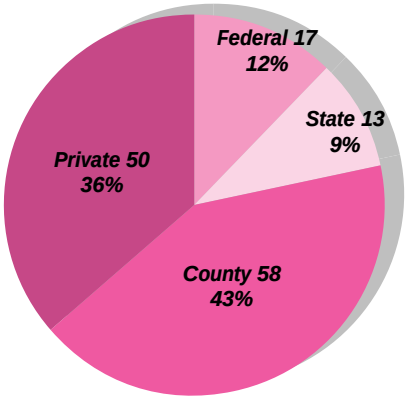


Figure 17.

The SDWA vested the U.S. Environmental Protection Agency (EPA) with the responsibility for ensuring that all public water systems meet minimum water quality criteria, expressed as "maximum contaminant levels or MCL's." EPA initially developed a number of

Federal laws have become increasingly stringent for drinking water

National Interim Primary Drinking Water Regulations (NIPDWR), which consisted of standards for approximately 23 contaminants including: bacteria, turbidity, inorganic chemicals, organic chemicals, and radiological contaminants.

Congress passed significant amendments to the SDWA in 1986. The Safe Drinking Water Act Amendments (SDWAA) of 1986 required EPA to raise the number of regulated chemicals from about 23 to 83, and increased both the number and frequency of required sample analyses. Other amendments include changes in the maximum contaminant level (MCL) for total coliform bacteria; treatment of all surface water; institution of corrosion control for systems delivering unacceptable levels of lead or copper; a ban on "leaded" products from drinking water distribution systems; and the regulation of additional chemicals in drinking water. The SDWAA of 1986 also called for sweeping changes in the administration of regulations. In response to the SDWAA, EPA has promulgated the following regulations:

Regulations now in force

- *Lead Ban requirements*
- *Fluoride Rule*
- *Public Notification Rule*
- *Phase I Volatile Organic Chemical Rule (effective July 1987)*
- *Total Coliform Rule (effective September 1989)*
- *Surface Water Treatment Rule (effective September 1989)*
- *Phase II Synthetic Organic/Inorganic Chemical Rule (effective January 1991)*
- *Lead and Copper Rule (effective July 1992)*
- *Phase V Synthetic Organic/Inorganic Chemical Rule (remaining 23 contaminants) (effective July 1992)*

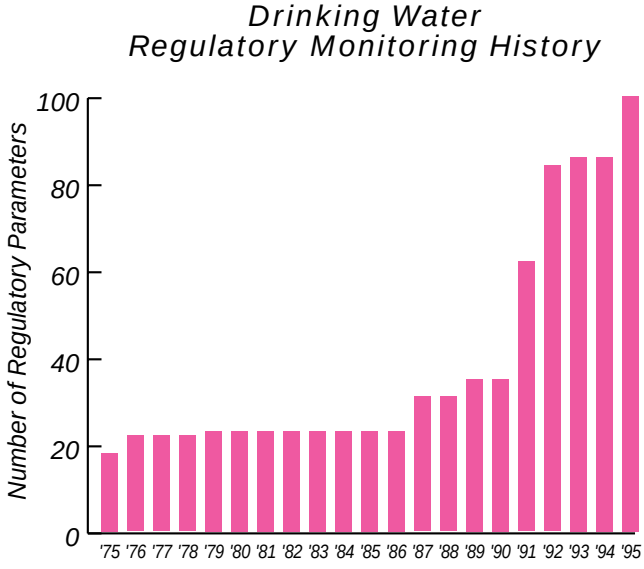


Figure 18.

The list of new regulations is not complete; additional rules to be promulgated include:

- *Groundwater Disinfection Rule*
- *Disinfection / Disinfection By-Products Rule*
- *Radionuclide Rule*
- *Phase Vlb (an additional 25 contaminants)*

These changes require large increases in resources not offered by the federal government.

In November 1988, Congress passed the Lead Contamination Control Act in order to reduce children's' exposure to lead from school drinking water by requiring identification of the makes and models of drinking water coolers in schools and preschools, and investigation of drinking water distribution systems. Funds to support this program were not appropriated.

Pending regulations

On August 6, 1996, President Clinton signed into law the Safe Drinking Water Act Amendments (SDWAA) of 1996. These amendments focus on several areas of drinking water protection: use of sound science in the standard setting process, prevention of source water contamination, prevention of the operation of water systems with insufficient resources to comply with regulations, an expanded public information program for water suppliers, and, most significantly, a revolving loan fund program to assist water suppliers finance needed treatment improvements.

The 1996 Amendments call for EPA to issue guidelines as well as regulations in a number of areas:

SDWAA 1996 RULES/REGULATIONS

- *Consumer Confidence Reports (effective August 1998)*
- *Issuance of Variances or Exemptions (effective August 1998)*
- *Groundwater Disinfection Rule (effective August 1999)*
- *First List of Unregulated Compounds (<30) (effective August 1999)*
- *Radon Rule (effective August 2000)*
- *Governing Recycling of Filter Backwash (effective August 2000)*
- *Arsenic Rule (effective January 2001)*
- *Five Additional Contaminants for Regulation (effective August 2001)*
- *Enhanced Surface Water Treatment Rule (effective date not defined)*

SDWAA 1996 GUIDELINES

- *State Revolving Fund Administration (effective August 1996)*
- *Comprehensive State Groundwater Protection Program Grant (effective August 1997)*
- *Source Water Assessment Program (effective August 1997)*
- *Source Water Quality Protection Partnership (effective August 1997)*
- *Viability of New Systems (effective August 1998)*
- *Water Conservation Plans (effective August 1998)*
- *Water Treatment Plant Operator Certification (effective February 1999)*

Exposure to lead in drinking water is a potentially serious public health problem. Lead has its most severe effects on young children, damaging organs and slowing mental and physical growth. In adults, lead is known to raise blood pressure. Widespread regulation of lead content in drinking water in water systems began with the enactment of the Safe Drinking Water Act of 1974. A PHS standard of 50 micrograms per liter (ug/l) or parts per billion (ppb) in flushed water was set; this level was easily met in Hawai'i.

The Safe Drinking Water Act Amendments of 1986 took major steps to prevent lead exposure from drinking water by requiring national code changes and state enforcement of a ban on "leaded" products, (i.e., pipes, fixtures and solder and flux), in drinking water distribution systems. All four counties adopted plumbing code revisions in 1988, and all public water systems had reported the actual or potential presence of lead in their distribution systems.

In November of 1988, Congress passed the Lead Contamination and Control Act. This legislation (unfunded) was specifically designed to address possible lead contamination of drinking water in schools. Of initial concern was the presence of lead in school drinking water coolers. A 1994-95 study revealed a very low occurrence in lead in first flush water; only 6 schools out of 240 recorded lead levels in excess of 20 ug/l in coolers, and corrected the problem.

In 1987, a 5-home study of water from rain-water catchment systems revealed the presence of lead in rainwater caught on the roofs of homes. In 1988, the Department was able to offer free lead and copper testing of both the rain water and blood of persons served by rain-water catchment systems. Approximately 3,000 blood samples and 2,200 water samples were screened for lead content. Results showed that 11% of the samples tested exceeded the regulatory level of 50 ug/l, and an additional 14% exceeded the LCCA level of 20 ug/l. The highest levels of lead were found to come from rain-water catchment systems which had used

Federal law requires sound science for stan - dards

Expanded public infor - mation

Revolving loans for water suppliers

Exposure to lead in drinking water is a potentially serious public health prob - lem. Lead has its most severe effects on young children, damaging organs and slowing mental and physical growth. In adults, lead is known to raise blood pressure.

National code changes to reduce lead exposure

Lead in rain catchment systems

"white lead paint" in catchment tanks. The other two major causes were the presence of lead-head nails in the roof and the use of lead sheets for flashing around exhaust pipes and chimneys. A brochure entitled; "Protect Your Family from Lead Poisoning" was developed for distribution to owners and users of rain-water catchment systems.

Many catchment users had excessive levels of lead in blood

In 1991, the U.S. EPA issued the Lead and Copper Rule. This rule required the first flush sampling (initial sampling after a minimum of 6 hours standing time) in new homes with lead and copper piping or solder. An action level of 15 ug/l was set for the 90th percentile sample, eliminating the 50 ug/l regulatory level. Investigations showed that lead does not occur in sources of drinking water in Hawai'i, but in the piping materials, now chiefly brass faucets, which contain approximately 5% lead. Flushing (running water until it reaches a constant cool temperature) is an effective method of controlling lead presence in drinking water. The 1996 SDWAA address the problem of brass fittings and fixtures by requiring that they meet standards for non-leaching of lead. The Branch is working with the counties to effect changes in the respective county plumbing codes.

Act 218 of the 1997 Legislature provided for a program of subsidized lead and copper testing for owners and users of rain-water catchment systems. Under this program, the owner or user of a rain-water catchment system pays shipping and the first $25 of the analytical costs. Act 218 provides funding for the Department of Health to pay the remaining analytical costs. This program is expected to be continued until December, 1999, with the possibility of renewal.

UIC Injection Wells Statewide, by Permit Status

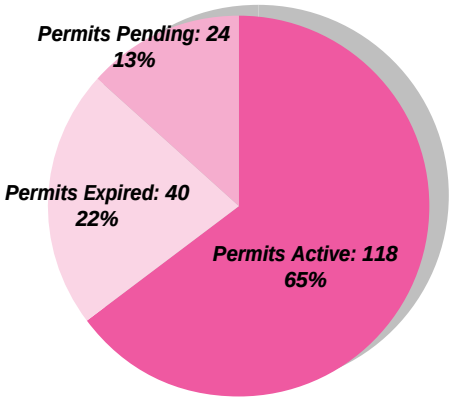


Figure 19.

State History

Backflow protection and cross-connection control

The need for backflow prevention and cross-connection control was recognized by the Territory of Hawai'i in the early public health rules (Chapter 19, P.H.R). After Statehood, these rules were renamed as Chapter 22, Public Health Regulations, and revised in 1981 when all state rules were converted to a consistent format. The rules pertaining to Backflow Prevention and Cross-Connection Control are found in Title 11, Chapter 21, Hawai'i Administrative Rules (HAR).

A State program to assist/advise water systems was initiated in the early 1970s with a single environmental engineer located in the Sanitary Engineering Branch of the Department of Health (DOH). The Hawai'i State Legislature in 1976 granted statutory authority (Chapter 340E, Hawai'i Revised Statutes (HRS)), for a regulatory program covering drinking water from public water systems and UIC. After rule promulgation, the engineer was relocated in the Drinking Water Section of the Sanitation Branch (1977), staffed by three engineers and a clerk-stenographer.

Safe Drinking Water Branch formed in 1989

Development of a UIC Program was initiated by the Environmental Planning Office, which began work in 1978 and assembled statewide steering committees in 1980. In the early 1980s, the UIC Program was relocated to the Pollution Technical Review Branch, then transferred to the Safe Drinking Water Section of the Sanitation Branch. In 1989, the Safe Drinking Water Branch (SDWB) was formed as part of the newly created Environmental Management Division.

Pursuant to the Surface Water Treatment Rule requirement that all drinking water treatment plants be operated by qualified personnel, the Safe Drinking Water Branch obtained statutory authority (Chapter 340F, HRS) to administer a water

treatment plant operators certification program (1991). HAR Title 11, Chapter 25 contains the program's rules.

The Groundwater Protection Program was authorized in 1986 by the Hawai'i State Legislature (Act 220, 1986) in recognition of the need to support drinking water quality by protecting groundwater quality. The state Wellhead Protection Program was developed by the Groundwater Protection Program in the Environmental Planning Office; the program was transferred to the Safe Drinking Water Branch in 1997.

Groundwater protection authorized in 1986

Primary Enforcement Authority

Primary Enforcement Authority (primacy) in the Safe Drinking Water Program is important to the State for a number of reasons.

Primacy qualifies the State to receive federal Public Water Supply Supervision Program (PWSSP) grant funds. These funds are sufficient to support only about one-third of the staff of the SDWB. Primacy also qualifies the State to receive federal Capitalization Grant funds needed to implement a Drinking Water State Revolving Fund. This program has both economic and public health benefits by providing additional drinking water protection through the construction of needed treatment facilities, making them available at low cost to water suppliers and consumers, and triggering additional construction.

Another public health protection advantage of primacy is water sample analysis, performed by the State Laboratories Division. Contamination reports are immediately available to the State staff, and corrective actions or public notifications can be initiated. If analytical results are unacceptable, the Branch is immediately informed. Under a non-primacy regimen, information would be transmitted directly to EPA, delaying the Branch's response to problems. Unfamiliarity of EPA personnel with Hawai'i's water systems may result in inaccurate attempts to resolve problems. This means the persons consuming the contaminated drinking water will be exposed to the contaminant for longer periods of time.

UIC Drywells Wells Statewide, by Permit Status

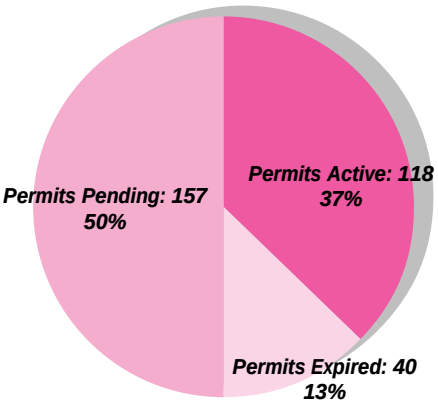


Figure 20.

The lack of primacy would result in a significant loss in public health protection capability. The loss in positions alone would result in the absence of a number of services. At the present time, federally funded positions exist in the Compliance, Monitoring and Clerical sections of the Branch. The functions of each section are critical to the success of Hawai'i's Drinking Water Program. As a result of primacy, States are able to compel water system compliance through appropriate activities. In many cases, formal enforcement actions (traditional with EPA) are not the most expedient or desirable means of achieving compliance.

State needs to retain primacy for drinking water

Organizational Structure

Administration

The function of the Administration section is to assure that the Branch has the statutory, fiscal and personnel resources to accomplish its mission. Specific functions of this section include:

Formal enforcement not always best means to end

- ❑ *Identify and follow all applicable laws, regulations, policies, commitments of the Federal, State and County governments.*
- ❑ *Assure that there are sufficient: (a) resources to protect and maintain safe drinking water quality through the equitable division of labor, proper job assignments, and through the pursuit of needed funding; and (b) office, sample preparation area, and storage spaces to accommodate all staff, equipment, and functions required of the Safe Drinking Water Branch;*
- ❑ *Assure that all personnel are: (a) aware of all laws that directly affect the fulfillment of safe drinking water requirements; and (b) properly trained in appropriate areas of the safe drinking water, related regulations, and working conditions.*
- ❑ *Establish and administer Safe Drinking Water Branch personnel policies and procedures in compliance with State Department of Personnel Services procedures, State employee contracts, Budget and Finance and Executive Branch policies, federal EEO and disability requirements, and Department of Health personnel procedures.*

Clerical Support Section

Clerical support critical to operation of branch

The function of this section is to assist the SDWB in the generation, transmission and retention of branch correspondence and management of fiscal and personnel matters. Specific functions of this section include:

- ❑ *Provide support to the Safe Drinking Water Branch in the development and issuance of final documents.*
- ❑ *Assist callers and visitors to the Safe Drinking Water Branch to assure that the public is well served.*
- ❑ *File and maintain records of correspondence for the Safe Drinking Water Branch.*
- ❑ *Purchase and maintain an inventory of all equipment by the Safe Drinking Water Branch.*
- ❑ *Keep account of expenditures from the general, federal, and revolving funds to prevent cost overruns.*
- ❑ *Assist the Branch Chief comply with recruitment, interview, evaluation, leave, disability, classification, and other personnel matters.*

The function of the Administration section is to assure that the Branch has the statutory, fiscal and personnel resources to accomplish its mission.

Engineering Section

Engineering section functions

The function of this section is to provide engineering reviews and approvals for new water sources, system modifications, treatment proposals, and other public water system activities requiring comment, review and approval. Specific functions of this section include:

- ❑ *Assure that new and substantial modifications to public water systems can deliver water of potable quality.*
- ❑ *Review and provide technical assistance to water purveyors and consultants; and review and approve plans, reports and specifications for new sources serving public water systems.*
- ❑ *Conduct special studies as necessary for the effective administration and operation of the Drinking Water Program.*
- ❑ *Administer a State Revolving Fund for public water system improvements.*
- ❑ *Implement the Lead and Copper Rule.*

Monitoring Section

The function of this section is to monitor the State's public water systems and groundwater for contaminants. Specific functions of this section include:

- ❑ *Identify monitoring requirements as defined in the Total Coliform Rule, Surface Water Treatment Rule, Phase I Volatile Organic Chemical Rule, Phase II Synthetic Organic/Inorganic Chemical Rule, Lead and Copper Rule, Phase V Synthetic Organic/Inorganic Chemical Rule, and future rules, changes and additions as they occur; and identify and monitor trends in drinking water quality.*
- ❑ *Coordinate statewide sampling between water systems, neighbor island staff and Oahu staff, and State Laboratories Division staff to assure that samples meet prescribed holding times and analyses can be conducted in an efficient manner.*
- ❑ *Receive, evaluate, record, store and transmit data for all analyses to assure proper Branch response to all analytical results.*
- ❑ *Monitor and sample drinking water from water purveyors who are on compliance schedules; and monitor groundwater sources to determine status of statewide groundwater contamination.*
- ❑ *Maintain equipment in operating condition.*

Compliance Section

The function of this section is to review public water system performance and to achieve compliance by systems through technical assistance, formal enforcement, or other means. Specific functions of this section include:

- ❑ *Assure that all public water systems are in compliance with all state and federal rules, regulations and requirements.*
- ❑ *Identify: (a) non-compliant public water systems and assure that required violation response measures are taken; and (b) system problems through sanitary surveys, monitoring results or other means, and work with systems to address these problems.*
- ❑ *Issue: (a) public notices of all new contaminants in a public water system as required under HRS Chapter 340E, Section 340E-24, within 14 days of determining that the analytical results are reliable, or take appropriate action to obtain reliable data; and (b) enforcement actions as necessary.*
- ❑ *Revise and update state regulations to comply with Federal Drinking Water Requirements.*
- ❑ *Evaluate engineering compliance proposals, track progress of compliance projects, cite violations of compliance schedules or provide extensions where appropriate.*

Underground Injection Control Program

The function of this section is to protect the quality of Hawai'i's underground sources of drinking water from chemical, physical, radioactive, and biological contamination that could originate from injection well activity. Specific functions of this section include:

Public water systems must comply with federal and state requirements

Monitoring Ground and Surface Water

Safe Drinking Water Branch personnel collect source water samples.

Qualified operators are necessary for safe drinking water

- ❑ *Process permits and project reviews for new and renewal permits, modifications, and abandonment of injection wells.*
- ❑ *Evaluate geologic logs of soil and rock, injectivity tests, geologic maps, and groundwater quality profiles to determine the viability of subsurface injection.*
- ❑ *Maintain inventory and database of all injection well files.*
- ❑ *Organize and conduct site inspections to verify locations and performance of injection wells and to verify compliance with all testing or well closure plans.*
- ❑ *Conduct site investigations to identify problems such as unpermitted facilities and correction of deficiencies.*
- ❑ *Enforce Underground Injection Control rules and permit conditions.*
- ❑ *Serve the public by providing information and technical assistance.*

Compliance for Safe Drinking Water

Mililani granular activated carbon (GAC) plant removes 1,2-Dibromo-3-chloropropane (DBCP) and 1,2,3-Trichloropropane.

Water Treatment Plant Operator Certification Program

The function of this section is to assure that drinking water treatment plants throughout the state are staffed by qualified operators. Specific functions of this section include:

- ❑ *Administer the water treatment plant operator certification program for the State in accordance with EPA requirements.*
- ❑ *Receive, screen, and prepare all applications for water treatment plant operator certification Board review.*
- ❑ *Conduct operator certification training and testing.*

  Evaluate workshops, classes and conferences for possible continuing educational credits.

Qualified public water systems can tap revolving loan fund

State Revolving Fund Program

The function of this section is to administer the Drinking Water State Revolving Fund to assure low cost loans for qualifying public water systems. Specific functions of this section include:

- ❑ *Administer the SRF loan fund for qualifying public water systems.*
- ❑ *Report to EPA in a timely manner on use of the funds.*
- ❑ *Receive and evaluate loan applications, award loans and track progress of projects and repayment of loans.*
- ❑ *Assign priority to, monitor expenditures of, and assure completion of activities using set-aside funds available through the DWSRF fund.*

Tracking groundwater contaminants

Groundwater Protection Program

The function of this section is to prevent groundwater contamination, when possible, and identify and track groundwater contaminants. Specific functions of this section include:

- ❑ *Work with: (a) agencies involved in groundwater protection to build a comprehensive program; and (b) the public to receive input and direction.*
- ❑ *Implement protective actions such as Wellhead Protection and Source Water Protection.*

- ❑ *Develop: (a) information on the vulnerability of sources in order to identify appropriate sampling frequencies for various potential contaminants;(b) an inventory of all non-drinking water wells, their location and current ownership and evaluate their potential for useful groundwater information; and (c) and revise, as necessary, an inventory of chemicals of concern in groundwater.*
- ❑ *Obtain resources and arrange for analyses of prioritized groundwater sources for chemicals of greatest concern.*
- ❑ *Identify and monitor trends in groundwater quality.*

Funding

Current funding levels

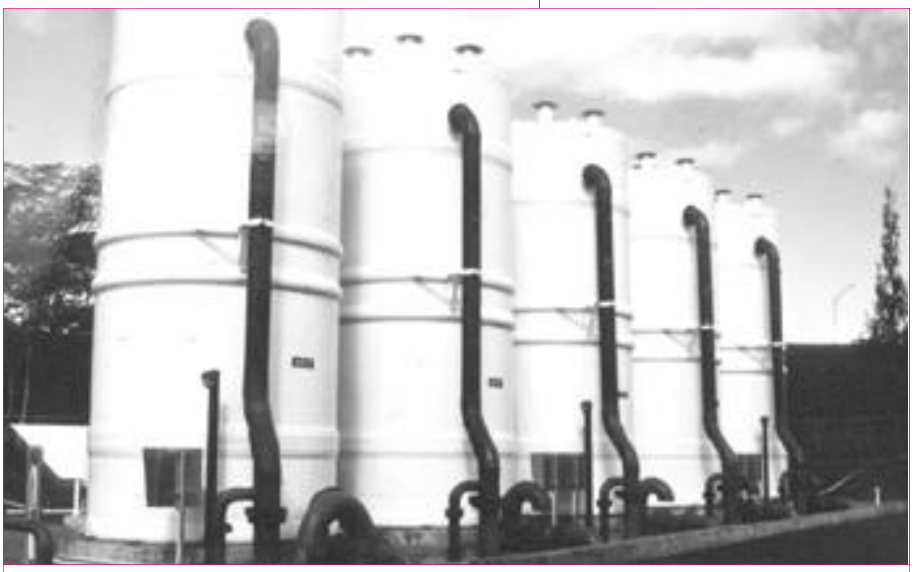
The Branch receives funding from three sources: state general funds, federal Public Water System Supervision Program (PWSSP) grants, and the Environmental Response Revolving Fund. For fiscal year 1996-1997, the funding from these sources (with restrictions) are as follows.

State general funds - $ 549,941
Support 12 positions and operating expenses for program administration and implementation.

Federal funds - $ 448,000
Support six federal permanent positions in our Enforcement, Monitoring and Clerical Support sections and operating costs; positions assist in the administration and implementation of the safe drinking water program.

Revolving funds - $607,081
From the Environmental Response Revolving Fund (ERRF); support 10 temporary positions, operating and equipment costs. The intent of these funds is to provide additional resources to the safe drinking water program to properly administer existing rules and regulations.

Loan funds - $ 15,600,000
A loan fund, the Drinking Water State Revolving Fund (DWSRF), has recently been established. The fund is comprised of 80% federal and 20% state funding. Its purpose is to provide low interest loans to qualifying water suppliers for improvements to public water systems and to provide additional funding for existing requirements and new initiatives.



Removing Solvents

Schofield packed tower aeration plant was installed by the U.S. Army to remove trichloroethylene.

A revolving fund now provides low interest loans for system

Resource Planning

In recognition of the need for additional funding to carry out its many functions, the Safe Drinking Water Branch participated in the "Environmental Summit," a legislatively sponsored activity undertaken in the early 1990s to identify environmental protection issues. Committees were headed by legislators with environmental concerns, and staffed by government and private members with similar interests. Major committees included were Enforcement and Resources. One of the primary recommendations arising from the Resources Committee was to investigate the

Proposed special fund for water systems defeated

possibility of a fee/permit system for public water systems and other environmental activities.

After extensive meetings with the public water systems, and after introduction of a bill to establish a fee/permit system for public water systems (H.B. 1944-93, S.B. 734-93), and Administration Measures which proposed establishing permit fees and special funds to receive the fees, these issues were brought before the Hawai'i State Legislature.

Proposed special fund for water systems defeated

The Safe Drinking Water fee proposal involved the system population or the gallons pumped per day. By setting a prorated amount per user or per 1,000 gallons used, the permit/fee system could have generated sufficient revenues to support the Safe Drinking Water Program. The measures were defeated on several fronts. First, larger water suppliers objected to the proposal on the basis that they would be subsidizing the smaller water suppliers. The larger water systems have the financial resources to solve their own problems, whereas smaller systems do not, and the smaller systems cannot afford larger fee assessments. In addition, the Tax Foundation of Hawai'i objected to the fees as a "hidden tax". Organizations representing Native Hawaiians also objected to the fees as a regressive tax, as did retired persons on fixed incomes.

The Branch has also petitioned EPA for additional federal funding on many occasions. Hawai'i receives a federal allotment based on a formula used by EPA to disperse grant funds; and the original Safe Drinking Water Act allowed each state a full 1% share of the monies allotted for safe drinking water grants. Revisions to the law provided that, for smaller states, the percentage could be reduced to below 1%. At the present time, Hawai'i is receiving only 0.49 percent of the allotted amount. While Hawai'i's allotment percentage has decreased, allocations to the reauthorized SWWA have grown from about $30 million to $90 million. In contrast, the Safe Drinking Water grant for Hawai'i has grown only 134 percent, from $334,500 to $448,300, far short of the 300 percent increase in federal dollars available.

SAFE DRINKING WATER BRANCH
CURRENT ANNUAL FUNDING

STATE GENERAL FUNDS	***$549,941***
FEDERAL GRANT FUNDING	***$448,000***
REVOLVING FUNDS	***$607,081***
TOTAL FUNDING	***$1,605,022***

Hawai'i receives less than a half percent of federal monies allotted for safe drinking water grants

The Department of Health has also requested that our Congressional Delegation support measures which would increase the federal authorization for drinking water protection activities. Letters to specific committee or subcommittee chairpersons were sent identifying and protesting the federal funding policies.

In 1995, the Department of Health successfully petitioned the Legislature to include safe drinking water concerns as fundable activities of the Emergency Response Revolving Fund (ERRF). A year later, all funding to support our Underground Injection Control Program was moved to the ERRF.

The 1996 Amendments to the Safe Drinking Water Act provided some relief through the Capitalization Grant of the State Revolving Fund, which includes a program of "set-asides". Of the federal funds which Hawai'i receives, a 10% set-aside is allowed to help fund activities to meet existing requirements. However, this amount is insufficient to implement all the drinking water requirements that EPA has created. This source of funding directly impacts the amount of money available from the State Revolving Loan Fund, and care must be taken to prevent exhaustion of the DWSRF.

Strategic Issues

Program Mission

The mission of the Safe Drinking Water Branch is to protect public health by regulating owners and operators of public water systems to assure that safe drinking water is provided to the community. This mission is accomplished through the administration of the Safe Drinking Water Program, Underground Injection Control Program (UIC), Groundwater Protection Program (GWPP), and the Drinking Water State Revolving Fund (DWSRF).

Other aspects of the SDWB mission include:

- ❑ *Prevention of: (a) groundwater contamination in Hawai'i through coordination of activities by all agencies or organizations with groundwater protection responsibilities, and by public involvement; and (b) the spread of water-borne disease through requiring adequate treatment and protection of sources of drinking water.*
- ❑ *Provision of safe drinking water for all the citizens of Hawai'i via implementation of a full state program, including: surveillance, monitoring, technical assistance, engineering review and enforcement.*
- ❑ *Protection of existing and potential sources of drinking water through administration of the Underground Injection Control Program.*

Money not adequate to implement all EPA drinking water requirements

Challenges

The basic challenge facing the Safe Drinking Water Branch is centered around resources. Are there enough resources to allow the Hawai'i Program to meet its mission statement? Groundwater and drinking water protection is changing very quickly in many areas; can Hawai'i keep up with the ever-changing treatment technologies, analytical techniques and equipment, regulatory requirements, and more?

Resources are biggest challenge

Prioritized Objectives & Strategies

SAFE DRINKING WATER BRANCH

GOAL: TO PROTECT HAWAI'I'S GROUNDWATER AND SURFACE WATER SOURCES FROM CONTAMINATION FOR DRINKING, IRRIGATION AND OTHER APPROPRIATE USES.

Objective A. Administration

Ensure appropriate statutory authority and fiscal resources to assure that the water served by Hawai'i's public water systems continue to meet minimum quality standards.

Strategies:

- ❑ *Identify funding sources and methods to secure sufficient resources to administer a Safe Drinking Water Program, Underground Injection Control, and Groundwater Protection Program.*
- ❑ *Establish a fee-for-service means of resource augmentation.*
- ❑ *Determine level of funding (set asides) available from EPA through the State Revolving Fund (capitalization grant) to develop and administer the Hawai'i State Revolving Fund Program and support other needed drinking water activities.*
- ❑ *Amend regulations as necessary to retain primacy delegation.*
- ❑ *Maintain a current emergency plan for safe drinking water.*

Branch administration works to assure authority and resources

Objectives for administration include providing financial assistance

Objective B. State Revolving Fund Program

Provide financial assistance in the form of low interest loans to reduce the cost of required treatment to public water systems.

Strategies:

- ❑ *Develop: (a) an SRF budget based on available funds which will support an effective program; and(b) operational manuals covering the financial and technical review of proposed projects.*
- ❑ *Assure that the highest priority systems receive SRF funding priority.*

Objective C. Capacity Development

Ensure that all new public water systems have the technical, managerial and financial (TMF) resources to enable them to meet safe drinking water requirements.

Making sure water systems properly run

Strategies:

- ❑ *Establish rules by which water system capacity TMF will be determined.*
- ❑ *Work with water suppliers to identify TMF resources which may be used.*

Objective D. Water Treatment Plant Operator Certification Program

Ensure that all surface water treatment plants in the State are staffed by persons who meet minimum requirements for drinking water treatment.

Certifying treatment plant operators

Strategies:

- ❑ *Maintain a sufficient number of certified drinking water treatment plant operators in the State.*
- ❑ *Conduct treatment plant operator training events.*
- ❑ *Administer a testing program to certify qualified applicants.*

Objective E. Consumer Confidence Reports

Inform all drinking water consumers of the quality of water provided by their water systems.

Strategies:

- ❑ *Develop guidelines in compliance with EPA requirements for Consumer Confidence Reporting.*
- ❑ *Advise all public water system owners/operators of requirements.*
- ❑ *Work with public water suppliers to insure that they have the required data.*

Objective F. Engineering Section

Review and approve (as appropriate) new sources, treatment facilities and major modifications of public water systems.

Strategies:

Assure that all:

- ❑ *new sources of potable water serving public water systems meet all new drinking water quality requirements and are as protected to the extent possible;*
- ❑ *work done to expand the distribution systems and treat drinking water results in delivery of safe drinking water; and*
- ❑ *proposed treatment plants are capable of providing adequate treatment for contaminants needing to be addressed.*

Objective G. Compliance Section

Ensure compliance with all safe drinking water regulations by public water systems in the State.

Strategies:

- ❑ *Assure through required testing that all sources serving public water systems meet all drinking water standards.*

- ❑ *Identify and respond to violations of monitoring requirements or MCL's.*
- ❑ *Reduce, through technical assistance, the number of MCL violations despite the growing number of regulated contaminants.*
- ❑ *Provide technical assistance to public water suppliers to promote better understanding of regulatory requirements.*
- ❑ *Issue formal enforcement orders for corrective actions when necessary.*

Objective H. Monitoring Section
Identify, through monitoring, the compliance status of public water systems and manage the data generated by this activity .

Strategies:

- ❑ *Assure that water suppliers are conducting monitoring as required under safe drinking water regulations.*
- ❑ *Review and evaluate results and set new monitoring requirements based on system qualification.*

Controlling underground injections

Objective I. Underground Injection Control Program
Administer a permit program for underground disposal of wastes.

Strategies:

- ❑ *Secure primacy for the UIC program.*
- ❑ *Assure that: (a) permit conditions are suitable for the facility requesting review; and (b) injection well effluent discharge standards are protective of underground sources of drinking water.*
- ❑ *Issue public notifications and conduct hearings for UIC permit applications, and increase public outreach.*
- ❑ *Increase field inspection time of UIC Geologist staff.*
- ❑ *Pursue enforcement of violations.*
- ❑ *Streamline UIC permit process by allowing drywells to be permitted by rule.*

Objective J. Groundwater Protection Program
Work with the public, private industry, and governmental agencies to protect Hawai'i's groundwater resources.

Strategies:

- ❑ *Prevent groundwater contamination through proactive measures such as source water assessments, vulnerability assessments, and wellhead protection measures.*
- ❑ *Identify groundwater contaminants which might impact existing or potential drinking water sources.*
- ❑ *Work with: (a) Wastewater Reuse personnel to ensure that groundwaters are protected; and*
  (b) HEER and EPA CERCLA personnel to ensure that groundwater contamination is contained and not allowed to migrate into drinking water sources.

Proactive measures to protect groundwater

Safe Drinking Water Branch Legal Authority

Federal Law

- ***Safe Drinking Water Act of 1974 (P.L. 92-523)***
- ***Safe Drinking Water Act Amendments of 1986 (P.L. 99-339)***
- ***Lead Contamination Act of 1988***
- ***Safe Drinking Water Act Amendments of 1996 (P.L. 104-182)***

State Law

(Hawai`i Revised Statutes - HRS)

- ***HRS Chapter 304E - Safe Drinking Water***
- ***HRS Chapter 340F - Hawai'i Law for Mandatory Certification for Operating Personnel in Water Treatment Plants***

Federal Regulations

- ***Code of Federal Regulations, Title 40, Parts 141-147 - National Primary and Secondary Drinking Water Regulations; and Underground Injection Control Program Requirements, Criteria and Standards***

State Regulations

- ***Hawai`i Administrative Rules, (HAR) Title 11, Chapter 19 - Emergency Plan for Safe Drinking Water***
- ***HAR, Title 11, Chapter 20 - Potable Water Systems***
- ***HAR, Title 11, Chapter 21 - Backflow and Cross-Connection Control***
- ***HAR, Title 11, Chapter 23 - Underground Injection Control***
- ***HAR, Title 11, Chapter 25 - Certification for Operating Personnel in Water Treatment Plants***

Backflow and cross-connection control

Objective K. Backflow & Cross-connection Control

Eliminate connections between drinking water systems and systems containing non-potable water.

Strategies:

- ❑ *Guard against cross-connections in public water systems through participation in training events and investigation of occurrences of backflow.*
- ❑ *Administer a certification program for backflow prevention devices and testers.*

Objective L. Rainwater Catchment Systems

Administer technical assistance program and a monitoring program for lead and copper in homes served by rainwater catchment systems.

Strategies:

- ❑ *Develop: (a) a non-regulatory program for rain-water catchment owners/users; and (b) an informational brochure for owners/users of rain-water catchment systems to make them aware of potential water quality problems.*

Performance Measures

Branch administration works to maintain primacy

Objective A. Administration

Performance Measures:

- ❑ *Maintain primacy for enforcement of safe drinking water regulations through adoption of state rules.*
- ❑ *Number of public outreach activities held.*
- ❑ *Number of national primary regulations not yet adopted.*
- ❑ *Number of viable funding sources identified.*
- ❑ *Existence of an up-to-date statewide emergency plan for safe drinking water.*

Objective B. State Revolving Fund Program

Revolving fund is evaluated

Performance Measures:

- ❑ *Number and value of loans issued or funds committed under the State Revolving Fund to public water system improvement projects.*
- ❑ *Financial security of the fund.*
- ❑ *Number of community drinking water systems (and population served) that provide drinking water that meets all standards as a result of implementing the Drinking Water State Revolving Fund. (projects and set-aside funds). (EPA Core Performance Outcome)*

Objective C. Capacity Development

Systems measured for technical, managerial and financial resources

Performance Measures:

- ❑ *Number of new public water systems evaluated for TMF (technical, managerial, and financial resources).*
- ❑ *Number of new public water systems determined to lack sufficient TMF.*
- ❑ *Number of public water systems corrected to achieve TMF.*

Objective D. Water Treatment Plant Operator Certification Program

Treatment plant operator certification

Performance Measures:

- ❑ *Number of drinking water treatment plant operators certified in the current year.*
- ❑ *Number of drinking water treatment plant operator training courses conducted.*

- ❑ *Number of applications received for certification of drinking water treatment plant operators.*

Objective E. Consumer Confidence Reports

Performance Measures:

Consumer confidence

- ❑ *Number of water suppliers issuing consumer confidence reports by October 1999.*
- ❑ *Number of Consumer Confidence Reports training sessions held or attended.*
- ❑ *Number of inquiries related to drinking water quality as the result of the issuance of consumer confidence reports.*

Objective F. Engineering Section

Performance Measures:

Engineering Section measures

- ❑ *Number of new sources of potable water serving public water systems reviewed and approved.*
- ❑ *Number of new treatment plants reviewed and approved.*
- ❑ *Number of public water systems which have not submitted proposals for treatment to reduce lead or copper concentrations in first flush water.*

Objective G. Compliance Section

Performance Measures:

Compliance Section measures

- ❑ *Percentage of persons served by systems complying with all drinking water standards.*
- ❑ *Number of persons served by water systems under formal enforcement orders.*

Objective H. Monitoring Section

Performance Measures:

Monitoring Section measures

- ❑ *Number of sanitary surveys conducted in the current year.*
- ❑ *Number of detections of new chemicals appearing in a water system.*

Objective I. Underground Injection Control Program

Performance Measures:

UIC Program measures

- ❑ *Primacy attainment for the UIC Program.*
- ❑ *Use and number of different classes of UIC permits issued.*
- ❑ *Contaminations as a direct result of injection well activity.*
- ❑ *Fines collected from penalties due to noncompliance with permit conditions or regulations.*
- ❑ *Number of NFOV and administrative orders issued to non-complying UIC permittees.*
- ❑ *Percent of UIC staff time spent on field inspections.*
- ❑ *Revision of current Chapter 11-23, HAR to include drywell permit by rule.*

Objective J. Groundwater Protection Program

Performance Measures:

- ❑ *Number of sources with delineated source water protection areas.*
- ❑ *Number of drinking water sources with complete source water assessments.*
- ❑ *Number of non-drinking water groundwater sources tested.*

Objective K. Backflow & Cross-connection Control

Performance Measures:

- ❑ *Number of cross-connection incidents identified and corrected in the year.*
- ❑ *Number of backflow prevention devices*

Threats to drinking water quality are growing in step with population increas - es, and evidence of contamination by past practices con - tinues to emerge. Our small land area dictates that protect - ed and potentially contaminating activi - ties be located near each other, and at the same time the public is demanding more services cover - ing a wider range of drinking water sys - tems and sources.

Objective L. Rainwater Catchment Systems

Performance Measures:

- ❑ *Number of responses to questions concerning rain-water catchment systems.*
- ❑ *Number of tests of rain-water catchment systems for lead and copper.*

Future Issues

Threats to drinking water quality are growing in step with population increases, and evidence of contamination by past practices continues to emerge. Our small land area dictates that protected and potentially contaminating activities be located near each other, and at the same time the public is demanding more services covering a wider range of drinking water systems and sources.

1. *New contaminants arising from past practices are still being discovered. For instance, past use of certain pesticides has resulted in contamination years later. In recent years, the banned pesticides chlordane and dieldrin are the most notable of the contaminants identified in drinking water. Prior to that, dibro- mochloropropane, ethylene dibromide, trichloropropane, tetrachloroethylene, trichloroethylene, and atrazine contamination was addressed by the Branch. At the present time, we can do little other than require treatment of the contami- nated water.*

2. *Future national drinking water regulations should recognize the unique hydroge- ological conditions in Hawai'i. We have significantly different problems needing different solutions than do states on the North American continent. When EPA proposes regulations, it is our job to make sure Hawai'i's needs are taken into account. Both our relatively small population and our lack of physical size make it very hard to be heard on a national level.*

3. *Implementation will be needed for future drinking water regulations and pro- grams. There are a large number of regulations and programs yet to be enacted by the EPA that were either carried over from the SDWAA of 1986 or required under the SDWAA of 1996. These include:*

   a. *Groundwater Disinfection Rule - The Centers for Disease Control (CDC) now attributes a larger number of illnesses than previously estimated to drinking water consumption. Estimates of one million or more have been made for ill- nesses caused by poor drinking water quality. This rule is currently under development by the EPA and is intended to define conditions under which dis- infection of groundwaters will be required. At the present time, only water suppliers which use surface water sources are required to disinfect the water they distribute.*

   b. *Enhanced Surface Water Treatment Rule - After the promulgation of the Sur- face Water Treatment Rule in 1989, outbreaks of Cryptosporidium occurred in Carrollton, Georgia and Milwaukee, Wisconsin, and other public water sys- tems which had filtration plants. EPA has decided to gather additional informa- tion through increased monitoring requirements on large public water systems (Information Collection Rule, [ICR]), and use this information as the basis for the Enhanced Surface Water Rule, which would call for upgrading filtration capabilities to remove Cryptosporidium.*

Groundwater Disinfection Rule

c. *Radon Rule - The primary contaminant target for this rule is radon, a colorless, odorless gas that accumulates in buildings. Radon is believed to be the second leading cause of lung cancer, although far behind smoking. Even though only about one percent of a person's radon exposure is from water, and the rest from air, EPA has decided that it will attempt to control drinking water sources of radon. Uranium is another new contaminant to be regulated; EPA is proposing a concentration-based standard as opposed to a radioactivity based-standard.*

d. *Arsenic Rule - There is a mounting belief that arsenic can have health effects at significantly lower levels than the current drinking water MCL. EPA is reviewing research on this possibility and is working on a regulation which would lower the arsenic standard, and may call for remedial actions.*

e. *Sulfate Rule - Sulfates are naturally occurring in drinking water and are proposed to be regulated in a different way than other inorganic contaminants. The proposal for sulfate control may be treatment for removal, but EPA would also allow an extensive and constant public notification in combination with an alternative water program for systems that have water in excess of the MCL.*

Sulfates occur naturally in drinking water

f. *Source Water Assessment Program - This program requires the assessment of all sources of drinking water serving public water systems to identify potential sources of contamination, and to evaluate the susceptibility of each source of drinking water to such contamination. The program also involves coordination of various agencies with zoning or other regulatory authority to control potentially contaminating activities, and the use of these agencies to help protect the quality of sources for drinking water systems. Extensive public involvement is required in the decision-making process.*

g. *Source Water Petition Program - This program would enable citizens to petition the Department of Health to take actions to protect specific source water sites.*

h. *Public Right to Know Requirements - These requirements are aimed at providing the public with more information about their drinking water. It requires public water system owners/operators to publish annual reports on any water quality analyses performed for the system in the previous year. In addition, other public notice requirements are described.*

The Centers for Disease Control (CDC) now attributes a larger number of illnesses than previously estimated to drinking water consumption. Estimates of one million or more have been made for illnesses caused by poor drinking water quality.

Public Right-to-Know

4. *There are a number of current trends which may affect the quality of water in potable water systems. One of the most prevalent, which is driven by the need to conserve water resources, is the use of dual water systems. Use of dual water systems often brings non-potable water into close proximity, if not direct contact, with potable water systems. Without adequate protection, non-potable water has been known to intrude into potable water lines. Other activities which must be carefully tracked include wastewater reuse to prevent source contamination, and the Superfund clean-up requirements, which currently allow groundwater contamination to occur during the process of assessing clean-up needs.*

5. *The Branch must work to assure that there are adequate sources of funding to support all activities required in the future by:*

a. *Tracking and assessing all new EPA drinking water initiatives to determine the extent of State involvement and the need for resources.*

b. *Petitioning the Hawai'i State Legislature for sufficient funding to carry out our mission.*

c. *Working to ensure that primary enforcement activities are met, which determines the State's eligibility for federal Public Water System Supervision Program Grant funds.*

d. *Ensuring that Legislative proposals for expansion of drinking water requirements or institution of new programs are adequately funded. This issue includes work on non-public water systems such as rain-water catchment systems.*

6. *Development of laboratory capability within the State Laboratories Division to analyze more drinking water parameters.*

7. *Development of an operator certification program which is recognized by the EPA.*

8. *Training/testing of sufficient numbers of drinking water treatment plant operators to meet the treatment needs of the state's water systems.*

9. *Respond to public and legislative pressures for greater Safe Drinking Water Branch involvement with systems which use rain-water as their source.*

10. *Identify the specific sources of groundwater contamination in order to appropriately contain and remediate the contamination.*

11. *Acquire primary enforcement authority (primacy) for the UIC Program from the U.S. Environmental Protection Agency.*

12. *Manage limited resources to administer current responsibilities.*

13. *Manage the extensive additional public outreach requirements set by EPA.*

14. *Respond to water system emergencies to provide people in the area access to the best possible water quality during and after man-made or natural disasters.*

Clean Water Branch Strategic Plan

Background

Historical Perspective

Federal Laws and Regulations

Clean Water Act passed in 1972

Congress passed the federal Water Pollution Control Act which, with subsequent amendments, is commonly referred to as the Clean Water Act (CWA), in 1972 (P.L. 92-500). The preamble to the CWA states that the goal of the Act is to ensure that the nation's waters are "fishable and swimmable." The 1987 Federal Water Quality Act Amendments (P.L. 100-4) placed new emphasis on nonpoint source pollution management and contained specific requirements and responsibilities for state nonpoint source pollution programs, including submittal of a Nonpoint Source Assessment Report and a Management Plan to the U.S. Environmental Protection Agency (EPA) for approval.

Apoha the o'opu

Apoha the o'opu, the state's water quality mascot, educates children of all ages about the importance of water quality and how everyone can play a role in keeping Hawai'i's water clean.

The Coastal Zone Act Reauthorization Amendments of 1990 required Hawai'i, as one of the states with a federally-approved coastal zone management (CZM) program, to develop and implement a coastal nonpoint pollution control program, to be approved by the National Oceanic and Atmospheric Administration and the EPA. State programs must be developed jointly by the coastal zone management agency (Department of Business, Economic Development and Tourism) and the water quality agency (Department of Health, DOH).

State history

Hawai'i required to have nonpoint pollution control for coastal areas

The Hawai'i water pollution control program began in the late 1960's in the Sanitary Engineering Branch of the Department of Health. This Branch included the water pollution control program, wastewater treatment facility construction grants program, and drinking water and swimming pool approval programs, and was staffed by four engineers and five environmental health specialists. In 1973, the Hawai'i

State Legislature formally established the water pollution control program through Act 100, which was codified as Chapter 342, Hawai'i Revised Statutes (HRS), "Environmental Quality. Then, in November of 1974, EPA delegated the administration of the National Pollutant Discharge Elimination System (NPDES) Permit program in Hawai'i to DOH. The NPDES program is the national program for controlling point source discharges of pollutants to waters of the State through uniform permitting procedures.

Early operational changes

In 1978, the Environmental Protection and Health Services Division (EHSD) of the DOH separated the media programs into functional branches; water pollution control program responsibilities were divided between the Pollution Technical Review and Pollution Investigation and Enforcement Branches. In 1981, the Pollution Technical Review Branch of the DOH was subdivided into the Environmental Permits Branch and the Construction Grants Branch. The latter program became responsible for the construction grants program and the review and approval of wastewater treatment works for domestic and animal waste systems. In another reorganization in 1989, the environmental management programs were grouped into the Environmental Management Division, and the functional branches reorganized into media-specific branches, including the newly-named Clean Water Branch. Also in 1989, Act 212 separated Chapter 342, HRS, into media-specific statutes, thus establishing Chapter 342D, "Water Pollution."

Erosion control Hawai'i's first attempt to control nonpoint source pollution

In 1974, passage of Act 249 represented Hawai'i's initial attempt to address nonpoint source pollution problems by instructing each of the counties to develop an ordinance requiring grading permits for erosion control in urban areas. In response to Clean Water Act requirements, each of Hawai'i's counties, with assistance from the DOH, developed CWA Section 208 Water Quality Management Plans (mid and late 1970s). The plans were initially approved by the EPA in 1979 and 1980, and updated in 1993 to include the Federal, State, and County roles in managing water pollution.

CLEAN WATER BRANCH

GOALS:

TO ENSURE THAT HAWAI'I'S COASTAL WATERS ARE SAFE AND HEALTHY FOR PEOPLE, PLANTS AND ANIMALS.

TO PROTECT AND RESTORE THE QUALITY OF HAWAI'I'S STREAMS, WETLANDS, ESTUARIES AND OTHER INLAND WATERS FOR FISH AND WILDLIFE, RECREATION, AESTHETIC ENJOYMENT AND OTHER BENEFICIAL USES.

In 1990, Act 298 and other acts established authority for the Hawai'i Administrative Rules (HAR), Chapter 11-55 (formerly Chapter 37), "Water Pollution Control," and HAR Chapter 11-54 (formerly Chapter 37-A), "Water Quality Standards." In November of 1990, Hawai'i's Nonpoint Source Water Pollution Management Plan and Hawai'i's Assessment of Nonpoint Source Pollution Water Quality Problems were completed. Then in 1993, Act 345 established the authority for a Nonpoint Source Pollution Program in the Department of Health through HRS, Chapter 342E, Non Point Source Management and Control. Currently (1998), Hawai'i is seeking to obtain approval of its Coastal Nonpoint Pollution Control Program: Management Plan which was prepared by the Hawai'i Coastal Zone Management Program in collaboration with the DOH.

Hawai'i nonpoint source management plan awaits approval

Organizational Structure

The Clean Water Branch is structured to implement and maintain the Statewide Clean Water Program for recreational and ecosystem protection through services including engineering analysis and permitting, water quality monitoring and investigation, water quality violation enforcement, and polluted runoff (i.e. nonpoint source pollution) control management.

Engineering Section

- *Administers the: (a) National Pollutant Discharge Elimination System (NPDES) permit program for discharges of wastewater from new, old, or modified point sources from municipal, industrial and federal facilities;*
  (b) NPDES permit program for discharges of storm water from municipal systems and industrial facilities; and
  (c) federal Small Business Loan Program for the U.S. Environmental Protection Agency.
- *Issues Clean Water Act Section 401 Water Quality Certifications for federal permits for construction in near-shore and inland waters.*
- *Oversees the City and County of Honolulu in administering the Publicly Owned Treatment Works Pre-Treatment Program.*

Monitoring Section

- *Identifies sources of water pollution through area surveillance, routine inspections, and complaint investigations.*
- *Evaluates the impact of water pollutants on public health; determines compliance with rules via source testing, water sampling, and special studies; submits data that appear to indicate non-compliance to the Enforcement Section.*

Enforcement Section

- *Analyzes water quality and operational data to determine degree of non-compliance.*
- *Determines: (a) compliance with permit conditions via site inspection, source testing and special studies; and*
  (b) corrective measures through administrative or court actions. Coordinates with the Wastewater Branch in enforcement cases regarding wastewater treatment plants (i.e. the program which initially finds the violation takes the lead on enforcement actions).

Polluted Runoff Control Program

- *Fosters partnerships with other agencies involved in nonpoint source pollution control. Partner agencies include: the State Departments of Business, Economic Development & Tourism (DBEDT); Agriculture (DOA); Land & Natural Resources (DLNR); the U.S. Natural Resource Conservation Service (NRCS); the National Oceanic and Atmospheric Administration (NOAA), which is the parent organization for the University of Hawai'i Sea Grant Program; and the*

Ala Wai Canal cleanup starts in mountains

Because the Ala Wai Canal is a center of recreation, the DOH initiated a community-based effort to clean up the canal through managing the watershed above.

NPDES Permits Granted, by Permit Type

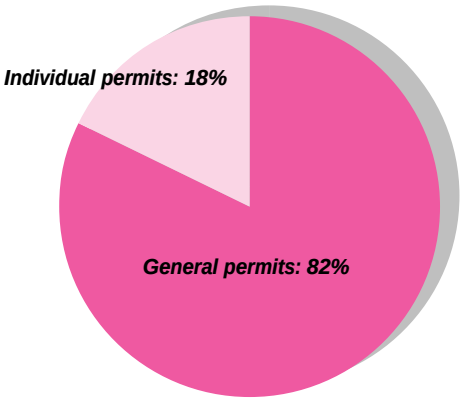


Figure 21.

Community-based watershed management

U.S. Environmental Protection Agency (EPA). We also have partnerships with local organizations such as the Hawai'i Association of Conservation Districts (HACD).

- ❑ *Promotes community-based watershed management through education and voluntary compliance with environmental management standards.*
- ❑ *Provides federal funding for demonstration of best management practice (BMP) projects from the public and private sectors relating to non point source control.*
- ❑ *Encourages and supports programs for environmental education.*

Preventing polluted runoff

The Clean Water Branch sponsors many projects to reduce polluted runoff. The integration of aquaculture with taro farming means that aqua - culture effluent is not wasted, but used as fertilizer for the taro lo'i.

Strategic Issues

Program Mission

The mission of the Clean Water Branch is to protect the public health of residents and tourists who recreate in and on Hawai'i's coastal and inland water resources, and to also protect and restore inland and coastal waters for marine life and wildlife. The mission is to be accomplished through statewide coastal water surveillance and watershed-based environmental management through a combination of permit issuance, monitoring, enforcement, sponsorship of polluted runoff control projects, and public education.

Challenges

Protection efforts must be integrated

Given the diversity, complexity, and scope of the environmental problems of concern today, it is critical that efforts to protect the environment are better integrated and more focused on opportunities for environmental improvement than in the past. Integration means that risks associated with current environmental problems need to be assessed and efforts targeted at the most serious problems. The major new challenges foreseen for the next 5-10 years are in the area of polluted runoff control.

Watershed Management Initiatives

Watershed management still evolving

The role that the Clean Water Branch plays in initiating and/or encouraging watershed management activities is still in its infancy (see Objective 6). Each watershed has a different community composition and different environmental problems. Identifying the common interests of the stakeholders in the community and rallying them to volunteer time to a particular long-term cause is a challenge. Major challenges still exist to accomplish and expand watershed management initiatives statewide. For example, the Ala Wai Canal Watershed Project supports and empowers a nonprofit organization as a partner to work with the community to identify and implement polluted runoff control projects necessary to achieve common environmental management goals of both communities and agencies.

Partnering with commu - nity groups

New Statewide Monitoring Strategy

The success of the Clean Water Program is measured by monitoring surface water quality throughout the State. At this time, the statewide monitoring strategy is being completely revised (see Objective 3). Major components of the new monitoring program plan will be:

- *Routine monitoring of public beaches, followed by management action when bacteria levels are significantly above water quality standards;*
- *Collection of surface water chemistry data to determine if long-term trends in water quality are present; and*
- *Assessment of the condition of the State's streams and watersheds.*

These data are used to prepare reports required by EPA: the CWA Section 303(d) List of Water Quality-Limited Segments, and the CWA 305(b) Report on the State of the State's Waters. Data are also summarized and will be placed on the Clean Water Branch web site on a quarterly basis. These reports are prepared in the spring of even-numbered years and are made available to the public.

Water quality assessment

Students from a local elementary school assist the department and learn about the environment through participating in a water quality assessment.

Enforcement & Voluntary Compliance

In recent years the EPA has viewed the Clean Water Branch enforcement programs as less than satisfactory. Environmental groups have taken the enforcement of federal clean water laws into their own hands by filing complaints against the City and County of Honolulu and BYU-Hawai'i in Laie. Securing additional resources will be critical to the success of the Department's enforcement program. As greater emphasis is placed on partnerships and community-based environmental protection, the Clean Water Branch must balance the need to enforce environmental laws with the need to maintain a working relationship with the regulated community (see Objectives 4 & 5).

More resources needed if department is to be successful with enforcement

Community Awareness/Education

Community-based environmental protection requires an informed public. Building community awareness and education programs also require considerable resources, both in dollars and people (see Objectives 5 & 6). The challenge will be to maximize the limited resources available to get the most and best information to the Hawai'i community.

Public environmental education

Prioritized Objectives & Strategies

Objective A. Control point source discharges by issuing appropriate NPDES permits to maintain designated uses of State receiving waters.

Control point source pollution through permitting

Strategies:

- ❑ *Administer and enforce statewide water pollution laws and rules. This objective is achieved through permitting of point sources, compliance monitoring, inspections, investigations of complaints, and ambient water quality monitoring.*
- ❑ *The NPDES permit program remains the centerpiece of the water pollution control effort for our receiving waters. The challenge for the permit program is to improve and enhance program capability by issuing individual permits according to a five-year plan, and by providing technical assistance and training.*

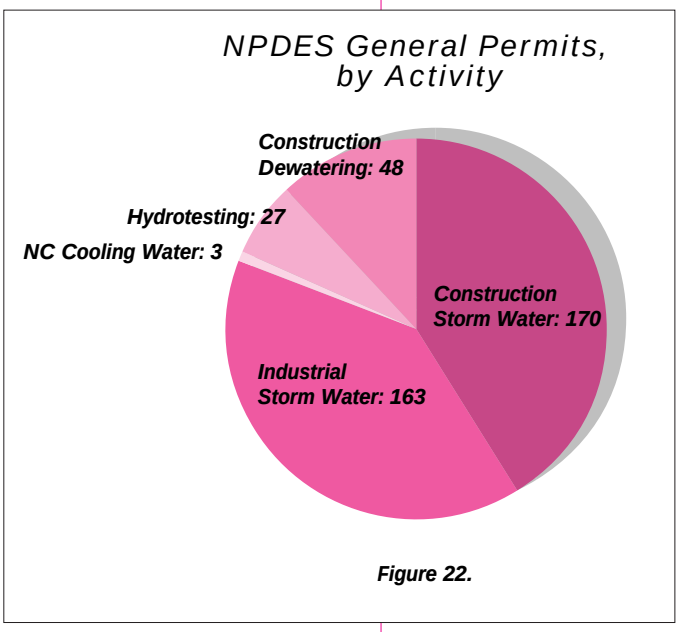


Figure 22.

Control of storm water discharges is a high priority for the EPA and the State. During 1990, the Department worked in partnership with EPA to incorporate storm water permitting authority and water quality-based standards into NPDES permits. By October, 1997, the State had to renew the General Permits for industrial storm water discharges and integrate this program activity into revisions of the five-year plan.

The latest federal mandate affecting the Clean Water Branch is contained in Section 402 (p) of the 1987 Amendments to the Clean Water Act, which requires municipalities with a population over 100,000, certain industrial facilities, and owners/operators of construction activities which disturb five acres or more to submit permit applications for the discharge of storm water. Non-storm water discharges from construction dewatering, underground storage tank remediation discharges, cooling water discharges less than 1 million gallons/day, hydrotesting water from water tanks or piping systems, effluent discharges from petroleum bulk stations and terminals, and effluent discharges from well drilling activities are also covered by General Permits. (See Figure 22.)

Additional federal requirements without additional resources

Although approximately 500 permits are currently under the jurisdiction of the Clean Water Branch for monitoring and compliance, EPA did not provide additional funding for handling the increased workload imposed by the storm water program. In addition, the EPA will be issuing new regulations for Phase II of the storm water program to cover those facilities not covered in Phase I.

Objective B. Ensure that Section 404 permitted activities will not adversely impact the designated uses of the State receiving waters.

Strategies:

- ❑ *Administer the CWA Section 401 Water Quality Certification (WQC), a requirement under the US Army Corps of Engineers' Section 404 Permit Program. A WQC is a "statement of reasonable assurance that the construction activity will comply with the applicable provisions of the State's water quality standards." Construction activities include dredge-and-fill work in our nearshore and inland waters.*
- ❑ *The key to implementation of the WQC program will be streamlining the certification process. Serious consideration will be given during the CWA 404 permit renewals to "conditionally certify" the nationwide and general permits in order to reduce processing time in the Department of Health.*

Objective C. Identify impaired water bodies and restore their designated uses.

Strategies:

Cleanup of impaired water bodies

- ❑ *Enhance the ambient Water Quality Monitoring Program to include a new monitoring effort directed towards toxic chemical monitoring to establish baseline data for the purpose of adopting standards to control waste discharges.*
- ❑ *Assess the impact of streams entering recreational beaches through a joint monitoring program with the City and County of Honolulu. Information gained on contaminates will be used to address the problem at the source.*
- ❑ *Develop: (a) protocols and resources in cooperation with the University of Hawai'i to monitor pathogens in polluted runoff and waste water. Public health will be protected through preventing exposure to those pathogens; and (b) partnerships with the community through a water quality monitoring program using volunteers from various neighborhoods in the State. Hire a volunteer monitoring coordinator and develop a work plan and budget for a fully implemented program for the nonpoint source program for selected watersheds.*
- ❑ *Prepare a biennial report on the overall condition of the state's recreational waters and submit the report to EPA. This is not a high priority activity, but is nonetheless required by EPA.*
- ❑ *Identify and prioritize, on a biennial basis and with EPA assistance, a list of Hawai'i's most polluted waters (the CWA 303(d) List of Water Quality-Limited Segments) and submit the list to EPA for review and approval. From this list the Clean Water Branch will select one or two water bodies each year and perform a pollutant analysis (termed a 'total maximum daily load,' or TMDL) to identify management measures needed to improve the quality of the listed water body.*
- ❑ *Develop a new Statewide Monitoring Strategy and watershed monitoring plan in accordance with EPA guidelines, new technologies, additional resources, and laboratory capabilities.*

Controlling pesticide runoff

Efforts to minimize the runoff of pesticides and sediment from the pineapple fields above will protect the quality of the nearby coastal waters.

Listing Hawai'i's most polluted waters

Objective D. Ensure expeditious compliance with State water pollution rules.

Strategies:

- ❑ *Maintain the high level of enforcement awareness required by the delegation of the National Pollutant Discharge Elimination System (NPDES) program. The Department must obtain additional resources to increase the number staff devoted to enforcement in order to fully implement this strategy.*
- ❑ *Implement pollution prevention strategies to reduce the incidence of permit violations. Incorporate these strategies into the permitting and enforcement functions of the branch.*

Public/private partnerships

Objective E. Control polluted runoff through public/private partnerships.

Strategies:

- ❑ *Foster partnerships with other governmental, business, and nonprofit agencies involved in nonpoint source pollution control; promote community-based watershed management through education and voluntary compliance; provide federal dollars for demonstration projects relating to non point source control; encourage and support programs for environmental education; and promote pollution control projects in watersheds with water bodies that have been designated as impaired. Successful demonstration projects are promoted to encourage landowners to apply the same techniques as best management practices.*
  - ❑ *Work with partners in: (a) reducing runoff of contaminants (e.g. oil, asbestos, heavy metals and solvents) from roads into surface waters; (b) reducing nutrient losses from non point sources; © improving drainage design and management of storm water; and (d) reducing pollutants from emergency dewatering activities.*

Objective F. Improve water quality in priority watersheds.

Strategy:

- ❑ *Promote new watershed management initiatives, and look for opportunities to work with local community-based nonprofit organizations interested in pursuing watershed management and support their efforts.*

Objective G. Develop appropriate Water Quality Standards.

Strategies:

- ❑ *Increase the number of chemical and biological databases to develop scientifically valid criteria that will support enforcement actions.*
- ❑ *Establish institutional measures, (e.g. medical and scientific advisory committees, policies, etc.) that promote and increase DOH efforts (budgeting and funding research) on improved/innovative technologies, methods and procedures in assessment of human health risks associated with water quality.*
- ❑ *Fill data gaps on toxics.*
- ❑ *Explore additional site-specific numerical/narrative standards as needed and appropriate.*

CLEAN WATER BRANCH LEGAL AUTHORITY

FEDERAL LAW

•Clean Water Act (P.L. 92-500)
•Water Quality Act Amendments (P.L. 100-4)
• Coastal Zone Act Reauthorization Amendments of 1990

FEDERAL REGULATIONS

• Code of Federal Regulations, Title 40, Subchapter D Water Programs, Parts 122,123,124 (Subparts A&B), and 125

STATE LAW

(Hawai`i Revised Statutes - HRS)
• HRS Chapter 342D - Water Pollution
• HRS Chapter 342E -Nonpoint Source Management and Control

STATE REGULATIONS

• Hawai`i Administrative Rules, (HAR) Title 11, Chapter 55 - Water Pollution Control

Develop appropriate standards

Performance Measures

Control discharges through permitting

Objective A. Control point source discharges through the issuance of appropriate NPDES permits to maintain the designated uses of State receiving waters.

Performance Measures:

- ❑ **Percentage of assessed water bodies that protect public health and the environment by meeting designated uses for fishing, recreation and aquatic life.*
- ❑ **Percentage of facilities implementing wet weather control measures.*
- ❑ *Percentage of evaluated waters free of impairment by point-source pollution.*
- ❑ *Number of permits issued.*

Objective B. Ensure that CWA Section 404 permitted activities will not adversely impact the designated uses of the State receiving waters.

Performance Measures:

- ❑ *Percentage of water bodies which have undergone CWA Section 404 permitted activities that meet designated beneficial uses.*
- ❑ *Number of certifications issued, waived, or denied.*

Objective C. Identify impaired water bodies and restore their designated uses.

Performance Measures:

Identify and restore impaired water bodies

- ❑ **Percentage change in selected pollutants found in surface waters.*
- ❑ *Number of times proactive monitoring prevented possible human exposure to unsafe water quality.*
- ❑ *Completion of a new Statewide Monitoring Strategy.*
- ❑ *Additional resources and training secured and utilized to implement the new Statewide Monitoring Strategy.*
- ❑ *Number of assessed water bodies, and TMDLs in process and completed.*

Objective D. Ensure expeditious compliance with State water pollution rules.

Performance Measures:

Ensure compliance with water pollution rules

- ❑ *Total number of major and minor NPDES facilities versus number of major and minor facilities that are in significant noncompliance (SNC) with their NPDES permit conditions. [SNC: 40 CFR 123.45 Violations of permit effluent limits that exceed the Appendix A "Criteria for Noncompliance Reporting in the NPDES Program".]*
- ❑ *Number of violation letters issued to NPDES-permitted facilities and to facilities without NPDES permits.*
- ❑ *Number of civil referrals sent to the Attorney General; number of civil cases filed; number of civil cases concluded and penalties assessed and collected.*
- ❑ *Number of criminal referrals filed in State Court; number of criminal referrals concluded and penalties assessed and collected.*
- ❑ *Number of NPDES permittees inspected.*

CLEAN WATER BRANCH
CURRENT ANNUAL FUNDING

STATE GENERAL FUNDS	***$896,850***
FEDERAL GRANT FUNDING	***$1,047,000***
TOTAL FUNDING	***$2,043,850***

Objective E. Control polluted runoff through public/private partnerships.

Performance Measures:

- ❑ *Percentage of evaluated waters free of impairment by nonpoint source pollutants.*
- ❑ *Number of innovative/demonstration projects, including volunteer programs.*
- ❑ *Number of community or agency based committees formed to address polluted runoff.*

Objective F. Improve water quality in priority watersheds.

Performance Measures:

- ❑ *Number of new watershed management initiatives in the state.*

Objective G. Develop appropriate Water Quality Standards.

Performance Measures:

- **Percentage of assessed rivers and estuaries with healthy aquatic communities.*
- *Adoption of new Water Quality Standards.*
- *Status of the triennial review of Water Quality Standards.*

(These measures have been designated 'Core Performance Measures' by EPA, and will be tracked by the DOH and reported both locally and nationally.)*

Wastewater Branch Strategic Plan

Background

Historical Perspective

State's early wastewater program

Prior to 1974, the wastewater management program was implemented by the Environmental Protection and Health Services Division, Sanitary Engineering Branch, which was responsible for coordinating the Federal Wastewater Construction Grants Program with the Federal Water Pollution Control Agency. In 1974, the Sanitary Engineering Branch was reorganized into the Pollution Technical Review Branch, which consisted of three project management sections. Two sections were responsible for the water pollution control permit program and the air pollution control permit and solid waste programs; the third section retained responsibility for the wastewater regulatory program. The latter section also coordinated with the EPA to implement the Wastewater Treatment Works Construction Grants Program, which was significantly expanded with the passage of the Water Pollution Control Act of 1972.

Wastewater can be reclaimed and reused

Reclaimed wastewater is used to irrigate pasture land in Maunaloa, Molokai.

In 1978, the Legislature passed Act 169 which authorized a mandatory certification program for all public and private wastewater treatment plant operators. Although a State Board was established to implement the new law, the Wastewater Treatment Works Construction Grants Branch was given the responsibility of providing administrative support and oversight for the certification program. By 1981, the section of the Pollution Technical Review Branch overseeing the water pollution control permit program was elevated to 'branch' status after delegation of the Wastewater Treatment Works Construction Grants Program to the State of Hawai'i by the EPA. The new branch, the Wastewater Treatment Works Construction Grants Branch, retained oversight for the State's overall wastewater regulatory program.

Loan program replaces grants

The Federal Water Quality Act of 1987 replaced the Wastewater Treatment Works Construction Grants Program with the State Revolving Fund Program. Subsequent to the passage of this Act, the Wastewater Branch administered a loan program rather than a grant program, although most of the original program activities were retained. Under the State Revolving Fund Program, the DOH established partnerships with the counties for construction of wastewater facilities.

County partnerships

Review and approve all new wastewater plants

In 1988, the Environmental Protection and Health Services Division was reorganized into two divisions — the Environmental Management Division (EMD) and the Environmental Health Services Division (EHSD). The Wastewater Treatment Works Construction Grants Branch was placed in EMD and renamed the Wastewater Branch. The Wastewater Branch, with a staff of fifteen, implemented the delegated State Revolving Fund Program and the State's wastewater regulatory program. The objective of the grants program was to financially assist the counties in constructing wastewater treatment facilities, including review and approval of the planning, design and construction documents, and monitoring of construction activities associated with these wastewater projects. The wastewater regulatory program staff monitored existing wastewater systems and reviewed and approved all new private and public wastewater systems (excluding cesspool individual wastewater systems, which continued to be regulated by the Sanitation Branch).

Reclaimed water stored for future use

Reclaimed wastewater storage pond and pump station at Waiawa Correctional Facility.

In 1989, a Statewide Wastewater Training Center was established to provide training to operators of wastewater treatment facilities. Because the Center's programs complemented both the mandatory operators' certification program and the branch's responsibility for operation and maintenance monitoring of wastewater facilities, the Training Center was placed under the Wastewater Branch.

Major amendments (1991) to the Hawai'i Administrative Rules, Chapter 11-62, "Wastewater Systems" targeted the elimination of cesspools in favor of septic tanks. The amendments resulted in a shift in responsibilities for regulating individual wastewater systems from the Sanitation Branch to the Wastewater Branch.

In order to proactively implement wastewater management activities, the Wastewater Branch has recently concentrated on promoting wastewater reclamation, beneficial use of wastewater sludge and animal waste management programs. To implement these new initiatives, the Wastewater Branch published "Guidelines for the Treatment and Use of Reclaimed Water" (November 1993) and "Guidelines for Livestock Waste Management" (July 1996), and is in the process of obtaining delegation from the EPA for a sludge management permit program.

Promoting reclamation and animal waste management

Congress passed the Federal Water Pollution Control Act in 1972 (P.L. 92-500); the goal, as stated in the preamble, is to make the waters of the nation "fishable and swimmable." The Act, commonly called the Clean Water Act, was amended in 1977, 1981, and 1987. The 1987 amendments (Water Quality Act; P.L. 100-4) placed new emphasis on nonpoint source pollution management by requiring states to establish nonpoint source pollution programs and submit Nonpoint Source Assessment Reports and Management Plans to EPA. Subsequently, in 1990 the Coastal Zone Act Reauthorization Amendments required that states that have a federally-approved coastal zone management program develop and implement a coastal nonpoint pollution control program for approval by the National Oceanic

and Atmospheric Administration and the Environmental Protection Agency. State programs are to be developed jointly by the coastal zone management agency (Department of Business, Economic Development and Tourism) and the water quality agency (Department of Health).

Coastal nonpoint pollu - tion control

Organizational Structure

The Wastewater Branch manages the joint State-County-Federal Water Pollution Control Revolving Fund Program. The Branch also provides administrative, fiscal, engineering and construction inspection oversight to ensure that costs, schedules and technical performance standards are met during the construction of public wastewater treatment works. The Branch also regulates all new and existing wastewater treatment works pursuant to Chapter 11-62, "Wastewater Systems" of the Hawai'i Administrative Rules and administers the Statewide Operator Training Center.

The Wastewater Branch, with a total staff of 28, consists of Program Administration staff, the Training Center and three sections: the Grants Management Section, the Planning/Design Section and the Construction/Operations Section. The major activities of each section are listed below.

Grants Management Section

- ❑ *Develops and monitors loan agreements and amendments. Reviews the official loan documents for legal and administrative compliance. Develops and coordinates project expenditures and cash flow projections for Federal and State programs with federal and county officials.*
- ❑ *Interprets EPA/State loan policies and procedures for program officials, loanees and grantees. Provides authoritative assistance in connection with the policies and regulations of other agencies that impact the Wastewater Branch.*
- ❑ *Processes:*
  (a) the Federal/State construction loan offers in an orderly, prompt and efficient manner (the nomenclature "loan offer" includes loan increases/decreases and other amendments required from time to time in the overall construction loan process); and
  (b) the award of construction contracts to loanees.
- ❑ *Visits loanees to evaluate their loan program procedures and techniques, including fund and cost accounting procedures. Monitors loan operations and resolves specific problems that may arise. Makes recommendations on loan management questions.*
- ❑ *Ensures that:*
  (a) all projects are in compliance with State and Federal regulations and guidelines prior to project closeout (processes interim and final construction loan payments and performs project closeouts);
  (b) EPA promptly receives all protests and appeals, and provides EPA all infor-

WASTEWATER BRANCH LEGAL AUTHORITY

FEDERAL LAW

•Water Pollution Control Act of 1972

•Water Quality Act of 1987, Title IV, State Water Pollution Control Revolving Fund

FEDERAL REGULATIONS

• Code of Federal Regulations, Title 40, Subchapter D Water Programs, Parts 122

STATE LAW

(Hawai'i Revised Statutes - HRS)

• HRS Chapter 321-11 - Subjects of Health Regulations, Generally

• HRS Chapter 322, Nuisances, Sanitary Regulations

• HRS Chapter 342D, Water Pollution Control, and State Water Pollution Control Revolving Fund

STATE REGULATIONS

Hawai'i Administrative Rules, (HAR)

• HAR Title 11, Chapter 61-62 - Wastewater Systems

• HAR, Title 11, Chapter 65 - State Water Pollution Control Revolving Fund

Loan agreements and amendments

Assure compliance with all federal laws

mation needed for resolution of the issues; and
(c) all of the non-exempt records contained in the EPA official grant files maintained by DOH will be available for public disclosure upon request by processing requests for disclosure of the records in accordance with the Freedom of Information Act (FOIA), 5 USC 552, and EPA Regulations, 40 CFR Part 2.

- ❑ *Conducts contract compliance activities including conferences, reviews and investigations necessary to ensure compliance with all relevant federal laws and regulations, and rules and relevant orders of the Administrator of the U.S. Environmental Protection Agency and of the Secretary of the U.S. Department of Labor.*
- ❑ *Reviews and approves:*
  (a) documentation of procedures taken to procure minority business in accordance with the Minority Business Enterprise (MBE) Program, including developing quarterly reports to the EPA regarding MBE participation; and
  (b) revenue programs to ensure that each recipient of waste treatment services pays a proportionate share of the cost of operation and maintenance (including replacement), and industrial users pay that portion of the grant amount allocated to the treatment of their waste. Ensures the repayment of any loans.

Flowers help to reclaim wastewater

Hyacinth pond using reclaimed wastewater at Waiawa Correctional Facility.

Assure equitable payment by users

- ❑ *Delineates requirements for maintenance, storage and retirement of the official construction grant and loan files administered under P.L. 92-500.*
- ❑ *Responds to Congressional, State Legislatorial, and management inquiries requiring extensive research into loan and grant projects, and into application of loan and grant policies.*
- ❑ *Develops, maintains, and updates in a timely manner, specific portions of a data collection and reporting system, including the Clean Water On Line for EPA, and provides early warning of potential problems within the program.*

Planning/Design Section

Construction plans reviewed for adequacy

- ❑ *(a) Reviews and oversees the adequacy of construction plans and specifications to ensure that projects are technically sound and comply with Federal and State requirements; and*
  (b) reviews and approves value engineering proposals and reports in order to develop the most cost effective project design without sacrificing reliability or efficiency.

- ❑ *Conducts:*
  (a) pre-planning and pre-design conferences at the start of planning and design projects to develop lines of communication and discuss State and Federal requirements applicable to the project;
  (b) a biennial national Needs Survey of wastewater treatment works for the State; and
  (c) final construction inspections of all new wastewater systems to ensure that the wastewater systems are constructed in accordance with the approved plans.

Lines of communication established

- ❑ *Prepares and processes the environmental impact appraisal and any subsequent negative declaration for EPA review and approval in accordance with the NEPA requirements.*
- ❑ *Develops the annual project priority list and strategy for the commitment of all Federal and State funds, and is responsible for tracking projects. Develops and implements statewide rules and guidelines relative to the beneficial use of wastewater sludge; wastewater reclamation; and livestock waste management.*

Rules developed for wastewater reclamation

- ❑ *Reviews and approves:*
  (a) project facility plans, and assists in the review of grant and loan applications to ensure that facility plans and project design reports are consistent and compatible with the needs of the community, responsive to sound water resource and wastewater management, and are in compliance with Federal and State requirements;
  (b) documents related to sewer system evaluation and rehabilitation to ensure that the sewer systems discharging into treatment works projects for which grant applications are made are not subject to excessive infiltration/inflow;
  (c) innovative and alternative technology for implementation through an additional ten percent Federal grant, including encouraging engineering consultants to utilize low cost design, wastewater reuse and energy saving systems; and
  (d) engineering plans and specifications for all new wastewater systems, including public, private and individual wastewater systems pursuant to the Hawai'i Administrative Rule, Chapter 11-62, "Wastewater Systems."

WASTEWATER BRANCH

GOAL: TO ENSURE THAT HAWAI'I'S COASTAL WATERS AND GROUNDWATERS ARE SAFE AND HEALTHY FOR PEOPLE AND THE ENVIRONMENT.

- ❑ *Implements statewide programs on wastewater minimization which includes requiring and verifying installation of low flow plumbing fixtures in various new and existing structures.*

Statewide program on wastewater minimization

- ❑ *Provides technical as well as administrative support to the Board of Certification including database information and processing of applications for examinations, administration of examinations, reciprocity, and temporary certifications.*

Construction/Operations Section

- ❑ *Reviews and approves:*
  (a) operation and maintenance (O&M) manuals in order to ensure that documents will be appropriate for use by the operator and will comply with Federal requirements;
  (b) construction contract change orders to ensure that projects are technically sound and comply with Federal and State requirements; and

O&M manuals reviewed for compliance

(c) Plans of Operation and the adequacy of start-up services to ensure that the constructed treatment works will have the required resources, qualified operations and debugging capacity to ensure effective operation and maintenance in the quickest time possible.

❑ *Conducts:*

Operation plans reviewed for adequacy

(a) annual operation and maintenance inspections of all public and private wastewater treatment works to ensure adequate operation and maintenance of such facilities;

(b) a program of communication and inspection activities during the construction phase of each grant project to ensure that projects are constructed in accordance with the approved plans and specifications and all State and Federal requirements:

(c) pre-construction conferences at the start of construction of each project to develop lines of communications, evaluates grantees' plans for controlling construction and cost, and discuss State and Federal requirements applicable to the project; and

Annual inspections

(d) operation and maintenance inspection of all existing individual wastewater systems to ensure adequate operation and maintenance of such systems.

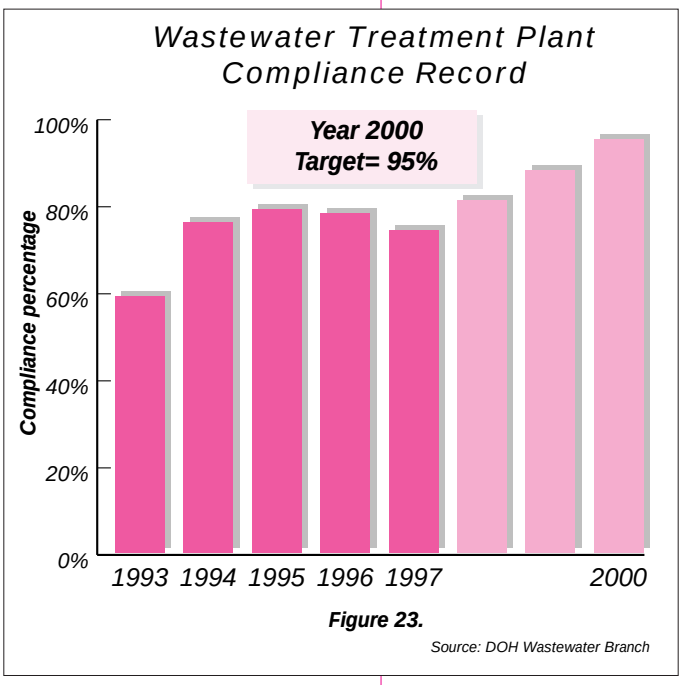


Figure 23.

Source: DOH Wastewater Branch

❑ *Coordinates with the Clean Water Branch in enforcement cases regarding wastewater treatment plants (i.e., the program which initially finds the violation takes the lead on enforcement actions).*

❑ *Coordinates activities for the operating training program and the mandatory certification of operators to ensure that Statewide operations and maintenance program needs are satisfied.*

❑ *Assists in the resolution of protests and unresolved audit findings to prevent undue project delays.*

❑ *Performs:*

(a) bidability and constructability reviews of construction plans and specifications to minimize problems during construction and the occurrence of change orders; and

(b) final inspections of completed projects in order to ensure the treatment works have been constructed in accordance with the loan/grant agreement and are being properly and efficiently operated and maintained.

❑ *Drafts enforcement documents relative to violations of Chapter 11-62 of the Hawai'i Administrative Rules, and coordinates all enforcement actions with the State Attorney General's Office.*

Coordinate enforcement with Attorney General

Training Center

❑ *Develops and implements an annual training program based on the training needs report which specifies all training courses and activities to be conducted by the Statewide Operator Training Center for each year.*

❑ *Conducts, or contracts for professional services to conduct, training for wastewater treatment plant operators.*

Funding

Federal and special funds consisting of loan fees are utilized to fund the SRF and supporting activities (17 positions). State general funds are used to support wastewater regulatory activities (11 positions).

Protection through management of wastewater

Strategic Issues

Program Mission

The mission of the Wastewater Branch is to protect public health and preserve the environment relative to our surface and underground water resources by effectively managing the collection, treatment, disposal and reuse of wastewater.

Specifically, the program will act to:

- ❑ *Promulgate and implement administrative rules to ensure the safe treatment, use and disposal of wastewater (see objective A).*
- ❑ *Oversee, support and improve the operations of regulated facilities and activities (see objective A).*
- ❑ *Provide technical assistance, education and outreach to the regulated community and the general public (see objective B).*
- ❑ *Take aggressive enforcement actions whenever necessary to protect the public health and the environment (see objective A).*
- ❑ *Promote and encourage reclamation of wastewater and wastewater sludge (see objective C).*

WASTEWATER BRANCH
CURRENT ANNUAL FUNDING

STATE GENERAL FUNDS	$457,557
STATE REVOLVING LOAN FEES	$700,000
FEDERAL CLEAN WATER STATE REVOLVING FUND CAPITALIZATION GRANTS	$1,932,285
FEDERAL CONSTRUCTION MANAGEMENT ASSISTANCE GRANT	$60,000
TOTAL FUNDING	$3,149,842

Promoting reclamation

Challenges

Maintenance of an adequate operation and maintenance (O&M) program for wastewater treatment facilities in spite of an ever-increasing workload.

Recently, O&M inspection workplan goals of the Wastewater Branch were not met due to an increase in the number of complaints received and responded to regarding overflowing cesspools. The number of complaints the Wastewater Branch responded to has tripled since undertaking the cesspool program in July, 1995. The Wastewater Branch were given responsibility for the cesspool program without additional staff support or resources; consequently, the increase in complaints and ensuing enforcement actions has caused an increase in priority work under the cesspool program and a decrease in attention to other program activities. Yet, the Wastewater Branch must ensure that our goals relative to the compliance of wastewater treatment facilities are met.

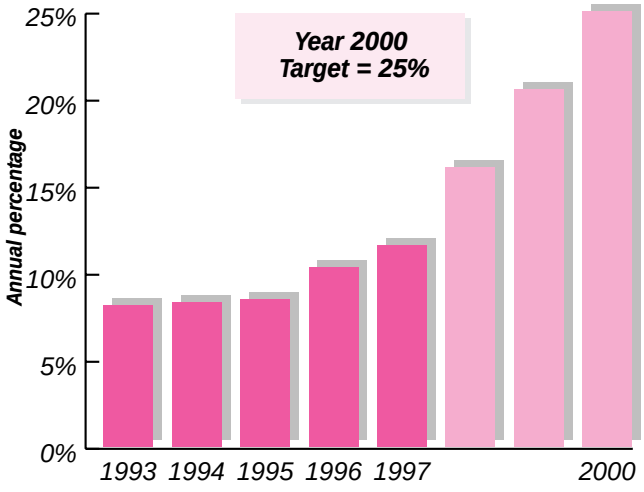


Figure 24.

Source: DOH Wastewater Branch

Promulgation and implementation of the amendments to wastewater systems rules.

The current rule, Chapter 11-62, HAR, last revised in 1991, severely restricts the construction of new cesspools in the State. This restriction resulted in a signifi-

Cesspool restrictions need to be balanced between protection and costs to public

cant workload increase for the Wastewater Branch, especially with regard to educating the general public on the need for the change as well as the need to pay for the increase in costs due to the new rules. The Wastewater Branch must continually reevaluate the rules to ensure that there is a reasonable balance between protection of public health and the environment and the costs to the public associated with the rules. At the same time, there is a need to craft amendments to the existing rules to reflect current strategy for minimizing the impacts from wastewater-related nonpoint sources of pollution.

Also, due to lack of funds to support this program, the Wastewater Branch must identify and implement only those activities that can best ensure compliance with the rules.

Promotion of wastewater reclamation and beneficial use of wastewater sludge.

Reuse of wastewater must not compromise health or environment

While the Department encourages the use of treated wastewater and sludge, the Wastewater Branch must be diligent in assuring that reuse applications will not compromise public health and the environment. The Wastewater Branch has set goals for the use of reclaimed water and beneficial use of wastewater sludge, and has developed rules and guidelines governing these reuse activities. However, frequent complaints are received from the regulated communities that the rules and guidelines are overly stringent and counterproductive to the promotion of wastewater reclamation and beneficial use of wastewater sludge. The Wastewater Branch constantly evaluate the rules and guidelines to maintain a reasonable balance between assuring the protection of public health and encouraging reclamation and use of wastewater products.

Reclaimed water treatment area

Reclaimed water is treated with chlorine before it is used to irrigate nearby pasture lands in Maunaloa, Molokai.

Assurance that adequate resources to accept delegation of the EPA sludge management permit program are provided.

Sludge program plans

Although acquisition of additional staff is highly improbable, the Wastewater Branch is still pursuing delegation of the regulatory sludge management permit program from EPA. While the benefits to the State in assuming delegation are significant, there are no federal funds to support the delegated program. Therefore, the Wastewater Branch is seeking innovative ways to design the rules and procedures of the sludge program based on the resources currently available.

Prioritized Objectives & Strategies

Objective A. Operation and Maintenance compliance of all existing wastewater treatment facilities: Achieve 95% compliance for all existing wastewater treatment works (WTW) by the year 2000.

Strategies:

- ❑ *Annually inspect all WTWs which have received a "Conditional Acceptance" or "Unacceptable" rating in the previous year.*
- ❑ *Conduct multiple inspections for WTW not receiving "Acceptable" rating during the current year, beginning in FY 1998.*
- ❑ *Issue NFVO for those WTW not in compliance.*
- ❑ *Implement an early warning system to warn owners that their WTW will soon exceed the design capacity, and to initiate plans for expansion.*
- ❑ *Finance eligible projects that would improve compliance or result in compliance through the SRF program.*

Annual inspections of conditional/unacceptable treatment plants

Reclaimation bearing fruit

Reclaimed water is also used to irrgate this fruit orchard at Waiawa Correctional Facility.

Objective B. Reduce pollutant loadings from nonpoint sources.

1. Eliminate cesspools from targeted communities such as Hilo, Kapoho/Vacation Land, Puakō, Kailua-Kona, North Shore Oahu, Hanalei, Wahikuli, Kahalu'u, etc. by the year 2002.

Strategies:

- ❑ *Give high priority for SRF funding in these areas beginning in FY 1998.*
- ❑ *Use incoming building permit applications to require upgrading of existing cesspools and failing wastewater systems.*
- ❑ *Create partnerships with counties to meet this objective, starting in FY 1998.*

Eliminaton of cesspools by 2000

2. Improve Individual Wastewater Systems (IWS) program by year 2000.

Strategies:

- ❑ *Total prohibition of cesspools by the year 2000.*
- ❑ *Conduct a public education campaign by July 1999.*
- ❑ *Implement an outreach program for owners of existing septic tanks and aerobic treatment systems to encourage them to inspect and maintain their systems; develop training for inspectors and pumpers of septic tank systems by the year 1999.*
- ❑ *Conduct joint final construction inspections of individual wastewater systems for about 10% of the new systems beginning April 1997.*

3. Finance nonpoint source projects through the SRF.

Strategies:

- ❑ *Coordinate with the Clean Water Branch annually to develop a nonpoint*

Objective: Promote wastewater reclamation and beneficial wastewater sludge use.

Increase effluent and sludge reuse to 25% of the total wastewater and sludge generated by the year 2000.

source project priority list.

- ❑ *Coordinate with the Clean Water Branch to conduct an outreach program for potential applicants for SRF financing of nonpoint source projects.*
- ❑ *Finance at least one nonpoint source project through the SRF program annually.*

Objective C. Promote wastewater reclamation and beneficial wastewater sludge use.

Increase effluent and sludge reuse to 25% of the total wastewater and sludge generated by the year 2000.

Strategies:

- ❑ *Provide SRF financial incentives for effluent and sludge reuse projects starting FY 1999.*
- ❑ *Institute policies and rules to promote reuse, including coordination with EPA.*
- ❑ *Conduct public education activities for effluent and sludge reuse.*
- ❑ *Assume delegation of the sludge management permit program from EPA by June 1999.*
- ❑ *Prepare and introduce legislation for the 1999 Legislature to adopt mandatory use of reclaimed water.*
- ❑ *Provide active technical support to owners of reuse facilities.*

Performance Measures

A. Operation and Maintenance compliance of all existing wastewater treatment facilities.

Performance Measure:

- ❑ *Percent of existing wastewater treatment plants in compliance.*

B. Reduce pollutant loadings from nonpoint sources.

Performance Measures:

- ❑ *The number of cesspools eliminated.*
- ❑ *Number of nonpoint source projects financed through the SRF annually.*

C. Promote wastewater reclamation and beneficial wastewater sludge use.

Performance Measure:

- ❑ *Actual percentage of wastewater and sludge reused.*

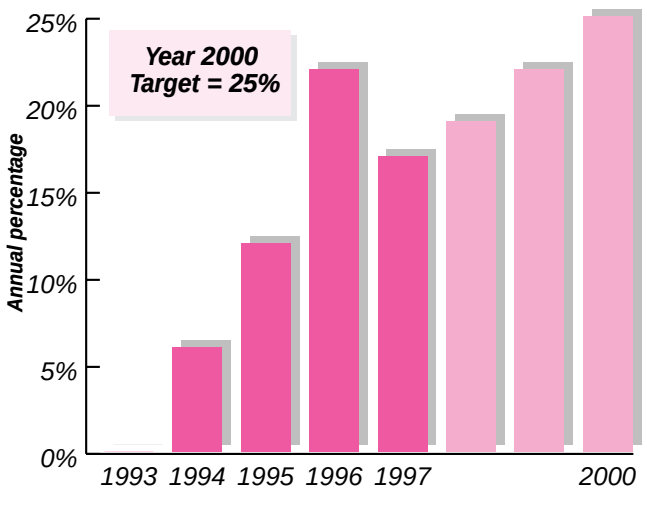


Figure 25.

Source: DOH Wastewater Branch