The Environmental Council

THE 1999 ANNUAL REPORT OF THE ENVIRONMENTAL COUNCIL STATE OF HAWAII

Environmental Report Card, 1999

An Assessment of Hawai`i's Environmental Health

- **25 indicators of environmental progress and quality in Hawai`i**
- **Recommendations to improve Hawai`i's recycling rate**
- **Agency progress report on meeting environmental goals**

1999 Environmental Progress Report Card State of Hawai'i	
Energy Use	C
Use & Recycling of Resources	C+
Biodiversity Maintenance	B-
Air Quality	C
Water Quality	B
Terrestrial Quality	B
Public Awareness & Concern	B+
Overall Progress Grade	**B-**

The Environmental Council
and the
Office of Environmental Quality Control
State of Hawai`i

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The Environmental Council

THE 1999 ANNUAL REPORT OF THE ENVIRONMENTAL COUNCIL — STATE OF HAWAII

Environmental Report Card, 1999

ENVIRONMENTAL COUNCIL 1999

Barbara M. Robeson	Chair
William S. Petti	Vice-Chair
Stephen T. Dye	
Michael Faye	
Lance Gilliland	
Harlan H. Hashimoto	
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Charles Prentiss	
Pauline Sato	
Raymond S. Tabata	
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Genevieve Salmonson	Ex-Officio, Member

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Director of Health
Genevieve Salmonson
Director, Office of Environmental Quality Control
Barbara M. Robeson
Chair, Environmental Council

Improving Hawai'i's Solid Waste Recycling Rate

Wise management of solid waste through programs of waste prevention, energy resource recovery, and recycling reduces human impact on the environment. Waste minimization, recycling and composting reduces the amount of solid waste that we send to our landfills. As stated in HRS 342G3(a), "it is the goal of the state to reduce the solid waste stream prior to disposal by 50% by January 1, 2000." However, recent data show that we have only met half our goal.

In recognition of the importance of increasing recycling to meet the goal established by the legislature, the Environmental Council urges the Governor, Legislature and government agencies to implement the following actions to improve the State's recycling rate.

1. **Support local recycling enterprises** by taking steps to establish new businesses and maintain existing companies.

2. **Establish recycling demonstration projects** to educate the public about the many recycling programs offered throughout the state. An example of a successful recycling demonstration is the recent project conducted at Aloha Stadium in conjunction with the UH football games.

3. **Implement a comprehensive recycling program** for each office, school, facility or institution. A staff person from each office should be designated and trained to oversee this recycling effort.

4. **Invest in infrastructure to recycle** or reduce wastes generated on the job. For example, agencies should invest in chippers and composting facilities to recycle green waste from tree trimming activities.

5. **Provide more funding to the Department of Health**, Office of Solid Waste Management to promote activities that will increase our recycling rate.

6. **Support the development of a market for recycled products** by buying recyclable materials and purchasing items with the highest post consumer recycled content and lowest amount of packaging, even when procuring these items cost more.

7. **Use glassphalt for paving roadways**. Use of crushed recycled glass to pave roads has been successful throughout the nation. Presently, Hawaii has an oversupply of recycled glass that could be used for glassphalt.

8. **Create preference for non polluting recycling activities** in State land bids and leases.

9. **Amend definition of maritime business to include recycling** so that recycling businesses within State Harbors land can sign long term leases and thereby secure capital to expand or upgrade their facilities.

10. **Provide funds for market development research** and development of value-added recycled contents products.

11. **Enforce current recycling laws**. For example, the State should enforce the recycled paper purchase requirements and glassphalt use statutes.

12. **Expand the "advance disposal fee" program** to cover a wider variety of recyclable materials such as aluminum cans and tires. Monies collected from these programs can be strategically used to increase the recycling rate of the affected materials.

Table of Contents

Introduction

This Annual Report

In this report the Environmental Council expands and refines its comprehensive listing of Hawai`i Environmental Indicators. These data are presented in tables and graphs and track the environmental health of our islands on issues ranging from government funding to oil spilled into our waters. Students, policy makers and the public can use this document to gain an objective view of our state's progress in managing the natural and urban environment.

This report contains an updated Report Card. The Council, after considering the relevance of each indicator, grades our state's progress toward meeting its goals to protect the environment.

In recognition that Hawai`i has not met solid waste recycling goals set by the Legislature, the Council surveyed experts and contacted government agencies to assemble this year's recommendations on improving Hawai`i's solid waste recycling rate.

The 1999 Annual Report presents an overview of environmental action taken by government offices across the state. Agencies are asked each year to list their environmental goals and any progress toward meeting these goals. This review of environmental activity helps policy makers and the public keep tabs on government environmental initiatives.

The Environmental Council

The Environmental Council is a fifteen-member citizen board appointed by the Governor to advise the State on environmental concerns. The Council is responsible for making the rules that govern the Environmental Impact Statement (EIS) process for the State. The Council is empowered to approve an agency's "exemption list" of minor activities that can be implemented without first preparing an Environmental Assessment (EA).

Created in 1970, the Council is empowered to monitor the progress of state, county, and federal agencies' environmental goals and policies. In a report each year, the Environmental Council must advise state policy makers on important issues affecting Hawai`i's environment.

The Office of Environmental Quality Control

The Office of Environmental Quality Control (OEQC) was established in 1970 to help stimulate, expand and coordinate efforts to maintain the optimum quality of the State's environment. OEQC implements the Environmental Impact Statement law, HRS Chapter 343. Office planners review and comment on hundreds of environmental disclosure documents each year. Twice a month the OEQC publishes ***The Environmental Notice***. This bulletin informs the public of all the projects being proposed in the State that are subject to public review and comment. At the request of the Governor, the Director of the OEQC is empowered to coordinate and direct State agencies in matters concerning environmental quality. OEQC and the Council would like to thank Caroline McCabe and Pattrick Felling of the DOH and Kay Kaminaka of OEQC for their asssistance in compiling this report.

Director's Report

Director's report

The past seven months have been a rewarding experience as director of OEQC. In light of severe financial constraints to our budget, and the ever increasing need to facilitate public participation in the environmental review process under Chapter 343, HRS, OEQC's staff have adopted positive attitudes and have dedicated themselves to fulfill the mission of OEQC.

Many exciting new projects have developed in the last few months, such as:

Building Strong Partnerships for Cultural Impact Education

Lack of knowledge and dialogue can lead to cultural and environmental disputes. Consensual decision making helps to defuse potential disputes. To promote this, OEQC has entered into a partnership with the Ahupua'a Action Alliance, the Office of Planning and the Office of Hawaiian Affairs to develop an environmental education program. The program's primary focus will be to educate agencies, businesses and civic communities on the Environmental Council guidelines for cultural impact assessment and the Hawaiian ahupua'a based participatory planning grounded in traditional Hawaiian land stewardship practices.

Growing Environmental Bulletin

Our latest addition to the bulletin is the quarterly publication of the Department of Health pollution control inspection and enforcement actions. The first page contains a chart by program area for inspections and enforcement actions. The second page is a more detailed summary of formal enforcement actions and settlements completed. As our subscription list and bulletin grows and to stay within the budget, our bulletin can also be found on our web site – www.state.hi.us/health/oegc/index.html.

Digital Documents

The EA and EIS documents will continue to evolve from paper to digital documents. We will be designing language to accommodate applicants who wish to distribute their documents in several forms such as hard paper copies, floppy disks, CD-ROMs or downloadable media from the consultant's web site.

The staff of the Office of Environmental Quality Control and I would like to take this opportunity to thank the many people in state/county agencies, our student intern Dawn Lleces and the many members of the public who assist us in our work.

Genevieve Salmonson
Director, Office of Environmental Quality Control

Environmental Documents Processed by OEQC in 1999

Type of Notice	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Draft EA	7	7	9	17	14	16	6	14	9	9	12	17	**137**
FONSI	6	9	13	16	6	13	14	9	12	14	10	11	**133**
EISPN	0	1	1	2	1	1	1	2	0	0	0	2	**11**
Draft EIS	0	0	1	0	0	3	1	1	1	2	2	0	**11**
Final EIS	2	0	0	1	1	1	0	0	3	2	0	1	**11**
EIS Acceptance	0	0	0	0	1	1	0	1	0	1	1	3	**8**
Withdrawals	1	0	0	0	0	0	1	0	0	0	1	1	**4**
NEPA Documents	3	4	3	3	1	2	2	3	2	2	0	0	**25**
Total	**19**	**21**	**27**	**39**	**24**	**37**	**25**	**30**	**27**	**30**	**26**	**35**	**340**

Council Chair's Report

The Council welcomed Genevieve Salmonson as our new OEQC director after Gary Gill moved to his new position as the Deputy Director for Environmental Health. Several Council members' terms expired and we were sorry to lose the valued participation of Louis Kanae, Michael Furukawa, and Tamar Chotzen. We were also very pleased to welcome new members Michael Faye, Philip Ohta and Charles Prentiss.

The Council would like to thank the Department of Health, Department of Business, Economic Development and Tourism, and the Ahupua'a Action Alliance for providing informational briefings to the Council on issues such as pollution prevention, climate change and ahupua'a based community participatory planning.

The Annual Report Committee was again chaired by the hardworking William Petti. Members Stephen Dye, Arnold Lum, Purnima McCutcheon, Pauline Sato and Charles Prentiss produced another outstanding Annual Report Card. The Report will be distributed in early 2000.

Ably chaired by Patricia Tummons, the Exemption List Committee continued with their ongoing review of agency exemption lists and a goal of updating lists more than ten years old. Committee members approved the County of Kauai, Department of Public Works updated list. Members Lance Gilliland, Michael Faye and Philip Ohta continued to monitor progress on the implementation of the recommendations made by the University of Hawai'i's Environmental Center in their study of EIS exemption process.

The competent Dr. Stephen Dye chaired the Education and Legislation Committee. The Committee submitted to the 1999 legislature, several bills relating to the environment. The Council and office also compiled photographs and text for flash cards on the twenty most desirable species. The flash cards have already been printed and will be distributed to school teachers for classroom instruction through the Moanalua Gardens Foundation teacher training program. Hardworking members on this committee are Dr. Harlan Hashimoto, Pauline Sato and Raymond Tabata. Led by Purnima McCutcheon, the Council also adopted "Guidelines for Sustainable Building Design in Hawaii."

Members of the public continued to attend our Council meetings providing valuable information and comments to members and staff. We greatly appreciate their continuing participation. The office is studying the possibility of holding some meetings by video conference to allow neighbor island residents to participate in Council meetings.

Barbara M. Robeson
Chair, Environmental Council

Section I

Environmental Indicators

Each year, the Environmental Council collects data on important indicators of the health of Hawai`i's environment. These data are presented in text, tables and graphs so that the public and policy makers can readily understand the status of Hawai`i's environment today. The indicators provide a comprehensive look -- from water quality to native species -- at the many faceted task of keeping Hawai`i clean and healthy.

The indicators presented in the Annual Report of the Environmental Council are organized this year in categories reflecting the principles of ecosystem sustainability. In order for an ecosystem to be sustainable, it must:

1) Use sunlight or other renewable alternatives such as wind as the source of energy
2) Dispose of wastes and replenish nutrients by recycling all elements
3) Maintain biodiversity
4) Maintain the size of human or animal populations so that "overgrazing" and overuse do not occur

It may be possible for an ecosystem to sustain itself for long periods without adhering strictly to these principles. However, sustainability in perpetuity can be achieved only if the above principles are met.

In this section the Environmental Council also grades the status of Hawai`i's environment. The Council hopes that this evaluation stimulates the public to learn about and take action to improve our environment.

Energy Use

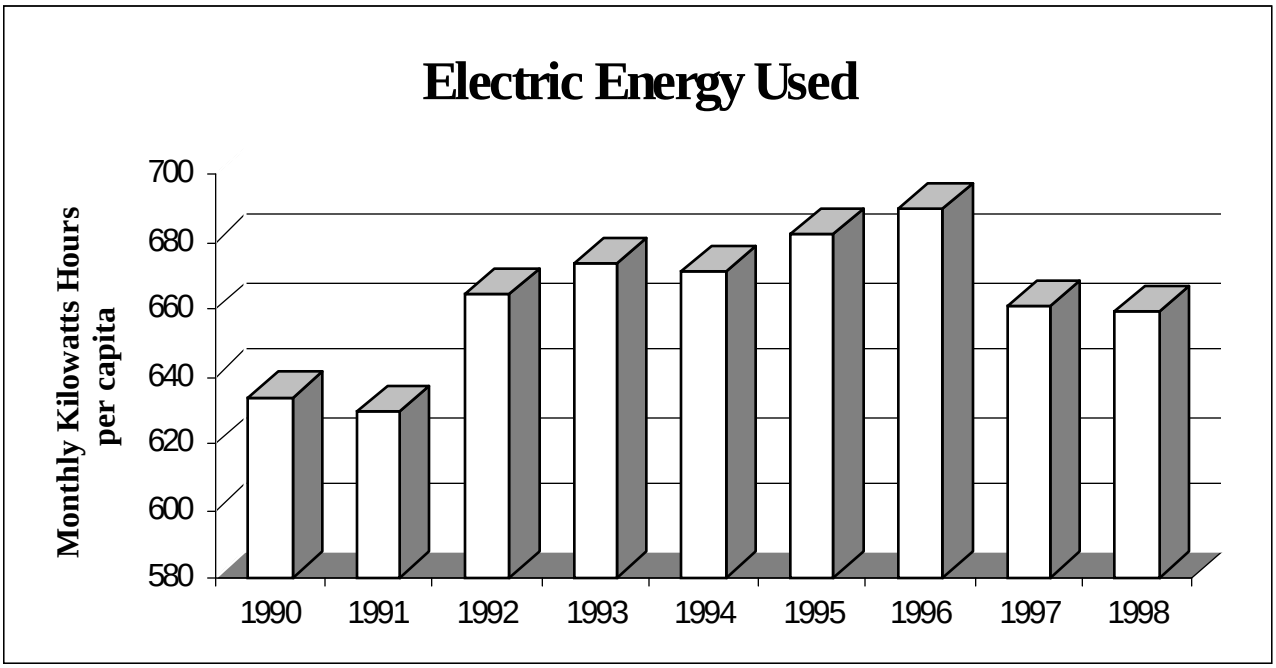
1. Total Electric Energy Used

Hawai`i depends on imported oil and coal for about 94% of its energy. Energy production from fossil fuels is a major source of air pollutants. Additionally, petroleum shipping and handling pose risks to our fragile environment. Displacing petroleum fuels with alternate or renewable forms of energy and improving energy efficiency will improve our environmental quality. We can help reduce per capita energy use by conserving energy and improving energy efficiency. A solar water heater can reduce water heating costs by 90%. The table below shows the total electric energy in million kilowatt hours (KWH) used in Hawai`i.

Table 1: Total Electric Energy Used in Hawai`i, 1990-98.

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998
Total Electric Energy Used (Million KWH)	9,566	9,610	10,104	10,219	10,341	10,563	10,740	10,424	10,455
State de facto Population	1,256,872	1,273,040	1,267,654	1,263,468	1,285,088	1,291,564	1,297,201	1,314,369	1,321,098
Monthly per capita use (KWH)	634	629	664	674	671	682	690	661	659

Source: State DBEDT, Energy Division, Energy Data Services.



Note: The vertical axis does not begin with zero.

2. Energy Produced in Hawai`i

One of Hawai`i's goals is to replace energy produced from fossils fuels with alternate and renewable sources such as solar power. The table below shows the amount of energy in trillion British thermal units (BTU) produced by source.

Table 2: Total Energy Produced in Hawai`i by Source, 1994 to 1998.

Resources	1994		1995		1996		1997		1998	
	Trillion BTU	%	Trillion BTU	%	Trillion BTU	%	Trillion BTU	%	Trillion BTU	%
Petroleum	285.5	87.2	274.0	87.0	277.1	87.7	278.3	88.0	269.1	88.9
Biomass	16.4	5.0	11.8	3.7	10.4	3.3	9.0	2.8	7.5	2.5
Solar hot water	2.3	0.7	2.8	0.9	3.1	1.0	3.1	1.0	3.1	1.0
Hydro-electric	1.5	0.5	1.1	0.3	1.1	0.3	1.0	0.3	0.8	0.3
Coal	13.6	4.2	16.5	5.2	16.9	5.3	16.8	5.3	14.8	4.9
Wind	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.1
Geothermal	1.8	0.5	2.3	0.7	2.4	0.7	2.4	0.8	2.3	0.8
Solid Waste	6.2	1.9	6.4	2.0	4.7	1.5	5.3	1.7	5.1	1.7
Total	**327.5**	**100.0**	**315.1**	**100.0**	**315.9**	**100.0**	**316.1**	**100.0**	**302.9**	**100.0**

3. Fossil Fuel Imported to Hawai`i

Fossil fuels are coal, oil and natural gas which formed inside the earth from the remains of plants and animals that lived many years ago. These fuels are burned to provide energy for making electricity, powering vehicles and cooking.

The table below shows the amount of imported fossil fuel by type.

Table 3: Total Imported Fossil Fuel into Hawai`i by Type, 1994 to 1998.

Type of Imported Fuel	1994	1995	1996	1997	1998
Crude Oil	323.9	298.2	301.9	296.4	299.6
Distillates	1.9	0	.6	0.4	3.0
Jet Fuel	6.1	4.6	20.3	30.9	20.2
Residual Fuel	2.6	5.7	6.7	-	8.5
Other	0	3.4	3.7	6.1	7.7
Coal	14.2	16.5	16.1	16.8	14.8
Total	**348.7**	**328.4**	**349.3**	**350.6**	**353.8**

Source: State DBEDT, Energy Division, Energy Data Services.
Note: Figures in trillion British thermal units (TBtu).

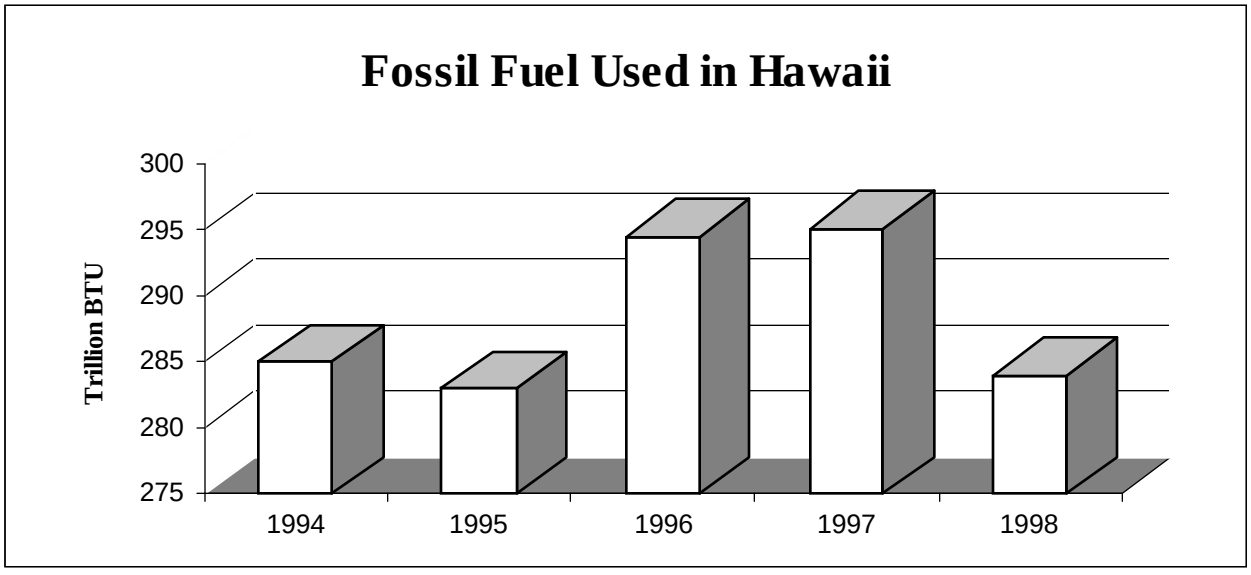
4. Fossil Fuel Used in Hawai`i

Hawai`i's over dependence upon imported oil is a major concern. In the event of a disruption in the world oil market, Hawai`i's economy and way of life would be adversely affected. Environmentally destructive oil spills are always a possibility during the transport of petroleum products. The table below shows the amount of fossil fuel used by category.

Table 4: Amount of Fossil Fuel Used in Hawai`i by Category, 1994 to 1998.

Sector	1994		1995		1996		1997		1998	
	Trillion BTU	%	Trillion BTU	%	Trillion BTU	%	Trillion BTU	%	Trillion BTU	%
Electricity Production (oil)	82.2	28.9	78.6	27.8	84.2	28.6	83.2	28.2	85.6	30.1
Electricity Production (coal)	13.6	4.8	16.5	5.8	16.9	5.7	16.8	5.7	14.8	5.2
Transportation - Ground & Water (oil)	81.5	28.6	82.1	29.0	75.9	25.8	74.0	25.1	78.8	27.8
Transportation - Air (oil)	90.0	31.6	96.5	34.1	102.4	34.8	102.7	34.8	93.3	32.9
Other Sectors (oil)	17.7	6.2	9.3	3.3	15.1	5.1	18.4	6.2	11.5	4.0
Total	285.0	100.0	283.0	100.0	294.5	100.0	295.1	100.0	284.0	100.0

Source: DBEDT, Energy Division, Energy Data Services.



Note: The vertical axis does not begin with zero.

Use and Recycling of Resources

5. Municipal Water Consumption

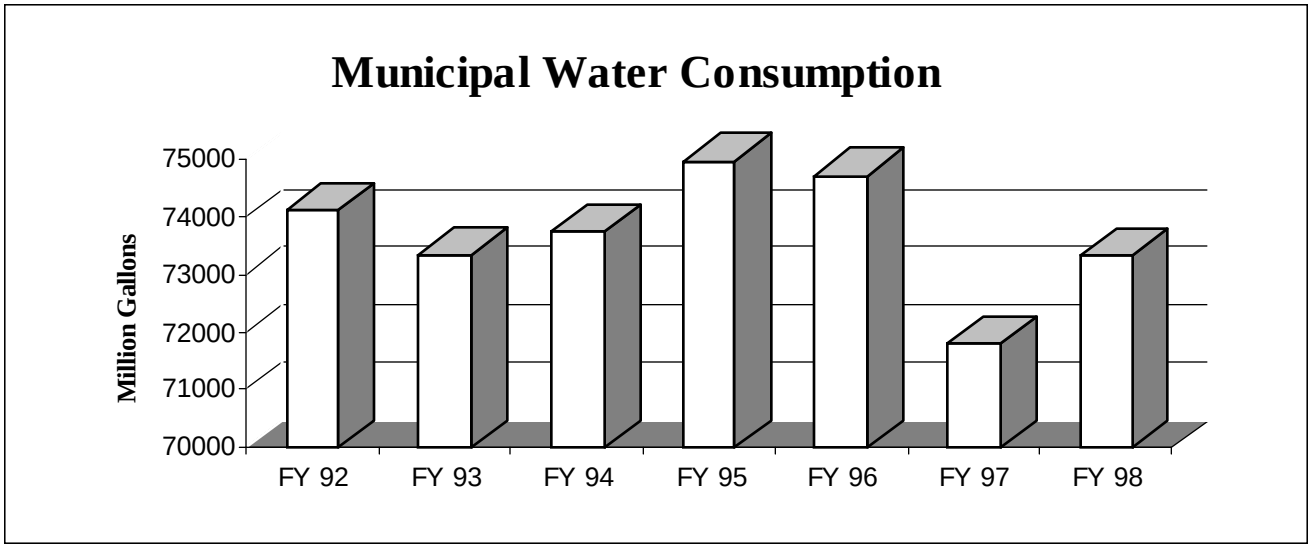
Good drinking water is one of Hawai`i's greatest natural assets. The combination of a growing population and limited potable water resources is reducing the availability and quality of our drinking water.

The table below shows water consumption through the respective municipal (county) water distribution systems. The Environmental Council's year 2002 goal for water consumption is 70,000 million gallons (MG).

Table 5: Municipal Water Consumption by County, Fiscal Years 1992 to 1998.

Fiscal Year	1992	1993	1994	1995	1996	1997	1998
Honolulu (MG)	51,241	51,033	50,407	51,006	50,682	48,613	49,265
Kauai (MG)	4,453	4,056	4,149	4,114	4,206	3,945	4,165
Hawaii (MG)	8,024	7,937	7,999	8,378	8,363	7,804	8,158
Maui (MG)	10,399	10,312	11,177	11,494	11,477	11,438	11,729
Total (MG)	**74,117**	**73,338**	**73,732**	**74,992**	**74,728**	**71,800**	**73,317**

Source: The State of Hawai`i Data Book 1998 prepared by the Department of Business, Economic Development and Tourism; Honolulu Board of Water Supply; Hawai`i County Department of Water Supply; Kaua`i Department of Water; and Maui Department of Water Supply.
Note: i) These figures include only municipal water supply. Military, private and plantation water systems are not included.



Note: The vertical axis does not begin with zero.

6. Wastewater Treatment and Reuse

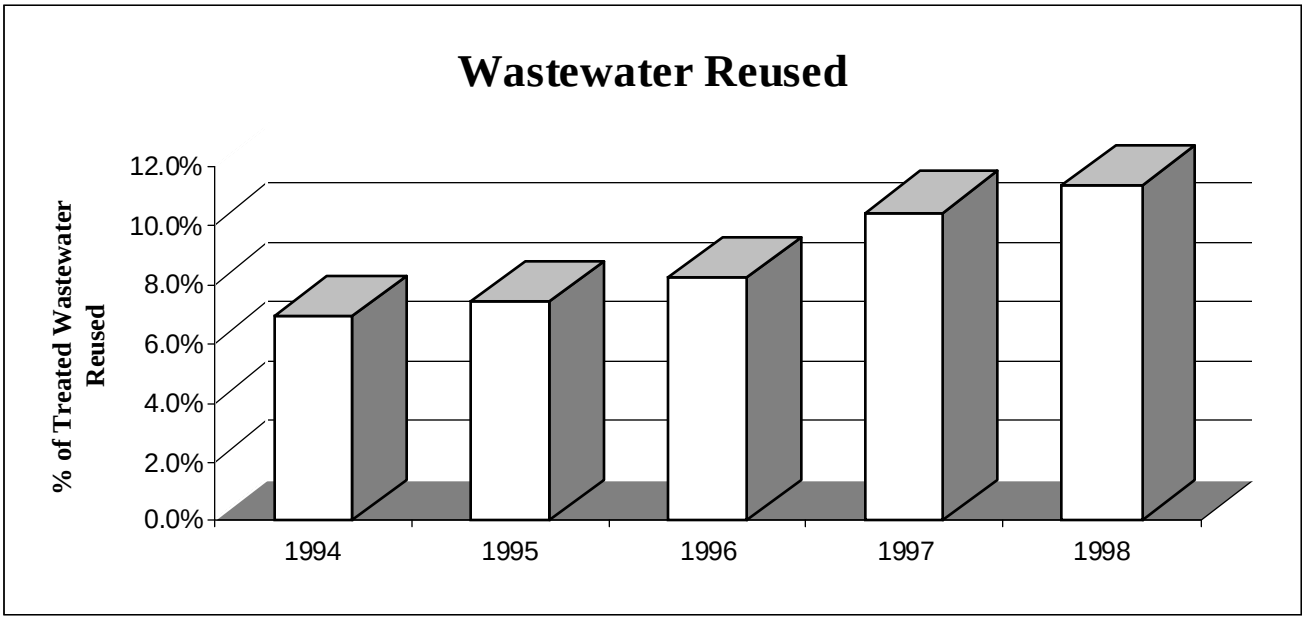
Promotion of wastewater management practices that protect, conserve and fully utilize water resources is vital for Hawai`i. One way to achieve this objective is to use water reclaimed from wastewater treatment plants for irrigation.

The table below shows the rate wastewater was treated and reused in millions of gallons per day (MGD). The Council's year 2002 goal for the percentage of treated wastewater reused is 25%.

Table 6: Total Statewide Wastewater Treatment and Reuse 1994 to 1998.

Federal Fiscal Year	Total Wastewater Treated (MGD)	Wastewater Reused (MGD)	Percentage Reused
1994	151.6	10.5	6.9%
1995	150.1	11.1	7.4%
1996	150.1	12.3	8.2%
1997	150.0	15.6	10.4%
1998	150.0	17.0	11.3%

Source: Hawaii Department of Health, Indicators of Environmental Quality, September 1999.
Note: Previous annual reports show lower treatment and reuse figures because only municipal wastewater treatment systems were included.



7. Solid Waste Generation and Diversion

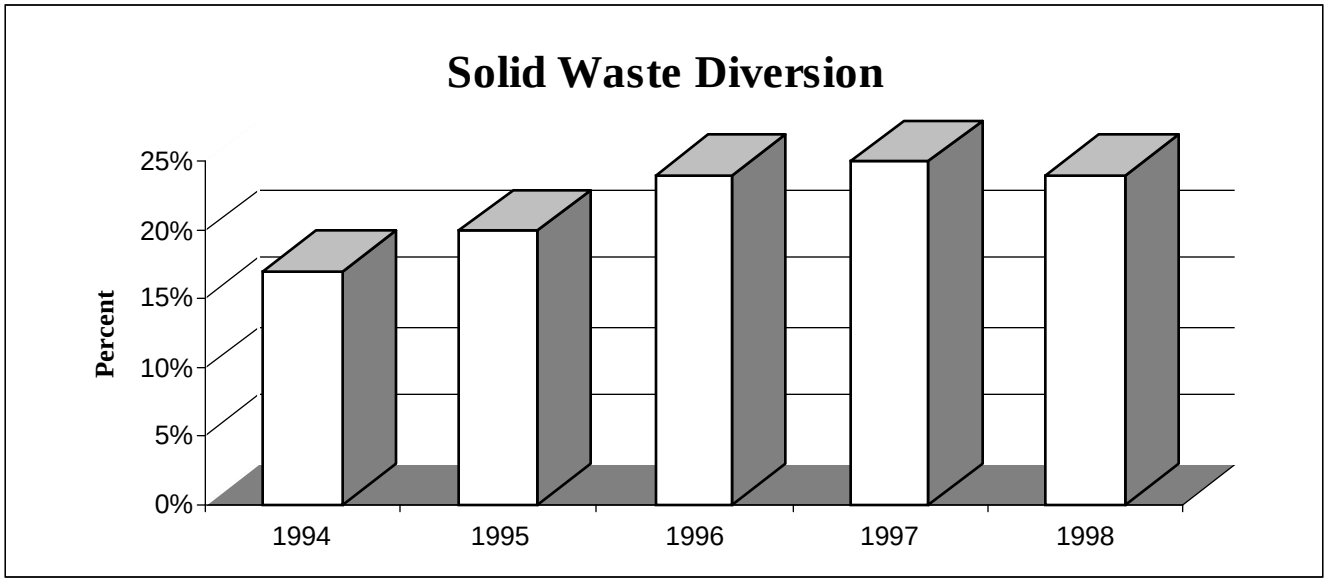
Wise management of solid waste through programs of waste prevention, energy resource recovery, and recycling reduces human impact on the environment. Waste minimization, recycling and composting also reduce the amount of solid waste that we send to our landfills. It is the goal of the state to reduce the solid waste stream prior to disposal by 50% by January 1, 2000. Recent data show that we have only met half our goal.

The following table shows the total amount of municipal solid waste generated and the amount recycled and composted. The amounts diverted do not include waste sent to H-Power for incineration and power generation. The Environmental Council's year 2002 goal for municipal solid waste generated per capita is 4.3 pounds per day.

Table 7: Solid Waste Generation and Diversion in Hawai`i, 1994 to 1998.

Federal Fiscal Year	Produced Statewide (1,000 tons)	De facto Population	Daily per Capita (lbs)	Disposed Statewide (1,000 tons)	Diverted Statewide (1,000 tons)	Percentage Diverted
1994	1,953	1,285,088	8.3	1,616	337	17%
1995	2,023	1,291,564	8.6	1,620	403	20%
1996	2,122	1,297,201	9.0	1,619	503	24%
1997	2,132	1,314,369	8.9	1,599	533	25%
1998	2,004	1,321,098	8.3	1,524	481	24%

Source: Hawaii Department of Health, Indicators of Environmental Quality, September 1999 and Department of Business, Economic Development and Tourism, Data Book 1998 (De facto Population).



8. Hazardous Waste Generated

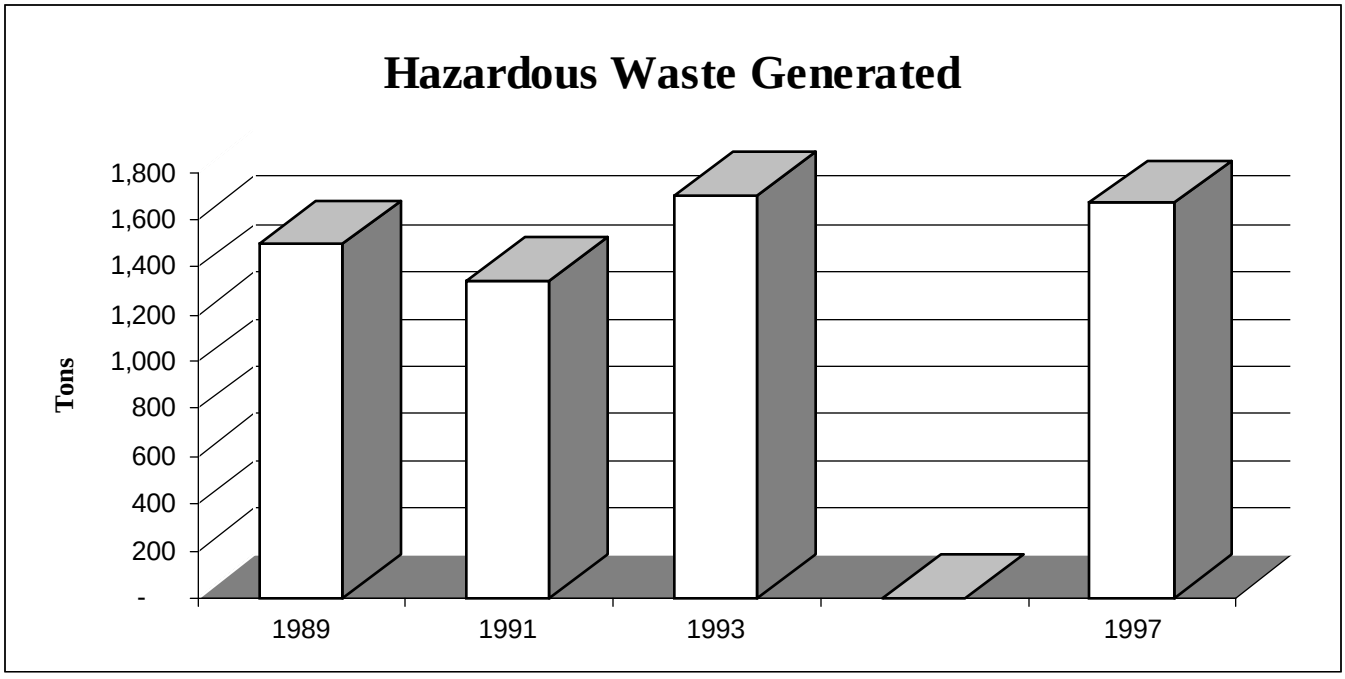
Hazardous wastes are classified as either ignitable, corrosive, reactive or toxic. These wastes have components that have been shown to be harmful to health and the environment. To protect worker safety, public health, and the environment, users of hazardous chemicals must minimize the amount of waste they generate.

State law requires large generators of hazardous waste to report biennially to the Director of Health the amount of hazardous waste generated. The following table shows the data. The Environmental Council's year 2002 goal for total hazardous waste generated is 900 tons.

Table 8: Total Hazardous Waste Generated by Large Quantity Generators in Hawai`i, 1989 to 1997.

Federal Fiscal Year	1989	1991	1993	1995	1997
Hazardous Waste Generated (in tons)	1,499	1,343	1,702	NA	1,669

Source: Hawaii Department of Health, Indicators of Environmental Quality, September 1999.
Note: i) Figures do not match previous years' annual report data as the numbers have been adjusted by the DOH.
ii) Data for 1995 are not included because the data collected by the Department of Health includes both **large and small** quantity generators.



Biodiversity Maintenance

9. Status of Plant Species

Hawai`i is the most isolated high land mass on Earth and most of our native plants are found nowhere else in the world. Species that reached the islands before the arrival of humans evolved with minimum competition. As a result, most native plants are easily damaged by feral animals and do not compete well with introduced, aggressive plants. Land use changes and exotic plants and animals cause major problems to our native species.

The table below shows the number of extinct, native and nonnative plant species in Hawai`i.

Table 9: Number of Plant Species in Hawai`i by Status, 1995 to 1998.

Year	Extinct	Number of Plant Species						
		Native (1,093)						Non-Native (Exotic)
		Rare				Total Rare	Abund-ant	
		Listed Endangered or Threatened	Proposed Endangered or Threatened	Candi-date	Of Concern			
1995	103	198	85	13	308	604	489	> 9000
1996	103	280	0	10	317	607	486	> 9000
1997	103	284	11	41	250	586	507	> 9000
1998	95	272	21	45	262	600	493	> 9000
1999	95	302	0	93	259	654	439	>9000

Source: Center for Plant Conservation - Hawai`i Office

Note: i) Native plant species are those that were established in Hawai`i before the arrival of humans.

ii) Extinct means that there are no known populations or individuals remaining in the wild or in cultivation, that the species has not been sighted in many years, and there is insufficient high quality habitat left to survey within its natural range. This designation is difficult to verify, and must be based on the projections, probabilities and estimates of our best botanical experts.

iii) Listed Endangered/Threatened status is conferred upon its final approval by the U.S. Fish and Wildlife Service (USFWS) Director, and its publication as a Final Rule in the Federal Register. A species is thus afforded special protection under the Endangered Species Act.

iv) Candidate status is authorized for a species by the Director of the USFWS after sufficient information has been gathered by botanical experts to demonstrate that a species is sufficiently rare and imperiled to qualify for federal listing. Official candidate status follows the Notice of Review, which is published in the Federal Register. The USFWS then has one year to propose an official candidate species for federal listing.

v) Proposed Endangered/Threatened status is conferred upon a species after approval by the USFWS Director and its publication in a Notice of Review in the Federal Register. The notice describes the status of a species and the nature and immediacy of the threats to its survival. The USFWS then has one year to advance the species through the final listing process, including a 30-day public comment period.

vi) Species of Concern is not an official USFWS category, but is used by professionals inside and outside of government to designate rare species that are potential candidates for listing.

vii) Rare means the species is uncommon in the natural environment. Usually, fewer than 5,000 individuals of a rare species exist although the number varies widely between species.

viii) Abundant means high numbers of individuals of the species are common in the natural environment.

ix) Nonnative or exotic means species that have been brought to the islands by humans.

10. Status of Native Animal Species

The loss of native species in Hawai`i has been tremendous. Flora and fauna that evolved over millions of years have been devastated in less than 2,000 years. Twenty five percent of the U.S. endangered taxa occur in Hawai`i.

The table below shows the status of native animal species (except invertebrates) in Hawai`i.

Table 10: Status of Animal Species, 1997-98.

Number of Species	Mammals		Birds		Turtles		Fishes	
	1997	1998	1997	1998	1997	1998	1997	1998
Total Native Species	4	4	93	93	5	5	22	22
Extinct Species	0	0	26	26	0	0	0	0
Listed Endangered	4	4	30	30	2	2	0	0
Listed Threatened	0	0	1	1	3	3	0	0
Proposed for Listing	0	0	0	0	0	0	0	0
Candidate Species	0	0	2	2	0	0	0	0
Species of Concern	0	0	6	5	0	0	0	1

Source: U.S. Fish and Wildlife Service

Note: i) The status of Hawai`ian invertebrates is hard to assess due to lack of information on abundance and distribution for described (5,500+ species) and undescribed (3,000 - 5,000 species) taxa. ii) Four native mamals include the Monk Seal, Hoary Bat, Humpback Whale and Sperm Whale.

11. Health of Hawai`i Fisheries

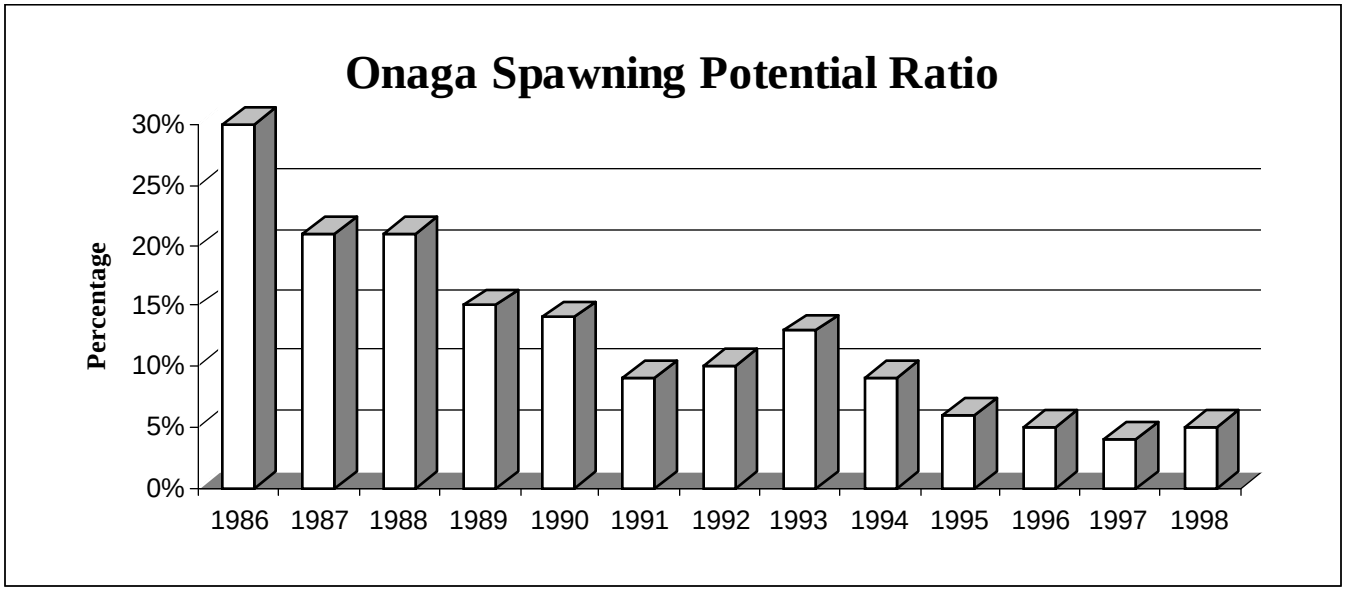
Ocean resources are an integral part of Hawai`i's heritage. Aquatic resources are extremely valuable for ecological, social and economic reasons. Sustaining and enhancing Hawai`i's living aquatic resources and their habitats make environmental and economic sense.

The table below shows the figures for the main Hawai`ian Island bottomfish ***spawning potential ratio (SPR)*** compiled by the Honolulu Laboratory of the National Marine Fisheries Service. This ratio indicates when the population of a species of fish has declined to a level beyond its ability to sustain itself. Because the habitat of bottom fish is relatively isolated from sources of pollution, the decline in their population is a direct reflection of overfishing. Two of the five most important species listed below have now dropped below the 20% SPR level considered critical to species survival. The Environmental Council's year 2002 goal for the onaga SPR is 15%.

Table 11. Hawai`i Bottomfish Spawning Potential Ratio 1986 to 1998.

Bottomfish	Spawning Potential Ratio (in percent)												
	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Ehu	9	13	9	17	12	7	4	5	6	7	8	9	10
Hapuupuu	42	37	52	58	37	34	37	26	33	21	20	22	24
Onaga	30	21	21	15	14	9	10	13	9	6	5	4	5
Opakapaka	33	31	37	58	42	39	44	32	37	35	27	32	31
Uku	49	21	64	55	30	26	28	46	37	40	41	34	33

Source: Bottomfish and Seamount Groundfish Fisheries of the Western Pacific Region: 1996 Annual Report of the Western Pacific Regional Fishery Management Council.
Note: SPR is calculated from catch size composition and commercial catch rate. SPR values of less than 20% are thought to be indicative of recruitment overfishing, the point at which there may be too few spawning fish remaining to maintain the population. Target SPR values for ehu and onaga recovery are 20%.



Environmental Quality

12. Ambient Levels of Air-borne Particulates

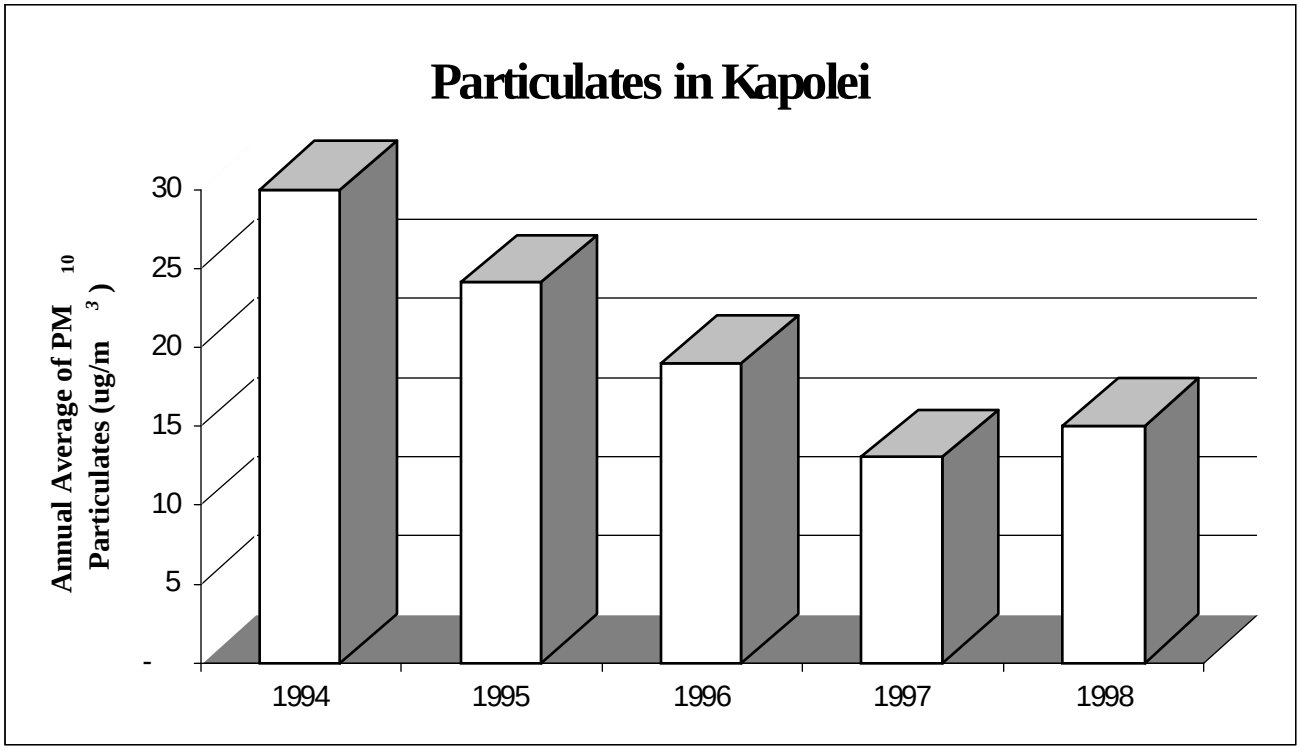
Breathing polluted air can cause health problems ranging from difficulties in breathing to aggravation of asthma, to cancer and even death. Air pollution can also damage buildings and vegetation.

The table below shows annual average concentration of particulates (up to 10 microns in diameter) at the Kapolei monitoring station, which is adjacent to Campbell Industrial Park, compiled by the Department of Health.

Table 12: Annual Average Particulate Levels in Kapolei, 1994 to 1998.

Federal Fiscal Year	Kapolei Annual Average of PM_{10} Particulates (ug/m^3)	% of National Standard for PM_{10} Particulates
1994	30	60%
1995	24	48%
1996	19	38%
1997	13	26%
1998	15	30%

Source: Hawaii Department of Health, Indicators of Environmental Quality, September 1999.
Note: PM10 is particulate matter up to 10 microns in diameter. The National standard is 50 ug/m3.



13. Ambient Levels of Sulfur Dioxide

Hawai`i's annual average concentrations of sulfur dioxide are so low that they do not pose a health concern. The following are annual average concentrations of sulfur dioxide from the Kapolei air monitoring station.

Table 13: Annual Average Sulfur Dioxide Levels in Kapolei, 1994 to 1998.

Federal Fiscal Year	Kapolei Annual Average of SO_2 (ug/m^3)	% of National Standard for SO_2
1994	1	1%
1995	2	3%
1996	2	3%
1997	2	3%
1998	2	3%

Source: Hawaii Department of Health, Indicators of Environmental Quality, September 1999.
Note: The National standard is 80 ug/m3.

14. Ambient Levels of Carbon Monoxide

Motor vehicles emit the largest amount of carbon monoxide. The following table shows the highest 8-hour average levels of carbon monoxide at the Honolulu air monitoring station, which is located in an urban environment with heavy automobile traffic.

Table 14: Highest 8-hour Average Concentration of Carbon Monoxide in Honolulu, 1994-1998.

Federal Fiscal Year	Honolulu Highest 8-hour Average of CO (ug/m^3)	% of National Standard for CO
1994	3,583	36%
1995	2264	23%
1996	2127	21%
1997	1088	11%
1998	2494	25%

Source: Hawaii Department of Health, Indicators of Environmental Quality, September 1999.
Note: The National standard is 10,000 ug/m3.

15. Beaches Posted as Unsafe Due to Pollution

Residents and visitors use our public beaches and the ocean for recreation and fishing. Sewage and chemical spills can restrict our enjoyment and use of the shoreline as well as poison aquatic life.

The following table shows the number of times beaches were posted with warning or closure signs (unsafe due to water pollution) by the Department of Health. The Environmental Council's year 2002 goal for beach closure days is 5.

Table 15: Days Beaches Posted as Unsafe Due to Pollution by DOH, 1994 to 1998.

Year	Days beaches closed
1994	20
1995	16
1996	45
1997	28
1998	13

Source: Hawaii Department of Health, Indicators of Environmental Quality, September 1999.
Note: i) There were additional postings of warning signs on streams, lakes, and harbors.
ii) Other agencies may also post warning signs on beaches. For example, the City and County of Honolulu also posts warning signs on beaches after opening stream mouths to drain water.
iii) Figures do not match previous years' annual report data as the number have been adjusted by the DOH.

16. Oil and Chemical Spills

Oil and chemical spills pollute our ocean, streams, groundwater. In addition to the environmental and ecological damage, cleanup costs run into the millions of dollars. Even with the best response plan, it is impossible to restore the environment to its original condition. Spill prevention must be our primary strategy.

The following table shows the number of oil and chemical spills in Hawai`i. The Environmental Council's year 2002 goal for the number spills is 200.

Table 16: Oil and Chemical Spills in Hawai`i, 1995 to 1998.

Federal Fiscal Year	Oil Releases	Chemical Releases
1995	126	222
1996	237	230
1997	295	205
1998	225	305

Source: Hawaii Department of Health, Indicators of Environmental Quality, September 1999.
Note: i) Figures do not match previous years' annual report data as the numbers have been adjusted by the DOH.

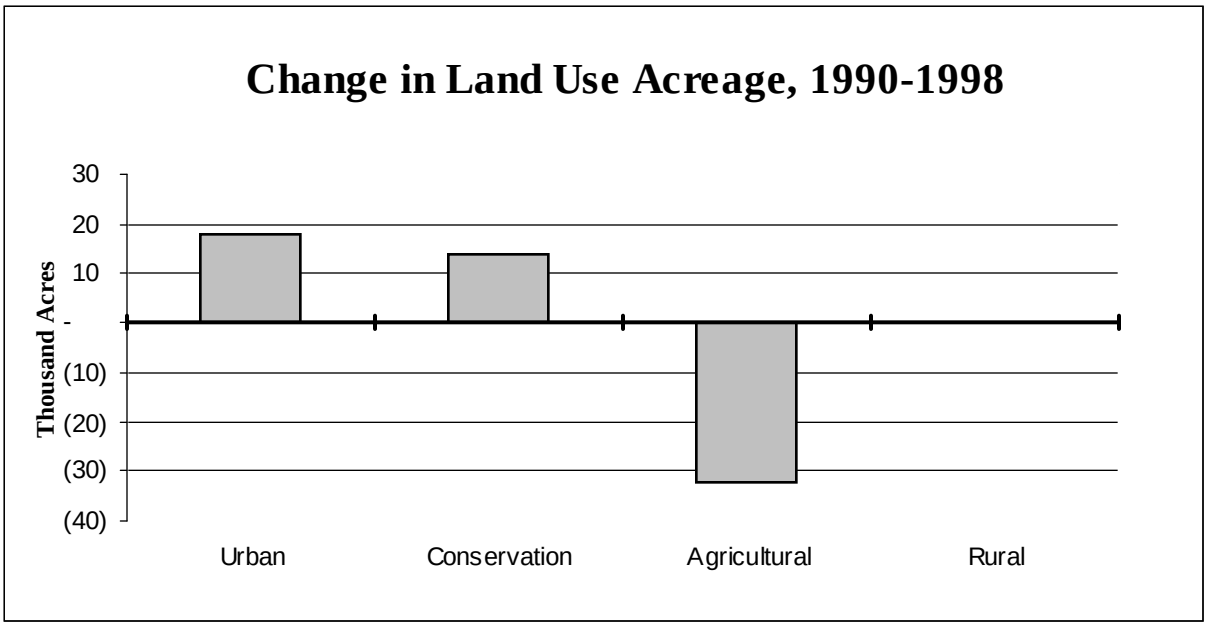
17. Statewide Land Use District Acreage

There are four land use districts designations for all lands in the state: urban, rural, agricultural, and conservation. With the decline of sugar cane and pineapple, there may be less productive agricultural land in Hawai`i than previously. The following table shows that since 1990, about 30,000 acres of agricultural land have been converted to Urban and Conservation designations. The Council's year 2002 goal for conservation land area is 2,110,000 acres.

Table 17: State Land Use District Acreage 1990 to 1998.

Year	Land Area in Thousand Acres			
	Urban	Conservation	Agricultural	Rural
1990	175	1,961	1,966	10
1991	178	1,961	1,963	10
1992	181	1,960	1,961	10
1993	181	1,961	1,961	10
1994	188	1,959	1,956	10
1995	190	1,976	1,936	10
1996	191	1,975	1,936	10
1997	192	1,975	1,935	10
1998	193	1,975	1,934	10

Source: State Land Use Commission, Department of Business, Economic Development and Tourism.



18. State Land Use District Acreage by Island

Precious resources have a better chance of being protected if they are located in or classified as conservation lands. Protection of conservation lands is accomplished under regulations administered by the Department of Land and Natural Resources.

The following table shows how much land is designated under the four land use categories on each island.

Table 18: Statewide Land Use District Acreage by Island.

Island	Land Area in Thousand Acres				
	Urban	Conservation	Agricultural	Rural	Total
Hawaii	53	1306	1214	1	**2,573**
Maui	21	195	246	4	**466**
Kaho`olawe	------	29	------	------	**29**
Lana`i	3	38	47	2	**91**
Moloka`i	3	50	112	2	**166**
O`ahu	98	157	131	------	**386**
Kaua`i	14	199	139	1	**354**
Ni`ihau	-----	------	46	------	**46**
Kaula/Lehua	------	0.4	------	------	**0**
Other (Northwest Hawaiian Islands)	------	2	------	------	**2**
Statewide	**193**	**1,975**	**1,934**	**10**	**4,112**

Source: State Land Use Commission, Department of Business, Economic Development and Tourism.

19. Safe Drinking Water

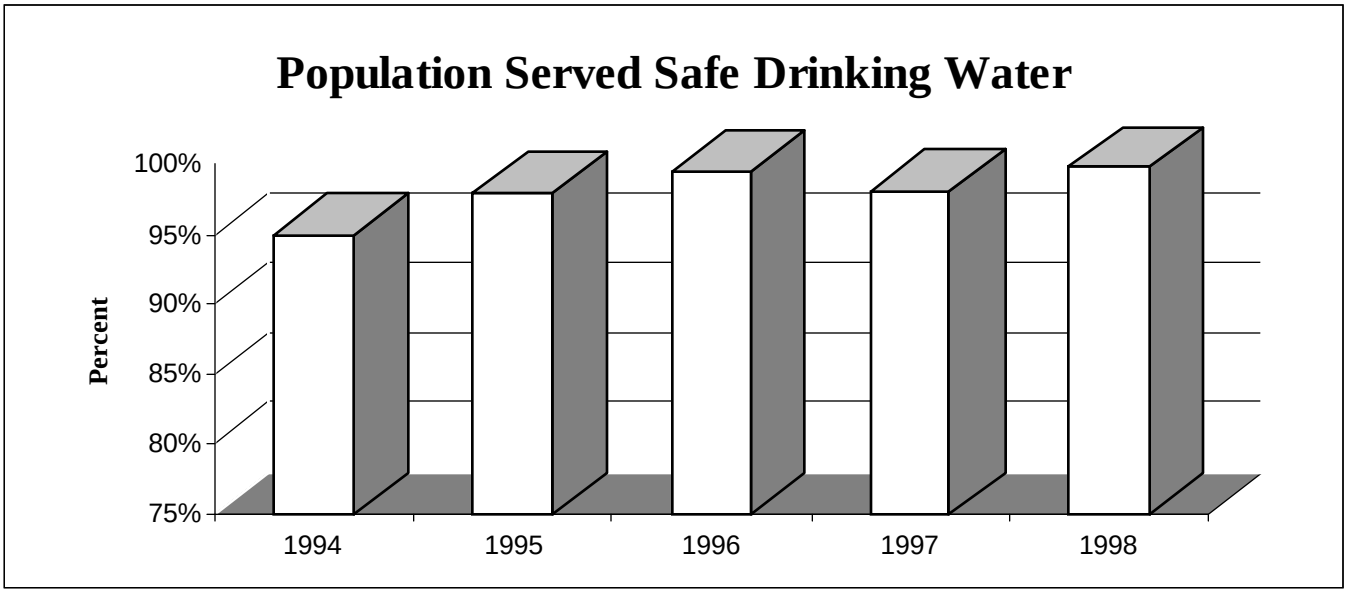
Fresh water is a precious resource. Pesticides, fertilizers, oils and chemicals that we apply to the ground eventually seep into our drinking water aquifers. We must protect our drinking water supplies from contamination, or spend millions of dollars for treatment.

Public water systems provide piped water for human consumption such as drinking and washing. They include both municipal and private facilities for the collection, treatment, storage and distribution of water. The next table shows the percentage of Hawai`i's population served drinking water in compliance with 1994 maximum microbiological and chemical contaminant levels. Water which exceeds maximum contaminant levels (MCLs) is believed to be harmful to human health.

Table 19: Population Served Safe Drinking Water, 1994 to 1998.

Federal Fiscal Year	Total Population Served Drinking Water	Population Served Water Below MCLs	Percentage Population Served Water Below MCLs
1994	1,343,548	1,276,400	95.0%
1995	1,343,538	1,317,301	98.0%
1996	1,347,266	1,341,126	99.5%
1997	1,334,397	1,310,573	98.2%
1998	1,333,717	1,331,353	99.8%

Source: Hawaii Department of Health, Indicators of Environmental Quality, September 1999.



Note: The vertical axis does not begin with zero.

Public Awareness/Concern

20. State Environmental Expenditures

Environmental protection is one of the 11 primary objectives of the state government. Programs within the environmental protection structure include: Department of Health (Environmental Management, Environmental Health Administration, and Office of Environmental Quality Control); Department of Land and Natural Resources (Forestry & Wildlife, Commission on Water Resources Management, Conservation and Resources Enforcement, Natural Area Reserves, Aquatic Resources, Mineral Resources, and Conservation District); and Department of Agriculture (Pesticides).

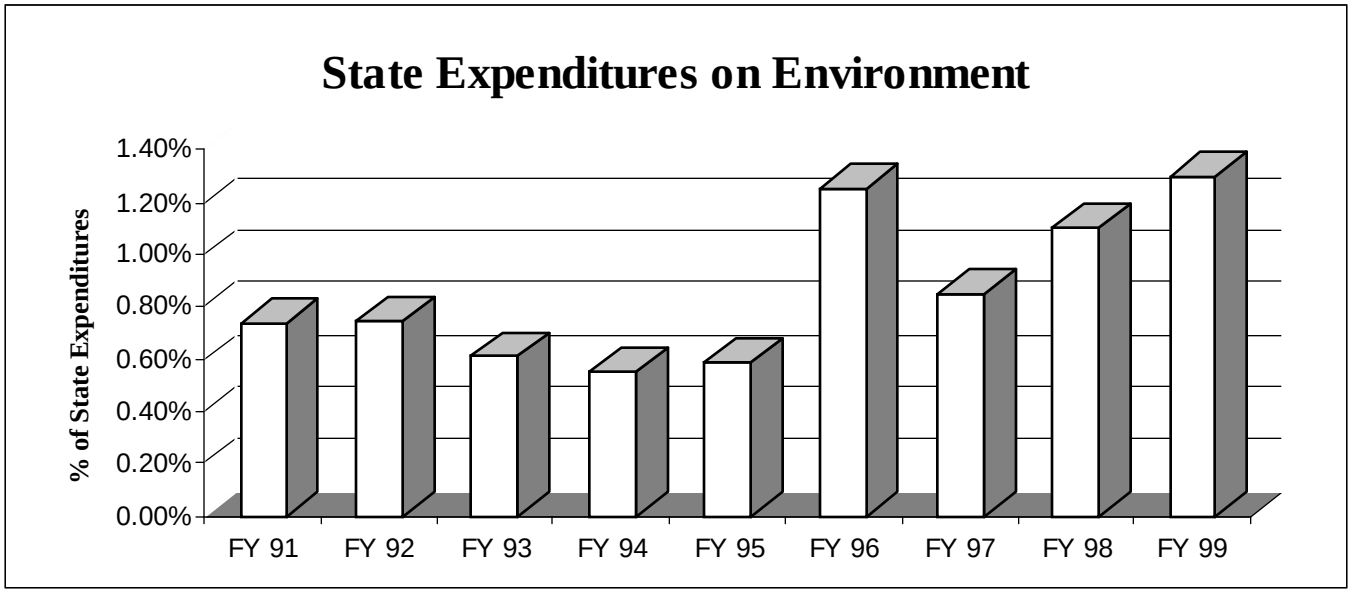
More funding to promote the goals of Hawai`i's environmental programs will result in better overall state environmental quality. The portion of expenditures for environmental protection reflects the priority given towards environmental programs relative to other functions.

The table below shows the sum of money and the percentage of total state expenditures spent on environmental protection programs. The Environmental Council's year 2002 goal for the percentage of total state expenditures spent on environmental protection programs is 1.9%.

Table 20: State Expenditures on Environmental Protection Programs, FY 1991 to 1998.

Fiscal Year	1991	1992	1993	1994	1995	1996	1997	1998	1999
Environmental Expenditures in FY 1991 Dollars (in millions)	25.3	28.1	24.4	24.5	26.4	53.2	39.0	51.3	59.3
% of State Expenditures	0.74%	0.75%	0.61%	0.55%	0.59%	1.25%	0.85%	1.10%	1.30%

Source: The Variance Report, State of Hawai`i, compiled by the Department of Budget and Finance. This report is prepared annually and submitted to the state Legislature.
Note: Beginning with fiscal year 1996, environmental spending figures include the Water Pollution Control Revolving Fund that was not shown in previous years. Revolving fund expenditures fluctuate greatly from year to year.



21. Registered Motor Vehicles in Hawai`i

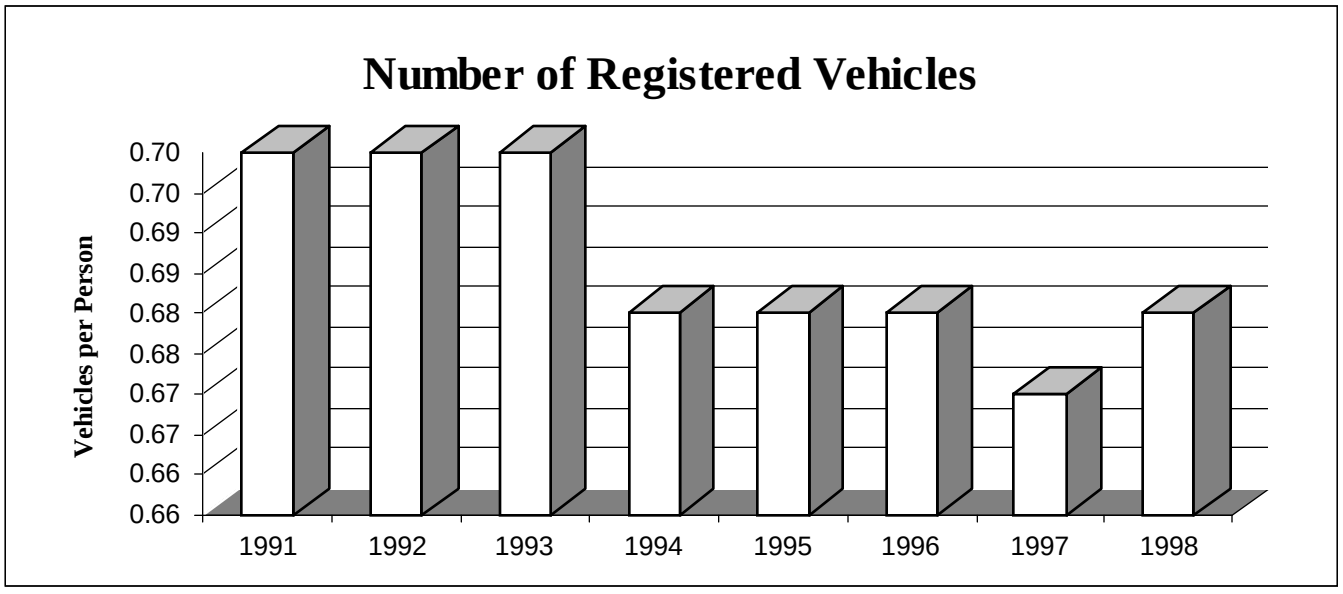
Exhaust from motor vehicles contains many air pollutants, including carbon monoxide, ozone and particulates. We breathe these toxic pollutants. Reducing the number of motor vehicles on our roads and improving emission control technology will improve air quality. We can help reduce air pollution by walking, biking or taking the bus instead of riding gas-powered cars.

The table below shows the total number of registered motor vehicles in Hawai`i. The Council's year 2002 goal for the number of motor vehicles per capita is 0.61.

Table 21: Number of Registered Motor Vehicles In Hawai`i, 1991 to 1998.

Year	1991	1992	1993	1994	1995	1996	1997	1998
Number of Motor Vehicles	897,193	885,761	880,152	875,144	877,756	884,617	884,267	893,427
State de facto Population	1,273,040	1,267,654	1,263,468	1,285,088	1,291,564	1,297,201	1,314,369	1,321,098
Vehicles per Person	0.70	0.70	0.70	0.68	0.68	0.68	0.67	0.68

Source: Statewide data provided by the City and County of Honolulu, Department of Finance, Motor Vehicles and Licensing Division.
Note: i) Carbon monoxide is a colorless, odorless and tasteless gas.
ii) Ozone is a poisonous form of pure oxygen. It is pungent smelling and faintly bluish.
iii) De facto population obtained from State Data Book.



Note: The vertical axis does not begin with zero.

22. Noise Complaints Received by the Health Department

Loud noises can lead to health problems such as stress and hypertension. Noise also causes distress to wildlife and disrupts people's enjoyment of nature and wilderness. Usually, increase in urbanization results in more noise.

The following table shows the number of noise complaints (by category) received by the Department of Health. The Council's year 2002 goal for the number of noise complaints per hundred thousand people is 25.

Table 23: Number of Noise Complaints Received by the Department of Health, 1992 to 1998.

Type of Complaint	1992	1993	1994	1995	1996	1997	1998
Agriculture	5	2	1	3	1	0	0
Aircraft	8	9	12	11	5	6	0
Commercial	0	0	21	6	3	13	4
Construction	166	164	157	142	140	112	146
Industrial	6	19	6	2	3	7	9
Miscellaneous	31	22	17	12	12	14	18
Refuse Collection	72	36	41	35	41	68	43
Stationary	100	85	93	112	109	104	75
Unknown	6	10	4	13	8	8	13
Nuisance Complaints: Animal	42	34	22	24	16	14	12
Hobby	11	3	8	9	9	12	4
Maintenance	38	37	29	37	27	21	25
People	21	23	16	12	13	13	5
Sound Production Devices	100	93	62	48	40	45	51
Vehicular	39	26	20	21	30	24	22
Total	**645**	**563**	**509**	**487**	**457**	**461**	**427**
State de facto Population	1,267,654	1,263,468	1,285,088	1,291,564	1,297,201	1,314,369	1,321,098
Noise Complaints per Hundred Thousand People	51	45	40	38	35	35	32

Source: Department of Health - Noise, Radiation and Indoor Air Quality Branch.

24. Bikeway Miles

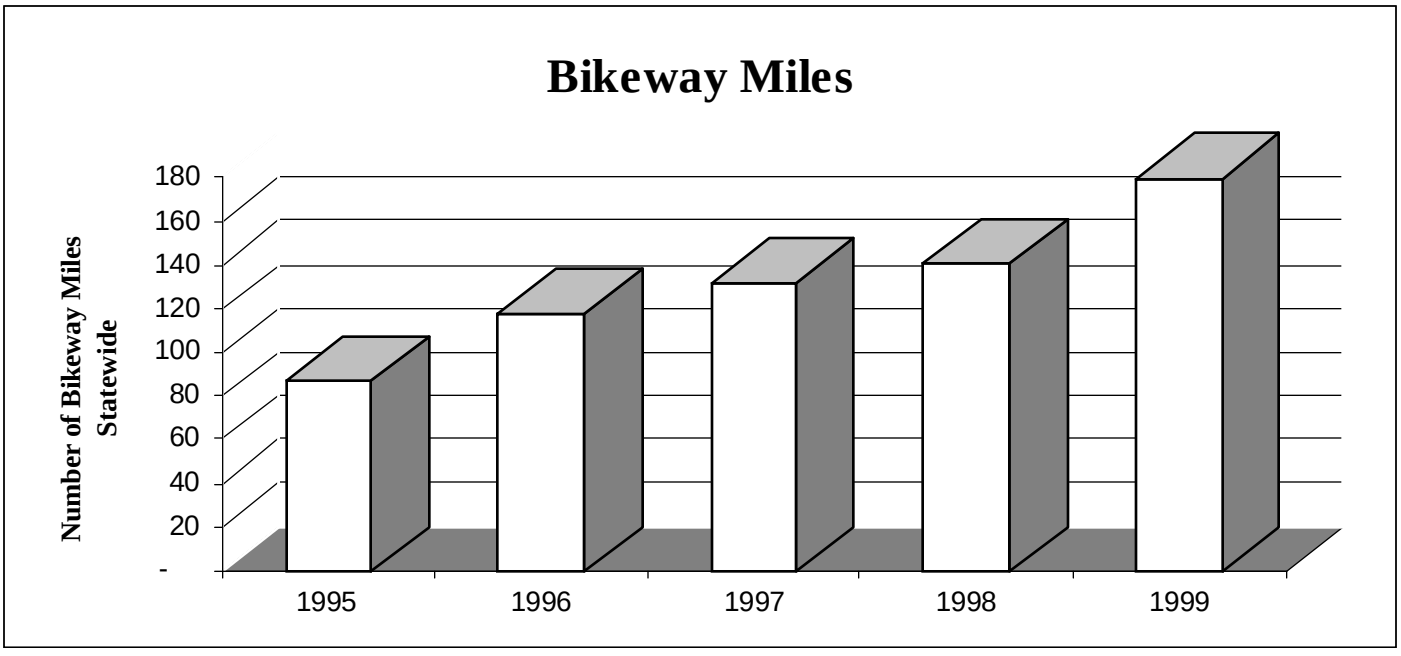
Alternate transportation modes such as bicycling and mass transit systems conserve energy, alleviate traffic congestion, reduce air pollution, support physical fitness and recreation, and provide green corridors. Overall, they improve environmental quality and the urban landscape.

The next table shows the total miles of bikeways in Hawai`i by island. The Environmental Council's year 2002 goal for total miles of bikeways is 327.

Table 24: Miles of Bikeways in Hawai`i, 1995 to 1999.

Island	Bikeway Miles				
	1995	1996	1997	1998	1999
Kauai	3.8	3.8	6.8	6.5	6.2
Oahu	55.4	66.1	56.6	60.3	73.7
Maui	19.6	40.0	40.8	43.3	67.1
Hawaii	8.2	8.2	27.8	30.8	32.7
Statewide	**87.0**	**118.1**	**132.0**	**140.9**	**179.7**

Source: State Department of Transportation, Highways Division
Note: i) Bikeway miles are provided only for bikeways that are designated as such through signing. The State and counties have installed many miles of improved paved shoulders, 4 feet or wider, on roadways which can accommodate bicycles but are not designated routes.



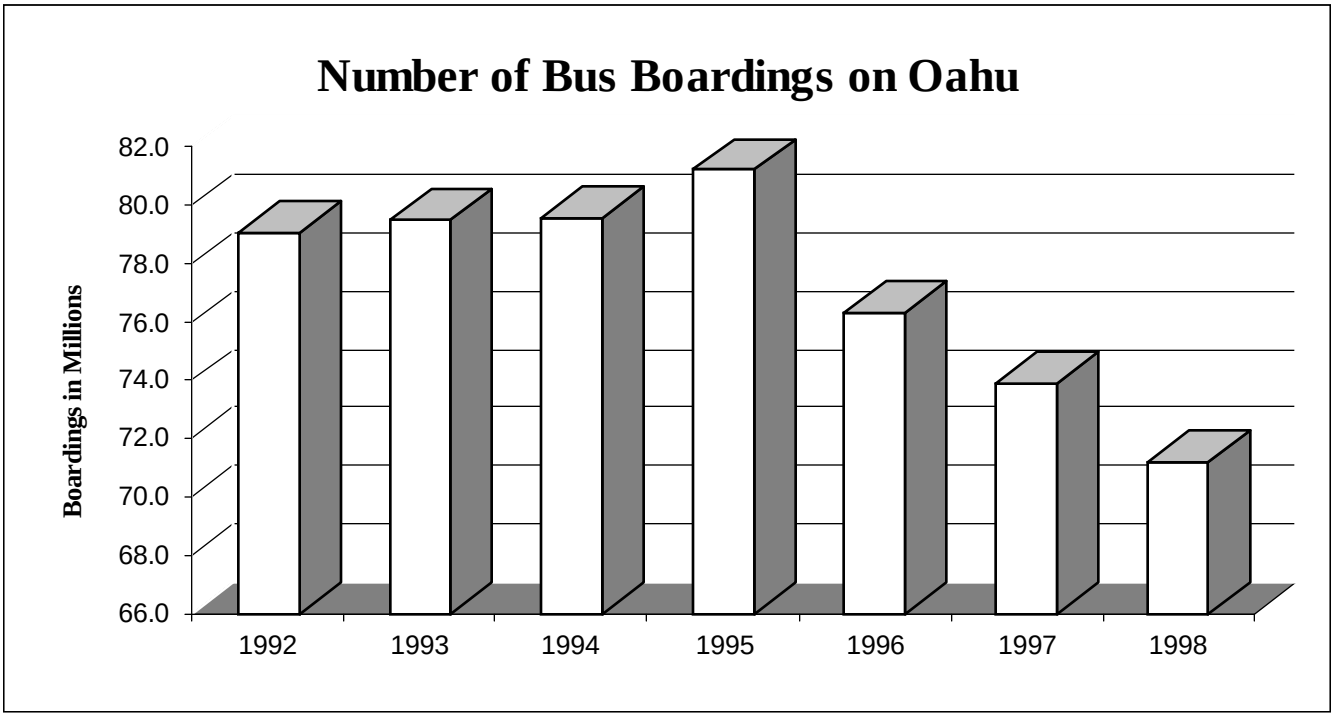
25. Number of Bus Boardings on O`ahu

The data below are estimates of the number of boardings on O`ahu for TheBus. An effective mass transit system can reduce traffic congestion and improve the quality of life in a city. These estimates are calculated based on the amount of money in the fare box, number of monthly passes sold, and random samples. The Environmental Council's year 2002 goal for bus boardings on O`ahu is 89 million.

Table 25: Number of Bus Boardings on O`ahu, 1992 to 1998.

Year	1992	1993	1994	1995	1996	1997	1998
Total Number of Bus Boardings (in millions)	79.1	79.5	79.6	81.2	76.3	73.9	71.2

Source: Public Transit Division of the Department of Transportation Services.
Note: i) Figures include residents and visitors.
ii) The figures are calendar year estimates of total passengers for TheBus calculated from reports to the American Public Transit Association.



Note: The vertical axis does not begin with zero.

1999 Environmental Progress Report Card

In this section, the Environmental Council grades the status of Hawai`i's environment. This year the Council continues to measure progress towards annual goals. This report card provides citizens and policy makers with a quick assessment of how well we are caring for our environment. The Council hopes this evaluation stimulates the public to learn about and take action to improve our environment. Your thoughts and suggestions on the content and methodology of this report card are welcomed.

1999 Environmental Progress Report Card State of Hawai'i	
Energy Use	C
Use & Recycling of Resources	C+
Biodiversity Maintenance	B-
Air Quality	C
Water Quality	B
Terrestrial Quality	B
Public Awareness & Concern	B+
Overall Progress Grade	**B-**

Environmental Indicators

Method for Calculating Environmental Progress Grades:

Step 1.

Environmental Progress Scores and Grade

The method used to calculate the grades was selected to reward progress toward environmental indicator goals established for the year 2002. Progress is evaluated on a yearly basis and is measured relative to incremental progress toward the year 2002 goal. The grading system rewards Hawai`i's people for movement towards sustainability and reduction of pollution levels.

Establishing goals for each environmental indicator is a necessary starting point for the grading method. In some instances the agency responsible for monitoring the data has an established target for the indicator. The Council considered agency goals in establishing our year 2002 goals for the indicators used in this report card.

With the previous year's data and year 2002 goal available it is possible to determine annual increments approaching the goal. An exponential function, one which involves decreasing incremental change over time, is used to calculate annual increments. Indicator ratings are assessed relative to annual goals and an unacceptable condition.

Individual indicator scores are assigned as follows:

Present condition equal to or better than annual goal	= 100
Present condition equal to previous year's level	= 50
Present condition equal to unacceptable condition	= 0

A linear scale is employed to assign scores for conditions falling between the limits listed above. Letter grades corresponding to the assigned scores are given in the same manner as last year.

Environmental Sustainability Scores and Grades

The method used is based on the National Wildlife Federation's 1971 Environmental Quality Index (Kimball, 1972). Individual indicator scores are assigned as follows:

Present condition equal to or better than optimum condition	= 100
Present condition equal to unacceptable condition	= 0

A linear scale is employed to assign scores for conditions falling between the limits listed above. Letter grades corresponding to the assigned scores are given in the same manner as last year.

Step 2.

The environmental indicators are then organized into eight categories. The categories are: Energy Use, Use and Recycling of Resources, Biodiversity Maintenance, Air Quality, Water Quality, Terrestrial Quality, Public Awareness & Concern.

A weight is assigned to each of the indicators in a given category. This weight is used to obtain the score for each category. The weights are assigned to each indicator in relation to the empirical importance of the indicator itself as well as the reliability of its related data. For simplicity in interpreting the "0" to "100" scores, letter grades are used.

Step 3.

Finally, a weighted average of the nine components is used to obtain a progress index and grade for Hawai`i's environment.

Limitations:

The comprehensiveness and accuracy of the grades are limited by the following factors:

a) The assessment is based on a sample of 18 environmental indicators. This small sample is not a full representation of Hawai`i's environment.

b) The benchmarks for unacceptable and 2002 goals are based on assumptions and judgments made by the Council (see below). Others may have very different opinions about the figures.

c) The relative importance value to compute the weighted averages for the categories and total index is also subjective based on the Council's beliefs.

This is the third attempt to assess the status of Hawai`i's environment. The Council hopes to continually refine and improve this assessment process.

Table A: Benchmarks, Environmental Progress Points and Sustainability Scores.

Indicator	Unacceptable Condition	Prev. Year Level	Latest Year Level	Latest Year Goal	Year 2002 Goal	Opti-mum Cond.	Progress		Sustainable	
							Pts.	Grade	Pts.	Grade
% of Energy from Renewable Sources	0.0	6.7	6.4	7.5	10.0	25.0	48	C	26	D
Water Consumption in Million Gallons	100,000	71,800	73,317	71,436	70,000	50,000	47	C	53	C
% of Treated Wastewater Reused	0	10.4	11.3	8.6	25	50	63	B-	23	D-
Daily per capita Waste Generated in pounds	18	8.9	8.3	7.8	4.3	3.6	75	B+	67	B
% of Waste Diverted	0	25	24	31	50	75	48	C	32	D
Hazardous Waste Generated in Tons	4,500	1,702	1,669	1,477	900	500	57	C+	71	B
Number of Abundant Native Plant Species	0	493	439	574	757	1093	45	C	40	C-
Onaga Spawning Potential Rate	0	4	5	7	15	50	75	B+	10	F
Annual Average Particulate Levels (ug/m^3)	50	13	15	12	10	10	47	C	88	A
Days Beaches Posted Unsafe	100	28	13	19	5	1	100	A+	88	A
Number of Oil and Chemical Spills	1000	500	530	491	200	100	47	C	52	C
Conservation Land Area in million acres	1.03	1.98	1.98	2.01	2.11	2.25	50	C	78	B+
% of Population Served Water Below MCLs	90	98.2	99.8	96	100	100	94	A	98	A
% of State Funding for Environment	0	1.10	1.30	1.15	1.90	2.50	87	A	52	C
Number of Motor Vehicles per capita	1	0.67	0.68	0.67	0.61	0.33	48	C	48	C
Noise Complaints per 100,000 People	100	35	32	33	25	10	100	A+	76	B+
Bikeway Miles	0	141	180	174	327	1309	100	A+	14	F
Annual TheBus Boardings in millions	0	74	71	78	89	124	48	C	57	C+

Environmental Indicators

Table B: Scores and Grades for Environmental Progress

Category	Indicator	Progress Points	Relative Weights	Category Scores	Category Grade	Category Weights	Total Score	Total Grade
Energy Use	% of Energy from Renewable Sources	48	100%	48	C	10%	63	B-
Use & Recycling of Resources	Water Consumption in Million Gallons	47	20%	58	C+	20%		
	% of Treated Wastewater Reused	63	20%					
	Daily per capita Waste Generated in pounds	75	20%					
	% of Waste Diverted	48	20%					
	Hazardous Waste Generated in Tons	57	20%					
Biodiversity Maintenance	Number of Abundant Native Plant Species	45	50%	60	B-	10%		
	Onaga Spawning Potential Rate	75	50%					
Air Quality	Annual Average Particulate Levels (ug/m^3)	47	100%	47	C	15%		
Water Quality	Days Beaches Posted Unsafe	100	50%	74	B	15%		
	Number of Oil & Chemical Spills	47	50%					
Terrestrial Quality	Conservation Land Area in million acres	50	50%	72	B	15%		
	% of Water Below Max Contaminant Levels	94	50%					
Public Awareness & Concern	% of State Funding for Environment	87	20%	77	B+	15%		
	Number of Motor Vehicles per capita	48	20%					
	Noise Complaints per 100,000 People	100	20%					
	Bikeway Miles	100	20%					
	Annual TheBus Boardings in millions	48	20%					

Assumptions:

The Environmental Council's assumptions for unacceptable conditions, year 2002 goals, and optimum levels for Hawai`i's environmental indicators are listed below.

a) Renewable Energy: The Department of Business, Economic Development and Tourism has proposed a year 2002 goal of 7% for the amount of energy from renewable sources. The Council prefers a more aggressive goal of 10% for the year 2002 and 25% for optimum conditions.

b) Water Consumption: The Council has set 70,000 million gallons per year as the goal for the year 2002. 100,000 is unacceptable. The optimum level is 50,000.

c) Treated Wastewater Reused: The Department of Health has set a reuse target of 25% for the year 2002. The optimum level is 50%.

d) Waste Generated: According to Healthy Hawai`i 2000, the national objective is to reduce the average pounds of municipal solid waste produced per person each day to no more than 3.6 pounds. The optimum level is the same as the national objective. The year 2002 goal is the present national average of 4.3 pounds per person per day (EPA, 1997). It is unacceptable to produce 5 times the national objective.

e) Waste Diverted: Pursuant to section 342G-3, HRS, it is the goal of the state to reduce solid waste stream prior to disposal by 50% by the year 2000. The same goal is used for the year 2002. The optimum level is 75%.

f) Hazardous Waste: The Department of Health has set a target of 900 tons for the year 2002. Five times the target amount is unacceptable. The optimum target is 500 tons.

g) Native Plant Species: There are 1093 native plant species in Hawai`i. The year 2002 goal is to have all the "species of concern" listed in 1997 upgraded to "abundant." Optimally, all native species would be in abundance.

h) Onaga SPR: The National Marine Fisheries Service has set a target of 15% or better for the Onaga SPR for the year 2002. The optimum level is 50%.

i) Particulate Levels: The year 2002 goal and the optimum level is 10 micrograms per cubic meter.

j) Beaches Posted Unsafe: The Department of Health has set a target of 5 beach closure days for the year 2002. A level of 100 beach closure days per year is unacceptable. Optimally, there would be one beach closure day or less.

k) Oil and Chemical Spills: The year 2002 goal is to have less than 200 spills. The optimum number is 100 or less.

l) Conservation Land: The 2002 goal coincides with the State Land Use District Boundary Review, 1992 recommendation that approximately 150,000 acres of Urban and Agricultural lands be converted to Conservation zoning. The report also identifies another 139,000 acres of non-Conservation land as "Areas of Critical Concern" that should be protected for its conservation resource value. Therefore, the optimum level is the conversion of 289,000 acres. Any less amount than one fourth of state lands in the Conservation district is unacceptable.

m) Clean Drinking Water: The year 2002 goal and the optimum level to have 100% of the population drinking clean water.

n) Environmental Spending: Based on information presented in World Resources Institute's 1992 Environmental Almanac the average state in the U.S. spends approximately 1.9% of its state budget on environmental protection. The year 2002 goal is the same as the average state. The optimum level is 2.5%.

o) Motor Vehicles: The year 2002 goal is to reduce the number of motor vehicles per capita by 10% from the 1995 level. One motor vehicle per person is unacceptable. The optimum level should be one motor vehicle for every three people (the average household size is three people).

p) Noise Complaints: The year 2002 goal is 25 complaints per hundred thousand people. An average of 100 noise complaints per hundred thousand people is unacceptable. The optimum number is 10 or less per hundred thousand people.

q) Bikeway Miles: According to Bike Plan Hawai`i a total of 1,309 miles of bikeways is proposed. The optimum condition is the construction of all the bikeways proposed. The year 2002 goal is to have 25% of the bikeways installed.

r) Bus Ridership: The present bus fleet is 525. The FEIS for the Honolulu Rapid Transit Program considered an expanded bus fleet of 997 buses for the Transportation System Management alternative. Based on Table 1.1 in the Comprehensive Bus Facility & Equipment Requirements Study, we estimate that the number of boardings for a fleet of 997 buses would be 124,000,000 per annum. The optimum level is 124,000,000 boardings. The year 2002 goal is to increase boarding by 10% from 1995 levels.

Environmental Indicators

Letter Grades:

For the sake of simplicity in interpreting the "0" to "100" scores, letter grades are used. The scale that we used was obtained from A Rating Guide to Life in America's Fifty States (Thomas, 1994).

100 = A+
85-99 = A
80-84 = A-
75-79 = B+
65-74 = B
60-64 = B-
55-59 = C+
45-54 = C
40-44 = C-
35-39 = D+
25-34 = D
20-24 = D-
0-19 = F

References:

City and County of Honolulu, Department of Transportation Services. Final Environmental Impact Statement for the Honolulu Rapid Transit Program. Honolulu, 1992.

Hawai`i Department of Business, Economic Development and Tourism. State Energy Resources Coordinator's Annual Report. Honolulu, 1994.

Hawai`i Department of Business, Economic Development and Tourism. The State of Hawai`i Data Book, 1998. Honolulu, 1999.

Hawai`i Department of Health. Healthy Hawai`i 2000: Preliminary Objectives and Health Status Indicators for the State of Hawai`i. Honolulu, 1995.

Hawai`i Department of Health. The State of Environmental Protection In Hawai`i. Honolulu, 1997.

Hawai`i Department of Health. Indicators of Environmental Quality, September 1999.

Hawai`i Department of Transportation. Bike Plan Hawai`i. Honolulu, 1994.

Honolulu Public Transit Authority. Comprehensive Bus Facility & Equipment Requirements Study. Honolulu, 1994.

Kimball, Thomas L. Why Environmental Quality Indices? In The Quality of Life Concept by the Environmental Protection Agency. Warrenton, Virginia, 1972.

Office of State Planning. State Land Use District Boundary Review. Honolulu, 1992.

Thomas, G. Scott. A Rating Guide to Life in America's Fifty States. New York: Prometheus Books, 1994.

United States Environmental Protection Agency. Characterization of Municipal Solid Waste in the United States: 1996 Update. EPA530-R-97-015. Washington, DC.

World Resources Institute. Environmental Almanac. Boston: Houghton Mifflin Company, 1992.

Section II

Agency Goals

The Environmental Council monitors agency progress in achieving the state's environmental goals and makes an annual report with recommendations to the Governor and Legislature. The Council asks each agency for its environmental goals and objectives for inclusion in its annual report. Each agency identifies its top three environmental goals for the past and current years and the results of its efforts to achieve these goals.

Top Agencies

The Environmental Council is commending the following agencies for doing well in meeting their environmental goals.

General Category

State Department of Defense, Hawaii Army National Guard for: 1) receiving the U.S. Department of the Army, National Guard Bureau recognition for outstanding achievement in natural resources; 2) installing two miles of fence to protect endangered plants; 3) propagating and out-planting 20 species of rare and endangered plants; 4) establishing protocols to reduce fire, species disturbance and alien species dispersal by soldiers; and 5) completing surveys of rare/endangered species on training areas statewide.

State Department of Education for: 1) meeting National Environmental Education Guidelines in the DOE's Science Content Standards; and 2) establishing partnerships with public and private agencies to enrich the instructional delivery of environmental education through contextual learning in the areas of alternative energy, marine environment, and environmental issues in the community.

Environmental Agencies

State Department of Agriculture, Plant Industry Division for: 1) issuing 1,028 violation notices resulting from surveillance and inspection of Hawaii-bound air and sea baggage, cargo, mail, and visitors; 2) intercepting 388 insect alien species upon arrival to Hawai`i; 3) releasing and establishing two parasites to control the citrus blackfly, a serious pest; 4) releasing the gorse rust pathogen to control gorse, a thorny shrub that forms impenetrable thickets in pastures, rangelands, and conservation lands; and 5) eradicating Banana Bunchy Top Virus, a serious disease of bananas, from Kona.

State Department of Land and Natural Resources, Division of Forestry and Wildlife for: 1) cooperating with 12 landowners statewide in managing 2,226 acres of private land under the Forest Stewardship Program; 2) pollinating and out-planting the endangered Mauna Kea and Mauna Loa silverswords in both in-planted and wild populations; and 3) maintaining 35 rare plant sanctuaries on Kauai, Maui and Oahu.

Agency Goals

State Department of Accounting and General Services

I. Goals/Objectives for FY 1999

A. Goal/Objective #1: The Archives Division will recycle obsolete records where practical. Where recycling is impractical, the documents will be sent to the Honolulu Resource Recovery Venture (H-Power Plant), rather than disposal at a landfill.

B. Goal/Objective #2: The Public Works Division will minimize the use of MC-30, a petroleum-based prime coat material used for asphalt concrete paving. Beside having an objectionable odor, wash-off of the material during rainy weather presents a pollution threat to streams, lakes and the ocean. In addition, minimizing its use will also avoid potential contamination of the soil. The Guide Specifications addressing this matter will also include requirements addressing the use of recycled glass for use in the base course material beneath the pavement.

C. Goal/Objective #3: The Public Works Division will reduce paper consumption by printing construction specifications on both sides of each sheet of paper. The Division will also continue to recycle paper.

II. Results of Efforts FY 1999

A. Goal/Objective #1: The Archives Division is continuing to recycle and send waste to the H-Power Plant.

B. Goal/Objective #2: Public Works has banned the use of MC-30 in its projects. DAGS determined that prime coat material is not needed for asphalt paving unless there are excessive loads or steep slopes.

C. Goal/Objective #3: Public Works has implemented using both sides of each sheet to print specifications.

III. Goals/Objectives FY 2000

A. Goal/Objective #1: The Public Works Division will try to minimize dust nuisance during construction projects. Consideration will be taken during the phasing of projects so that later phases of the project should be done downwind from earlier phases so that dust will not blow into the completed portions. If this is not feasible, fiberglass filters will be placed on the windows of the completed buildings to keep dust out.

B. Goal/Objective #2: For renovation projects, the Public Works Division will test for and identify whether lead-based paint is present and ensure that the area does not become contaminated with lead residue.

C. Goal/Objective #3: Where it is feasible, the Public Works Division will start to consider using treated wastewater to irrigate playfields and landscaped areas. This will reduce the water cost and will also save our precious water supply

State Department of Agriculture

I. Goals/Objectives for FY 1999

A. Goal/Objective #1: To prevent the introduction of harmful pests and diseases by inspecting all incoming shipments of plant materials.

B. Goal/Objective #2: Limit the plant pest population which can cause significant economic damage to agriculture or constitute a serious threat to the environment.

C. Goal/Objective #3: To ensure the efficient, effective, and safe use of pesticides to minimize adverse effects on the environment, and enable the agricultural industry to continue the use of pesticides.

II. Results of Efforts for FY 1999

A. Goal/Objective #1: Issued 1,028 violation notices resulting from surveillance and inspection of Hawaii-bound air and sea baggage, cargo, mail, and visitors.

* A total of 388 insect interceptions were made of species not known to occur in Hawaii.
* Nearly 23,000 persons were informed of the Plant Quarantine Branch's requirements for importing plant materials and non-domestic animals through tours of the Branch facilities.

B. Goal/Objective #2:

* Eradicating Banana Bunchy Top Virus, a serious disease of bananas, from Kona, Hawaii.
* Released and established two parasites (Encarsia opulenta and Amitus hesperidum) to control the citrus blackfly (Aleurocanthus woglumi), a serious pest of citrus.
* Received approval to release two weevils (Acythopeus burkhartorum and Acythopeus cocciniae) to control ivy gourd (Coccinia grandis), an aggressive lowland vine.

* Released the gorse rust pathogen (Uromyces pisi f. sp. europaei) to control gorse (Ulex europaeus), a thorny shrub that forms impenetrable thickets in pastures, rangelands, and conservation lands.

C. Goal/Objective #3:

* Funded pesticide user education activities, including programs to instruct non-English proficient farmers about pesticide safety.
* Conducted over 600 inspections of farms, pesticides dealers, and non-farm users for proper use and distribution of pesticides.
* Issued over 57 warning letters for improper use and collected $14,275 in penalties for illegal use or sale of pesticides.

III. Goals/Objectives for FY 2000

Same as for FY 1999.

State Department of the Attorney General

I. Goals/Objectives FY 1999

A. Goal/Objective #1: To improve the State's environmental regulation and enforcement by providing effective and timely legal counsel and training for our clients, expediting enforcement actions, improving coordination with other state and federal agencies, and where appropriate, bringing criminal enforcement actions.

II. Results of Efforts FY 1999

A. Goal/Objective #1: The Department assisted the Hazardous Waste Branch in settling several enforcement actions and is assisting in settlement negotiations in an enforcement action against the University of Hawai'i. It also reviewed and helped enact important amendments to the hazardous waste rules that bring the State closer to obtaining federal program authorization. The Department helped both the Solid Waste Branch and the Clean Air Branch develop numerous templates for Notices of Violations and Orders. It also helped the Clean Air Branch bring enforcement actions, draft rule amendments controlling emissions from municipal solid waste combustors and landfills, and litigate challenges to air permits in the Third Circuit and before the Environmental Appeals Board in Washington, D.C. The Department helped the Wastewater Branch negotiate a joint federal-state $900,000 settlement with Maui County ($300,000 cash and a $600,000 water recycling project) for sewage spills over several years, and helped the water branches negotiate a $386,400 settlement with a Maui company ($40,000 cash and $346,000 in pollution control projects) for various water violations over the years. It also helped the Safe Drinking Water Branch obtain a $55,000 penalty for underground injection violations. The Department also helped the Hazard and Emergency Evaluation Response Branch to negotiate a joint federal-state action for natural resource damages to state waters, to negotiate three voluntary response agreements resulting in the clean-up of three Honolulu sites to recover $132,151 for clean-up costs and staff time. The Department obtained convictions for illegal dumping of grease and illegal dumping of diesel fuel.

III. Goals/Objectives FY 2000

A. Goal/Objective #1: To improve the State's environmental regulation and enforcement by providing effective and timely legal counsel and training for our clients, expediting enforcement actions, improving coordination with other state and federal agencies, and where appropriate, bringing criminal enforcement actions.

State Department of Business, Economic Development & Tourism

I. Goals/Objectives FY 1999

A. Goal/Objective #1: Not to over promote fishery resources.

B. Goal/Objective #2: Adoption of a Model Energy Code for Commercial Buildings.

C. Goal/Objective #3: Support legislation for the improvement, management and restoration of resource value lands, including beaches and shores.

II. Results of Efforts FY 1999

A. Goal/Objective #1: Objective met independent assessment by the Western Pacific Regional Fishery Management Council status of the stock not over fished.

B. Goal/Objective #2: Three Counties have adopted the Model Energy Code for Commercial Buildings. The energy saving are about $1.1 million per year in consumer energy cost.

C. Goal/Objective #3: Act 84 authorizes beach restoration, creates a beach restoration special fund, and appropriates funds ($250,000) for beach restoration.

III. Goals/Objectives FY 2000

A. Goal/Objective #1: Continue to not over promote fishery resources.

B. Goal/Objective #2: Work with Maui County to adopt a Model Energy Code for Commercial Buildings.

C. Goal/Objective #3: Adoption of an Implementation Plan for Hawaii's Coastal Nonpoint Pollution Control Programs in early 2000.

State Department of Defense

Hawaii Army National Guard

I. Goals/Objectives 1999

A. Goal/Objective #1: Conservation. Implement integrated natural and cultural resources management, alien species investigation, and continue the endangered species program.

B. Goal/Objective #2: Compliance. Implement solid waste management with an aggressive recycling program, and continue secondary containment projects.

C. Goal/Objective #3: Land management. Continue to develop a geographic information system (GIS) program to integrate environmental survey data into an automated mapping support system. Integrate GIS into a natural disaster protocol.

II. Results of Efforts FY 1999

A. Goal/Objective #1: Conservation.

Received Department of the Army, National Guard Bureau recognition for outstanding achievement in natural resources. Highlights include: Acquired $216,000 in Federal grant monies to fund alien species eradication and watershed protection. Installed two miles of fence to protect endangered plants (Kanaio Training Area (KNTA), Maui); propagated and out-planted 20 species of rare and endangered plants (Diamond Head and KNTA). Established protocols to reduce fire, species disturbance and alien species dispersal by soldiers. Reduced soldier and civilian negative impacts to 30 rare, threatened and endangered species at 11 training areas throughout the islands. Hosted high school environmental service events involving a total of 1,000 students throughout the state. Project included outplanting native plants and weeding noxious species in Diamond Head Crater. Distributed species identification posters to soldiers to increase environmental awareness; published articles in local and national environmental newsletters highlighting the efforts of our interagency partnerships with various State/Federal agencies. Completed surveys of rare/endangered species on HIARNG training areas statewide.

Under the cultural resources program, met compliance with the National Historic Preservation Act to prevent the loss of significant historic and archaeological resources. Completed monitoring of archaeological sites during range clearing, recording, mapping and photographing 26 new archaeological sites related to prehistoric and historic occupation at Kanaio Training Area, Maui; completed an inventory level archaeological survey at the Regional Training Institute, Bellows AFS; received complete concurrence by State Historic Preservation Division for Kalaeloa (Barbers Point) relocation and remodeling of a historic WW II hangar and a Cold War era hangar.

Initiated various ecosystem management projects to accomplish long term program goals. Highlights include: implemented projects at Kanaio Training Area, Maui, directed at endangered plant recovery that include establishing new populations and augmenting existing populations; constructed two state-of-the-art propagation facilities at Fort Ruger, Oahu and Keaukaha Military Reservation (KMR), Hilo, for large scale endangered plant propagation. Conducted an in-depth study of the endangered Hawaiian Hoary bat activity at KMR to determine the effects of military training on bats and to identify effective management activities; and, implemented predator control programs to ensure protection of endangered birds and bats. Initiated a wetland restoration project at Ukumehame training area, Maui, to provide quality habitat for the endangered Hawaiian stilt and the Hawaiian Coot and implemented soil stabilization techniques to reduce run-off and sedimentation of local marine environment.

B. Goal/Objective #2: Compliance.

We are currently revising and updating our Spill Prevention Control and Countermeasure Plan to reflect underground storage tank removals, facility changes, and improvements in secondary containment. This year we designed two secondary containment pads for Oahu and one for Hilo. These pads will provide impermeable curbed parking areas for mobile fuel tankers to ensure that in the event of a spill, no fuel comes in contact with soil or water. Construction is targeted for FY 00. Installed four hazardous material containment structures to provide safe storage for flammable and explosive materials.

In terms of Clean Water Act compliance, developed a statewide storm water and wastewater management plan. The plan provides site-specific recommendations regarding oil/water separators, grease traps, and storm water runoff. These recommendations will enable us to achieve greater compliance in the coming year.

As required by the City and County's National Pollutant Discharge Elimination System (NPDES), we installed two new oil/water separators to prevent petroleum products from entering into the City's sewage treatment plants. We also designed and ordered two custom portable oil/water separators which will arrive in FY 00. In addition to eliminating oil discharge, our latest oil/water separators collect and recycle wash water to minimize water consumption.

Implemented pollution prevention initiatives and expanded our recycling program of solid wastes (i.e., cardboard, paper, aluminum cans) in cooperation with local community programs statewide.

Met the Army's restoration program goals to identify and cleanup sites that present a risk to public health and the environment. Project included the removal of unexploded ordnance at Kanaio Training Area in Maui.

C. Goal/Objective #3: Land management.

Developed and implemented a data management scheme with a common naming and directory structure for all spatial data sets. Acquired equipment for the accurate development of geospatial data, greatly increasing the quality and quantity of natural resource information. Contracted with the Federal Systems Integration and Management Center for digital orthophotography, enhancing the capabilities of our geographic information system (GIS) by providing detailed facility imagery and highly accurate ground control. Coordinating with State and local planners to integrate their municipal data sets with the HIARNG GIS.

Coordinated GIS technology and developed a database to inventory and track all archaeological sites and historic buildings statewide.

Mapped locations of rare and endangered plants within Kanaio Training Area (KNTA). Incorporated geo-referenced information from Ukumehame, Kanaio, and KMR training areas into a GIS in order to monitor overall ecosystem health and determine the effectiveness of land management actions. Initiated a mapping project to identify and monitor areas invaded by fire adapted alien grasses at KNTA. This project will assist land managers in controlling the spread of alien species on military land and reduce the frequency of wildfires.

III. Goals/Objectives FY 2000

A. Goal/Objective #1: Conservation. Continually improve and refine stewardship plans to incorporate the latest data and management goals (i.e., Endangered Species, Pest Management, Ecosystem Management, and Cultural Resource Management Plans). Ensure endangered species recovery, cultural resources protection, erosion control, and habitat enhancement on HIARNG lands statewide. Create awareness of the HIARNG's environmental message to Hawaii's youth, Guardsmembers, and the public.

B. Goal/Objective #2: Compliance. Ensure regulatory requirements are met at Kalaeloa (Barbers Point), the Regional Training Institute (Bellows), and the Maui Consolidated Facilities. Complete the environmental baseline surveys for Fort Ruger and Kalaeloa. Continue to implement secondary containment projects and to incorporate pollution prevention initiatives into facilities activities. Complete and/or update various management plans.

C. Goal/Objective #3: Land management. Continue the development and updating of geographic information system (GIS) data layers for all facilities statewide. Develop and implement an integration plan for all environmental management processes and the GIS so that information retrieval is easily accomplished.

Hawaii Air National Guard

I. Goals/Objectives FY 1999

A. Goal/Objective #1: Compliance. Ensure facilities and operations continue in compliance with Federal, State, and local regulations.

B. Goal/Objective #2: Environmental documentation. Continue to pursue assessment and consideration of environmental impacts for all projects.

C. Goal/Objective #3: Pollution prevention. Pursue funding for projects which eliminate potential spills and undesirable discharges to the environment.

II. Results of Efforts FY 1999

A. Goal/Objective #1: Compliance. Completed removal of a hydraulic vehicle lift at the 291st Combat Communications Squadron on Keaukaha Military Reservation, Hilo. Geographically Separated Units (GSUs) evaluated internally under the Air Force's Environmental Compliance and Management Program, which identified potential

compliance problems in-house.

B. Goal/Objective #2: Environmental documentation. Ensured completion of Air Force Form 813, which documents the Environmental Impact Analysis Process for all "significant Federal actions," including all real estate transactions. Drafted an Environmental Assessment for the proposed Clear Water Rinse Facility on Taxiway M, Hickam AFB. Awarded a contract to conduct a Phase II investigation of the Battery Room discharge from the former 298th Air Traffic Control Flight facilities on the Pacific Missile Range Facility, Barking Sands, Kauai.

C. Goal/Objective #3: Pollution prevention. No funds received for pollution prevention projects this fiscal year. Submitted a funding request for an in-line oil reclamation unit to renew vehicle motor oil.

III. Goals/Objectives FY 2000

A. Goal/Objective #1: Compliance. Ensure facilities and operations continue in compliance with Federal, State, and local regulations.

B. Goal/Objective #2: Environmental documentation. Continue to pursue assessment and consideration of environmental impacts for all projects and real estate actions. Ensure proper documentation of the property transfer as a result of the closure of Naval Air Station Barbers Point.

State Civil Defense

I. Goals/Objectives FY 1999

A. Goal/Objective #1: Continue offering training courses that enable participants to meet the responsibilities and challenges of emergencies through planning, mitigation, preparedness, response, and recovery.

B. Goal/Objective #2: Continue to monitor closely the Environmental Impact Statements and Environmental Assessments for matters pertaining to our civil defense infrastructure and for mitigation activities and projects.

C. Goal/Objective #3: A comprehensive risk assessment by hazard is pending final installation of sophisticated modeling software for the State of Hawaii. Anticipated damage to facilities, environment, flora and fauna, homes and other structures, public infrastructure, etc., will be modeled to produce detailed assessments.

II. Results of Efforts FY 1999

A. Goal/Objective #1: We have promoted and conducted hazard communication training to indoctrinate and train State Civil Defense staff on the proper handling and reporting of hazardous materials in their work environment including the use of Material Safety Data Sheets (MSDS). An on-going in-house program that continues to work effectively is the recycling of office products to reduce waste. These include recycling telephone books, used correspondence into scratch paper, and recycling of aluminum cans.

B. Goal/Objective #2: We continue to monitor Environmental Impact Statements and Environmental Assessments for matters pertaining to our Civil Defense infrastructure and for mitigation activities and projects that may affect the environment.

C. Goal/Objective #3: Our partnership with the Pacific Disaster Center (PDC) has yielded valuable information for emergency managers and others statewide. By tapping into the information base of the Maui supercomputer, the PDC have processed for us technical data which included high resolution satellite imagery of damage to the environment from wildland fires on the Big Island, Molokai, west Maui, and Makakilo here on Oahu. Tsunami modeling has also aided us in providing advanced alert and warning to public officials and others as a result of recent earthquakes in Taiwan and Mexico. Although we cannot avoid a damaging tsunami, we can implement mitigation measures to save lives and protect property.

III. Goals/Objectives FY 2000

A. Goal/Objective #1: Continue offering hazard communication training courses that enable participants to meet the responsibilities and challenges of emergencies through planning, mitigation, preparedness, response, and recovery.

B. Goal/Objective #2: Continue to monitor closely the Environmental Impact Statements and Environmental Assessments for matters pertaining to our civil defense infrastructure and for mitigation activities and projects that may affect the environment.

Office of Veterans Services

I. Goals/Objectives FY 1999

A. Goal/Objective #1: Training. Continue on-the-job training as an integral part of the HSVC employee develop-

ment program, especially in the areas of safe handling of fertilizers, herbicides, and pesticides. Continue HAZMAT training. Instruct employees to read all MSDS and sign roster. Train employees to recognize and locate water leaks so that the loss of water can be minimized. Become familiar with chemical use, to prevent runoff and contamination of ground water.

B. Goal/Objective #2: Compliance. Continue to monitor program for compliance to applicable laws and regulations related to environmental protection and conservation. Conduct safety classes. Conduct surveys of fire protection plans and devices. Ensure proper equipment is available. Counsel employees on safe practices of materials handling, including heavy grave markers and chemicals.

C. Goal/Objective #3: Conservation. Continue to evaluate low-impact turf management methods, use of mulch to conserve moisture in landscaped areas; irrigation system monitoring to eliminate irrigation when not required; recycling of office paper, printer cartridges, and newsprint. Closely monitor use of electricity, water, and chemicals.

II. Results of Efforts FY 1999

A. Goal/Objective #1: Training. On-the-job training continues to be an important part of the OVS/HSVC program, with emphasis on correct use of fertilizer, herbicides and pesticides. Actual classroom training was not set up by previous management; HAZMAT training was not completed due to conflicting schedules. Employees have been instructed to read all incoming and current MSDS sheets and to sign a log indicating that the sheet was read. Employees receive on-the-job training in use of chemicals and proper handling to ensure against run-off and contamination of the ground water.

B. Goal/Objective #2: Compliance. Safety classes were conducted with available materials. A fire warden was designated. Inventory of equipment shows that proper tools are available.

C. Goal/Objective #3: Conservation. Use of mulch from the Christmas tree recycling program is on-going, reducing the amount of water needed by the landscaped areas, and in small amount, the annual kwh required to pump irrigation water from the well to the holding tank. Volunteers hand weeded selected portions of the cemetery grounds, eliminating the need for the broad application of agricultural chemicals.

III. Goals/Objectives FY 2000

A. Goals/Objective #1: Training. Training is HSVC's top priority, especially in the area of handling fertilizers, pesticides, herbicides and hazardous materials.

B. Goals/Objective #2: Compliance. Continue to monitor program for compliance to applicable laws and regulations to environmental protection and conservation. Conduct safety classes. Improve and provide safety and fire protection information to decrease possibility of injury or accident. Ensure that equipment is in proper operating condition.

C. Goals/Objective #3: Conservation. Implement cemetery-wide recycling (organic/green waste, paper, aluminum) and promote conservation of materials and utilities.

State Department of Education

I. Goals/Objectives FY 1999

A. Goal/Objective #1: Align environmental curriculum with State and National Standards and develop assessment tools to measure student success in critical thinking and content performance.

B. Goal/Objective #2: Continue to provide staff development activities for teachers to learn effective instructional strategies in critical thinking and inquiry.

C. Goal/Objective #3: Strengthen established partnerships to enrich the instructional delivery of environmental education through contextual learning.

II. Results of Efforts FY 1999

A. Goal/Objective #1: The Exploring the Islands, 4th grade distance learning program, and the accompanying Let's Go Voyaging Teacher's Guide have integrated the State educational standards. Bora Simmons, developer of the National Environmental Education Guidelines reviewed the Science Content Standards, and she responded that the state standards have captured the essence of the national guidelines. Teachers in the Critical Thinking and Inquiry Project developed standards-driven curriculum units that focused on environmental issues. These teachers will be developing assessment tools to measure student success during the current school year.

B. Goal/Objective #2: Integrated teams of secondary teachers were taught the elements of reasoning and the intellectual standards to assess critical thinking. They also learned the process of inquiry investigation. One hundred six project teachers developed integrated units that will be field-

tested in their classroom this school year. These teachers will meet three times during the school year to assess student progress, learn strategies to help learners become critical thinkers, and to use assessment data to improve instruction.

C. Goal/Objective #3: Partnerships have been strengthened with the UH Sea Grant College, the UH Curriculum Research and Development Group, the UH College of Education, the UH/KCC Media Center, the Board of Water Supply, the Department of Health Clean Water Branch, and US Department of Agriculture Soil Conservation Corp. to assist school studying environmental issues in the community.

Partnerships with the Polynesian Voyaging Society, City and County of Honolulu Parks and Recreation Department, Bishop Museum, and the Moanalua Gardens Foundation were further enhanced in providing services to schools studying the marine environment.

Partnerships with Hawaiian Electric Company, McDonald's Corporation, Department of Energy, and the Hawai'i State Department of Business, Economic Development and Tourism were strengthened to provide assistance to secondary schools studying alternate energy.

III. Goals/Objectives FY 2000

A. Goal/Objective #1: Provide standards-driven staff development activities for teachers to strengthen critical thinking and inquiry in the classroom, thereby providing the foundation for students to become environmental stewards.

B. Goal/Objective #2: Develop handbooks for secondary teachers to teach critical thinking and inquiry in the classroom, thereby providing the curriculum resources teachers can use in their classroom.

C. Goal/Objective #3: Establish more partnerships with outside agencies/organizations to provide technical services and curriculum resources to enrich the instructional delivery of environmental education through contextual learning.

State Department of Health

I. Goals/Objectives for FY 1999

A. Goal/Objective #1: To ensure that Hawaii's coastal waters are safe and healthy for people, plants and animals.

B. Goal/Objective #2: To protect and restore the quality of Hawaii's streams, wetlands, estuaries and other inland waters for fish & wildlife, recreation, aesthetic enjoyment and other appropriate uses.

C. Goal/Objective #3: To protect Hawaii's groundwater from contamination for drinking, irrigation, and other appropriate uses.

D. Goal/Objective #4: To protect Hawaii's lands from pollutants that endanger people and the environment; and to rehabilitate contaminated lands.

E. Goal/Objective #5: To protect and enhance Hawaii's air quality for the health of our people.

(Further information on DOH's environmental goals and planning can be viewed in the 1999 Strategic Plan for Hawaii's Environmental Programs, which is available by calling 586-4337, or on the internet at http://www.hawaii.gov/health/eh/epo/stratpla.pdf .)

II. Results of Efforts FY 1999

A. Goal/Objective #1: Beach closures due to sewage and/or chemical spills in calendar year 1998 were down to 13 days, a 54% reduction from calendar year 1997.

B. Goal/Objective #2: DOH has developed a new water quality monitoring protocol to better assess and protect the state's inland (and coastal) waters.

C. Goal/Objective #3: DOH initiated the Hawaii Source Water Assessment Program to establish a method for protecting sources of drinking water, most of which comes from groundwater. DOH also oversaw the cleanup of nearly 300 leaking underground storage sites in FY 1999, thus preventing further contamination of the groundwater beneath those sites.

D. Goal/Objective #4: DOH responded to over 300 oil and chemical spills in FY 1999, assuring cleanup to prevent adverse health effects and avoid future contamination.

E. Goal/Objective #5: The levels of contaminants such as sulfur dioxide, carbon monoxide and particulates in Hawaii's air remain far below levels of concern; as much as 97% better than national standards in some cases.

(Further information on the results of DOH's efforts to reach its environmental goals can be viewed in the 1999 DOH

Indicators of Environmental Quality, which is available by calling 586-4337, or on the internet at http://www.hawaii.gov/health/eh/epo/indict99.pdf .)

III. Goals/Objectives for FY 2000

A. Goal/Objective #1: To ensure that Hawaii's coastal waters are safe and healthy for people, plants and animals.

B. Goal/Objective #2: To protect and restore the quality of Hawaii's streams, wetlands, estuaries and other inland waters for fish & wildlife, recreation, aesthetic enjoyment and other appropriate uses.

C. Goal/Objective #3: To protect Hawaii's groundwater from contamination for drinking, irrigation, and other appropriate uses.

D. Goal/Objective #4: To protect Hawaii's lands from pollutants that endanger people and the environment; and to rehabilitate contaminated lands.

E. Goal/Objective #5: To protect and enhance Hawaii's air quality for the health of our people.

State Department of Land and Natural Resources

Division of Boating and Ocean Recreation

I. Goals/Objectives for FY 1999

The top environmental goal for FY 1999 is to substitute environmentally friendly recycled plastic products for natural wood in boating facility repair and construction projects.

A. Goal/Objective #1: Determine availability of structurally-acceptable marine products for use in marine environments.

B. Goal/Objective #2: Select appropriate projects to demonstrate effectiveness of use.

II. Results of Efforts for FY 1999

A. Goal/Objective #1: The two products that have been selected for use are TREX (sawdust/plastic composite) and TRIMAX (plastic impregnated with fiberglass fibers). Both products are being used as wood substitutes for repairs to dock facilities subject to water immersion from wave and tidal action. TREX is most applicable for deck surfaces due to its non-skid surface. Both products are impervious to water and chemically inert. These products are obtained from Honsador Lumber Corporation, which has been most helpful in obtaining these products in the same dimensions as construction lumber for ease in installation.

B. Goal/Objective #2: In FY 1999, the Heeia Kea boat harbor loading dock was reconstructed with TREX components. TRIMAX lumber was used to replace the wood fendering of the loading docks at Haleiwa boat harbor, and the launching ramps at Maunalua Bay, Oahu, and Kihei, Maui. Selective repairs were also made to the Waianae boat harbor loading dock at and below the waterline, and for replacement of the wood transition decking between the sidewalk and selected concrete catwalks at Haleiwa and Ala Wai boat harbors.

III. Goals/Objectives for FY 2000

A. Goal/Objective #1: Continue program to replace wood products with recycled plastic materials in maintenance and construction projects.

B. Goal/Objective #2: Initiate survey of all boating facilities for compliance with best management practices for marinas and recreational boating, as per implementation plan for polluted runoff control.

Division of Forestry and Wildlife

Hawaii's Division of Forestry & Wildlife (DOFAW) is the largest land management entity in the State of Hawaii, with direct responsibility for approximately 800,000 acres of state trust lands. These lands are managed through an integrated system of forest and natural area reserves, plant and wildlife sanctuaries, and wilderness and game management areas. Within this system is the 11th largest area of State-managed forest lands in the United States, the vast majority of America's tropical rainforests, and the world's most threatened biodiversity.

I. Goals/Objectives FY 1999

A. Goal/Objective #1: Promote, encourage, and advocate for incentives to encourage the maintenance and enhancement of key watersheds on private lands.

B. Goal/Objective #2: Insure viable populations of native species and increase populations of endangered species by protecting and managing their natural habitats.

C. Goal/Objective #3: Develop information and educational materials on Division's programs such as maps, reports, brochures, teachers packets, videos, and posters.

II. Results of Efforts FY 1999

A. Goal/Objective #1:

* Cooperated with 12 landowners statewide in managing 2,226 acres of private land under the Forest Stewardship Program.
* Continue to participate in the East Maui Watershed Partnership.
* Collaborated with private landowners to establish the West Maui Watershed Partnership.
* Participated in a economic valuation study and dialogue with private landowners to establish the Koolau Watershed Partnership on Oahu.

B. Goal/Objective #2:

* Successfully pollinated and out-planted of Mauna Kea and Mauna Loa silverswords in both in-planted and wild populations.
* Maintained 24 rare plant sanctuaries on Kauai and Maui.
* Maintained 11 sanctuaries in Oahu Natural Area Reserves (NAR) protecting rare, threatened and endangered species. A major milestone was the flowering in the wild of the first out-planted Cyanea superba in Pahole NAR.
* Continued to manage habitat in the Hanawi Natural Area Reserve on East Maui for five species of endangered forest birds and other native species by animal, predator, and weed control.
* Continued predator control to remove rats, mongooses, and cats in Palila, Po'ouli and Puaiohi habitat on Hawaii, Kauai, and Maui.

C. Goal/Objective #3:

* Exhibited a traveling forest bird photo show on Molokai, Lanai, Hawaii Island, and Oahu.
* Created a bus poster of Hawaiian Humpback whales (in conjunction with National Marine Whale Sanctuary).
* Created a Na Hoa Mahi'ai brochure about the Hawaii Forestry and Communities Initiative.
* Assisted 'Ohi'a Productions with the teacher education packet for the "In the Clear Blue Sea" performance.
* Helped to obtain grant for having the "Voices of the Rainforest" show tour the neighbor islands.
* Supported production of the "Voices of the Rainforest" video for distribution to elementary, secondary, and public libraries statewide.
* Created exhibit about Na Ala Hele hiking trails on all the main islands.

III. Goals/Objectives FY 2000

A. Goal/Objective #1: Develop responsible mechanisms to manage commercial uses such as encouraging ecotourism in ways that sustain the natural resources and provide benefits to the local community.

B. Goal/Objective #2: Conduct an aggressive propagation and re-introduction program for T&E species (e.g. bird rearing, plant nurseries and out-planting).

C. Goal/Objective #3: Encourage private citizens to work on natural resource management projects by supporting community volunteer programs.

Division of State Parks

I. Goals/Objectives FY 1999

A. Goal/Objective #1: Balance the public's recreational use of the natural and cultural resources in the state park system with the preservation and management of these resources through education and stewardship.

B. Goal/ Objective #2: Promote community and park user participation in the sustainable management of the park resources.

C. Goal/ Objective #3: Work with communities to restore and interpret the cultural landscapes of Kahana Valley State Park, O'ahu and Ha'ena State Park, Kaua'i.

II. Results of Efforts FY 1999

A. Goal/Objective #1: Installation of interpretive devices in the parks where interpretive staffing is available. Completion of interpretive/education centers at Diamond Head State Monument, O'ahu and Lapakahi State Historical Park, Hawai'i. Interpretive signs installed at Wailua River State Park, Kaua'i and Diamond Head, O'ahu.

B. Goal/Objective #2: Continued development and expansion of volunteer and curatorship programs in the parks to assist with park improvements, visitor education, and resource management.

C. Goal/Objective #3: Planning for restoration of taro *lo'i* at Ha'ena is underway while lo'i *and 'auwai* have been restored at Kahana Valley, O'ahu for interpretation.

III. Goals/Objectives FY 2000

A. Goal/Objective #1: Continuation of goals and objectives from FY 1999 with an emphasis on parks with major natural resources, such as Koke'e and Waimea Canyon State Parks.

State Department of Public Safety

I. Goals/Objectives FY 1999

A. Goal/Objective #1: To ensure departmental operations comform to all existing environmental laws, requirements, and regulatory guidelines.

B. Goal Objective #2: To be appropriately responsive to any environmental concern the public may have with respect to the daily operations of the Department.

C. Goal Objective #3: To be appropriately prepared to ensure no environmental impact(s) results from any "Y2k" related problem during the year 2000.

II. Results of efforts FY 1999

A. Goal/Objective #1: The Department's internal audit and inspection process known as the PSD Management Control and Assessment System (MCAS) was successfully applied at three Correctional Facilities on the island of Oahu (Halawa Correctional Facility, Oahu Community Correctional Center, and the Women's Community Correctional Center). Inclusive in this process are areas specific to laws, regulations, and guidelines, relating to environmental health and safety issues. The MCAS provides for the identification and monitoring of any departmental operation or function, which may have potential impact(s) on the environment i.e., Preventive Maintenance programs, and facility Hazard Communication programs.

B. Goal/Objective #2: PSD continues to maintain its Inspection and Investigations Office (IIO) as the departmental entity responsible to monitor environmental conditions at PSD branch operations statewide. Fully staffed with a qualified Environmental Health Specialist (EHS), IIO provides necessary technical assistance to all programs/ branch operations within PSD and acts as this Department's liaison with other government agencies, and the general public, on all matters relating to environmental issues.

C. Goal/Objective #3: PSD, in conjunction with the Department of Accounting and General Services (DAGS), is in the process of completing a significant undertaking to identify and test all of its functional components and services for Y2k compliance. As of this date, the Department is better than 98% compliant and is striving towards 100% compliance by the turn of the New Year.

III. Goals/Objectives FY 2000

A. Goal/Objective #1: As the Department of Public Safety believes it now has a credible and useful internal monitoring instrument in its Management Control and Assessment System (MCAS); the Department will seek to expand its application to include all eight (8) correctional facilities throughout this State. With essential environmental health and safety items included in a comprehensive annual inspection process, the actual monitoring will be facilitated by a dedicated PSD Inspections and Investigations Office staff.

B. Goal/Objective #2: To reinforce and enhance awareness of environmental issues with all PSD employees to ensure their daily work activities remain safe and preclude/ minimize the possibility of adverse environmental impacts.

State Department of Transportation

Airports Division

I. Goals/Objectives FY 1999

A. Objective #1: Prepare and submit the annual report to renew the NPDES stormwater permits for Honolulu, Kahului, Lihue, Molokai and Dillingham Airports.

B. Objective #2: Initiate an Environmental Impact Statement for proposed improvements to Lihue Airport.

C. Objective #3: Prepare a preliminary engineering report which will focus on the treatment of process water from oil/water separators and to prepare the necessary documentation to establish a soil management facility for the remediation of petroleum contaminated soil at Kahului, Lihue, Kona and Hilo airports.

II. Results of Efforts FY 1999

A. Objective #1: The annual report for the individual NPDES permit for Honolulu International Airport was submitted to the Department of Health (DOH). The Notice of General Permit Coverage issued by DOH for Kahului, Lihue, Molokai and Dillingham Airports requires an annual discharge monitoring report. These reports were submitted to the DOH. Stormwater Monitoring Plans were prepared and

stormwater collection training programs were also completed for Kahului, Lihue, Molokai and Dillingham Airports.

B. Objective #2: The Environmental Impact Statement (EIS) for proposed improvements to Lihue Airport has been initiated and is on-going. The draft EIS will be prepared by August 2000.

C. Objective #3: The evaluation of treatment systems for process water resulting from vehicle washing has been completed for Kahului, Lihue, Kona Hilo Airports. Furthermore, the soil management facilities to remediate petroleum contaminated soils onsite have been established on the above mentioned airports.

III. Goals/Objectives FY 2000

A. Objective #1: Complete a stormwater monitoring plan for Honolulu International Airport and to install automatic stormwater collection systems at several sites.

B. Objective #2: Installation of an aircraft noise monitoring system for Honolulu International Airport.

C. Objective #3: Initiate an Environmental Assessment (EA) for improvements at Hilo International Airport.

Harbors Division

I. Goals/Objectives FY 1999

A. Goal/Objective #1: The Harbors Division perseveres to balance environmental and economic concerns in the improvement/allocation of harbor facilities.

B. Goal/Objective #2: The Harbors Division encourages management practices which control and abate pollution.

C. Goal/Objective #3: To support Hawaii's lifestyle, the Harbors Division develops transportation systems in compliance with environmental laws and regulations.

II. Results of Efforts FY 1999

A. Goal/Objective #1:

* Commercial harbor master plans utilize the environmental disclosure process to ensure proper planning safeguards for harbor facility improvements.
* Engineering design and construction insure minimal environmental impacts of harbors projects.
* Harbors Division's engineering design and construction services always strive for project compatibility with the environment and natural surroundings.
* By consulting/coordinating with appropriate citizen groups and environmental organizations, the Division was able to address all environmental concerns/impacts to the satisfaction of the involved parties.
* Harbors Division's projects continue to reflect an aesthetic harmony with the environment while striving to protect and preserve the environment.
* Harbors Division's projects also minimize noise pollution and blasting vibrations to satisfy public/community concerns.

B. Goal/Objective #2:

* The Harbors Division complies with all environmental requirements in the control and abatement of pollution. Coastal Zone Management approval of Harbors Division's projects entails compliance with the U.S. Army Corps of Engineers, the State Department of Health (DOH), and the U.S. Environmental Protection Agency pollution control requirements. Dredging, excavation and ocean dumping require the use of silt curtains, filtering pools, and water quality monitoring. Harbors Division's projects also perform air monitoring whenever required by DOH programs.
* Asbestos, lead paint, contaminated soil, and other hazardous wastes generated by structural demolition are properly disposed or treated by the appropriate service.
* Administrative/professional offices practice paper and aluminum recycling.
* Harbors Division's operations maintain pollution/litter control in and around the harbors and harbor facilities.
* Underground storage tanks are regularly monitored for leaks.
* Solvents, used oil, oil-based paints, lacquer, thinner, brake fluid, and other hazardous wastes are properly disposed.
* Nonhazardous substitutes (e.g., water-based solvents) are being considered to minimize hazardous waste generation.
* Tenants and lessees are advised of appropriate pollution control measures.

C. Goal/Objective #3:

* Hawaii's history and tradition are linked to the sea. Our maritime culture began on the day the first Polynesian seafarers set foot on these islands. The harmonic embrace of the maritime culture, the lifestyle of the people and the environment of the State are being perpetuated through the development of additional/improved commercial harbor facilities and the use of more efficient vessels.

III. Goals/Objectives FY 2000

Harbors Division will have the same goals and objectives as in FY 1999.

Highways Division

In order of priority, our environmental goals/objectives for FY 2000 are:

1. Obtain a Municipal Separate Storm Sewer System (MS4) Permit for the State Highway System.

2. Publish/implement new guidelines for maintainable highway landscaping.

3. Retain a consultant to prepare a comprehensive corridor plan addressing functional and environmental considerations for Kuhio Highway on Kauai's north shore.

4. Retain a consultant to develop a Hawaii Scenic Byways Program.

5. Remove/abate lead based paint on steel bridges and other structures in the State Highway System.

City and County of Honolulu Board of Water Supply

I. Goals/Objectives for FY 1999

A. Goal/Objective #1: Continue to develop environmentally-appropriate water system projects and increase public notification and information on these projects.

B. Goal/Objective #2: Continue discussions to streamline the water use permit process by utilizing the County's building permit review process to identify specific water use.

C. Goal/Objective #3: Utilize the upcoming Oahu integrated water resource planning (IRP) process to identify the instream and non-instream uses to assist the Commission on Water Resource Management (CWRM) in setting permanent instream flow standards. The uncertainty regarding surface water resources and their effect on groundwater availability need to be resolved.

II. Results of Efforts for FY 1999

A. Goal/Objective #1: BWS projects have become more environmentally appropriate although project costs have increased. BWS has taken a more proactive approach to improve public notification procedures by increasing the number of community presentations for significant projects.

B. Goal/Objective #2: Institutional changes need to occur to streamline the water use permit process and additional time is needed.

C. Goal/Objective #3: The BWS has launched the integrated resource planning process to update the Oahu Water Management Plan. In addition to refining the urban groundwater plan, the IRP will develop surface water use information to start to address instream uses, agriculture and native Hawaiian and appurtenant water rights. Identifying and planning for surface water uses are necessary steps to allow CWRM to set permanent instream flow standards.

III. Goals/Objectives for FY 2000

A. Goal/Objective #1: Increase public outreach and community pre-consultation during the feasibility phase of major water system projects. Outreach is needed for certain projects prior to the Environmental Assessment/Environmental Impact Statement stage.

B. Goal/Objective #2: Pursue creative solutions to streamline the environmental permit processes for water use, utility crossings of streams and projects within the State conservation district and the County Special Management Area.

C. Goal/Objective #3: Utilize the Oahu IRP process to plan the expansion of nonpotable water systems, including reclamation. Nonpotable water systems will defer the development of potable groundwater for irrigation and industrial use and allow some opportunities for stream restoration. All water supply strategies and plans will be developed via extensive public participation, which provides a forum for community input for long-term comprehensive assessments of all water uses with respect to natural and alternative resources to seek a balance of environmental, cultural, municipal, and agricultural needs.

City and County of Honolulu Department of Environmental Services

I. Goals/Objectives FY 1999

A. Goal/Objective #1: Reuse 5 million gallons per day of reclaimed effluent by July 1, 1999.

B. Goal/Objective #2: Complete sewage sludge composting pilot project.

C. Goal/Objective #3: Reduce odor and noise at the Kailua Regional Wastewater Treatment Plant.

II. Results of Efforts FY 1999

A. Goal/Objective #1: Due to mitigating factors, the U.S. Environmental Protection Agency has set a new reuse milestone of 5 million gallons per day by Sept. 30, 2000.

B. Goal/Objective #2: The City has contracted with the Navy and has begun the composting of biosolids.

C. Goal/Objective #3: The department has retained consultants to address this issue. Also, $3.8 million has been appropriated in the City's FY 2000 capital improvements budget targeting odor and noise problems at the Kailua Regional Wastewater Treatment Plant.

III. Goals/Objectives FY 2000

A. Goal/Objective #1: Reuse 5 million gallons per day of reclaimed effluent by September 30, 2000.

B. Goal/Objective #2: Expand biosolids reuse programs through additional composting administered by Refuse Division.

C. Goal/Objective #3: Complete Infiltration/Inflow study and begin 20-year sewer rehabilitation plan to minimize spills in the wastewater collection and treatment system.

City and County of Honolulu Department of Facility Maintenance

I. Goals/Objectives for FY 1999

A. Goal/Objective #1: Promote sound environmental measures for the operation and maintenance of public facilities.

II. Results of Efforts FY 1999

A. Goal/Objective #1: Compliance with environmental regulations by obtaining proper permits to perform our operations and maintenance of public facilities.

III. Goals/Objectives FY 2000

A. Goal/Objective #1: Promote sound environmental measures for the operation and maintenance of public facilities.

City and County of Honolulu Department of Planning and Permitting

I. Goals/Objectives for FY 1999

A. Goal/Objective #1: The careful and sensible implementation of existing rules and regulations that incorporate numerous environmental goals and objectives.

B. Goal/Objective #2: Mitigate soil erosion from construction sites and enhance the quality of storm water runoff from new developments.

C. Goal/Objective #3: Improve effective land use and development controls.

II. Results of Efforts for FY 1999

A. Goal/Objective #1: The adoption of revised Rules Relating to Soil Erosion Standards and Guidelines which offer a new standard for evaluation and control of soil losses and reflect the most recent requirements at the State, County and Federal levels, including the National Pollutant Discharge Elimination System (NPDES) Permit.

B. Goal/Objective #2: The adoption of revised Rules Relating to Storm Drainage Standards which address storm runoff for both flood control as well as runoff quality, and reflect the most recent changes in Federal, State and County requirements, including compliance with requirements specified by the Clean Water Act as amended in 1987.

III. Goals/Objectives for FY 2000

A. Goal/Objective #1: Continue efforts to better implement these revised rules and to educate the development, construction and general community in order to enhance compliance with these regulations.

B. Goal/Objective #2: Continue efforts for better coordinated and cooperative beach and shoreline protection programs with the State Department of Land and Natural Resources, as well as with Federal agencies.

C. Goal/Objective #3: Increase compliance with other existing rules and regulations which protect the environment; place greater emphasis on proper and appropriate mitigation and monitoring of development and construction.

City and County of Honolulu Fire Department

I. Goals/Objectives FY 1999

A. Goal/Objective #1: Department is in the process of removing underground fuel tanks where applicable and remediating the soil. Aboveground fuel tanks will be installed in stations having the space to do so.

B. Goal/Objective #2: Department of Design and Construction and the Honolulu Fire Department are evaluating the effectiveness of heat pumps presently in stations. The plan is to replace the heat pumps with solar panels in those stations presently using heat pumps.

C. Goal/Objective #3: Continue working with the Department of Design and Construction to complete projects established in FY 1998.

II. Results of Efforts FY 1999

A. Goal/Objective #1: Funding constraints have caused the Department to take alternative approaches to protecting the environment and meeting established goals and objectives. The Department of Design and Construction installed six automatic tank gauging systems to monitor underground tank leakage and fuel balance in order to comply with EPA requirements. Aboveground tanks were installed at newly constructed Stations 41 and 42 during this fiscal year.

B. Goal/Objective #2: It was determined by the Department of Design and Construction that the use of the heat pump was not effective. Plans are made to install solar heaters in renovated and newly constructed fire stations. Solar panels were installed in newly construction Stations 41 and 42.

C. Goal/Objective #3: Work on installing partitions in the dormitory is proceeding. It is estimated that 50% of this project has been completed. Work on the wash rack at the HFD Maintenance Facility has been halted due to funding constraints.

III. Goals/Objectives FY 2000

A. Goal/Objective #1: Continue to work closely with the Department of Design and Construction to follow up on projects which began in FY 1998 such as the construction of the wash rack, monitoring underground fuel tanks, and installation of partitions in the dormitories.

B. Goal/Objective #2: Appointment of an Assistant Chief to oversee maintenance of fire stations in terms of plumbing, electricity, and the state of repair in the facilities. Proper maintenance assures the conservation of precious resources such as water and electricity.

C. Goal/Objective #3: To comply with the Department of Budget and Fiscal Services' program to purchase energy efficient office equipment and recycled products.

City and County of Honolulu Oahu Civil Defense Agency

I. Goals/Objectives FY 1999

A. Goal/Objective #1: None

B. Goal/objective #2: None

C. Goal/Objective #3: None

II. Results of Efforts FY 1999

A. Goal/Objective #1: All employees of the agency have been made familiar with the provision of Chapter 344, HRS.

B. Goal/Objective #2: Approximately 50 percent of civil defense volunteers have been made familiar with the provisions of Chapter 344, HRS. We will continue to provide training in this subject matter.

C. Goal/Objective #3: This agency does not expect to develop new goals at this time, but will remain cognizant of environmental concerns and add new goals as appropriate.

III. Goals/Objectives FY 2000

A. Goal/Objective #1: Civil Defense volunteers will be able to describe, in general terms, the State Environmental Policy presented in Chapter 344, HRS.

Agency Goals

County of Hawaii Department of Parks and Recreation

I. Goals/Objectives FY 1999

A. Goal/Objective #1: Wastewater System Improvements (Paauilo, Haina, Milolii, Higashihara)

B. Goal/Objective #2: Tree Planting Program (Kamehameha Ave, West Hawaii Veterans Cemetery, Hilo Municipal Golf Course)

II. Results of Efforts FY 1999

A. Goal/Objective #1: Converted cesspool system to septic system at Paauilo Park and Haina Park.

B. Goal/Objective #2: Tree planting projects completed at Kamehameha Avenue, West Hawaii Veterans Cemetery, and Hilo Municipal Golf Course.

III. Goals/Objectives FY 2000

A. Goal/Objective #1: Wastewater System Improvements (Milolii Beach, Higashihara Park, Kolekole Beach, Hookena Beach)

B. Goal/Objective #2: Tree Planting Program (Lincoln Park, Mooheau Park, Keaau Park, Pahoa Community Center)

County of Hawaii Department of Water Supply

I. Goals/Objectives FY 1999

A. Goal/Objective #1: Continue to replace transite pipes containing asbestos with ductile iron pipe throughout the island.

B. Goal/Objective #2: Refurbish and paint water tanks to improve aesthetics. Also, target to replace all lead-based primer-coated steel tanks with concrete tanks.

II. Results of Efforts FY 1999

A. Goal/Objective #1: Replaced transite pipes containing asbestos with ductile iron pipes. This will be an ongoing activity throughout the island.

B. Goal/Objective #2: In the process of replacing Olaa Nos. 5 and 6 steel tanks with concrete tanks. Plans to replace Kynnersley Nos. 1 and 2 steel tanks have been completed.

III. Goals/Objectives FY 2000

A. Goal/Objective #1: Continue to replace transite pipes containing asbestos with ductile iron pipe throughout the island.

B. Goal/Objective #2: Refurbish and paint water tanks to improve aesthetics. Also, replace lead-based primer-coated steel tanks with concrete tanks.

County of Hawaii Fire Department

I. Goals/Objectives FY 1999

A. Goal/Objective #1: Maintain haz-mat equipment inventory and increase training for haz-mat personnel.

B. Goal/Objective #2: Work on Cameo and pre-plans for Tier II businesses.

C. Goal/Objective #3: Continue wildland fire/urban interface pre-fire plans.

II. Results of Efforts FY 1999

A. Goal/Objective #1: Present haz-mat equipment inventory is being evaluated for upgrades or replacement. Dr. John Bowen is training technicians during the months of October and November, 1999. Hawaii County Fire Department instructors during Haz-Woper re-certification are presently teaching "Emergency Response to Terrorism."

B. Goal/Objective #2: Pre-plans for Tier II facilities are presently being inputted by the haz-mat company. In-district fire companies are presently upgrading their response plans to these facilities.

C. Goal/Objective #3: Training was conducted for fire service personnel in May, 1999. A Wildland Fire Committee has been formed to evaluate equipment and tactics for fire fighting.

III. Goals/Objectives FY 2000

A. Goal/Objective #1: Issue of environmentally friendly absorbents to all fire companies for hazard mitigation.

B. Goal/Objective #2: Update and coordinate community response plans in conjunction with State Civil Defense and LEPC for haz-mat incidents.

C. Goal/Objective #3: Work with Waikoloa community group and government agencies in an awareness program in a clean-up effort of spend munitions.

County of Hawaii Office of Housing and Community Development (OHCD)

I. Goals/Objectives FY 1999

A. Goal/Objective #1: The OHCD will continue to seek training to keep staff abreast of National Environmental Policy Act (NEPA) rule changes.

B. Goal/Objective #2: The OHCD will continue to seek ways to educate and coordinate with its environmental consultants to streamline the Environmental Assessment (EA) process with Federal and State agencies.

II. Results of Efforts FY 1999

A. Goal/Objective #1: Staff attended a workshop in February 1999, with a U.S. Department of Housing and Urban Development (HUD) environmental specialist from San Francisco on new requirements set forth by the NEPA.

B. Goal/Objective #2: Staff has requested HUD to coordinate efforts to ensure that the new EA form complies with both Federal and State requirements. Key consultants were invited to attend the workshop with HUD's environmental specialist on new requirements set forth by HUD and NEPA. Continued working with consultants to develop a more efficient way to address EA requirements.

III. Goals/Objectives for FY 2000

A. Goal/Objective #1: The OHCD will continue to seek training to keep staff abreast of rule changes regarding EA requirements for the State, NEPA and HUD rule changes.

B. Goal/Objective #2: The OHCD will continue to work with the State and Federal governments and the respective County agencies to draft an acceptable Memorandum of Understanding regarding projects that will be exempt from the Historical Preservation requirements.

C. Goal/Objective #3: The OHCD will continue to work with its environmental consultants and HUD to further refine an EA format that will adequately comply with both State and Federal environmental requirements.

County of Hawaii Planning Department

I. Goals/Objectives FY 1999

A. Goal/Objective #1: To continue to seek a proper balance between protection of our environmental resources and the encouragement of economic development for the well-being of our island residents.

B. Goal/Objective #2: To establish better coordination of our review and permitting procedures with various Federal, State and County agencies.

C. Goal/Objective #3: Continue with the Comprehensive Review of the Hawaii County General Plan with a draft anticipated by end of 1999. The General Plan Revision Program is providing our office with the opportunity to reevaluate and reassess the County's environmental goals for the first decade of the New Century within the context of the environmental elements of the General Plan. These elements consist of Environmental Quality, Flood Control & Drainage, Historic Sites, Natural Beauty and Natural Resources and Shoreline.

II. Results of Efforts FY 1999

A. Goal/Objective #1: In mid-1998, a Geographical Information System (GIS) was established within the Planning Department to aid land use analysis. The department is currently working with various State, County and Federal agencies to obtain data relevant to our planning activities, such as soil quality, flood areas, historic sites, transportation networks and infrastructure. This technology will aid the department in developing its land use policies which encourage economic development in balance with the islands social and environmental resources.

B. Goal/Objective #2: Meetings held with various Federal, State and County agencies regarding the Comprehensive Review of the Hawaii County General Plan to encourage their participation in the Revision Program. The various agencies have provided this department with a wealth of information and recommendations regarding our long-range land use policies. We will maintain these relationships to ensure the efficient implementation of our land use policies.

C. Goal/Objective #3: Comprehensive Review of the Hawaii County General Plan commenced in January 1998 with a series of public informational workshops held throughout the island and with various governmental agencies, major landowners, community organizations and special interest groups. A draft of the Revised Hawaii County General Plan is expected to be released for public review and comment by the end of the year.

III. Goals/Objectives FY 2000

A. Goal/Objective #1: To continue to seek a proper balance between protection of our environmental resources and the encouragement of economic development for the well-being of our island residents. Continue with the implementation of a GIS and incorporate its abilities within our planning processes and programs.

B. Goal/Objective #2: To continue to work for better coordination of our review and permitting procedures with various Federal, State and County agencies. Maintain relationships established through the General Plan Comprehensive Review program.

C. Goal/Objective #3: Completion of Comprehensive Review program and the adoption of the revised Hawaii County General Plan.

County of Kauai, Department of Water

I. Goals/Objectives for FY 1999

A. Goal/Objective # 1: Continued operation of all our water systems in full compliance with all applicable Safe Drinking Water Act Requirements.

B. Goal/Objective #2: Continued operation of all Department business in accordance with all applicable environmental and safety regulations, and implementation of best management practices within all of our operations.

C. Goal/Objective #3: Timely completion of the Environmental Review process for all new projects.

II. Results of Efforts FY 1999

A. Goal/Objective #1: No violations of DOFPEPA Requirements.

B. Goal/Objective #2: Complied with Environmental Regulations, no violations of HIOSH Requirements, progress on BMPS.

C. Goal/Objective #3: All projects complied with Chapter 343.

III. Goals/Objectives for FY 2000

A. Goal/Objective # 1: Continued operation of all our water systems in full compliance with all applicable Safe Drinking Water Act Requirements.

B. Goal/Objective #2: Continued operation of all Department business in accordance with all applicable environmental and safety regulations, and implementation of best management practices within all of our operations.

C. Goal/Objective #3: Update Department's Chapter 343 Exemption List.

County of Kauai Housing Agency, Offices of Community Assistance

In administering federal housing and community development grant programs, the County Housing Agency works closely with fund recipients to coordinate their compliance with 24 CFR Part 58 in assessing the appropriate level of environmental review required for each program/project activity.

I. Goals/Objectives FY 1999

A. Goal/Objective #1: Effectively assume responsibility for environmental review, decision-making and action that would otherwise apply to HUD under the National Environment Policy Act, 24 CFR Part 58.

B. Goal/Objective #2: Afford private citizens and governmental entities the opportunity to comment on federally funded activities affecting human, physical and social environments.

C. Goal/Objective #3: Effectively monitor activities subject to Part 58, including Community Development Block Grant, HOME Investment Partnerships Program, Emergency Shelter Grant Program, and Special Purpose Grants.

II. Results of Efforts FY 1999

A. Goal/Objective #1: Carried out environmental review responsibilities in determining appropriate level of review and documentation for each CDBG, ESG and HOME activity/project.

B. Goal/Objective #2: Issued public legal notices and considered public comments in performing environmental assessments.

C. Goal/Objective #3: Maintained environmental review record for each program activity/project assessed during the reporting period.

III. Goals/Objectives FY 2000

Same as those identified for fiscal year 1999.

County of Kauai Planning Department

I. Goals/Objectives FY 1999

A. Goal/Objective #1: To ensure that land use and development projects are assessed for conformity to the goals and policies of the Kauai County General Plan and supporting zoning ordinances with respect to maintaining Kauai as the "Garden Island" by sustaining the unique landscape, natural ecology and environmental character of the Island.

B. Goal/Objective #2: To facilitate the implementation of the County's Shoreline Setback and Special Management Area Rules and Regulations.

C. Goal/Objective #3: To provide objective reviews and information regarding projects that may have potential impacts to the environment.

II. Results of Efforts FY 1999

A. Goal/Objective #1: Discretionary permits and applications are referred to various governmental agencies for comments (and HRS 343 process when applicable) and adjoining property notification and public hearings are held to further identify and address impacts. Due to the nature of a recent project, an applicant was required to conduct an EIS although there was no mandatory statutory requirement. The County is also in the process of updating the General Plan.

B. Goal/Objective #2: Departmental efforts to monitor development activities which may impact the Special Management Area are ongoing.

C. Goal/Objective #3: Departmental comments are offered through the environmental assessment process, conservation district use permit reviews and when requested by other agency or applicant actions. As funding allows, staff attends workshops and conferences to enhance in-house expertise.

III. Goals/Objectives FY 2000

The current environmental goals/objectives apply to FY 2000.

County of Maui, Department of Housing and Human Concerns

The County of Maui, Department of Housing and Human Concerns, remains committed to environmental preservation and sustainability efforts as an assurance for the continued protection and prosperity of Hawaii's natural resources. In this regard, we maintain a strong environmental preservation and protection commitment in our programs and services and we shall continue to make every effort to assist the State in achieving its environmental goals for FY 2000.

The Department of Housing and Human Concerns has a wide area of responsibility which encompasses various programs in a social services (senior, adult, youth and childcare, substance abuse, immigration, homelessness, employment, domestic violence, etc.), housing, transportation, volunteer services, animal management, and a number of other community arenas. The majority of organizations or groups in these service areas have an acute awareness of environmental preservation issues and routinely implement environmental protection practices in their work places and/or programs. Collaboration and information networking with regard to environmental issues is supported and encouraged in community programs while environmental protection considerations are maintained in housing development projects and transportation systems operations.

Within the realm of community service programs administered by the Department of Housing and Human Concerns, the emphasis has been to provide general environmental protection, as well as recycling and sustainability information in written, media and discussion formats aimed at both agency personnel and program participants.

Agency Goals

I. Goals/Objectives for FY 1999

In FY 1999, all agencies under contract with the County of Maui through its Community Partnership Grants (CPG) program were required to include environmental protection information and recycling practices in their programs, activities or events as a condition for receiving County funding. This was accomplished in cooperation with the County of Maui Department of Public Works, Solid Waste and Recycling Divisions as a way to achieve a consistent level of environmental protection awareness and encourage recycling practices in community programs and services throughout the County.

II. Results of Efforts FY 1999

This is an ongoing effort and will remain a priority consideration for community programs, housing, transportation and other programs administered through the Department of Housing and Human Concerns in FY 2000.

III. Goals/Objectives for FY 2000

For FY 2000, the Department of Housing and Human Concerns has entered into a formal partnership with Decisions Maui (a citizen environmental protection/information group), Maui Economic Opportunity, Inc., and Maui Community College in the submission of a grant proposal to the federal Environmental Protection Administration (EPA) to fund an environmental protection and sustainability education and awareness program for Maui County. If funded, this will allow for the inclusion of an increased emphasis on environmental topics in the formulation of the next Maui County General Community Plan and will extend the depth of information to be provided to the public on the environment as it relates to community growth and development.

We look forward to a continued emphasis on environmental protection, recycling and sustainability in our community programs and services. As a priority issue, it will continue to be a significant area of responsibility uppermost in the minds of community leaders, government and the general public.

County of Maui, Department of Parks and Recreation

I. Goals/Objectives for FY 1999

A. Goal/Objective #1: To raise awareness of the value of trees through the staff support of the Arborist Committee, a citizen advisory committee to the Mayor, by observing Arbor Week in November and the successful application for the Tree City, USA designation.

B. Goal/Objective #2: To promote environmental awareness in Maui County by recruiting and staffing the Christmas TreeCycling projects, manning the Litter Hotline and manufacturing wire baskets for the recycling of aluminum products.

C. Goal/Objective #3: To promote volunteerism within Maui County by developing projects that complement nationally recognized days of service to the community, such as “Make-a-Difference” Day.

II. Results of Efforts FY 1999

	FY 98 Actual	FY 99 Actual
Additional street trees planted	64	73
Additional park trees planted	544	420

III. Goals/Objectives for FY 2000

The current environmental goals/objectives apply to FY 2000.

County of Maui, Department of Planning

I. Goals/Objectives for FY 1999

A. Goal/Objective #1: To provide the expertise and staff to enforce the County’s Special Management Area and Shoreline Area Regulations as revised.

B. Goal/Objective #2: To continue to review projects for conformity with the County’s current environmental policies in the General Plan, the specific community plans, zoning codes, and Coastal Zone Management guidelines.

C. Goal/Objective #3: To continue to support the adoption of the pending community plans by providing timely updated information on revised proposals necessary for the County Council's review. These plans contain environmental goals, objectives and policies, and implementing actions as they relate to the specific community plan region.

II. Results of Efforts FY 1999

A. Goal/Objective #1: In Fiscal Year (FY) 1999, the Department reviewed 198 applications for Special Management Area Permits. Of these, 164 were minor permits which were reviewed administratively. The other 34 were publicly reviewed by the Maui, Molokai, or Lanai Planning Commissions.

B. Goal/Objective #2: In FY 99, the Department reviewed 114 discretionary permits for conformance with the County's environmental policies as expressed in the Maui General Plan and the appropriate community plans. These applications include:

7 District Boundary Amendments
13 State Special Use Permits
12 Changes in Zoning
9 Project District Reviews
10 Community Plan Amendments
13 Conditional Use Permits
8 County Special Use Permits
25 Shoreline Setback Approvals
4 Shoreline Setback Variances
13 Environmental Assessments
0 Environmental Impact Statement

C. Goal/Objective #3: In FY 99, the Department supported the review and adoption of the Lanai Community Plan. The Department is currently assisting in the review and adoption of the Wailuku-Kahului Community Plan and should begin on the Molokai Community Plan before the end of the fiscal year.

III. Goals/Objectives for FY 2000

The Department's goals and objectives are unlikely to change in FY 2000. The first two goals are ongoing activities by the Department. The third will require at least one more year to adopt the Molokai Community Plan.

County of Maui, Department of Public Works and Waste Management

I. Goals/Objectives for FY 1999

A. Goal/Objective #1: Finalize an agreement with the union to plan for transition to automated refuse collection, green waste, and recycling collection.

B. Goal/Objective #2: Adopt the wastewater pretreatment civil procedure, rules, and ordinances to effectuate this program.

C. Goal/Objective #3: Fully implement the grant with the Department of Health by contracting the work provided in the agreement for protecting nearshore water quality.

II. Results of Efforts FY 1999

A. Goal/Objective #1: Negotiations with the union are ongoing and are expected to conclude this fiscal year. The County Council appropriated funding for this fiscal year for automated refuse trucks and specialized collection bins for our customers.

B. Goal/Objective #2: The pretreatment ordinance was adopted on April 20, 1999. The ordinance cleaned up language and responsibilities in the sewer ordinance making the enforcement of the ordinance more effective.

C. Goal/Objective #3: The grant has been finally implemented with the DOH and the County's contractor has begun work.

III. Goals/Objectives for FY 2000

A. Goal/Objective #1: Complete the adoption of civil procedures and rules for the wastewater pretreatment program.

B. Goal/Objective #2: Substantially complete the contract with the DOH regarding the protection of nearshore water quality.

C. Goal/Objective #3: Review and adjust, as necessary, the department's practice of opening stream channels in Kihei to be more sensitive to the movement of sand and its relation to maintaining healthy beaches.