

# The Environmental Council

THE 2000 ANNUAL REPORT OF THE ENVIRONMENTAL COUNCIL

STATE OF HAWAII

# Environmental Report Card, 2000

**An Assessment of Hawai'i's Environmental Health**  
Pursuant to Chapter 341, HRS

- **Recommendation to reduce greenhouse gas emissions**
- **Indicators of environmental progress and quality**
- **Agency progress report on meeting environmental goals**

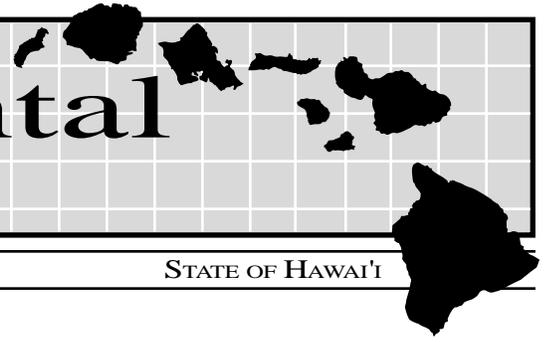


The Environmental Council  
and the  
Office of Environmental Quality Control  
State of Hawai'i

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# The Environmental Council



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## ENVIRONMENTAL COUNCIL 2000

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Director, Office of Environmental Quality Control  
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# 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.

The 2000 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.

## Acknowledgements

OEQC and the Council would like to thank Steven Alber, Douglas Oshiro, Melissa O'Connor-Farinas, Barry Ching, Lisa Young, Susan Kihara, Kay Kaminaka, Nancy Heinrich, Leslie Segundo and Jeyan Thirugnanam for their assistance in compiling this report.

# Recommendation to the Governor

## Global Warming: No More “Business as Usual”

Concentrations of carbon dioxide and other greenhouse gases (methane, nitrous oxide, and chlorofluorocarbons) in the atmosphere have increased significantly primarily due to the combustion of fossil fuels (oil, coal and natural gas) since the beginning of the pre-industrial era around 1750.

Scientists predict that without action to limit greenhouse gas emissions global temperature will increase by about 3 to 11 degrees Fahrenheit in the next century. Associated with changes in temperature, sea level is projected to increase by about 6 inches to 37 inches by 2100. (Watson, 2000)

Such major climatic and physical changes are significant and would have serious adverse environmental and economic consequences worldwide, especially to island states such as Hawai'i.

### **Climate Change and Hawai'i**

Climate Change and Human Health in Hawai'i. The health of Hawai'i's people may be negatively affected by climate change. Higher temperatures may lead to greater numbers of heat-related deaths and illnesses. Increased respiratory illnesses may result due to greater ground-level ozone. Increased use of air conditioning could increase power plant emissions and air pollution. Viral and bacterial contamination of fish and shellfish habitats could also cause human illness. Expansion of the habitat and infectivity of disease-carrying insects could increase the potential for malaria and dengue fever. (USEPA, 1998)

Climate Change, Sea Level Rise, and Hawai'i. At Honolulu, Nawiliwili, and Hilo, sea level has increased 6 to 14 inches in the past century and is likely to rise even higher. The expected rise in sea level could cause flooding of low-lying property, loss of coastal wetlands, beach erosion, saltwater contamination of drinking water, and damage to coastal roads and bridges. During storms, coastal areas would be increasingly vulnerable to flooding. (USEPA, 1998)

Climate Change and Hawai'i's Water Resources. Higher temperatures could result in increased evaporation and changes in rainfall. While increased rainfall could recharge aquifers, it could also cause flooding. As the variability of climate is expected to increase, there could also be frequent and long droughts. (USEPA, 1998)

Climate Change and Hawai'i's Agriculture and Forestry. Agriculture might be enhanced by climate change, unless droughts decrease water supplies. Forests may find adapting to climate change more difficult. For example, 'ohi'a trees are sensitive to drought and heavy rains. Changes

could disproportionately stress native tree species because non-native species are more tolerant of temperature and rainfall changes. Climatic stress on trees also makes them vulnerable to fungal and insect pests. Droughts would also increase the danger of forest fires. (USEPA, 1998)

Climate Change and Hawai'i's Ecosystems. Hawai'i's diverse environments and geographic isolation have resulted in a great variety of native species found only in Hawai'i. However, 70% of U.S. extinctions of species have occurred in Hawai'i, and many species are endangered. Climate change would add another threat. Higher temperatures could also cause coral bleaching and the death of coral reefs. (USEPA, 1998)

Climate Change and Hawai'i's Economy. Hawai'i's economy could also be hurt if the combination of higher temperatures, changes in weather, and the effects of sea level rise on beaches make Hawai'i less attractive to visitors. Adapting to sea level rise could be very expensive, as it may necessitate the protection or relocation of coastal structures to prevent their damage or destruction. (USEPA, 1998)

### **Hawai'i's 1990 Baseline Greenhouse Gas Emissions**

A 1990 baseline was established as a benchmark for Hawai'i's efforts to reduce greenhouse gas emissions. Under the Kyoto Protocol to the United Nations Framework Convention on Climate Change, signed by the United States in November 1998, the U.S. is committed to reduce its emissions by 7% less than 1990 emissions by 2008–2010. The Protocol has not been ratified by Congress, but the target provides an interim standard. Hawai'i's human-caused greenhouse gas emissions for the 1990 baseline year were estimated at 16,961,453 tons of CO<sub>2</sub>, 75,717 tons of CH<sub>4</sub>, and 680 tons of N<sub>2</sub>O. (DBEDT, 2000)

Hawai'i's energy use produced the greatest global warming potential in the 1990 baseline year – an estimated 16,813,006 tons CO<sub>2</sub>-equivalent, or 89.4% of total global warming potential (GWP). Municipal solid waste (MSW) management and wastewater management together produced 7.4% of Hawai'i's 1990 GWP; agricultural activities emitted 2.7%; and industrial processes emitted the remaining 0.6%. (DBEDT, 2000)

# Recommendation to the Governor

## Hawai'i's Future Greenhouse Gas Emissions

The figure below shows the GWP of Hawai'i's actual and forecast greenhouse gas emissions from 1990 to 2010 compared with the Kyoto Protocol target. Hawaii faces major challenges in reducing its future greenhouse gas emissions.

Continuing with "business as usual", Hawai'i's overall domestic GWP was forecast to be 22% over the Kyoto Protocol target by 2010 and 36% over the Kyoto Protocol target by 2020. The domestic GWP from energy use was forecast to be 23% above the energy emission Kyoto Protocol target by 2010 and 32% above the target in 2020. (DBEDT, 2000)

Other categories shown on the chart include MSW and wastewater management (WW), which will be 34% greater than 1990 in 2010 and 79% greater by 2020, unless actions to reduce greenhouse gas emissions are taken. (DBEDT, 2000)

"Ag & Other" includes domestic animals, manure management, fertilizer, sugarcane burning, the oil refineries, and the cement industry. Emissions are expected to decline to 30% below 1990 levels, primarily due to relatively little increase in these areas and this increase being offset by the closure of cement making operations in 1995. (DBEDT, 2000)

In 2010, energy sector emissions were forecast to make up 90% of Hawai'i's domestic GWP, followed by municipal solid waste at 8%, and agriculture and other at 2%. (DBEDT, 2000)

## Recommendation

The Environmental Council recommends that the Governor and Legislature support the Kyoto Protocol to the United Nations Framework Convention on Climate Change, signed by the United States in November 1998, and accordingly, commit to reduce Hawai'i's greenhouse gas emissions by 7% less than 1990 emissions by 2008–2010. The *Hawai'i Climate Change Action Plan* (DBEDT, 1998) offers many strategies for reducing greenhouse gas emissions.

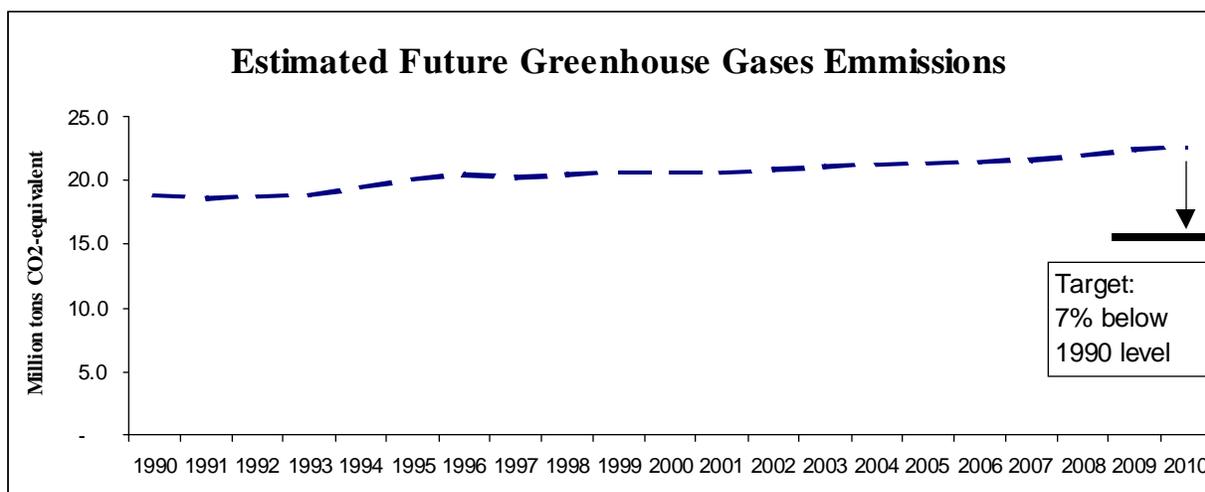
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# Director's Report

## OEQC Director's Report

As the "Year of the Dragon" comes to a close, so has my first full year as director of the Office of Environmental Quality Control. During this time, I have experienced the legislative and budget processes and witnessed the passage of Act 50, which deals with cultural impact assessments. I have also participated with the dedicated members of the Environmental Council; created partnerships with private non-profit organizations, counties and state agencies and, most of all, worked with a hardworking and sincere staff.

Public and private involvement in protecting our environment has increased during the past year. Our staff has been assisting in environmental assessment pre-consultation efforts as well as reviewing studies prior to final submission. The result has been better public disclosure documents. Thanks to the generosity of the private sector, we have secured funding for our second flash card project to educate

elementary school students on the perils of invasive species. Finally, and most importantly, we have augmented our partnerships with state, county, federal and non-government agencies to better educate the public about environmental issues that affect our state. I am proud to say that OEQC has increased its productivity while working within its existing budget.

It has been an honor and privilege this past year working and meeting with many wonderful and caring people who have helped to contribute to this successful year at OEQC. I thank all of you and I look forward to making a greater difference next year to improve and protect our environment.

Aloha,  
Genevieve Salmonson

## Environmental Documents Processed by OEQC in 2000

Type of Notice	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
<b>Draft EA</b>	14	8	9	14	10	4	17	15	15	9	10	7	<b>132</b>
<b>FONSI</b>	9	9	16	8	9	11	7	9	13	16	9	8	<b>124</b>
<b>EISPN</b>	0	0	1	0	0	2	1	1	0	0	1	0	<b>6</b>
<b>Draft EIS</b>	1	1	0	1	1	2	1	3	1	1	0	0	<b>12</b>
<b>Final EIS</b>	0	1	0	2	0	0	2	0	0	1	3	0	<b>9</b>
<b>Others</b>	2	3	0	2	1	3	1	2	0	0	0	1	<b>15</b>
<b>Total</b>	<b>26</b>	<b>22</b>	<b>26</b>	<b>27</b>	<b>21</b>	<b>22</b>	<b>29</b>	<b>30</b>	<b>29</b>	<b>27</b>	<b>23</b>	<b>16</b>	<b>298</b>

# Council's Report



(Top, Left to Right): Michael Faye, Philip Ohta, Lance Gilliland, Steven Lim, Arnold Lum, Donn Fukuda. (Bottom, Left to Right): Steven Dye, William Petti, Vernon Inoshita, Pauline Sato, Genevieve Salmonson, Puanani Rogers.

## Council Chair's Report

Several new faces have joined the ranks of the Council over the past year enhancing the tremendous talent and knowledge currently present within organization. We welcome new members Puanani Rogers, Vernon Inoshita, and Donn Fukuda who have already made their contributions felt through their active participation in Council and committee meetings.

Sadly, we regret the sudden resignation of Immediate Past Chair Barbara Robeson earlier this year. Barbara's expertise and involvement with several local environmental organizations exposed the Council to a wider range of issues that better represent the interests of a larger share of Hawaii's citizenry.

This year's Annual Report is reflective of the synergy that has developed through the interaction of several committed Council members. Rather than being a mere factual account of what transpired during the last fiscal year, the report has become an advocate of change to improve Hawaii's environment based on the concept of ecosystem sustainability. The grading of Hawaii's environment through key indicators, the recognition of state and local agencies that best contribute to the state's natural health, and the advocacy of legislation to curb environmental degradation are all designed to achieve positive change.

The success of the Council and its work would not be possible without the support of QECC Director Genevieve Salmonson and her dedicated staff. Their contributions were substantial to all Council projects and activities. Lastly, we thank those members of the public whose interest in Council objectives and goals have generated valuable support.

## Legislation Committee Report

Chapter 343, Hawaii revised Statutes, was amended effective April 26, 2000, to require that environmental impact statements include an analysis and discussion of the effects on the cultural practices of the community and State of actions subject to Chapter 343. In addition, the definition of "significant effect" was amended to include adverse effects on

cultural practices. Including cultural practices within the definition means that preparers of environmental assessments must, in determining whether a proposed action may have a significant effect, take into consideration whether it could effect such practices.

In enacting the amendments, the legislature found that there was a need to clarify its statutory directive under Chapter 343 that environmental assessments and environmental impact statements identify and address the effects of proposed actions on cultural practices, as well as on traditional and customary rights. The legislature also found that preserving the cultural practices of Native Hawaiians and Hawaii's other ethnic groups is vital to our unique quality of life, and that the loss and destruction of cultural resources of importance to Native Hawaiians has a negative impact on Hawaiian culture.

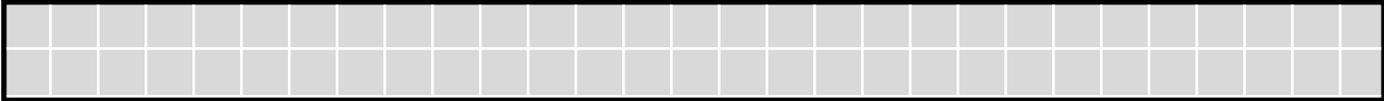
The legislative amendments to Chapter 343 were cited with approval by the Hawaii Supreme Court in Ka Pa'akai O ka'aina v. Land Use Comm'n., 94 Hawai'i 31 (2000), in a unanimous opinion written by Justice Mario Ramil on September 11, 2000.

## Exemption Committee Report

Highlight of 2000 for the Exemption Committee, chaired by Patricia Tummons, was the adoption by the council last May of guidelines for considering proposed agency changes to existing exemption lists. The guidelines are intended to encourage agencies to update their lists without fear of having to engage in their complete overhaul. The committee approved updates to lists maintained by the Department of Agriculture and Department of Land and Natural Resources' Division of Forestry and Wildlife. It gave conditional approval to revisions in the list maintained by the Department of Transportation. Pending at year's end were exemption list changes submitted by the DLNR's Land Division and the Department of Defense. In addition to Tummons, members include Michael Faye and Vernon Inoshita.

## Education Committee Report

The primary project of the Education Committee was development of native plant and animal of Hawaii flash cards to be used as educational resources in schools. Through volunteer help 1,000 sets of 20 flashcards were produced. These informative cards with large color photos of the plants and animals were distributed by Moanalua Gardens Foundation to elementary school teachers across the state. We have received positive feedback from teachers about the usefulness of the flashcards in teaching the importance of protecting Hawaii's native plants and animals. The Education Committee has embarked on producing a new set of flashcards on alien species that we do not want to spread in Hawaii. We hope to report on their completion in next year's report.



# 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.

# Environmental Indicators

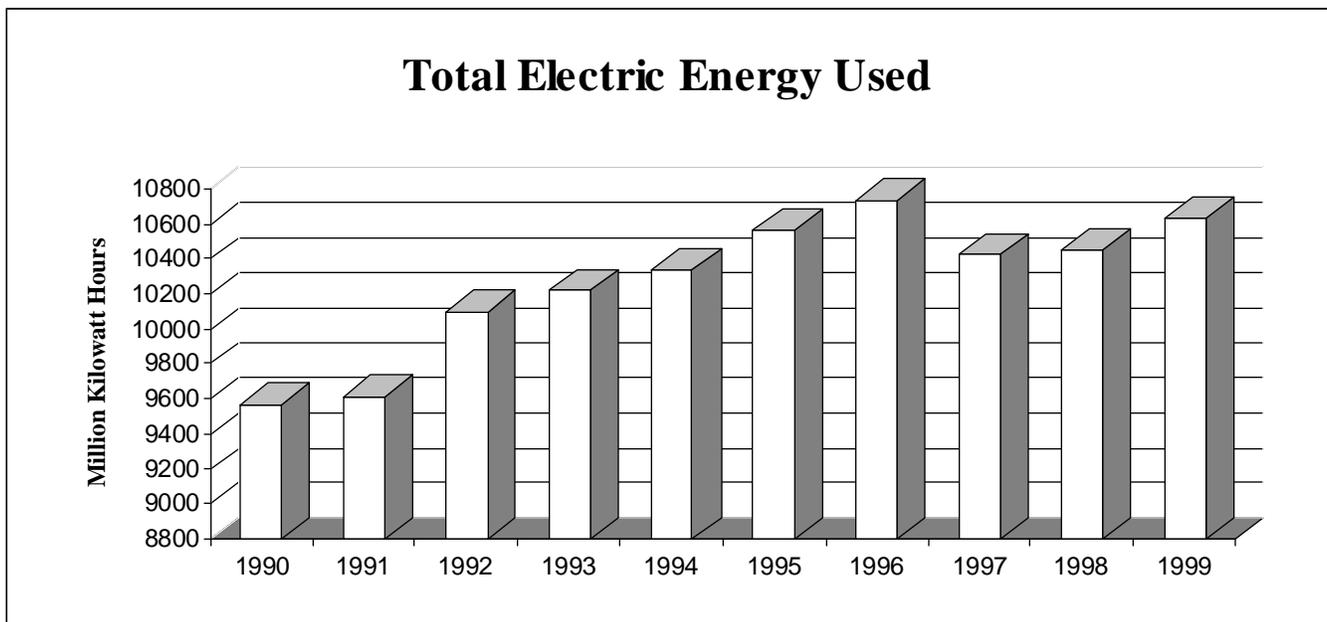
## Energy Use

### 1. Total Electric Energy Used

Hawai'i depends on imported oil and coal for about 93% 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. A Larger population and greater electric usage per person has resulted in higher electric energy usage over the years.

**Table 1: Total Electric Energy Used in Hawai'i, 1990-99.**

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>Total Electric Energy Used (Million KWH)</b>	9,566	9,610	10,104	10,219	10,341	10,563	10,740	10,424	10,455	10,635
<b>State de facto Population (million)</b>	1.24	1.25	1.26	1.26	1.28	1.28	1.28	1.31	1.31	1.31
<b>Monthly per capita use (KWH)</b>	643	641	668	676	673	688	699	663	665	677
<b>Total Electric Energy Used per \$1,000 of Constant GSP (1987 \$)</b>	387	391	407	410	415	430	439	417	410	407



Source: State DBEDT, Energy Division, Energy Data Services.  
 Note: The vertical axis does not begin with zero.

# Environmental Indicators

## 2. Energy Produced in Hawai'i

One of Hawai'i's goals is to replace energy produced from fossil fuels with alternate and renewable sources such as solar power, biomass, hydro-electric, wind, geothermal and solid waste. 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 in Trillion BTU, 1994 to 1999.**

Resources	1994	1995	1996	1997	1998	1999
Petroleum	285.5	274.0	277.1	278.3	269.1	272.5
Biomass	16.4	11.8	10.4	9.0	7.5	9.2
Solar hot water	2.3	2.8	3.1	3.1	3.1	3.5
Hydro-electric	1.5	1.1	1.1	1.0	0.8	1.2
Coal	13.6	16.5	16.9	16.8	14.8	14.5
Wind	0.2	0.2	0.2	0.2	0.2	0.2
Geothermal	1.8	2.3	2.4	2.4	2.3	2.0
Solid Waste	6.2	6.4	4.7	5.3	5.1	5.1
<b>Total</b>	<b>327.5</b>	<b>315.1</b>	<b>315.9</b>	<b>316.1</b>	<b>302.9</b>	<b>308.2</b>

## 3. Estimated Greenhouse Gases Produced

The earth's climate is predicted to change because human activities are altering the chemical composition of the atmosphere through the buildup of greenhouse gases, primarily carbon dioxide, methane, nitrous oxide, and chlorofluorocarbons. The energy sector produces 90 of the greenhouse gases.

The table below shows the estimated amount of greenhouse gases produced in Hawai'i.

**Table 3: Estimated Greenhouse Gases Produced in Million Tons CO2 Equivalent, 1990-2000.**

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Greenhouse Gasses (Million Tons of CO2 Equiv.)	18.9	18.7	18.8	19.5	20.1	20.5	20.3	20.5	20.6	20.6	20.7

Source: State DBEDT, Hawaii Climate Change Action Plan, November 1998.

# Environmental Indicators

## 4. 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 4: Total Imported Fossil Fuel into Hawai'i by Type in Trillion BTU, 1994 to 1999.**

Type of Imported Fuel	1994	1995	1996	1997	1998	1999
Crude Oil	323.9	298.2	301.9	296.4	299.6	272.5
Other	10.6	13.7	31.3	37.3	39.3	49.6
Coal	14.2	16.5	16.1	16.8	14.8	14.5
<b>Total</b>	<b>348.7</b>	<b>328.4</b>	<b>349.3</b>	<b>350.5</b>	<b>353.7</b>	<b>336.6</b>

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

Note: Figures in trillion British thermal units (Tbtu).

## 5. 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 5: Amount of Fossil Fuel Used in Hawai'i by Category in Trillion BTU, 1994 to 1999.**

Sector	1994	1995	1996	1997	1998	1999
<b>Electricity Production (Oil)</b>	82.2	78.6	84.2	83.2	85.6	87.2
<b>Electricity Production (Coal)</b>	13.6	16.5	16.9	16.8	14.8	14.5
<b>Transportation - Ground &amp; Water (Oil)</b>	81.5	82.1	75.9	74.0	78.8	75.9
<b>Transportation - Air (Oil)</b>	90.0	96.5	102.4	102.7	93.3	92.3
<b>Other Sectors (Oil)</b>	17.7	9.3	15.1	18.4	11.5	17.1
<b>Total</b>	<b>285.0</b>	<b>283.0</b>	<b>294.5</b>	<b>295.1</b>	<b>284.0</b>	<b>287.0</b>

Source: DBEDT, Energy Division, Energy Data Services.

# Environmental Indicators

## Use and Recycling of Resources

### 6. 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).

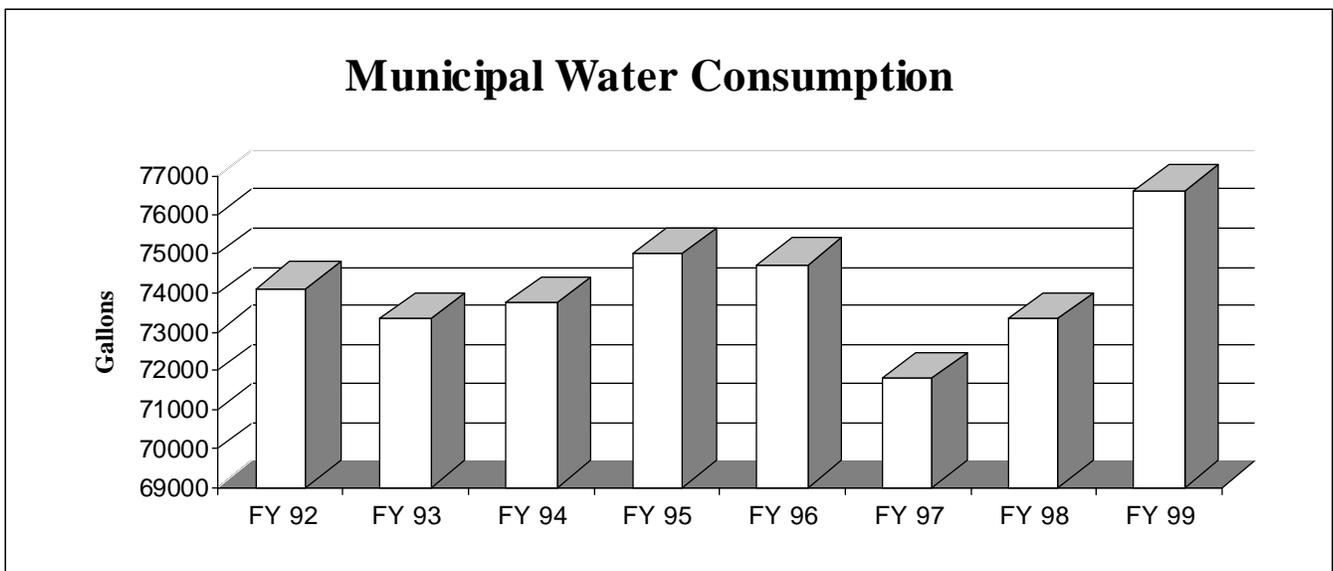
**Table 6: Municipal Water Consumption by County, Fiscal Years 1992 to 1999.**

Fiscal Year	1992	1993	1994	1995	1996	1997	1998	1999
<b>Honolulu (MG)</b>	51,241	51,033	50,407	51,006	50,682	48,624	49,265	51,614
<b>Kauai (MG)</b>	4,453	4,056	4,149	4,114	4,206	3,944	4,148	4,373
<b>Hawaii (MG)</b>	8,024	7,937	7,999	8,378	8,363	7,804	8,159	8,076
<b>Maui (MG)</b>	10,399	10,312	11,177	11,494	11,477	11,438	11,729	12,547
<b>Total (MG)</b>	<b>74,117</b>	<b>73,338</b>	<b>73,732</b>	<b>74,992</b>	<b>74,728</b>	<b>71,810</b>	<b>73,301</b>	<b>76,610</b>

Source: The State of Hawai'i Data Book 1999 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.



# Environmental Indicators

## 7. 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.

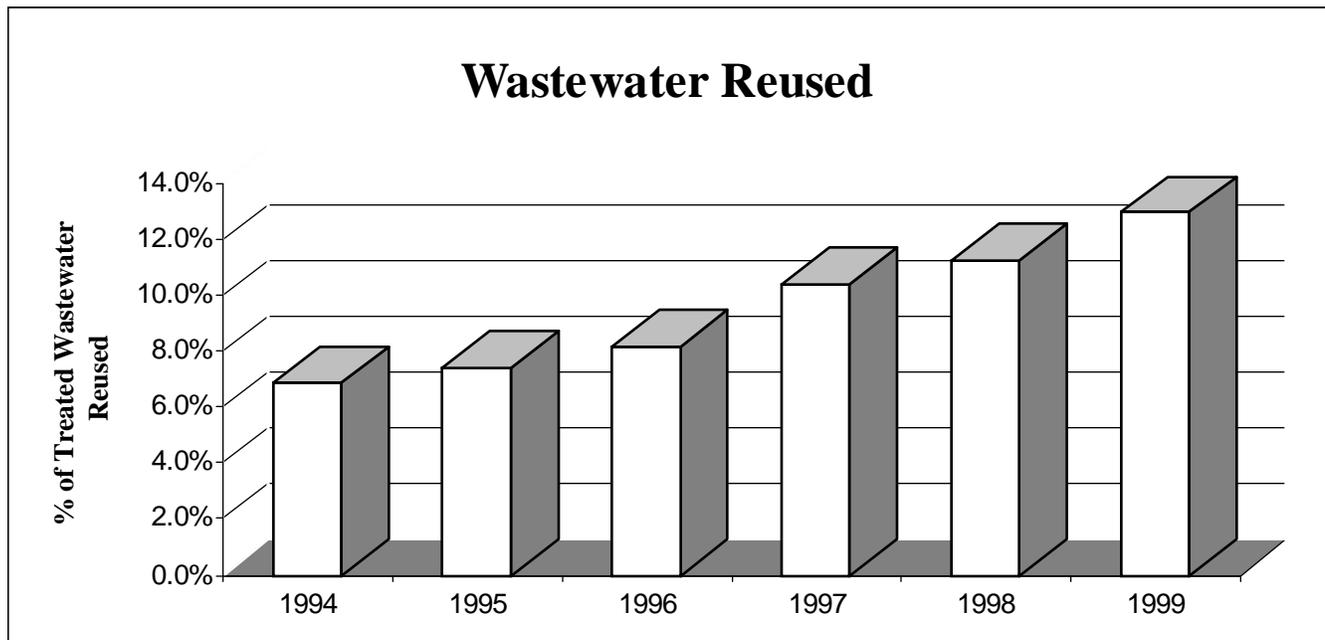
The table below shows the rate at which wastewater was treated and reused in millions of gallons per day (MGD). The Council's year 2002 goal for the percentage of treated wastewater reused is 25%.

**Table 7: Total Statewide Wastewater Treatment and Reuse 1994 to 1999.**

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%
1999	150.0	19.5	13.0%

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.



# Environmental Indicators

## 8. 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 was 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 are only halfway to meeting 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 the present nationwide average of 4.3 pounds per day.

**Table 8: Solid Waste Generation and Diversion in Hawai'i, 1994 to 1999.**

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	1,276,171	8.4	1,616	337	17%
1995	2,023	1,281,732	8.6	1,620	403	20%
1996	2,122	1,284,594	9.1	1,619	503	24%
1997	2,132	1,305,611	8.9	1,599	533	25%
1998	2,004	1,309,366	8.4	1,524	481	24%
1999	1,884	1,307,639	7.9	1,424	460	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).

## 9. 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 9: 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.

# Environmental Indicators

## Biodiversity Maintenance

### 10. 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 10: Number of Plant Species in Hawai'i by Status, 1995 to 1999.**

Year	Extinct	Number of Plant Species						
		Native (1,093)						Non-Native (Exotic)
		Rare				Total Rare	Abundant	
		Listed Endangered or Threatened	Proposed Endangered or Threatened	Candidate	Of Concern			
1995	103	198	85	13	308	604	489	> 9,000
1996	103	280	0	10	317	607	486	> 9,000
1997	103	284	11	41	250	586	507	> 9,000
1998	95	272	21	45	262	600	493	> 9,000
1999	95	302	0	93	259	654	439	>9,000

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.

# Environmental Indicators

## 11. 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 11: Status of Animal Species, 1997-99.**

Number of Species	Mammals			Birds			Turtles			Fishes		
	1997	1998	1999	1997	1998	1999	1997	1998	1999	1997	1998	1999
<b>Total Native Species</b>	4	4	4	93	93	93	5	5	5	22	22	22
<b>Extinct Species</b>	0	0	0	26	26	26	0	0	0	0	0	0
<b>Listed Endangered</b>	4	4	4	30	30	31	2	2	2	0	0	0
<b>Listed Threatened</b>	0	0	0	1	1	1	3	3	3	0	0	0
<b>Proposed for Listing</b>	0	0	0	0	0	1	0	0	0	0	0	0
<b>Candidate Species</b>	0	0	0	2	2	2	0	0	0	0	0	0
<b>Species of Concern</b>	0	0	0	6	5	4	0	0	0	0	1	1

Source: U.S. Fish and Wildlife Service

Note: i) The status of Hawai'i an 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 mammals include the Monk Seal, Hoary Bat, Humpback Whale and Sperm Whale.

# Environmental Indicators

## 12. 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 tables below shows the figures for the bottomfish *spawning potential ratio (SPR)* compiled by the Honolulu Laboratory of the National Marine Fisheries Service. Archipelagic values of less than 20% indicate recruitment overfishing for the stock. Similar values for more localized areas, such as the Main Hawaiian Islands, indicate locally depleted resources. Localized depletion is still a serious problem, but not as serious as overfished stocks. The Environmental Council's year 2002 SPR goal for onaga within the Main Hawaiian Islands is 15%.

**Table 12a. Main Hawaiian Islands Bottomfish Spawning Potential Ratio 1986 to 1999.**

Bottomfish	Spawning Potential Ratio (in percent)													
	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>Ehu</b>	9	13	9	17	12	7	4	5	6	7	8	9	9	6
<b>Hapuupuu</b>	42	37	52	58	37	34	37	26	33	21	20	23	25	30
<b>Onaga</b>	30	21	21	15	14	9	10	13	9	6	5	4	5	7
<b>Opakapaka</b>	33	31	37	58	42	39	44	32	37	35	27	32	28	31
<b>Uku</b>	49	21	64	55	30	26	28	46	37	40	41	34	34	56

Source: National Marine Fisheries Service.

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%.

**Table 12b. Archipelago-Wide Bottomfish Spawning Potential Ratio 1986 to 1999.**

Bottomfish	Spawning Potential Ratio (in percent)													
	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>Ehu</b>	41	61	37	51	44	44	51	54	38	41	45	42	41	36
<b>Hapuupuu</b>	55	71	56	70	57	58	67	65	51	48	51	49	48	49
<b>Onaga</b>	53	61	42	38	36	42	41	53	39	33	40	25	23	34
<b>Opakapaka</b>	51	69	49	69	57	57	68	67	53	54	53	53	49	47
<b>Uku</b>	58	65	62	68	52	53	61	73	52	56	61	54	52	59

Source: National Marine Fisheries Service.

# Environmental Indicators

## Environmental Quality

### 13. Air Quality Comparison with Other Cities

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.

All metropolitan areas in the United States with populations greater than 200,000 are required to report their air quality to the EPA. The table below lists the number of days the air quality at certain cities exceeded EPA standards.

**Table 13: Number of Days Air Quality Declared Unhealthy by EPA Standards, 1989 to 1998.**

	# of Monitoring Sites	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Honolulu	6	0	0	0	0	0	0	0	0	0	0
Dallas	8	18	24	2	11	12	15	36	12	15	18
Las Vegas	6	36	21	8	4	6	8	1	5	0	0
Los Angeles	38	215	173	169	175	134	139	113	94	60	56
Orlando	9	9	4	1	4	4	3	1	1	4	11
San Francisco	9	0	0	0	0	0	0	2	0	0	0

Source: EPA Office of Air Quality Planning and Standards, Table A-15 of the National Air Quality & Emissions Trends Report, 1998.

### 14. Air Quality Measurements in Honolulu

The measured air pollution levels for all criteria pollutants are significantly below the national standards. The following are concentrations for three pollutants from the Honolulu (Kinau Hale) air monitoring station.

**Table 14: Air Quality Measurements in Honolulu, 1994 to 1999.**

	1994	1995	1996	1997	1998	1999	Federal Standard
PM <sub>10</sub> ( $\mu\text{g}/\text{m}^3$ )	14	14	14	8	9	14	50
CO ( $\mu\text{g}/\text{m}^3$ )	1425	1554	1374	1487	1448	1169	40,000
SO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ )	2	3	3	2	2	2	80

Source: DOH Clean Air Branch

Notes: PM<sub>10</sub>, SO<sub>2</sub> are annual means; CO is the annual average of the maximum 1-hour values recorded in the year.

# Environmental Indicators

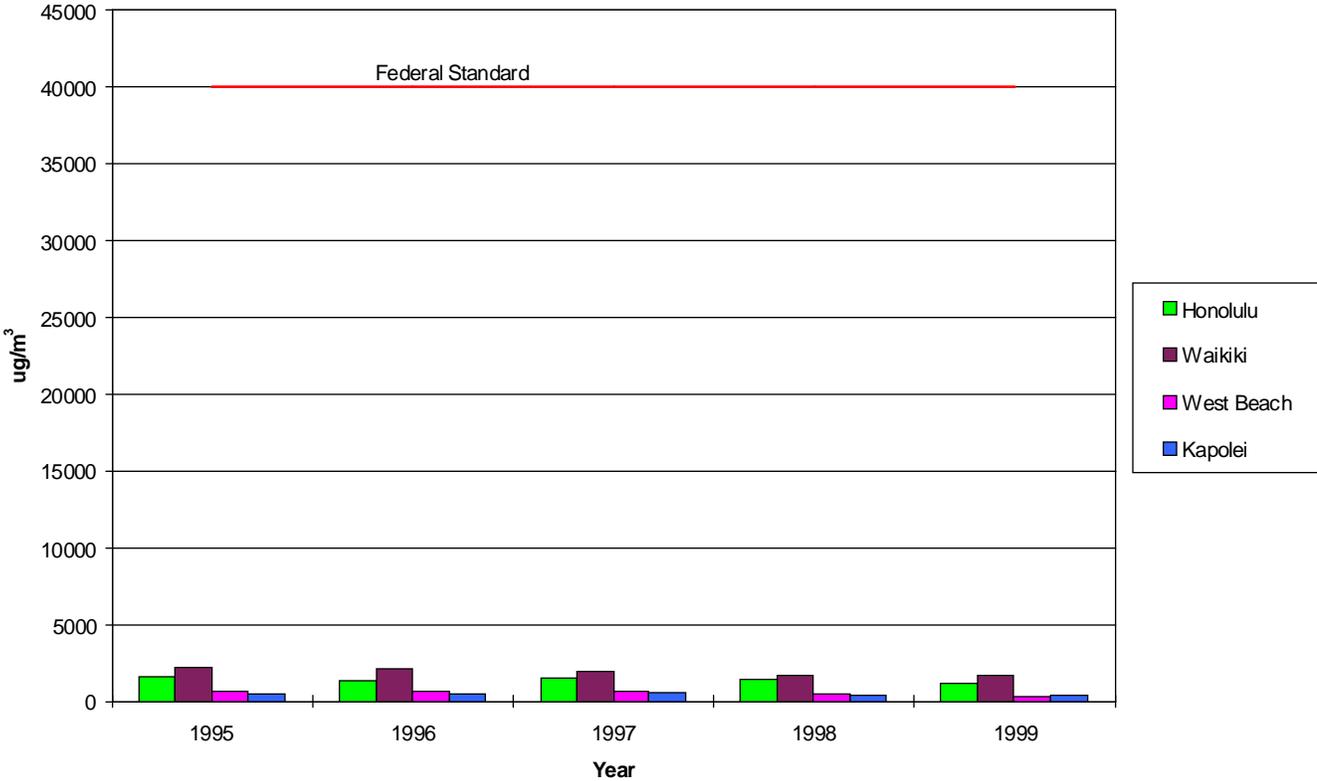
## 15. Ambient Levels of Carbon Monoxide

Table 15: Annual Average of Daily Maximum 1-Hour Carbon Monoxide (in ug/m<sup>3</sup>), 1995-1999.

	Honolulu	Waikiki	West Beach	Kapolei	Federal Standard
1995	1554	2251	605	482	40000
1996	1374	2159	594	477	40000
1997	1487	1939	598	541	40000
1998	1448	1672	470	419	40000
1999	1169	1634	299	387	40000

Source: Hawaii Department of Health, Clean Air Branch.

Annual Average of Daily Maximum 1-Hour Carbon Monoxide  
1995 - 1999



# Environmental Indicators

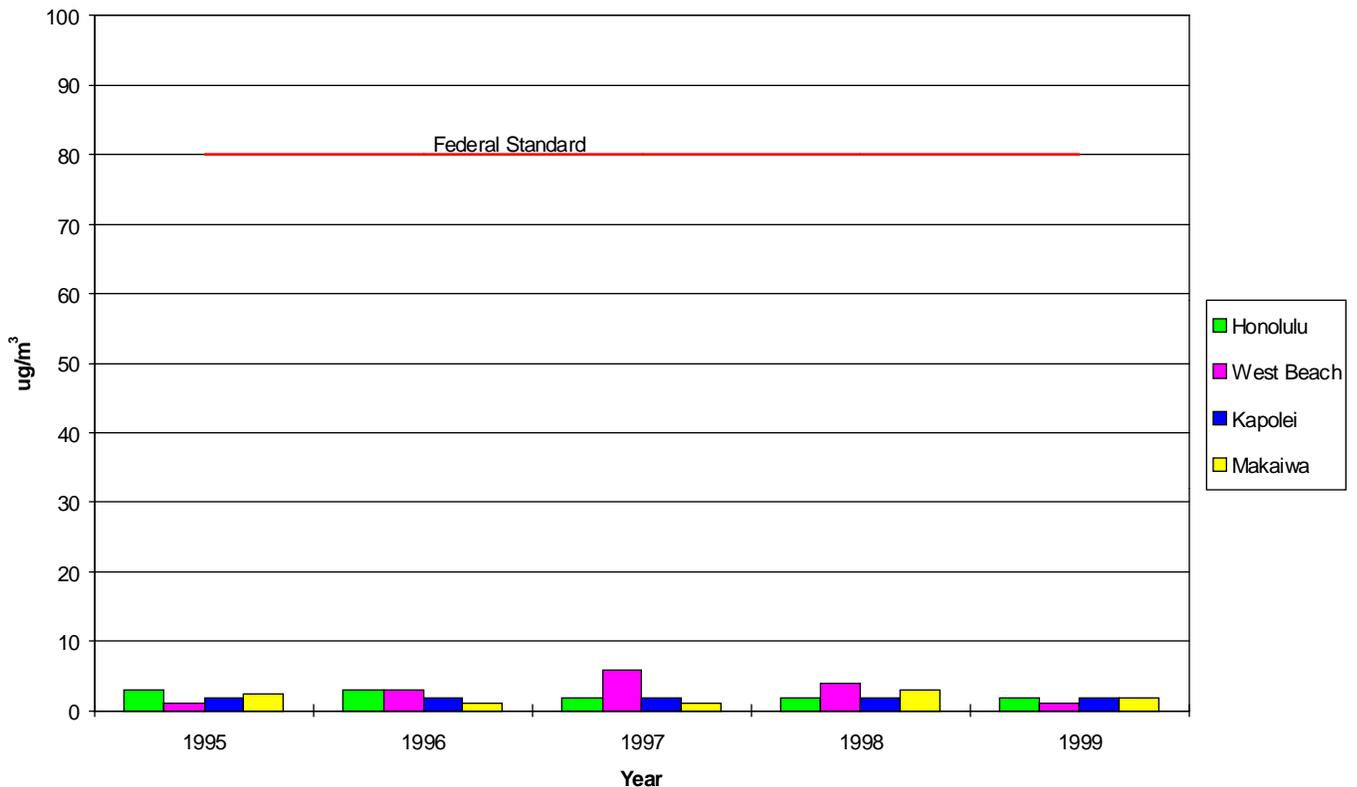
## 16. Ambient Levels of Sulfur Dioxide

**Table 16: Annual Average Sulfur Dioxide (in ug/m<sup>3</sup>), 1995-1999.**

	Honolulu	West Beach	Kapolei	Makaiwa	Federal Standard
1995	3	1	2	3	80
1996	3	3	2	1	80
1997	2	6	2	1	80
1998	2	4	2	3	80
1999	2	1	2	2	80

Source: Hawaii Department of Health, Clean Air Branch.

### Annual Average Sulfur Dioxide 1995 - 1999



# Environmental Indicators

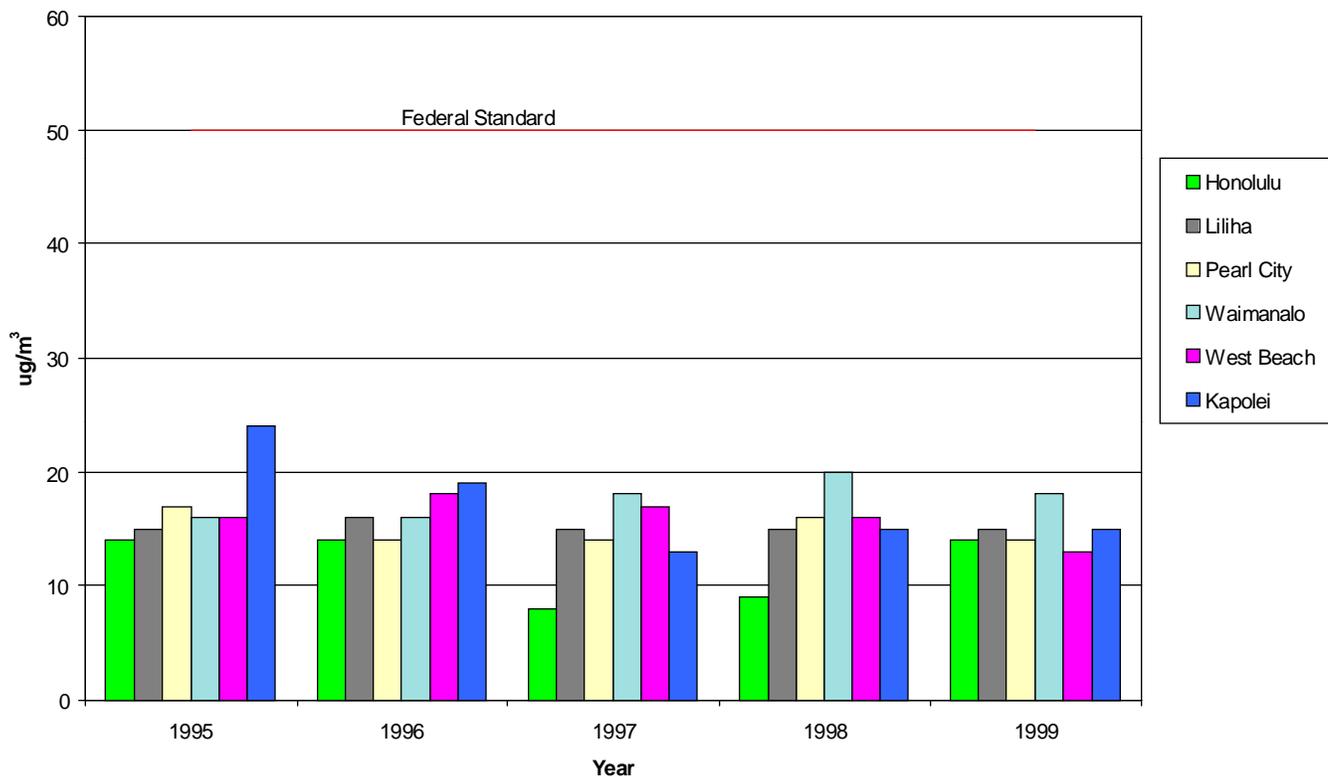
## 17. Ambient Levels of Particulates

Table 17: Annual Average PM-10 on Oahu (in ug/m<sup>3</sup>), 1995-1999.

	Honolulu	Liliha	Pearl City	Waimanalo	West Beach	Kapolei	Federal Standard
1995	14	15	17	16	16	24	50
1996	14	16	14	16	18	19	50
1997	8	15	14	18	17	13	50
1998	9	15	16	20	16	15	50
1999	14	15	14	18	13	15	50

Source: Hawaii Department of Health, Clean Air Branch.

Island of Oahu: PM<sub>10</sub> Annual Average 1995 - 1999



# Environmental Indicators

## 18. 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 potentially 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. Beach closures increased 50% in 1999 largely due to the DOH requiring more precautionary closures. The Environmental Council's year 2002 goal for beach closure days is 5.

**Table 18: Days Beaches Posted as Unsafe Due to Pollution by DOH, 1994 to 1999.**

Year	Days beaches closed
1994	20
1995	16
1996	45
1997	28
1998	13
1999	26

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.

## 19. 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 365.

**Table 19: Oil and Chemical Spills in Hawai'i, 1995 to 1999.**

Federal Fiscal Year	Oil Releases	Chemical Releases	Total Spills
1995	126	222	348
1996	237	230	467
1997	295	205	500
1998	225	305	530
1999	240	286	526

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.

# Environmental Indicators

## 20. 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 20: Population Served Safe Drinking Water, 1994 to 1999.**

<b>Federal Fiscal Year</b>	<b>Total Population Served Drinking Water</b>	<b>Population Served Water Below MCLs</b>	<b>Percentage Population Served Water Below MCLs</b>
<b>1994</b>	1,343,548	1,276,400	95.0%
<b>1995</b>	1,343,538	1,317,301	98.0%
<b>1996</b>	1,347,266	1,341,126	99.5%
<b>1997</b>	1,334,397	1,310,573	98.2%
<b>1998</b>	1,333,717	1,331,353	99.8%
<b>1999</b>	1,294,772	1,291,099	99.7%

Source: Hawaii Department of Health, [Indicators of Environmental Quality](#), September 1999.

# Environmental Indicators

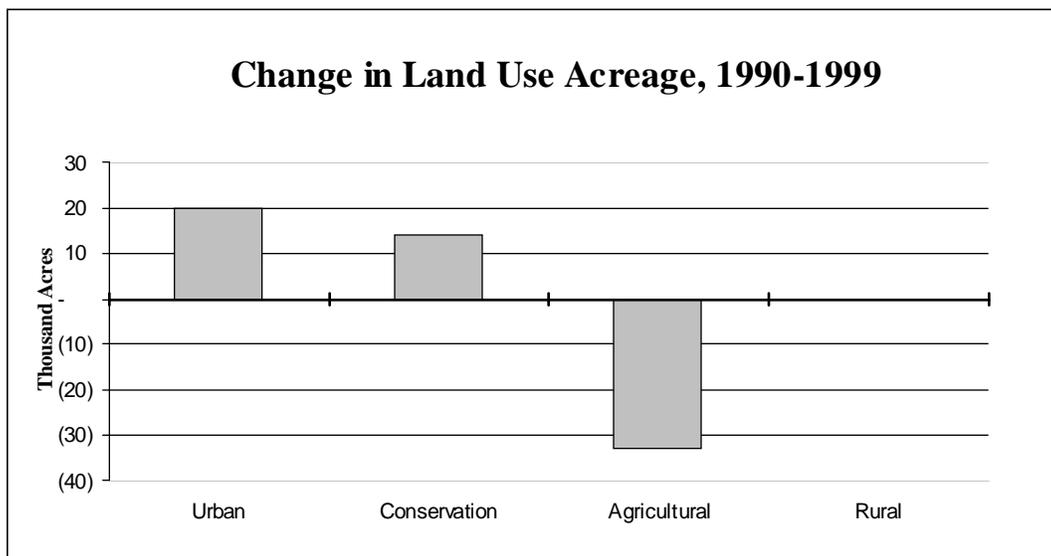
## 21. Statewide Land Use District Acreage

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 21: State Land Use District Acreage 1990 to 1999.**

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
1999	195	1,975	1,933	10

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



# Environmental Indicators

## Public Awareness/Concern

### 22. 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.

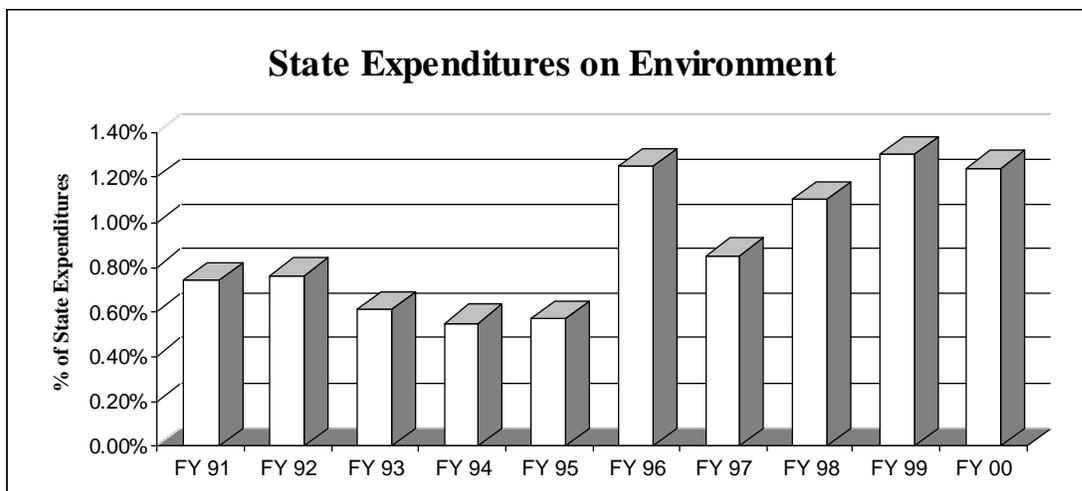
The table below shows the sum of money and the percentage of total state expenditures spent on environmental protection programs. The Environmental Council's year 2002 goal for the percentage of total state expenditures spent on environmental protection programs is 1.9% which is the average of states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

**Table 22: State Expenditures on Environmental Protection Programs, FY 1991 to 2000.**

Fiscal Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
<b>Environmental Expenditures in 1991 \$ (millions)</b>	25.3	28.1	24.4	24.5	26.4	53.2	39.0	51.3	59.3	59.1
<b>% of State Expenditures</b>	0.74%	0.75%	0.61%	0.55%	0.59%	1.25%	0.85%	1.10%	1.30%	1.24%

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.



# Environmental Indicators

## 23. 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 23: Number of Registered Motor Vehicles In Hawai'i, 1991 to 1999.**

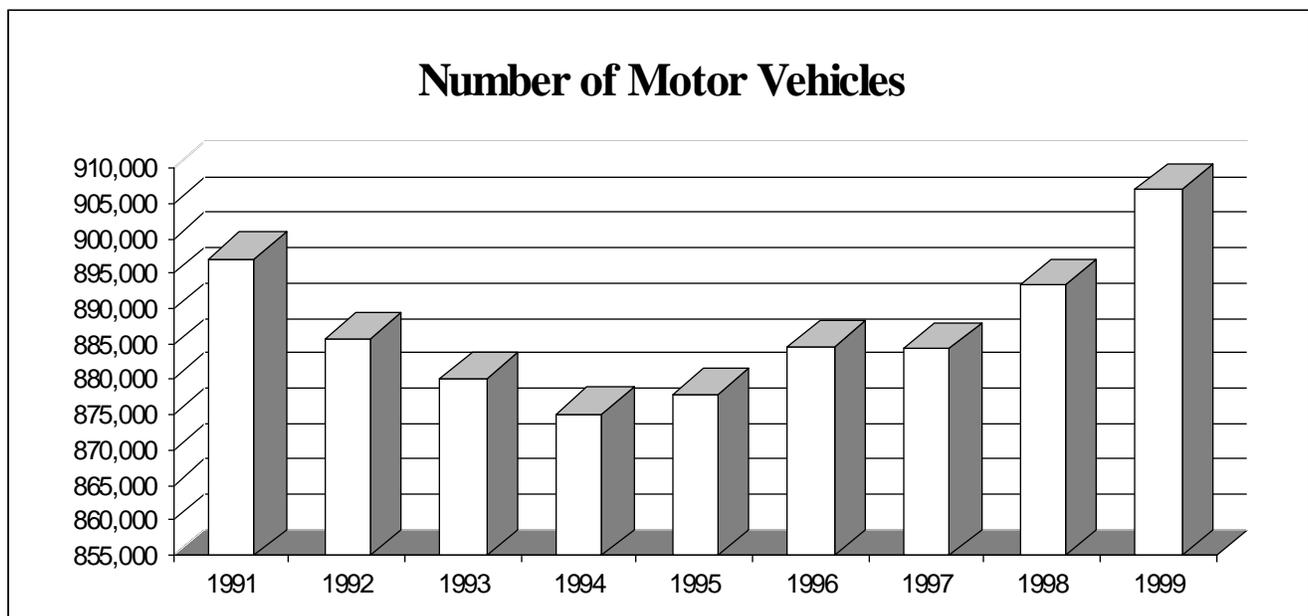
Year	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>Number of Motor Vehicles</b>	897,193	885,761	880,152	875,144	877,756	884,617	884,267	893,427	906,935
<b>State de facto Population (million)</b>	1.24	1.25	1.26	1.26	1.28	1.28	1.28	1.31	1.31
<b>Vehicles per Person</b>	<b>0.72</b>	<b>0.71</b>	<b>0.70</b>	<b>0.69</b>	<b>0.69</b>	<b>0.69</b>	<b>0.69</b>	<b>0.68</b>	<b>0.69</b>

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.

# Environmental Indicators

## 24. 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 24: Number of Noise Complaints Received by the Department of Health, 1992 to 1999.**

Type of Complaint	1992	1993	1994	1995	1996	1997	1998	1999
Agriculture	5	2	1	3	1	0	0	0
Aircraft	8	9	12	11	5	6	0	1
Commercial	0	0	21	6	3	13	4	13
Construction	166	164	157	142	140	112	146	106
Industrial	6	19	6	2	3	7	9	2
Miscellaneous	31	22	17	12	12	14	18	12
Refuse Collection	72	36	41	35	41	68	43	33
Stationary	100	85	93	112	109	104	75	93
Unknown	6	10	4	13	8	8	13	11
Nuisance Complaints: Animal	42	34	22	24	16	14	12	8
Hobby	11	3	8	9	9	12	4	6
Maintenance	38	37	29	37	27	21	25	20
People	21	23	16	12	13	13	5	8
Sound Production Devices	100	93	62	48	40	45	51	47
Vehicular	39	26	20	21	30	24	22	12
<b>Total</b>	<b>645</b>	<b>563</b>	<b>509</b>	<b>487</b>	<b>457</b>	<b>461</b>	<b>427</b>	<b>372</b>
State de facto Population (Million)	1.26	1.26	1.28	1.28	1.28	1.31	1.31	1.31
Noise Complaints per Hundred Thousand People	<b>51</b>	<b>45</b>	<b>40</b>	<b>38</b>	<b>36</b>	<b>35</b>	<b>33</b>	<b>28</b>

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

# Environmental Indicators

## 25. 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.

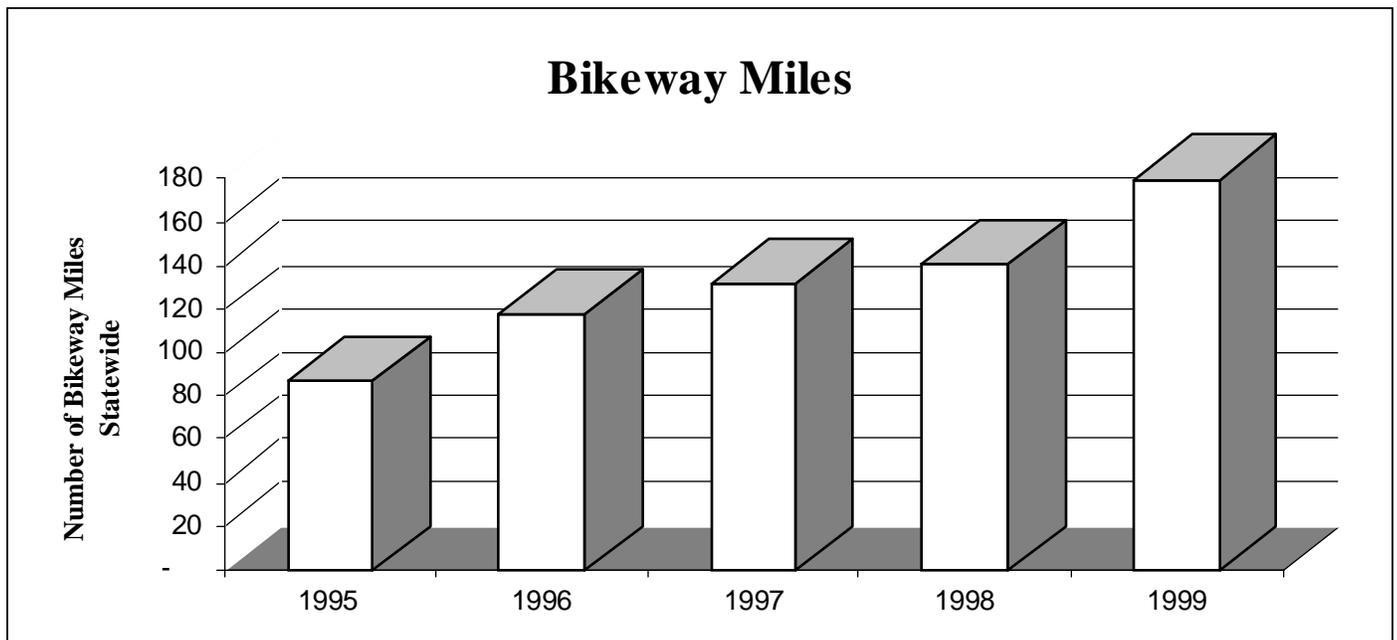
The next table shows the total miles of bikeways in Hawai'i by island. The Environmental Council's year 2002 goal for total miles of bikeways is 327.

**Table 25: 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
<b>Statewide</b>	<b>87.0</b>	<b>118.1</b>	<b>132.0</b>	<b>140.9</b>	<b>179.7</b>

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.



# Environmental Indicators

## 26. 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.

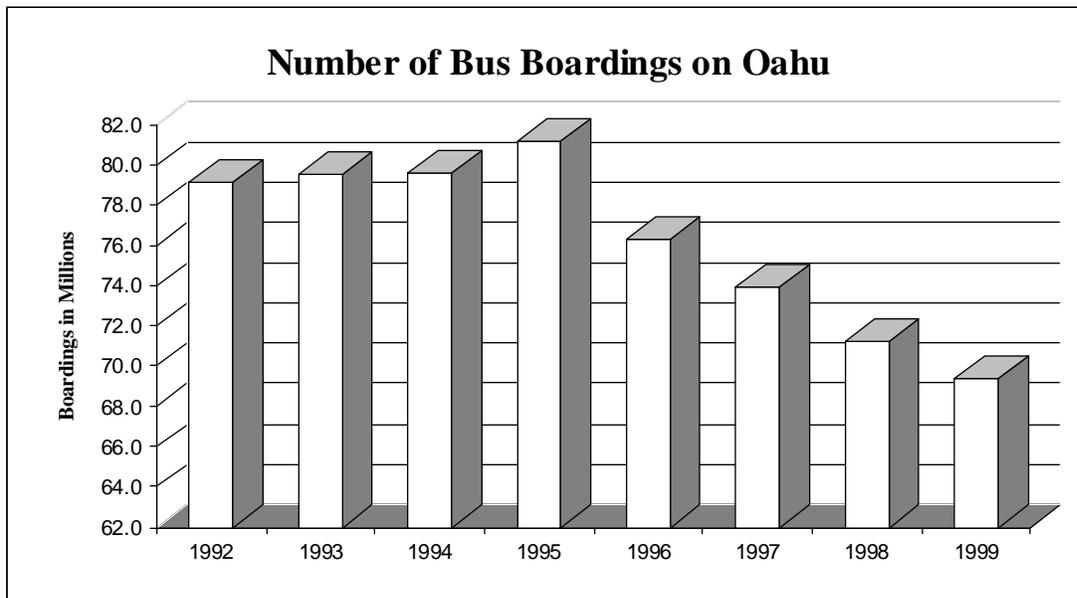
**Table 26: Number of Bus Boardings on O`ahu, 1992 to 1999.**

Year	1992	1993	1994	1995	1996	1997	1998	1999
<b>Total Number of Bus Boardings (in millions)</b>	79.1	79.5	79.6	81.2	76.3	73.9	71.2	69.4

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.

# Environmental Indicators

## 2000 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.

<b>2000 Environmental Progress Report Card State of Hawai'i</b>	<b>Progress Grade</b>	<b>Status Grade</b>
Energy Use	C	D
Use & Recycling of Resources	C+	D+
Biodiversity Maintenance	B-	D
Air Quality	A+	A+
Water Quality*	A-	A
Terrestrial Quality	C	B
Public Awareness & Concern	B	C
<b>Overall Grade</b>	<b>B</b>	<b>C+</b>

\* Includes coastal and drinking water. Does not include streams.

### What the grades mean:

Grade	Progress Grade	Status Grade
A	Excellent	Optimum
B	Improvement	Good
C	No Significant Change	Average
D	Worse	Poor
F	Disaster	Unacceptable

# Environmental Indicators

## Method for Calculating Environmental Progress and Status 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 years' data and year 2002 goal available it is possible to determine annual increments approaching the goal. A linear scale 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 average of previous 3 years	= 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 Status 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 seven 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 seven components is used to obtain a total progress and status score for Hawai'i's environment.

### Limitations:

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

- The assessment is based on a sample of 20 environmental indicators. This small sample is not a full representation of Hawai'i's environment.
- 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.
- 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 fifth attempt to assess the status of Hawai'i's environment. The Council hopes to continually refine and improve this assessment process.

# Environmental Indicators

**Table A: Benchmarks, Environmental Progress Points and Status Scores.**

Indicator	Unacceptable Condition	Average of Previous 3 Years	Latest Year Level	Latest Year Goal	Year 2002 Goal	Optimum Cond.	Progress		Status	
							Pts.	Grade	Pts.	Grade
% of Energy from Renewable Sources	0.0	6.6	6.9	8.0	10.0	25.0	61	B-	28	D
Greenhouse gas emissions in million tons	23.0	20.6	21.0	20.0	19.0	15.7	42	C-	27	D
Water Consumption in Million Gallons	100,000	73,280	76,610	71,970	70,000	50,000	44	C-	47	C
% of Treated Wastewater Reused	0	10.0	13.0	16.0	25	50	75	B+	26	D
Daily per capita Waste Generated in pounds	10.8	8.8	7.9	7.0	4.3	3.6	75	B+	40	C-
% of Waste Diverted	0	24	24	34	50	75	50	C	32	D
Hazardous Waste Generated in Tons	2,700	1,515	1,669	1,208	900	500	44	C-	47	C
Number of Abundant Native Plant Species	0	495	439	600	757	1093	44	C-	40	C-
Onaga Spawning Potential Rate	0	5	7	9	15	50	75	B+	14	F
Particulate Levels as a % of Federal standards	100	36	36	75	75	75	100	A+	100	A+
Number of Unhealthy Air Days	1	0	0	0	0	0	100	A+	100	A+
Days Beaches Posted Unsafe	100	29	26	19	5	1	65	B	75	B+
Number of Oil and Chemical Spills	1000	499	526	445	365	100	47	C	53	C
Conservation Land Area in million acres	1.03	1.98	1.98	2.03	2.11	2.25	50	C	78	B+
% of Population Served Water Below MCLs	90	99.2	99.7	99.5	100	100	100	A+	97	A
% of State Funding for Environment	0	1.08	1.24	1.49	1.90	2.50	70	B	50	C
Number of Motor Vehicles per capita	1	0.69	0.69	0.66	0.61	0.33	50	C	46	C
Noise Complaints per 100,000 People	100	35	28	31	25	10	100	A+	80	A-
Bikeway Miles	0	130	180	209	327	1309	82	A-	14	F
Annual TheBus Boardings in millions	0	74	69	80	89	124	47	C	56	C+

# Environmental Indicators

**Table B: Scores and Grades for Environmental Progress**

Category	Indicator	Progress Points	Indicator Weights	Category Scores	Category Grade	Category Weights	Total Score	Total Grade
Energy Use	% of Energy from Renewable Sources	61	50%	52	C	15%	67	B
	Greenhouse Gas Emissions	42	50%					
Use & Recycling of Resources	Water Consumption in Million Gallons	44	20%	58	C+	15%		
	% of Treated Wastewater Reused	75	20%					
	Daily per capita Waste Generated in pounds	75	20%					
	% of Waste Diverted	50	20%					
	Hazardous Waste Generated in Tons	44	20%					
Biodiversity Maintenance	Number of Abundant Native Plant Species	44	50%	60	B-	10%		
	Onaga Spawning Potential Rate	75	50%					
Air Quality	Particulate Levels as % of National Standard	100	50%	100	A+	15%		
	Number of Unhealthy Air days	100	50%					
Water Quality	Days Beaches Posted Unsafe	65	50%	83	A-	15%		
	% of Pop. Served Water Below MCLs	100	50%					
Terrestrial Quality	Conservation Land Area in million acres	50	50%	49	C	15%		
	Number of Oil & Chemical Spills	47	50%					
Public Awareness & Concern	% of State Funding for Environment	70	20%	70	B	15%		
	Number of Motor Vehicles per capita	50	20%					
	Noise Complaints per 100,000 People	100	20%					
	Bikeway Miles	82	20%					
	Annual TheBus Boardings in millions	47	20%					

# Environmental Indicators

**Table C: Scores and Grades for Environmental Status**

Category	Indicator	Status Points	Indicator Weights	Category Scores	Category Grade	Category Weights	Total Score	Total Grade
Energy Use	% of Energy from Renewable Sources	28	50%	28	D	15%	58	C+
	Greenhouse Gas Emissions	27	50%					
Use & Recycling of Resources	Water Consumption in Million Gallons	47	20%	38	D+	15%		
	% of Treated Wastewater Reused	26	20%					
	Daily per capita Waste Generated in pounds	40	20%					
	% of Waste Diverted	32	20%					
	Hazardous Waste Generated in Tons	47	20%					
Biodiversity Maintenance	Number of Abundant Native Plant Species	40	50%	27	D	10%		
	Onaga Spawning Potential Rate	14	50%					
Air Quality	Particulate Levels as % of National Standard	100	50%	100	A+	15%		
	Number of Unhealthy Air days	100	50%					
Water Quality	Days Beaches Posted Unsafe	75	50%	86	A	15%		
	% of Pop. Served Water Below MCLs	97	50%					
Terrestrial Quality	Conservation Land Area in million acres	78	50%	66	B	15%		
	Number of Oil & Chemical Spills	53	50%					
Public Awareness & Concern	% of State Funding for Environment	50	20%	49	C	15%		
	Number of Motor Vehicles per capita	46	20%					
	Noise Complaints per 100,000 People	80	20%					
	Bikeway Miles	14	20%					
	Annual TheBus Boardings in millions	56	20%					

# Environmental Indicators

## 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) Greenhouse Gasses: The Council supports the Kyoto Protocol which calls for emissions of 7% below 1990 levels by 2010. This works out to 19 million tons by 2002 and 15.7 million tons by 2010 for optimum. The unacceptable level is 23 million tons.

c) 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.

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

e) 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 3 times the national objective.

f) 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%.

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

h) 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.

i) 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%.

j) Particulate Levels: The year 2002 goal and the optimum level is 75% of the federal standard.

k) Unhealthy Air Days: Not a single day should be declared unhealthy in Hawai'i.

l) 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.

m) Oil and Chemical Spills: The year 2002 goal is to have less than 365 spills. The optimum number is 100 or less.

n) 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.

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

p) 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%.

q) 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).

r) 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.

s) 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.

t) 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

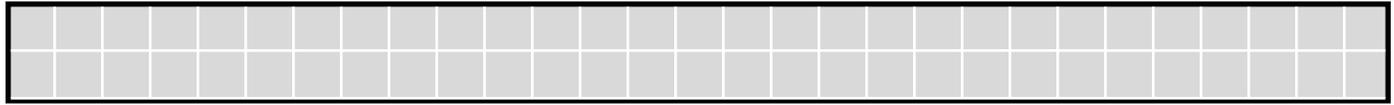
## Letter Grades:

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

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## 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.**

## Department of Accounting and General Services

### *I. Goals/Objectives for 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, besides the normal dust control practices, 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

### *II. Results of Efforts for FY 2000*

A. Goal/Objective #1: The Public Works Division is continuing to implement dust control measures during construction projects, such as the use of water, chemicals, or asphalt over surfaces which may create airborne dust. Phasing of the projects and the use of fiberglass filters will continue to be considered where necessary.

B. Goal/Objective #2: The Public Works Division either tests for lead based paint or assumes that lead based paint is present for renovation of buildings constructed prior to 1978. Therefore, appropriate measures may be taken to protect the environment from lead hazards during construction.

C. Goal/Objective #3: The Public Works Division has yet to encounter a situation where using treated wastewater to irrigate playfields and landscaped areas would be feasible. However, it will continue to be considered where appropriate.

### *III. Goals/Objectives for FY 2001*

A. Goal/Objective #1: The Automotive Management Division will try to purchase more alternative fueled vehicles which are more environmentally friendly.

B. Goal/Objective #2: The Public Works Division will begin to implement ultraviolet light technology to reduce mold growth within air conditioning systems. Mold is a major cause of indoor air quality problems.

C. Goal/Objective #3: The Public Works Division will increase the use of wood-polymer lumber products in its construction projects in lieu of timber or hazardous phenol-based or formaldehyde-based chipboards. The wood-polymer products contain no preservatives and are made from post-consumer and/or post-industrial reclaimed plastic and waste wood, so they are more environmentally friendly. They can be used for benches, picnic tables, playgrounds, docks and landscaping.

## Department of Agriculture

### *I. Goals/Objectives for FY 2000*

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 plant pest populations which can cause significant economic damage to agriculture or constitute serious threats 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 2000*

#### A. Goal/Objective #1:

- Issued 1,399 violation notices resulting from surveillance and inspection of Hawaii-bound air and sea baggage, cargo, mail, and visitors.
- A total of 385 insect interceptions were made. Of these, 131 were species not known to occur in Hawaii, 207 were already present in the State and 47 were either too immature or damaged to be identified to the species level.
- A total of 8,731 animals were confiscated at ports of entry, 87 were caught in the wild, five turned in under amnesty, seven lots of animals were confiscated and followed up with investigations, and 11,506 animals were refused entry at the ports.
- More than 71,000 persons were informed of the Plant Quarantine Branch's requirements for importing plant materials and non-domestic animals through tours of the Branch facilities or talks with various civic groups.

# Agency Goals

## B. Goal/Objective #2:

- Continued actions to eradicate Banana Bunchy Top Virus (BBTV), a serious disease of bananas, from a 10-square mile Eradication Zone in the North Kona District of Hawaii where more than 90% of the banana plants have been destroyed.
- Continued survey for and evaluate actions taken to eliminate fireweed, a designated noxious weed, on Oahu and Kauai.
- Released and established two weevils (*Acythopus burkhartorum* and *Acythopus cocciniae*) to control ivy gourd (*Coccinia grandis*), an extremely aggressive lowland vine that covers poles, trees, other plants, and fences.
- Released and established a moth (*Mompha trithalama*) to control clidemia (*Clidemia hirta*), an aggressive shrub that dominates the forest understory.
- Conducted explorations in Australia, South Africa, and Madagascar for natural enemies of fireweed (*Senecio madagascariensis*), a serious pasture weed poisonous to cattle, and colonized and testing (in quarantine) eight species of insects as potential fireweed biocontrol agents.

## C. Goal/Objective #3:

- Developed a five-year plan to reduce pesticide exposures reported to the Hawaii Poison Control Center by 50%. Approximately 3,000 pesticide exposures are reported each year. Activities to support this plan will be conducted in cooperation with the Hawaii Poison Control Center.
- Conducted over 600 inspections of farms, pesticides dealers, and non-farm users for proper use and distribution of pesticides.
- Issued over 60 warning letters for improper use and collected \$27,633 in penalties for illegal use or sale of pesticides.

## III. Goals/Objectives for FY 2001

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

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

- Finish BBTV Eradication Project in Kona; manage BBTV on Kauai.
- Control papaya ringspot virus on Hawaii, fountain grass and thorny kiawe on Oahu.

- Finalize testing and seek approval for fireweed biocontrol candidates.
- Initiate explorations in Malaysia and Thailand for natural enemies of banana aphid.

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.

## Department of the Attorney General

### I. Goals/Objectives for FY 2000

A. Goal/Objective #1: 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 for FY 2000

A. Goal/Objective #1: In partnership with the Western States Project, the Department brought mainland trainers to Hawaii to conduct a three-day training for all DOH environmental health specialists, including those employed by the air, water, hazardous waste, solid waste, underground storage tank, and hazard evaluation and emergency response programs. This training improved relations among these programs, as well as providing valuable training on enforcement-related matters.

The Department also assisted DOH in drafting rules and forms that implement field citations that authorize an expedited administrative enforcement mechanism; drafted new rules for DOH's contested case hearings; drafted rules for the Clean Air Branch and the Underground Storage Tank programs to obtain final EPA program approval; developed land leases for the Clean Air Branch for new and existing ambient air quality monitoring stations; substantially improved the number of and amount of time it has taken to resolve solid and hazardous waste enforcement actions; worked with criminal investigators on several enforcement cases; continued to work with and negotiate a voluntary agreement with potentially responsible parties in regards to the cleanup of Honolulu Harbor; hired a second deputy attorney general to help enforce water pollution control laws; settled a major wastewater case on Molokai for \$330,000; settled a major hazardous waste case on Oahu for \$1.8 million; and provided timely legal advice and counsel.

### *III. Goals/Objectives for FY 2001*

- A. Goal/Objective #1: Provide effective and timely legal counsel and training for our clients.
- B. Goal/Objective #2: Improve the quality of and expedite environmental enforcement actions.
- C. Goal/Objective #3: Improve coordination of enforcement actions among the air, water, solid and hazardous waste, and hazard evaluation and emergency response programs, as well as among other state and federal civil and criminal agencies.

## **Department of Defense**

### **Hawaii Army National Guard**

#### *I. Goals/Objectives for 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, Guard members, 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.

#### *II. Results of Efforts for FY 2000*

- A. Goal/Objective #1: Conservation. Updated the five-year master plan for natural and cultural resources manage-

ment with in-house staff, saving an estimated \$150,000 of commercially contracted work. Completed a three-year ecosystem research project at Kanaio Training Area (KNTA), Maui, to restore endangered dry forest with 60,000 seeds of native plants inside protected, fenced reserves. Delineated critical habitat and outlined management strategies by completing a five-year statewide endangered species survey by the U.S. Fish and Wildlife Service. Installed over ten tons of erosion control blankets on denuded soils to protect water quality and 25 acres of wetland ecosystems. Enhanced native dry-land ecosystems at Battery Harlow, Diamond Head, a historic WWI reserve, by planting over 2,000 native plants of 26 species with the help of staff, students and soldiers. Used in-house Guard resources (aircraft, soldier labor, and staffing) to save money in accomplishing fieldwork and engender a stewardship ethic among Guard men and women.

Initiated various ecosystem management projects to accomplish long-term program goals. Highlights include: ensured the reduction of noxious fountain grass, one of the most devastating, fire-promoting weeds in the Hawaiian Islands at Kanaio (Maui), Bellows Regional Training Institute and Fort Ruger, Diamond Head (Oahu) and Kekaha Firing Range (Kauai); developed field plans and schedules to promote the protection of Hawaii's only native mammal, the endangered Hawaiian hoary bat; assisted in the aerial helicopter survey and protection of nearly 200 acres of old growth rain forest at Keaukaha Military Reservation (Hawaii).

The cultural resources program recovered data and monitored archaeological sites during range clearing at KNTA; and, inventoried, mapped and photographed nine new archaeological sites related to prehistoric and historic occupation. Completed assessments for all HIARNG facilities to develop the five-year Integrated Cultural Resources Management Plan. Instituted a partnership with the U.S. Army Cultural Resources office to preserve data for the historic Coastal Defense System.

B. Goal/Objective #2: Compliance. Incorporated pollution prevention initiatives into unit activities and field-training exercises. The HIARNG fielded two mobile oil/water separators designed to operate anywhere. These large, self-contained, trailer mounted filters separates water from the dirt and oil to help ensure that only clean water remains on the ground. By having soldiers wash their vehicles in the field immediately after training, less dirt is tracked onto the pavement, which reduces run-off pollution. The trailer mounted units save time, money, and protects the environment by filtering and recycling water wherever soldiers wash their vehicles before returning to home base.

# Agency Goals

Monitoring regulatory compliance at Kalaeloa is ongoing: coordinated with the Navy to ensure a smooth transfer of 46 injection wells located on our 150-acre parcel; created a draft spill plan for the vehicle maintenance shop; conducted water testing to ensure safe levels of lead, copper, and bacteria.

Conducted a statewide EPCRA hazardous chemical inventory update to ensure quantities stored on-site are below threshold amount. Completed field storage standard operating procedures on secondary containment of hazardous materials.

Completed environmental documentation on Fort Ruger and the new Regional Training Institute at Bellows meets compliance with State and/or Federal law.

C. Goal/Objective #3: Land management. Received Army National Guard Bureau recognition for superior achievements in land management at HIARNG installations statewide.

Completed implementation of industry standardized file naming and metadata (detailed history of a given data set) convention for all geographic information system data. Purchased equipment, which enables natural and cultural resource personnel to obtain geospatial data while in the field. The Geographic Information System personnel produced high quality cartographic for all environmental reports and documentation.

Continued implementation of Federal Systems Integration and Management Center contract for high-resolution digital aerial photographs for six HIARNG sites. Purchased accurate digital tax map key data for all islands that will enhance real property, recruiting, and civil defense requests.

Continued data sharing arrangements with State and local agencies, as well as other DOD entities. Obtained digital terrain models for improved analysis of natural, cultural, and water resource problems. Commenced a data sharing arrangement with the Pacific Disaster Center, Maui, for data specifically suited for civil defense issues.

### *III. Goals/Objectives for FY 2001*

A. Goal/Objective #1: Conservation. Continue integrated natural and cultural resources management, update Integrated Natural and Cultural Resource Management Plans, eradicate alien species, protect endangered species, and educate students.

B. Goal/Objective #2: Compliance. Continue to monitor for regulatory compliance, implement secondary containment projects and pollution prevention initiatives, complete and/or update management plans.

C. Goal/Objective #3: Land management. Complete the collection of baseline geographic information system (GIS) data for HIARNG facilities statewide. Develop and implement a digital photograph database and documentation for ease of access and use in environmental documents and reports. Acquire additional GPS capability for data collection and recording of photo points.

## **Hawaii Air National Guard**

### *I. Goals/Objectives for 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 because of the closure of Naval Air Station Barbers Point.

### *II. Results of Efforts for 2000*

A. Goal/Objective #1: Compliance. Geographically Separated Units evaluated internally under the Air Force's Environmental Compliance and Management Program, which identified potential compliance problems in-house.

Units located on Hickam AFB evaluated by a PACAF IG team under the Air Force's Environmental Compliance and Management Program. All identified deficiencies corrected.

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.

Reviewed the draft Environmental Baseline Survey for the acquisition of property at the former Naval Air Station Barbers Point to ensure that HIANG facilities were accurately identified and described in the final report.

Completed a Phase II Environmental Baseline Survey investigation of the Battery Room discharge at the former 298th Air Traffic Control Flight facilities on the Pacific Missile Range Facility, Barking Sands (Kauai).

### *III. Goals/Objectives for FY 2001*

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.

## **State Civil Defense**

### *I. Goals/Objectives for 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.

### *II. Results of Efforts for FY 2000*

A. Goal/Objective #1: 100 percent of the State Civil Defense Division staff has attended hazard communications training. In addition to this endeavor, recycling of office products (i.e., aluminum cans, paper, and telephone books) receive continuous staff support to reduce waste.

B. Goal/Objective #2: State Civil Defense has provided comments and recommendations on numerous draft and final Environmental Reviews. Recommendations focused on the installation of civil defense sirens to support communities without disaster warning systems or which had obsolete systems. Comments and recommendations clearly demonstrate the Division's concern for improving public safety and the environment.

### *III. Goals/Objectives for FY 2001*

A. Goal/Objective #1: Continue to participate in quarterly Hawaii State Emergency Response Commission

(HSERC) meetings and Local Emergency Planning Committee (LEPC) meetings to provide input on the development of State contingency plans related to hazardous materials and to support hazardous materials training and exercises for first responders statewide.

B. Goal/Objective #2: Continue Division recycling initiatives that include waste paper and aluminum cans, reduce the amount of paper we use in our offices through improved use of computer programs, and provide environmental information in Division web sites and newsletters.

C. Goal/Objective #3: Include environmental review procedures during the conduct of Federal disaster assistance (Public Assistance Program) training for State and county employees and for volunteer architects and engineers.

## **Office of Veterans Services**

### *I. Goals/Objectives for FY 2000*

A. Goal/Objective #1: Training. Training is the Hawaii State Veterans Cemetery's (HSVC) top priority, especially in the area of handling fertilizers, pesticides, herbicides and hazardous materials.

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

### *II. Results of Efforts for FY 2000*

A. Goal/Objective #1: Training. On-the-job training continues to be an integral part of the OVS/HSVC program. Correct handling and application of fertilizers, pesticides, herbicides and other hazardous materials continues to be the highest priority.

B. Goal/Objective #2: Compliance. Cemetery Operations Manager surveyed applicable laws and regulations, conducted safety training in appropriate areas, designated a fire warden and determined that the proper tools and equipment were in the inventory.

# Agency Goals

C. Goal/Objective #3: Conservation. All five OVS offices participate in recycling programs and purchase green wherever possible.

## **III. Goals/Objectives for FY 2001**

A. Goal/Objective #1: Land management. Improve turf management program, refine controls for cleaning and grassing of burial sites, develop grassed areas by aerating, fertilizing and conditioning soil for best growth potential with minimum environmental risk.

B. Goal/Objective #2: Training. Training in the areas of hazardous material handling and equipment safety, especially correct handling and application of fertilizers, pesticides and herbicides. On-the-job training in the use of chemicals and proper handling to ensure against run-off and contamination of ground water.

C. Goal/Objective #3: Compliance. Continue to monitor program for compliance to applicable laws and regulations related to environmental protection and conservation. Conduct safety classes. Continue to improve record management and documentation.

## **Department of Education**

### **I. Goals/Objectives for 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.

### **II. Results of Efforts for FY 2000**

A. Goal/Objective #1: The Department offered credit courses for teachers to enhance critical thinking and inquiry in the classroom. A ten-credit Critical Thinking and Inquiry Project, Phase II course focused on assisting 60 second-year project teachers to apply strategies and knowledge learned in the previous year into their classroom instruction. Teachers field-tested and revised their environmental issue units to better service students in critical thinking and inquiry. A six-credit Integrated Teaming, Secondary Project focused on assisting 40 new project teachers to apply inquiry and critical thinking in their classroom instruction. Teachers spent 14 days throughout the school year learning strategies and information to teach about environmental issues and environmental stewardship to conserve the resources for a sustainable future. The Department began a Critical Thinking Cadre Training for 50 selected secondary project teachers. At the end of this two-year training, cadre teachers will begin to provide foundational course in critical thinking. By enhancing the students' ability to think critically, the quality of their work and performance will be improved, as reflected in their attainment of the content standards. The Department also offered standards-driven workshops in the Ohia Project and Energy Education to model other integrated contextual learning through which the content standards could be met.

B. Goal/Objective #2: The middle school critical thinking and issue investigation teacher manual has been developed, field tested, and revised. The manual will be used in future workshops to provide a model for middle school teachers to see how content standards can be met through an integrated environmental education unit. The high school critical thinking and issue investigation teacher manual is being developed and field-tested in school year 2000-01. The secondary schools in the Ala Wai Watershed will be the target group to field-test the high school manual. These two teacher manuals will be disseminated to interested teachers starting in school year 2000-01.

C. Goal/Objective #3: Partnerships with the University of Hawaii Curriculum Development and Research Group and Sea Grant College, the Department of Health Clean Water Branch, Board of Water Supply, and the Department of Land and Natural Resources have been strengthened to provide technical services and support for project teachers mentioned above.

Partnerships with Hawaii Nature Conservancy, Conservation Council of Hawaii, the Moanalua Gardens Foundation, Lyons Arboretum, Hawaii Nature Center, and City and County Recycling Division were also strengthened to provide technical services to teachers and students in Conservation Education.

The Department also worked closely with the Hawaii National Volcano Park, Haleakala National Park, US Fish and Wildlife Services, and the Army Corps of Engineers to provide technical support in the topical area of Biodiversity.

The Polynesian Voyaging Society, Na Kalei Waa O Makali'i, Bishop Museum, Kapiolani Community College, Hawaii Maritime Museum, and the City and County Parks and Recreation Department provided assistance to public schools studying the marine environment.

### **III. Goals/Objectives for FY 2001**

A. Goal/Objectives #1: Continue to 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/Objectives #2: Develop standards-driven curriculum units to help students achieve the content standards through the study of the environment. Develop a comprehensive plan to revitalize marine education in the classroom.

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

## **Department of Health**

Because DOH's environmental goals were designed as general goals for long-term use (5 to 10 years), we will retain these goals in their present form for the foreseeable future:

### **I. 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.

### **II. Results of Efforts for FY 2000**

A. Goal/Objective #1: Beach closures increased 50%, from 13 days in calendar year 1998 to 26 days in 1999, largely due to DOH requiring more precautionary closures as a result of suspected sewage and/or chemical spills.

B. Goal/Objective #2: DOH has implemented the newly-developed Quality Management Plan for water quality monitoring, and has begun development of Total Maximum Daily Load (TMDL) assessments of streams to better protect the quality of the State's inland and coastal waters.

C. Goal/Objective #3: DOH oversaw the cleanup of nearly 300 leaking underground storage sites in FY 2000, preventing further contamination of the groundwater beneath those sites. Wastewater recycling continued to rise from 11.3% to 13% resulting in a reuse of almost 19.5 million gallons per day for irrigation and other appropriate uses.

D. Goal/Objective #4: DOH responded to over 500 oil and chemical spills in FY 2000 to assure cleanup, prevent adverse health effects, and avoid future contamination.

E. Goal/Objective #5: Hawaii's air quality exceeds national standards, by as much as 97% in some cases. Contaminant levels of sulfur dioxide, carbon monoxide and particulates were assessed; concentrations of these pollutants remain far below levels of concern.

### **III. Goals/Objectives for FY 2001**

Same as for FY 2000.

# Agency Goals

## Department of Land & Natural Resources

### Commission on Water Resource Management

#### *I. Goals/Objectives for FY 2000*

A. Goal/Objective #1: To better plan for the protection, management and sustainability of our State's water resources through a comprehensive update of the Hawaii Water Plan.

B. Goal/Objective #2: To more efficiently use our remaining water resources by promoting the use of reclaimed sewage effluent to meet non-potable water demands.

C. Goal/Objective #3: To improve stream protection and management by adopting and implementing administrative rules, including the establishment of interim/permanent instream flow standards.

#### *II. Results of Efforts for FY 2000*

A. Goal/Objective #1: Agency efforts include development of a Statewide Framework for Updating the Hawaii Water Plan, initiating updates of the Water Resource Protection Plan, State Water Projects Plan, and participation in an integrated resource planning process to revise the Oahu Water Use and Development Plan currently being undertaken by the Honolulu Board of Water Supply.

B. Goal/Objective #2: Permits issued for the Ewa Plains Caprock region include conditions requiring caprock permittees to utilize reclaimed sewage effluent when available. Conversion to reclaimed water is tied to the availability/access to R-1 water produced at the Board of Water Supply's Honouliuli Water Reclamation Facility.

C. Goal/Objective #3: Stream-related studies have been initiated in efforts to establish permanent instream flow standards. Draft administrative rules were taken to statewide public hearings and are being revised based on testimonies and comments from the hearings. The revisions are substantial and will require a second round of statewide public hearings.

#### *III. Goals/Objectives for FY 2001*

A. Goal/Objective #1: Continue to plan for the sustainability of our water resources and complete efforts to update remaining components of the Hawaii Water Plan. Coordinate completion/update of the Agricultural Water Use and Development Plan, Water Quality Plan, the County Water Use and Development Plans.

B. Goal/Objective #2: Improve stream protection, management, and restoration by setting interim/permanent instream flow standards for windward Oahu streams related to the Hawaii Supreme Court decision in the Waiahole Ditch Combined Contested Case Hearing.

C. Goal/Objective #3: Establish a State Drought Coordinator position to implement provisions of the Hawaii Drought Plan (HDP). HDP implementation to include regional assessments of drought risk/vulnerability, improved drought monitoring and forecasting, and enhanced response/mitigation measures and dissemination of drought information to the general public.

### 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 for FY 2000*

A. Goal/Objective #1: Develop responsible mechanisms to manage commercial uses such as encourage 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.

## II. Results of Efforts for FY 2000

### A. Goal/Objective #1:

\* Established the Commercial Trail Tour Activity (CTTA) Permit to provide a mechanism to allow for regulated amounts of commercial tours on trails and access roads regulated under Title 13-130, Na Ala Hele Administrative Rules. Issued 11 permits that generated approximately \$17,000.00 in revenue. Established commercial trail monitoring sites on Kauai and Maui to measure for changes to trail surface.

\* Initiated the design and construction of an automated commercial reservation system and public Na Ala Hele Website site, accessible through the Internet and telephone. Funding for this project is from a contract and grant from the Hawaii Tourism Authority, with matching funds through the Federal Recreational Trails Program.

### B. Goal/Objective #2:

\* Contracted the Peregrine Fund, Inc. & Zoological Society of San Diego to operate and manage the Maui Bird Conservation Center at Olinda and related projects at the Keauhou Bird Conservation Center, Hawaii. The Hawaii program maintained 10 species in captivity for production or surrogate research and produced 63 nene, 20 puaiohi, 14 palila, 3 Hawaii creeper, 4 Maui parrotbill, 10 Hawaii akepa, 5 alala, 1 common amakihi, 4 iwi, and 6 Hawaii elepaio.

\* Participated in the logistics for release and follow-up of 19 captive reared Puaiohi on Kauai in cooperation with USGS/BRD and the Peregrine Fund.

\* Released 4 captive-reared nene goslings in the West Maui Forest Reserve.

\* Released 24 captive-reared nene into Hanalei National Wildlife Refuge to establish a fourth population on Kauai.

\* Reared and protected 17 nene goslings in secure habitat at Keaau, Hawaii Island.

\* Increased nene numbers from 6 to 24 animals in Kapapala Cooperative Game Management Area through an aggressive predator control and habitat management program by volunteer hunters.

\* Propagation efforts provided over 12,000 individual rare plants. Over 9,000 of these plants were returned to their native habitats statewide, covering over 300 rare native species. Excess seeds and propagules were distributed to state cooperators and the public.

\* Maintained and enhanced over 120 plant enclosures on various sites on all islands for protection of Hawaii's rare plants.

\* Cooperatively constructed 16 new plant enclosures statewide. Kalalau Rim Plant Sanctuary on Kauai now provides protection for rare plants occurring naturally at the site and a secure site for 43 outplanted species.

\* Cooperatively funded, managed, and improved three rare plant mid-elevation nurseries on Kauai, Oahu, and Hawaii. Cooperatively funded and managed Lyon Arboretum Tissue Culture Laboratory as a statewide repository of rare plant material.

\* Assisted Housing & Community Development Corp. of Hawaii and Department of Transportation in development of Hawaii's first Habitat Conservation Plan (HCP) for protection of an endangered plant species.

\* Funded captive rearing of endangered tree snails and constructed snail rearing house at Lyon Arboretum.

### C. Goal/Objective #3:

\* Issued first special use permit allowing the practice of traditional fishing within the boundaries of Ahihi-Kina'u NAR.

\* Began a long term community forestry project at Ookala on Big Island on former sugar lands involving local high school students, teachers, and community leaders in the design, establishment, and management of the forest.

\* Expanded trails volunteer work program on Kauai  
- 48 hours of volunteer service from Boy Scout Troop 148 installed quarter mile marker on the Okolehau Trail, Hanalei.

- Kauai Sierra Club adopts Okolehau Trail.  
- 96 hours of volunteer time was expanded on the Nualolo Cliff Trail.

- 93 hours of volunteers from the Kauai Resource Conservation Program did weed control work at Pihea Trail.

\* Utilized 857 volunteers for 3936 person hours on various trail restoration projects on Oahu.

\* Enlisted hunters and their bird dogs to conduct pre-season forecasts of the fall game bird season. and volunteers to gather harvest data at hunter checking stations during game bird and mammal seasons on Hawaii Island.

\* Helped develop an educational curriculum in tropical forestry at the newly named UH Hilo College of Agriculture, Forestry and Resource Management by partially funding an eight-course Certificate program in forestry. Seventeen students are currently enrolled in the program.

\* Provided urban and community assistance to 72 individual homeowners and groups.

\* Awarded \$ 291,000 to 21 landowners enrolled in the State Stewardship Assistance Program.

\* Approved five Forest Stewardship Management Plans bringing an additional 3,761 acres under Program management.

# Agency Goals

\* Provided \$ 207,992 to 72 participants in the Kaulunani (Urban and Community Forestry) program.

\* Involved hundreds of landowners, businessmen, community leaders, government agency representatives, and citizens in learning about the positive benefits of forestry and participating in the development of it. Co-sponsored the 1998 Forestry Symposium (143 participants), the 1999 Hamakua Community Logging Workshop (108), the 1999 Carbon Sequestration Workshop (85), and the 2000 Forestry 2010 Conference (134).

\* Established an extension forestry program at University of Hawaii at Manoa, the first ever for the State. Dozens of relevant forestry documents have been catalogued and distributed to landowners and managers in need of forestry extension materials. Cooperative agreements between the University and the private sector have resulted in pooled resources for five demonstration projects on two islands and three public information workshops.

\* Participated in a number of facilitated working groups to allow increased input by all concerned parties dealing with hunting issues on State lands (Molokai Hunting Working Group, the Maui Axis Deer Group, and the Natural Area Working Group (Puna and Kohala regions) of the Big Island).

\* Provided logistic support and met four times with Hawaii Hunting Advisory Council to discuss management of recreational hunting and how it is integrated in the Department's overall management program.

### *III. Goals/Objectives for FY 2001*

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

B. Goal/Objective #2: Develop, protect and maintain wetland habitat through management and cooperative agreements with other agencies and private organizations.

C. Goal/Objective #3: Support efforts for brown tree snake and other alien species control by promoting inter-agency cooperation, expanding the network of volunteers, and updating training and equipment for effective rapid response capacity.

## **Division of State Parks**

### *I. Goals/Objectives for FY 2000*

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. Promote community and park user participation in the sustainable management of these park resources.

B. Goal/Objective#2: Plan, design, and construct parks that promote the protection and interpretation of Hawai'i's natural and cultural heritage.

C. Goal/Objective #3: Implement revenue enhancement opportunities to expand funding source for resource management and visitor services.

### *II. Results of Efforts for FY 2000*

A. Goal/Objective #1: Interpretive signs installed at Pu'u o Mahuka Heiau and Kukaniloko Birthstones State Monuments, O'ahu. Continued development and expansion of volunteer and curatorship programs in the parks with new curatorship developed at Ha'ena State Park, Kaua'i. Sponsored training workshop for park volunteers to enhance visitor education programs.

B. Goal/Objective #2: Park planning in progress for Diamond Head State Monument on O'ahu, Hapuna Beach State Recreation Area, Kealakekua Bay State Historical Park, and Kekaha Kai State Park on Hawai'i, and Ha'ena State Park on Kaua'i.

C. Goal/Objective #3: Initiated collection of entry fees at Diamond Head State Monument, O'ahu.

### *III. Goals/Objectives for FY 2001*

A. Goal/Objective #1: Continuation of goals and objectives from FY 2000 with an emphasis on implementing interpretive programs in parks with major natural and cultural resources.

B. Goal/Objective #2: Develop park plans for Koke'e and Waimea Canyon State Parks on Kaua'i and Malaekahana and Kahana Valley State Parks on O'ahu.

C. Goal/Objective #3: Acquire, plan, and develop new state parks to bring additional heritage and recreational lands into public use.

## Department of Transportation

### Airports Division

#### *I. Goals/Objectives for FY 2000*

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

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

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

#### *II. Results of Efforts for FY 2000*

A. Goal/Objective #1: Stormwater Monitoring Plan for Honolulu International Airport completed.

B. Goal/Objective #2: The Honolulu International Airport Noise Monitoring System proposals are due on November 21, 2000. Installation of the system should be completed by September 30, 2001.

C. Goal/Objective #3: The Hilo EA allotment has been acquired; contract modification is pending.

#### *III. Goals/Objectives for FY 2001*

A. Goal/Objective #1: Install eight Automated Stormwater Monitoring Devices at Honolulu International Airport.

B. Goal/Objective #2: Activate Noise Monitoring System for Honolulu International Airport.

C. Goal/Objective #3: Initiate a noise mitigation project for Keaukaha housing adjacent to Hilo International Airport.

### Harbors Division

#### *I. Goals/Objectives for FY 2000*

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 for FY 2000*

##### 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 harbor's 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.

# Agency Goals

- \* 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 for FY 2001*

Harbors Division will have the same goals and objectives as in FY 2000.

## Highways Division

### *I. Goals/Objectives for FY 2000*

A. Goal/Objective #1: Obtain a Municipal Separate Storm Sewer System (MS4) Permit for the State Highway System.

B. Goal/Objective #2: Publish/implement new guidelines for maintainable highway landscaping.

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

### *II. Results of Efforts for FY 2000*

A. Goal/Objective #1: An MS4 permit was issued to the Highways Division on June 20, 2000.

B. Goal/Objective #2: The Master Guidelines for Landscaping and Maintenance of the Highways in Hawaii has been completed and distributed to Department engineers, design consultants and contractors. Positive results have appeared in both design and maintenance.

C. Goal/Objective #3: Selected a consultant to prepare a comprehensive roadway plan for Kuhio Highway. Fee/scope of work being determined.

## *III. Goals/Objectives for FY 2001*

A. Goal/Objective #1: Train and educate Highways Division staff Statewide regarding the MS4 and NPDES programs.

B. Goal/Objective #2: Address all phases of landscaping for the entire State following our Master Guidelines for Landscaping and Maintenance of the Highways in Hawaii.

C. Goal/Objective #3: 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 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's Special Management Area.

C. Goal/Objective #3: Utilize the Oahu Integrated Water Resource Planning (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.

## ***II. Results of Efforts for FY 2000***

A. Goal/Objective #1: The BWS has increased the number of community presentations for significant projects in an effort to improve public outreach and community involvement. BWS provides representatives to all of the 35 neighborhood boards to enhance communication of community plans, programs and concerns.

B. Goal/Objective #2: One method to streamline the permit process is to improve the quality and thoroughness of the permits best management practices and monitoring plans.

C. Goal/Objective #3: In July 2000, BWS purchased a 12 mgd reclamation plant at Honouliuli to provide irrigation and industrial process water to the arid Ewa district. Desalination is also being pursued to provide a reliable potable water source within the secondary urban center. The formal public participation process for the integrated water resources plan is being postponed in lieu of small, grass-roots community educational meetings about water resources. Watershed management plans could be developed based on the ahupua'a model of incorporating community values into water planning.

## ***III. Goals/Objectives for FY 2001***

A. Goal/Objective #1: Continue to develop environmentally appropriate water system projects and provide public notification and information during the feasibility phase of major water system projects. Continue BWS representation at each neighborhood board meeting.

B. Goal/Objective #2: Continue to pursue improvements and streamlining the environmental permit processes for water use, utility crossings of streams and effluent discharges from BWS projects.

C. Goal/Objective #3: Evaluate new technologies in alternative water development such as desalination, recycled water and deep ocean thermal technology to reduce the need for new groundwater sources and allow a more efficient use of all resources by matching use with water quality. Alternative water sources will also allow limited restoration of watersheds and streams. Expand community based watershed planning to every ahupua'a and moku districts of Oahu.

## **City and County of Honolulu, Department of Facility Maintenance**

### ***I. Goals/Objectives for FY 2000***

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

### ***II. Results of Efforts for FY 2000***

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

### ***III. Goals/Objectives for FY 2001***

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

## **City and County of Honolulu, Department of Parks and Recreation**

### **I. Goals/Objectives for FY 2000**

A. Goal/Objective #1: Expand the city's beautification and park landscaping efforts.

B. Goal/Objective #2: Continue acquisition and development of significant park resources.

C. Goal/Objective #3: Develop long-range planning for parks to meet the needs of future generations.

### **II. Results of Efforts for FY 2000**

A. Goal/Objective #1: Landscaped and planted trees along Ala Moana, Salt Lake, and Vineyard Boulevards and installed hanging flower baskets along Kalakaua in Waikiki.

B. Goal/Objective #2: Completed major expansion and improvements at Kuhio Beach Park, as well as the area surrounding the new bandstand and ponds at Kapiolani Regional Park.

# Agency Goals

C. Goal/Objective #3: Completed an initial assessment of park and recreation needs, conducted an islandwide community survey, and continued to develop an overall long range plan.

## III. Goals/Objectives for FY 2001

A. Goal/Objective #1: Expand the city's beautification and park landscaping efforts, planting 1000 trees by September 2001, cleaning beaches, and supporting other conservation efforts which have high aesthetic impacts and values.

B. Goal/Objective #2: Continue the development of a major regional park for Central Oahu, construct improvements for Hanauma Bay Nature Preserve, and pursue acquisition of park resources available along the North Shore, Windward Oahu, Leeward Oahu and the Waianae Coast.

C. Goal/Objective #3: Implement a systems approach to long-range planning for parks, establishing a process for meeting spatial and physical requirements, and revising antiquated systems and standards.

## City and County of Honolulu, Department of Planning and Permitting

### I. Goals/Objectives for FY 2000

A. Goal/Objective #1: Improve effective land use and development controls through increased public access to regulatory information.

B. Goal/Objective #2: The careful and sensible implementation of existing rules and regulations that incorporate established environmental protection principles and practices.

C. Goal/Objective #3: Mitigate soil erosion from construction sites and enhance the quality of storm water runoff from new developments.

### II. Results of Efforts for FY 2000

A. Goal/Objective #1: Convenient access to land use regulations, pending permit applications and upcoming public hearing information made available "online" through the establishment and refinement of the City's Internet web

site. Also, interactive map and land use information were made available via the deployment of a Geographic Information System (GIS) Internet web site, which is free to the public.

B. Goal/Objective #2: Better administration of land use regulations and control via improved internal coordination, including the tracking and monitoring of previous approvals, pending applications, outstanding violations, and site investigations through the establishment and refinement of our comprehensive computer network system (POSSE).

C. Goal/Objective #3: Improved training and continued education of professional engineers and inspectors to better implement the revised Rules Relating to Storm Drainage Standards and Soil Erosion Standards and Guidelines (reported last year). Joint workshops with the Department of Environmental Services were held this past summer. In addition, we have begun requiring the preparation of water quality reports for all significant new developments to ensure that water quality standards are met.

## III. Goals/Objectives for FY 2001

A. Goal/Objective #1: Continue efforts to increase compliance with existing land use rules and regulations which protect the environment through greater awareness of proper and appropriate mitigation and monitoring of land use, its development, as well as ongoing management.

B. Goal/Objective #2: Continue improvement of timely, coordinated and cooperative administration of land use regulations and management.

C. Goal/Objective #3: Continue efforts to better implement the revised drainage and soil erosion rules and to educate the development, construction and general communities in order to enhance compliance with these regulations.

## City and County of Honolulu, Department of Transportation Services

### I. Goals/Objectives for FY 2000

A. Goal/Objective #1: To promote programs to reduce dependence on the use of automobiles.

B. Goal/Objective #2: To evaluate the social, economic, and environmental impact of additions to the transportation system prior to construction.

C. Goal/Objective #3: To improve the safe and efficient operation of City transportation and other facilities under the jurisdiction of the department.

## *II. Results of Efforts for FY 2000*

A. Goal/Objective #1: Implemented the CityExpress! and CountryExpress! limited stop bus routes. Initiated the Leeward Oahu hub-and-spoke system. Wheelchair-accessible service now provided with 373 lift-equipped buses out of 525 buses in fleet. Entire TheBus fleet now equipped with bike racks. Initiated action to commence shuttle service that would transport Kalihi Valley residents to and from their residences to the closest bus stop. Planned and coordinated Kaimuki/Kapahulu/Waikiki Trolley in cooperation with visioning team. Continued work on the Primary Corridor Transportation Project. Honolulu Bikeway Master Plan adopted by City Council. Purchased bicycle parking racks for installation in sidewalks and other areas.

B. Goal/Objective #2: Reviewed, coordinated and processed over 40 environmental impact and assessment documents. Continued work on the Major Investment Study/Draft Environmental Impact Statement for the Primary Corridor Transportation Project. Continued work on the Oahu Short-Range Transportation Plan and Program.

C. Goal/Objective #3: Continued work on the Primary Corridor Transportation Project. Commenced construction of a new 250-bus operating and maintenance yard at the City-owned property in Manana.

## *III. Goals/Objectives for FY 2001*

A. Goal/Objective #1: To promote programs to reduce dependence on the use of automobiles.

B. Goal/Objective #2: To evaluate the social, economic, and environmental impact of additions to the transportation system prior to construction.

C. Goal/Objective #3: To improve the safe and efficient operation of City transportation and other facilities under the jurisdiction of the department.

## **City and County of Honolulu, Fire Department**

### *I. Goals/Objectives for 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.

### *II. Results of Efforts for FY 2000*

A. Goal/Objective #1: Continuing to work closely with the Department of Design and Construction (DDC) on the conversion to aboveground fuel storage tanks where feasible, and the installation of electronic monitoring equipment for all remaining underground fuel storage tanks. An aboveground tank was installed at the Waianae Fire Station and all remaining underground tanks have been retrofitted with the electronic monitoring.

Continuing to work with the DDC on the completion of the wash rack at the Waipahu Maintenance Facility. Funding is appropriated in fiscal year 2001 and completion of the project is anticipated by the end of the year.

B. Goal/Objective #2: Maintenance of the fire stations is an ongoing project to ensure the conservation of resources. The Assistant Chief of Operations has developed a program to reward stations that are able to conserve electricity and water and lower their utility bills.

C. Goal/Objective #3: When possible within the City's purchasing guidelines, compliance with the Department of Budget and Fiscal Services' program to purchase energy efficient office equipment and recycled products has been maintained.

# Agency Goals

## *III. Goals/Objectives for FY 2001*

A. Goal/Objective #1: Expand the recycling program to the administrative section of the Honolulu Fire Department (HFD).

B. Goal/Objective #2: Install oil separators and grease traps in all new fire stations.

C. Goal/Objective #3: Purchase three new fire apparatuses each year. This will allow the HFD to replace older, inefficient pollution generating fire apparatuses with new trucks that are compliant with the Environmental Protection Agency requirements.

## **County of Hawaii, Fire Department**

### *I. Goals/Objectives for FY 2000*

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 and high-target hazardous chemical areas.

C. Goal/Objective #3: Continue wildland fire/urban interface pre-fire plans, hazmat pre-planning, interagency pre-planning for forest fire solutions, and emergency response procedures for Puna Geothermal Venture.

### *II. Results of Efforts for FY 2000*

A. Goal/Objective #1: Present haz-mat equipment inventory is being evaluated for upgrades or replacement. Dr. John Bowen, Local Emergency Planning Committee Chairman for the County of Hawaii, is training technicians. 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 is continuing for fire service personnel. A Wildland and Forest Fire Committee has been formed to address forest situations and evaluate equipment and tactics for fire fighting.

## *III. Goals/Objectives for FY 2001*

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, and Department of Land and Natural Resources and communities for wildland and forest fires.

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

## **County of Hawaii, Office of Housing and Community Development**

### *I. Goals/Objectives for FY 2000*

A. Goal/Objective #1: The OHCD will continue to seek training to keep staff abreast of NEPA's rule changes.

B. Goal/Objective #2: The OHCD, as a recipient of funds from the Department of Housing and Urban Development (HUD), assumed the responsibility to coordinate compliance with Federal and State environmental rules and regulations.

### *II. Results of Efforts for FY 2000*

A. Goal/Objective #1: Staff attended a seminar on revisions made to Section 106 of the Historic Preservation Law.

B. Goal/Objective #2: Kept consultants abreast of a HUD recommended format for Environmental Assessments which represents a comprehensive update of the HUD environmental requirements at 24 CFR Part 58.40, the NEPA/Council of Environmental Quality requirements at 40 CFR Part 1500-1508 and all previous HUD-recommended Environmental Assessments formats. This form revises the references to NEPA-related federal laws, statutes and executive orders and conforms to HUD's latest regulations.

### *III. Goals/Objectives for FY 2001*

Same as those identified for fiscal year 2000.

## County of Hawaii, Department of Parks and Recreation

### *I. Goals/Objectives for 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, Pahoia Community Center)

### *II. Results of Efforts for FY 2000*

A. Goal/Objective #1: Constructed new restroom (septic disposal system) to replace restroom (cesspool disposal system) at Hookena Beach.

Completed septic disposal system conversion plans for Milolii Beach, Higashihara Park, Kolekole Beach, and Hilo Municipal golf course; secured grants for Milolii and Kolekole projects.

B. Goal/Objective #2: Completed tree planting projects at Lincoln Park, Keaau Park, and Kailua Park.

### *III. Goals/Objectives for FY 2001*

A. Goal/Objective #1: Implement wastewater disposal system improvement projects at Milolii Beach and Kolekole Beach. Secure funding for Higashihara Park and Hilo Municipal golf course projects. Construct restrooms at Ahalanui Park and Isaac Hale Park.

B. Goal/Objective #2: Initiate tree planting programs at Keaau Park (phase 2), Mooheau Park, and Pahoia Community Center.

## County of Hawaii, Department of Water Supply

### *I. Goals/Objectives for FY 2000*

A. Goal/Objective #1: Meet Federal Safe Drinking Act compliance requirements. This includes upgrading the existing Waimea Water Treatment Plant and constructing corrosion control treatment plants to treat springs and constructing wells to replace springs that we don't treat.

B. Goal/Objective #2: Continue to replace transite pipes containing asbestos and galvanized pipes with ductile iron pipes throughout the island.

C. Goal/Objective #3: Refurbish and paint water tanks to improve aesthetics. Also, target tanks that have lead-based paint and replace those with concrete tanks.

### *II. Results of Efforts for FY 2000*

A. Goal/Objective #1: The following projects are programmed to meet Federal Safe Drinking Water Act compliance requirements:

#### 1. Completed compliance projects as follows:

Waimea WTP Compliance Upgrades, Phase II	\$ 800,000
Saddle Road Tank Well, Phase I	\$1,000,000
Corrosion Control Treatment Plants	\$ 25,000
Papaikou Water System	
Pepeekeo Water System	
Honomu Water System	
Ninole Water System	
South Kohala Water System	
Niulii Water System	

#### 2. Completed constructions plan and ready to bid out:

Kaieie-Mauka Exploratory Well	\$1,000,000
Kukuihaele Exploratory Well	\$1,000,000
Pahala Exploratory Well No. 2	\$1,000,000
Makapala Exploratory Well	\$ 500,000

#### 3. In negotiation for design services with consultant:

Honomu Exploratory Well	\$1,000,000
Waiohinu Exploratory Well	\$1,000,000
Kulaimano Exploratory Well	\$1,000,000

B. Goals/Objectives #2: The following capital projects are planned to replace transite pipes that contain asbestos and galvanized pipes that impact water quality over time:

#### 1. Repair and Maintenance Projects:

Akaka Falls Road Waterline	\$ 500,000
Country Club Road GI Waterline	\$ 150,000

#### 2. Capital Improvement Projects (CIP):

G. I. Replacement (Islandwide)	\$1,000,000
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# Agency Goals

C. Goals/Objective #3: The following projects are planned to improve aesthetics as well as eliminate lead-based painted tanks.

1. The completed paint projects are the following:

Harbor Tank Upgrade	\$ 8,000
Kealakehe School Tank Upgrade	\$ 2,000

2. Those projects that bids have been received are the following:

Hilo Reservoir #1 Upgrade	\$ 15,000
Keonepoko Tank Upgrade	\$ 10,000
Waiakea Uka #7 Tank Upgrade	\$ 10,000

3. The projects that will be done in-house are the following:

Kaumana #1 Steel Tank Upgrade	\$ 40,000
Haihai Concrete Tank Upgrade	\$ 25,000
Volcano Tank Upgrade	\$ 12,100
Kaumana #2 Steel Tank Upgrade	\$ 7,500

### **III. Goals/Objectives for FY 2001**

A. Goals/Objective #1: Meet Federal Safe Drinking Water Act compliance requirements. This includes Phase III and IV for Waimea WTP, continuing with corrosion control treatment at specified water systems, and constructing wells to replace springs.

B. Goal/Objective #2: Continue to replace transite pipes containing asbestos and replace steel tanks that contain lead-based paint.

C. Goal/Objective #3: Construct alternate energy plants to supply our facilities with electrical power. This would include construction of hydro-generation power plants.

## **County of Kauai, Department of Public Works**

### **I. Goals/Objectives for FY 2000**

A. Goal/Objective #1: Continue Public Education Program to promote environmental awareness.

B. Goal/Objective #2: Continue programs that help minimize negative environmental impacts.

### **II. Results of Efforts for FY 2000**

A. Goal/Objective #1: Kauai's residential recycling rate increased compared to the same period last year, indicating higher participation levels.

B. Goal/Objective #2:

1) The Kauai Plastic Recycling Project, co-sponsored by the county, was the recipient of the USEPA Region 9, Outstanding Environmental Achievement Earth Day 2000 award.

2) 2,747 junk vehicles, approximately 9,550 gallons of used motor oil, over 513 automotive batteries, approximately 1,000 gallons of liquid and 170 lbs. of solid household hazardous wastes was exported for recycling or disposal.

### **III. Goals/Objectives for FY 2001**

A. Goal/Objective #1: Continue programs to promote environmental awareness.

B. Goal/Objective #2: Continue programs that help minimize negative environmental impacts.

C. Goal/Objective #3: Open the Kauai Resource Center which will showcase and support waste prevention, recycling, and reuse programs.

## **County of Kauai, Fire Department**

### **I. Goals/Objectives for FY 2000**

A. Goal/Objective #1: Loss Control - Electricity: The department has adopted an on-going program involving "Energy Awareness". The main goal of the program involves energy conservation, with special emphasis on reducing electricity consumption.

B. Goal/Objective #2: Hazard Analysis: To identify and mitigate hazardous situations in all fire stations.

C. Goal/Objective #3: Disaster Preparedness: To identify possible acts of terrorism, and prepare response procedures.

## *II. Results of Efforts for FY 2000*

A. Goal/Objective #1: The department implemented an “Energy Awareness Program” that involves the placement of stickers on light switches at all fire stations to remind personnel to turn off lights in order to conserve electricity. The program also involves conversion of incandescent lighting to fluorescent wherever possible.

B. Goal/Objective #2: HIOSH Consultant Phillip Arbitrario visited the department’s (7) stations and identified life safety hazards that created potential hazards to fire personnel. The department has addressed all of his concerns and has taken corrective action to mitigate those problem areas. This included the posting of a fire escape plan in all the fire stations. Personnel conduct daily station meetings that include a safety briefing. Topics include firefighter safety, proper lifting techniques, stretching, exercise, diet and nutrition, etc.

C. Goal/Objective #3: The department recently held a class entitled “Acts Of Terrorism: Hazmat Preparedness.” Course content included identification of possible terrorist acts, primary and secondary devices, and scene safety.

## *III. Goals/Objectives for FY 2001*

A. Goal/Objective #1: Loss Control - Water.

B. Goal/Objective #2: Updating and Maintaining Material Safety Data Sheets.

C. Goal/Objective #3: Disaster Preparedness: Hazardous Materials Spill Containment Procedures.

## **County of Kauai, Department of Water**

### *I. 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.

## *II. Results of Efforts for FY 2000*

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

B. Goal/Objective #2: Complied with Environmental Regulations, no violations of HIOSH Requirements, involved with FROSH Consultation division for safety improvements, progress on implementing BMPs on projects.

C. Goal/Objective #3: No progress on this goal.

## *III. Goals/Objectives for FY 2001*

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.

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

## **County of Kauai, Planning Department**

### *I. Goals/Objectives for FY 2000*

A. 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. Objective #2: To facilitate the implementation of the County’s Shoreline Setback and Special Management Area Rules and Regulations.

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

# Agency Goals

## *II. Results of Efforts for FY 2000*

A. 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. The County is also in the process of updating the General Plan which will help in providing guidance for land use regulations regarding environmental and other development issues, along with helping to guide the location and character of new private and government development and infrastructure.

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

C. 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/Objective for FY 2001*

The current environmental goals/objectives apply to FY 2001.

## **County of Kauai, Offices of Community Assistance**

In administering federal housing and community development grant programs, the Offices of Community Assistance works with recipients and subrecipients to ensure compliance with regulations governing environmental review procedures at the Federal (24 CFR Part 92) and State (OEQC) levels.

### *I. Goals/Objectives for FY 2000*

A. Goal/Objective #1: Assume responsibility for environmental review determinations, decision-making and action that would otherwise apply to HUD grant programs under the National Environmental Policy Act, 24 CFR Part 58. Ensure that activities are environmentally sound.

B. Goal/Objective #2: Afford private citizens and government entities the opportunity to comment on activities that may potentially affect human, physical and social environments.

C. Goal/Objective #3: Monitor activities funded with Community Development Block Grant, HOME Investment Partnerships, Emergency Shelter Grants, and Special Purpose Grant Programs for compliance.

## *II. Results of Efforts for FY 2000*

A. Goal/Objective #1: Assumed environmental review responsibility for the Ho'omaluu, Kauai Commercial Kitchen and Halepule House projects, as applicable.

B. Goal/Objective #2: Issued legal public notices and considered all public comments and consultation responses received during the environmental assessment process for the above-mentioned projects.

C. Goal/Objective #3: Maintained environmental review records for each program activity assessed during the reporting period. Monitoring to occur through project completion.

## *III. Goals/Objectives for FY 2001*

Same as those identified in FY 2000.

## **County of Maui, Department of Parks and Recreation**

### *I. Goals/Objectives for FY 2000*

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, implement and monitor beautification of County property including landscaping projects and maintenance of trees. The Beautification Section is responsible for turf management, landscaping and tree trimming. The County is also responsible to facilitate a street tree maintenance program in accordance with the County Landscaping Plan.

**II. Results of Efforts for FY 2000**

			FY98
FY99	FY00		
			Actual
Actual	Actual		
	Additional street trees planted		64
73	60		
	Additional park trees planted	544	420
110			

A. Goal/Objective #1: Arbor Week '99 was proclaimed by the Mayor with the theme "Protect the Urban Forest". Over 200 volunteers planted 400 trees as a windbreak for Maui's newest park. Not only was Maui recognized as Tree City USA, it earned a national award for being the community in Hawaii that has earned this designation for the longest time.

B. Goal/Objective #2: The Christmas Tree Cycling project no longer requires the legions of volunteers, so it was returned to the Recycling Office. The tasks of the hotline and wire baskets have been assumed by a County-funded non-profit.

C. Goal/Objective #3: Volunteerism has been centralized under the auspices of the Volunteer Center. Parks Department has worked in partnership with the Center on the planting of trees and youth painting murals on restroom facilities.

**III. Goals/Objectives for FY 2001**

The current environmental goals/objectives apply to FY 2001.

**County of Maui, Department of Public Works and Waste Management**

**I. Goals/Objectives for FY 2000**

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 for FY 2000**

A. Goal/Objective #1: Adoption of civil procedures and rules for the Wastewater Pretreatment Program was completed.

B. Goal/Objective #2: The contract with the Department of Health regarding the protection of nearshore water quality has been substantially completed and is in its final phase.

C. Goal/Objective #3: The department completed a shoreline study that identified a number of opportunities from which the department is changing its approach to cleaning and opening stream channels in Kihei. These adjustments will help the nearby beaches to retain sand.

**III. Goals/Objectives for FY 2001**

A. Goal/Objective #1: Pass legislation regarding recycled glass for use in County projects and for the mandatory recycling of glass for establishments that possess liquor licenses.

B. Goal/Objective #2: Initiate programs along the beaches in Kihei as it relates to the department's maintenance of stream channels so as to protect the health of those beaches.

C. Goal/Objective #3: Initiate the permitting of restaurants throughout the County of Maui consistent with our pretreatment ordinance regulating the discharge of fats, oils, and greases.

**County of Maui, Department of Water Supply**

**I. Goals/Objectives for FY 2000**

A. Goal/Objective #1: Protect Maui County watersheds.

B. Goal/Objective #2: Monitor the status of Iao and neighboring aquifers and improve distribution of withdrawals.

# Agency Goals

C. Goal/Objective #3: Undertake preliminary background research for development of wellhead protection program.

## *II. Results of Efforts for FY 2000*

A. Goal/Objective #1: \$60,000 to TNC for management of East Maui watershed, \$25,000 to RCUH for management of West Maui watershed; \$100,000 for removal of miconia from Maui watersheds, \$12,500 representing first funding for protection of Molokai watershed; work with Lana'i Water Advisory Committee and Lana'i Biodiversity Committees to establish Lana'i watershed partnership ongoing. Measures addressed in all watersheds include fencing, management of feral animals, removal of highly invasive weeds, monitoring and other measures. Public hearings conducted on draft proposals for Lana'i.

B. Goal/Objective #2: \$19,200 to USGS for monitoring in Iao and Waihee aquifers. Drilled Kanoa Wells 1 & 2 and Waikapu Mauka well toward program of distributing withdrawals.

C. Goal/Objective #3: Worked on annotated bibliography of regulatory structures, data base of potentially contaminating activities and potential sources of contamination, inventory of land uses or potentially contaminating activities in modeled wellhead protection areas, data base on best management practices for various activities, etc.

## *III. Goals/Objectives for FY 2001*

A. Goal/Objective #1: Protect Maui County watersheds. Specifically, continue funding of East Maui, West Maui, and Molokai watershed protection, as well as miconia removal efforts. Establish Lana'i Forest and Watershed Partnership. Obtain funding for protection of Lana'i watershed. Finalize Lana'i watershed protection plan as section of Lana'i chapter of the Water Use & Development Plan.

B. Goal/Objective #2: Expand efforts to monitor aquifer status and optimize distribution of withdrawals. Continue monitoring Iao and Waihee aquifers and distribution-of-withdrawal projects. Continue USGS monitoring efforts, develop Kanoa Wells 1 & 2 and issue contract for development of Waikapu Mauka well. (Kupaa Well 1 Development FY 2002). Expand aquifer monitoring to Lahaina district. Participate with State CWRM in drilling monitor well for Lahaina. Install "temporary" monitoring wells in East Maui and Upcountry areas. Drill first East Maui exploratory well, and use this well for monitoring aquifer

status until other wells have been completed. Drill exploratory well in Keokea/Waiohule area in cooperation with DHHL to evaluate possibility of future withdrawals and impacts to aquifer.

C. Goal/Objective #3: Work toward establishing wellhead protection program. With background research to date, initiate discussions with public groups, agencies and private entities on developing wellhead protection proposal.

## **County of Maui, Department of Housing and Human Concerns**

### *I. Goals/Objectives for FY 2000*

The County of Maui supports the State Office of Environmental Quality Control in its continuing efforts to preserve the beauty of Hawaii's natural resources. We remain committed to the development and enhancement of partnerships which promote community education and awareness of the importance of environmental protection.

The Department of Housing & Human Concerns (DHHC) strives to include environmental protection assurances in a wide variety of county funded community services programs including housing development and transportation systems operations. Recycling and environmental protection and sustainability information is disseminated to the community in coordination with the Department of Public Works, Solid Waste Management and Recycling Division's efforts to address this as a priority issue.

In the past, all community organizations subsidized by the DHHC's Community Partnership Grants (CPG) program have been required to include recycling and environmental protection information in the workplace and programs as a condition for receiving county funding. We will continue to include this as a major consideration in social services, housing, transportation and other programs and services administered by the DHHC for FY2001.

During the upcoming year, the DHHC will continue to work with Decisions Maui (an independent citizen environmental group) on the development of environmental protection, recycling and sustainability information for inclusion in the next Maui County General Community Plan. We also anticipate resubmitting an earlier grant proposal for public environmental awareness to the EPA and other potential funding sources.

