

# Hawai'i Environmental Report Card 2004

Environmental Council





# Environmental Report Card 2004

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# Introduction

## This Annual Report

The 2004 Annual Report by the Environmental Council is focused on reviewing the last five (5) years Annual Reports and commenting on the improvements and forward progress accomplished by the State of Hawaii. Students, policy makers, government agencies, and the public can use this document as a “progress report card” in managing the key issues of our natural and urban environment.

This report contains an update of the key Environmental Indicators, reflecting varying degrees of progress made in the State of Hawaii to address the balance between economic and environmental concerns with the ultimate goal of preserving and protecting our environment.

This Annual Report also presents the submissions and responses by varying government agencies as to the questionnaire which the Council sent earlier this year, in order to find out the reasons or barriers encountered towards improving the progress made towards attaining the recommendations set forth in the past five year’s recommendations, and what areas we need to concentrate our future efforts to achieve the goals of managing and balancing our natural, urban, and economic environment.

## Cover Drawing

The cover drawing is the kindergarten section winner of the Department of Land and Natural Resources’ 2003 Year of the Hawaiian Forest Poster Contest. The art work was completed in May 2003 as a class project taught by Ms. Gail Kuba and Ms. Diane Fell at the Kamehameha Schools Maui Campus.

## 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

The Environmental Council would like to express our many thanks to the following individuals and agencies in compiling this report.

OEQC Staff  
State Department of Accounting & General Services  
State Department of Agriculture  
State Department of Attorney General  
State Dept. of Business, Economic Dev., & Tourism  
State Department of Hawaiian Home Lands  
State Department of Health  
State Department of Defense  
State Department of Education  
State Department of Transportation  
State Department of Land & Natural Resources  
Maui Dept. of Public Works & Env. Management  
Maui Department of Housing & Human Concerns  
Maui Department of Planning  
Maui Department of Water Supply  
Kauai Office of Economic Development  
County of Kaua’i, Department of Water  
County of Hawai’i, Office of Housing and Comm. Dev.  
Honolulu Fire Department  
Honolulu Department of Facility Maintenance  
Honolulu Department of Environmental Services  
Honolulu Department of Design & Construction  
Honolulu Department of Parks and Recreation  
Oahu Civil Defense Agency  
Honolulu Department of Transportation Services

# Recommendation to the Governor

The Environmental Council has provided an Annual Report Card highlighting the environmental concerns for the following areas of focus for the years 1999-2003. The following is a condensed summary that was presented to the Governor and the State Legislature in the past five years Annual Reports. It is reprinted in this 2004 Annual Report, as the Council does not find any of the recommendations stated to be unreasonable, or is not in compliance with the State's best interest in following HRS Chapter 344 guidelines for the State's Environmental Policy.

**1999-Solid Waste Management:** The Council recommended actions to support local recycling enterprises, establish recycling demonstration projects, implement a comprehensive recycling program, invest in infrastructure to recycle, provide more funding to the Department of Health, support the development of a market for recycling products, use glassphalt for paving roadways, create preference for non-polluting recycling activities, amend definition of maritime business to include recycling, provide funds for market development research, enforce current recycling laws, and expand the "advance disposal fee" program.

**2000-Global Warming-Greenhouse Gas Emissions:** The Council recommended 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.

**2001-Hawaii's Biodiversity' Protection from Alien Species:** The Council recommended actions to prevent new potentially devastating alien species from entering the state, control or eradicate existing invasive alien species, increase public awareness of alien species, provide dedicated funding for the State's Natural Area Reserve Fund, and support community activities that control alien species.

**2002- Hawaiian Forests-Preservation/Conservation:** The Council recommended actions to establish critical habitats, increase funding for forestry programs, establish incentive programs to farm forest products, establish more fencing projects, require riparian buffers, establish native tree farms, and support public education projects.

**2003-Minimizing Population Growth Impact on Environmental and Cultural Resources:** The Council recommended actions to rethink land use planning in Hawai'i, encourage infill development to take maximum advantage of existing infrastructure, pass legislation to promote sustainability in design and construction, increase environmental awareness of decision makers, and strictly enforce land use and environmental regulations.

The Council provided in each of the aforementioned Annual Reports, specific recommendations to the Governor and the State Legislature on areas where attention or focus is required towards improving the progress made by the State of Hawaii.

The 2004 Annual Report Card provides a review of the progress accomplished by the State's public, private, and policy-making sectors based on the recommendations noted in these Annual Reports.

The Council has independently collected and updated the data for the key environmental indicators highlighted annually, and has also requested input and comments from the key agencies. The letter sent to each agency is highlighted below.

The Environmental Council is currently in the process of drafting the 2004 Hawaii Environmental Annual Report. The 2004 Annual Report will focus on a review of the past five (5) years' Annual Report Cards, from 1999-2003, and provide an update about the progress that the State of Hawaii has made towards the recommendations in each report.

In each Annual Report from 1999 - 2003, the Environmental Council offered specific recommendations to the Governor and the State Legislature. The Annual Reports focused on the topics of:

- 1999-Improving Hawaii's Solid Waste Recycling Rate
- 2000-Global Warming and recommendations to reduce the green house effect.
- 2001-Preserving Hawaii's Biodiversity
- 2002-Preserving our Hawaiian Forests
- 2003-Minimizing Population Growth Impacts on Environmental and Cultural Resources.

The Environmental Council has developed the attached questionnaire sheet to assess progress toward achieving the recommendations from 1999 - 2003. The questionnaire includes a request that each agency relate any difficulties which prevented the agency from accomplishing these goals and suggest ways to improve the ability to achieve these recommendations.

#### Questionnaire

The Environmental Council's objective in 2004 is to assess progress toward accomplishing the recommendations made in the Annual Reports from 1999 - 2003, including the following:

A) Measure the progress made by the agencies towards accomplishing

these recommendations.

B) Identify issues or areas where agencies encountered difficulties or barriers that prevented progress towards accomplishing the recommendations.

C) Recommendations from the agencies that can be incorporated in the 2004 Annual Report that can facilitate the future progress of accomplishing these recommendations.

The 1999 - 2003 Annual Reports of the Environmental Council Review can either be viewed in hard copy or through the website (<http://www.state.hi.us/health/oeqc/annualrpts/index.html>). Each Annual Report has an Introduction section, which covers the recommendations by the Council to the Governor on how the State of Hawaii can progress towards achieving the preservation of our environment through practical steps or efforts made by the Governor, the Legislature, or the public.

#### Questions

1. Please review the Environmental Council's recommendations of the past 5 years and list which recommendations your agency has successfully implemented or is in the process of implementing.
2. Please list any difficulties or barriers that your agency has encountered in attempting to implement the recommendations.
3. Please list the recommendations made by the Environmental Council that your agency does not support, and state your reasons for not supporting them.
4. Please provide your recommendations about how to facilitate or improve the progress for the future.

# Recommendation to the Governor

Also, the request for the 2004 goals and objectives have been submitted by the agencies noted in this report, and the recommendations outlined in this Annual Report are based on; 1) the updated key indicators and the improvements made by sector, 2) the submission of the key goals and objectives for this year; 3) the submission response received to the Environmental Council by the agency; 4) and the current status of the agency's exemption list being within 5 years.

The following represents our recommendations for actions that will assist our State's efforts in increasing the progress of change towards addressing our State's most valuable concern; the future legacy of our environment for the future of our children of the islands.

It is the opinion of the Environmental Council that for the past five years, the recommendations provided to the Governor and the State Legislature are in compliance with Hawaii Revised Statutes(HRS) Chapter 344, the State Environmental Policy, in highlighting specific areas of need based on the development trends in the State of Hawaii. In doing so, there have been no major hurdles or barriers reported which have prevented these objectives of HRS Chapter 344 as a guideline to be attained.

The progress measurements noted in the key indicators does show that the State of Hawaii is not systematically and uniformly improving on accomplishing the objectives outlined by either the Environmental Council's recommendations or by the guidelines established in HRS Chapter 344. The Environmental Council recommends improvements in the environmental report card. The response to our questionnaire can be further summarized by the following: **a) The State, County, and all agencies place the priority of our Environment in the forefront to improve the goals and objectives; b) provide adequate funding in order to facilitate the projects or the attainment of the annual goals and objectives; and c) full support required by all elected and appointed officials at the State and County government levels.**

The Environmental Council's opinion to the aforementioned is to add; **d) "Creativity through the right attitude and enforcement to solve or attain the goals and objectives" as a key ingredient to all sectors, and e) State and County agencies should update their environmental impact assessment exemption list every 5 years.** This addition to the recommendation to the Governor and the State Legislature will hopefully filter down to all levels of government private sectors and residents and place environmental concerns on the priority list as we view any decisions for the future regarding to the State of Hawaii.

The Environmental Council recommendation questionnaire received a 37% return by the deadline. The Council wishes to once more acknowledge and thank these agencies (listed below that responded to the questionnaire and their 2004 goals and objectives.

## Summary

**1) Make environmental protection top priority**

**2) Obtain adequate funding to implement environmental projects**

**3) Seek full support of elected officials to achieve environmental goals**

**4) Use creativity to attain environmental goals & objectives**

**5) Update agency EIS exemption lists every five years**

### Agencies Responding to Questionnaires

State Department of Accounting & General Services  
State Department of Agriculture  
State Department of Attorney General  
State Department of Business, Economic Development, and Tourism  
State Department of Hawaiian Home Lands  
State Department of Health  
State Department of Defense  
State Department of Education  
State Department of Transportation  
State Department of Land & Natural Resources  
Maui Department of Public Works and Environmental Management

Maui Department of Housing & Human Concerns  
Maui Department of Planning  
Maui Department of Water Supply  
Kauai Office of Economic Development  
County of Kaua'i, Department of Water  
County of Hawai'i, Office of Housing and Community Development  
Honolulu Fire Department  
Honolulu Department of Facility Maintenance  
Honolulu Department of Environmental Services  
Honolulu Department of Design & Construction  
Honolulu Department of Parks and Recreation  
Oahu Civil Defense Agency  
Honolulu Department of Transportation Services

# Council's Report

## A Message from the Chair

The Environmental Council wishes to continue to highlight the need for awareness in preserving Hawaii's environment for the future legacy of our children.

The key issue of economic stability versus preserving our environment will always require "balance" in order to continue to sustain the State of Hawaii's momentum in addressing these two areas. Total economic growth in population, industry, jobs and opportunities without an environmental concern or viewpoint will destroy the very nature of why Hawaii is so desirable today and will destroy the future for the islands.

The Environmental Council recommends the following: **a) The State, County, and all agencies place the priority of our Environment in the forefront to improve the goals and objectives; b) provide adequate funding in order to facilitate the projects or the attainment of the annual goals and objectives; and c) full support required by all elected and appointed officials at the State and County government levels, d) "Creativity through the right attitude and enforcement to solve or attain the goals and objectives" as a key ingredient to all sectors, and e) State and County agencies should update their environmental impact assessment exemption list every 5 years.**

It is the wish and desire of the Environmental Council that all agencies, the private sector, and the residents of the State of Hawaii join together in placing our Environment, as a priority in our daily life, in both the workplace and home environment. This sensitivity will continue to perpetuate the awareness for all future generations and will help in reassessing the planning process for future economic development within the State of Hawaii. Short termed initiatives that address immediate problems facing our environment should not be considered as long term solutions. We need to continue to assess and interpret the needs of the State through the agency approval process and the legislative process in order to create balance and a sustainable Hawaii.

Mahalo and Aloha,  
Victor Kimura

# OEQC's Report

As the "Year of the Ram" comes to a close, I would like to say that it has been an honor and privilege working with, and meeting many wonderful and caring people. OEQC is indebted to all those dedicated individuals and organizations that believed in our mission to ensure a healthy environment for Hawaii.

### OEQC highlights for 2004:

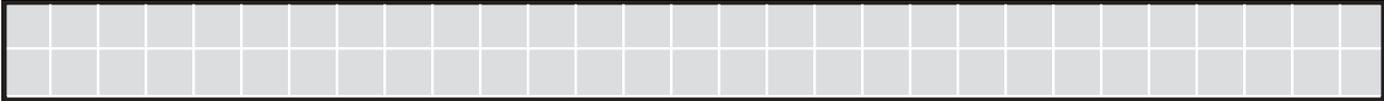
1. Expansion of our website and links to The Environmental Notice, Environmental Council and self-help to Chapter 343.
2. Completion of the cultural practice flash cards for distribution to our schools.
3. Several workshops and pre-consultation to state, county, federal and private planners for compliance to Chapter 343.
4. Completion of scanning all environmental assessments from 1999 - 2003 onto CD-ROM to improve the availability of documents to the public.

### Projected goals for 2005:

1. Completion of scanning environmental assessments for the year 2004 and selected environmental impact statements.
2. Educating the general public on the Chapter 343 process so they can better participate.
3. Organize a workshop for cultural consultants on the process for Chapter 343.
4. Bridge the gap with all state, county, federal and the public in working together toward a better quality of life.

To the OEQC staff and the environmental council, I thank all of you who have enabled OEQC with our accomplishments this past year.

Genevieve Salmonson  
Director



# Section I

## Environmental Indicators

Environmental indicators are measurements that track environmental conditions over time. 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

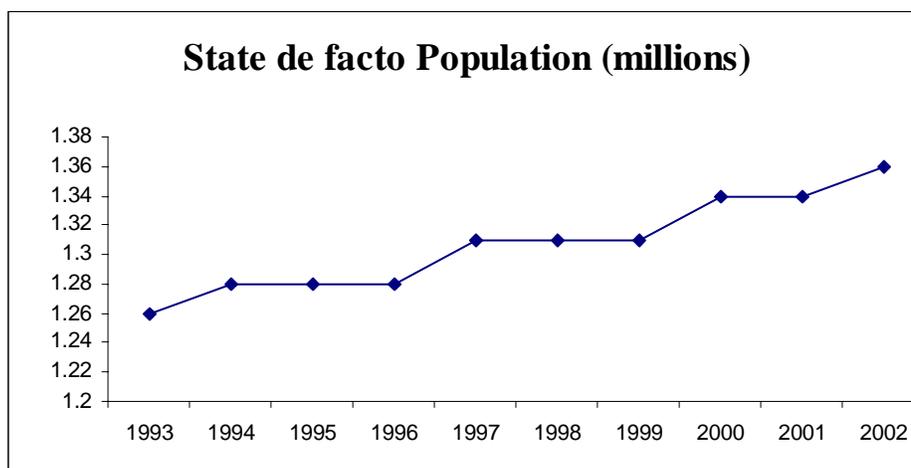
## Population

### State Population

The stress of population growth adds pressure on our ecosystem. More people means more wastes, more housing areas, more cars. Hawai'i's *de facto* population (which include visitors present but excludes residents temporarily absent) keeps growing from year to year. DBEDT estimates that by year 2020 our *de facto* population will reach 1.72 million--a 30% increase. This population increase creates many challenges as we try to balance the needs of our people and the health of our ecosystem. According to the Commission for Environmental Cooperation (2001), an average person in the U.S. consumes four times as many resources as the average person in the world. Reducing our consumption is one way to minimize our impact on our ecosystem. Further, we need to also identify, within the population spectrum, the inclusion of the number of tourists who visit the State of Hawaii annually. The State of Hawaii's environmental capacity to sustain both the residents and the visitors to the islands will need to be addressed in the next annual report. The Environmental Council, for the 2004 Annual Report, has included the visitor arrivals and number of visitor days for the years of 1999-2003 in order to highlight the fluctuating consumptions which do impact the State's capacity and balance between the environment and the economy.

### Hawai'i *de facto* population (July 1) and visitor numbers (calendar year)

Year	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
<b>State <i>de facto</i> Population (million)</b>	1.26	1.28	1.28	1.28	1.31	1.31	1.31	1.34	1.34	1.36
<b>Visitor Arrivals (million)</b>	na	na	na	6.7	6.8	6.6	6.7	6.9	6.3	6.4
<b>Visitor Days (million)</b>	53.8	57.2	57.3	57.9	57.4	57.4	60.0	61.7	57.8	60.1



Source: State of Hawai'i Data Book 2003.

Note: The vertical axis does not begin with zero.

# Environmental Indicators

## Energy Use

### Electric Utility Sales

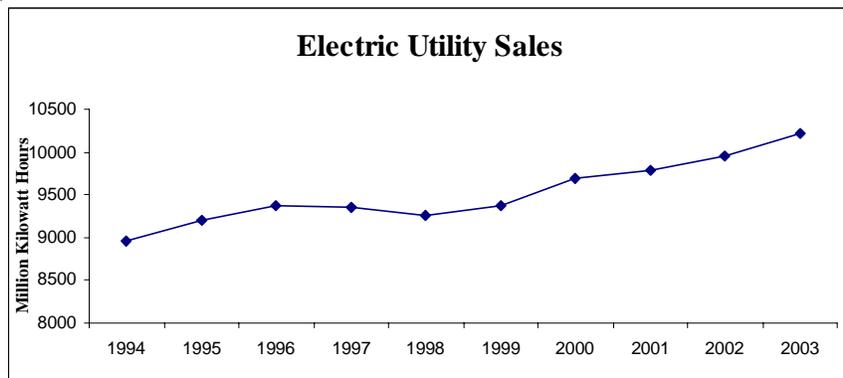
The table below depicts the growth in electricity sales in Hawai'i. Statewide from 1990 to 2003 sales are up 22.9%. Oahu sales increased only 16.3%, although recent record peak demands on the Hawaii Electric Company system led to utility calls for customers to reduce electricity use.

### Hawai'i Electric Utility Sales by Calendar Year

Year	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
State Utility Sales (Million kWh)	8,952	9,194	9,381	9,347	9,264	9,375	9,691	9,777	9,948	10,213

Sources: State of Hawai'i DBEDT, Strategic Industries Division, Energy Data Services; Utility FERC-1 and Annual Reports to the Public Utilities Commission.

Note: The vertical axis does not begin with zero.



# Environmental Indicators

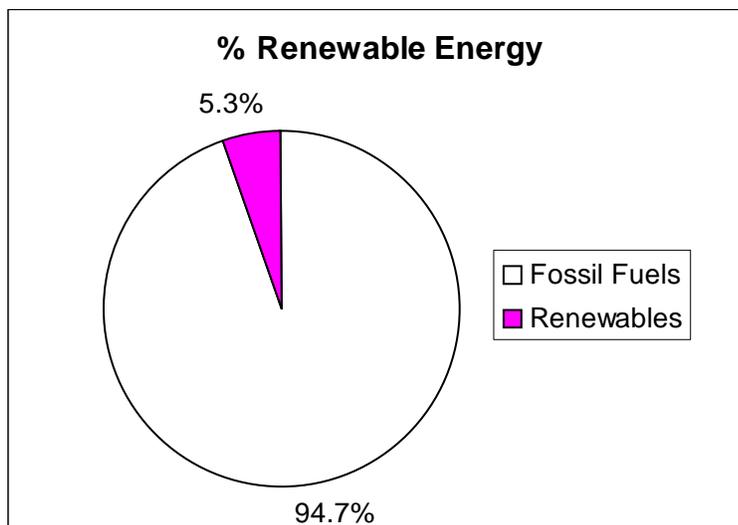
## Energy Used in Hawai'i

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 used in Hawai'i in trillion British thermal units (BtU) used. In 2002, geothermal production was reduced due to problems with the wells providing steam to generators at Puna on the Big Island.

### Total Energy Used in Hawai'i in Trillion BtU by Calendar Year

Source	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
<b>Petroleum</b>	285.5	274.0	277.1	278.3	269.1	272.5	290.2	273.8	272.8	284.4
<b>Coal</b>	13.6	16.5	16.9	16.8	14.8	14.5	15.5	15.8	17.1	18.2
<b>Biomass</b>	16.4	11.8	10.4	9.0	7.5	9.2	7.1	3.4	5.6	6.3
<b>Solar Hot Water</b>	2.3	2.8	3.1	3.1	3.1	3.5	3.6	3.7	4.0	4.1
<b>Hydroelectric</b>	1.5	1.1	1.1	1.0	0.8	1.2	1.0	1.0	1.0	0.8
<b>Wind</b>	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.2	0.1	0.1
<b>Geothermal</b>	1.8	2.3	2.4	2.4	2.3	2.0	2.6	2.1	0.8	1.8
<b>Solid Waste</b>	6.2	6.4	4.7	5.3	5.1	5.1	5.1	4.5	4.7	4.7
<b>Photovoltaic</b>	0.0003	0.0003	0.0005	0.0008	0.0020	0.0027	0.0043	0.01	0.01	0.02
<b>Total</b>	<b>327.5</b>	<b>315.1</b>	<b>315.9</b>	<b>316.1</b>	<b>302.9</b>	<b>308.0</b>	<b>325.2</b>	<b>304.4</b>	<b>306.1</b>	<b>320.4</b>

Source: State DBEDT, Energy, Resources, and Technology Division, Energy Data Services.



# Environmental Indicators

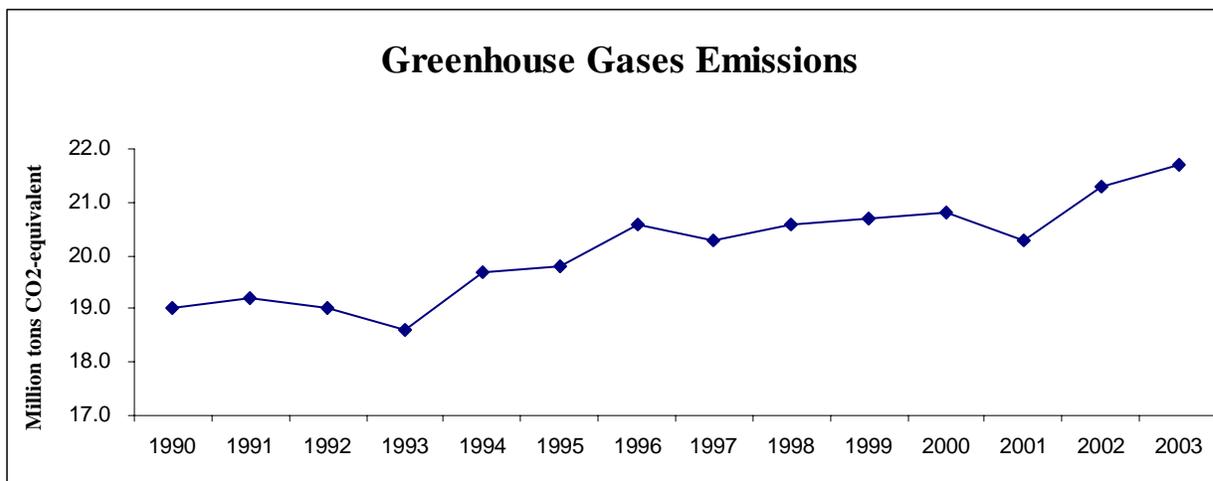
## Estimated Greenhouse Gas Emissions

The earth's climate is changing because human activities are altering the composition of the atmosphere through the buildup of greenhouse gases, primarily carbon dioxide, methane, nitrous oxide, and chlorofluorocarbons. The energy sector produces 90 percent of the greenhouse gases. The table below shows the estimated greenhouse gas emissions in Hawai'i.

### Estimated Greenhouse Gas Emissions in Millions of Tons Carbon Dioxide Equivalent by Calendar Year

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
<b>Greenhouse Gasses (Millions of Tons Carbon Dioxide Equivalent)</b>	19.7	19.8	20.6	20.3	20.6	20.7	20.8	20.3	21.3	21.7

Source: State DBEDT, Energy, Resources, and Technology Division, Energy Data Services.



### 2000 recommendations to the Governor on “Global Warming: No More Business as Usual”

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.

# Environmental Indicators

## Fossil Fuel Imported into 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. The table below shows the amount of imported fossil fuel imported into Hawai'i by type.

### Total Imported Fossil Fuel into Hawai'i in Trillion BtU by Calendar Year

Type of Imported Fuel	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Crude Oil	323.9	298.2	301.9	296.4	299.6	272.5	289.4	300.8	282.3	282.1
Refined Oil Products	10.6	13.7	31.3	37.3	39.3	49.6	58.7	25.5	17.7	45.5
Coal	14.2	16.5	16.1	16.8	14.8	14.5	15.7	15.8	17.1	18.2
<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>	<b>363.8</b>	<b>342.1</b>	<b>317.1</b>	<b>345.9</b>

Source: State DBEDT, Energy, Resources, and Technology Division, Energy Data Services.

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

## Fossil Fuel Use 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.

### Amount of Fossil Fuel Used in Hawai'i by Category in Trillion BtU by Calendar Year

Sector	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
<b>Electricity Production (Oil)</b>	82.2	78.6	84.2	83.2	85.6	87.2	91.8	87.2	88.0	88.3
<b>Electricity Production (Coal)</b>	13.6	16.5	16.9	16.8	14.8	14.5	15.5	15.8	17.1	18.2
<b>Transportation - Ground &amp; Water (Oil)</b>	81.5	82.1	75.9	74.0	78.8	75.9	76.6	73.1	79.7	83.9
<b>Transportation - Air (Oil)</b>	90.0	96.5	102.4	102.7	93.3	92.3	102.7	92.8	86.0	88.2
<b>Other Sectors (Oil)</b>	17.7	9.3	15.1	18.4	11.5	17.1	19.1	20.7	19.1	24.0
<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>	<b>305.7</b>	<b>289.6</b>	<b>290.0</b>	<b>302.7</b>

Source: DBEDT, Energy Division, Energy Data Services.

# Environmental Indicators

## Use and Recycling of Resources

### 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.

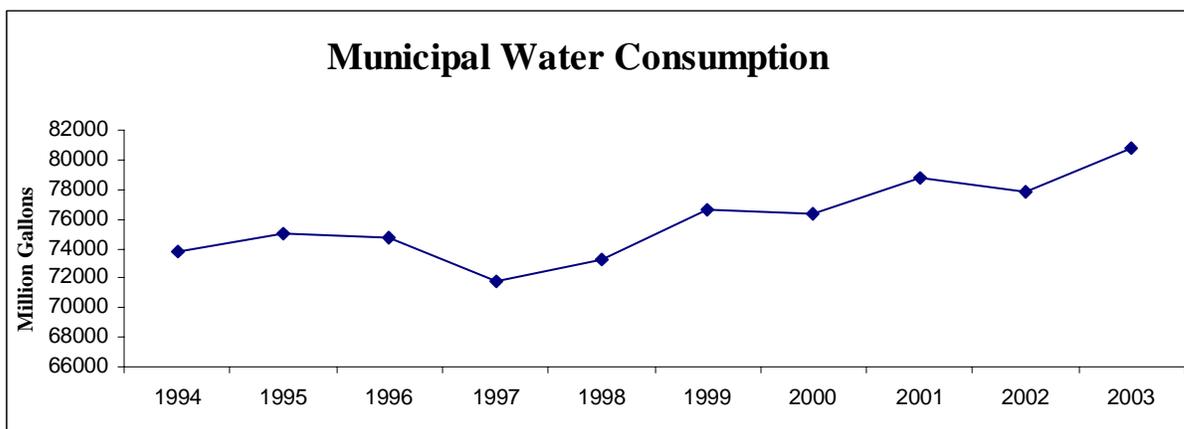
### Municipal Water Consumption During the Year Ending June 30 (in millions of gallons)

Fiscal Year	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
<b>Honolulu</b>	50,407	51,006	50,682	48,624	49,265	51,614	51,020	52,608	52,405	54,576
<b>Kauai</b>	4,149	4,114	4,206	3,944	4,148	4,373	4,309	4,631	4,226	4,298
<b>Hawaii</b>	7,999	8,378	8,363	7,804	8,159	8,097	8,353	8,676	8,925	9,166
<b>Maui</b>	11,177	11,494	11,477	11,438	11,729	12,547	12,719	12,833	12,312	12,695
<b>Total (MG)</b>	<b>73,732</b>	<b>74,992</b>	<b>74,728</b>	<b>71,810</b>	<b>73,301</b>	<b>76,631</b>	<b>76,401</b>	<b>78,748</b>	<b>77,868</b>	<b>80,735</b>

Source: The State of Hawai'i Data Book 2002 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

## Wastewater Treatment and Reuse

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

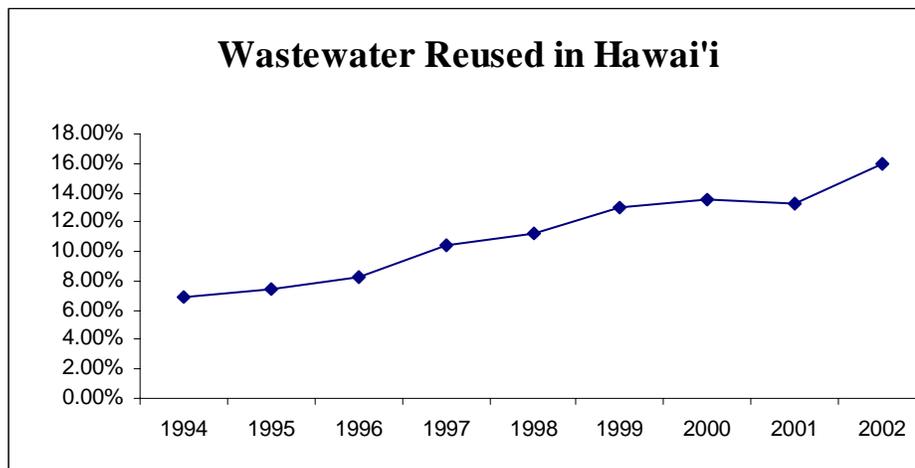
The table below shows the rate wastewater was treated and reused in millions of gallons per day (MGD).

### Total Statewide Wastewater Treatment and Reuse by Federal Fiscal Year (Oct. to Sept.)

Federal Fiscal Year	Total Waste water 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%
2000	150.0	20.2	13.5%
2001	150.0	19.9	13.3%
2002	150.0	24.0	16.0%

Source: Hawai'i Department of Health.

Note: Previous annual reports show lower treatment and reuse figures because only municipal wastewater treatment systems were included.



# Environmental Indicators

## 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 have only met half our goal.

The following table shows the total amount of municipal solid waste generated and the amount recycled and composted. The amounts diverted do not include waste sent to H-Power for incineration and power generation.

### Solid Waste Generation and Diversion in Hawai'i by Federal Fiscal Year (Oct. to Sept.)

Federal Fiscal Year	Produced Statewide (1,000 tons)	De facto Population (million)	Daily per Capita (lbs)	Disposed Statewide (1,000 tons)	Diverted Statewide (1,000 tons)	Percentage Diverted
1994	1,953	1.28	8.4	1,616	337	17%
1995	2,023	1.28	8.7	1,620	403	20%
1996	2,122	1.28	9.1	1,619	503	24%
1997	2,132	1.31	8.9	1,599	533	25%
1998	2,004	1.31	8.4	1,524	481	24%
1999	1,884	1.31	7.9	1,424	460	24%
2000	1,794	1.34	7.3	1,441	353	20%
2001	1,971	1.34	8.1	1,479	493	25%
2002	1,705	1.36	6.9	1,276	430	25%

Source: Hawai'i Department of Health and Department of Business, Economic Development and Tourism, Data Book 2000 (De facto Population).  
 Note: The 2000 numbers are partial as not all facilities have reported to DOH.

### 1999 recommendations to the Governor on "Improving Hawai'i's Solid Waste Recycling Rate"

- Support local recycling enterprises
- Establish recycling demonstration projects
- Implement a comprehensive recycling program
- Invest in infrastructure to recycle
- Provide more funding to the Department of Health
- Support the development of a market for recycling products
- Use glassphalt for paving roadways
- Create preference for non-polluting recycling activities
- Amend definition of maritime business to include recycling
- Provide funds for market development research
- Enforce current recycling laws
- Expand the "advance disposal fee" program

# Environmental Indicators

## 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.

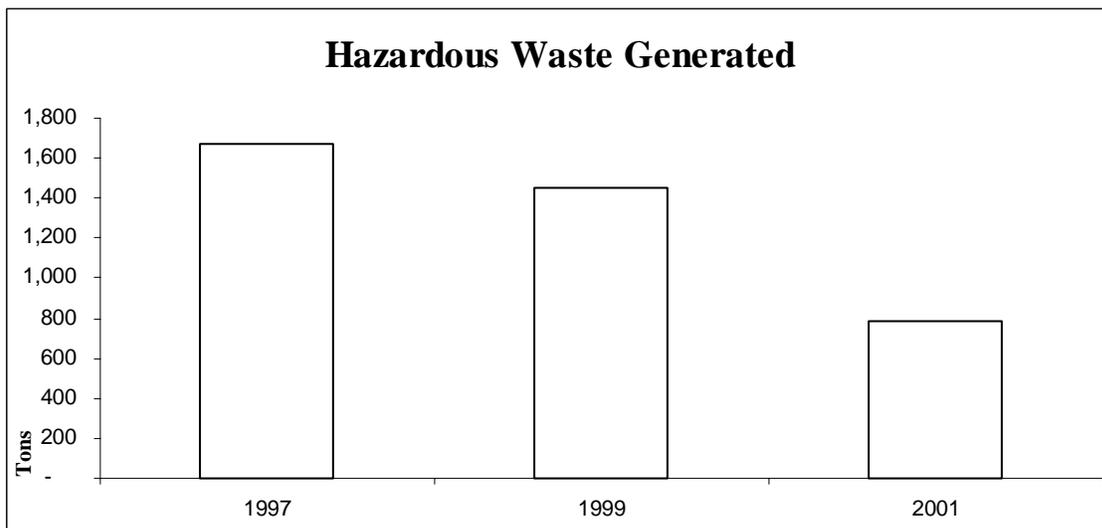
### Total Hazardous Waste Generated by Large Quantity Generators in Hawai'i Fed. Fiscal Yr. (Oct- Sept)

Federal Fiscal Year	1989	1991	1993	1995	1997	1999	2001
Hazardous Waste Generated (in tons)	1,499	1,343	1,702	NA	1,669	1,456	781

Source: Hawai'i Department of Health.

Note: i) Figures do not match previous years' annual report data as the numbers have been adjusted by the DOH.

ii) Data for 1995 are not included because the data collected by the Department of Health includes both **large and small** quantity generators.



## Biodiversity Maintenance

### Managed Forest Areas

Hawaiian native forests have evolved over millions of years. Invasive species that choke out native plants, and feral animals that cause erosion on the fragile forest floor can cause serious damage to the native forest. Keeping out invasive species and feral animals and planting more native plants promotes healthy forests.

#### Acres of Forest and Natural Areas as of June 30 of each year

Year	Forest Reserve Land	Private Forest Land	Natural Areas
1995	622,339	328,742	122,703
1996	622,339	328,742	122,703
1997	643,134	328,742	109,164
1998	643,134	328,742	109,164
1999	643,134	328,742	109,164
2000	643,134	328,742	109,164
2001	643,134	328,742	109,164
2002	643,134	328,742	109,164
2003	643,134	328,742	109,164

Source: State of Hawai'i Data Book 2003.

Note: Forest Reserve Land = State-owned and privately-owned lands under surrender agreement in forest reserve system.

Private Forest Land = Private forest land within conservation district. The majority of these lands were previously in the forest reserve system.

Natural Areas = The State of Hawai'i created the Natural Area Reserves System, or NARS, to preserve and protect representative samples of the Hawaiian biological ecosystems and geological formations. In 1937, 1,027,299 acres were in forest reserves.

The council is always looking for improvements to its biodiversity indicators. Please contact OEQC if there are better indicators for the future.



# Environmental Indicators

## Watershed Partnerships

Forested watersheds provide us with nearly all of our state's fresh water. Watershed Partnerships are voluntary alliances of public and private landowners committed to the common value of protecting large areas of forested watersheds for water recharge and other values. More than 200,000 acres of important watershed areas in Hawai'i have been placed within these unique public-private partnerships

### **West Maui Watershed Partnership (50,000 acres)**

The Maui County Board of Water Supply  
Kamehameha Schools  
C. Brewer and Company Limited  
Amfac/JMB Hawai'i, L.L.C.  
The Nature Conservancy of Hawai'i  
Maui Land & Pineapple Co., Inc.  
State Department of Land and Natural Resources  
The County of Maui

### **East Maui Watershed Partnership (100,000+ acres)**

State Department of Land and Natural Resources  
The Nature Conservancy of Hawai'i  
The Maui County Board of Water Supply  
Haleakala Ranch Co.  
East Maui Irrigation Co., Ltd.  
Haleakala National Park  
Hana Ranch  
The County of Maui

### **Ko'olau Watershed Partnership (50,000+ acres)**

Kamehameha Schools  
State Department of Land and Natural Resources  
State Department of Hawaiian Home Lands  
Agribusiness Development Corporation  
U.S. Army  
Honolulu Board of Water Supply  
Queen Emma Foundation  
Bishop Museum  
Manana Valley Farm LLC  
Tiana Partners  
Dole Food Co., Inc.  
The Nature Conservancy of Hawai'i

### **East Moloka'i Watershed Partnership (5,000 acres)**

Kamehameha Schools  
Kapualei Ranch  
Ke Aupuni Lokahi Enterprise Community Gov Bd  
EPA  
Hawai'i Department of Health  
State Division of Forestry and Wildlife  
Kalaupapa National Historical Park  
Maui County  
Maui Board of Water Supply

Moloka'i-Lana'i Soil and Water Conservation District  
USDA Natural Resource Conservation Services  
US Fish & Wildlife Service  
US Geological Services  
The Nature Conservancy of Hawai'i

### **Lanai Watershed Partnership (3,580 acres)**

Castle & Cooke  
Maui County Board of Water Supply  
Hui Malama Pono O Lana'i  
State Department of Land and Natural Resources  
US Fish & Wildlife Service  
USDA Natural Resources Conservation Service  
Molokai-Lanai Soil and Water Conservation District  
The Nature Conservancy of Hawai'i

### **Ola'a-Kilauea Watershed Partnership (420,000 acres)**

Kulani Correctional Facility - State, Public Safety  
Puu Maka'ala NAR - State, DLNR DOFAW  
Kamehameha Schools  
USDI - Hawaii Volcanoes National Park Service  
USDA - Forest Service  
USGS - Biological Resources Division

### **Leeward Haleakala Watershed Partnership (43,175 ac.)**

Department of Hawaiian Home Lands  
James Campbell Estate  
Haleakala National Park  
Haleakala Ranch  
Kaonoulu Ranch  
Nu'u Mauka Ranch  
State Department of Land and Natural Resources  
Ulupalakua Ranch  
John Zwaanstra

### **Kohala Watershed Partnership (31,325 acres)**

Parker Ranch  
Kahua Ranch  
Ponoholo Ranch  
Kamehameha Schools  
The Queen Emma Foundation  
Department of Hawaiian Homelands  
Department of Land and Natural Resources

# Environmental Indicators

## Hawai'i Endangered Bird Conservation Program

The Hawaiian Islands are home to species of birds that are found nowhere else on the planet, exhibiting a staggering array of adaptations to life in their unique habitats. Prior to human disturbance, Hawaiian birdlife was abundant from the montane cloud forests to the dry forests by the sea in what are thought to have been the highest densities of any birds on earth. Of the more than 140 native breeding species and subspecies present prior to the colonization of the islands by humans, more than half have been lost to extinction. The DOFAW collaborates broadly with government and private researchers, managers, and landowners to implement programs designed to protect and recover Hawai'i's unique forest bird species and their habitats. Unfortunately, some birds that are released do not survive in the wild.

### Endangered Bird Releases

Year	Species	Site	Number Released
1993	'Alala	South Kona	5
1994	'Alala	South Kona	7
1995	'Amakihi	Keauhou Ranch	16
1995	'Oma'o	Puu Wa'awa'a	2
1996	'I'iwi	Puu Wa'awa'a	2
1996	'Alala	South Kona	4
1996	Nene	Kaua'i; W. Maui; Hakalau	49
1997	'Oma'o	Puu Wa'awa'a	23
1997	'Alala	South Kona	8
1997	Nene	W. Maui	14
1998	'Alala	South Kona	3
1998	Nene	Hana 'Ula; Haleakala	17
1999	Puaiohi	Kawaikoi, Alaka'i	14
1999	Nene	Haleakala; Hana Ula	14
2000	Puaiohi	Kawaikoi, Alaka'i	5
2000	Nene	W. Maui, Kaua'i,	34
2001	Puaiohi	Kawaikoi, Alaka'i	15
2001	Nene	HAVO; Hakalau; Moloka'i; W. Maui	68
2002	Puaiohi	Halepa'akai, Alaka'i	8
2002	Nene	HAVO; Hana 'Ula, Moloka'i; Haleakala	34
2003	Nene	HAVO; Moloka'i	41
2003	Puaiohi	Halepa'akai, Alaka'i	18
2004	Nene	HAVO; Hana 'Ula, Moloka'i	22
2004	Puaiohi	Halepa'akai, Alaka'i	17
2004	Palila	Puu Mali, Hawai'i	10

# Environmental Indicators

## 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 Pacific Islands Fisheries Science Center of the National Marine Fisheries Service. Archipelagic SPR values of less than 20% are interpreted to mean that the overall stock is subject to recruitment overfishing. For more localized areas, such as the Main Hawaiian Islands, low values of SPR reflect relatively high reductions in localized abundance. Although localized reductions in abundance contribute to the overall stock condition, their significance is primarily measured in the context of sociological and economic factors within the fishery.

### Main Hawaiian Islands Bottomfish Spawning Potential Ratio by Calendar Year

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
<b>Ehu</b>	6	7	3	8	4	7	4	9	8	5
<b>Hapu'upu'u</b>	33	21	15	23	16	27	24	30	26	29
<b>Onaga</b>	9	6	4	5	5	6	6	3	5	10
<b>Opakapaka</b>	37	35	25	32	24	28	33	33	32	32
<b>Uku</b>	37	40	35	29	29	47	33	26	27	20

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%.

### Archipelago-Wide Bottomfish Spawning Potential Ratio by Calendar Year

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
<b>Ehu</b>	38	41	43	42	38	37	39	40	37	36
<b>Hapu'upu'u</b>	51	48	49	49	44	47	49	51	45	50
<b>Onaga</b>	39	33	39	25	22	34	27	26	26	31
<b>Opakapaka</b>	53	54	52	52	47	46	52	51	47	48
<b>Uku</b>	52	56	57	51	50	55	52	48	45	43

Source: National Marine Fisheries Service.

# Environmental Indicators

## Environmental Quality

### 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.

#### Number of Days Air Quality Declared Unhealthy by EPA Standards by Calendar Year

	# of Monitoring Sites	1982	1993	1994	1995	1996	1997	1998	1999	2000	2001
<b>Honolulu</b>	6	0	0	0	0	0	0	0	0	0	0

Source: Hawai'i Department of Health.

### Air Quality Measurements in Honolulu

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

#### Air Quality Measurements in Honolulu by Calendar Year

	1996	1997	1998	1999	2000	2001	2002	Federal Standard
<b>PM<sub>10</sub> (ug/m<sup>3</sup>)</b>	14	8	9	14	14	16	15	50
<b>CO (ug/m<sup>3</sup>)</b>	2127	4133	6726	4788	3990	5244	3990	40,000
<b>SO<sub>2</sub> (ug/m<sup>3</sup>)</b>	3	2	2	2	1	2	3	80

Source: Hawai'i Department of Health.

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

# Environmental Indicators

## Beaches Posted as Unsafe Due to Pollution

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

The following table shows the number of times beaches were posted with warning or closure signs (unsafe due to water pollution) by the Department of Health. Beach closures increased 50% in 1999 largely due to the DOH requiring more precautionary closures.

### Days Beaches Posted as Unsafe Due to Pollution by DOH by Calendar Year

Year	Days beaches closed
1994	20
1995	16
1996	45
1997	28
1998	13
1999	26
2000	16
2001	20
2002	36
2003	0

Source: Hawaii Department of Health.

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.

## 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 table below shows the number of oil and chemical spills.

### Oil and Chemical Spills in Hawai'i Federal Fiscal Year (Oct. to Sept.)

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
2000	163	303	466
2001	171	271	442
2002	218	268	486

Source: Hawai'i Department of Health.

# Environmental Indicators

## 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.

### Population Served Safe Drinking Water Federal Fiscal Year (Oct. to Sept.)

<b>Federal Fiscal Year</b>	<b>Percentage Population Served Water Below MCLs</b>
1994	95.0%
1995	98.0%
1996	99.5%
1997	98.2%
1998	99.8%
1999	99.7%
2000	98.8%
2001	99.7%
2002	100.0%
2003	100.0%

Source: Hawai'i Department of Health.

## Stream Quality

The ancient Hawaiian concept of ahupua'a embraces the watershed perspective linking the mountains to the sea. This stream quality refers to the inland part of a watershed, including all stream tributaries.

### Number of Impaired Streams Listed Statewide by Calendar Year

<b>Year</b>	<b>Number of Impaired Streams</b>
2002	55
2004	70

Source: Hawai'i Department of Health. DOH published a list of impaired streams in 2002 and

# Environmental Indicators

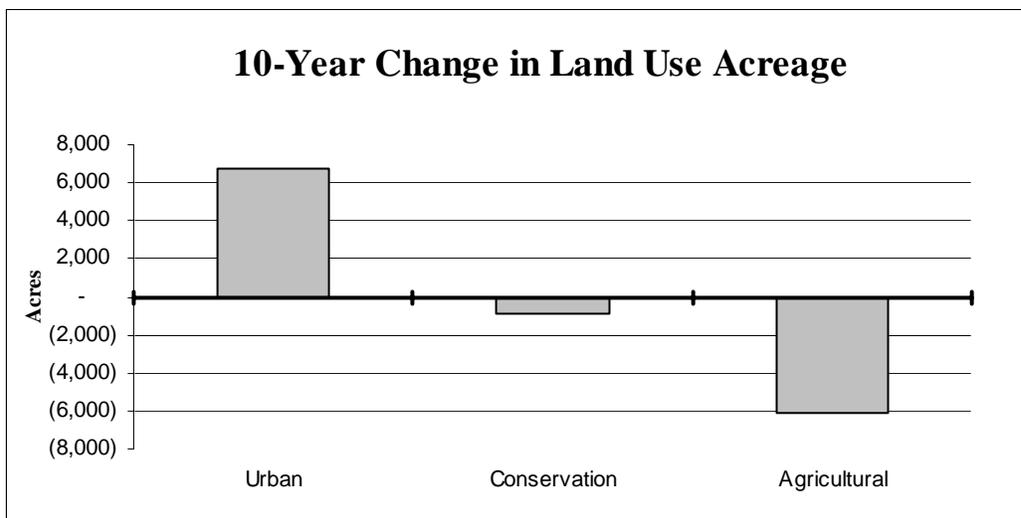
## Statewide Land Use District Acreage

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, more than 30,000 acres of agricultural land have been converted to Urban and Conservation designations.

### State Land Use District Acreage as of December of Each Year

Year	Land Area in Thousand Acres			
	Urban	Conservation	Agricultural	Rural
<b>1994</b>	189	1,975	1,939	10
<b>1995</b>	190	1,976	1,936	10
<b>1996</b>	192	1,975	1,936	10
<b>1997</b>	192	1,975	1,935	10
<b>1998</b>	193	1,975	1,934	10
<b>1999</b>	195	1,975	1,933	10
<b>2000</b>	193	1,976	1,933	10
<b>2001</b>	195	1,974	1,934	10
<b>2002</b>	195	1,974	1,933	10
<b>2003</b>	196	1,974	1,932	10

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



# Environmental Indicators

## Public Awareness/Concern

### 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).

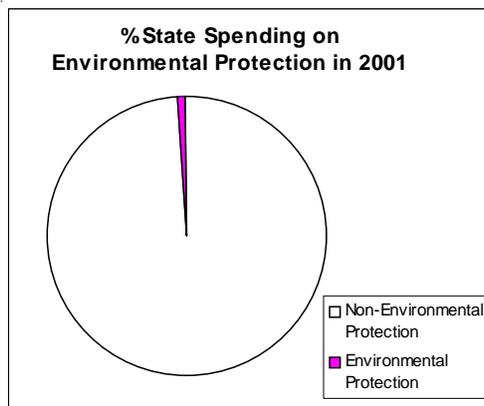
More funding to promote the goals of Hawai'i's environmental programs will result in better overall state environmental quality. The portion of expenditures for environmental protection reflects the priority given to environmental programs relative to other functions.

The table below shows the sum of money and the percentage of total state expenditures spent on environmental protection programs.

### State Expenditures on Environmental Protection Programs by State Fiscal Year (July-June)

Fiscal Year	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
<b>State Expenditures (million \$)</b>	4,953	5,092	4,906	5,338	5,393	5,315	5,538	6,175	6,710	7,198
<b>Environmental Expenditures (millions \$)</b>	27	30	61	45	60	69	69	51	64	66
<b>Environmental Spending as % of State Expenditures</b>	0.55%	0.59%	1.25%	0.85%	1.10%	1.30%	1.24%	0.83%	0.95%	0.92%

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.



**The Environmental Council for 2004 strongly recommends that State and County fiscal spending increase in percentage or in proportion to total expenditures in order to continue to focus on improving the Quality of the Environment.**

# Environmental Indicators

## 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.

### Number of Registered Motor Vehicles In Hawai'i by Calendar Year

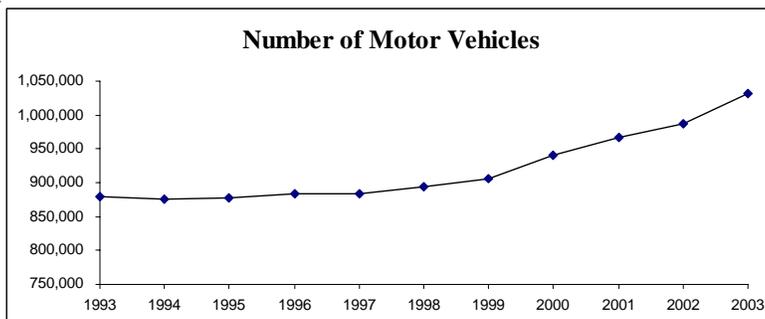
Year	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
<b>Number of Motor Vehicles (in thousands)</b>	875	878	885	884	893	907	941	967	988	1,031
<b>State de facto Pop. (million)</b>	1.26	1.28	1.28	1.28	1.31	1.31	1.34	1.34	1.36	1.36
<b>Vehicles per Person</b>	<b>0.69</b>	<b>0.69</b>	<b>0.69</b>	<b>0.69</b>	<b>0.68</b>	<b>0.69</b>	<b>0.70</b>	<b>0.72</b>	<b>0.73</b>	<b>0.76</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.



The trending of the increase in motor vehicle registrations and the reduction in Mass Transit usage highlights the need for both the State and Counties to address the need for a transportation system which will increase in ridership and reduce independent motor vehicle usage in order to reduce gas emissions.

Note: The vertical axis does not begin with zero.



# Environmental Indicators

## 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.

### Number of Noise Complaints Received by the Department of Health by Calendar Year

Type of Complaint	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
<b>Agricultural</b>	1	3	1	0	0	0	6	8	0	3
<b>Aircraft</b>	12	11	5	6	0	1	3	1	0	2
<b>Commercial</b>	21	6	3	13	4	13	8	11	11	7
<b>Construction</b>	157	142	140	112	146	106	250	231	193	147
<b>Industrial</b>	6	2	3	7	9	2	9	14	14	5
<b>Miscellaneous</b>	17	12	12	14	18	12	14	10	7	10
<b>Refuse Collection</b>	41	35	41	68	43	33	30	35	23	22
<b>Stationary</b>	93	112	109	104	75	93	97	96	106	92
<b>Unknown</b>	4	13	8	8	13	11	8	7	8	13
<b>Animal</b>	22	24	16	14	12	8	14	14	8	7
<b>Hobby</b>	8	9	9	12	4	6	10	9	13	11
<b>Maintenance</b>	29	37	27	21	25	20	17	19	22	5
<b>People</b>	16	12	13	13	5	8	2	7	4	4
<b>Sound Production</b>	62	48	40	45	51	47	42	44	35	22
<b>Vehicular</b>	20	21	30	24	22	12	26	17	11	13
<b>Total</b>	<b>509</b>	<b>487</b>	<b>457</b>	<b>461</b>	<b>427</b>	<b>372</b>	<b>536</b>	<b>523</b>	<b>455</b>	<b>363</b>

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

# Environmental Indicators

## Bikeway Miles

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

The next table shows the total miles of bikeways in Hawai‘i by island.

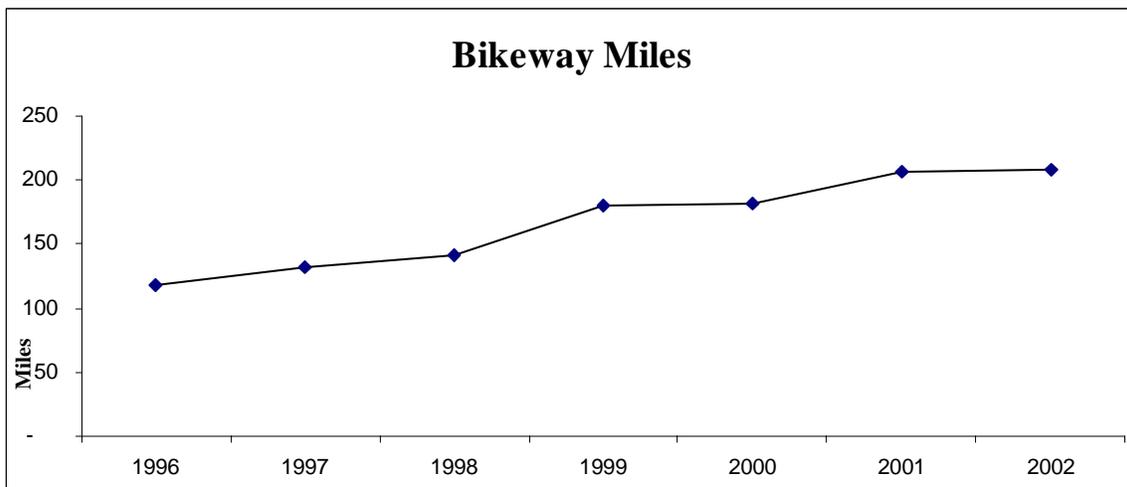
### Miles of Bikeways in Hawai‘i by Calendar Year

Island	Bikeway Miles							
	1995	1996	1997	1998	1999	2000	2001	2002
Kaua‘i	3.8	3.8	6.8	6.5	6.2	6.2	21.0	22.2
O‘ahu	55.4	66.1	56.6	60.3	73.7	75.1	94.2	98.0
Maui	19.6	40.0	40.8	43.3	67.1	67.1	60.3	60.4
Hawai‘i	8.2	8.2	27.8	30.8	32.7	32.7	31.3	27.4
<b>Statewide</b>	<b>87.0</b>	<b>118.1</b>	<b>132.0</b>	<b>140.9</b>	<b>179.7</b>	<b>181.1</b>	<b>206.8</b>	<b>208.0</b>

Source: State Department of Transportation, Highways Division

Note: i) Bikeway miles are those within State and County jurisdiction.

ii) Bikeway miles are provided only for those that are designated as such through signage. 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

## 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.

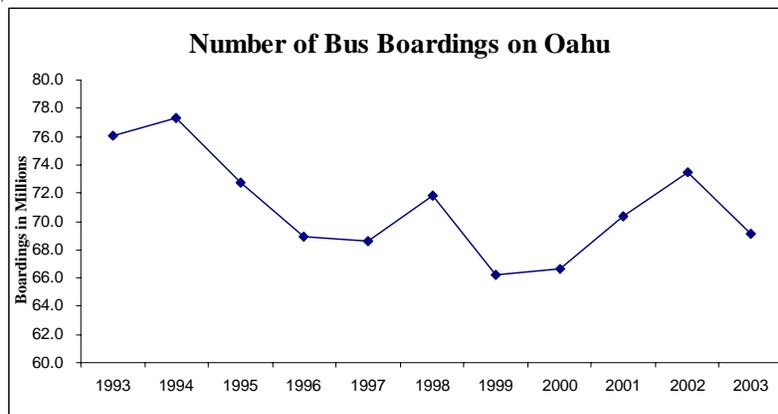
### Number of Bus Boardings on O'ahu by Calendar Year

Year	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
<b>Total Number of Bus Boardings (in millions)</b>	77.3	72.7	68.9	68.6	71.8	66.2	66.6	70.4	73.5	69.1

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

## 2004 Environmental Report Card

In this section, the Environmental Council grades the status of Hawai'i's environment. 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>Environmental Report Card</b>	<b>2004</b>
Energy Use	D
Use & Recycling of Resources	C+
Biodiversity Maintenance	C-
Air Quality	A+
Water Quality	B
Terrestrial Quality	B
Public Awareness & Concern	C-
<b>Overall Grade</b>	<b>C+</b>

# Environmental Indicators

## Method for Calculating Environmental Status Grades:

### Step 1.

#### 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 nine components is used to obtain a grade 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 optimum conditions 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

## Benchmarks, Trends and Status Scores

Indicator	Unacceptable Condition	Latest Year Condition	Optimum Condition	Status	
				Points	Grade
% of Energy from Renewable Sources (Latest Data Year 2003)	0.0	5.3	25.0	21	D-
Greenhouse gas emissions in million tons (2003)	25.0	21.7	15.7	35	D+
Water Consumption in Million Gallons (2003)	100,000	80,735	50,000	39	D+
% of Treated Wastewater Reused (2002)	0	16	25	64	B-
Daily per capita Waste Generated in pounds (2002)	10.8	6.9	3.6	54	C
% of Waste Diverted (2002)	0	25	75	33	D
Hazardous Waste Generated in Tons (2001)	3,000	781	500	89	A
Watershed Partnerships (2003)	0	650,000	1,000,000	65	B-
Main HI Islands Onaga Spawning Potential Rate (2003)	0	10	50	20	D-
Particulate Levels as a % of Federal standards (2002)	100	30	75	100	A+
Number of Unhealthy Air Days (2001)	1	0	0	100	A+
Number of Impaired Streams (2004)	100	70	0	30	D
% of Population Served Water Below MCLs (2003)	90	100	100	100	A+
Conservation Land Area in million acres (2003)	1.03	1.97	2.25	77	B+
Number of Oil and Chemical Spills (2002)	1000	486	100	57	C+
% of State Funding for Environment (2003)	0	0.92	2.50	37	D+
Number of Motor Vehicles per capita (2003)	1	0.76	0.33	36	D+
Noise Complaints (2003)	1000	363	100	71	B
Bikeway Miles (2002)	0	208	1309	16	F
Annual TheBus Boardings in millions (2003)	0	69	124	56	C+

# Environmental Indicators

## 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	21	50%	28	D	15%	59	C+																																																																																				
	Greenhouse Gas Emissions	35	50%						Use & Recycling of Resources	Water Consumption in Million Gallons	39	20%	56	C+	15%			% of Treated Wastewater Reused	64	20%	Daily per capita Waste Generated in pounds	54	20%	% of Waste Diverted	33	20%	Hazardous Waste Generated in Tons	89	20%	Biodiversity Maintenance	Watershed Partnerships	65	50%	43	C-	10%			Onaga Spawning Potential Rate	20	50%	Air Quality	Particulate Levels as % of National Standard	100	50%	100	A+	15%			Number of Unhealthy Air days	100	50%	Water Quality	Impaired Streams	30	50%	65	B	15%			% of Pop. Served Water Below MCLs	100	50%	Terrestrial Quality	Conservation Land Area in million acres	77	50%	70	B	15%			Number of Oil & Chemical Spills	57	50%	Public Awareness & Concern	% of State Funding for Environment	37	20%	43	C-	15%			Number of Motor Vehicles per capita	36	20%	Noise Complaints per 100,000 People	71	20%
Use & Recycling of Resources	Water Consumption in Million Gallons	39	20%	56	C+	15%																																																																																						
	% of Treated Wastewater Reused	64	20%																																																																																									
	Daily per capita Waste Generated in pounds	54	20%																																																																																									
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Biodiversity Maintenance	Watershed Partnerships	65	50%	43	C-	10%																																																																																						
	Onaga Spawning Potential Rate	20	50%						Air Quality	Particulate Levels as % of National Standard	100	50%	100	A+	15%			Number of Unhealthy Air days	100	50%	Water Quality	Impaired Streams	30	50%	65	B	15%			% of Pop. Served Water Below MCLs	100	50%	Terrestrial Quality	Conservation Land Area in million acres	77	50%	70	B	15%			Number of Oil & Chemical Spills	57	50%	Public Awareness & Concern	% of State Funding for Environment	37	20%	43	C-	15%			Number of Motor Vehicles per capita	36	20%	Noise Complaints per 100,000 People	71	20%	Bikeway Miles	16	20%	Annual TheBus Boardings in millions	56	20%																											
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# 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 Council prefers a goal of 25% for the amount of energy from renewable sources.
- b) Greenhouse Gasses: The Council supports the Kyoto Protocol which calls for emissions of 7% below 1990 levels by 2010. This works out to 5.7 million tons by 2010 for optimum. The unacceptable level is 25 million tons.
- c) Water Consumption: The Council has set 50,000 million gallons per year as the optimum level. 100,000 is unacceptable.
- d) Treated Wastewater Reused: The reuse target is 25%.
- 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. It is unacceptable to produce 3 times the national objective.
- f) Waste Diverted: Pursuant to section 342G-3, HRS, it was the goal of the state to reduce the solid waste stream prior to disposal by 50% by the year 2000. The Council sets 75 as an optimum level.
- g) Hazardous Waste: The optimum target is 500 tons. 3,000 tons is unacceptable.
- h) Watershed Partnerships: Optimally, half of the state's conservation land should be in partnerships.
- i) Onaga SPR: The optimum level is 50%.
- j) Particulate Levels: 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) Impaired Streams: 100 impaired streams is unacceptable.
- m) Oil and Chemical Spills: The optimum number is 100 spills or less.
- n) Conservation Land: The [State Land Use District Boundary Review](#), 1992, recommended 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 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 optimum level is 2.5%.
- q) Motor Vehicles: 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: 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.
- 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.

# Environmental Indicators

## Letter Grades:

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

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

## References:

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# Outstanding Agencies

## Outstanding Environmental Agencies for 2004

### Honolulu Fire Department

The Honolulu Fire Department's (HFD) submission represents a dedicated effort towards 1) the recycling process and 2) the proper disposal of any bio-hazardous material, 3) the conservation of the usage of water through retrofitting all areas under the supervision of HFD, and 4) the reduced consumption of energy through the continuation of solar energy use and low energy fixtures. The Honolulu Fire Department is further congratulated on their efforts and initiative in finding alternative solutions through the Federal Emergency Management Agency's upgrade to the Firefighters Grant in 5) the implementation of the "No Smoke" diesel exhaust filtration systems which reduces the amount of pollutants caused by diesel fumes. The Honolulu Fire Department's is commended in accomplishing 5 critical objectives as denoted in their goal and objectives.



### State Department of Business Economic Development & Tourism

The State Department of Business, Economic Development & Tourism (DBEDT) has made good progress towards establishing Hawaii as a leader in the use of renewable energy sources. The effort is ultimately aimed at creating a sustainable energy economy in Hawaii. The agency coordinated successful Administration efforts which secured passage of Hawaii's renewable portfolio standard which mandates the creation of 20% of Hawaii's electrical energy from renewable sources by 2020 (Act 95, Session Laws of Hawaii 2004). This Act provides for the ongoing review of renewable energy research through 2020 with the intent of possibly increasing Hawaii's use of renewable energies in the future. A second important energy policy achievement will require that all gasoline in the State be a 10% ethanol blend. DBEDT also completed updated wind resource maps for the State in conjunction with the National Renewable Energy Lab and HECO this past year. In addition to fostering efforts aimed at increasing Hawaii's use of renewable energy sources, DBEDT also conducted a number of activities aimed at making the State's energy use more efficient, such as performing a comprehensive survey of state buildings in order to identify promising candidate locations for energy efficient retrofits. DBEDT is commended for these accomplishments.

### Kauai Department of Water

The Kauai Department of Water is congratulated for its innovative Water Education for Teachers, Kaua'i Watershed Alliance and Tiered Rate Scale projects. The Kauai Department of Water is the sponsoring agency for the *Make a Splash Festival with Project WET* (Water Education for Teachers). By participating in the festival's activities, students, teachers, parents, government officials, and community groups promote awareness, appreciation, knowledge and stewardship of our water resources. This year approximately 1,000 fifth grade students from 19 schools around the island participated in the *Make a Splash Festival*. The Department of Water is partnering with the State Department of Land and Natural Resources and private large landowners to form the Kaua'i Watershed Alliance (KWA). The KWA partners' commitment is focused on the long-term protection of Kaua'i's upper watershed areas. The DOW's tiered rate scale implemented in 2001 goes a long way in meeting EC's 2003 goals regarding mitigating the impacts of population growth in Hawaii. With Tiered Rates, the more water you consume, the more per gallon you will pay. This encourages water consumers to conserve water to stay within the 'standard' consumption of your tier group. A study in 2003 showed that Kauai consumers used 2 ½ to 3 % less water per capita after the tiered rates were in place.

# Outstanding Agencies

## 2003 Winners



Director of Health, Dr. Fukino, presented awards to 2003 winners, County of Kauai Office of Economic Development (accepted by Mike Faye), Department of Defense (Lieutenant Colonel Ron Swafford), City and County of Honolulu Department of Transportation Services (Keoki Miyamoto), and Department of Hawaiian Home Lands (Linda Chinn).

# Request for Environmental Goals

This is a request for information on your agency's environmental goals. Pursuant to section 341-6, Hawaii Revised Statutes, the environmental council is responsible for monitoring the progress of agencies in achieving the state's environmental goals. The council is then required to report this information to the governor and the legislature.

We are currently preparing our report for fiscal year 2004 (July 2003 to June 2004). Consequently, we are asking you to provide us with the following information.

1. Your agency's top three (or fewer) environmental goals for fiscal year 2004.
2. The results of your agency's efforts in achieving those goals in fiscal year 2004. **The Environmental Council will give awards to outstanding state and county agencies.** Last year's winners were the State Department of Defense, the State Department of Hawaiian Home Lands, the City and County of Honolulu Department of Transportation Services, and the County of Kauai Office of Economic Development.
3. Your top three (or fewer) environmental goals for fiscal year 2005.

# State Accounting & General Services

## **TOP ENVIRONMENTAL GOAL/OBJECTIVE FOR FY 2004:**

Goal/Objective: The Public Works Division will consider implementing a Construction Waste Management Program that will increase recycling, salvage, and reuse of construction and demolition waste in all construction projects. The Public Works Division will get the program started by creating a guide specification that will include requirements for construction waste management.

## **RESULTS OF EFFORTS TO ACHIEVE GOAL/OBJECTIVE:**

Goal/Objective: The Public Works Division has written a comprehensive Construction Waste Management Guide Specification, which is currently in draft form. However, some of the requirements in the specification will result in an increase in construction costs. One of the major initiatives of this Department is to reduce construction costs, therefore, we are revising the current draft document.

## **TOP ENVIRONMENTAL GOAL/OBJECTIVE FOR FY 2005:**

Goal/Objective: The Public Works Division will continue to explore means to implement the Construction Waste recycling, salvage, and reuse of construction and demolition waste in all construction projects. The Public Works Division will revise the Construction Waste Management draft guide specification to avoid adding project costs.



King Kamehameha Celebration Commissions, which is attached to DAGS, promotes the preservation of Hawaiian culture.



# State Department of Attorney General

## TOPTHREE (OR FEWER) ENVIRONMENTAL GOALS FOR FY 2004:

Goal #1: Improve the State's environmental regulation and enforcement by providing effective and timely legal counsel and training for our clients.

Goal #2: Expedite enforcement actions.

Goal #3: Improve coordination with other state and federal agencies, and where appropriate, bring criminal enforcement actions.

## RESULTS OF EFFORT TO ACHIEVE THOSE GOALS:

Goal #1: The Department of the Attorney General introduced legislation to increase the criminal penalty for illegal dumping of solid waste to a felony. This legislation was subsequently passed and has become law. Deputy Attorneys General assigned to work with the Department of Health environmental agencies meet regularly with their clients and provide training as needed and requested.

Goal #2: Enforcement backlog has been reduced and new cases are being pursued and resolved in a timely manner.

Goal #3: The Department of the Attorney General has created an environmental crimes unit. This unit consists of two attorneys and two criminal investigators. The team regularly meets and coordinates its efforts other state, local and federal agencies.

## TOPTHREE (OR FEWER) ENVIRONMENTAL GOALS FOR FY 2005:

Goal #1: Continue to pursue enforcement in a manner that is timely and effective.

Goal #2: Provide prompt and effective legal advice.

Goal #3: Continue to improve coordination of enforcement actions statewide.

The Environmental Crimes Unit, established earlier this year, is a joint effort of the Attorney General, the Department of Health, and the U.S. Environmental Protection Agency. It allows for a coordinated response and investigation when an environmental crime occurs. The public is encouraged to report environmental crimes to the Attorney General's Investigation Division at (808) 586-1240.

# State DBEDT

## I. Goals for FY 2004

A. Goal #1: Continue to promote energy efficiency, energy conservation, and renewable energy technologies.

B. Goal #2: Continue to promote recycling, reusing, and reducing waste materials and to support businesses that recycle, reuse, and reduce waste.

C. Goal #3: Continue to promote sustainable ocean industry development.

## II. Results of Efforts to Achieve Goals for FY 2004

A. Goal #1: Continue to promote energy efficiency, energy conservation, and renewable energy technologies.

- Coordinated successful Administration efforts to secure passage of a renewable portfolio standard mandating 20% renewable energy for electricity by 2020 (Act 95, Session Laws of Hawaii 2004)
- Supported research efforts with Hawaii Electric Light Company on energy storage, microgrid controls, and renewable energy for County water system to improve efficiency and ability to handle more renewable energy on Big Island.
- Organized Workshop on Distributed Energy and Combined Heat and Power to encourage application of these efficient systems.
- Completed a comprehensive survey of state buildings to provide a baseline of current energy consumption and identify most promising candidate locations for energy efficient retrofits.
- Presented information on residential energy efficiency to design and building professionals, Realtors, homeowners and others through conferences, professional seminars, community presentations, informative newspaper articles, and interpretive displays, including interactive displays designed for the NELHA Gateway Center.
- Commencement of the Hawaii High Performance Schools & State Buildings Project: With the assistance of a federal competitive grant, SID partnered with the Department of Education (DoEd) and the Department of Accounting and General Services (DAGS) to review and update building guidelines and specifications for new and renovated buildings to include energy and resource efficient features and equipment, and health and productivity considerations. A life-cycle cost analysis document was also initiated.
- Continued technical assistance to the Hawaii Army National Guard, Hawaii State Library System, the Judiciary; and the City & County of Honolulu, continued monitoring of energy savings from performance contracts at the University of Hawaii at Hilo, Hawaii County, Kauai County, City & County of Honolulu, and Hawaii Health Systems Corporation. Obtain technical assistance upon request for other state agencies, including the HCDCH program to include solar water heating in all new State housing projects.
- Continued activities of the Rebuild Hawaii Consortium, a statewide information sharing group of 200 members from federal, local, state government, utilities, non-profits, private sector. Overall impact of this program includes \$64 million investment in energy efficiency projects, \$8.4 million annual energy savings to statewide facilities, 817 jobs created.
- Completed updated wind resource maps for individual counties in the state, in conjunction with the National Renewable Energy Laboratory and HECO.
- Initiated a community outreach program guided by a Hawaii County geothermal direct use working group to explore and analyze the potential of non-electric uses of geothermal heat to support agriculture, aquaculture and other commercial enterprises in Puna District.
- “Remodel It Right” Seminars: SID partnered with the BIA and the Hawaii Remodelers Council participate in four community seminars during the year. About 800 people attended and 1,000 energy-related publications were distributed. Discussion topics included the Hawaii BuiltGreen™ Program, benefits of solar water heating, HECO solar rebate, State renewable energy income tax credit, importance of a radiant barrier or insulation in the roof and walls, the City & County’s R-19 Equivalent Roof Insulation ordinance, energy efficient windows, and recycling.
- Pacific Exposition Home & Garden Show: SID made three presentations on “Saving Money with an Energy Efficient Home.” About 80 people attended and 150 publications distributed.
- Conducted two workshops on high-efficiency windows at the AIA/CSI Expo.

# State DBEDT

- Completed four sustainability workshops for the Architectural and Engineering Community including daylighting and lighting controls; indoor air quality mitigation through design; building energy simulation for sustainable design of buildings; and energy management controls. Conducted four workshops on home efficiencies on Molokai in conjunction with MECO's "Solar for Molokai" program.

- Partnered with the Illuminating Engineering Society in submitting two high-efficiency entries to the International Illuminating Design Awards Program. Both entries won prestigious Regional Awards.

B. Goal #2: Continue to promote recycling, reusing, and reducing waste materials and to support businesses that recycle, reuse, and reduce waste.

- Conducted Electronic Waste Forums: May 27, 2004, and June 25, 2004, with the State Dept. of Health, and the Environmental Finance Center, Region IX. Took lead in recycling paper and phone books in State buildings.

- Build & Buy Green Conference & Expo and PacRim Conference: Another SID public/private partnership conference included speakers from the mainland and Hawaii, and more than 300 attendees from as far away as Australia and New Zealand. More than 400 energy and recycling-related publications were distributed.

- Conducted quarterly Green Business/Hotel Forums at the Waikiki Sheraton, Grand Wailea, Hyatt Regency Kauai, and the Hale Koa Hotel. These forums were co-sponsored with: the State Department of Health, and the Chamber of Commerce of Hawaii, the Hawaii Hotel Association, local utilities and others. The Hawaii Green Business program promotes and recognizes companies for implementing conservation measures for energy, water, waste and land.

- Participated in monthly meetings of the General Contractors Association of Hawaii's Environment and Recycling committees and the AIA-Honolulu Committee on the Environment. Reviewed and commented on related pilot projects. Provided technical assistance and developed fact sheets on model projects and initiatives to move the design and construction industries toward greater energy and resource efficiency in public and private capital improvement projects.

- Conducted training workshops, conferences, and expos on relevant topics such as Leadership in Energy and Environmental Design, Environmentally Preferable (including but not limited to Energy Star and recycled) Products and Purchasing and others, to provide Hawaii's architects, engineers, and building consultants with the expertise to implement energy and resource efficient design and construction. Conducted five virtual seminars in conjunction with the Illuminating Engineering Society and HECO on lighting efficiencies measures.

C. Goal #3: Continue to promote sustainable ocean industry development.

- Organized the participation of Hawaii companies at several ocean science and technology conference and exhibitions to promote the sale of Hawaii ocean science & technology products and services: Oceans '03 in San Diego, Oceanology International 2004 in London and PACON International '04 in Honolulu.

- Published the online *Hawaii Ocean Science & Technology Magazine & Directory* to support industry growth by showcasing research, technology developments and industry accomplishments.

III. Goals for FY 2005

A. Goal #1: Continue to promote energy efficiency, energy conservation, and renewable energy technologies.

B. Goal #2: Continue to promote recycling, reusing, and reducing waste materials and to support businesses that recycle, reuse, and reduce waste.

C. Goal #3: Continue to promote sustainable ocean industry development..



# State Department of Defense

## **DOD, Hawaii Army National Guard (HIARNG)**

### **TOPTHREE (OR FEWER) ENVIRONMENTAL GOALS FOR FY 2004:**

Goal #1: Conservation. Continue endangered species recovery, noxious weed eradication, and awareness training.

Goal #2: Compliance. Continue to monitor for regulatory compliance and implement pollution prevention initiatives.

Goal #3: Land Management. Continue to implement integrated training area management to protect/enhance the natural resources of ARNG training lands.

### **RESULTS OF EFFORTS TO ACHIEVE THOSE GOALS:**

Goal #1: Conservation.

Partnered with over ten private, nonprofit, state and federal agencies to implement 28 field projects. Monitored specifically for six endangered species on five installations ((Oahu (Fort Ruger), Hawaii (Keaukaha Military Reservation (KMR)), Maui (Ukumehame Firing Range and Kanaio Training Area) and Kauai (Kekaha Firing Range)) and managed habitat for an estimated 39 threatened, endangered, rare and vulnerable species. Surveyed, treated and/or removed fountain grass and Miconia on four installations (Oahu (Fort Ruger, Bellows, and Kalaeloa) and Hawaii (KMR)). Both species rank in the top five of noxious invasive weeds that are potential threats to our fragile native ecosystem.

Through our annual Earth Day and National Public Lands Day volunteer projects, cleared out nonnative trees and other alien species and planted 362 native seedlings in the ongoing support of ecosystem restoration at Diamond Head Crater and the Regional Training Institute in Bellows.

Continued work towards implementing an aggressive predator control program to target rats and mongoose. This provides protection to native and endangered species at Fort Ruger (Oahu); the State-listed Hawaiian Short-Eared Owl, the endangered Hawaiian Gallinule and Hawaiian Coot. At Ukumehame Firing Range (Maui); three species of seasonal resident endangered Hawaiian water birds as well as four other native but not endangered Hawaiian water birds. At KMR (Hawaii), the Hawaiian Hoary Bat and the Hawaiian Hawk are among the primary predator control strategies. Contracted for the eradication of feral pigs from KMR where they are damaging native vegetation, facilitating erosion and creating standing water habitat for mosquitoes.

Goal #2: Compliance.

The HIARNG environmental strategy emphasizes early identification of problems and immediate corrective action. Repair to the oil/water separator at KMR reduces water usage for washing vehicles by 75% and will save the State several thousand dollars per year. Five concrete hazardous materials buildings purchased and situated at various facilities statewide meets regulatory requirements for secondary containment. Met target deadline and completed 25% of the internal Environmental Performance Assessment System. Completed updates to the Spill Prevention Control and Countermeasure Plan to maintain our readiness to rapidly respond to spills statewide.

Goal #3: Land Management.

Designed and installed awareness signage at KMR to inform soldiers and other land users of natural and cultural resources and potential live-fire conditions. Continued restoration of the coastal berm at Kekaha Firing Range (Kauai) by removing fire-prone alien species, followed by reseeding with native vegetation; and, repairing irrigation.

### **TOPTHREE (OR FEWER) ENVIRONMENTAL GOALS FOR FY 2005:**

Goal #1: Conservation. Continue endangered species recovery, noxious weed eradication, and awareness training and education of Hawaii's youth, Guard members, and the public.

Goal #2: Compliance. Continue to monitor for regulatory compliance and implement pollution prevention initiatives.

Goal #3: Land Management. Continue to implement restoration and geographic information system (GIS) projects and integrated training area management to protect and enhance the natural resources of ARNG training lands.

# State Department of Defense

## **DOD, State Civil Defense (SCD) Division**

### TOPTHREE (OR FEWER) ENVIRONMENTAL GOALS FOR FY 2004:

Goal #1: Continue to participate in the Hawaii State Emergency Response Commission (HSERC) meetings and Local Emergency Planning Committee (LEPC) meetings to provide input to the development and/or revision of state contingency plans related to hazardous materials and to support hazardous materials training and exercises for first responders statewide.

Goal #2: Planting of trees and other foliage in the surrounding areas of Birkhimer Emergency Operating Center. The added irrigation system will help sustain plant life and reduce the potential for dry brush fires. Continue our recycling efforts with used paper products (and aluminum cans) and continue to reduce the amount of paper we use in our offices. Ensure all SCD personnel receive annual hazard communication (HAZCOM) training on responsibilities for hazardous material handling and know how to properly dispose of hazardous waste.

Goal #3: Provide objective reviews and information regarding mitigation projects that may have potential impact on the environment. Continue to review and monitor closely the Environmental Impact Statements and Environmental Assessments for projects that may not be in compliance with the National Environmental Policy Act.

### RESULTS OF EFFORTS TO ACHIEVE THOSE GOALS:

Goal #1: State Civil Defense (SCD) was represented at every Hawaii State Emergency Response Committee (HSERC) meeting this fiscal year and involved in numerous Local Emergency Planning Committees (LEPC) meetings on Oahu and the neighbor islands. SCD provided input to contingency plans related to hazardous materials and continues to coordinate and support hazardous materials training and exercises for first responders statewide. SCD also participated in the Oceania Regional Response Team (ORRT) meeting, the Clean Islands Council (CIC) meeting, Hawaii Ocean Safety Team (HOST) meeting, and the Campbell Local Emergency Area Network (CLEAN) meeting to contribute and network with key government and non-government entities on protecting our environment from oil spills and other hazardous material release.

Goal #2: SCD continues to aggressively recycle its waste paper and aluminum cans. This in-house recycling program has been successful for many years. In collaboration with the HIARNG Environmental Section, new foliage and a second irrigation system were added to the landscape and surrounding areas leading to Birkhimer facility.

Goal #3: SCD continues to review and monitor closely the Environmental Impact Statements and Environmental Assessments for projects that may not be in compliance with the National Environmental Policy Act.

### TOPTHREE ENVIRONMENTAL GOALS FOR FY 2005:

Goal #1: Continue to participate in HSERC, LEPC, ORRT, HOST, CIC, and CLEAN meetings to provide input on the development of state contingency plans related to hazardous materials and oil spills and to support hazardous materials training and exercises for first responders statewide.

Goal #2: Advocate and promote recycling of used paper products (and aluminum cans) and continue to reduce the amount of paper we use in our offices. Ensure all SCD personnel receive annual hazard communication (HAZCOM) training on responsibilities for hazardous material handling and know how to properly dispose of hazardous waste.

Goal #3: Provide objective reviews and information regarding mitigation projects that may have potential impact on the environment. Continue to review and monitor closely the Environmental Impact Statements and Environmental Assessments for projects that may not be in compliance with the National Environmental Policy Act.

# State Department of Defense

**DOD, Office of Veterans Services –Hawaii State Veterans Cemetery**

## TOPTHREE (OR FEWER) ENVIRONMENTAL GOALS FOR FY 2004:

Goal #1: Overall Appearance of the Cemetery. Improve the overall appearance of the cemetery by implementing employee standards to be either meet or not meet. Hold each employee accountable for his/her actions daily.

Goal #2: Quality of the Cemetery Grounds. Improve the soil quality of the cemetery grounds and strengthen the grass covering in all areas of the cemetery.

## RESULTS OF EFFORTS TO ACHIEVE THOSE GOALS:

Goal #1: The overall appearance of the cemetery has moderately improved but not by the implementation of employee standards. Consistently inadequate staffing levels hampered measurable progress in the areas of general repair, maintenance and landscaping. Limited support from Department of Defense maintenance crews coupled with periodic assistance from prison work-lines augmented a meager workforce.

Goal #2: Due to overwhelming staff shortages and severe budget restraints, improving soil quality and strengthening grass coverings became an intangible task. The operation's focus shifted to a concentration on burial plots and burial services, to avoid public scrutiny and unwanted media attention.

## TOPTHREE (OR FEWER) ENVIRONMENTAL GOALS FOR FY 2005:

Goal #1: Address geotechnical problems. Improve overall infrastructure by initiating structural repairs to remedy assessed trouble spots. Implement strategies to upgrade soil quality, tackle slope erosion, and attend to faulty grading issues.

Goal #2: Adopt chemicals and pesticides information and storage program to bring facility into compliance with Federal, State, and local regulations. Educate staff on MSDS white papers to ensure materials are handled properly. Coordinate efforts to place incompatible items in separate and distinct secure cabinets.



# State Hawaiian Home Lands

## TOPTHREE ENVIRONMENTAL GOALS FOR FY 2004

Goal #1: Sustainable Growth. Develop self-sufficient and healthy communities by improving trust lands through forest-based economic, environmental, and cultural opportunities.

Goal #2: Partnering. Partner with government agencies, non-profit organizations, and community groups to promote sustainable forestry through land stewardship.

Goal #3: Conservation. Improve trust lands by controlling invasive plants, removing feral ungulates, improving habitat of endangered species, and re-establishing the forest in degraded pastures.

## RESULTS OF EFFORTS TO ACHIEVE THOSE GOALS

Goal #1: Sustainable Growth. Our forestry program added to the agricultural sector by creating jobs through fencing, salvage harvesting, and planting trees, a value-added land use that benefits both the trust and our beneficiaries.

Goal #2: Partnering. Partnered with (1) the US Fish and Wildlife Service on the Big Island to fence, site prep, and plant 34,000 koa seedlings as part of our forest management plan; (2) the University of Hawaii on three research projects to better understand the site specific impacts of invasive species and to improve protocols for eradicating those species; (3) community groups on Maui to fence and remove feral ungulates to protect native and endangered tree species; and, (4) other private parties statewide in Watershed Partnerships.

Goal #3: Conservation. Degraded pasture on over 11,000 acres on Maui and the Big Island is being transitioned into forest through fencing, removal of feral ungulates, scarification, hand-planting, and salvaging and recycling of wood products; improved watersheds through the reduced use of herbicides; improved air quality by burning less acreage as part of our invasive species management plan.

## TOPTHREE ENVIRONMENTAL GOALS FOR FY 2005

Goal #1: Sustainable Growth. Continue to generate trust income and support homesteading programs and services through forest-based opportunities.

Goal #2: Partnering. Continue existing partnerships and establish new ones to support our forest management plan. Assist our beneficiaries to turn their vacant homestead agricultural lots into tree farms.

Goal #3: Conservation. Champion the idea that forestry may be the highest and best use of former pasture and cane lands. Increase the acreage and improve the health of our forested lands.



Gorse, an invasive weed, has invaded over 5,000 acres on the Dept. of Hawaiian Home Lands located mauka of the Hakalau National Wildlife Refuge on the Big Island. The photo below shows hedgerows of gorse on 195 acres of DHHL land with gorse-invaded pasture on the left and the Hakalau NWR on the right. In April 2004, approximately 34,000 koa seedlings were planted between the hedgerows, which will act as a frost barrier to assist koa regeneration during the winter. Gorse is shade intolerant and reforestation may limit its growth. It is anticipated that in a few years koa will shade out the gorse. Each year that koa impedes gorse growth results in decreased herbicide use. Gorse control currently consists of spraying herbicide and burning. In the future, koa will provide habitat and food for endangered birds in the area. The project is a partnership between DHHL and the Hakalau NWR.

(Aerial photo of the koa buffer project between DHHL and the Hakalau NWR. Photo by A. Kikuta, USFWS).

# Department of Health

## I. Goals/Objectives for FY 2004 and FY 2005

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

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

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

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

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

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

## II. Results of Efforts for FY 2004

A. Goal/Objective #1: DOH continues to monitor beaches for bacteria and is pursuing enforcement cases against polluted runoff.

B. Goal/Objective #2: To better protect the quality of the State's inland and coastal waters, DOH has completed a Total Maximum Daily Load (TMDL) assessment of Kawa Stream, Ala Wai Canal, and Waimanalo Stream. TMDLs are near completion for streams draining into Nawiliwili Bay (Kaua'i) and Pearl Harbor (O'ahu), as well as for Kane'ohe and Kapa'a Streams (O'ahu). New TMDL development projects are underway for streams in Hanalei (Kaua'i), Ka'elepulu (O'ahu), and Kaukonahua (O'ahu), and for Waiakea and Alenaio Streams (Hawai'i).

C. Goal/Objective #3: DOH has begun inter-departmental discussions with the Department of Land & Natural Resources and the Department of Agriculture on the concerns of possible contamination of groundwater due to the use of chemicals in irrigation well water systems without a proper backflow preventor.

D. Goal/Objective #4: DOH responded to 385 oil and chemical spills to assure cleanup, prevent adverse health effects, and avoid future contamination.

E. Goal/Objective #5: DOH continued to operate 15 air quality monitoring stations throughout the state and provided nearly real-time access to the monitoring data through its Online Air Quality Data web page.



# State Land & Natural Resources

AGENCY NAME: Department of Land and Natural Resources Division of Boating and Ocean Recreation

## TOPTHREE (OR FEWER) ENVIRONMENTAL GOALS FOR FY 2004:

Goal #1: Disseminate information to educate Hawaii's boaters about managing boat wastes in Hawaiian waters. Informational products will include Hawaii-specific and national environmental concerns.

Goal #2: Revise Hawaii Administrative Rules that pertain to the construction or improvement of structures at Hawaii's small boat harbors in order to comply with the Environmental Protection Agency's final approved guidelines for best management practices for marinas and recreational boating.

## RESULTS OF EFFORTS TO ACHIEVE THOSE GOALS:

Goal #1: Various brochures and posters were distributed to the small boat harbor offices and marine dealers and at community events such as boat shows.

Goal #2: Amendments to Hawaii Administrative Rules, Section 13-232-43, that pertain to non-point source pollution were adopted and signed by Governor Linda Lingle on April 12, 2004.

## TOPTHREE (OR FEWER) ENVIRONMENTAL GOALS FOR FY 2005:

Goal #1: Conduct a statewide survey to identify 1) number and location of pumpout/waste reception facilities; and, 2) number of recreational vessels with Type III Marine Sanitation Device or portable toilets. Data will be used to formulate plan for future construction of pumpout facilities in Hawaii.

Goal #2: Develop and implement an education program to inform Hawaii's recreational boaters about the environmental impacts of boater sewage and the positive benefits of using pumpout/waste reception facilities.

Goal #3: Partner with other agencies and organizations to promote best management practices for sustaining Hawaii's marine environment.

**DOBOR aims  
to preserve Hawai'i's  
natural and cultural  
resources while ensuring  
public access to State  
waters and enhancing the ocean experience.**



# State Land & Natural Resources

Division of State Parks, Department of Land and Natural Resources

## TOP 3 (OR FEWER) ENVIRONMENTAL GOALS/OBJECTIVES FOR FY 2004:

Goal/Objective 1: Initiate large-capacity cesspools (LCC) conversion to septic or other approved system as mandated by EPA.

Goal/Objective 2: Balance the public's recreational use of the natural and cultural resources in the State Parks system with the preservation and management of these resources through educational and stewardship.

Goal/Objective 3: Promote community, individual park user, and organization participation in the sustainable management of park resources.

## RESULTS OF EFFORTS TO ACHIEVE THESE GOALS/OBJECTIVES:

Goal/Objective 1: The 2004 Legislature appropriated \$9.5 million dollars for design and construction work (\$500,000 was appropriated for planning work the previous year).

Goal/Objective 2: Interpretive signs were installed at Kukaniloko Birthstones State Historic Site, Wailua River State Park, and Kekaha Kai State Park. Two interpretive guides assist visitors at the Lapakahi State Historical Park.

Goal/Objective 3: A Memorandum of Agreement (MOA) was entered into with the Judiciary's Adult/Juvenile Community Service and Restitution Unit in which participants (convicted offenders) perform community service as a condition of their sentence. Three parks on Oahu are participating in this program. The Church of Jesus Christ of Latter-Day Saints (youth group) was nominated for their volunteer work at the Wahiawa Freshwater State Recreation Area and took top honors in the Faith Based Group category of the Take Pride in America awards program.

## TOP 3 (OR FEWER) ENVIRONMENTAL GOALS/OBJECTIVES FOR FY 2005:

Goal/Objective 1: Continuation of goals and objectives from FY 2004 with an emphasis on parks with large acreages, such as Kokee and Waimea Canyon State Parks and Na Pali Coast State Wilderness Park. Request an additional \$1.5 million in Capital Improvement Project funds to complete the LCC conversion project.

Goal/Objective 2: Train park personnel in fire pre-suppression and suppression activities on Kauai and Maui.



# State Land & Natural Resources

AGENCY NAME: Commission on Water Resource Management, DLNR

TOPTHREE (OR FEWER) ENVIRONMENTAL GOALS FOR FY 2004:

Goal #1: The Commission will continue its efforts to seek available resources to update and/or prepare priority planning elements related to the Water Resource Protection Plan and the Hawaii Drought Plan. The Commission will also continue collaboration with the Department of Agriculture to facilitate and assist development of the Agricultural Water Use and Development Plan, including its required integration within the State Water Projects Plan and the County Water Use and Development Plans. In conjunction with the completion of the Statewide Drought Risk and Vulnerability Assessment and GIS Mapping project, an additional drought-related goal for FY 2004 calls for the establishment of local/county drought committees and the development of county drought mitigation strategies.

Goal #2: The Commission will continue to develop its Stream Protection and Management Program. While the overall goals of the Commission are to establish interim/permanent instream flow standards and prioritization of streams for protection, an important objective will be to improve the communication and interaction between federal, state, and county agencies, together with community organizations that are actively involved in the protection of their respective watersheds. The result of such coordination should be open sharing of information to foster better management of the resource. Subsequently, a surface water database framework will be established to identify the various components necessary to improve the Commission's management of surface water-related information. Such a comprehensive information management system would improve efficiency of permit tracking, production of geographic reference layers, and more readily provide surface water information for decision-making processes.

RESULTS OF EFFORTS TO ACHIEVE THOSE GOALS:

Goal #1: The Commission's efforts to update and/or prepare priority elements of the Hawaii Water Plan have been focused on the areas of water conservation and resource augmentation. These activities have resulted in the following accomplishments:

- With assistance from the Federal Emergency Management Agency (FEMA), the Commission undertook and completed a Statewide Drought Risk and Vulnerability Assessment and GIS Mapping project in FY 2004. This project resulted in the delineation of sector-based drought vulnerability for the three major water use sectors: agriculture and commerce; water supply; and environmental, public health and safety. Project information was used to develop and improve state and county drought mitigation strategies.
- In cooperation with the U.S. Bureau of Reclamation, and using the data/results from the FEMA study (described above), the Commission revised and updated the Hawaii Drought Plan (HDP). The updated HDP provides for improved communication and sharing of drought information and sets forth a modified drought leadership structure through the establishment of County Drought Committees. The Hawaii Drought Plan continues to serve as the key link for drought preparedness between the State and the County Hazard Mitigation Plans, which are required for FEMA Pre-Disaster Mitigation Funding of projects. The Hawaii Drought Plan is currently under review by the Bureau of Reclamation for submission to Congress.
- Additional FEMA assistance was secured to assist the Commission in the formulation of county-based drought mitigation strategies. In conjunction with the updated HDP and the formation of county/local drought committees, drought mitigation strategies were developed addressing local needs, microclimate differences, and varying drought conditions. Current mitigation measures were evaluated and data gaps were identified, which lead to the development and prioritization of county-based drought mitigation projects.
- With further funding assistance from the Bureau of Reclamation, the Commission completed the development of a prototype Water Conservation Plan for the department. The project included assessment of water use information from various DLNR facilities to establish water use profiles and typical facility categories, which may be applicable to other State agencies. Water conservation measures were identified and evaluated for five prototype facilities, which included projection of potential water savings, estimates of program implementation costs, and identification of measures of effectiveness and obstacles related to expansion of program measures to other agency facilities.

# State Land & Natural Resources

- The Commission also initiated an assessment of wastewater reuse opportunities and obstacles in Hawaii. The study (to be completed in FY 2005) will include a statewide inventory of reuse activity and reclamation projects for both government and private sector projects. The project will also identify opportunities for future reuse projects, including potential obstacles and options to facilitate expanded implementation of wastewater reuse.

- Under a project with the Bureau of Reclamation, the Commission is assisting in the development of a Stormwater Reclamation Appraisal Study to assess stormwater reclamation and reuse opportunities in Hawaii. The appraisal level study (to be completed in FY 2005) will include a review of current runoff and reclamation technologies, evaluation of potential uses of reclaimed stormwater, identification of conceptual projects, and recommendations for future investigation and further studies.

Goal #2: The Commission continued its development of the Stream Protection and Management (SPAM) Program through conducting discussions with federal, state, and county agencies, and community organizations. The overall goal of the SPAM Program for establishing instream flow standards remains. During FY 2004, the Commission convened a Stream Policy Working Group to discuss: 1) the importance of instream flow standards in supporting the Commission's mandate of instream use protection; 2) the informational requirements that should be considered as part of an instream flow standard; and 3) the development of a process by which the various attributes would be assessed to establish instream flow standards statewide. The Commission also continued its efforts to develop a comprehensive surface water database, and has completed an interim surface water diversion database framework to provide a geographical reference for stream diversions statewide.

## TOPTHREE (OR FEWER) ENVIRONMENTAL GOALS FOR FY 2005:

Goal #1: The Commission will continue development of its Stream Protection and Management Program. While the overall goals of the Commission are to establish instream flow standards, the primary focus shall be to construct a database system to improve the Commission's management of surface water-related information. Such a comprehensive information management system would improve efficiency of permit tracking, production of geographic reference layers, and more readily provide surface water information for decision-making processes.

Goal #2: The Commission will continue working towards securing funding to drill deep monitor wells within aquifer systems which provide potable ground water for municipal and domestic purposes. In conjunction with deep monitor wells, long-term baseline data collection of water levels from observation wells, chloride concentration from pumping wells, and refined GIS based estimates of recharge will aid in refining sustainable yield numbers.

Goal #3: The Commission will conduct an assessment of statewide ground water pumpage reporting in efforts to initiate full compliance with reporting requirements under the State Water Code.



# State Department of Transportation

## AGENCY GOALS

Department of Transportation, Harbors Division

### I. TOPTHREE ENVIRONMENTAL GOALS FOR FY 2004

A. Goal #1: Construction management. To promote and encourage the use of best management practices that protects the environment during the construction of harbor facilities.

B. Goal #2: Compliance. To plan and develop transportation facilities that are in compliance with environmental laws and regulations.

C. Goal #3: Pollution control. To expand and improve management practices that control and abate pollution.

### II. RESULTS OF EFFORTS TO ACHIEVE THOSE GOALS

#### A. Goal #1:

· The Harbors Division employs the use of best management practices on its construction projects. For example, dredging, excavation and ocean dumping projects require the use of silt curtains, filtering pools and water quality monitoring. Asbestos, lead paint, contaminated soil and other hazardous wastes generated by demolition are properly disposed or treated by the appropriated services. Solvents, used oils, oil-based paints, lacquer, thinners, brake fluids and other hazardous wastes are properly disposed.

#### B. Goal #2:

· All of Harbors Division's major improvements go through an extensive environmental review process to ensure that its projects comply with all environmental laws and regulations.

#### C. Goal #3:

· The Harbors Division practices paper and aluminum recycling. Its daily operations maintain litter control in and around the harbors and harbor facilities.

· Harbors Division's tenants and lessees are advised of appropriate pollution control measures.

### III. TOPTHREE ENVIRONMENTAL GOALS FOR FY 2005

A. Goal #1: Continue to promote and encourage the use of best management practices that protects the environment during the construction of harbor facilities.

B. Goal #2: Continue to plan and develop transportation facilities that are in compliance with environmental laws and regulations

C. Goal #3: Continue to expand and improve management practices that control and abate pollution.

# Kaua'i Department of Water

## TOPTHREE (OR FEWER) ENVIRONMENTAL GOALS FOR FY 2004

- Goal #1: Continued operation of all our water systems in full compliance with all applicable Safe Drinking Water Act (SDWA) requirements.
- Goal #2: Continued operation of all Department business in accordance with all applicable environmental and safety regulations.
- Goal #3: Complete the update of the Department's Chapter 343 Exemption List.

## RESULTS OF EFFORTS TO ACHIEVE THOSE GOALS:

Goal #1: Complied with environmental regulations. EPA issued an Administrative Order to the Department for non-compliance with applicable provisions of the SDWA's Unregulated Contaminant Monitoring Regulation (UCMR). In accordance with the UCMR monitoring and reporting requirements, the Department provided a written response to EPA clarifying the "inactive" status of two (2) of its groundwater sources and submitted supplemental monitoring data for posting on the EPA electronic reporting system.

The Department of Water remains committed to operate all of its water system in full compliance with applicable SDWA requirements.

Goal #2: Compiled with environmental regulations, no violations of HIOSH requirements.

Goal #3: Completed the update of the Chapter 343 EIS exemption list. On March 10, 2004, the Environmental Council approved the Department's EIS exemption list.

In addition to the Department's FY2004 identified goals, the following are other environment related accomplishments:

· The Department of Water is the sponsoring agency for the *Make a Splash Festival with Project WET* (Water Education for Teachers). By participating in the festival's activities, students, teachers, parents, government officials, and community groups promote awareness, appreciation, knowledge and stewardship of our water resources. This year approximately 1,000 fifth grade students from 19 schools around the island participated in the *Make a Splash Festival*.

Project WET is an international water science and education program dedicated to teaching children around the world about watershed protection, stewardship and conservation.

· The Department of Water is partnering with the State Department of Land and Natural Resources, Division of Forestry and Wildlife and Division of Land Management, and private large landowners to form the Kaua'i Watershed Alliance (KWA). The KWA partners' commitment is focused on the long-term protection of Kaua'i's upper watershed areas.

KWA recognizes the importance of abundant and high-quality water and understands active management of the watershed areas is needed to sustain the quality and quantity of the island's water supply. The KWA partners also recognize that cooperation is the key to an effective, timely and successful watershed management program that will protect Kaua'i's watershed from invasive alien plants, animals, and other threats.

## TOPTHREE (OR FEWER) ENVIRONMENTAL GOALS FOR FY2005:

- Goal #1: Managing and operating all our water systems in full compliance with all applicable Safe Drinking Water Act (SDWA) requirements.
- Goal #2: Continuing to operate all Department business in accordance with all applicable environmental and safety regulations.
- Goal #3: Supporting educational outreach programs on conservation and promoting watershed protection through increased public awareness and stewardship of our water resources.

# Kauai Office of Economic Development

## TOPTHREE (OR FEWER) ENVIRONMENTAL GOALS FOR FY 2004:

GOAL #1: Increase use of renewable energy (and decrease dependence on imported oil products) in the County of Kauai via County initiatives and/or partnerships with the private sector.

GOAL #2: Provide overall coordination for project to rejuvenate vegetation at Wailua's famed Fern Grotto. Partners are Kaua'i Chamber of Commerce, Department of Land and Natural Resources, Smith's Motor Boat Service, Inc., Waialeale Boat Tours, Inc., and the East Kaua'i Water Users Cooperative. Project was initiated in response to deterioration of vegetation due to two hurricanes and closure of Lihu'e Plantation and its attendant irrigation system. Project has been funded by the Hawai'i Tourism Authority's Natural Environment Program.

## RESULTS OF EFFORTS TO ACHIEVE THOSE GOALS:

GOAL #1: a) The County, in partnership with the State Dept. of Education, received approval for a \$25,000 planning and design grant from the U.S. Dept. of Agriculture's Rural Development Service for a photovoltaic power system for Niihau School. When installed, the system will deliver nutritious fresh food for the students and teachers of Niihau via a renewable energy source. b) The County (OED and Public Works Solid Waste Division), working cooperatively with the EPA, has completed a landfill gas assessment study for the Kekaha Landfill. Testing will be ongoing for phase 1 (capped) and phase 2 (active) of the landfill, to determine to what the methane may be used as a renewable energy source. Partners in this testing process are the Pacific Missile Range Facility and DBEDT.

GOAL #2: Diseased trees and invasive species have been removed from the grotto park and marina area. Native plants and tropicals have been replanted and moved around to support growth. Fern Growth on the cave is being enhanced by a solar pump above which is helping to keep the fern growth areas cool and fertilized. The waterfall pond has been cleaned and a diversion ditch re-directs run off back to the reservoir and throughout the park area.

## TOPTHREE (OR FEWER) ENVIRONMENTAL GOALS FOR FY 2005

GOAL #1: To utilize grant funding received from the Environmental Protection Agency's Brownfields program to identify sites on Kaua'i with industrial contamination, create a short-list of sites to undergo environmental assessments, with the ultimate goal to redevelop the sites and put them back into useful life to enhance our community.

GOAL #2: To issue an RFP for a contractor to install and operate a photovoltaic power system at the County's central office complex in Lihue, to sell power back to the County at a reduced rate.



# Honolulu Environmental Services

## TOP THREE (OR FEWER) ENVIRONMENTAL GOALS/OBJECTIVES FOR FY 2004:

**Goal/Objective #1:** Expand the pilot residential curbside recycling program to additional Oahu communities.

**Goal/Objective #2:** Implement the Collection System Maintenance Systems Analysis Branch to proactively manage the wastewater collection system with the use of preventive maintenance, rehabilitation/replacement of lines, pretreatment requirements, and flow monitoring.

**Goal/Objective #3:** Establish an asset management program to improve the cost-effectiveness of operations and maintenance of department facilities.

## RESULTS OF EFFORTS TO ACHIEVE THOSE GOALS/OBJECTIVES:

**Goal/Objective #1:** Completed a residential curbside recycling pilot program in Millani involving 10,000 homes. Lessons learned are being used in the design of an island-wide program with first phase implementation in November 2004. Ms.

**Goal/Objective #2:** The Collection System Maintenance System Analysis Branch has been staffed with two engineers and two engineering technicians. Personnel have been actively identifying areas within the collection system which are in need of rehabilitation and where pretreatment efforts are required. The EIR system has been implemented for enforcement purposes and an indefinite quantities contract has been developed for sanitary sewer lining work.

**Goal/Objective #3:** Phase I, "Existing Condition Assessment" of the department's sewer assets has been completed as part of the basis for the asset management program. This included (1) establishing the agency mission, identifying service levels and goals; (2) completing an asset inventory; (3) conducting an asset condition assessment; and assessing asset value. In addition, we have hired a contract employee to lead the asset management program.

## TOP THREE (OR FEWER) ENVIRONMENTAL GOALS/OBJECTIVES FOR FY 2005:

**Goal/Objective #1:** Complete implementation of an island-wide curbside recycling program by July 2005.

**Goal/Objective #2:** Develop a comprehensive sanitary sewer Inflow/Infiltration control program to include identifying sources, repairing defects, and enforcing policies to reduce private sources.

**Goal/Objective #3:** Complete implementation of the asset management program for the wastewater enterprise.



# Honolulu Facility Maintenance

## A. Top Three Environmental Goals for Fiscal Year 2004

**Goal #1: Develop National Pollutant Discharge Elimination System (NPDES) modification to the Division of Road Maintenance corporation yards island wide to control site runoff and discharges from equipment to prevent pollution of drainage and costal waterways.**

Goal #2: Mechanically street sweep City owned and maintained roadways on a regular schedule to reduce the amount of litter and roadway pollutants that will flow into the storm drain system during heavy rains and dust generation.

Goal #3: Check and clean as needed storm drain lines and structures to mitigate flooding during heavy rains and reduce amount of silt and litter discharged into streams.

## B. Results of Efforts to Achieve those Goals:

Goal #1: Funds have been appropriated in the FY 04 CIP budget to study and design the corporation yard modifications. The design is ongoing.

Goal #2: City forces mechanically swept 40,184 curb miles of roadways island wide.

Goal #3: City forces checked and cleaned as necessary 3,486,381 linear feet of drain lines and 28,604 catch basins and manholes. The division has implemented a drainage structure coding system to accurately identify structures checked to improve recording keeping procedures.

## C. Top Three Environmental Goals for Fiscal Year 2005

Goal #1: Construct the NPDES modifications to the corporation yards to control site runoff and discharge from equipment.

Goal #2: Continue our regular mechanically street sweeping program. Increase the number of curb miles mechanically swept by improving maintenance and repairs to equipment and reducing the amount and length of down time.

Goal #3: Continue our program to check and clean as needed storm drain lines and structures to mitigate flooding during heavy rains and reduce the amount of silt and litter discharged into streams from our drainage system.

# Honolulu Fire Department

## TOP THREE (OR FEWER) ENVIRONMENTAL GOALS/OBJECTIVES FOR FY 2004:

### Goal/Objective #1:

Through the reconstruction and renovation of various fire stations, we will be meeting the requirements of the National Pollutant Discharge Elimination System guidelines and reduce costs associated with heating water.

### Goal/Objective #2:

The Department is investigating ways to reduce vehicle emissions.

### Goal/Objective #3:

We will continue to utilize and explore environmentally safe chemicals at the fire stations, i.e., cleaning agents such as detergents and solvents, etc.

## RESULTS OF EFFORTS TO ACHIEVE THOSE GOALS/OBJECTIVES:

### Goal/Objective #1:

The Department, in conjunction with the City, has instituted a program to install solar water heating with backup electricity in the fire stations.

### Goal/Objective #2:

The Department will install "No Smoke" diesel exhaust filtration systems in approximately 68 first line apparatuses.

### Goal/Objective #3:

The Department continues to research and evaluate new products as they become available.

## TOP THREE (OR FEWER) ENVIRONMENTAL GOALS/OBJECTIVES FOR FY 2005:

### Goal/Objective #1:

Replace the existing stock of Aqueous Film Forming Foam with environmentally friendly foam.

### Goal/Objective #2:

Continue the conversion of installing solar water heating at the fire stations.

### Goal/Objective #3:

Replace light fixtures and ballasts in the fire stations with energy efficient systems.

### Goal/Objective #4:

An additional Goal and Objective that HFD is interested in is the pursuit of Photovoltaic systems in new Fire Stations. There are a number of stations that may be replaced in HFD's 10 year plan. Also included is the expansion of our Training Center. They have been submitted for consideration in the City's 2006 CIP budget.



# Honolulu Parks and Recreation

## TOP THREE (OR FEWER) ENVIRONMENTAL GOALS FOR FY 2004

Goal #1: Continue the City's beautification efforts through tree planting and other landscaping beautification improvements.

Goal #2: Commence construction of the Phase 3 development of the Central Oahu Regional Park with a state of the art 50-meter swimming pool and support facility.

Goal #3: Finalize Island Wide Master Plan.

## RESULTS OF EFFORTS TO ACHIEVE THOSE GOALS

Goal #1: Beautification efforts included planting of 24,009 square feet of sod/groundcover and planting of 1,613 shrubs and 120 trees.

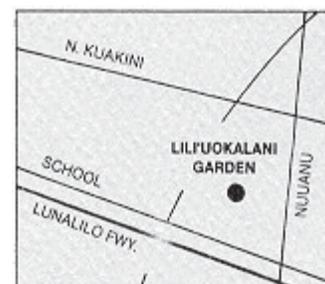
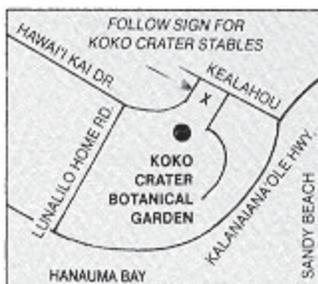
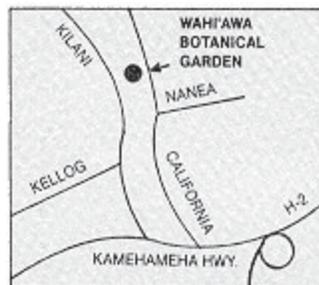
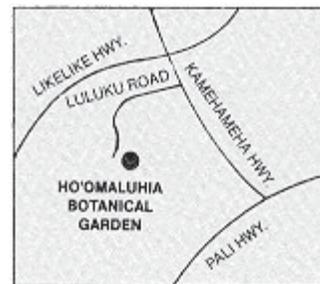
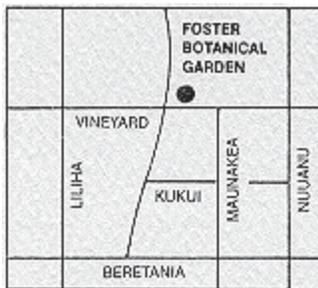
Goal #2: Construction of Aquatic Center scheduled for completion in December 2004.

Goal #3: The final draft of Island Wide Master Plan has been submitted to the City for review.

## TOP THREE (OR FEWER) ENVIRONMENTAL GOALS FOR FY 2005

Goal #1: Continue the City's beautification and park landscaping efforts through tree planting and other landscape improvements.

Goal #2: Upgrading of all cesspools to septic systems or connection to sanitary sewer.



# Honolulu Transportation Services

## FY 2004 Goal:

Investigate, identify and fund environmentally advantageous bus technology for procurement in FY 2005.

## FY 2004 Results:

The Department of Transportation Services identified state-of-the-art hybrid-electric bus technology\* and budgeted procurement in the FY 2005 budget. Ten buses were ordered. The buses are scheduled to start arriving in late Sept, 2004.

FY 2005 Goals: Test and evaluate hybrid-electric buses and exercise option for procurement of ten additional if warranted.

\*Hybrid-Electric Bus information: The parallel hybrid drive is a combination mechanical and electric drive system that replaces the transmission in the bus drive train. When the bus accelerates from a stop, it is driven electrically from energy stored in the battery to about 10 mph. As the speed increases, mechanical power is blended in. At higher speeds, the bus is driven with mostly mechanical power. During braking, the ac motors become generators, and as they slow the bus, they recharge the battery. The battery state of charge is continuously monitored, and engine power can be used at any time to top off the battery.

Emissions are reduced up to 90% compared to conventional combustion engines.

Up to 90% reduction in particulates.

Up to 90% reduction in hydrocarbons.

Up to 90% reduction in carbon monoxide.

Up to 50% reduction in oxides of nitrogen.

No lead-acid batteries required.

Up to 50% improvement in fuel economy (up to 5.2 mpg vs. 3.5 mpg)

Uses ultra-low-sulfur diesel (ULSD) which meets EPA requirements for 2006.

Noise reduction. Buses will run quieter because there is no transmission in the electric drive system.



# Oahu Civil Defense

## TOP THREE (OR FEWER) ENVIRONMENTAL GOALS FOR FY 2004

Goal #1: Conduct a hazard analysis to identify potential environmental and population hazards from the possibility of a chemical release in the vicinity of the Honolulu International Airport in the City and County of Honolulu. This analysis applied to fixed facilities that store or use chemicals that may have and offsite impact due to spill, fire or explosion.

Goal #2: Continue to participate with the Campbell Local Emergency Action Network (CLEAN) in their efforts to enhance emergency response actions in the Campbell Industrial Park area to a hazardous materials release or spill to the environment.

Goal #3: OCDA will lead and facilitate the Oahu Disaster Mitigation Council to provide input on contingency plans to address potential natural hazards, i.e., fires, floods, tsunamis and hurricanes that may impact the County's population and environment.

## RESULTS OF EFFORTS TO ACHIEVE THOSE GOALS

Goal #1: OCDA's Hazardous Materials Staff Officer spearheaded the effort to complete a potential environmental and population hazard assessment from the possibility of a hazardous materials release in the vicinity of the Honolulu International Airport. This assessment is continuing and will be completed in early 2005.

Goal #2: The effort to address potentially disastrous environmental and populace hazards in newly established residential developments in the Barbers Pt., and Kapolei area from a hazardous materials release or spill in the Campbell Industrial Park is ongoing and is expected to be completed in early 2005.

Goal #3: The OCDA staff has developed enhanced relationships with the US Army Corps of Engineers, the Natural Resources Conservation Service and private entities to assure meaningful input to guide and facilitate the Oahu Disaster Mitigation Council on contingency plans to address the environmental consequences stemming from natural disasters, i.e., fires, floods, tsunamis and hurricanes.

## TOP THREE (OR FEWER) ENVIRONMENTAL GOALS FOR FY 2005

Goal #1: Conduct a chemical hazard analysis for the Pearl City Industrial Park and Waipio Gentry Business Park to assess potential impacts to surrounding populated areas and the environment in the event of an accidental spill or release.

Goal #2: Establish a continuing cooperative agreement as the City and County of Honolulu's lead entity for sponsorship with the United States Department of Agriculture Natural Resources Conservation Service under the provisions of Section 216 of Public Law 81-516, Emergency Watershed Protection Program and Title IV of the Agricultural Credit Act of 1978, Public Law 95-334 to assist in relieving hazards created by natural disasters that cause impairment of the City's watersheds through revegetation efforts.



# Maui Housing & Human Concerns

## I. TOP THREE ENVIRONMENT GOALS FOR FY2003:

1. Inclusion of community awareness of ecosystems preservation in county funded programs and services activities.
2. Community education on the continuing need for environmental protection.
3. Review of environmental sustainability in Maui County Community Plan.

## II. RESULTS OF EFFORTS IN FY2003:

1. Environmental protection information made available to the community.
2. Community recycling program and services provided throughout the year.
3. Environmental protection measures proposed for inclusion in the County's Community Plan.

## III. GOALS/OBJECTIVES FOR FY2004:

1. Provision of recycling and environmental protection information as part of DHHC funded programs and services.
2. Promotion of community collaboration pertaining to protection of Hawaiian eco-systems and habitat areas and other natural resources.
3. Proposed inclusion of environmental protection measures in the County of Maui Community Plan.



# Maui Department of Planning

## TOP THREE (OR FEWER) ENVIRONMENTAL GOALS FOR FY 2005

Goal #1: The Department received grant funding to conduct the first phase of an analysis in reevaluating the County of Maui's existing Special Management Area (SMA) boundaries with the intent of improving the County's implementation of the Coastal Zone Management Act, Chapter 205A, HRS. The first phase of the project will involve further analysis of targeted areas identified by the Department as potential candidates for boundary contraction or expansion. This phase will assist the Department in developing a checklist to assess whether contracting the SMA boundary would create areas vulnerable to increased impacts, or conversely, whether expanding the SMA boundary will result in excessive regulation.

Goal #2: The Department is coordinating a County-wide effort in updating the Comprehensive Exemption List for Chapter 343, HRS, Environmental Impact Statements.

Goal #3: The Beach Management Plan for Maui was developed by the University of Hawaii Sea Grant Extension Service and the County of Maui Planning Department, and was adopted by the Maui County Council in 1997. Since this time, significant changes have occurred with regards to understanding local shoreline change patterns, development of new shoreline issues and mitigation alternatives, and adoption of improved coastal management regulations such as the dune grading ordinance and the shoreline setback rules. The Beach Management Plan for Maui will be updated to reflect the changes that have taken place with respect to our improved understanding of local coastal issues and improved coastal management practices for Maui.



# Maui Public Works & Env. Mgt.

## TOPTHREE (3) ENVIRONMENTAL GOALS FOR FISCAL YEAR 2004

GOAL NO. 1 Prepare amendment to County drainage rules requiring the incorporation of storm water pollution-control measures and Best Management Practices into subdivision design.

GOAL NO. 2 Assess optimal methods to preserve sand dune complexes.

GOAL NO. 3 Initiate Central Maui Wastewater Planning Study to outline broad wastewater strategies and implementation over a long-range planning horizon.

### RESULTS OF EFFORTS TO ACHIEVE THOSE GOALS:

GOAL NO. 1 Initial draft prepared and comments received at public hearing. Based on comments from the State Department of Health and the Environmental Protection Agency, a comprehensive re-write of the proposed rules is required. The rules are in the process of being re-written.

GOAL NO. 2 Consulted with shoreline processes experts, governmental agencies and the public in crafting revisions to shoreline grading regulations. After public hearing, revised rules were adopted with the intent to strike a balance between environmental protection and responsible economic development.

GOAL NO. 3 A broad-based citizen committee was established. With Wastewater Division staff and consultants, the committee meets to discuss and weigh various alternatives regarding the Wailuku-Kahului Wastewater Reclamation Facility. The existing facility is located near a windward shoreline which has shown signs of erosion and is in a tsunami zone. Among the alternatives being assessed include improvements needed to keep the plant in its existing location or moving to various locations, as well as financial implications.

## TOPTHREE (3) ENVIRONMENTAL GOALS FOR FISCAL YEAR 2005

GOAL NO. 1 Adopt amendment to County drainage rules requiring the incorporation of storm water pollution-control measures and Best Management Practices into subdivision design and fully implement rules.

GOAL NO. 2 Construct/Install drainage grease traps for all County Highways baseyards with garage/shop facilities.

GOAL NO. 3 Formulate Central Maui Wastewater Planning Study recommendations. Work with Maui County Council to obtain resolution of support. Begin planning and design of recommended alternative.



# Maui Department of Water Supply

## Top Three Environmental Goals for Fiscal Year 2004:

Goal # 1: Promote watershed protection throughout Maui County and develop better understanding of outside impacts on aquifers and streams.

Goal # 2: Continue to develop and support source water protection efforts and encourage pollution prevention throughout Maui County.

Goal # 3: Promote water conservation measures.

## Results of Efforts to Achieve Goals:

Goal # 1: \$712,000 in contracts were issued for protection of the East Maui, West Maui Mountains and East Molokai watersheds for removal of miconia and other invasive weeds; and studies of groundwater in Central Maui and stream water in East Maui.

Goal # 2: Work continued on the wellhead protection program for Maui County, including field survey of island of Lanai wellhead protection areas. A draft wellhead protection strategy and ordinance was submitted to Lanai water advisory group for review. Other pollution prevention efforts included education through newspaper and radio advertisements and best management practices information distributed through permit review process.

Goal # 3: Conservation program efforts resulted in water savings from free conservation fixture distribution of 2,276 showerheads, 2,162 bathroom faucet aerators, 1,575 kitchen faucet aerators; and 1,706 self-closing hose nozzles during the fiscal year. 74 newspaper conservation ads were published in local newspapers and 3,744 radio ads were aired in combined conservation and pollution prevention education.

## Top Three Environmental Goals for Fiscal Year 2005:

Goal # 1: Continue to promote watershed protection and develop environmentally appropriate water system projects to supply county residents while keeping withdrawal from aquifers below sustainable yield.

Goal # 2: Continue to develop and support source water protection efforts and encourage pollution prevention throughout Maui County, including form an advisory committee, perform field surveys and develop/adopt protection measures for the island of Molokai.

Goal # 3: Continue promotion of water conservation measures, including a complete analysis of conservation measures and potential savings in the development of the Water Use and Development Plan process.



# Hawai'i Housing and Community Dev.

## Top Three (or Fewer) Environmental Goals/Objectives for FY 2004:

- A. Goal/Objective #1: The OHCD will continue to seek training to keep staff abreast of the National Environmental Policy Act (NEPA) and Section 343 Hawai'i Revised Statutes rule changes.
- B. Goal/Objective #2: The OHCD, as a recipient of CDBG and HOME funds from the Department of Housing and Urban Development (HUD), assumed the responsibility to coordinate compliance with Federal and State environmental rules and regulations under the National Environmental Policy Act, 24 CFR Part 58 and Chapter 343, Hawai'i Revised Statutes.

## Results of Efforts to Achieve those Goals/Objectives:

- A. Goal/Objective #1: The staff of the OHCD attended an environmental compliance training on July 13, 2004 to July 16, 2004. The training was sponsored by the U.S. Department of Housing and Urban Development (HUD) and covered NEPA and 24 CFR Part 58.
- B. Goal/Objective #2: Carried out environmental review responsibilities for eighteen CDBG projects and one HOME projects.

## Top Three (or Fewer) Environmental Goals/Objectives for FY 2005:

Same as those identified for fiscal year 2004.



# Request for Feedback

The Environmental Council is currently in the process of drafting the 2004 Hawaii Environmental Annual Report. The 2004 Annual Report will focus on a review of the past five (5) years' Annual Report Cards, from 1999-2003, and provide an update about the progress that the State of Hawaii has made towards the recommendations in each report.

In each Annual Report from 1999 - 2003, the Environmental Council offered specific recommendations to the Governor and the State Legislature. The Annual Reports focused on the topics of:

- 1999-Improving Hawaii's Solid Waste Recycling Rate
- 2000-Global Warming and recommendations to reduce the green house effect.
- 2001-Preserving Hawaii's Biodiversity
- 2002-Preserving our Hawaiian Forests
- 2003-Minimizing Population Growth Impacts on Environmental and Cultural Resources.

The Environmental Council has developed the attached questionnaire sheet to assess progress toward achieving the recommendations from 1999 - 2003. The questionnaire includes a request that each agency relate any difficulties which prevented the agency from accomplishing these goals and suggest ways to improve the ability to achieve these recommendations.

## Questionnaire

The Environmental Council's objective in 2004 is to assess progress toward accomplishing the recommendations made in the Annual Reports from 1999 – 2003, including the following:

- A) Measure the progress made by the agencies towards accomplishing these recommendations.
- B) Identify issues or areas where agencies encountered difficulties or barriers that prevented progress towards accomplishing the recommendations.
- C) Recommendations from the agencies that can be incorporated in the 2004 Annual Report that can facilitate the future progress of accomplishing these recommendations.

The 1999 – 2003 Annual Reports of the Environmental Council Review can either be viewed in hard copy or through the website (<http://www.state.hi.us/health/oeqc/annualrpts/index.html>). Each Annual Report has an Introduction section, which covers the recommendations by the Council to the Governor on how the State of Hawaii can progress towards achieving the preservation of our environment through practical steps or efforts made by the Governor, the Legislature, or the public.

## Questions

1. Please review the Environmental Council's recommendations of the past 5 years and list which recommendations your agency has successfully implemented or is in the process of implementing.
2. Please list any difficulties or barriers that your agency has encountered in attempting to implement the recommendations.
3. Please list the recommendations made by the Environmental Council that your agency does not support, and state your reasons for not supporting them.
4. Please provide your recommendations about how to facilitate or improve the progress for the future.

FY	Recommendations to the Governor	Question No. 1, list recommendation success.	Question No. 2, list difficulties/barriers to implementation.	Question No. 3, list recommendations made by EC that Division does not support.	Question No. 4, recommendations to facilitate or improve reaching objectives for the future.
2003	Minimizing Population Growth Impact on Environmental and Cultural Resources	<p>Under Conserve, Recycle, Enhance:</p> <p>1, a - Waipahu Intermediate School Cafeteria project has been awarded to Okada Trucking and DOE/DAGS has applied for basic LEED Certification. This project is a pilot to determine feasibility.</p> <p>2, a, ii - Security lighting requirements are limited to UBC egress illumination requirements of 1 fc.</p> <p>2, a, iii - Light spillage controlled to the extent required by land use ordinances. Protecting scientific observations of the skies on neighbor islands and utilization of light fixture shielding promote indiscriminate light usage.</p> <p>2, c, iv - Air Conditioning Commissioning is a being utilized on PW projects of \$5M or greater or at project coordinator discretion. Systems are turned over to PW clients with all energy saving features operational.</p> <p>2, d, iii, 4 - Verbiage to "demolish or remove" already utilized in PW projects.</p>	Funding typically limits total implementation of LEED and commissioning.	We do not have enough background on recommendations unrelated to DAGS operations to provide useful comment.	Provide additional funding, legislation and executive branch support to increase implementation of LEED and building commissioning on PWD projects.
2002	Our Hawaiian Forests	No comment	No comment	We do not have enough background on recommendations unrelated to DAGS operations to provide useful comment.	No comment

2001	Preserving Hawaii's Bio-diversity	PW specifies native plants where feasible.	Limited ability to maintain special environments.	We do not have enough background on recommendations unrelated to DAGS operations to provide useful comment.	No comment
2000	Global Warming	<ol style="list-style-type: none"> <li>1. Encourage specifying CFC free refrigerants for DAGS projects.</li> <li>2. Specification of energy efficient lighting systems to the extent allowed by scope and budget to reduce energy dependancy and maintain current electrical generation levels.</li> </ol>	<ol style="list-style-type: none"> <li>1. Not all manufacturers use CFC free refrigerants. Open product competition prevents total ban of CFC producing refrigerants.</li> <li>2. Project scope and funding does not allow specification of the most energy efficient lighting systems.</li> </ol>	We do not have enough background on recommendations unrelated to DAGS operations to provide useful comment.	Provide additional funding, legislation and direct executive branch support to implement expansion of the most energy efficient lighting systems.
1999	Improving Hawaii's Solid Waste Recycling Rate	<ol style="list-style-type: none"> <li>1. Support local recycling enterprises, Div 0 of DCCM provides incentive to use recycled product preference (burnt bagasse, paving material and base, sub-base and previous backfill material).</li> <li>3. Implement a comprehensive recycling program, a DAGS 2003 Goal.</li> <li>7. Use glassphalt for paving roadways, already specified.</li> <li>11. The State Procurement Office requires that all agencies under its jurisdiction order paper with a minimum 30% Post Consumer Recovered Material.</li> </ol>	<ol style="list-style-type: none"> <li>1. Limited recycling of building materials locally to increase product preference list.</li> <li>6. Recycled materials typically more costly than similar new materials.</li> <li>3. Lack of funding to fully time position to coordinate recycling program.</li> <li>7. DAGS project consume a very small portion of total state consumption of road paving materials.</li> </ol>	We do not have enough background on recommendations unrelated to DAGS operations to provide useful comment.	Provide additional funding, legislation and direct executive branch support to implement expansion of recycling programs.

# State Department of Agriculture

The Department has no comments or recommendations for the 1999 and 2000 Environmental Council recommendations regarding improving Hawaii's solid waste recycling rate and global warming and reduction of the greenhouse effect.

2001 Environmental Council Recommendations: Preserving Hawaii's Biodiversity

1. List of EC recommendations DOA has successfully implemented or is in the process of implementing.

*Under "Prevention" (page 7 of the 2001 EC Annual Report)*

The programs of the Hawaii Department of Agriculture's Plant Industry Division are designed to protect Hawaii's agricultural industries, natural resources, and the public from the entry and establishment of detrimental plants, animals, insects, weeds, and other pests in Hawaii.

The activities of this Division represents the State's "First Line of Defense" and plays an important role in monitoring cargo and passengers at all ports of entry for the illegal importation of potentially harmful pests. They also help local farmers export horticultural materials through their plant nursery inspection program; help control and eradicate insects and diseases through biological, chemical or mechanical means; and provide seed analyses and certification services for nursery plants.

Under "Control" (page 7 of the 2001 EC Annual Report), the Department is a member of the Hawaii Invasive Species Council that provides the institutional framework for leadership and coordination for a statewide invasive species prevention and control program.

Under "Education" (page 7 of the 2001 EC Annual Report), the Department is informing landscape and nursery operators on methods to effectively monitor and prevent introduction of new pests.

2. Difficulties or barriers that DOA encountered in implementing EC recommendations.

*Funding and staffing resources sufficient to maintain an effective program.*

3. List EC recommendations DOA does not support and reasons why.

*Not applicable*

4. DOA recommendations on how to facilitate or improve the progress for the future.

*Assure adequate funding and improved interagency coordination and communication with external stakeholders.*

2002 Environmental Council Recommendations: Preserving our Hawaiian Forests

1. List of EC recommendations DOA has successfully implemented or is in the process of implementing.

*DOA took the lead to establish the federal Conservation Resource Enhancement Program (CREP) in Hawaii, a voluntary program that, if approved, will direct federal funds up to \$80 million to reforestation and enhance riparian areas through removal of invasive species and replanting with native species at the pasture/forest interface. DLNR is now the lead State agency.*

2. Difficulties or barriers that DOA encountered in implementing EC recommendations.

*None.*

3. List EC recommendations DOA does not support and reasons why.

*Items 8, 9, and 10 on page 9 of the 2002 EC Annual Report may significantly affect how the Department and the Agribusiness Development Corporation manages their irrigation water sources and leasing lands for agricultural use. We recommend these items be the subject for discussion among affected parties.*

4. DOA recommendations on how to facilitate or improve the progress for the future.

*None.*

2003 Environmental Council Recommendations: Minimizing Population Growth Impacts on Environmental and Cultural Resources

1. List of EC recommendations DOA has successfully implemented or is in the process of implementing.

*DOA has no authority in any of the major EC recommendations. We note that many of the EC recommendations are found in Chapter 226, HRS. Carrying capacity studies have been talked about for years.*

2. Difficulties or barriers that DOA encountered in implementing EC recommendations.

*Regarding item 5 (page 8 of the 2003 EC Annual Report), the legislature again failed to pass legislation to identify and protect important agricultural lands. The legislation was based largely on the effort of the 70+ member Agriculture Working Group that spent over a year developing comprehensive land use and incentive legislation.*

3. List EC recommendations DOA does not support and reasons why.

*Requiring environmental assessments for leases of State land 10 acres or more in size is too burdensome on both the State and private parties seeking to lease lands for agricultural purposes.*

4. DOA recommendations on how to facilitate or improve the progress for the future.

*Redefine the State's role in land use and water planning as one based on protection of resources of statewide concern.*

# State Attorney General

1. I have reviewed all of the EC recommendations set out in the annual reports from 1999 through 2003 as requested by Victor Kimura. The huge bulk of those recommendations deal with actions that would be taken by other state agencies who would receive legal support from the Department of the Attorney General. Virtually none of the recommendations could be directly implemented by the Department of the Attorney, instead, our department has taken a supportive role in accomplishing the following specific recommendations that are identified by year:

## Applicable EC Recommendations/Goals that are relevant to AG Dept.

### 2003 Recommendations:

#### **Page 10 The 2003 Environmental Council Annual Report ENFORCEMENT**

1. Permitting agencies must require developers to follow “best management practices” during construction to avoid or minimize pollution and monitor the project construction for compliance..

-AG role: Administrative agency enforcement efforts, particularly those of the Department of Health, have focused on developers or contractors who fail to implement BMPs required in permits issued by the Department of Health. Deputy Attorneys General play a crucial role as the prosecutors of those enforcement actions.

4. Permitting agencies should be empowered to enforce permit conditions and impose penalties for violations.

-AG role: Deputy Attorneys General prosecute administrative enforcement actions on behalf of state agencies that accomplish both the enforcement of permit conditions and imposition of penalties via negotiated resolutions or via contested hearings.

### 2002 Recommendations:

9. Require riparian buffers and Best Management Practices as conditions to State land leases, permits, and approvals.

-AG role: as above, Deputies assist in the enforcement of permit conditions, including BMPs.

### 2001 Recommendations:

· Implement plans to prevent new potentially devastating alien species from coming to Hawai‘i – with special attention to the red imported fire ant and all snakes.

-AG Role: Deputy Attorneys General provide legal support in the form of advice and prosecution of enforcement actions to agencies tasked with quarantine responsibilities.

2. Since the recommendations contained in the EC annual reports are not directly applicable to the Department of the Attorney General, this Department cannot identify barriers to implementation of the recommendations.

3. There are no recommendations contained in the EC annual reports from 1999-2003 that were not supported by the Department of the Attorney General.



# State DBEDT

The Department of Business, Economic Development, and Tourism (DBEDT) provides the following information related to the Environmental Council's 1999, 2000, and 2003 recommendations.

## **OEQC Question 1. Recommendations of the past five years which agency has successfully implemented/in the process of implementing.**

### **1999 Recommendations – Improving Hawaii's Solid Waste Recycling Rate**

Item 1. Support local recycling enterprises:

The Department of Business, Economic Development, and Tourism (DBEDT) provides information on permitting for recycling and related businesses and information on DBEDT loan and grant programs for new and existing recycling businesses.

DBEDT participates in the General Contractor's Association Recycling Industry Committee (currently committee co-chair) that is made up of over 20 private, public, and non-profit entities involved in recycling in Hawaii.

Item 2 and 3. Establish recycling demonstration projects and Implement a comprehensive Recycling Program:

DBEDT and its attached agencies are actively involved in recycling office paper, newspaper, cardboard, phone books, aluminum and glass containers, and magazines. In facilities such as the Natural Energy Laboratory of Hawaii, the Foreign Trade Zone, and the Hawaii Convention and Trade Center, other material such as green waste, food waste, plastic containers, metal, and pallets are also mulched or recycled. DBEDT has designated a staff person to oversee the Department's recycling effort.

Items 4 and 5. Not applicable

Item 6. Support the development of a market for recycled products by buying recycled materials.

DBEDT purchases paper from companies listed on the State of Hawaii's Price List. These companies offer 30% post-consumer recycled photocopy paper and other office-related supplies with recycled-content. DBEDT is working with the State of Hawaii's Procurement Office, Department of Accounting and General Services Quality Control, Department of Transportation Highways Division, and the University of Hawaii to seek more recycled and other environmentally preferable products to be offered on the State's Price List.

Through a grant from the U.S. Environmental Protection Agency (USEPA), DBEDT is developing an *Environmental Products Guide* that will build on an earlier project funded by the USEPA to produce a directory of recycled products available in Hawaii. The new guide will have listings of recycled products, energy efficient products, low-toxic and water conserving products, and local vendors with contact information. The *Guide* will be distributed to state, county and federal agencies, private consultants, and will be posted on the DBEDT website.

Items 6-12. Not applicable

### **2000 Recommendations – Global Warming and Recommendations to Reduce the Greenhouse Effect**

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 Hawaii's greenhouse gas emissions by 7% less than 1990 emissions by 2008–2010. The *Hawaii Climate Change Action Plan* (DBEDT, 1998) offers many strategies for reducing greenhouse gas emissions."

DBEDT's previous work in developing the Inventory of Hawaii Greenhouse Gas Emissions, Estimates for 1990 (1997) and the

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*Hawaii Climate Change Action Plan* (1998) established the basis for the Council's recommendations. The Action Plan's fundamental recommendation was:

that Hawaii should take action to reduce its emissions that contribute to global warming and climate change. Hawaii should also identify the future effects on its people, environment, ecosystems, and economy that will be caused by climate change already occurring. Hawaii should then develop a long-range plan to adapt to such climate change.

Consistent with previous efforts to improve energy efficiency, increase the use of renewable energy, and reduce oil use, DBEDT also sought to show how these efforts could reduce greenhouse gas emissions.

In January 2000, DBEDT issued *Hawaii Energy Strategy 2000 (HES 2000)*, the second iteration of its strategy designed to increase understanding of Hawaii's energy situation and produce recommendations to achieve the statutory energy objectives outlined in Section 226-18(a), HRS.

*HES 2000* supplemented the work of the *Hawaii Climate Change Action Plan* through a new focus on measures to more efficiently use energy or provide indigenous energy alternatives and thereby reduce greenhouse gas emissions.

*HES 2000* made several recommendations related to climate change, including proposing a new state energy objective related to climate change. The 2002 Legislature passed an Administration bill, initiated by DBEDT, which added "Reduction, avoidance, or sequestration of greenhouse gas emissions from energy supply and use" as a fourth energy objective in Section 226-18(a), HRS. It also added two supporting policies to Section 226-18(c):

(8) Support actions that reduce, avoid, or sequester greenhouse gases in utility, transportation, and industrial sector applications; and

(9) Support actions that reduce, avoid, or sequester Hawaii's greenhouse gas emissions through agriculture and forestry initiatives.

DBEDT continues to support the new objective by encouraging energy efficiency in energy end-uses, efficient generation, and renewable energy use. Activities include encouraging performance contracting, efficient building design, utility demand side management programs, tax credits for renewable energy, demonstration projects, renewable portfolio legislation, net metering legislation, and studies, workshops, and analyses in support of the energy objectives, including objective four.

## **2003 Recommendations – Minimizing Population Growth Impacts on Environmental and Cultural Resources**

**"Conserve, Recycle, Enhance"** d. Public facilities should be models of energy efficiency (pg.8)

DBEDT has supported and provided technical assistance on the use of performance contracting to finance energy efficiency improvements in State facilities such as UH – Hilo and others. The Gateway Center at the Natural Energy Laboratory of Hawaii at Keahole on the Island of Hawaii and the John A. Burns School of Medicine in Honolulu will be Leadership in Energy and Environmental Design (LEED)-certified/energy and resource-efficient buildings. The Waipahu Elementary School Cafeteria project will also be LEED-certified. DBEDT is producing fact sheets on these projects to promote the use of energy and resource-efficient strategies, technologies, and products in additional facilities.

**"Education"** Increase education programs that promote recycling, energy and water conservation...

DBEDT continues to conduct a variety of workshops, seminars, forums, conferences, expos, exhibits, projects, and programs that promote recycling, recycled products, and other environmental practices to government agencies, industry, and the public. Topics include Renewable Energy, Build and Buy Green, LEED, Certified Wood Products, Green Business, Green Office, Green House, Energy Smart Schools, Brownfields Remediation, Construction and Demolition Recycling and Reuse, Daylighting, Dark Skies and

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Light Pollution, Electronics Waste, and the Built Green Program with the Building Industry Association.

## **OEQC Question 2. Difficulties or Barriers to implementation?**

We continue to encourage agencies to implement.

## **OEQC Question 3. Recommendations agency does not support.**

None.

## **OEQC Question 4. Recommendations how to facilitate or improve progress.**

### **1999 Recommendations**

Issuance of Executive Memorandums in support of recommendations to increase State government purchase and use of recycled and energy efficient products (such as Energy Star equipment).

Enforcement of existing statutes.

### **2000 Recommendations**

Hawaii's emissions are minute on a global scale and Hawaii uses the least energy per capita in the U.S., thus any reductions will contribute only a small amount to global efforts. Any State initiative should carefully evaluate economic impacts and keep in mind that the Kyoto Protocol targets were set at the national level, and are not necessarily appropriate at the State level.

However, Hawaii is experiencing and will experience various effects from climate change caused by greenhouse gas emissions that occurred or will occur globally. As global reductions in emissions are likely to take many years, the effects forecast for this century on temperature change, sea level rise, and other concerns *will* happen. Their specific effects on Hawaii should be further explored and modeled. Adaptation measures may also take many years, if not decades, to implement. The measures required should be identified and initiated soon.

Open for Business.



# Department of Education

## Questions:

1. Please review the Environmental Council's recommendations of the past 5 years and list which recommendations your agency has successfully implemented or is in the process of implementing.

### **Implemented:**

- Implement a comprehensive recycling program.
- Invest in infrastructure to recycle and reduce wastes generated on the job.
- Support the development of a market for recycled products.

### **In Process of Implementing:**

- Considering the use of glassphalt for paving roadways.

2. Please list any difficulties or barriers that your agency has encountered in attempting to implement the recommendations.

None.

3. Please list the recommendations made by the Environmental Council that your agency does not support, and state your reasons for not supporting them.

None.

4. Please provide your recommendations about how to facilitate or improve the progress for the future.

- Continue to support and create a departmental/state awareness of the State's Solid Waste Recycling Program and effort.



# Department of Health

**Clean Air Branch:** The Clean Air Branch reviewed the Environmental Council's recommendations to the Governor for Annual Reports from 1999-2003. None of the recommendations were applicable to the air program. Only the year 2000 recommendation regarding Global Warming was indirectly related to the air program. The recommendation was for the Governor and the Legislature to support the Kyoto Protocol which was never signed by the United States. As noted in DBEDT's report, Hawaii Climate Change

Action Plan, November 1998, a conglomerate of recommendations was presented in the report to reduce greenhouse gas emissions associated with various sectors and activities. The recommendations are not technological greenhouse gas controls but methodologies and practices that would assist at decreasing some of the emissions from the sectors and the activities.

**Clean Water Branch:** For the section on Enforcement:

1. BMPs are required for all construction stormwater permits, construction activities in nearshore waters, including seawalls, sandreplenishment projects, and fishponds.
2. Depending on the availability of resources, permitted activities such as construction are inspected at least once during the life of the permit, and more if there are problems.
3. All permitted activities are subject to the enforcement provisions of Chapter 342D, Part II, Penalties.
4. Public informational meetings and forums are regularly conducted by Clean Water Branch staff on NPDES permits and stormwater rules. Workshops with Engineering Associations, and General Contractor's association members are held routinely on all islands.
5. Storm drain stenciling are part of the Branch's Polluted Runoff Program. The program provides safety training, materials and technical assistance to community groups, Boy Scouts, and Schools in painting signs.

**Safe Drinking Water Branch:** This memorandum responds to your request that the SDWB review the Environmental Council's "Recommendations to the Governor" from 1999 to 2003. We have reviewed the recommendations for the past five years and have found that the programs of the Safe Drinking Water Branch are directly involved in part of one recommendation, but have general comments on the recommendations themselves.

While we do not have specific responsibility for the control of stormwater runoff, the SDWB does administer an Underground Injection Control permitting program which assists in the control of stormwater runoff. The recommendation that we can respond to in a limited way is found in the 2003 recommendations under Conserve, Recycle, Enhance. Recommendation 2.a.iv under this heading reads: "Allow no net increase in the rate and quantity of stormwater runoff from existing to developed conditions."

The SDWB Underground Injection Control (UIC) Program continues to issue underground injection control permits for stormwater collection. The use of injection wells to help control stormwater runoff enables the stormwater to recharge groundwater instead of running off into surface waters. In this way, SDWB is assisting in limiting the amount of runoff from specific sites and turns it into recharge. Unfortunately, the quality of the recharge is not as high as rainwater.

The following are our general comments on the recommendations.

While these are general recommendations addressed to the Governor, we suggest that the Environmental Council identify the principle agencies/authorities/programs that the Council feels would be responsible to implement each recommendation.

For all the recommendations which involve the provision of an "incentive," the Environmental Council should identify the nature (funding, regulatory leeway, etc.), the source of the incentive (general funds, special funds, etc.), the projected amount of the incentive per project, the requirements that would need to be met to qualify for the incentive, the estimated total annual cost of the incentive if all intended projects took advantage of the incentive, and the agency responsible for providing the incentive.

Some of these recommendations, while appearing outwardly environmentally beneficial, could result in environmentally negative outcomes. As examples:

1. "Promote maximal use of daylight in buildings in order to reduce energy usage for artificial lighting...." This recommendation may increase the need for air conditioning because the more sunlight allowed, the more heat allowed into the building requiring more cooling. It takes substantially more energy to cool buildings than to light them.
2. "In rural areas, reduce security lighting requirements." This recommendation will reduce security, and in turn, invite vandalism and theft. We believe that the little amount of electricity saved would not offset the property damage or loss caused by the vandalism or crime this action would invite. The repair and correction of this damage or loss will have environmental costs in building materials and goods.
3. We understand that current limitations on gray water for use in home irrigation are related to the maintenance of sanitary conditions and the quality or potential quality of gray water. For instance, some gray water may contain food particles or other nutrients which if used for irrigation would cause health/nuisance problems and invite vermin. Does this recommendation propose to override these concerns or in some way address them?

# Honolulu Design & Construction

*Please review the Environmental Council's recommendations of the past 5 years and list which recommendations your agency has successfully implemented or is in the process of implementing.*

1. The City attempts to co-locate sites for public parks adjacent to public schools and attempts to maintain joint use of school and park facilities wherever possible and mutually agreeable. Our department commissioned a planning consultant (managed by our department) to study specific ways that the City Department of Parks and Recreation (DPR) and State Department of Education (DOE) can allow greater public access by sharing their facilities. The DPR is pursuing a pilot project with Farrington High School as a result of the study.
2. Our Design Branch seeks to minimize light spillage from public parks into surrounding residential neighborhoods whenever we make lighting improvements.
3. We use gray water sources for irrigation where it is available, such as at a number of parks on the 'Ewa plain, in the vicinity of the Honouliuli wastewater treatment plant.
4. We design new parks so that there is no net increase in the rate and quantity of stormwater runoff from existing to developed conditions in accordance with City building and land use regulations.
5. We use frequently use products created from recycled materials in parks, such as in benches, tables, resilient play surfaces, and play equipment.
6. We use native plants primarily for landscaping of beach parks because this is where there are appropriate native plants most compatible with human activities. Plants used include: Milo trees, Beach Heliotrope trees, coconut trees, and naupaka shrubs.
7. Our department has instituted solid waste recycling at our offices in the Honolulu Municipal Building. We primarily recycle paper and aluminum can wastes. However, we have not as yet designated or trained a staff person specifically for our recycling efforts.

*Please list any difficulties or barriers that your agency has encountered in attempting to implement the recommendations.*

The City's Department of Design and Construction (DDC) has not been aware of, and therefore, has not consciously attempted to implement the recommendations of the Environmental Council. However, it has been motivated by the same impulse to conserve resources and public funds to provide public goods and services.

*Please list the recommendations made by the Environmental Council that your agency does not support, and state your reasons for not supporting them.*

There are many recommendations which are not relevant to our department's mission. There are also many recommendations which require the initiative of elected officials to set policy before they can be implemented. We do not see any recommendations which we are explicitly opposed to implementing.

*Please provide your recommendations about how to facilitate or improve the progress for the future.*

Future progress toward implementing the Environmental Council goals could be better achieved by enlisting the full support of elected officials and their appointees. By conscious and specific directives from the top echelon of county governments, there is greater likelihood of implementing recommendations deemed appropriate.



# Honolulu Dept of Facility Maintenance

- The Department of Facility Maintenance supports recycling of solid wastes by separating wastes
- Green wastes are transported to private sector companies for recycling
- Tires, motor vehicle batteries, and metals are transported to private sector companies for recycling
- Waste from concrete sidewalks, curbs, and gutters repairs are transported to private sector companies for recycling
- Waste from asphalt roadway repairs are transported to private sector companies for recycling
- Waste florescent lights are recycled
- The Department of Facility Maintenance supports reduction of green house gasses by
  - Utilizing electrical vehicles
  - Utilizing propane powered motor vehicles
  - Utilizing a 80/20 Biodiesel blend for diesel fueling of motorized equipment
  - Utilizing a 100% recycled cooking oil for select internal combustion equipment
  - Recycle waste oils and lubricants from repair and maintenance operations

DFM has no direct involvement in preserving Hawaiian forests, biodiversity or minimizing population growth on environmental & cultural resources.

Our greatest difficulty is increasing recycling and disposal fees with diminishing budgets and the costs of dealing with increasing occurrences of illegal dumping (both hazardous and non-hazardous dumping) on public roadways and in streams.

Lack of funding for State mandated programs also exasperates DFM's existing programs and activities.

DFM is a maintenance organization with limited budgets and increasing demands for services.



# Honolulu Fire Department

1. Please review the Environmental Council's recommendations of the past 5 years and list which recommendations your agency has successfully implemented or is in the process of implementing.

- Supports local recycling enterprises by participating in Verizon Hawaii's Telephone Book Recycling Program. In addition, our Mechanic Shop collects used engine oil, anti-freeze, sludge water, batteries, and car and truck tires to be recycled or disposed with various vendors.

- Implemented a comprehensive recycling program in connection with the City and County of Honolulu's City Agency Recycling Program. This program recycles paper and outdated computers.

- In conjunction with the Board of Water Supply's City Facilities Fixtures Retrofit Project, all fire station interior water fixtures were retrofitted with water conserving fixtures, which included faucet fixtures/aerators, showerheads, and low-flush toilets.

- In the process of installing "No Smoke" diesel exhaust filtration systems in the fire stations.

- Completed the replacement of light fixtures and ballasts with energy efficient fixtures.

- Installing solar water heaters with an electric backup in newly built or renovated fire stations.

2. Please list any difficulties or barriers that your agency has encountered in attempting to implement the recommendations.

Due to budgetary constraints experienced by all City agencies, the Honolulu Fire Department (HFD) would not have been able to afford the installation of "No Smoke" diesel exhaust filtration systems for its fire apparatuses without the monies awarded by the Federal Emergency Management Agency's Assistance to Firefighters Grant.

3. Please list the recommendations made by the Environmental Council that your agency does not support, and state your reasons for not supporting them.

None.

4. Please provide your recommendations about how to facilitate or improve the progress for the future.

To protect Hawaii's unique biodiversity, we recommend that the Environmental Council urge the City and County of Honolulu to use native plants in the landscaping of newly built fire stations and the HFD Headquarters.



# Honolulu Parks and Recreation

As a participant in the Environmental Council's Annual Report for Information on Environmental Goals for the past four years, the Department of Parks and Recreation has been successful in addressing the recycling, conservation and enhancement recommendations.

In the recycling arena, the department developed a successful island-wide green waste recycling program that has resulted in nearly all tree trimmings and other green waste being converted into mulch.

Conservation recommendations have been addressed with major physical improvements being constructed and conservation management practices put in place to insure the sustainability of Hanauma Bay Nature Preserve. Our contributions to the enhancement recommendation include the many City beautification projects of public street landscaping improvements and the development of the Waipio Soccer Complex and Central Oahu Regional Park that represent 497 acres of new, landscaped and improved public parks.

We have not encountered any barriers or difficulties in carrying out these programs. There are no recommendations to the Governor by the Environmental Council that the department does not support and we have no recommendations to offer about how to facilitate or improve the progress for the future beyond what has already been recommended.



# Honolulu Transportation Services

In response to your September 23, 2004 letter, we have reviewed the Environmental Council recommendations to the Governor and the State Legislature discussed in the 1999 – 2003 Annual Reports and offer the following responses to your questions:

1. Please review the Environmental Council's recommendations of the past 5 years and list which recommendations your agency has successfully implemented or is in the process of implementing.

2003 Land Use Recommendation No. 9 - All land use plans (State & County) generated should include the following principles:

- a. Encourage infill development to take maximum advantage of existing infrastructure.
- b. Coordinate Capital Improvement Projects with new development. For example, major transportation corridors and schools should be improved or developed concurrently with a new subdivision.
- c. Encourage mixed use development with schools, shopping and parks within walking or bike-riding distance.
- d. Public facilities should be models of energy efficiency.
- e. Communities burdened with solid waste disposal facilities, electric generating facilities or sewage treatment facilities should be well compensated.

The Department of Transportation Services is continually coordinating with the Department of Planning and Permitting regarding the Transportation portion of the City's General Plan and land use plans.

2. Please list any difficulties or barriers that your agency has encountered in attempting to implement the recommendations.

The Department of Transportation Services is not the lead agency for developing land use plans for the City and County of Honolulu and therefore does not have the primary responsibility for these plans.

3. Please list the recommendations made by the Environmental Council that your agency does not support, and state your reasons for not supporting them.

None.

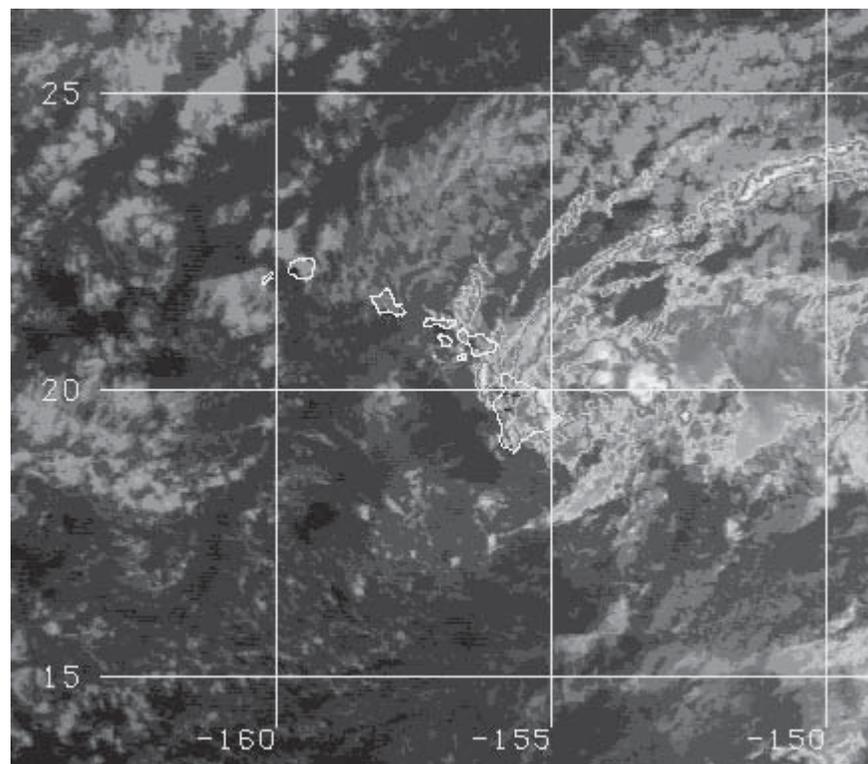
4. Please provide your recommendations about how to facilitate or improve the progress for the future.

None.



# Oahu Civil Defense Agency

After a review of your recommendations, the Oahu Civil Defense Agency has determined that none of the goals that we had established from 1999 to 2003 have had a direct impact on achieving your recommendations. However, we do recognize the importance of the recommendations made in the last 5 Annual Environmental Reports and fully endorse them. The focus of environmental goals established by this office has been on protecting the population and environment against the effects of hazardous material releases. We have been successful towards this end by studying and characterizing risks posed by hazardous chemicals on Oahu, and by working with the emergency response community and local businesses to minimize these risks. The accomplishment of our agency goals have in turn indirectly supported the 2001 recommendation to preserve Hawaii's biodiversity and the 2002 recommendation of protecting Hawaii's forest heritage.



# Maui Housing & Human Concerns

The following is a reply to the Environmental Council questionnaire regarding the Department of Housing and Human Concerns (DHHC) efforts towards achieving environmental protection goals.

## Improving Hawaii's Solid Waste Recycling Rate

The DHHC continues to encourage the inclusion of recycling and environmental protection information dissemination at non-profit organizations receiving county funding. Community agencies typically provide public recycling information and assist with front line recycling advocacy and education.

Ongoing countywide recycling activities are administered by the County of Maui, Department of Public Works and Environmental Management, Solid Waste Division. The DHHC supports the SWD in its ongoing activities but does not directly engage in all twelve solid waste and recycling recommendations specified by the Environmental Council.

## Climate Change and Human Health

The DHHC encourages the reduction of the gas emissions by supporting proposed reduction in auto use and a decrease in energy sector emissions. We support the Environmental Council's efforts to endorse the Kyoto Protocol in hopes of reducing Hawaii's greenhouse gas emissions by 7% less than 1990 emissions by 2008-2010.

## Preserving Hawaii's Biodiversity

The DHHC is aware of the continuing need for diligence in curtailing the invasion of alien plant, insect and animal species in Hawaii. Many county funded community education programs include cultural and environmental protection themes which highlight the importance of maintaining biodiversity. We support the EC's recommendations regarding prevention, control, education, ecosystem protection, and community action with regard to preserving Hawaii's biodiversity.

## Preserving Hawaiian Forests

Hawaiian forest areas offer unique opportunities for recreational, educational, and cultural exploration of Hawaii's rich environment. We agree with the need to increase public awareness of preserving island forests, as well as community support for proactive measures to identify and protect specific forest areas. Sustainable funding for such activities must include state and federal assistance. Of the twelve EC recommendations for forest management, the DHHC can continue to encourage public education and awareness of forest protection in concert with ocean, coastal and other island natural environments.

## Minimizing Population Growth Impacts

The myriad of effects of Hawaii's population growth on the environment will continue to increase in time. Area population growth in concert with the effects of agriculture and land development are constant factors having a profound impact on our island environment. The DHHC supports the EC's recommendations pursuant to Land Use and effective planning pursuant to energy consumption, waste minimization and disposal, natural resource conservation, etc. Each of the nine recommendations of the EC could be examined for application to county community plans. Conservation, recycling, education, and enforcement are key elements for the enhancement of existing efforts to address environmental issues and for gaining a clearer understanding of the dynamics for change needed for implementation of the Environmental Council's recommendations.

The County of Maui, Department of Housing and Human Concerns believes that environmental protection is an important responsibility of each citizen, community organization, business and government. We will continue to work toward achieving the environmental goals presented in the Environmental Council's recommendations.