

Hawai'i Environmental Report Card 2003

Environmental Council



Environmental Report Card 2003

ENVIRONMENTAL COUNCIL 2003

Michael Faye, Chair
Patricia Tummons, Vice-Chair
David Bylund
Faith Caplan
Melissa Chimera
Donn Fukuda
Gail Grabowsky
Shad Kane
D'Arcy Kerrigan
Victor Kimura
Arnold L. Lum
Puanani Rogers
Chester Saito
Brant Tanaka
Genevieve Salmonson, Ex-Officio Member



Linda Lingle
Governor
Chiyome L. Fukino, M.D.
Director of Health
Genevieve Salmonson
Director, Office of Environmental Quality Control
Michael Faye
Chair, Environmental Council



Table of Contents

ENVIRONMENTAL REPORT CARD, 2003

ENVIRONMENTAL COUNCIL, STATE OF HAWAII

Introduction

Recommendation to the Governor	7
OEQC's Report	11
Council's Report	12

Environmental Indicators

Population & Economy

State Population	14
Gross State Product	15

Forest and Natural Areas

Managed Forest Areas	16
Watershed Partnerships	17
Hawai'i Endangered Bird Conservation Program	18

Energy Use

Electric Utility Sales	19
Energy Used in Hawai'i	20
Estimated Greenhouse Gas Emissions	21
Fossil Fuel Imported into Hawai'i	22
Fossil Fuel Use in Hawai'i	22

Use and Recycling of Resources

Municipal Water Consumption	23
Wastewater Treatment and Reuse	24
Solid Waste Generation and Diversion	25
Hazardous Waste Generated	26

Biodiversity Maintenance

Status of Plant Species	27
Status of Native Animal Species	28
Health of Hawai'i Fisheries	29

Environmental Quality

Air Quality Comparison with Other Cities	30
Air Quality Measurements in Honolulu	30
Beaches Posted as Unsafe Due to Pollution	31
Oil and Chemical Spills	31
Safe Drinking Water	32
Statewide Land Use District Acreage	33

Public Awareness/Concern

Noise Complaints Received by the Health Department	36
Bikeway Miles	37
Number of Bus Boardings on O'ahu	38

Environmental Report Card

2003 Environmental Report Card	39
--------------------------------------	----

Agency Goals

Department of Accounting and General Services	46
Department of the Attorney General	46
Department of Business, Economic Development and Tourism	47
Department of Defense	47
Department of Education, Facilities and Support Services Branch	51
Department of Hawaiian Home Lands	51
Department of Health	52
Department of Land and Natural Resources (DLNR)	52
Department of Public Safety	55
Department of Transportation	56
City and County of Honolulu, Department of Environmental Services	58
City and County of Honolulu, Department of Parks and Recreation	58
City and County of Honolulu, Department of Transportation Services	59
City and County of Honolulu, Fire Department	60
City and County of Honolulu, O'ahu Civil Defense Agency	60
County of Hawai'i, Department of Parks and Recreation	61
County of Hawaii, Department of Public Works	62
County of Hawaii, Department of Water Supply	62
County of Kaua'i, Department of Planning	62
County of Kaua'i, Department of Water	63
County of Kaua'i, Office of Economic Development	63
County of Maui, Department of Housing and Human Concerns	64

Introduction

This Annual Report

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

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

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

The Environmental Council

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

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

The Office of Environmental Quality Control

The Office of Environmental Quality Control (OEQC) was established in 1970 to help stimulate, expand and coordinate efforts to maintain the optimum quality of the State's environment. OEQC implements the Environmental Impact Statement law, HRS Chapter 343. Office planners review and comment on hundreds of environmental disclosure documents each year. Twice a month the OEQC publishes *The Environmental Notice*. This bulletin informs the public of all the projects being proposed in the State that are subject to public review and comment. At the request of the governor, the Director of the OEQC is empowered to coordinate and direct State agencies in matters concerning environmental quality.

Acknowledgements

The Environmental Council would like to thank the following individuals for their assistance in compiling this report.

Steven Alber
Nancy Heinrich
Kay Kaminaka
Douglas Oshiro
Maile Sakamoto
Leslie Segundo
Jeyan Thirugnanam

Recommendation to the Governor

Minimizing Population Growth Impacts on Environmental and Cultural Resources

All life forms alter their surroundings, and humans are no exception. However, making value judgments about whether our alterations are good things or not, and changing our course so that we create better effects, is a uniquely human ability.

In 1804 human global population finally reached one billion. By 1927, 123 years later, human population had grown to two billion. By 1974, just 47 years after 1927, human population had added two more billion people and doubled again, reaching four billion. The human population is 6.3+ billion today and growing. The United Nations estimates that global population will reach a minimum of 9 billion. Hawaii's post-contact population history parallels that of the Planet's. In 1850, Hawaii's population was 84,165. By 1900 it had nearly doubled to 154,001. In 1950 it had more than doubled again to 499,794. Today it has doubled yet again to well over 1,000,000 (Oliver, 1995).

To date, whenever population grows, the degree to which we alter our surroundings increases. We farm or develop more land, we need more infrastructure to handle the increased size of the human population, we extract more resources, require more resources and we generate more waste. In addition, in most places, as in Hawaii, as we grow we also develop economically. Development is always coupled with greater per capita resource use and waste generation. Today, with many places growing and developing, human alteration of the Earth is substantial and growing (Vitousek et al., 1997).

In Hawaii, as elsewhere, we have altered our surroundings in all kinds of ways. We have cleared, and continue to clear, natural ecosystems to create agricultural lands and our built environment. We have brought some 4,600 foreign species of vascular plants to the islands, 700 of which now reproduce in the wild (Smith, 1985). We now have at least 30 alien species of marine organisms inhabiting parts of our coastal ecosystems (Eldredge & Smith, 2001). According to the US Environmental Protection Agency and the Hawaii State Department of Health, 81 Hawaiian streams and 30 coastal areas currently show evidence of impairment by pollutants (Henderson and Harrigan, 2002). Seventy-two percent of all of the extinctions ever recorded in the United States were Hawaiian species, earning Hawaii the title of: "extinction capital of the United States."

Hawaii is such an incredible place. Home to an indigenous culture that highly values its relationship to the land and realizes the need to nurture our environment if we expect it to nurture us back. Hawaii is blessed with more natural beauty than perhaps anywhere else. Hawaii is

situated in an amazing and remote geographical location. Hawaii is home to a greater percentage of unique plants and animals than anywhere else on Earth. Hawaii's blue ocean has inspired legendary singers, Hawaii's unique native koa trees provide the material for legendary sailing canoes.

Today, Hawaii is a one-of-kind assemblage of wonderfully diverse peoples unconsciously shaping our own unique worldview and home. In shaping our future we need to be very conscious of the fact that we do effect our surroundings and will continue to do so as population grows and Hawaii develops. We need to realize also that when we alter our surroundings we alter our own quality of life, and since we are the one species that can: (1) understand much of how we are altering our surroundings, (2) decide which of those effects are desirable, and (3) plan our future so that our effects become those that we deem good and healthy, *we should consider ourselves obligated to design and carry out a future in which the effect of growth and development are desirable.*

In order to create the most desirable, uniquely Hawaiian future, we need to continue and strengthen the dialogue to define just who and what we are, what we value and what we want for our collective future. We need to draw from our indigenous host culture. We need to draw from all the wisdom of each of the other peoples that now call Hawaii home. We need to empower our ideas so that they become our future and not just our vision. Because we are fairly well enlightened as to the nature and quality of our past effect on Hawaii, we are now obligated to create a future that is unique and fitting for our unique home and one that we know is good and results in a better quality of life for everyone. In a nutshell, we need to create a future with effects we will be proud of.

Initial Steps to Minimize Population Growth Impacts

LAND USE

1. The state and county governments should collaborate to rethink land use planning in Hawai'i.

2. The State should prepare a State Master Plan identifying State and federal land use constraints and resources, outlining the State's (and Department of Defense) goals and objectives for managing factors that impact the quality of life for residents in the State of Hawai'i including the following:

- population surges due to increased military presence and cruises,
- energy consumption,
- waste minimization and disposal;
- natural resource conservation,

Recommendation to the Governor

economic goals,
transportation goals,
agricultural goals,
education goals,
cultural heritage goals.

3. Counties should prepare comprehensive community-driven plans that are consistent with the State's Master Plan goals and objectives. The State should dictate the methodology, format and outline of the County plans to ensure all elements are adequately addressed by all Counties. The plans would be subject to State approval and updated at regular intervals.

4. All zoning issues should be addressed at the County level in accordance with land use plans.

5. Redefine State land use Agricultural districts or add another land use designation to distinguish existing Agricultural lands that are prime or important farm or grazing land from lands that are valued by the community as regions (not just pockets) of open space or scenic vistas.

6. The County land use designations should be the same as the State's and have the same definition. Counties would have zoning authority within the land use designations.

7. The state should include language in leases and subleases that dictate best management practices be employed to ensure activities are environmentally and culturally sound.

8. Develop of system for transfer of development rights among counties.

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.

CONSERVE, RECYCLE, ENHANCE

1. Pass legislation to promote sustainability in design, construction and operation of facilities.

a. Require that new construction and renovation of state facilities be certified by the US Green Building Council with a LEED (Leadership in Energy and Environmental Design) Silver rating.

b. Provide incentives that new private construction and renovation meet the requirements of the US Green Building Council's LEED (Leadership in Energy and Environmental Design) Silver rating.

2. Pass legislation to promote sustainable use of resources in design, construction and operation of facilities and in delivery of services; include requirements for public facilities and services; include incentives for private facilities and services.

a. Land and sites

i. Strongly promote use of indigenous or endemic plants that are appropriate for the local microclimate as primary landscaping and in reforestation.

ii. In rural areas, reduce security lighting requirements.

iii. Eliminate light spillage into the sky and beyond the boundaries of the parcel in which a facility is located.

iv. Allow no net increase in the rate and quantity of stormwater runoff from existing to developed conditions.

v. Design solutions that reduce heat islands, such as high-albedo roofs and impervious paving, green roofs, and landscape design.

b. Water

i. Promote legislation to encourage the use of gray-water for irrigation and non-potable uses.

ii. Provide incentives to reduce water consumption by 20% from current standard usage for the facility type.

c. Energy

i. Expand tax credits for solar, wind and other alternative energy systems for consumers and businesses.

ii. Disallow Covenants, Conditions & Restrictions (CC&R's) that restrict external solar devices, such as solar panels, and clotheslines.

Recommendation to the Governor

iii. Provide tax incentives for fuel efficient vehicles, such as hybrid-engine vehicles and vehicles that achieve over 35 mpg

iv. Promote mechanical and electrical system commissioning. (Commissioning is a systematic process of ensuring by verification and documentation, from the design phase to a minimum of one year after construction, that all building facility systems perform interactively in accordance with the design documentation and intent, and in accordance with the owner's operational needs, including training of operating personnel.)

v. Provide incentives to reduce energy usage by 30% from the current standard usage for the facility type.

vi. Promote maximal use of daylight in buildings in order to reduce energy usage for artificial lighting, and to promote a healthy productive environment for occupants.

d. Materials

i. Enact a vehicle recycle fee upon first sale or entry into the State.

ii. Use the 'Bottle Bill' as a model for other easily recyclable goods.

1. Vehicles and vehicle parts

2. Paper and newspaper

3. Packaging materials

iii. Provide greater incentives for the use of recyclable and recycled products in building construction, renovation and operation.

1. Develop and maintain a publicly accessible database of recycled products available in Hawaii, along with contact information for suppliers.

2. Eliminate demurrage charges for recyclables headed out of state

3. State purchase recycled materials such as glass for use in asphalt concrete, and promote asphalt recovery and reuse.

4. Require that design proposals and construction contracts include summary and details of use of recycled, recyclable and salvaged materials and products. Strengthen existing requirements that address use of recycled materials.

5. Demolition: Simple language in demolition contracts stating "demolish *or* remove" would allow many buildings to be recycled, instead of hauled to landfills.

6. Provide incentives for private and public facilities to sort dry waste on-site, and to facilitate recycling of the sorted dry waste.

iv. Promote diversion of a minimum of 75% of construction and demolition waste from landfill to recycling and salvaging; provide incentives for the establishment of businesses that provide recycling, deconstruction and salvaging services.

3. Eliminate the Department of Education's exemption from historic preservation reviews.

4. Establish mechanisms to monitor and control introduction of alien species into Hawaii, similar to screening already in place for controlling movement of species from Hawaii to the US mainland; establish a plant-rating system, based on plant behavior and characteristics elsewhere, whose purpose is a foundation for evaluating the risk posed by newly introduced plant species.

5. Promote Hawaiian cultural programs, events, and facilities on state land.

6. Support the continued development of the Cultural Informant program, through which individuals with intimate knowledge of local conditions are consulted during the cultural assessment of a proposed project.

EDUCATION

1. The state should prepare GIS maps with overlays of cultural sites and environmental resources.

2. The state should establish programs to share cultural perspectives with decision makers.

3. The state should support school curriculum (especially in the earlier years) that promote the understanding of our host culture.

4. The state and counties should increase education programs that promote recycling, water conservation, and good land use practices.

5. The state should organize annual conferences on population growth and impact issues.

6. Persons knowledgeable about environmental and cultural issues should be appointed to boards and commissions.

Recommendation to the Governor

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..

2. The state and counties must require environmental assessments for leases involving more than 10 acres of state or county lands.

3. Permitting agencies must include mitigation measures in environmental assessments as part of permit conditions and monitor the project construction for compliance.

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

5. Government agencies should raise public awareness of existing environmental laws, rules and permit processes to maximize compliance. Example of regulations and permits that should be publicized are:

- Grubbing, grading and stockpiling permit
- Individual wastewater system permit
- Shoreline setback variance
- Special Management Area Use permit
- Special permit in the Agricultural District
- Special district permits
- Well permit
- Public access near beaches and mountain areas
- Permit for work in ocean areas
- Natural Area Reserves permit
- Conservation District permit
- National Pollutant Discharge Elimination System
- Endangered Species Act
- Instream uses of water permit
- Historic site review
- Permit to discharge effluent
- Construction dewatering permit
- Environmental assessments

6. Government agencies should continue to post appropriate signs to educate citizens about environmental issues. The “Do not dump-goes to ocean” and fish symbol markings near storm drains is a good example of an effective signage program.

References:

Vitousek, P.M. 1988. Diversity and Biological Invasions of Oceanic Islands. Pp. 181-189 in Biodiversity. National Academy Press, Washington D.C.

Vitousek, P.M., H.A. Mooney, J. Lubchenco and L.M. Mellilo. 1997. Human Domination of Earth’s Ecosystems. *Science* pp. 494-499.

Oliver, A.M. 1995. Hawaii Fact & Reference Book. Mutual Publishing, Honolulu, Hawaii. 274 pp.

Smith, C.W. 1985. Impact of alien plants on Hawaii’s native biota. Pp. 180-250 in Hawaii’s Terrestrial Ecosystems: Preservation and Management. Cooperative National Park Resources Study Unit, University of Hawaii, Honolulu.

Eldredge, L.G. and C.M. Smith. 2001. A Guidebook of Introduced Marine Species in Hawaii. Bishop Museum Technical Report 21.

Henderson, K. and J. Harrigan. 2002. Final 2002 List of Impaired Waters in Hawaii Prepared Under Clean Water Act §303(d). Hawaii State Department of Health, Environmental Planning Office.

OEQC's Report

Director's Report

Hawai'i is a state with rich scenic beauty and abundant natural resources in which we are privileged to live in. Hawai'i's environmental assets have drawn people to the state, driven the development of our tourist industry, diversified our agricultural industry, and lured retirees to live in paradise.

The stresses of continuing population growth and economic expansion challenge our ability to protect public health and environmental quality. The Office of Environmental Quality Control has spent the year 2003 pursuing creative endeavors to find a fair balance between economic progress and environmental protection.

1. We conducted a total of 25 workshops and training sessions on the environmental review process to strengthen understanding of the system

2. We improved our website with more than 350 attached urls and up to 47,000 hits per month

3. We prepared and distributed 1000 copies of the Hawaii Environmental Education Resource Guide to local schools

We are committed to increase our efforts to protect Hawaii's environment for the future of Hawaii.

At this time, I welcome the new members of the Environmental Council, David Bylund, D'Arcy Kerrigan, Victor Kimura, Chester Saito and Brant Tanaka and look forward to working with them.

I would like to thank my staff, Jeyan Thirugnanam, Les Segundo, Nancy Heinrich and Kay Kaminaka, for their unselfish dedication. We will continue to assist in the protection of the state's environment for the benefit of the people of Hawai'i.

Genevieve Salmonson

Environmental Impact Assessments Submitted to OEQC

Type of Notice	1996	1997	1998	1999	2000	2001	2002
Draft EA	164	142	159	137	132	129	123
FONSI	142	142	144	133	124	130	100
EISPN	9	12	15	11	6	15	10
Draft EIS	13	7	14	11	12	9	7
Final EIS	12	13	10	11	9	4	14
Total	340	316	342	303	283	287	254

A Message from the Chair

This year the Environmental Council visits mitigating impacts of increasing population in Hawai'i as our theme for recommendations to the Governor. We encourage you to take a look at our recommendations of past years, as they cover equally important subjects in more specific detail. We are pleased to see new legislation addressing some of these issues.

Some people feel that an increasing population is good – it brings more jobs, opportunity, and profit. It fuels the economic engine of our community. To others, increasing population brings more traffic, a dilution of the islands' culture, impingement of native rights, and urban sprawl. It is the destruction of the culture and environment.

The Environmental Council believes that a balance between these two views is not difficult to achieve. Few deny wanting a clean and unique environment, or, perpetuation of the 'aloha' spirit.

Our recommendations this year are based on respect, integrity, and, discipline.

Respect, means understanding what we have. Look and learn what is special, how actions and decisions will affect the culture and the environment.

Integrity, means believing in what we understand. It means **vigorously complying** with the letter, and the spirit, of laws and policies that protect and enhance our environment and culture. And there are many good laws and policies already on the books that just need to be followed, vigorously.

Discipline, means **strict enforcement** of these laws and policies.

Let's grow wisely.

Aloha,

Michael A Faye
Chair



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

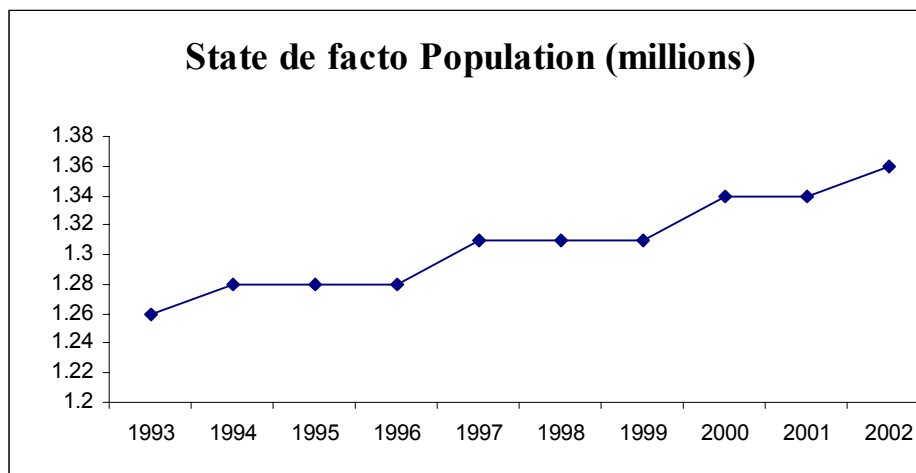
Population

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.

Hawai'i *de facto* population

Year	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
State <i>de facto</i> Population (million)	1.26	1.28	1.28	1.28	1.31	1.31	1.31	1.34	1.34	1.36



Source: State of Hawai'i Data Book 2002.

Note: The vertical axis does not begin with zero.

Environmental Indicators

Economy

Gross State Product

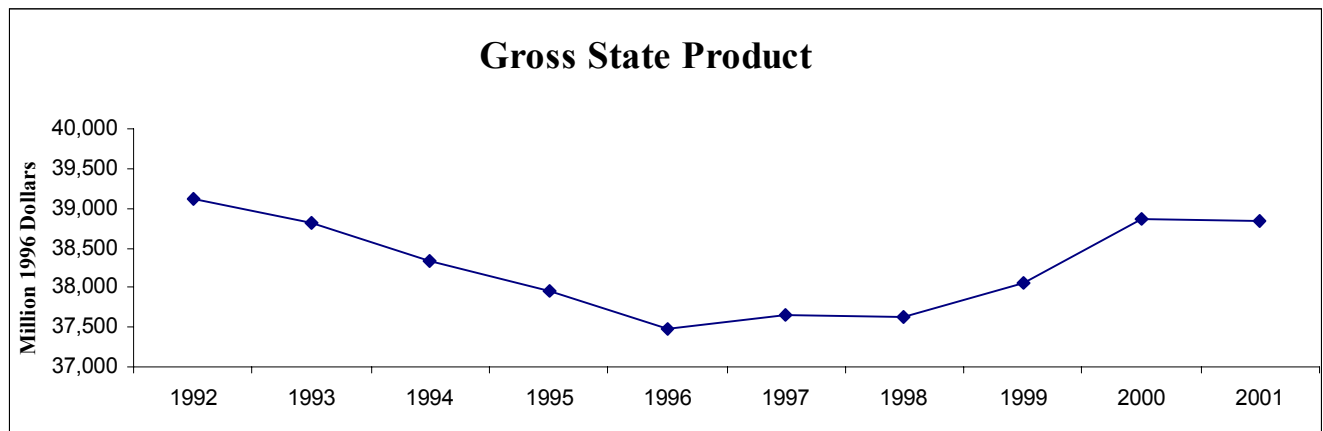
The stress of economic expansion presents challenges to the environment. More economic activity means more imported oil, more wastes, more energy use, more traffic. The GSP is the market value of the goods and services produced by a state and is the state counterpart of the nation's gross domestic product.

Gross State Product

Year	GSP in millions of 1996 dollars
1992	39,120
1993	38,809
1994	38,332
1995	37,948
1996	37,490
1997	37,668
1998	37,622
1999	38,047
2000	38,860
2001	38,839

Source: State of Hawai'i Data Book 2002.

Note: The vertical axis does not begin with zero.



Environmental Indicators

Forest and Natural Areas

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

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

Source: State of Hawai'i Data Book 2002.

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.

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
Governance Board
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

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

Environmental Indicators

Energy Use

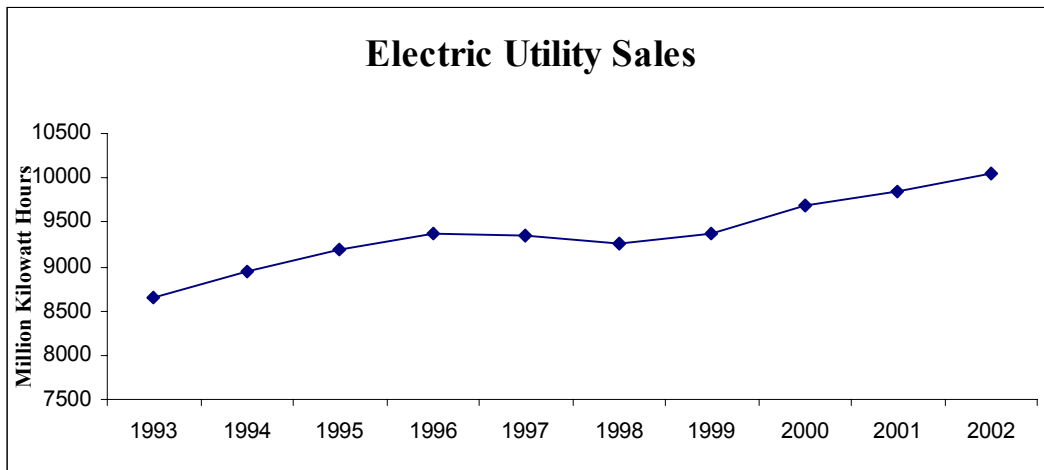
Electric Utility Sales

The table below depicts the growth in electricity sales in Hawai'i. It should be noted that, in 2000, electric utility sales accounted for 95% of all electricity generation in Hawai'i. Hawai'i's electric utility sales generated 59.6% of total electricity generation, while independent power producers (IPP) and the sugar industry produced the remaining 40.4%. The IPPs and sugar mills sold 88% of their generation to the utilities (35.4% of total generation), and used 12% in their own operations (5% of total generation). Transmission losses accounted for the remaining 5.2% of total generation.

Hawai'i Electric Utility Sales

Year	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
State Utility Sales (Million kWh)	8,658	8,948	9,187	9,378	9,346	9,261	9,380	9,690	9,854	10,049

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

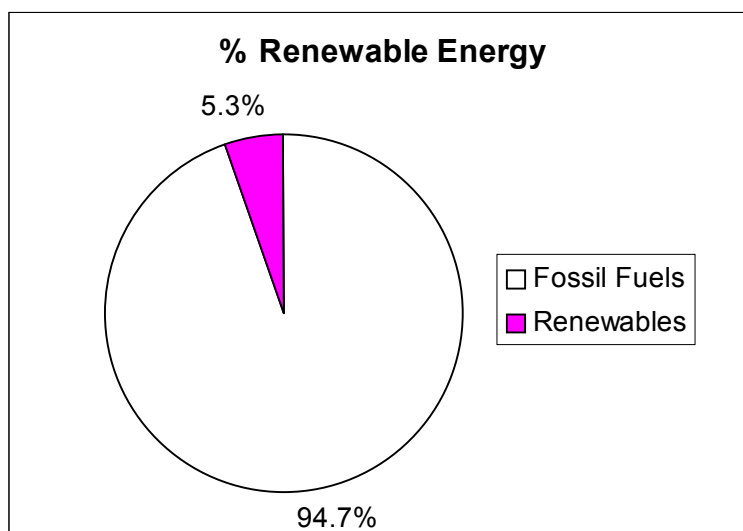
Energy Used in Hawai'i

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

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

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



Environmental Indicators

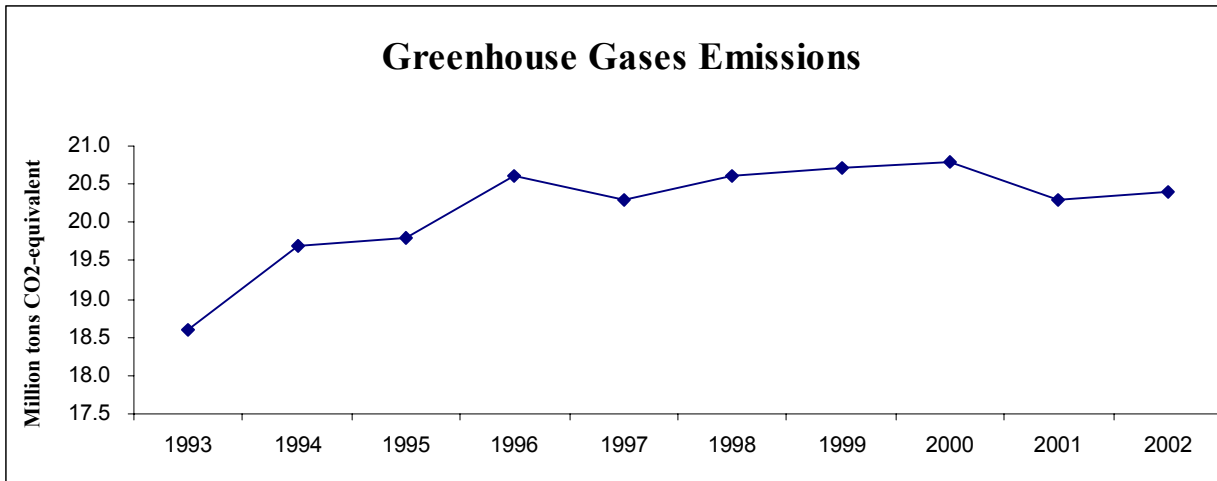
Estimated Greenhouse Gas Emissions

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

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Greenhouse Gasses (Millions of Tons Carbon Dioxide Equivalent)	18.6	19.7	19.8	20.6	20.3	20.6	20.7	20.8	20.3	20.4

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

Type of Imported Fuel	1994	1995	1996	1997	1998	1999	2000	2001	2002
Crude Oil	323.9	298.2	301.9	296.4	299.6	272.5	289.4	300.8	282.3
Refined Oil Products	10.6	13.7	31.3	37.3	39.3	49.6	58.7	25.5	17.7
Coal	14.2	16.5	16.1	16.8	14.8	14.5	15.7	15.8	17.1
Total	348.7	328.4	349.3	350.5	353.7	336.6	363.8	342.1	317.1

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

Sector	1994	1995	1996	1997	1998	1999	2000	2001	2002
Electricity Production (Oil)	82.2	78.6	84.2	83.2	85.6	87.2	91.8	87.2	87.0
Electricity Production (Coal)	13.6	16.5	16.9	16.8	14.8	14.5	15.5	15.8	17.1
Transportation - Ground & Water (Oil)	81.5	82.1	75.9	74.0	78.8	75.9	76.6	73.1	79.7
Transportation - Air (Oil)	90.0	96.5	102.4	102.7	93.3	92.3	102.7	92.8	86.0
Other Sectors (Oil)	17.7	9.3	15.1	18.4	11.5	17.1	19.1	20.7	19.1
Total	285.0	283.0	294.5	295.1	284.0	287.0	305.7	289.6	288.9

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.

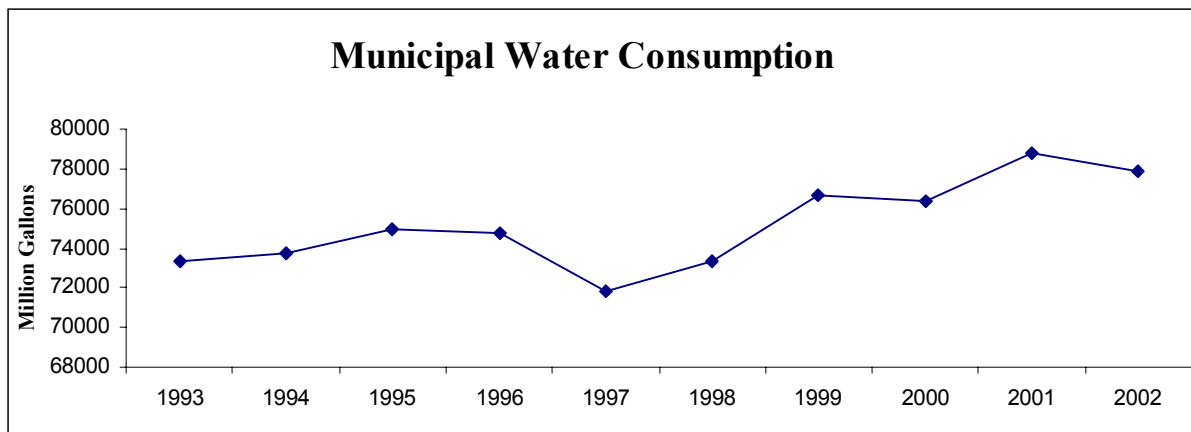
Municipal Water Consumption by County (in millions of gallons)

Fiscal Year	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Honolulu	51,033	50,407	51,006	50,682	48,624	49,265	51,614	51,020	52,608	52,405
Kauai	4,056	4,149	4,114	4,206	3,944	4,148	4,373	4,309	4,631	4,226
Hawaii	7,937	7,999	8,378	8,363	7,804	8,159	8,097	8,353	8,676	8,925
Maui	10,312	11,177	11,494	11,477	11,438	11,729	12,547	12,719	12,833	12,312
Total (MG)	73,338	73,732	74,992	74,728	71,810	73,301	76,631	76,401	78,748	77,868

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.

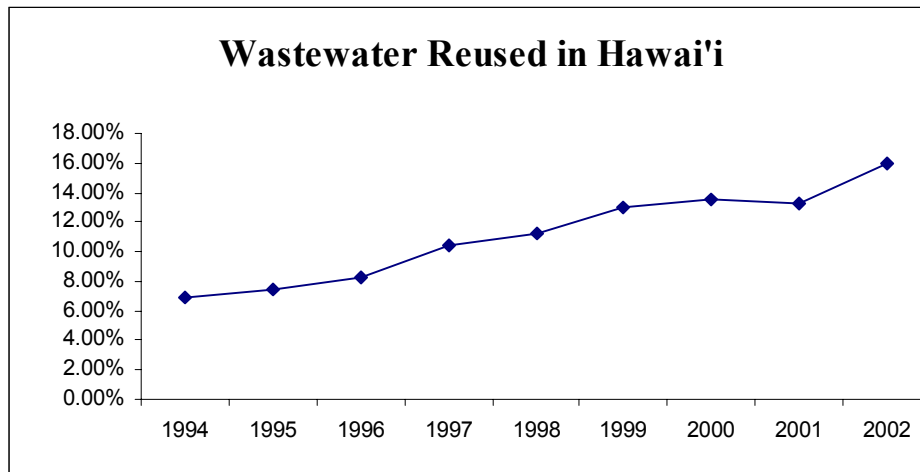
The table below shows the rate wastewater was treated and reused in millions of gallons per day (MGD).

Total Statewide Wastewater Treatment and Reuse

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

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.

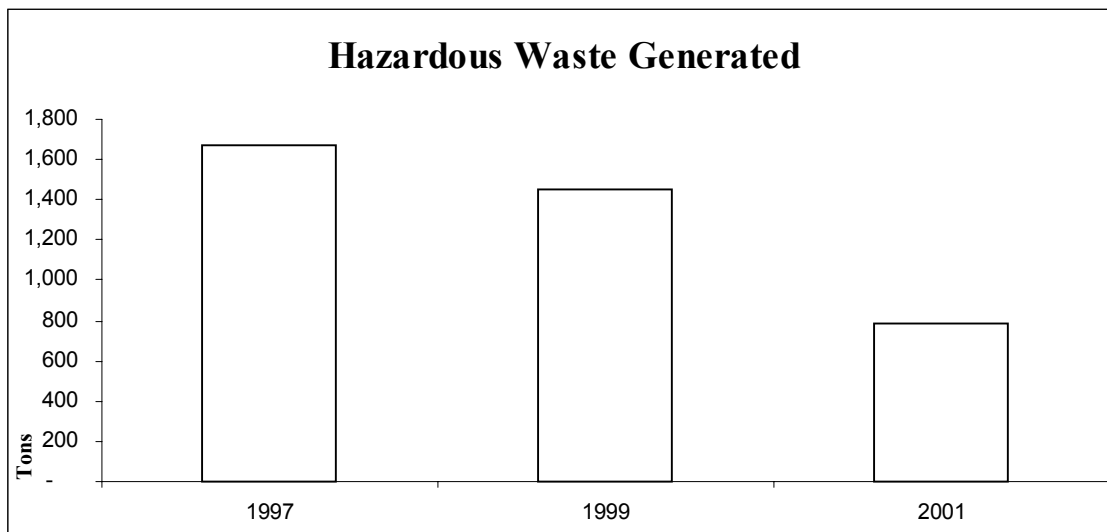
Total Hazardous Waste Generated by Large Quantity Generators in Hawai'i

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

Status of Plant Species

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

The table below shows the number of rare native plant species in Hawai'i.

Number of Plant Species in Hawai'i by Status

Year	Listed Endangered or Threatened	Proposed Endangered or Threatened	Candidate for Endangered or Threatened Listing	Species of Concern	Total Rare Plant Species
1999	292	0	92	204	588
2000	292	0	92	204	588
2001	292	0	92	204	588

Source: U.S. Fish and Wildlife Service.



Environmental Indicators

Status of Native Animal Species

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

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

Status of Animal Species

Number of Species	Mammals			Birds			Turtles			Fishes		
	1999	2000	2001	1999	2000	2001	1999	2000	2001	1999	2000	2001
Total Native Species	4	4	4	93	93	93	5	5	5	22	22	22
Extinct Species	0	0	0	26	26	26	0	0	0	0	0	0
Listed Endangered	4	4	4	31	33	33	2	2	2	0	0	0
Listed Threatened	0	0	0	1	1	1	3	3	3	0	0	0
Proposed for Listing	0	0	0	1	0	0	0	0	0	0	0	0
Candidate Species	0	0	0	2	2	2	0	0	0	0	0	0
Species of Concern	0	0	0	4	4	4	0	0	0	0	1	1

Source: U.S. Fish and Wildlife Service

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



Environmental Indicators

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

Bottomfish	Spawning Potential Ratio (in percent)													
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Ehu	9	17	12	7	4	5	6	7	3	8	4	7	4	11
Hapu'upu'u	52	58	37	34	37	26	33	21	15	23	16	27	24	28
Onaga	21	15	14	9	10	13	9	6	4	5	5	6	6	3
Opakapaka	37	58	42	39	44	32	37	35	25	32	24	28	33	30
Uku	64	55	30	26	28	46	37	40	35	29	29	47	33	27

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

Bottomfish	Spawning Potential Ratio (in percent)													
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Ehu	37	51	44	44	51	54	38	41	43	42	38	37	39	39
Hapu'upu'u	56	70	57	58	67	65	51	48	49	49	44	47	49	48
Onaga	42	38	36	42	41	53	39	33	39	25	22	34	27	25
Opakapaka	49	69	57	57	68	67	53	54	52	52	47	46	52	48
Uku	62	68	52	53	61	73	52	56	57	51	50	55	52	49

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

	# of Monitoring Sites	1982	1993	1994	1995	1996	1997	1998	1999	2000	2001
Honolulu	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

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

Source: Hawai'i Department of Health.

Notes: PM₁₀, SO₂ 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

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

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 following table shows the number of oil and chemical spills in Hawai'i.

Oil and Chemical Spills in Hawai'i

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

Source: Hawai'i Department of Health.

Environmental Indicators

Safe Drinking Water

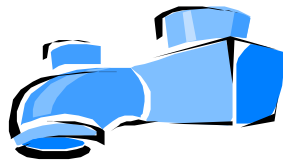
Fresh water is a precious resource. Pesticides, fertilizers, oils and chemicals that we apply to the ground eventually seep into our drinking water aquifers. We must protect our drinking water supplies from contamination, or spend millions of dollars for treatment.

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	Percentage Population Served Water Below MCLs
1994	95.0%
1995	98.0%
1996	99.5%
1997	98.2%
1998	99.8%
1999	99.7%
2000	98.8%
2001	100.0%

Source: Hawai'i Department of Health.



Environmental Indicators

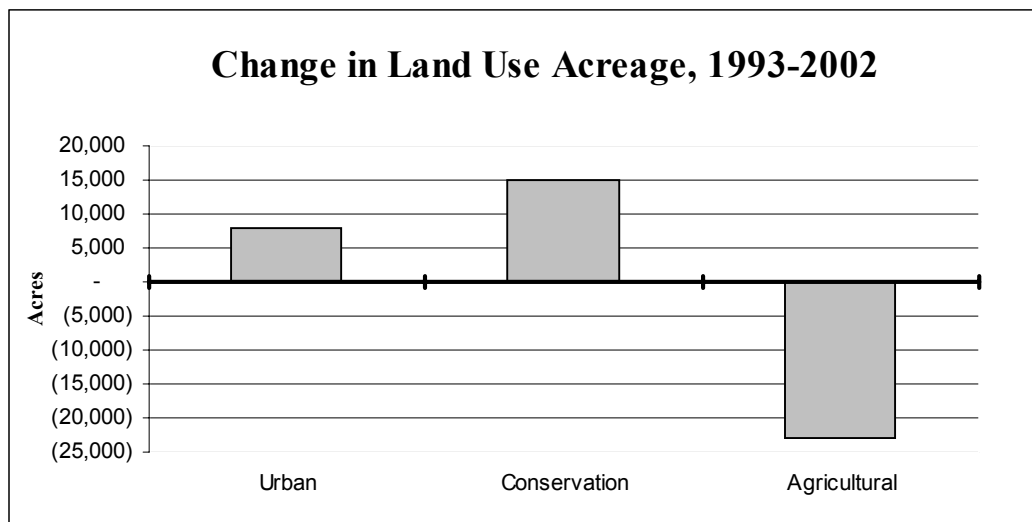
Statewide Land Use District Acreage

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

Year	Land Area in Thousand Acres			
	Urban	Conservation	Agricultural	Rural
1993	188	1,959	1,956	10
1994	189	1,975	1,939	10
1995	190	1,976	1,936	10
1996	192	1,975	1,936	10
1997	192	1,975	1,935	10
1998	193	1,975	1,934	10
1999	195	1,975	1,933	10
2000	193	1,976	1,933	10
2001	195	1,974	1,934	10
2002	195	1,974	1,933	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).

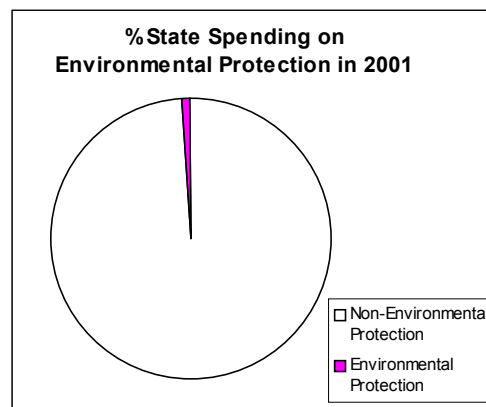
More funding to promote the goals of Hawai'i's environmental programs will result in better overall state environmental quality. The portion of expenditures for environmental protection reflects the priority given to environmental programs relative to other functions.

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

Fiscal Year	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
State Expenditures (million \$)	4,320	4,953	5,092	4,906	5,338	5,393	5,315	5,538	6,175	6,710
Environmental Expenditures (millions \$)	26	27	30	61	45	60	69	69	51	64
Environmental Spending as % of State Expenditures	0.61%	0.55%	0.59%	1.25%	0.85%	1.10%	1.30%	1.24%	0.83%	0.95%

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.



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

Year	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Number of Motor Vehicles (in thousands)	880	875	878	885	884	893	907	941	967	988
State de facto Pop. (million)	1.26	1.26	1.28	1.28	1.28	1.31	1.31	1.34	1.34	1.36
Vehicles per Person	0.70	0.69	0.69	0.69	0.69	0.68	0.69	0.70	0.72	0.73

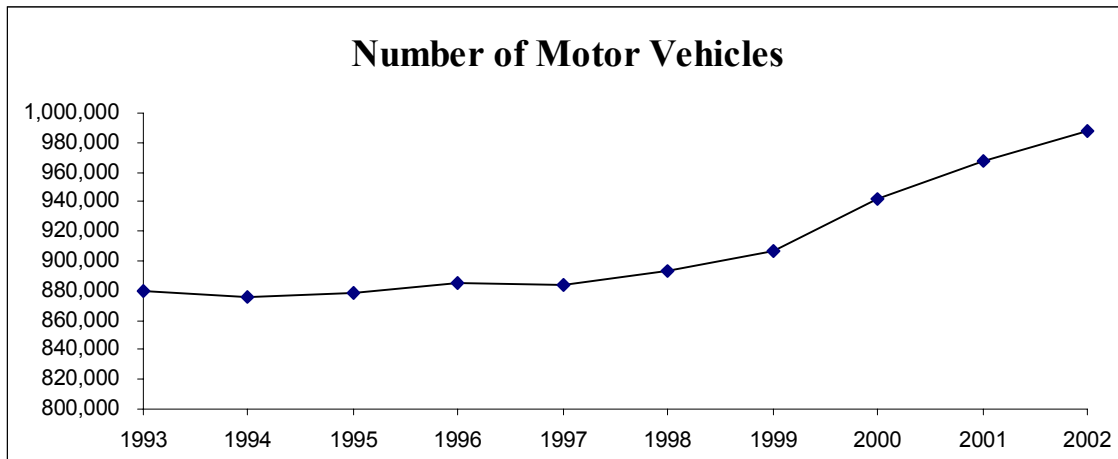
Source: Statewide data provided by the City and County of Honolulu, Department of Finance, Motor Vehicles and Licensing Division.

Note: i) Carbon monoxide is a colorless, odorless and tasteless gas.

ii) Ozone is a poisonous form of pure oxygen. It is pungent smelling and faintly bluish.

iii) De facto population obtained from State Data Book.

Note: The vertical axis does not begin with zero.



Environmental Indicators

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

Type of Complaint	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Agricultural	2	1	3	1	0	0	0	6	8	0
Aircraft	9	12	11	5	6	0	1	3	1	0
Commercial	0	21	6	3	13	4	13	8	11	11
Construction	164	157	142	140	112	146	106	250	231	193
Industrial	19	6	2	3	7	9	2	9	14	14
Miscellaneous	22	17	12	12	14	18	12	14	10	7
Refuse Collection	36	41	35	41	68	43	33	30	35	23
Stationary	85	93	112	109	104	75	93	97	96	106
Unknown	10	4	13	8	8	13	11	8	7	8
Animal	34	22	24	16	14	12	8	14	14	8
Hobby	3	8	9	9	12	4	6	10	9	13
Maintenance	37	29	37	27	21	25	20	17	19	22
People	23	16	12	13	13	5	8	2	7	4
Sound Production	93	62	48	40	45	51	47	42	44	35
Vehicular	26	20	21	30	24	22	12	26	17	11
Total	563	509	487	457	461	427	372	536	523	455
State <i>de facto</i> Population (Million)	1.26	1.28	1.28	1.28	1.31	1.31	1.31	1.34	1.34	1.36
Noise Complaints per Hundred Thousand People	45	40	38	36	35	33	28	40	39	33

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.

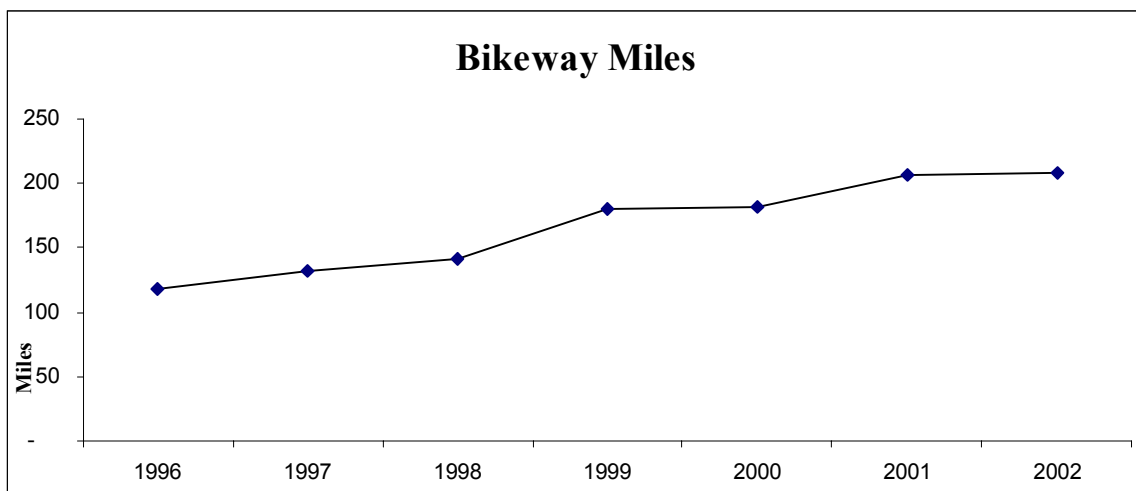
Miles of Bikeways in Hawai'i

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
Statewide	87.0	118.1	132.0	140.9	179.7	181.1	206.8	208.0

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

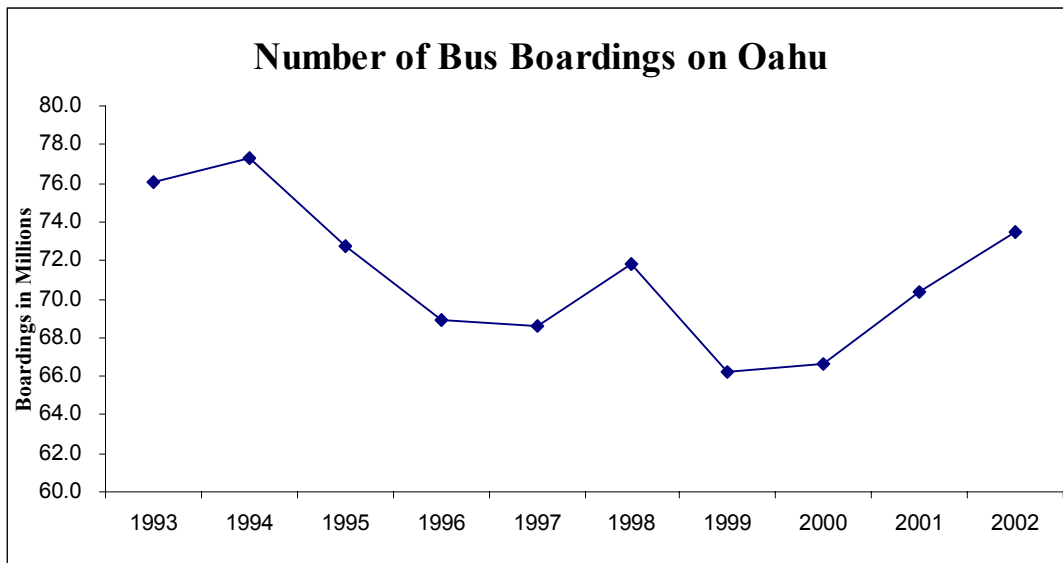
Year	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Total Number of Bus Boardings (in millions)	76.1	77.3	72.7	68.9	68.6	71.8	66.2	66.6	70.4	73.5

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

2003 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.

Environmental Report Card	2001	2002	2003
Energy Use	D	C-	D
Use & Recycling of Resources	C	C	C+
Biodiversity Maintenance	D	D-	D-
Air Quality	A+	A+	A+
Water Quality	A-	A-	A-
Terrestrial Quality	B	B	B
Public Awareness & Concern	C	C-	C
Overall Grade	C+	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:

- a) The assessment is based on a sample of 20 environmental indicators. This small sample is not a full representation of Hawai'i's environment.
- b) 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.
- c) The relative importance value to compute the weighted averages for the categories and total index is also subjective based on the Council's beliefs.

This is the 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	0.0	5.3	25.0	21	D-
Greenhouse gas emissions in million tons	23.0	20.4	15.7	36	D+
Water Consumption in Million Gallons	100,000	77,868	50,000	44	C-
% of Treated Wastewater Reused	0	16	25	64	B-
Daily per capita Waste Generated in pounds	10.8	6.9	3.6	54	C
% of Waste Diverted	0	25	75	33	D
Hazardous Waste Generated in Tons	3,000	781	500	89	A
Number of Rare Native Plant Species	1000	588	0	41	C-
Main HI Islands Onaga Spawning Potential Rate	0	3	50	6	F
Particulate Levels as a % of Federal standards	100	30	75	100	A+
Number of Unhealthy Air Days	1	0	0	100	A+
Days Beaches Posted Unsafe	100	36	0	64	B-
% of Population Served Water Below MCLs	90	100	100	100	A+
Conservation Land Area in million acres	1.03	1.97	2.25	77	B+
Number of Oil and Chemical Spills	1000	442	100	62	B-
% of State Funding for Environment	0	0.95	2.50	38	D+
Number of Motor Vehicles per capita	1	0.73	0.33	40	C-
Noise Complaints per 100,000 People	100	33	10	74	B
Bikeway Miles	0	208	1309	16	F
Annual TheBus Boardings in millions	0	74	124	59	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%	29	D	15%	60	B-																																																																																				
	Greenhouse Gas Emissions	36	50%						Use & Recycling of Resources	Water Consumption in Million Gallons	44	20%	57	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	Number of Abundant Native Plant Species	41	50%	24	D-	10%			Onaga Spawning Potential Rate	6	50%	Air Quality	Particulate Levels as % of National Standard	100	50%	100	A+	15%			Number of Unhealthy Air days	100	50%	Water Quality	Days Beaches Posted Unsafe	64	50%	82	A-	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	62	50%	Public Awareness & Concern	% of State Funding for Environment	38	20%	45	C	15%			Number of Motor Vehicles per capita	40	20%	Noise Complaints per 100,000 People	74	20%
Use & Recycling of Resources	Water Consumption in Million Gallons	44	20%	57	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	Number of Abundant Native Plant Species	41	50%	24	D-	10%																																																																																						
	Onaga Spawning Potential Rate	6	50%						Air Quality	Particulate Levels as % of National Standard	100	50%	100	A+	15%			Number of Unhealthy Air days	100	50%	Water Quality	Days Beaches Posted Unsafe	64	50%	82	A-	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	62	50%	Public Awareness & Concern	% of State Funding for Environment	38	20%	45	C	15%			Number of Motor Vehicles per capita	40	20%	Noise Complaints per 100,000 People	74	20%	Bikeway Miles	16	20%	Annual TheBus Boardings in millions	59	20%																											
Air Quality	Particulate Levels as % of National Standard	100	50%	100	A+	15%																																																																																						
	Number of Unhealthy Air days	100	50%						Water Quality	Days Beaches Posted Unsafe	64	50%	82	A-	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	62	50%	Public Awareness & Concern	% of State Funding for Environment	38	20%	45	C	15%			Number of Motor Vehicles per capita	40	20%		Noise Complaints per 100,000 People	74	20%						Bikeway Miles	16	20%	Annual TheBus Boardings in millions	59	20%																																	
Water Quality	Days Beaches Posted Unsafe	64	50%	82	A-	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	62	50%	Public Awareness & Concern	% of State Funding for Environment	38	20%	45	C	15%			Number of Motor Vehicles per capita	40	20%		Noise Complaints per 100,000 People	74	20%						Bikeway Miles	16	20%		Annual TheBus Boardings in millions	59	20%																																												
Terrestrial Quality	Conservation Land Area in million acres	77	50%	70	B	15%																																																																																						
	Number of Oil & Chemical Spills	62	50%						Public Awareness & Concern	% of State Funding for Environment	38	20%	45	C	15%			Number of Motor Vehicles per capita	40	20%		Noise Complaints per 100,000 People	74	20%						Bikeway Miles	16	20%		Annual TheBus Boardings in millions	59	20%																																																								
Public Awareness & Concern	% of State Funding for Environment	38	20%	45	C	15%																																																																																						
	Number of Motor Vehicles per capita	40	20%																																																																																									
	Noise Complaints per 100,000 People	74	20%																																																																																									
	Bikeway Miles	16	20%																																																																																									
	Annual TheBus Boardings in millions	59	20%																																																																																									

Environmental Indicators

Assumptions:

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

- a) Renewable Energy: The 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 23 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) Native Plant Species: Optimally, all native species should be in abundance. 1,000 species listed as rare would be unacceptable.
 - 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) Beaches Posted Unsafe: A level of 100 beach closure days per year 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:

- City and County of Honolulu, Department of Transportation Services. Final Environmental Impact Statement for the Honolulu Rapid Transit Program. Honolulu, 1992.
- Hawai‘i Department of Business, Economic Development and Tourism. State Energy Resources Coordinator’s Annual Report. Honolulu, 1994.
- Hawai‘i Department of Business, Economic Development and Tourism. The State of Hawai‘i Data Book, 2002. Honolulu, 2001.
- Hawai‘i Department of Health. Healthy Hawai‘i 2000: Preliminary Objectives and Health Status Indicators for the State of Hawai‘i. Honolulu, 1995.
- Hawai‘i Department of Health. The State of Environmental Protection In Hawai‘i. Honolulu, 1997.
- Hawai‘i Department of Health. Indicators of Environmental Quality, September 1999.
- Hawai‘i Department of Transportation. Bike Plan Hawai‘i. Honolulu, 1994.
- Honolulu Public Transit Authority. Comprehensive Bus Facility & Equipment Requirements Study. Honolulu, 1994.
- Kimball, Thomas L. Why Environmental Quality Indices? In The Quality of Life Concept by the Environmental Protection Agency. Warrenton, Virginia, 1972.
- Office of State Planning. State Land Use District Boundary Review. Honolulu, 1992.
- Thomas, G. Scott. A Rating Guide to Life in America’s Fifty States. New York: Prometheus Books, 1994.
- United States Environmental Protection Agency. Characterization of Municipal Solid Waste in the United States: 1996 Update. EPA530-R-97-015. Washington, DC.
- World Resources Institute. Environmental Almanac. Boston: Houghton Mifflin Company, 1992.



Section II

Agency Goals

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

Outstanding Environmental Agencies for 2002

Hawai‘i Department of Education

Hawai‘i Department of Defense, Army National Guard

County of Maui Department of Public Works and Waste Management

City and County of Honolulu Department of Transportation Services

Agency Goals

Department of Accounting and General Services

I. Goals/Objectives for FY 2003

A. Goal/Objective #1: The Stadium Authority will implement a program to encourage the recycling of materials discarded during and/or after stadium events, including aluminum cans, cardboard boxes, etc.

B. Goal/Objective #2: Comply with the Governor's Administrative Directive No. 98-03 regarding the use of Solar Water Heating Systems for state facilities. The directive requires that a comparative analysis be done to determine the cost-benefit of using conventional versus solar water heating systems for all new or renovated facilities using state funds or located on state land and incorporate the use of hot water.

II. Results of Efforts for FY 2003

A. Goal/Objective #1: The Stadium Authority worked with the Hawai'i Department of Health (DOH) to implement a campaign to collect aluminum cans and glass bottles for recycling during the University of Hawai'i football games held at the Aloha Stadium in FY 2003. Although the campaign was successful, the DOH was unable to continue the program in FY 2004 because of the lack of volunteer help.

B. Goal/Objective #2: The Public Works Division is reviewing every project and making sure that Administrative Directive 98-03 is complied with.

III. Goals/Objectives for FY 2004

A. Goal/Objective #1: The Public Works Division will begin to implement 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 constructing waste management.

Department of the Attorney General

I. Goals/Objectives for FY 2003

A. Goal/Objective #1: Provide effective and timely legal counsel and training for our clients.

B. Goal/Objective #2: Improve the quality of and expedite environmental enforcement actions.

C. Goal/Objective #3: Improve coordination of enforcement actions among the air, water, solid and hazardous waste, and hazard evaluation and emergency response programs, as well as among other state and federal civil and criminal agencies.

II. Results of Efforts for FY 2003

A. Goal/Objective #1: During FY 2003, the Department of Attorney General instituted a system of intra-office work performance time goals and an office-wide monitoring process to ensure that legal work is performed for clients in a timely manner. Deputy Attorneys General assigned to work with Department of Health environmental agencies established a system of regular meetings with their clients and provided training on the proper writing of reports relating to environmental violations and on the handling of UIPA requests. Rules to implement the new statewide Deposit Beverage Container Program in a timely manner were created with legal input from the Department of the Attorney General.

B. Goal/Objective #2: Deputy Attorneys General assigned to work with Department of Health agencies assisted with revisions of administrative rules that are critical to effective state environmental action in the following areas: rules relating to clean air and wastewater were modified to incorporate recent federal law changes; rules covering a wide range of actions relating to lead abatement were generated; and clean water rules concerning water quality standards were modified. Deputy Attorneys General also completed work on new enforcement actions in accord with the Department's internal work timeframe guidelines mentioned above to ensure that enforcement actions could proceed in a timely manner.

C. Goal/Objective #3: Deputy Attorneys General handling environmental enforcement actions met regularly with representatives of client agencies and federal partners to ensure effective coordinated investigation and handling of environmental violations throughout the state.

III. Goals/Objectives for FY 2004

A. Goal/Objective #1: Provide effective legal support for vigorous statewide civil and criminal environmental enforcement actions.

B. Goal/Objective #2: Provide timely legal counsel to client agencies that handle environmental matters.

C. Goal/Objective #3: Improve statewide investigation capability to handle violations of environmental statutes and rules.

Department of Business, Economic Development and Tourism

I. Goals/Objectives for FY 2003

A. Goal/Objective #1: Support extension of the Energy Conservation Income Tax Credit in the 2003 Legislature.

B. Goal/Objective #2: Continue support and coordination of efforts to assist Hawai'i government agencies and private businesses to build and operate efficient buildings and businesses.

C. Goal/Objective #3: Continue to not over promote fishery resources.

II. Results of Efforts for FY 2003

A. Goal/Objective #1: With strong support from DBEDT and the Energy Efficiency Policy Task Force, SB 855 was passed by the Legislature and Act 207 was signed into law by the Governor. The Act extended income tax credits for renewable energy devices, including solar water heating, solar photovoltaic, and wind energy to 2008.

B. Goal/Objective #2: DBEDT assisted Hawai'i government agencies and private businesses to build and operate efficient buildings and businesses. These efforts protect the environment by reducing energy use, increasing use of recycled products, and reducing landfill inputs, while saving taxpayers and businesses money. The activities included Rebuild Hawai'i's public-private partnerships for energy-efficient improvements, Performance Contracting Assistance to State and County agencies saving over \$7 million per year on utility bills; Energy Efficient School design assistance; the Green Business Program to assist and recognize businesses that operate in an environmentally responsible way; the Environmentally Preferable Purchasing Program; and a variety of recycling programs.

C. Goal/Objective #3: There was no indication that promoted fish species were over-fished.

III. Goals/Objectives for FY 2004

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

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

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

Department of Defense

Department of Defense, Hawai'i Army National Guard (HIARNG)

I. Goals/Objectives for FY 2003

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

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

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

II. Results of Efforts for FY 2003

A. Goal/Objective #1: Conservation.

- Partnered with over ten private, nonprofit, state and federal agencies to implement 28 field projects. Monitored specifically for six endangered species on four installations (O'ahu (Fort Ruger), Hawai'i (Keaukaha Military Reservation (KMR)), Maui (Kanaio Training Area) and Kaua'i (Kekaha Firing Range)) and managed habitat for an estimated 39 threatened, endangered, rare and vulnerable species. Surveyed, treated and/or removed fountain grass (more than 8,000 plants) and Miconia on four installations (O'ahu (Fort Ruger, Bellows, and Kalaeloa) and Hawai'i (KMR)). Both species rank in the top five of noxious invasive weeds that are potential threats to our fragile native ecosystem.

Agency Goals

- Through our annual Earth Day and National Public Lands Day volunteer projects, cleared out nonnative trees and other alien species and planted 800 native seedlings in the ongoing support of ecosystem restoration at Diamond Head Crater. Sedge, a native Hawaiian grass is being introduced and cultivated in the Crater's wetlands which are deemed a critical habitat.

- Continued feral animal trapping at Ukumehame Firing Range (Maui) to protect three seasonal resident endangered Hawaiian water birds as well as four other native but not endangered Hawaiian water birds. Implemented an aggressive predator control program to target rats, mongoose and feral pigs to protect native and endangered species at Fort Ruger (State-listed Pueo (Hawaiian Owl) and endangered water birds (Hawaiian Gallinule and Hawaiian Coot) and at KMR (Hawaiian Bat and Hawaiian Hawk).

B. Goal/Objective #2: Compliance.

- The HIARNG environmental strategy emphasizes early identification of problems and immediate corrective action. Funding programmed and obtained to implement compliance and pollution prevention projects to meet State and Federal regulatory requirements. Installation of a closed loop oil/water separator system at Kalaeloa reduces water usage for washing vehicles by 75% and saves the State several thousand dollars per year. Additional weapons cleaning stations placed at nine units statewide to reduce the time and manpower to clean small arms parts. The chemical used in these machines is a non-hazardous DOD approved cleaning solvent which is recycled through a filtration system and has a life span of up to five years.

- Purchased a Multi Modular Fluid Filtration System (MMFFS) to reduce and remove a wide range of environmental contaminants. The MMFFS serves as a post-treatment filter and used in tandem with the Reverse Osmosis Water Purification Unit (ROWPU), hazardous by-products are rendered non-hazardous. The MMFFS is a portable, lightweight, high-flow pre-and post-treatment unit that enhances ROWPU operations and aids in meeting environmental discharge regulations. Purchase of a tire baler reduced the amount of tires awaiting disposal. This system can compact 100 truck tires into a single bale, making it easier to manage and store. Seven concrete hazmat buildings placed at various facilities statewide to replace our steel cabinets and structures that degrade quickly in the harsh environment. The life expectancy of the buildings is 50 years. Constructed a secondary containment pad at Wahiawa Armory to reduce the risk of a fuel containment breach.

- Achieved "Returned to Compliance" status with respect to a Department of Health hazardous waste inspection performed on July 26, 2001. In accordance with DOH, HIARNG confirmed, via sampling, that gas path cleaner wastes generated from cleaning helicopter engine compressors are not hazardous. Identified and disposed of one UXO located at KMR former impact area. Successfully performed a presumptive rebuttal for used oil located at the UTES.

C. Goal/Objective #3: Land Management.

- Designed and installed awareness signage for Fort Ruger (O'ahu) and Kekaha Firing Range (Kaua'i) to inform soldiers and other land users of natural and cultural resources at these sites. Restored the coastal berm at Kekaha Firing Range by removing fire-prone alien species and replanting with native vegetation. Performed site assessment/remedial investigation at the former small arms ranges at Fort Ruger and former Navy skeet range at KMR. Conducted UXO survey on former KMR impact area. Acquisition of satellite imagery and upgrades enhanced/expanded our geographic information system (GIS) capabilities. GIS is used for analysis and mapping of invasive species, encroachment, habitat, wetland, and land usage in order to efficiently plan appropriate and effective courses of action.

III. Goals/Objectives for FY 2004

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

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

C. Goal/Objective #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.

Department of Defense, Hawai'i Air National Guard (HIANG)

I. Goals/Objectives for FY 2003

A. Goal/Objective #1: Compliance. Implement an inspection program to inspect units quarterly or bi-annually

to ensure compliance with Federal, State, and local regulations. This inspection program will serve two purposes: 1) ensure HIANG wide compliance and 2) aid in identifying outstanding environmental compliance throughout the HIANG which would help to reward units who have been working hard to stay in compliance with environmental laws and regulations.

B. Goal/Objective #2: Pollution Prevention. Implement a HIANG wide recycling program that would mimic the 15th Air Base Wing Recycling Program. This program would show the progress of the HIANG as a single entity with emphasis on the reduction of solid waste and its disposal costs and the encouragement of recycling. The other aspect of the Pollution Prevention Program is to keep the authorized use list program and educate the units to buy environmentally friendly products and use environmentally friendly services, such as vendors that provide solvent recycling services to ensure the reduction of an identified hazardous waste stream.

C. Goal/Objective #3: Environmental Documentation. Ensure all projects and real estate acquisition and disposals are properly assessed and evaluated for their environmental impacts (i.e., amending Hickam AFB license showing facility acquisition and/or disposals). An Air Force Form 813, Environmental Baseline Survey, and Environmental Assessments must be submitted for all proper real property transactions.

II. Results of Efforts for FY 2003

A. Goal/Objective #1: Compliance.

- Hickam Air Force Base (AFB) units evaluated under the U.S. Air Force's Environmental, Safety, and Occupational Health Compliance and Management Program (ESOHCAMP) assessment guidelines by an External ESOHCAMP Team. Geographically Separated Units (GSUs) were not evaluated but will be evaluated next year by an external ESOHCAMP Team. An internal HIANG Environmental Compliance Inspection was conducted prior to the External ESOHCAMP Team inspection. This resulted in identifying discrepancies throughout the HIANG. The discrepancies were brought down to a minimum due to the internal inspection. Due to the lack of personnel an adequate assessment of the HIANG Environmental Program was not conducted, but an internal assessment of the HIANG units at Hickam was still conducted regardless. Identified discrepancies were not properly conducting weekly inspections, not conducting proper hazardous waste determinations, and improper management of unknown wastes. All discrepancies have been corrected.

B. Goal/Objective #2: Pollution Prevention.

- The HIANG recycling program is slowly but surely getting established. Equipment was purchased for the GSUs to help with aluminum can crushing. This particular container purchase will eventually be used for HIANG units based on Hickam as well. Also the return of not one, but two cardboard box bins for HIANG units based on Hickam.

- The return of the cardboard box bin helped to alleviate the amount of contaminated loads going to the landfill. Currently, there is a separation fee for all contaminated loads. The use of the cardboard box bin helped to reduce the amount of solid waste generated in our general refuse containers. A successful recycling program will initiate a life style change in the near future.

C. Goal/Objective #3: Environmental Documentation.

- More and more projects are in the works at Hickam AFB and GSUs for the HIANG. A closer look at the work order process helped to identify shortfalls in the program. A closer look at the 154 CES Instruction 32-1001 will help in accommodating current and future projects. This will be an on going objective that will need to be met by the HIANG.

III. Goals/Objectives for FY 2004

A. Goal/Objective #1: Compliance. Develop a HIANG Operational Instruction to aid in the proper management of unknown and hazardous waste. This guide will help the HIANG as a whole, to include the Geographically Separated Units (GSUs), in the proper management of unknown and hazardous waste. Guidelines will be developed and an environmental compliance inspection program will be developed to properly identify shortfalls in our environmental program.

B. Goal/Objective #2: Pollution Prevention. Develop a HIANG Operational Instruction to aid in the proper management of solid waste and recyclables. This guide will help the HIANG as a whole, to include the GSUs, in the proper implementation of a recycling program. Guidelines will be developed to help implement this pollution prevention measure.

C. Goal/Objective #3: Energy Conservation. Implement energy conservation at all facilities, to include the GSUs. This is also an on going objective and will need to be looked at by all members of the HIANG. Proper implementation of this objective will be a beneficial cost savings in the future.

Agency Goals

Department of Defense, State Civil Defense Division

I. Goals/Objectives for FY 2003

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

B. Goal/Objective #2: Plant 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 efforts of recycling 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.

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

II. Results of Efforts for FY 2003

A. Goal/Objective #1: State Civil Defense (SCD) was represented at every Hawaii State Emergency Response (HSERC) meeting this fiscal year and involved in numerous Local Emergency Planning Committees (LEPC) on Oahu and the neighbor islands. The 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. Of importance was a hazardous materials exercise conducted by the Hawaii County LEPC on August 26, 2003.

B. Goal/Objective #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 the Birkhimer facility.

C. Goal/Objective #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.

III. Goals/Objectives for FY 2004

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

B. Goal/Objective #2: 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.

C. Goal/Objective #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.

Department of Defense, Office of Veterans Services (OVS)

I. Goals/Objectives for FY 2003

A. Goal/Objective #1: Quality of Cemetery Grounds. Improve the soil quality of the cemetery and enhance the natural beauty of the grass covering in all areas.

B. Goal/Objective #2: Veteran Community Awareness. Educate the veteran community on our existence, location and eligibility regulations by holding informational meetings.

II. Results of Efforts for FY 2003

A. Goal/Objective #1: Quality of Cemetery Grounds. The cemetery did not attain the goal of improving the quality of the cemetery grounds. Many factors contributed to this result. There was a hiring freeze which lowered the already short staff to two fewer employees and a shortfall of budgetary

funds to complete certain objectives until the need became an emergency. Funds were allocated at the end of the fiscal year to improve the cemetery grounds. Projects will start in the fiscal year 2004.

B. Goal/Objective #2: Veteran Community Awareness. This goal was difficult to meet as there were not many Veterans Organizational meetings held throughout the year. Veteran's awareness was achieved through a Separations luncheon at Marine Corps Base Hawaii and also through the Memorial and Veterans Day Ceremonies held during the year.

III. Goals/Objectives for FY 2004

A. Goal/Objective #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.

B. Goal/Objective #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.

Department of Education, Facilities and Support Services Branch

I. Goals/Objectives for FY 2003

A. Goal/Objective #1: Meet minimum compliance requirements for hazardous wastes and used oil.

B. Goal/Objective #2: Develop acceptable disposal/recycling program for computers.

C. Goal/Objective #3: Include energy saving and conservation measures in the design of our school facilities.

II. Results of Efforts for FY 2003

A. Goal/Objective #1: Working with DOH and Marine Corps Base Hawaii to meet hazardous wastes and used oil compliance requirements. Implemented a disposal plan for several secondary schools.

B. Goal/Objective #2: Working with DOH to develop a departmental disposal/recycling program for computers. Is finalizing process to dispose of monitors appropriately.

C. Goal/Objective #3: Working with the Department of Accounting and General Services to install waterless urinals in several schools as a pilot program, to include cross ventilation design in our new schools and buildings, and to include landscaping designs to shade the facilities, etc.

III. Goals/Objectives for FY 2004

A. Goal/Objective #1: Include energy saving and conservation measures in the design and construction of our school facilities.

B. Goal/Objective #2: Continue meeting minimum hazardous wastes and used oil compliance requirements.

C. Goal/Objective #3: To conduct the 3rd year AHERA re-inspection.

Department of Hawaiian Home Lands

I. Goals/Objectives for FY 2003

A. Goal/Objective #1: Sustainable Growth. Develop self-sufficient and healthy communities by improving trust lands through sustainable forestry.

B. Goal/Objective #2: Partnering. Partner with governmental agencies, non-profit organizations, and native-Hawaiian based community groups to promote environmental and cultural understanding through land stewardship.

C. Goal/Objective #3: Conservation. Leave the land in better condition by eradicating invasive plants, protecting endangered species, and re-establishing the forest in degraded pastures.

II. Results of Efforts for FY 2003

A. Goal/Objective #1: Sustainable Growth. Forestry projects promoted jobs and job training in the community; improved watersheds by reducing the use of herbicides; improved air quality by burning less acreage as part of our invasive species eradication plan; provided wood to Hawai'i's woodworkers; and eradicated invasive weeds through reforestation, a value-added land use that benefits both the trust and our beneficiaries.

Agency Goals

B. Goal/Objective #2: Partnering. Partnered with the U.S. Fish and Wildlife Service, Department of Agriculture, Department of Land and Natural Resources, Alu Like, the Hawai'i Communities and Forestry Initiative; Hawai'i Agricultural Research Center in forestry-related activities, and 40 other private parties in Watershed Partnerships statewide.

C. Goal/Objective #3: Conservation. Degraded pasture on 8,000 acres is being restored to forest through fencing, removal of feral ungulates, cutting fire-breaks, scarification, hand planting, wood salvaging, and recycling of wood products.

III. Goals/Objectives for FY 2004

A. Goal/Objective #1: Sustainable Growth. Continue to generate income for the trust through sustainable forestry to support homesteading programs and services.

B. Goal/Objective #2: Partnering. Continue existing partnerships and establish new ones to assist in forest-based economic, environmental, and cultural opportunities.

C. Goal/Objective #3: Conservation. Continue to improve degraded pasture by re-establishing the native forest which once occupied the site.

Department of Health

I. Goals/Objectives for FY 2003 and FY 2004

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 2003

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, and is near completion with the Kaneohe and Waikele Stream TMDLs on O'ahu. Works has begun on TMDLs for streams in the Nawiliwili Bay (Kaua'i) and Pearl Harbor watersheds.

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 358 oil and chemical spills to assure cleanup, prevent adverse health effects, and avoid future contamination.

E. Goal/Objective #5: DOH continued to operate 16 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.

Department of Land and Natural Resources (DLNR)

Department of Land and Natural Resources, Commission on Water Resource Management

I. Goals/Objectives for FY 2003

A. Goal/Objective #1: The Commission will continue to seek appropriate resources to update priority components of the Hawaii Water Plan including, but not limited to the Water Resource Protection Plan and the State Water Projects Plan. The Commission will also continue its efforts to facilitate completion of the Agricultural Water Use and Development Plan and updating of the Hawaii Drought Plan (Phase 1). One of the drought-related goals for FY 2003 includes

development of a Statewide Drought Risk and Vulnerability Assessment and GIS Mapping project to identify areas in the State that are vulnerable to meteorological, hydrological, and agricultural drought.

B. Goal/Objective #2: Continue to use the Commission's final decision and order in the Waiahole case and the Hawaii Supreme Court's August 22, 2000 decision to guide the Commission's efforts, actions, and policies related to enhancing stream protection, management, and restoration. A few areas of concern include Waikolu Valley (Molokai), East Maui, and Lalakea/Waipio (Big Island).

C. Goal/Objective #3: Continue efforts to establish additional permanent staff positions, as well as securing necessary resources to implement critical water resource protection provisions of the State Water Code. Additional positions are needed to augment current staffing to effectively assess and establish quantifiable interim/permanent instream flow standards statewide, including but not limited to, quantification of stream diversions and appurtenant/riparian surface water uses.

II. Results of Efforts for FY 2003

A. Goal/Objective #1: Efforts to update and/or complete priority elements of the Hawaii Water Plan included preparation of the Agricultural Water Use and Development Plan (AWUDP) Integration Framework. The Integration Framework was developed to provide a clearer understanding of the required structure of the AWUDP and sets forth the necessary coordination/linkages between the AWUDP, the State Water Projects Plan, and the County Water Use and Development Plans. Additionally, the Commission completed and adopted an updated State Water Projects Plan (SWPP) in February 2003. The SWPP includes an inventory of existing State wells, stream diversions, and water systems; identification of proposed State projects/developments; assessment of future water demand projections; and a Water Development Strategy, strategy implementation and recommendations. The Commission is also continuing its efforts to develop a prototype State agency water conservation plan, which may serve as an overall planning template for broader, statewide water conservation efforts by all State agencies.

The Commission also secured \$50,000 from the Federal Emergency Management Agency (FEMA) to undertake a Statewide Drought Risk and Vulnerability Assessment and GIS Mapping project. The Project (to be completed in early FY 2004) includes delineation of sector-based drought vulnerability for the following sectors: agriculture and commerce, water supply, and environmental, public health

and safety. Key elements of the drought risk/vulnerability assessment will also be integrated within the revised/updated Hawaii Drought Plan and the overall State Hazard Mitigation Plan. The latter planning elements are to be completed in late FY 2004.

B. Goal/Objective #2: The Commission's efforts, actions, and policies related to enhancing stream protection, management, and restoration were channeled toward several East Maui streams as well as to the Lalakea-Waipio area of the Island of Hawaii. The Commission entered into a cooperative agreement with the United States Geological Survey (USGS) to 1) assess the effects of existing surface-water diversions on streamflow characteristics for perennial streams in northeast Maui, 2) characterize the effects of diversions on instream temperature variations, and 3) estimate the effects that streamflow restoration would have on habitat availability for native stream fauna (fish, shrimp, and snails) in northeast Maui. The Land Division of the Department of Land and Natural Resources, the Maui Department of Water Supply, and Alexander and Baldwin Inc. are partners with the USGS and the Commission in funding this 3-plus year study (May 2002 to September 2005) at a total cost of \$635,000. The Commission was also involved in the Lalakea Alternative Mitigation Plan (LAMP) Project, a 3-year study funded by Kamehameha Schools and conducted by the Bishop Museum. The LAMP Project started baseline data collection in July 2003. Flow may be restored from the Lalakea Ditch System into Lalakea and Hakalaoa Streams as early as January 2004. Baseline studies will continue after the flow is restored to assess the impacts of restoration.

C. Goal/Objective #3: In FY 2002, the Commission was able to secure a position under a newly established Stream Protection and Management (SPAM) Branch, thereby allowing the Commission to better focus its resources on surface water management. However, no additional permanent staff positions were secured in FY 2003 for the SPAM Branch. Currently, the SPAM Branch maintains three positions and continues to pursue the goals outlined under FY 2003 of the assessment and establishment of instream flow standards statewide.

III. Goals/Objectives for FY 2004

A. Goal/Objective #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

Agency Goals

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.

B. Goal/Objective #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.

Department of Land and Natural Resources, Division of Boating and Ocean Recreation

I. Goals/Objectives for FY 2003

A. Goal/Objective #1: Reduce nonpoint source pollution within State small boat harbors.

B. Goal/Objective #2: Reduce the negative impact of recreational and commercial activities on the marine environment.

C. Goal/Objective #3: Ensure that vessels moored within State small boat harbors are seaworthy and in compliance with State and Federal pollution requirements and guidelines.

II. Results of Efforts for FY 2003

A. Goal/Objective #1: Researched and proposed policies for drydock repair and maintenance of vessels within State small boat harbors using EPA guidelines when applicable.

B. Goal/Objective #2: Established Ocean Recreation Management Areas that regulated the amount and type of activities that may take place which resulted in reduced impact on the marine environment.

C. Goal/Objective #3: Conduct vessel inspections prior to the issuance of mooring permits within State small boat harbors.

III. Goals/Objectives for FY 2004

A. Goal/Objective #1: Work closely with all concerned parties in the marine industry to help reduce the impact of cruise ships operating in Hawaiian waters.

B. Goal/Objective #2: Coordinate efforts with the City and County to reduce the amount of debris that enter the navigable waterways and ocean from storm drain runoff during inclement weather.

C. Goal/Objective #3: Continue to educate the public on the importance of the proper disposal of solid wastes, oil, and hazardous substances.

Department of Land Natural Resources, Maui Branch, Division of Boating and Ocean Recreation

Top three goals for 2003 unknown.

Goals/Objectives for FY 2004

1) Install a temporary pump-out station at Ma'alaea small boat harbor.

2) Ensure that vessel owners are repairing vessels in accordance with EPA standards at boat haul out area(s).

Results of Efforts to Achieve These Goals

1) Decrease pumping of sewage into the ocean waters.

2) Preclude airborne pollutants into the atmosphere and waters.

Department of Land and Natural Resources, Division of Forestry and Wildlife

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

I. Goals/Objectives for FY 2003

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

B. Goal/Objective #2: Develop a responsible hazard warning system to increase safety for visitors and tourists, reduce liability for governmental agencies, and maintain public lands open for public use

C. Goal/Objective #3: Insure viable populations of native species and increase populations of endangered species by protecting and managing their natural habitats via a system of state-owned and managed sanctuaries, forest and natural area reserves, and cooperative managed areas.

II. Results of Efforts for FY 2003

A. Goal/Objective #1: Participated in the creation of new watershed partnerships on the island of Lanai and Kauai as well as a statewide association of watershed partnerships. Organized and kicked off the Year of the Hawaiian Forest campaign.

B. Goal/Objective #2: Completed a DLNR risk assessment evaluation of all trails and road. Help drafted and passed major public land liability legislation that set up a standardized warning system for State and County agencies.

C. Goal/Objective #3: Through its partnership with the San Diego Zoo in operating the Maui Bird Conservation Center at Olinda, fifteen captive bred endangered Puaiohi, the small Kauai Thrush, were released back into the Alakai swamp bringing the number of reintroduced birds to 34 over the past 3 years. Released birds have survived and successfully paired up with wild individuals. An additional 16

chicks were produced for release next year. Forty-six nene goslings were released on Maui, Molokai and Hawaii. In addition, 8 Alala, 3 Palila, and 4 Maui Parrotbill were successfully reared in the program. Other accomplishments include propagation and outplanting of over 13,000 individuals of 145 species of rare or endangered plants, maintenance of 13 plant enclosures, restoration of sand dune habitat on Maui, restoration of endangered forest bird habitat in East Maui, development of predator free sanctuaries for endangered tree snails on Oahu, predator and weed control in important wetlands Statewide, predator and weed control on offshore seabird sanctuaries, and research into development of more effective predator control techniques.

III. Goals/Objectives for FY 2004

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

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

C. Goal/Objective #3: Support efforts for invasive species prevention and control by promoting interagency cooperation, expanding the network of volunteers, and updating training and equipment for effective rapid response capacity.

Department of Public Safety

I. Goals/Objectives for FY 2003

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

B. Goal/Objective #2: To ensure the wastewater handling and treatment operations at the Waiawa and Kulani Correctional Facilities are maintained within proper operating specifications at all times.

II. Results of Efforts for FY 2003

A. Goal/Objective #1: The Inspections and Investigation Office (IIO) continues to provide technical assistance, monitoring, and evaluating services for all environmental issues and concerns that may arise out of normal departmental operations. This includes the application of instruments that monitor the proper handling, use, storage, and disposal

Agency Goals

of hazardous materials and wastes. These efforts in conjunction with ongoing work place safety training and evaluation initiatives undertaken by our Personnel Office's Employee Relations Unit continues to maintain a high level of awareness among all PSD employees.

B. Goal/Objective #2: To ensure the efficient and lawful operation of the wastewater treatment plant at the Waiawa Correctional Facility, the Inspections and Investigations Office continues to monitor the detailed performance requirements stipulated in the plant management vendor contract.

III. Goals/Objectives for FY 2004

A. Goal/Objective #1: In an effort to remain as proactive as possible, the Department's Inspections and Investigations Office is developing a comprehensive environmental health, safety, and sanitation program for the entire Department.

B. Goal/Objective #2: Due to changes in Federal environmental regulations, a new wastewater treatment plant at the Kulani Correctional Facility will begin construction in late 2003. Due to be completed and operational by April 2005, the new plant will have the capacity to handle 30,000 gallons of wastewater a day.

Department of Transportation

Department of Transportation, Airports Division

I. Goals/Objectives for FY 2003

A. Goal/Objective #1: Complete Noise Monitoring System upgrade for HNL.

B. Goal/Objective #2: Complete Water Quality Monitoring System for HNL.

C. Goal/Objective #3: Upgrade vehicular washing facilities at Kahului, Kona, Lihue and Hilo Airports.

II. Results of Efforts for FY 2003

A. Goal/Objective #1: Completed installation of an upgraded Noise Monitoring System at Honolulu International Airport (HNL).

B. Goal/Objective #2: Completed installation of a Water Quality Monitoring System for HNL.

III. Goals/Objectives for FY 2004

A. Goal/Objective #1: Construct and upgrade vehicle washing facilities at Kahului, Kona, Lihue and Hilo Airports.

B. Goal/Objective #2: Complete the closure of large capacity cesspools at all the airports.

C. Goal/Objective #3: Initiate a pilot program to sound attenuate homes in the Keaukaha subdivision adjacent to Hilo International Airport.

Department of Transportation, Harbors Division

I. Goals/Objectives for FY 2003

A. Goal/Objective #1: Continue to strike a balance between environmental and economic concerns in the improvement/allocation of harbor facilities.

B. Goal/Objective #2: Continue to encourage management practices that control and abate pollution.

C. Goal/Objective #3: Continue to develop transportation facilities that are in compliance with environmental laws and regulations.

II. Results of Efforts for FY 2003

A. Goal/Objective #1:

Harbors Division's planning endeavors involved environmental organizations, harbor users, government agencies and community interest groups. Through the collaborative planning efforts, the Harbors Division was able to strike a balance between legitimate environmental issues and economic concerns.

B. Goal/Objective #2:

The Harbors Division complies with all environmental requirements in the control and abatement of pollution. 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. Underground storage tanks are regularly monitored for leaks.

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

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

C. Goal/Objective #3:

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.

III. Goals/Objectives for FY 2004

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

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

Department of Transportation, Highways Division

I. Goals/Objectives for FY 2003

A. Goal/Objective #1: Promote better education of all users of MS4 and NPDES permits.

B. Goal/Objective #2: Continue removal/abatement of lead based paint on steel bridges and other structures under the Highways Division's control.

C. Goal/Objective #3: Complete a statewide Solid Waste Management Program assessment of current work practices at our baseyards.

II. Results of Efforts for FY 2003

A. Goal/Objective #1: The draft NPDES Procedures Manual, including Best Management Practices, was completed. Employee training was performed one on one during inspections of highway construction sites. Other educational efforts included the following:

- Employee attendance at vendor fairs of stormwater management products;
- Application of "No dumping, goes to ocean" placards at catch basins; and
- Conducting a stormwater management survey on Oahu of the landowners and tenants adjacent to the State highway right of way.

B. Goal/Objective #2: Contracts totaling \$11.7 million were completed for lead based paint removal/abatement at the Kapue, Kolekole, Paheehee, and Hakalau Bridges on the island of Hawaii and Hanalei Bridge on Kauai. Lead based paint removal at baseyards also continued.

C. Goal/Objective #3: Cleanups, improved environmental monitoring, and remedial measures have been implemented at several baseyards and are planned or in process for remaining baseyards.

III. Goals/Objectives for FY 2004

A. Goal/Objective #1: Promote better education of all users of MS4 and NPDES permits through classroom training and training at highway construction sites.

B. Goal/Objective #2: Continue the removal/abatement of lead based paint on steel bridges and other structures under the Highways Division's control.

C. Goal/Objective #3: Finalize the Environmental Permitting Guidelines Manual and begin training on the manual.

Agency Goals

City and County of Honolulu, Department of Environmental Services

I. Goals/Objectives for FY 2003

A. Goal/Objective #1: Reduce waste to Waimanalo Gulch Sanitary Landfill by increasing recycling of target materials such as sewage sludge, yard waste, white goods and metals, wooden pallets, cardboard, and beverage containers.

B. Goal/Objective #2: Develop a dynamic flow monitoring program to provide real time data to include monitoring of problem lines to predict and prevent spills from occurring.

C. Goal/Objective #3: Finalize organizational plan to achieve competitive operations while maintaining/improving protection of the environment.

II. Results of Efforts for FY 2003

A. Goal/Objective #1: The in-vessel bioconversion facility to process sewage sludge is awaiting a final permit before commencement of design and construction. A pilot program for curbside recycling of green waste and other recyclables commenced on November 3, 2003. Department of Health administrative rules have been established to implement the container deposit program.

B. Goal/Objective #2: Installation of new flow monitors and software is underway. Positions in the Collection Systems Analysis Branch are being filled.

C. Goal/Objective #3: Over 120 recommendations to improve operations and enhance competitiveness while enhancing protection of the environment have been developed, business cases established, and reviewed for initiation of action plans. Final decisions on implementation will be made over the next six months.

III. Goals/Objectives for FY 2004

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

B. 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.

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

City and County of Honolulu, Department of Parks and Recreation

I. Goals/Objectives for FY 2003

A. Goal/Objective #1: Expand the City's beautification efforts with public street landscaping improvements and continue the City's recycling program where virtually all tree trimmings and other green waste are converted into mulch.

B. Goal/Objective #2: Continue with the Phase 3 development of an aquatics center at Central Oahu Regional Park.

C. Goal/Objective #3: Complete development of Hanauma Bay Nature Preserve.

II. Results of Efforts for FY 2003

A. Goal/Objective #1: Planted 1,995 trees in parks and open spaces, including streets and sidewalks. Virtually all of the green waste and trimmings generated by the Department of Parks and Recreation is converted to mulch. The department used this mulch in our parks and makes the balance available free of charge to the general public at a number of public pick up sites.

B. Goal/Objective #2: Soil investigations completed and site adjacent to tennis center selected for 50-meter swimming pool and support facilities. Construction contract to be awarded by December 31, 2003.

C. Goal/Objective #3: The construction of the multi-million dollar Hanauma Bay Theatre Exhibit, Educational, Gift and Administrative offices and relocation of the off beach snack bar were completed and open to the public in August 2002.

III. Goals/Objectives for FY 2004

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

B. Goal/Objective #2: Commence construction of the Phase 3 development of the Central Oahu Regional Park Aquatics Center with a state of the art 50-meter swimming pool and support facilities.

C. Goal/Objective #3: Finalize Island Wide Parks Master Plan.

City and County of Honolulu, Department of Transportation Services

I. Goals/Objectives for FY 2003

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

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

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

II. Results of Efforts for FY 2003

A. Goal/Objective #1: Co-sponsored the Car Free Day. Working with 10 to 15 public elementary schools on a "red sneaker (walk to school)" program and a "pace car" program. Solicited consultant proposals to conduct Phase III of the hub-and-spoke bus system. Construction of Kapolei Transit Center completed and bus service to and from the transit center began in July 2003. Waianae and Waipahu community transit hubs being designed to support Leeward hub-and-spoke bus service network. Wahiawa and Mililani hubs being designed to meet needs of planned Central Oahu hub-and-spoke bus transit network. Completed construction and opened new University of Hawaii Sinclair Circle bus terminus. Construction to commence on Waipahu Transit Center on Hikimoe Street. Selected consultant for Phases II and III of Bus Stop ADA (Americans with Disabilities Act) Access Improvement Project. Awarded contract to install smart card system on City buses. Constructed 87 bus shelters and

installed 300 new benches. Contracts are being prepared to build 55 bus shelters and install 120 benches in 2004. Continued operation of Kaimuki-Kapahulu-Waikiki Trolley. Entire TheBus fleet equipped with bike racks. TheBus provided special services for the Mayor's Memorial Day Service at Punchbowl, Easter Sunrise Service, Great Aloha Run, Veterans Day Service, all University of Hawaii home games (Aloha Stadium Football Express), the Pro Bowl football game, the Sony Open golf tournament, and New Year's Eve-New Year's Day. Continued work on the Primary Corridor Transportation Project. Completed final master plan for Middle Street Intermodal Center project. Conducted Ala Wai Mauka Bike Path. Ke Ala Pupukea Bikeway Extension, Asing Park Bikeway Extension, Kewalo Basin Bikeway Extension, Leeward Community College Bikeway, Kapiolani Community College Bike Staging Area, Waialua Beach Road Bikeway, McCully Street Bikeway, Waialae Avenue Bikeway, Ala Wai Boulevard Bikeway, Young Street Bikeway, Ke Ala Pupukea Bikeway, Keolu Drive Bikeway, and Kamehameha Highway (Kaneohe) Bikeway under design. Conducted four bicycle traffic safety-training sessions with new TheBus drivers. Participated in Hawaii Bicycling League's Bike Ed Program. Purchased and distributed various bicycle safety education materials to the public. Purchased 25 "street art" functional "bike" shaped bike racks.

B. Goal/Objective #2: Reviewed, coordinated and processed approximately 43 environmental impact and assessment documents. Completed Chapter 343, Hawaii Revised Statutes Final Environmental Impact Statement (FEIS) for the Primary Corridor Transportation Project and substantially completed National Environmental Policy Act (NEPA) FEIS for the same project. Administered the Waikiki Livable Community Project. Completed final master plan, Phases I and II site contamination documentation and environmental assessment for the Middle Street Intermodal Center project. Initiated planning work on the Waipio Point Access Road Study and Kamehameha Highway Transit Improvement Study.

C. Goal/Objective #3: Contracted for ten hybrid electric buses to be delivered in June 2005. Converted all City-owned traffic lights to new high tech energy saving LED signal lights.

III. Goals/Objective for FY 2004

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

Agency Goals

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

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

City and County of Honolulu, Fire Department

I. Goals/Objectives for FY 2003

A. 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.

B. Goal/Objective #2: Installation of aboveground and underground storage tank electronic monitoring systems.

C. Goal/Objective #3: Continue to utilize and explore environmentally safe chemicals at the fire stations, i.e. cleaning agents such as detergents and solvents, etc.

II. Results of Efforts for FY 2003

A. Goal/Objective #1:

- We installed National Pollutant Discharge Elimination Systems during the renovation of four fire stations and will continue to install these systems into existing fire stations as renovation projects arise.

- We also worked with the City's Department of Facilities Maintenance to install water saving showerheads, automatic flushing toilets and urinals, and conversion to more energy efficient lighting in all of the Department's facilities.

B. Goal/Objective #2: The installation of underground storage tank electronic monitoring systems has been completed for all affected fire stations. We have also installed systems into aboveground storage tanks as required.

C. Goal/Objective #3:

- Our Mechanic Shop has implemented the use of environmentally safe cleaning solvents into their daily operations. They have also established contracts with companies to recycle other fluids.

- The Department has completed a field study on an environmentally friendly detergent to clean fire fighting clothing and is reviewing the feedback on its effectiveness.

III. Goals/Objectives for FY 2004

A. 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.

B. Goal/Objective #2: The Department is investigating ways to reduce vehicle emissions.

C. 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.

City and County of Honolulu, O'ahu Civil Defense Agency

I. Goals/Objectives for FY 2003

A. Goal/Objective #1: Closely coordinate with the military Restoration Advisory Boards (RAB), and represent the government on the same.

B. Goal/Objective #2: This Agency will dispose old and out-dated Civil Defense Kits in an environmentally sound manner, ensuring that any hazardous materials are handled and disposed properly.

II. Results of Efforts for FY 2003

A. Goal/Objective #1: The O'ahu Civil Defense Agency Hazardous Materials Staff Officer will continue to participate on military Restoration Advisory Boards (RAB). As the County Government representative, he functions to provide technical expertise and input in the clean-up and restoration of former military installation hazardous materials storage sites.

B. Goal/Objective #2: The O‘ahu Civil Defense Agency has entered into a partnership with a private entity, the Healthcare Association of Hawaii that will begin the clean-up of old and outdated Civil Defense Kits from a storage facility located in the Diamond Head Crater. Elements of the kits have been categorized to assure that any hazardous materials are handled and disposed of within EPA standards.

III. Goals/Objectives for FY 2004

A. Goal/Objective #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 will be applied to fixed facilities that store or use chemicals that may have an offsite impact due to spill, fire or explosion.

B. Goal/Objective #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.

C. Goal/Objective #3: We will lead and facilitate the O‘ahu 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.

County of Hawai‘i, Department of Parks and Recreation

I. Goals/Objectives for FY 2003

A. Goal/Objective #1:

- Complete redesign and construction of wastewater disposal system improvements at Miloli‘i Beach Park, South Kona.
- Install wastewater disposal system for new restroom at Higashihara Park, North Kona.
- Complete redesign and construction of wastewater disposal system improvements at Hilo Municipal Golf Course, South Hilo.
- Construct new restrooms at Ahalanui Park and Isaac Hale Beach Park, Puna.

- Initiate wastewater disposal system improvements at Coconut Island, South Hilo; Kamehameha Park, North Kohala; and Spencer Beach Park, South Kohala.

B. Goal/Objective #2:

- Complete tree planting project at Mo‘oheau Park, South Hilo.
- Complete landscaping project at Happiness Gardens, South Hilo.
- Complete tree planting project at Kawamoto Swim Stadium, South Hilo.
- Initiate tree planting project at Hilo Bayfront soccer fields and Aupuni Center parking lot, South Hilo.

II. Results of Efforts for FY 2003

A. Goal/Objective #1: Redesign and construction of the new wastewater disposal systems for Miloli‘i Beach Park, Higashihara Park, Coconut Island, Kamehameha Park and Spencer Beach Park are ongoing. Construction of the new comfort station at Isaac Hale Beach Park is slated for 2004 and design of the new comfort station at Ahalanui Park is on hold pending availability of funding.

B. Goal/Objective #2: All of the tree plantings and landscaping projects were successfully completed using a collaboration of county and community effort and labor. The users of the various facilities and park sites, as well as the community at-large, continue to benefit from these improvements.

III. Goal/Objectives for FY 2004

A. Goal/Objective #1: Facilitate design and construction for the conversion of “Large Capacity Cesspools” into approved septic systems or tying in to the municipal sewer system at all of the County of Hawai‘i’s park sites and facilities for compliance with EPA regulations.

B. Goal/Objective #2: Conduct lead paint assessments at the department’s older facilities (primarily gyms and community centers constructed prior to 1984) and, subsequent to identification of lead paint hazards, contract remediation and repainting services to satisfactorily address the identified problem areas.

Agency Goals

C. Goal/Objective #3: Promote park beautification projects through local community organizations, service groups and Eagle Scout candidates with an emphasis on landscaping and tree planting projects. Also promote new, and nurture existing, Friends of the Park agreements for the stewardship of park sites by community groups and concerned individuals.

County of Hawaii, Department of Public Works

I. Goals/Objectives for FY 2003

A. Goal/Objective #1: Pursuant to EPA mandate, replace all existing large capacity cesspools by April 2005.

II. Results of Efforts for FY 2003

A. Goal/Objective #1: Secure funding and initiate construction of new wastewater disposal systems.

III. Goals/Objectives for FY 2004

A. Goal/Objective #1: Ongoing work of replacing large capacity cesspools.

County of Hawaii, Department of Water Supply

I. Goals/Objectives for FY 2003

A. Goal/Objective #1: Continue to meet Federal Safe Drinking Water Act compliance requirements. This includes continuing with corrosion control treatment at specified water systems and constructing wells to replace springs.

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

C. Goal/Objective #3: Provide electrical power to remote sites to improve system reliability, implement energy study recommendations, develop a system to track energy savings, and complete Phase II of energy study.

II. Results of Efforts for FY 2003

A. Goal/Objective #1: Construction and advertising for bids for deep wells is continuing throughout the island. Continuing with corrosion control treatment of springs islandwide.

B. Goal/Objective #2: Replacing transite pipelines with ductile iron pipelines and steel tanks with concrete tanks throughout the island is continuing. This will be an on-going activity for the next 10 years.

C. Goal/Objective #3: Power has been installed at remote sites to improve system reliability. Phase II of energy study completed. Implementation of study recommendations started and energy savings tracking have been started.

III. Goals/Objectives for FY 2004

A. Goal/Objective #1: Continue to meet Federal Safe Drinking Water Act compliance requirements. This includes continuing with corrosion control treatment at specified water systems, and constructing wells to replace springs.

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

C. Goal/Objective #3: Continue implementation of energy saving program, including the addition of leak detection/water loss program and program personnel. Implement hydrogeneration construction projects islandwide.

County of Kaua'i, Department of Planning

I. Goals/Objectives for FY 2003

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

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

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

II. Results of Efforts for FY 2003

A. Goal/Objective #1: Discretionary permits and applications are referred to various governmental agencies for comments (and HRS 343 process when applicable) and adjoining property notification and public hearings are held to further identify and address impacts. The County's updated General Plan provides guidance for land use policies regarding environmental and other development issues, along with helping to guide the location and character of new private and government development and infrastructure.

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

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

III. Goals/Objectives for FY 2004

The current environmental goals/objectives apply to FY 2004.

County of Kaua'i, Department of Water

I. Goals/Objectives for FY 2003

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

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

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

II. Results of Efforts for FY 2003

A. Goal/Objective #1: No violations of DOH/EPA requirements.

B. Goal/Objective #2: Complied with environmental regulations. HIOSH inspection resulted in several violations that were corrected. We remain committed to a safe and healthy workplace and continue to progress on implementing BMPs on projects.

C. Goal/Objective #3: The department submitted an amended exemption list. It is currently under review by the Exemption Committee of the State of Hawai'i Environmental Council.

III. Goals/Objectives for FY 2004

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

B. Goal/Objective #2: Continued operation of all department business in accordance with all applicable environmental and safety regulations.

C. Goal/Objective #3: Complete the update of the department's Chapter 343 Exemption List.

County of Kaua'i, Office of Economic Development

I. Goals/Objectives for FY 2003

A. Goal/Objective #1: Increase energy efficiency in county facilities and in the private sector through project implementation, demonstrations and educational workshops.

B. Goal/Objective #2: Provide seed funding to the Kaua'i Invasive Species Committee in their effort to attract additional funding to expand invasive species identification, location and eradication.

II. Results of Efforts for FY 2003

A. Goal/Objective #1:

- Installation and upgrade of an energy management system at the Lihu'e Civic Center, Lihu'e, Kaua'i, Hawai'i.

Agency Goals

- Lighting retrofit of chandeliers in the historic county building.
- Completed pumping and irrigation system energy audit for Kaua'i Lagoons Golf Course.
- Energy efficiency measures installed at the new Police/Emergency Operations Center (included low e-glazing on the windows, heat recovery, variable volume pumps, occupancy sensors, energy management systems, and high efficiency motors).
- Sponsored and completed combined heat and power workshop for large hotels and facilities.
- Sponsored and completed pump and motor efficiency workshop for Kaua'i companies.

B. Goal/Objective #2: During its first funded year, KISC has been able to identify target incipient alien invasive species, finalize an action plan, establish paid staff positions and infrastructure, and actively survey, treat, and monitor invasive species. County participation in KISC's efforts has been extremely important in securing other grants from Federal, State, and private sources providing KISC with an operating budget of \$200,000.

III. Goals/Objectives for FY 2004

A. Goal/Objective #1: Increase use of renewable energy (and decrease dependence on imported oil products) in the County of Kaua'i via county initiatives and/or partnerships with the private sector.

B. Goal/Objective #2: Provide overall coordination for project to rejuvenate vegetation of Wailua's famed Fern Grotto. Partners are Kaua'i Chamber of Commerce, Department of Land and Natural Resources, Smith's Motor Boat Service, Inc., Wai'ale'ale 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.

County of Maui, Department of Housing and Human Concerns

The Department of Housing and Human Concerns maintains a network of contract programs and services which are encouraged to implement environmental protection practices in their workplaces. Public support and awareness

information on habitat areas, endangered species and ecosystems protection throughout the community is an ongoing priority in housing development projects and other County-funded programs and services.

Recycling and environmental protection information is required to be displayed at all agencies funded by County of Maui through its Community Partnership Grants (CPG) Program. These and other efforts to protect Hawaii's ecosystem sustainability will be a continuing priority for community programs administered by the Department of Housing and Human Concerns.

I. Goals/Objectives for FY 2003

A. Goal/Objective #1: Community education and awareness of ecosystems preservation.

B. Goal/Objective #2: Community education and awareness of need for environmental protection.

C. Goal/Objective #3: Review of environmental sustainability in Maui County Community Plan.

II. Results of Efforts for FY 2003

A. Goal/Objective #1: Environmental protection information available in community programs.

B. Goal/Objective #2: Recycling and community clean-up programs ongoing throughout the year.

C. Goal/Objective #3: Environmental protection and sustainability measures included in Community Plan.

III. Goals/Objectives for FY 2004

A. Goal/Objective #1: Continuing emphasis on inclusion of recycling and environmental protection practices in County funded programs and services.

B. Goal/Objective #2: Implement community education and awareness campaigns to advocate for environmental protection/ecosystems preservation in everyday life.

C. Goal/Objective #3: Facilitate community collaboration to promote protection of Hawaiian natural resources and wildlife.