

**State of Hawai'i  
Environmental Council  
2006 Annual Report**

(Prepared pursuant to Hawai'i Revised Statutes Chapter 341)

# Environmental Report Card 2006

## ENVIRONMENTAL COUNCIL

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# Introduction

## This Annual Report

This report contains an update of the key Environmental Indicators, reflecting varying degrees of progress made in the State of Hawaii to address the balance between economic and environmental concerns with the ultimate goal of preserving and protecting our environment. Students, policy makers, government agencies, and the public can use this document as a report card in managing the key issues of our natural and urban environment.

This Annual Report also presents the responses by various government agencies to the Council's annual questionnaire to find out the agencies' environmental goals and achievements.

## 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 the annual report, the Environmental Council must advise state policy makers on important issues affecting Hawai'i's environment. For more information on the council go to <http://www.state.hi.us/health/oeqc/envcouncil.html>

## The Office of Environmental Quality Control

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

## Acknowledgements

The Environmental Council would like to express our many thanks to the OEQC staff for compiling this report.

# Recommendations to the Governor

The theme for the Environmental Council's Annual Report of 2006 is energy in Hawaii, with particular emphasis on energy use reduction and renewable and non-fossil-fuel energy sources.

In researching the theme of energy, the Environmental Council convened a roundtable discussion with representatives from the Hawaii Energy Policy Forum. Roundtable participants shared a wide range of perspectives and information about energy in Hawaii.

These recommendations include three parts:

- I. The Big Picture: Addressing the context for energy issues in Hawaii
- II. Selected specific recommendations from the Environmental Council
- III. The 10-Point Energy Plan from the Hawaii Energy Policy Forum

## I. The Big Picture

Hawaii is the most oil-dependent of the 50 states. We rely on imported petroleum for about 89% of our primary energy. Most of this oil comes from foreign countries.<sup>1</sup>



In the coming years, crude oil for Hawaii's refineries will come increasingly from politically less secure sources as current supplies from Australia and Alaska decline. Price spikes will likely become increasingly more frequent.<sup>2</sup>

Our economy runs on cheap petroleum today. Tourism relies on large quantities of relatively cheap fossil fuel to transport our visitors to Hawaii, and to power the hotels. Another economic engine, agriculture, relies on cheap fossil fuel to transport our products to markets thousands of miles away.

Current energy-related indicators, many of which are summarized in this Annual Report, point to areas where improvement will be welcome, even imperative.

Electricity use per capita in Hawaii is currently rising. Two causes appear to be increased use of residential air conditioning and consumer electronics. The cost of electricity in Hawaii is the highest in the nation.<sup>3</sup>

A shocking statistic to consider is that the supply of energy from renewable sources has *decreased* in the last fifteen years, which is contrary to the state's goal of reducing Hawaii's high dependence on imported oil. Renewable and alternative energy currently accounts for only 5% of total energy supply. For example, the largest electric utility in the state currently produces only 7% of its energy from renewable and alternative sources, which is significantly short of the Governor's goal of 20% by 2020.

Along with the growth of fossil-fuel use comes ever-increasing contribution to carbon compounds in the planet's atmosphere and the corresponding increase in global warming. Each of today's average (non-hybrid) automobiles adds approximately 6 tons of carbon compounds (such as carbon dioxide, carbon monoxide, and other hydrocarbons) to the atmosphere each year.<sup>4</sup> The number of registered automobiles in Hawaii has risen from about 940,000 to over 1.1 million in the last five years. Therefore, Hawaiian drivers contribute about 6,600,000 tons of carbon compounds to the atmosphere each year. That is equivalent to 18 Empire State Buildings in the sky each year!



In the last year, a number of important state bills and county ordinances have been passed. Progress is being made in the policy realm. Notable legislation include Act 240, 2006 and Act 96, 2006 (which encourage renewable energy production and use, and require US Green Building Council LEED™ Silver performance in new state buildings), and Act 162, 2006 (which establishes a statewide energy efficiency utility and energy efficiency portfolio standards). Ordinance 06-06 of the City and County of Honolulu requires that certain new city facilities meet LEED™ Silver performance.

However, while the policy framework is positive, the implementation framework needs immediate attention. The increased role required of the PUC (Act 143, 2006) needs increased funding for implementation. Any shift of energy and land-use responsibilities from planning at the state level to

# Recommendations to the Governor

planning at the county level needs commensurate funding for successful implementation.

The more that our communities operate in sustainable ways, the more our energy use goals can be met. For many reasons, energy efficiency among them, the Hawaii State Office of Planning supports compact and sustainable community planning. In the current consideration of a mass-transit solution for Oahu, this is also the time for parallel consideration of the benefits of sustainable transit-oriented-development.



At all levels, the State of Hawaii needs increased and more effective education about energy and environmental issues. Currently, consumers who want to improve their energy and environmental performance do not necessarily know where to turn for practical and cost-effective solutions and tools. Workers in state and county government face new mandates about energy efficiency without being offered sufficient applicable resources. Compelling education about the intimate connections between fossil-fuel use, cost of living, economic vulnerability, global warming, and other energy-related issues has the power to transform mandated energy requirements to voluntary grass-roots effectiveness.

Our ability to make the necessary changes in lifestyle and infrastructure will become more and more difficult as we begin operating under the new global economic conditions of volatile energy prices, changes in fossil fuel availability, and climate change threatened by global warming. The indicators that follow in this report show that we really have not yet begun to reduce our energy demand, much less attain energy security or sustainability. The time to act is *now*.

## II. Selected Specific Recommendations from the Environmental Council

The Environmental Council offers this overarching recommendation to the Governor and State Legislature: Lead by Example.

To fulfill this challenge, we recommend specifically that:

1. the Governor, agency heads, and legislators drive hybrid cars or use alternative transportation in a visible way;



2. the State require solar hot water and/or PV systems be installed in new or retrofitted state and private buildings, including the Governor's Residence, the State Capitol, and highly visible public buildings;

3. priority permitting processes for renewable-energy and energy-efficient projects be instituted, and that these processes emphasize public participation and community benefits;

4. the State initiate Programmatic EIS (PEIS) processes with site-specific related Environmental Assessments (EAs) for multi-site renewable energy projects;

5. the State implement and strongly encourage sustainable community development and design to support the local integrated economy and reduce transportation-related energy use;



6. the State provide more resources at the county level to ensure effective energy program implementation and locally-based solutions;

7. the State implement a carbon tax to support reduction of greenhouse gas emissions with the publicly stated commitment to meet or exceed the goals of the Kyoto Protocol; and

8. the Environmental Council participate in the Hawaii Energy Policy Forum by becoming an ex-officio member.

# Recommendations to the Governor

## III. The 10-Point Energy Plan from the Hawaii Energy Policy Forum

We include this HEPF plan as part of our recommendations for these reasons:

- Hawaii needs balanced and effective implementation plans and programs.
- The Hawaii Energy Policy Forum is a non-partisan group, representing a broad range of stakeholders, who have worked for over four years to develop these thoughtful and informed recommendations.
- While the specifics of each recommendation warrant continuing discussion and evaluation, this plan represents the best effort we have seen to-date to address the challenges of achieving a sustainable energy future in Hawaii.

### **A Ten-Point Plan To Meet Hawaii's Energy Goals Adopted by the Hawai'i Energy Policy Forum\* (November 14, 2005) (Revised December 29, 2005)**

#### **1. Expand Renewable Energy Opportunities**

*Increase development and use of Hawaii's indigenous renewable energy resources*

*Action taken:*

- § Implemented Renewable Portfolio Standards (RPS)
- § Implemented Net Metering
- § Adopted temporary (sunset date) Renewable Energy Income Tax Credit (REITC)

*Action to be taken:*

- § Improve Renewable Portfolio Standards
- § Review and amend definition of "renewable energy" to achieve renewable energy generation and energy efficiency (establish a separate energy efficiency portfolio standard)
  - § Amend the language regarding utility profitability
  - § Expand and enhance Net Metering
  - § Amend the REITC to: a) make it permanent (remove sunset date); b) increase the caps for tax credits on installation; c) clarify tax credit for mixed use (commercial/residential) projects
    - § Clarify State/Federal deductions
    - § Encourage renewable distributed generation
    - § Develop Wind/Commercial Solar/Biomass/Geothermal/Hydro/Wave-Energy Subzones

#### **2. Increase Energy Efficiency in Public Buildings**

*Encourage high performance buildings*

*Action taken:*

- § Adopted Act 77, SLH, that established energy efficiency objectives in State Facilities
- § Efforts by the Counties in developing model energy codes

*Action to be taken:*

- § Require that all buildings using public funds for new construction meet or exceed the Silver Leadership in Energy & Environmental Design (SLEED) minimum standards.
- § Support and promote the efforts of the Hawaii BuiltGreen program, a partnership initiated by the Building Industry of America - Hawaii.
- § Mandate new public buildings to meet or exceed SLEED standards

#### **3. Increase the Use of Solar Water Heating and Energy Efficient Appliances**

*Action to be taken:*

- § Implement "Pay As You Save" programs

#### **4. Maintain Policies and Regulations to Encourage Energy Efficiency and Renewable Resources**

*Action taken:*

- § Implemented energy efficiency programs
- § Developed renewable energy sources, with one of the highest levels of penetration in the Nation
- § Implemented Integrated Resource Planning (IRP) process
  - § Enacted Act 95, SLH 2004, relating to utility ratemaking to provide incentives for cost-effective renewable energy resources to meet the renewable portfolio standards
  - § Public Utilities Commission initiated policymaking proceedings to consider distributed generation, energy efficiency, competitive bidding, and interconnection standards

*Action to be taken:*

- § Develop recommendations to amend policies and regulations, including state statutes, county ordinances, county and state administrative rules, case law and agency decisions and orders, based upon a careful and comprehensive review of the current law, policies and regulations.
  - § Assess energy pricing, including cost adjustment charge to utility ratepayers.

\* Action on many of these items was taken in the 2006 Legislative Session as stated earlier.

# Recommendations to the Governor

## 5. Preserve Regulatory Protections

### *Action to be taken:*

§ Adopt policies and reforms to support the PUC and the Consumer Advocate in their progressive and aggressive efforts to protect the public's interest and implement the State's energy strategy

§ Ensure that the PUC has the resources to timely and fairly address regulatory issues regarding technological advances and operational efficiencies that encourage balanced growth and investment and ensure system reliability.

## 6. Invest In Planning for Sustainable Communities

### *Action to be taken:*

§ Revitalize urban centers and our rural plantation communities to promote healthy living environments and strong economies by rebuilding and upgrading local infrastructure so people can afford to live where they work.

§ Expand the redevelopment of idled urban and plantation era "brownfield" lands into productive use.

§ Maintaining and expand the amount of "greenbelts" (that preserve from development certain undeveloped natural areas that would be dedicated to agriculture and/or park space).

## 7. Improve Energy Efficiencies and Options in Transportation

### *Action to be taken:*

§ Support the production and use of indigenous fuels, including bio-fuels

§ Encourage, support, and offer innovative transportation options

§ Encourage use of renewables to power mass transit systems

§ Create incentives for the use of efficient vehicles

§ Implement a fee-bate system (fee for inefficient cars/ rebate for efficient cars)

§ Evaluate use of plug-in electric hybrids to increase vehicle mpg and to provide peak power to the utility grids

## 8. Support research and development of alternative fuels (hydrogen, wave energy, etc.)

### *Action taken:*

§ Supported establishment of a hydrogen fuel cell test facility and support for commercial fuel cell development

### *Action to be taken:*

§ Recognize Hawaii as a premier demonstration site for the deployment of the hydrogen economy.

§ Invest in long term research and development of alternative renewable energy resources such as hydrogen fuel cell technology, wave energy, etc

§ Seek funding for development of an ongoing energy strategy for renewables/hydrogen economy and match for the state's portion of grants, including exploring funding sources such as use of .25% per gallon liquid fuel tax

§ Identify sites for demonstration of hydrogen production, distribution and use in both stationary and vehicle fuel cell applications

## 9. Encourage development, production, and use of biofuels

### *Action taken:*

§ Adopted statewide use of 10% ethanol blend in gasoline

§ Adopted tax credits for biofuel production

### *Action to be taken:*

§ Support current use of biodiesel derived locally from waste cooking oils and grease

§ Study and provide recommendations for possible paths for expansion of statewide ethanol and biodiesel production

§ Study long range implications and impacts from increased use of biofuels in Hawaii

§ Encourage public procurement of biofuels for government vehicles

§ Adopt renewables fuels standard

## 10. Ensure a secure system for fuels and electric utility grids

### *Action to be taken:*

§ Develop systems that have endurance, hardening resistance, and can overcome vulnerabilities to potential acts of terrorism and natural disasters such as hurricanes and tsunamis.

§ Provide guidance to PUC to allow recovery of utility investments that improve grid security.

## Sources

<sup>1</sup>State of Hawaii Energy Resources Coordinator, Annual Report 2005, DBEDT

<sup>2</sup>Hawaii at the Crossroads: A Long-Term Energy Strategy, Hawaii Energy Policy Forum, June 2004

<sup>3</sup>Energy Information Administration: [www.eia.doe.gov/cneaf/electricity/epm/table5\\_6\\_a.html](http://www.eia.doe.gov/cneaf/electricity/epm/table5_6_a.html)

# OEQC's Report

Hawaii is a state with rich scenic beauty and abundant natural resources in which we are privileged to live. Hawaii'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 will continue to pursue creative endeavors to find a fair balance between economic progress and environmental protection. We will continue to have workshops and training on the environmental review process to strengthen understanding of the system.

House Concurrent Resolution 202 HD1,SD1 has OEQC on a task force to study mobile home parks as a possible solution to Hawaii's affordable housing crisis. The Environmental Council, with the assistance of OEQC, will develop guidelines for environmental justice under Senate Bill 2145.

I would like to thank OEQC staff for their unselfish dedication especially Elsie Watanabe who was one of the Department of Health's candidates for employee of the year. We will continue to assist in the protection of the state's environment for the benefit of the people of Hawaii.

Genevieve Salmonson

# Chair's Report

Under the leadership of former chair Denise Antolini, the Environmental Council served Hawaii well last year. Members of the Council, listed elsewhere in this report, are all volunteers and each contributed much valuable time and expertise to our mission. Highlights of our year:

- ❑ **Environmental Justice.** Last year the Legislature instructed the Environmental Council to study the Environmental Justice issue in Hawaii, and to provide assurance that environmental justice is being addressed in environmental impact review. To gain understanding and input, high school students were asked to express their views by preparing short video presentations on the subject. The videos were shown statewide on public television, and have provided valuable insight. The Environmental Council will continue to study this issue with the assistance of the Research Corporation of the University of Hawaii..
- ❑ **Administrative Rules Updated.** After years of deliberation, proposed revisions to Title 11, Chapters 200 and 201 were completed and forwarded to the Attorney General. Input to the rule changes was gathered at meetings with stakeholders. Public review is expected in 2007.
- ❑ **Exemption Lists Updated.** The Environmental Council has requested that Exemption Lists that are more than five years old, be reviewed and updated. State and County agencies with old lists are working cooperatively with the Environmental Council. In 2006 we started review of the State Department of Education's Exemption List. This is considered an important list as the DOE recently assumed most responsibility from DAGS for the maintenance and development of their numerous, and heavily used facilities statewide. Environmental Council concurrence with the DOE list is expected by the end of 2006.
- ❑ **Public Liaison.** An important role of the Environmental Council is to hear public comment on environmental issues, which is often used to update rules, procedures, and exemption lists, and sometimes, to stimulate recommendations to developers and government agencies. Last year, the Environmental Council took comments on the Turtle Bay development resumption, the Kailua Reservoir Emergency mitigation, and the US Air Force proposal to use Keahole Airport for C-17 aircraft training.

In August 2006, Olelo Public Television began video taping Environmental Council meetings for future broadcasts, and environmental studies students often attend our meetings to gain experience of how the system works.

Our Annual Report for 2006 focuses on Energy Use Reduction, and Renewable and Non-Fossil Fuel Sources of energy. It is written by Council members David Bylund and Robert King, after meeting and consulting with the Hawaii Energy Policy Forum. Honolulu recently nudged past 1 million residents. Neighbor Islands are deluged by building and their own population increases. More than 7.4 million visitors came in 2005. Military expenditures increase each year.

In the face of population growth and economic expansion, it is easy to abuse or ignore our environment. We ask that the Governor, Legislators, and other leaders seriously review our recommendations, and where possible, take bold action to continue protecting the sensitive environment we all cherish.

Michael A. Faye  
Chair

# Outstanding Agencies

## Top Agencies in 2005

As part of monitoring agencies' progress in meeting environmental goals, the Environmental Council asks agencies to report each year on their achievement. The results are reported to the Governor and Legislature. Last year, the council identified four agencies that achieved excellent progress in meeting their environmental goals.



**Board of Water Supply represented by Mr. Barry Usagawa**, for watershed management planning.

The award is a large bottle of water with a modified label that shows a picture of the old Water Pumping Station on Ala Moana. And, how do you enjoy your special water but with a set of glass cups.



**Department of Transportation represented by Mr. Rodney Haraga, Director**, for training their people in environmental management programs, solid waste management by reducing polluted drainage water, and removing lead-based paints from steel bridges and other structures.

The award is a mixture of asphalt and glass to symbolize DOT's use of glassphalt on Hawai'i streets to promote recycling and road longevity.



**Hawaiian Home Lands represented by Ms. Linda Chinn, Acting Branch Manager and Kaulana Park, Executive Director**, for achieving their sustainable financial growth to support homesteading programs, partnering, and conservation efforts.

The award is a photo of a woman holding a child with a taro background to show their nurturing goals in conservation efforts.



**Maui Public Works & Environmental Management represented by Mr. Milton Arakawa, Director**, for drainage/wastewater management study/planning, and outdoor lighting ordinance.

The award is a manager made out of nuts and bolts to symbolize the mechanical planning involved in their projects. How better to indicate management but with a manager at his desk hard at work.

# Environmental Indicators

Environmental indicators are measurements that track environmental conditions over time. Each year, the Environmental Council collects data on several indicators of the quality 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 wide look -- from water quality to native species -- at the many faceted task of keeping Hawai'i clean and healthy.

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.

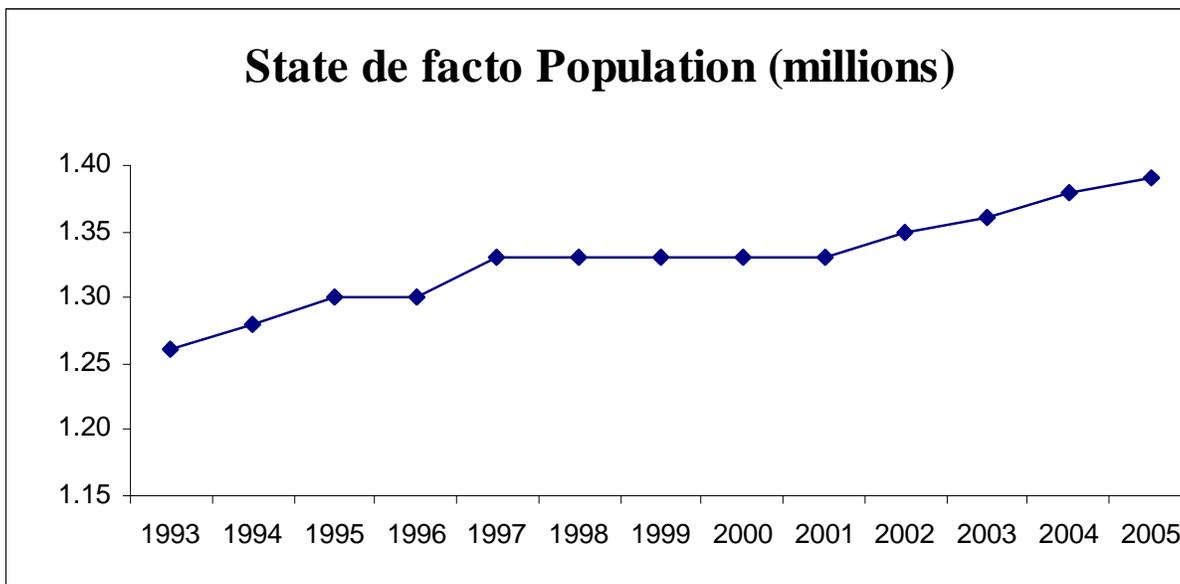
# Environmental Indicators

## 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 on that day but excludes residents temporarily absent) keeps growing from year to year. DBEDT estimates that by the year 2020 our *de facto* population will reach 1.72 million. 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 (on July 1 of the corresponding year)

Year	Defacto Population in Millions
1993	1.26
1994	1.28
1995	1.30
1996	1.30
1997	1.33
1998	1.33
1999	1.33
2000	1.33
2001	1.33
2002	1.35
2003	1.36
2004	1.38
2005	1.39



Source: State of Hawai'i, DBEDT Data Book 2005.

Note: The vertical axis does not begin with zero.

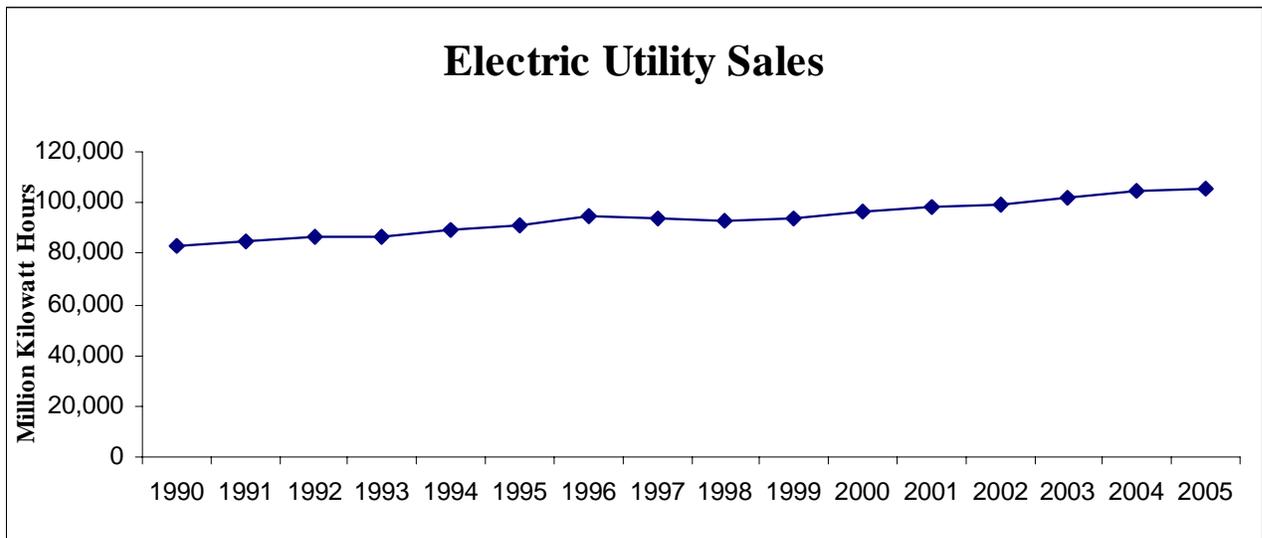
# Environmental Indicators

## Electric Utility Power Sold

The table below depicts the electricity utility (all utilities, all islands) sales in Hawai'i.

### Hawai'i Electric Utility Sales

Year	Power sold (million kWh)
1990	83,113
1991	84,656
1992	86,671
1993	86,609
1994	89,280
1995	91,524
1996	94,299
1997	93,580
1998	92,581
1999	93,450
2000	96,754
2001	98,231
2002	99,432
2003	102,164
2004	104,779
2005	105,507



Source: Utility FERC Form 1 and Annual Reports to PUC via DBEDT SID.

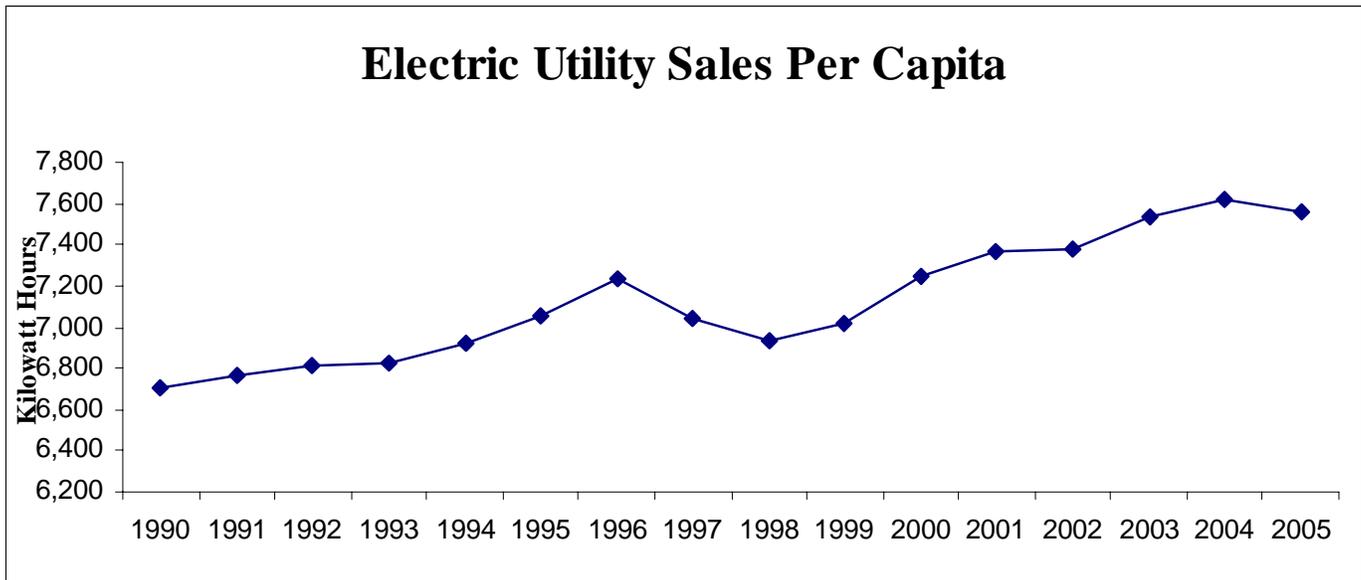
# Environmental Indicators

## Electric Utility Power Sold Per Capita

The table below depicts the electricity sales (all utilities, all islands) per capita of *de facto* population in Hawai'i.

### Hawai'i Electric Utility Sales Per Capita

Year	Electric Sales Per Capita (kWh)
1990	6,703
1991	6,760
1992	6,816
1993	6,831
1994	6,922
1995	7,051
1996	7,232
1997	7,047
1998	6,939
1999	7,013
2000	7,250
2001	7,366
2002	7,377
2003	7,535
2004	7,614
2005	7,563



Source: Utility FERC Form 1 and Annual Reports to PUC via DBEDT SID.

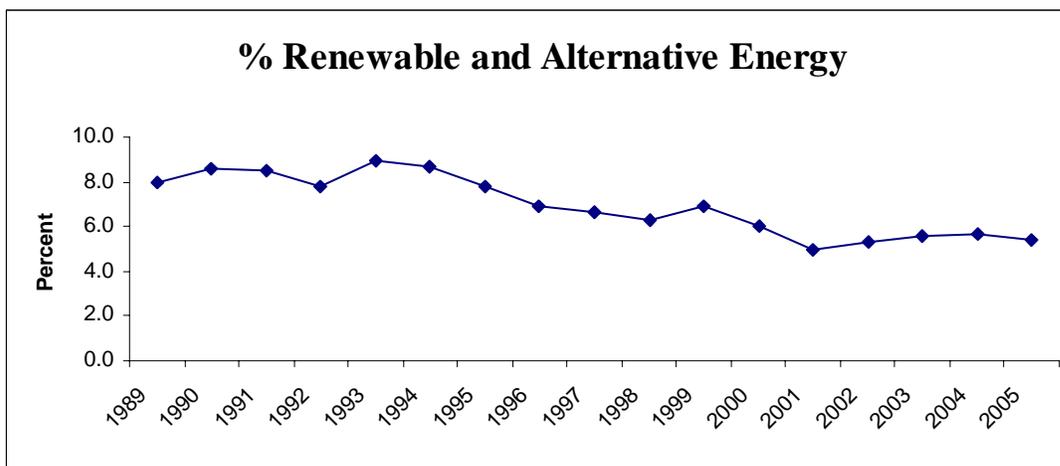
# Environmental Indicators

## Energy Used in Hawai'i

One of Hawai'i's goals (for example, see HRS Chapter 226-18) is to replace energy produced from fossils fuels with renewable (solar power, biomass, hydro-electric, wind, geothermal, photovoltaic) and alternative (solid waste) sources. The table below shows the amount of energy used in Hawai'i in trillion British thermal units (BtU).

### Energy Used in Hawai'i in Trillion BtU

Year	Total	Renewable & Alternative
1989	315.1	25.0
1990	312.1	26.7
1991	323.0	27.5
1992	339.1	26.4
1993	307.7	27.6
1994	327.5	28.4
1995	315.1	24.6
1996	315.9	21.9
1997	316.0	20.9
1998	302.9	19.0
1999	308.4	21.4
2000	325.2	19.5
2001	304.6	15.1
2002	306.3	16.3
2003	320.4	17.7
2004	324.1	18.5
2005	324.6	17.5



Source: State DBEDT, Databook

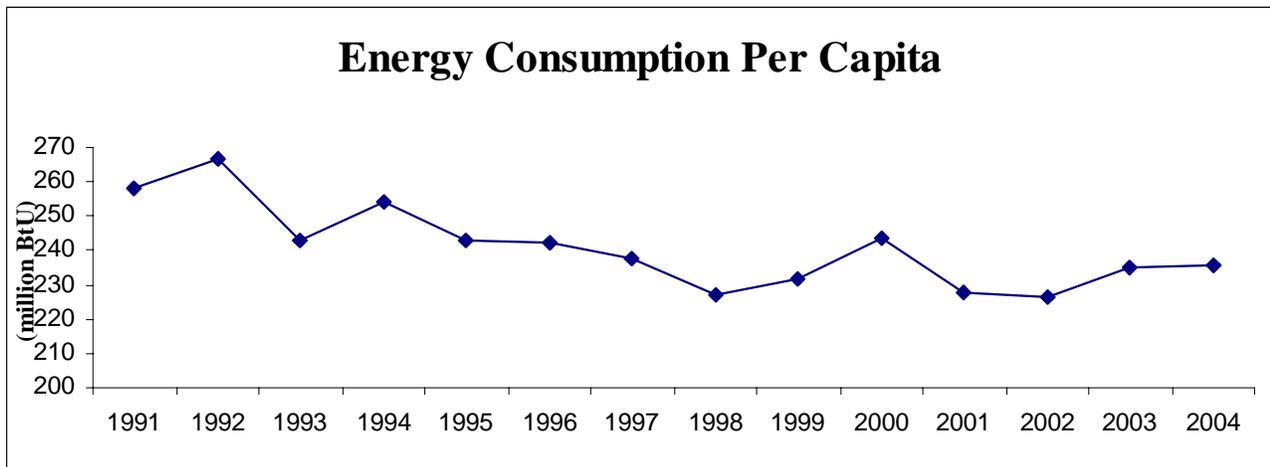
# Environmental Indicators

## Energy Used Per Capita

The decrease in total energy used per capita indicates more efficient use of energy.

### Energy Used per capita

Year	Per Capita (million BtU)
1991	258
1992	267
1993	243
1994	254
1995	243
1996	242
1997	238
1998	227
1999	231
2000	244
2001	228
2002	226
2003	235
2004	235



Source: DBEDT Databook 2005.

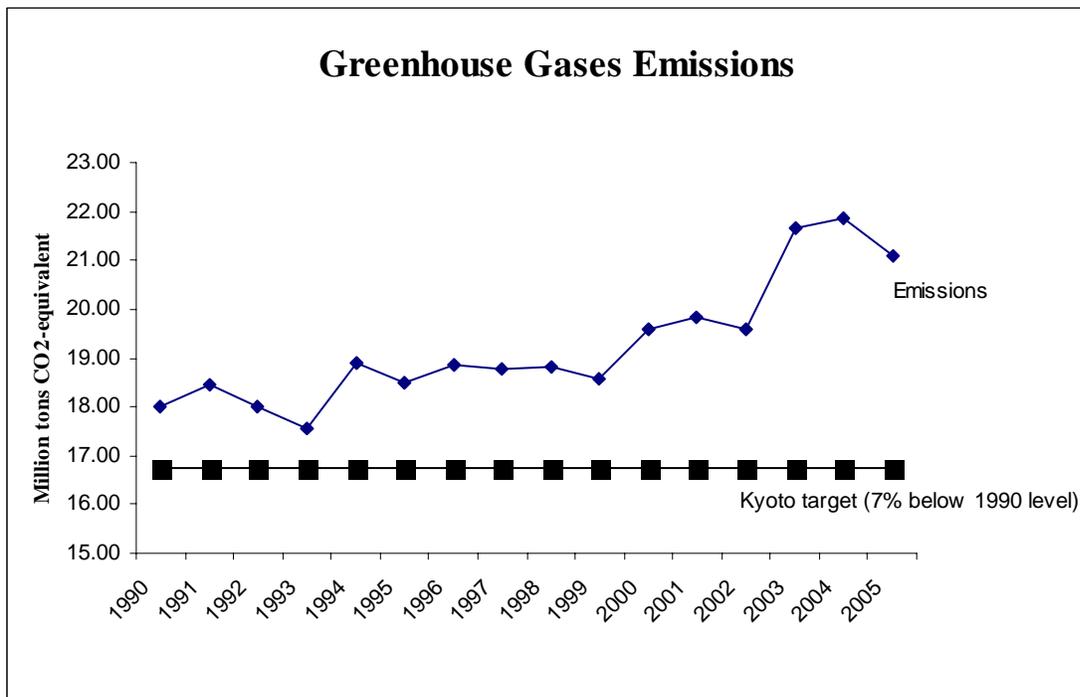
# Environmental Indicators

## 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 Gases Emissions in Millions of Tons Carbon Dioxide Equivalent by Year

Year	Million Tons CO <sub>2</sub> -equivalent
1990	18.00
1991	18.45
1992	18.02
1993	17.57
1994	18.88
1995	18.48
1996	18.84
1997	18.78
1998	18.83
1999	18.59
2000	19.59
2001	19.84
2002	19.59
2003	21.68
2004	21.88
2005	21.11



Source: DBEDT SID.

Note: Y axis does not start with zero. The estimate of Hawai'i's greenhouse gas emissions was revised based upon a review of all data, collection of some additional data, update or correction of some formulas, and recalculation of all values.

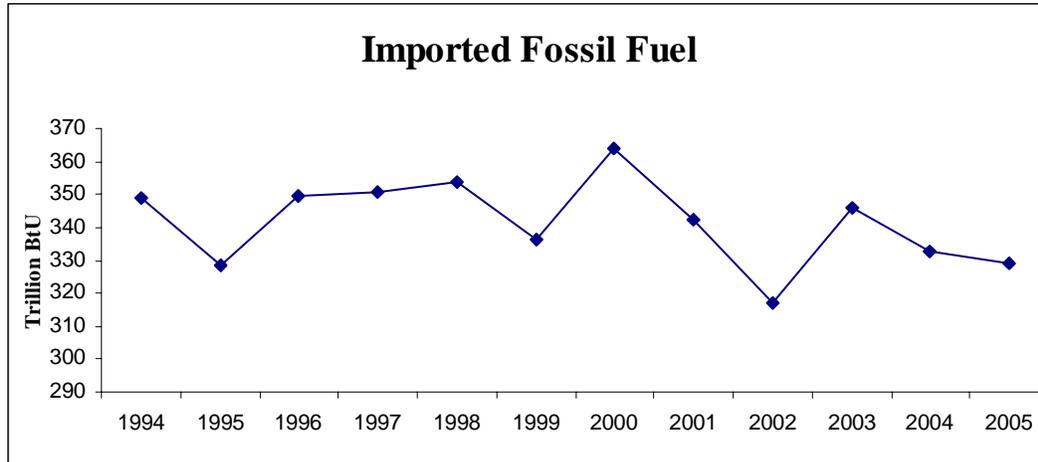
# Environmental Indicators

## Fossil Fuel Imported into Hawai'i

Fossil fuels are coal, oil, and natural gas that formed inside the earth from the remains of plants and animals that lived many years ago. The table below shows the amount of fossil fuel imported into Hawai'i.

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

Year	Imported Fossil Fuel (Trillion BtU)
1994	348.7
1995	328.4
1996	349.3
1997	350.5
1998	353.7
1999	336.6
2000	363.8
2001	342.1
2002	317.1
2003	345.9
2004	332.9
2005	329.13



Source: State of Hawai'i, DBEDT Data Book 2005.  
Note: The vertical axis does not begin at zero.

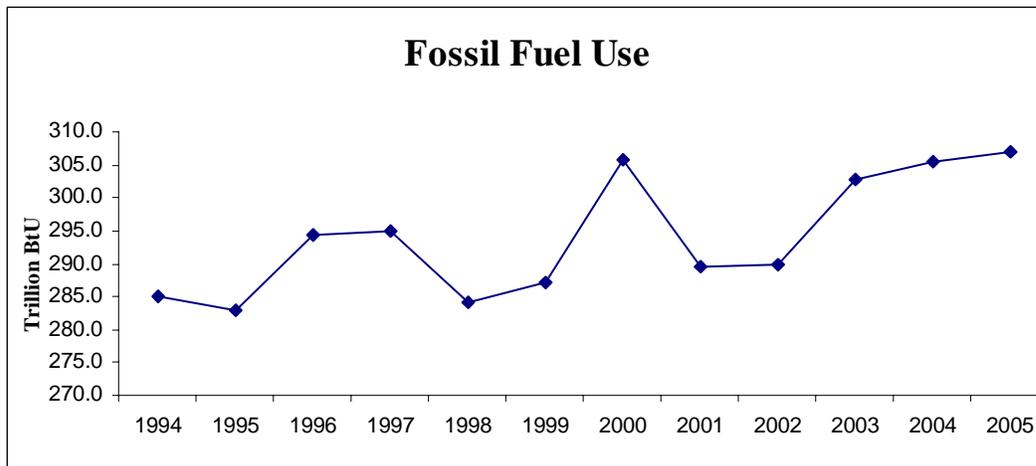
# Environmental Indicators

## 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.

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

Year	Fossil Fuel Use (Trillion BtU)
1994	285.0
1995	283.0
1996	294.5
1997	295.1
1998	284.0
1999	287.0
2000	305.7
2001	289.6
2002	290.0
2003	302.7
2004	305.6
2005	307.1



Source: State of Hawai'i, DBEDT Data Book 2005.

Note: The vertical axis does not begin at zero.

# Environmental Indicators

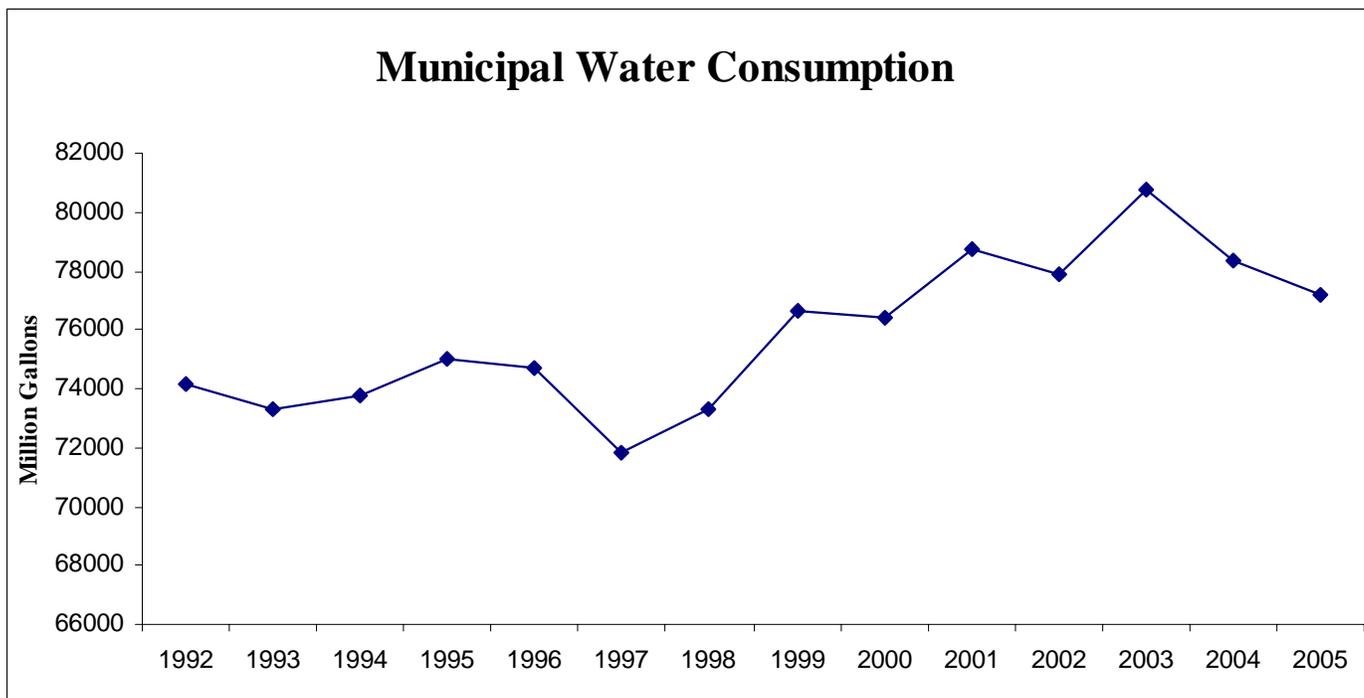
## Municipal Water Consumption

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

The table below shows water consumption through the respective municipal (county) water distribution systems.

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

Year	Water consumption (million gallons)
1992	74,117
1993	73,338
1994	73,732
1995	74,992
1996	74,728
1997	71,810
1998	73,301
1999	76,631
2000	76,401
2001	78,748
2002	77,868
2003	80,735
2004	78,345
2005	77,171



Source: State of Hawai'i Data Book 2005. Note: i) These figures include only municipal water supply. Military, private and plantation water systems are not included. ii) The vertical axis does not begin at zero.

# Environmental Indicators

## Wastewater Treatment and Reuse

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

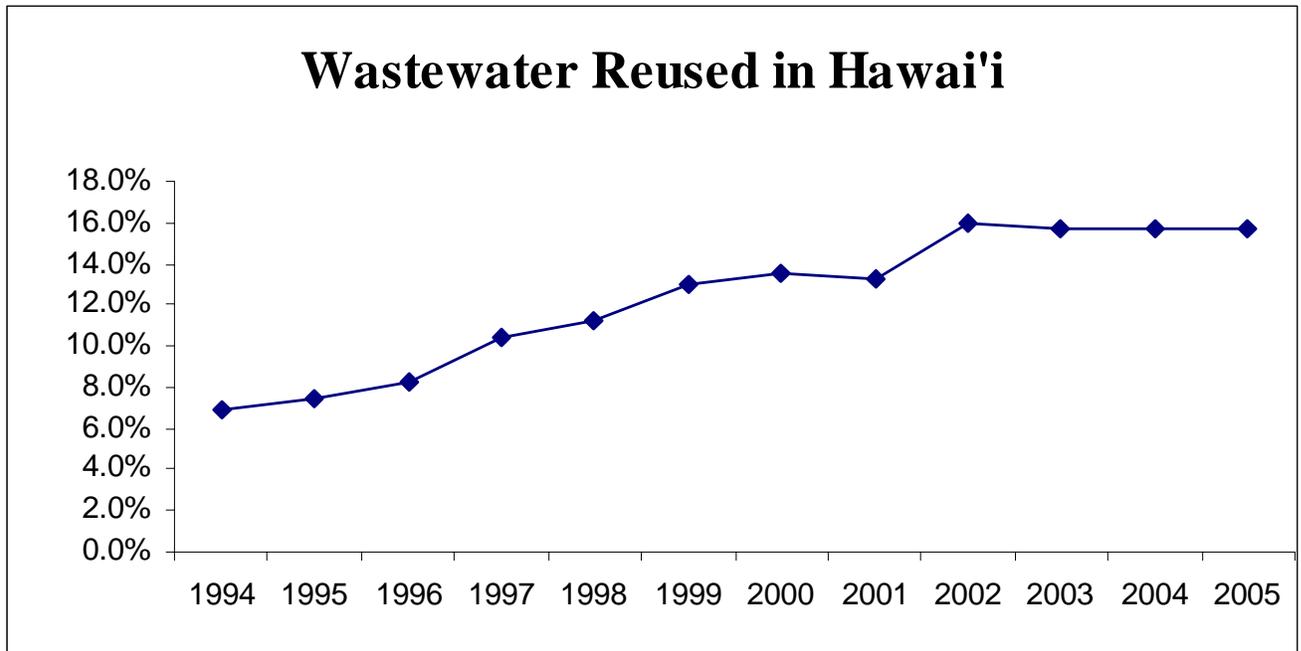
The table below shows the rate wastewater was treated and reused in millions of gallons per day (MGD).

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

Year	% Reused
1994	6.9%
1995	7.4%
1996	8.2%
1997	10.4%
1998	11.3%
1999	13.0%
2000	13.5%
2001	13.3%
2002	16.0%
2003	15.7%
2004	15.7%
2005	15.7%

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.

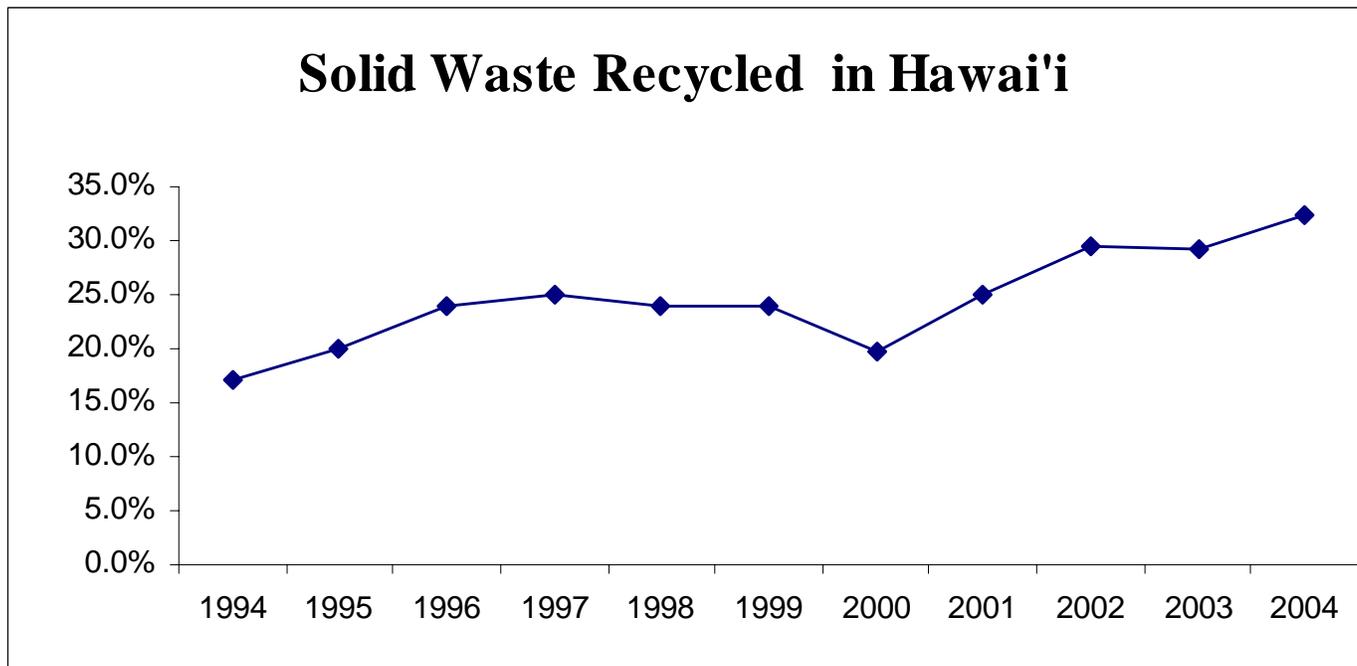
The following table shows the total amount of municipal solid waste recycled or composted. The amounts diverted do not include waste sent to H-Power for incineration and power generation.

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

Year	% Diverted
1994	17.0%
1995	20.0%
1996	24.0%
1997	25.0%
1998	24.0%
1999	24.0%
2000	19.7%
2001	25.0%
2002	29.6%
2003	29.1%
2004	32.5%

Source: Hawai'i Department of Health

Note: The 2000 numbers are partial as not all facilities reported to DOH.



# Environmental Indicators

## Hazardous Waste Generated

Hazardous wastes are classified as either ignitable, corrosive, reactive or toxic. These wastes have components that are 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 amounts biennially to the Director of Health.

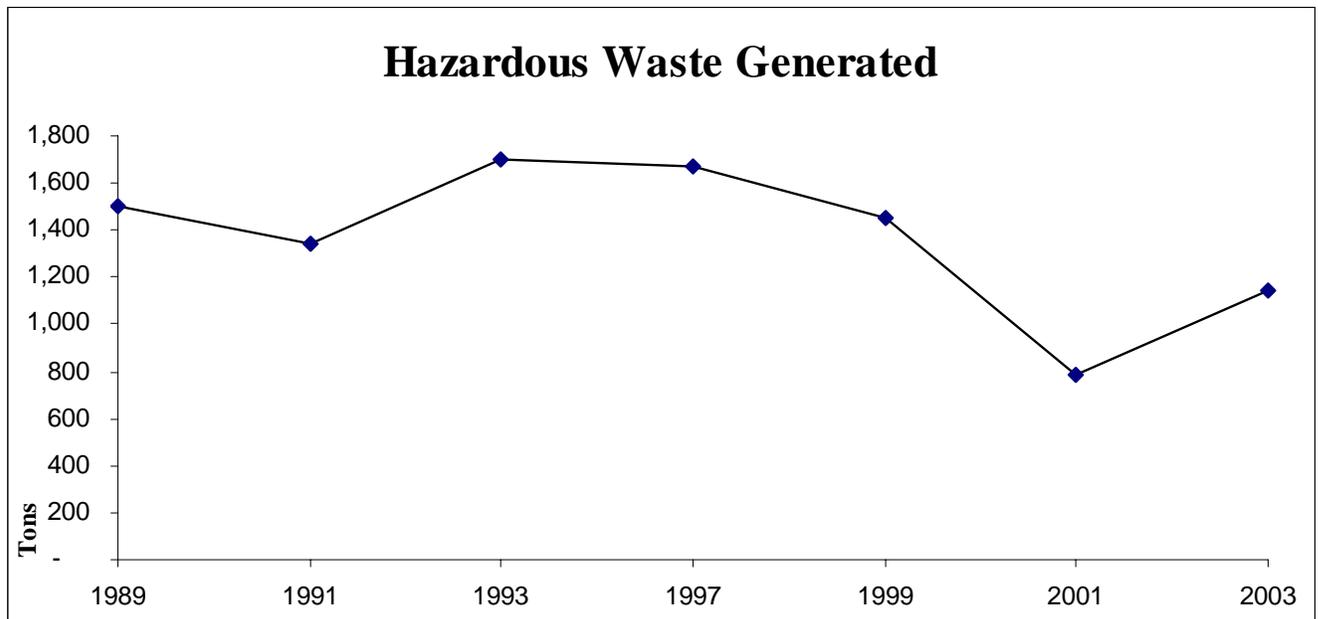
### Total Hazardous Waste Generated by Large Quantity Generators in Hawai'i Fed. Fiscal Yr. (Oct- Sept)

Year	Waste Generated in tons
1989	1,499
1991	1,343
1993	1,702
1997	1,669
1999	1,456
2001	781
2003	1,139

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.



# Environmental Indicators

## Biodiversity Maintenance

### Managed Forest Areas

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

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

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

Source: State of Hawai'i Data Book 2003.

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

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

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

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



# Environmental Indicators

## Watershed Partnerships

Forested watersheds provide us with nearly all of our state's fresh water. Watershed Partnerships are voluntary alliances of public and private landowners committed to the common value of protecting large areas of forested watersheds for water recharge and other values. As of 2006, more than 725,000 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

### Kaua'i Watershed Alliance (75,000 acres)

Ben A. Dyre Family Limited Partnership  
Kaua'i Department of Water  
Kamehameha Schools  
Kaua'i Ranch, LLC  
Lihue Land Company  
McBryde Sugar Company, Ltd.  
Princeville Corporation  
State Department of Land and Natural Resources  
Grove Farm Company, Incorporated

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

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

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

Kamehameha Schools  
Kapualei Ranch  
Ke Aupuni Lokahi Enterprise Community Gov Bd  
EPA  
Hawai'i Department of Health  
State Division of Forestry and Wildlife  
Kalaupapa National Historical Park  
Maui County  
Maui Board of Water Supply  
Moloka'i-Lana'i Soil and Water Conservation District  
USDA Natural Resource Conservation Services  
US Fish & Wildlife Service  
US Geological Services  
The Nature Conservancy of Hawai'i

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

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

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

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

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

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

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

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

Source: DLNR, DOFAW

# Environmental Indicators

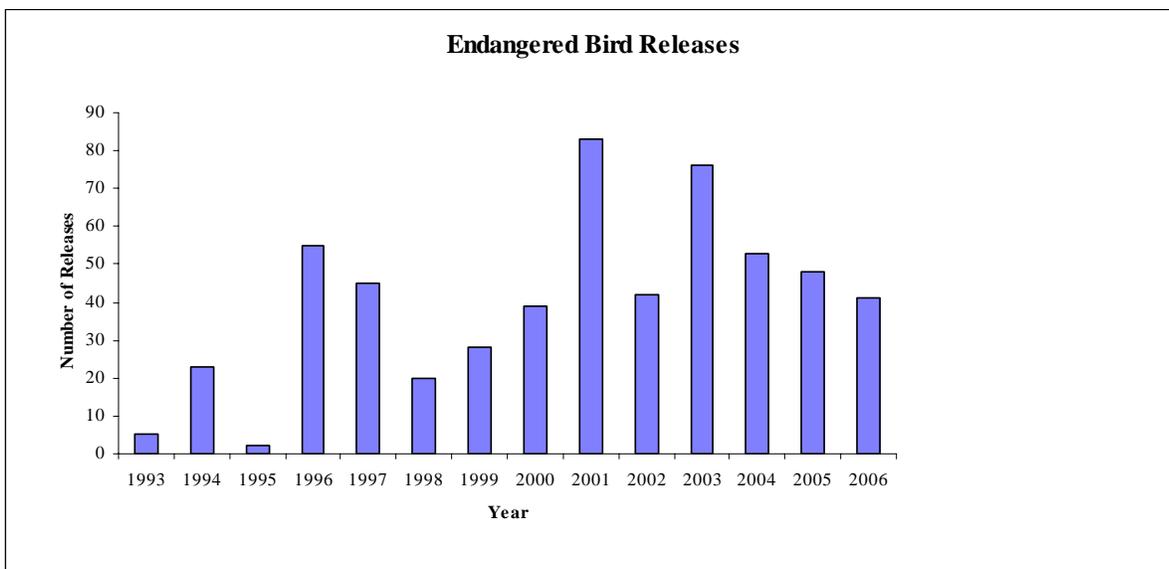
## Hawai'i Endangered Bird Conservation Program

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 from breeding programs do not survive in the wild.

### Endangered Bird Releases

Year	Alala	Amakhi	Omao	Iiwi	Nene	Puaiohi	Palila	Totals
1993	5							5
1994	7	16						23
1995			2					2
1996	4			2	49			55
1997	8		23		14			45
1998	3				17			20
1999					14	14		28
2000					34	5		39
2001					68	15		83
2002					34	8		42
2003					48	18	10	76
2004					31	17	5	53
2005					24	17	7	48
2006					20	21		41
<b>Totals</b>	<b>27</b>	<b>16</b>	<b>25</b>	<b>2</b>	<b>353</b>	<b>115</b>	<b>22</b>	<b>560</b>

Note: These data are as of July 15, 2006. Palila are released in December. Source: DLNR, DOFAW.



# Environmental Indicators

## Health of Hawai'i Fisheries

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

The tables below shows the figures for the bottomfish *spawning potential ratio (SPR)* compiled by the Pacific Islands Fisheries Science Center of the National Marine Fisheries Service. Archipelagic SPR values of less than 20% are interpreted to mean that the overall stock is subject to recruitment overfishing. For more localized areas, such as the Main Hawaiian Islands, low values of SPR reflect relatively high reductions in localized abundance. Although localized reductions in abundance contribute to the overall stock condition, their significance is primarily measured in the context of sociological and economic factors within the fishery.

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

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<b>‘Ehu</b>	6	7	3	8	4	7	4	9	8	6	9
<b>Hapu‘upu‘u</b>	33	21	15	23	16	27	24	30	26	29	28
<b>‘Onaga</b>	9	6	4	5	5	6	6	3	5	10	8
<b>Opakapaka</b>	37	35	25	32	24	28	33	33	32	32	26
<b>‘Uku</b>	37	40	35	29	29	47	33	26	27	19	22

Source: National Marine Fisheries Service.

Note: SPR is calculated from catch size composition and commercial catch rate. SPR values of less than 20% are thought to be indicative of, recruitment overfishing, the point at which there may be too few spawning fish remaining to maintain the population. Target SPR values for ehu and onaga recovery are 20%.

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

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<b>‘Ehu</b>	38	41	43	42	38	37	39	40	37	36	36
<b>Hapu‘upu‘u</b>	51	48	49	49	44	47	49	51	45	47	44
<b>‘Onaga</b>	39	33	39	25	22	34	27	26	26	28	28
<b>Opakapaka</b>	53	54	52	52	47	46	52	51	47	48	43
<b>‘Uku</b>	52	56	57	51	50	55	52	48	45	47	42

Source: National Marine Fisheries Service.

# Environmental Indicators

## Air Quality Measurements in Honolulu

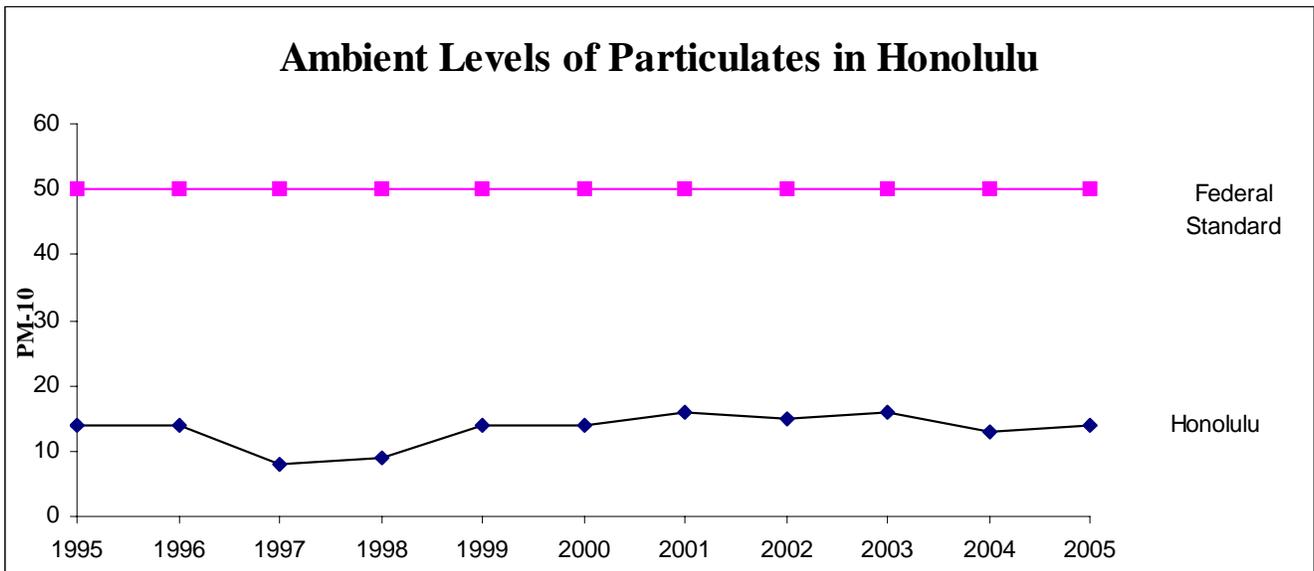
The EPA has set the annual average of small particulate matter, or PM10, at 50 micrograms/cubic meter. PM10 is defined as particulates with an aerodynamic diameter less than or equal to 10 microns. At the Honolulu monitoring station, located in the heart of downtown, the annual average concentration of particulates varied from 14 to 16 micrograms/m3.

## Air Quality Measurements in Honolulu by Calendar Year

Year	Honolulu PM10
1995	14
1996	14
1997	8
1998	9
1999	14
2000	14
2001	16
2002	15
2003	16
2004	13
2005	14

Source: Hawai'i Department of Health.

Notes: PM<sub>10</sub> are annual means



# 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.

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

Year	Days beaches posted
1994	20
1995	16
1996	45
1997	28
1998	13
1999	26
2000	16
2001	20
2002	36
2003	0
2004	33
2005	121

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

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

Year	Oil	Chemical	Total Spills
1995	126	222	<b>348</b>
1996	237	230	<b>467</b>
1997	295	205	<b>500</b>
1998	225	305	<b>530</b>
1999	240	286	<b>526</b>
2000	163	303	<b>466</b>
2001	171	271	<b>442</b>
2002	218	268	<b>486</b>
2003	240	146	<b>386</b>
2004	211	146	<b>357</b>

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 maximum microbiological and chemical contaminant levels. Water which exceeds maximum contaminant levels (MCLs) is believed to be harmful to human health.

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

<b>Year</b>	<b>% Served with Clean Water</b>
1994	95.0%
1995	98.0%
1996	99.5%
1997	98.2%
1998	99.8%
1999	99.7%
2000	98.8%
2001	99.7%
2002	100.0%
2003	100.0%
2004	99.5%
2005	99.1%

Source: Hawai'i Department of Health.

## Stream Quality

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

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

<b>Year</b>	<b>Number of Impaired Streams</b>
2002	59
2004	70

Source: Hawai'i Department of Health. DOH published a list of impaired streams in 2002 and 2004.

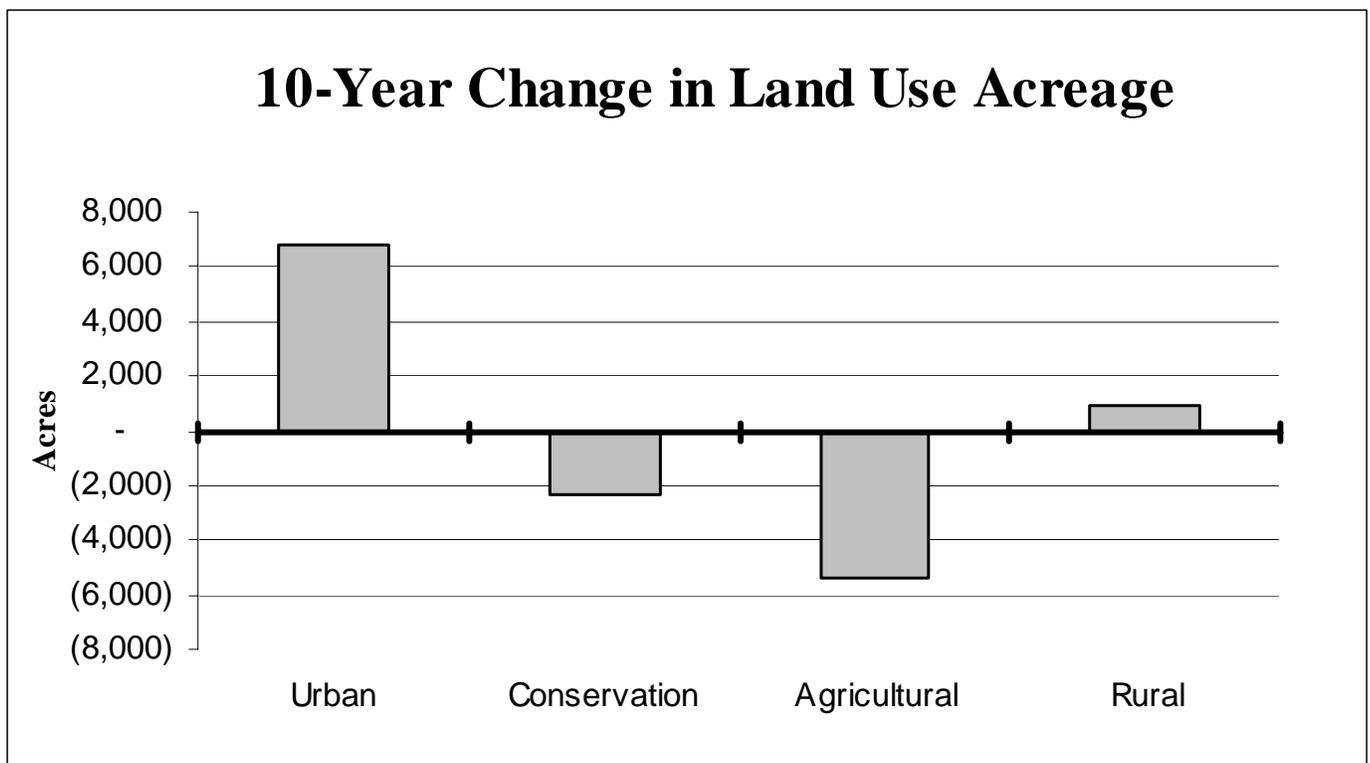
# Environmental Indicators

## 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.

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

Year	Urban	Conservation	Agricultural	Rural
1995	190,257	1,976,016	1,936,197	9,918
1996	191,941	1,974,994	1,935,526	9,927
1997	192,158	1,974,994	1,935,305	9,931
1998	193,001	1,974,994	1,934,423	9,970
1999	194,592	1,974,994	1,932,792	10,010
2000	193,308	1,976,004	1,933,066	10,010
2001	194,556	1,974,106	1,933,687	10,039
2002	195,495	1,973,973	1,932,862	10,058
2003	196,215	1,973,636	1,932,429	10,108
2004	196,991	1,973,636	1,931,378	10,383
2005	197,085	1,973,636	1,930,797	10,870



Source: Department of Business, Economic Development and Tourism, Databook 2005.

# Environmental Indicators

## State Environmental Expenditures

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

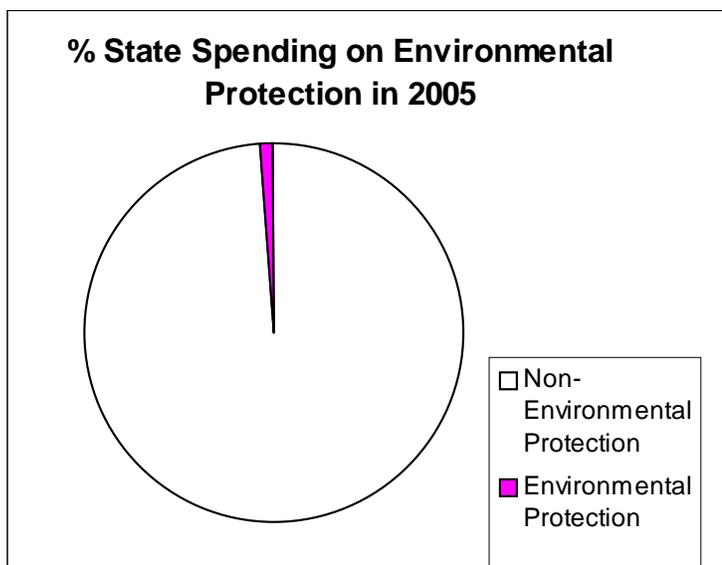
More funding to promote the goals of Hawai'i's environmental programs will result in better overall state environmental quality. The portion of expenditures for environmental protection reflects the priority given to environmental programs relative to other functions.

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

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

Fiscal Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
State Expenditures (million \$)	4,906	5,338	5,393	5,315	5,538	6,175	6,710	7,198	7,367	7,465
Environmental Expenditures (millions \$)	61	45	60	69	69	51	64	66	150	85
Environmental Spending as % of State Expenditures	1.25%	0.85%	1.10%	1.30%	1.24%	0.83%	0.95%	0.92%	2.04%	1.13%

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

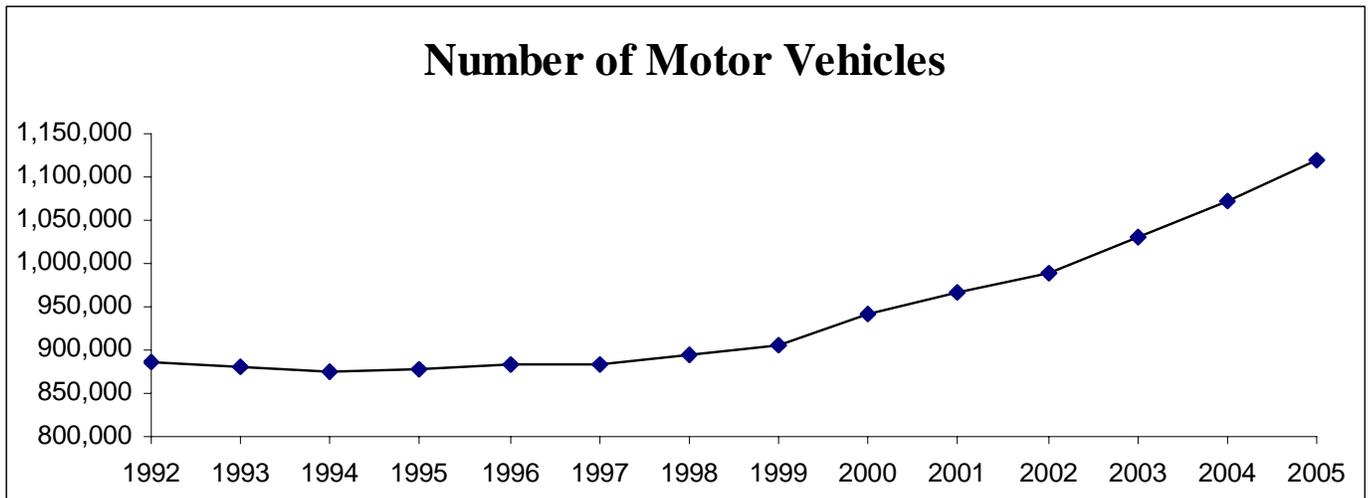
## Registered Motor Vehicles in Hawai'i

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 by Calendar Year

Year	Registered Motor Vehicles
1992	885,761
1993	880,152
1994	875,144
1995	877,756
1996	884,617
1997	884,267
1998	893,427
1999	906,935
2000	941,242
2001	967,146
2002	987,598
2003	1,030,845
2004	1,072,211
2005	1,119,838



Source: DBEDT Databook 2005.

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.

Note: The vertical axis does not begin at zero.

# Environmental Indicators

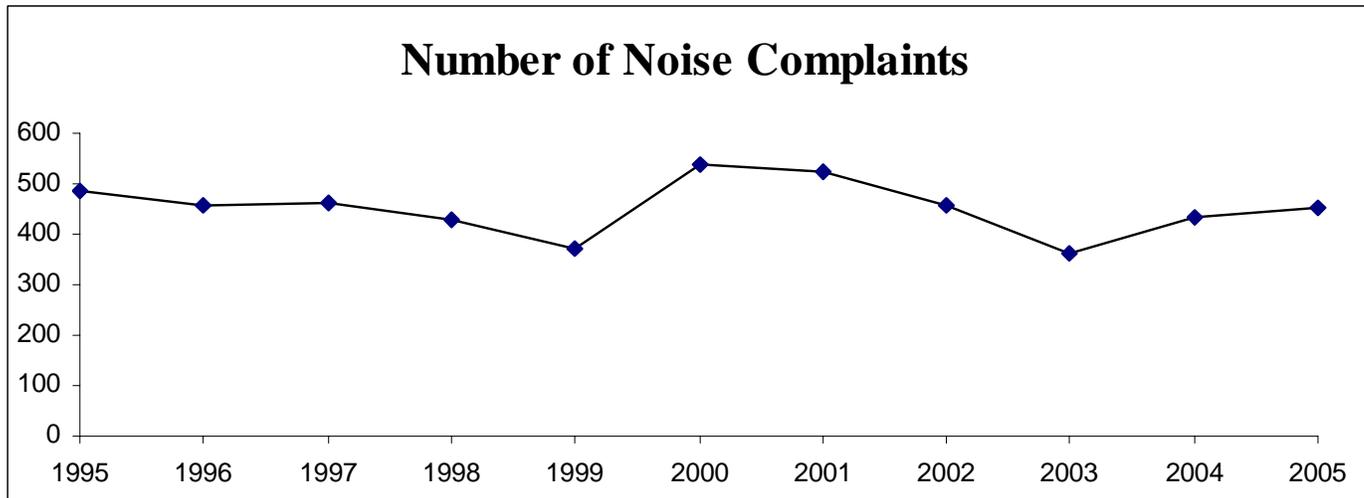
## Noise Complaints Received by the Health Department

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 received by the Department of Health.

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

Year	Noise complaints
1995	487
1996	457
1997	461
1998	427
1999	372
2000	536
2001	523
2002	455
2003	363
2004	432
2005	453



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.

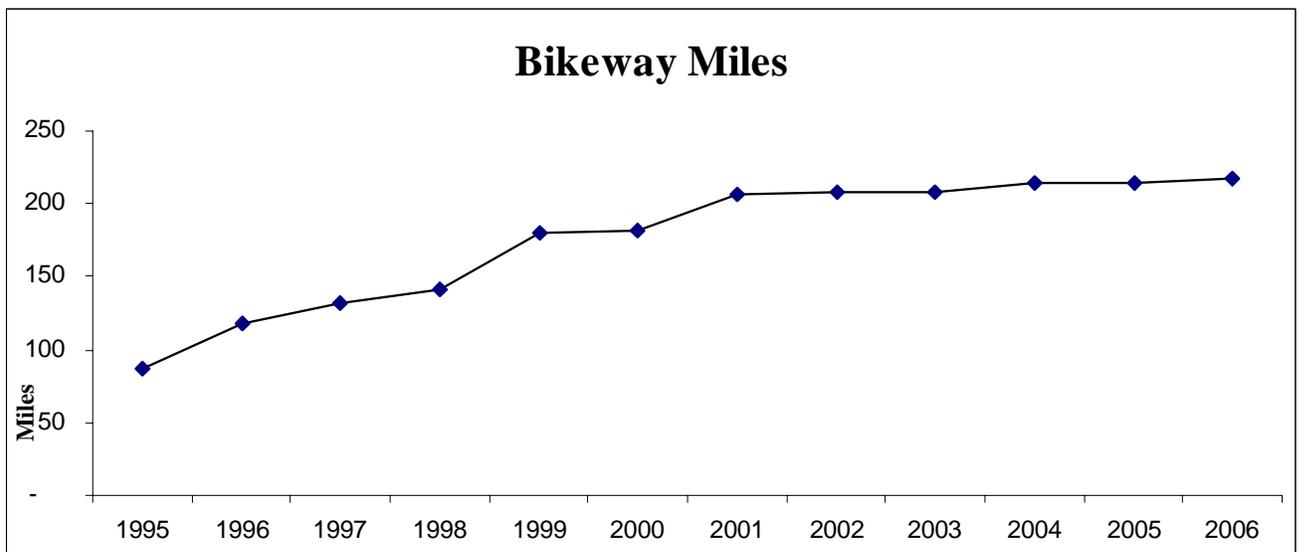
### Miles of Bikeways in Hawai'i

Year	Bikeway Miles
1995	87
1996	118
1997	132
1998	141
1999	180
2000	181
2001	207
2002	208
2003	208
2004	214
2005	214
2006	217

Source: State Department of Transportation, Highways Division

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

ii) Bikeway miles are provided only for those that are designated as such through signage. The State and counties have installed many miles of improved paved shoulders, 4 feet or wider, on roadways which can accommodate bicycles but are not designated routes.



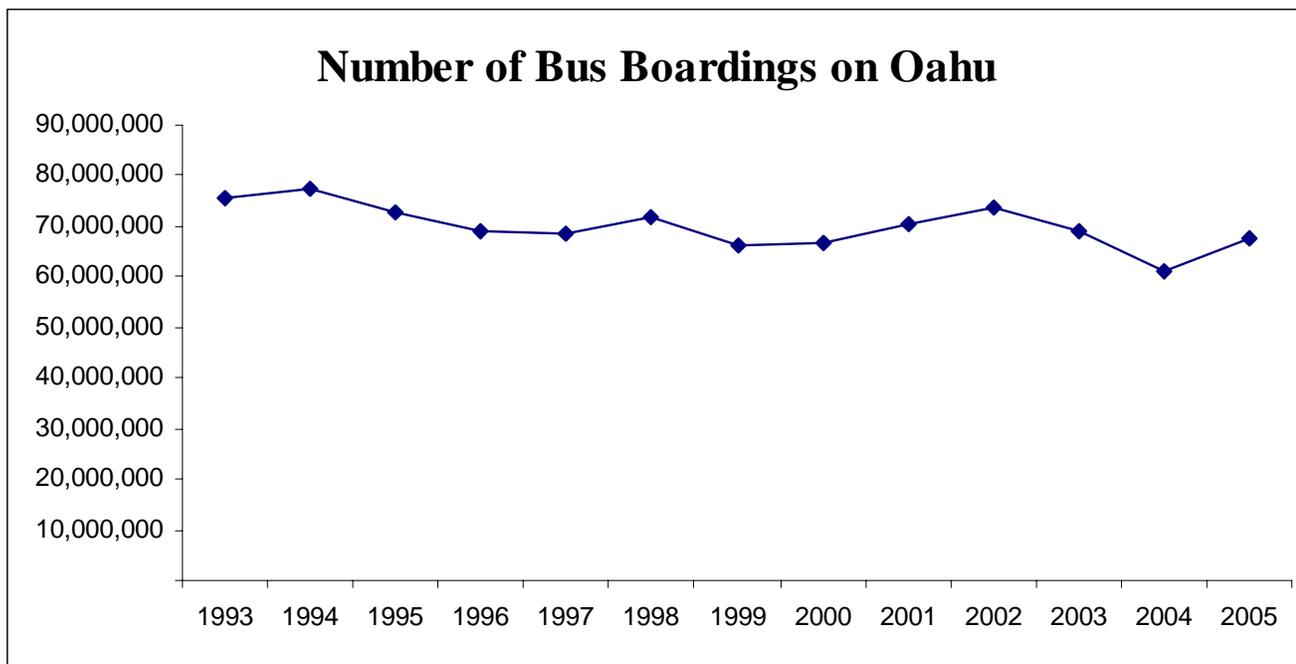
# Environmental Indicators

## Number of Bus Boardings on O'ahu

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

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

Year	Number of Boardings
1993	75,557,318
1994	77,338,147
1995	72,745,086
1996	68,923,459
1997	68,634,884
1998	71,822,553
1999	66,236,147
2000	66,602,820
2001	70,384,025
2002	73,524,474
2003	69,100,627
2004	61,297,980
2005	67,406,827



Source: DBEDT Databook 2005.

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.

# Environmental Indicators

## 2006 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. The method used is based on the National Wildlife Federation's 1971 Environmental Quality Index (Kimball, 1972). Individual indicator scores are assigned as follows:

Latest data equal to or better than desired level = 100

Latest data equal to undesirable level = 0

A linear scale is employed to assign scores for conditions falling between the limits listed above. Letter grades correspond to the assigned scores.

Indicator	Undesirable	Latest data	Desired	Score	Grade
% renewable and alternative energy	0	5.4	25	22%	E
greenhouse gases emissions in million tons	25	21.11	16.74	47%	D
Water consumption in million gallons	100,000	77,171	50,000	46%	D
% of treated wastewater reused	0	15.7	25	63%	C
% waste diverted	0	32.5	75	43%	D
Hazardous waste generated in tons	3,000	1139	500	74%	B
Acres of watershed partnerships	0	725,000	1,000,000	73%	B
Main HI Islands Onaga SPR	0	8	50	16%	E
Particulate levels as % of fed standard	100	28	75	100%	A
Number of impaired streams	100	70	0	30%	D
% population served water below MCL level	90	99.1	100	91%	A
Acres of conservation land	1.03	1.97	2.25	77%	B
Number of oil & chemical spills	1000	357	100	71%	B
% of state funding for environment	0	1.13	2.5	45%	D
Number of motor vehicles per capita	1	0.81	0.33	28%	E
Number of noise complaints	1000	453	100	61%	C
Bikeway Miles	0	217	1309	17%	E
Number of bus boardings	0	67.4	124	54%	C
<b>Overall Grade</b>				<b>53%</b>	<b>C</b>

# Environmental Indicators

## Assumptions:

The Environmental Council's assumptions for unacceptable conditions 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 Gases: The Council supports the Kyoto Protocol which calls for emissions of 7% below 1990 levels by 2010. The unacceptable level is 25 million tons.
- c) Water Consumption: The Council has set 50,000 million gallons per year as the optimum level. 100,000 is unacceptable.
- d) Treated Wastewater Reused: The reuse target is 25%.
- f) Waste Diverted: Pursuant to section 342G-3, HRS, it was the goal of the state to reduce the solid waste stream prior to disposal by 50% by the year 2000. The Council sets 75 as an optimum level.
- g) Hazardous Waste: The optimum target is 500 tons. 3,000 tons is unacceptable.
- h) Watershed Partnerships: Optimally, half of the state's conservation land should be in partnerships.
- i) Onaga SPR: The optimum level is 50%.
- j) Particulate Levels: The optimum level is 75% of the federal standard.
- l) Impaired Streams: 100 impaired streams is unacceptable.
- m) Oil and Chemical Spills: The optimum number is 100 spills or less.
- n) Conservation Land: The [State Land Use District Boundary Review](#), 1992, recommended that approximately 150,000 acres of Urban and Agricultural lands be converted to Conservation zoning. The report also identifies another 139,000 acres of non-Conservation land as "Areas of Critical Concern" that should be protected for its conservation resource value. Therefore, the optimum level is the conversion of 289,000 acres. Any less amount than one fourth of state lands in the Conservation district is unacceptable.
- o) Drinking Water: The optimum level to have 100% of the population drinking clean water.
- p) Environmental Spending: Based on information presented in World Resources Institute's 1992 [Environmental Almanac](#) the average state in the U.S. spends approximately 1.9% of its state budget on environmental protection. The optimum level is 2.5%.
- q) Motor Vehicles: One motor vehicle per person is unacceptable. The optimum level should be one motor vehicle for every three people (the average household size is three people).
- r) Noise Complaints: An average of 100 noise complaints per hundred thousand people is unacceptable. The optimum number is 10 or less per hundred thousand people.
- s) Bikeway Miles: According to [Bike Plan Hawai'i](#) a total of 1,309 miles of bikeways is proposed. The optimum condition is the construction of all the bikeways proposed.
- t) Bus Ridership: The present bus fleet is 525. The [FEIS for the Honolulu Rapid Transit Program](#) considered an expanded bus fleet of 997 buses for the Transportation System Management alternative. Based on Table 1.1 in the [Comprehensive Bus Facility & Equipment Requirements Study](#), we estimate that the number of boardings for a fleet of 997 buses would be 124,000,000 per annum. The optimum level is 124,000,000 boardings.

## Letter Grades:

For the sake of simplicity in interpreting the "0" to "100" scores, letter grades are used.

A =	90	to	100
B =	70	to	89
C =	50	to	69
D =	30	to	49
E =	10	to	29
F =	0	to	9

# Environmental Indicators

## 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, 2005. Honolulu, 2005.
- 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, March 2006.
- Hawai'i Department of Transportation. Bike Plan Hawai'i. Honolulu, 1994.
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- 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.

# Environmental Goals

The Environmental Council asked selected state and county agencies the three questions listed below. Responses by the agencies are reprinted in the following pages.

- 1. Your agency's environmental goals for fiscal year 2006 (July 2005 to June 2006).**
- 2. Your agency's environmental achievements in fiscal year 2006 (July 2005 to June 2006).**
- 3. Your agency's environmental goals for fiscal year 2007 (July 2005 to June 2006).**

# List of Agencies

The following is a list of agencies invited to submit their environmental goals. Agencies that submitted their goals are indicated with an asterisk (\*).

## **State of Hawaii**

- \*Department of Accounting and General Services
- Department of Agriculture
- \*Department of the Attorney General
- \*Department of Business, Economic Development & Tourism
- \*Department of Defense
- \*Department of Education
- \*Department of Hawaiian Homelands
- \*Department of Health
- \*Department of Land and Natural Resources
- \*Department of Public Safety
- \*Department of Transportation

## **City and County of Honolulu**

- Department of Design & Construction
- \*Honolulu Fire Department
- Department of Planning & Permitting
- \*Department of Parks and Recreation
- Department of Facility Maintenance
- \*Department of Transportation Services
- \*Board of Water Supply
- Department of Environmental Services
- Oahu Civil Defense Agency

## **County of Hawaii**

- Fire Department
- \*Office of Housing and Community Development
- \*Department of Parks and Recreation
- Planning Department
- \*Department of Environmental Management
- \*Department of Public Works
- \*Department of Water Supply

## **County of Kauai**

- Department of Public Works
- Office of Economic Development
- Fire Department
- Department of Planning
- Department of Water

## **County of Maui**

- Department of Fire Control
- \*Department of Housing & Human Concerns
- \*Department of Parks and Recreation
- Department of Planning
- \*Department of Public Works and Environmental Management
- Department of Water Supply

# State Accounting & General Services

## Central Services Division

### 1. Your agency's environmental goals for fiscal year 2006 (July 1, 2005 to June 30, 2006).

- a. Implement facility upgrades that will result in increased energy efficiency and conservation of resources.
- b. Increase the use of environmentally preferable custodial cleaning products.

### 2. Your agency's environmental achievements in fiscal year 2006 (July 1, 2005 to June 30, 2006).

- a. Replaced A/C chiller at the Kalanimoku Building.
- b. Initiated the replacement of the A/C cooling tower at the Kekuaaoa Building.
- c. Initiated a project for the partial replacement of A/C air handlers at the Keelikolani Building.
- d. Began field testing of environmentally preferable custodial cleaning products.
- e. Replaced the landscape irrigation system at the Kalanimoku Building with a system that incorporates rain sensors that will result in the conservation of water.
- f. Began the retrofitting of restroom toilet flush valves and basin valves with automatic sensor valves to conserve water.

### 3. Your agency's environmental goals for fiscal year 2007 (July 1, 2006 to June 30, 2007).

- a. Implement energy conservation measures as provided for in Act 96 and the Governor's Executive Directive No. 06-01.
- b. Convert to the use of environmentally preferable custodial cleaning products, herbicides, pesticides and fertilizers.
- c. Complete the retrofit of restroom toilet flush valve and basin valves with automatic sensor valves.
- d. Replace conventional light switches with occupancy sensors to conserve electricity.
- e. Increase the awareness of building occupants on steps that they as individuals can conserve energy in the workplace.
- f. Improve the quantity of recycled material collected from state office buildings.

# State Accounting & General Services

## Public Works Division

1. Your agency's environmental goals for fiscal year 2006 (July 1, 2005 to June 30, 2006).

The DAGS Public Works Division's goals included: implementation of proposed Construction Waste Management Guide Specifications and "measure compliance"; implementation of a reverse-vending machine program to support the HI-5 bottle/can recycling law.

2. Your agency's environmental achievements in fiscal year 2006 (July 1, 2005 to June 30, 2006).

A draft Construction Waste Management Guide Specification (CWMGS) was posted on the PWD website for implementation. A lot of the CWMGS has to do with monitoring and record-keeping of construction waste management. We were informed by some contractors that this takes time and money. Unfortunately, if we do away with the monitoring and record-keeping, there is no way that we can "measure compliance". PWD sought input from contractors/vendors/public for ideas to draft a construction waste management specification which would not add to project cost. Response from the construction industry was sparse, and without a mandate and adequate funding to continue, it lacked the necessary support for full implementation. Once funding for this type of initiative is identified, say, as part of a LEED certification initiative, then the specification can be used.

A pilot reverse-vending machine program was implemented by the Central Services Division at the State Capitol to determine feasibility of the concept. It is doing well, though the pilot will continue before expanding to other sites. The machines, which are supplied by Reynolds Recycling, are expensive, so they are still testing to see if it is feasible to expand the program to other sites. In essence, it was determined that the machines must have 24/7 security, hence the machines should be located inside buildings. We also learned that the State must service (empty) the machines, crush the aluminum cans, and store all the cans, glass and plastics for pick-up. This limits the ease of operating the program.

3. Your agency's environmental goals for fiscal year 2007 (July 1, 2006 to June 30, 2007).

DAGS - Public Works is actively participating in the "Lead by Example" program to implement Administrative Directive No. 06-01 and Act 96 SLH 2006 Omnibus Energy Bill. Our efforts include developing a LEED application guideline for State agencies, providing LEED and commissioning programmatic support, pilot projects to apply for LEED certification at Manoa Library and Kohala Library, and a pilot retro-commissioning project at the State Capitol.

# State Attorney General

**Question #1: What were your agency's environmental goals for fiscal year 200 (July 2005 to June 2006)?**

- Improve the effectiveness of statewide civil and criminal environmental enforcement actions;
- Continue to provide timely and comprehensive legal support to state agencies that regulate and enforce environmental laws;
- Assist in the coordination of state and federal environmental enforcement actions.

**Question #2: what were your agency's environmental achievements in fiscal year 2006 (July 2005 to June 2006)?**

We achieved our three goals, among other efforts, by completing major litigation involving unpermitted discharges to waters at Pila'a on Kauai in coordination with federal agencies and Hokuli'a on Hawaii.

**Question #3: What are your agency's environmental goals for fiscal year 2007 (July 2006 to June 2007)?**

- Aggressively pursue civil and criminal environmental enforcement actions;
- Continue to provide prudent and timely legal advice to the state environmental enforcement agencies;
- Work effectively with federal, state and local partners on environmental enforcement actions.

# State Dept. of Business & Econ. Dev.

## Strategic Industries Division

**Achievement for FY 2006.** Development and Passage of Vast Majority of the Lingle Administration's *Energy for Tomorrow* Strategic Energy Policy Package. In 2005, responding to the Governor's request for an integrated package of "bold, strategic energy initiatives", DBEDT and its Strategic Industries Division developed legislative measures that were approved by the Governor and proposed as the *Energy for Tomorrow* plan. While the Governor's "omnibus" energy bill was disaggregated, about 95% of the measures were reflected in several bills passed by the 2006 Legislature and enacted into law by the Governor's signature.

These measures comprised the vast majority of an integrated strategic framework of policies and activities that provides reliable, cost effective methods to conserve energy for tomorrow led by state agencies, to seek energy independence through indigenous renewable energy and a cost-competitive biofuels market and industry, and to move Hawaii toward a future hydrogen energy economy. These bold initiatives will achieve measurable results in the near, mid and long term – creating more sustainable and cost-effective *Energy for Tomorrow*.

Goal for FY 2007: Implement the Governor's *Energy for Tomorrow* Action Plan to Improve Hawaii's Energy Situation

DBEDT SID is leading efforts in the State to facilitate and coordinate implementation of the plan. Other elements of DBEDT involved in various ways include the Office of Planning, Land Use Commission, Hawaii Community Development Authority and the state Housing Agency, Natural Energy Laboratory of Hawaii Authority, High Technology Development Corporation, and Hawaii Strategic Development Corporation. Ultimately, the success of the plan depends heavily on private sector investment and action.

The following is a summary of the *Action Plan for Fiscal Year 2007*.

**Savings Through Efficiency.** Using two new full-time energy efficiency positions, DBEDT will provide assistance and training to State agencies designed to advance energy efficiency for state facilities and equipment so the State will "Lead by Example."

**Fuels Through Farming.** In addition to planning for implementation of the new statewide alternate fuels standard of 20 percent of highway fuel from alternate fuels by 2020, DBEDT will assist state vehicle fleet operators to implement the biofuels purchase preference for the State, develop a statewide multi-fuel biofuels assessment, and conduct a major, high level biofuels summit to bring key public and private sector leaders, including cabinet officials, land owners, energy companies, and biofuels producers together to catalyze creation of a major biofuels industry in Hawaii.

**Security Through Technology.** The Hawaii Renewable Hydrogen Program within DBEDT will establish the Hydrogen Investment Capital Special Fund, using the funds to advance the Program.

**Empowering Hawaii's Consumers.** DBEDT will develop proposals to restore DBEDT's ability to obtain critical energy industry data necessary for the Director to provide analysis and advice to State energy consumers and stakeholders in his statutory role as the Energy Resources Coordinator (ERC). These energy data analytic functions also support the Governor and ERC in planning for and effectively responding to energy emergencies, such as disruption of energy supplies or other crises, as well as to systematically assess and develop recommendations for public and private sector initiatives to improve Hawaii's energy and economic security.

# State Dept. of Business & Econ. Dev.

## Office of Planning

### Achievements in FY2006

- Prepared and disseminated a Users Guide for the Special Management Area (SMA) Permit in order to improve public awareness and understanding of SMA purposes and procedures.
- Conducted statewide workshops focusing on rural policy and regulatory frameworks and developing a common understanding of rural land use, its role in managing growth and key rural land use policies. These workshops will facilitate and inform the work of the Land Use Commission, the County Planning Departments. These workshops assisted in providing a compelling vision for rural areas as an alternative to conventional development patterns, explored the framework and common policies and standards for rural land use planning and policy, and provided examples of successful rural planning systems.
- Conducted a second set of statewide workshops exploring in depth a wide range of BMPs, tools, and standards that promote effective rural land use policy and effective management of rural communities, landscapes, and environmental quality. These include:
  - 1) techniques for planning and managing rural centers; 2) rural design and siting practices; 3) appropriate rural development standards and codes; 4) rural infrastructure and support systems; and 5) rural land protection strategies.
- Conducted a third set of statewide workshops on Low Impact Development (LID) strategies and techniques for managing and mitigating stormwater runoff in watersheds. These workshops covered the continuum of LID applications.
- Held a stakeholder workshop and met with environmental groups, small- and large-business ocean users, and other stakeholders as part of the process of updating the Ocean Resources Management Plan.
- Continued to work toward obtaining Federal approval of Hawaii's Nonpoint Pollution Control Program.
- Prepared numerous educational and informational materials to mitigate coastal hazards: Earthquake Hazards and Estimated Losses in the County of Hawaii; Tsunami: The Great Waves (revised); and Improved Building Code Policies as a hazard mitigation tool for Hawaii County.
- Conducted 77 Federal Consistency Review of Federal actions for consistency with Hawaii Coastal Zone Management objectives and policies in the calendar year 2005.

### Goals for FY2007

- To conduct statewide planning activities to promote the orderly future growth and development of the State pursuant to Chapter 225M, HRS.
- To administer a comprehensive system of public planning on a statewide basis to enhance the overall effectiveness of the Hawaii State Planning Act, Chapter 226, HRS.
- To administer a State land use program that reflects public policies and concerns and presents guidance and recommendations before the Land Use Commission as bases for land use decisions affecting the development and growth of the State pursuant to Chapter 205, HRS.
- To carry out lead agency responsibilities for the Hawaii Coastal Zone Management program as specified in Chapter 205A, HRS.

# State Department of Defense

## **What are your agency's top environmental goals for the period from July 2006 to June 2007?**

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

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

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

## **What are the results of your agency's efforts in achieving your July 2006 to June 2007 goals?**

Measurable progress has been made in the areas of invasive species eradication while continuing to protect and recover endangered species while introducing native plant species. We continue to conduct awareness training via events such as National Public Lands Day, Earth Day and by working directly with Hawaii's youth. Ongoing projects to sustain and enhance our valuable training lands have increased this past year.

Training and implementation of the Affirmative Procurement Plan has been instituted this past year. Significant clean-up projects throughout the state have been conducted this past year. Continual monitoring has been programmed to sustain and enhance the compliance level. The integration of new pollution prevention methods and training is ongoing.

## **What are your environmental goals for the period from July 2006 to June 2007?**

Our strategy is to *sustain* our resources (land, air & water) to secure our future. While continuing to implement our previous year's goals, we will enhance training of our Soldiers, members of the Department of Defense and our neighbors. We will integrate sustainability into all activities by using the ISO 14001, (Environmental Management Systems) to implement our strategy and to assist this department in attaining its goals. Our goals are to foster an *ethic* that takes us beyond environmental compliance to sustainability. *Strengthen* our operations by employing sustainable practices such as water conservation, and fuel and energy efficiency. *Training* land management by maintaining the resiliency and buffering needed to protect the environment and our surrounding communities from impacts of training. We will continue to favor environmentally sustainable *products* to reduce the introduction of pollutants. We will sustain our *natural resources* for our Soldiers, their families our workforce and our neighbors. Celebrate our heritage through responsible management of our cultural resources. Seize upon opportunities brought about by *technological* advancements. Continue to seek tools and solutions that improve efficiency and reduce cost while protecting our environment.

# State Department of Education

## **What are your agency's top environmental goals for the period from July 2005 to June 2006?**

Continue compliance with environmental regulations, including cesspool removal, MS4 storm water requirements, and Act 96. Act 96 requires a photovoltaic pilot project at DOE schools and also that buildings be designed to meet energy efficiency guidelines.

## **What are the results of your agency's efforts in achieving your July 2005 to June 2006 goals?**

Waipahu Intermediate School's cafeteria was designed with energy efficient features. A consultant contract was executed to complete 41 additional MS4 permits for schools and funding was received for consultant fees to complete MS4 permits for the balance of Oahu schools. Received \$11 million dollars for cesspool removal in fiscal year 2006 and an additional \$11 million in fiscal year 2007. DOE entered into an agreement with the Environmental Protection Agency relating to the requirement to close or convert large capacity cesspools.

## **What are your environmental goals for the period from July 2006 to June 2007?**

Compliance with environmental regulations, including cesspool removal, MS4 storm water requirements, and Act 96.

# State Hawaiian Home Lands

## 1. Environmental Goals for FY 2006

A. Invasive Species. Control the spread of gorse (*Ulex europaeus*) through tree planting and value-added land uses. Gorse is shade intolerant and dense shade from trees is intended to act as a natural barrier to reduce gorse seed dispersal. The long term goal is to decrease the use of fire and herbicides to control gorse and make DHHL land more productive.

B. Endangered Species. Create and improve off-site endangered tree, plant, and bird habitat through fencing, ungulate control, and outplantings in order to provide homestead lots to our beneficiaries.

C. Adopt-A-Ditch-Cleanup. Clean debris from drainage ditches on DHHL land and protect nearshore coastal waters from urban runoff.

D. Partnering. Partner with government, community groups, non-profit organizations, and private industry to achieve our invasive species, endangered species, and adopt-a-ditch goals.

## 2. Environmental Achievements in FY 2006

A. Invasive Species. Crushed, sprayed, and/or burned about 1200 acres of gorse in Humuula, Hawaii. Continued to monitor, maintain, and conduct research on over 300 acres of native and non-native tree plantings around the perimeter of the gorse to contain its spread.

### B. Endangered Species

i. Kapolei, Oahu. As part of the Habitat Conservation Plan (HCP) for the North-South Road Project in Kapolei, DHHL received a certificate of inclusion from the Department of Transportations' (DOT) takings permit to move 14 endangered red ilima or ko'olua'ula (*Abutilon mensiesii*) plants. The red ilima were transplanted to the Department of Land and Natural Resources (DLNR) 26 acre Abutilon Conservation Reserve Area. The HCP included funding for site development and long-term maintenance.

ii. Laiopua, Hawaii. The Laiopua Plant Mitigation Plan identified the endangered aupaka (*Isodendron pyrofolium*) and uhihui (*Caesalpinia kawaiiensis*) in the area slated for residential development. DHHL drafted contract documents to provide botanical, archaeological, and engineering services on 65 acres of off-site land to protect and outplant aupaka, uhiuhi, and a host of other dryland forest species native to the area. Implementing the Laiopua Mitigation Plan will allow for residential development in the nearby Villages of Laiopua.

iii. Kanakaleonui Bird Corridor, Hawaii. Monitored feral ungulates and fencing needs in Kanakaleonui, a 467 acre bird corridor between the koa-ohia forest of Hakalau Forest National Wildlife Refuge and the mamane forest in the Mauna Kea Forest Reserve. Kanakaleonui has some of the best high elevation koa and serves to re-establish connectivity of habitat and bird populations among the fragmented patches of native forest. Endangered birds associated with koa-ohia-mamane include the 'Akiapola'au (*Hemignathus monroi*), Hawaii Creeper (*Oreomystis mana*), Akepa (*Loxops coccineus coccineus*), Palila (*Loxioides bailleui*), and 'Io or Hawaiian Hawk (*Buteo solitarius*). Drafted grant funding to fence the site.

iv. Humuula, Hawaii. Conducted research on the endangered Hawaiian Hoary Bat (*Lasiurus cinereus semotus*) through the Hawaiian Bat Research Cooperative.

C. Adopt-A-Ditch-Cleanup. Hauled away tons of urban debris and silt from a drainage ditch in Nanakuli. Protected nearshore coastal waters from runoff.

D. Partnering. Partnered with (1) the DOT and DLNR on the red ilima habitat conservation plan while moving forward on the North-South Road to improve traffic conditions for Leeward Oahu; (2) Parker Ranch, University of Hawaii and the Big Island Invasive Species Committee regarding gorse control; (3) the Hawaiian Bat Research Cooperative regarding Bat research; and (4) the County, community groups, and private industry to haul away tons of urban debris from a Nanakuli drainage ditch.

## 3. Environmental Goals for FY 2007

A. Invasive Species. Continue to control the spread of gorse through tree planting, fire, and herbicide. Mitigate fireweed on pasture lots in Humuula. Make DHHL land more productive.

B. Endangered Species. Continue to create and improve off-site endangered tree, plant, and bird habitat through fencing, ungulate control, and outplantings in order to provide homestead lots to our beneficiaries.

C. Adopt-A-Ditch-Cleanup. Finalize a drainage ditch maintenance and cleanup plan for additional ditches on DHHL land.

D. Partnering. Continue to partner with government, community, and private industry to achieve our invasive species, endangered species, and adopt-a-ditch goals.

# State Department of Health

## I. Goals/Objectives for FY 2006 and FY 2007

The Department of Health (DOH) retains the general environmental goals developed with public input for its strategic plan in 1999 and 2001. The DOH reviewed the goals with its Environmental Management Advisory Group in 2005.

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

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

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

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

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

## II. Results of Efforts for FY 2006

DOH annually reports Indicators of Environmental Quality for air, water, and land: <http://www.hawaii.gov/health/environmental/env-planning/goals/goalsandindicators.html>. Some of the indicators also appear the Environmental Council's annual reports. The DOH also produces other annual or bi-annual reports.

We report certain activities affecting our goals. In general, DOH issues many permits, collects samples often and at many sites, and inspects sites and enforces often. These activities occupy most staff time and are the basics of environmental protection and enhancement by DOH. DOH also is improving its data systems. More details will appear in the DOH annual report. We note some specific activities below.

### Goal/Objective #1, Safe and Healthy Coastal Waters:

1. Ala Wai Sewage Discharge. The State suffered its worst sewage spill in March 2006 when the City & County discharged about 48 million gallons of raw sewage into the Ala Wai Canal because of a failure in the Beachwalk force main and had to post warnings as far as parts of Waikiki Beach. DOH is working on prevention and better response in partnership with the Surfrider Foundation, UH, City, canoe clubs, private citizens, and others.

2. Vigorous enforcement. The DOH & EPA settled two major water pollution enforcement cases, and DOH nearly settled a third one. **DOT**. Due to polluted runoff from DOT's facilities and construction work, the State Department of Transportation (DOT) will spend about \$50 M for projects over five years to reduce polluted storm water runoff from highways, airports and road construction sites. **Pfleuger**. Because of polluted storm water runoff to Pilaa reef, Kauai, James H. Pfleuger will pay \$1,170,000 to the State and \$830,000 to the EPA, and he will pay \$200,000 to replace certain cesspools with better sanitary facilities in the Hanalei area. This is apart from DLNR and other cases. **Hokulia**. After muddy storm water runoff to Kona waters from the Hokulia construction site in Fall 2000, in FY07 Oceanside will pay \$50,000 to the State Environmental Response Revolving Fund and \$150,000 for the repair of docks at Keauhou Boat Harbor in Kailua, Kona.)

3. Extensive and New Monitoring. The DOH collected and analyzed 2956 water samples, including 21 chemistry and 2947 bacterial samples; finished one year of sampling for the EPA national Ecoregion Monitoring and Assessment Program (EMAP Wadeable Streams); and advanced fish tissue and stream bed sampling quality assurance.

For both coastal and inland water monitoring, DOH also collaborated with many partners, such as Surfrider, Hanalei River Hui, UH-Manoa Microbiology Lab, Windward Community College, and DOE (Hakipuu Learning Center).

# State Department of Health

## Goal/Objective #2: Protect and Restore Inland Waters

1. Total Maximum Daily Loads (TMDLs, which are pollution budgets for impaired waters). EPA approved a revision to the Kawa Stream (Oahu) TMDLs; DOH completed draft TMDLs for Kapaa Stream (Oahu) and Huleia, Papakolea, Puali, and Nawiliwili Streams (Kauai). DOH completed bioassessments supporting TMDL development for Oahu and Hawaii islands' streams.

## Goal/Objective #3: Protect Groundwater

1. Overall, Hawaii's regulated drinking water systems met all standards all year for 97.1% of their customers.
2. DOH loaned \$42 M to counties for better drinking water systems in Sept. 2005.
3. DOH updated its drinking water rules for haloacetic acids (disinfection by-product), surface water treatment, and arsenic and radionuclides.
4. DOH raised concerns about building shallow drinking water wells in subdivisions which use cesspools and septic systems.
5. DOH expanded its financial aid to cover public water systems with qualifying wellhead protection activities.
6. While not a groundwater issue, DOH surveyed drinking water, shower, and toilet availability at Leeward Coast beach parks to help assessments of the homeless situation. (June 29, 2006)

## Goal/Objective #4: Protect & Rehabilitate Lands

1. Arsenic addressed. To protect residents, DOH continued its soil arsenic evaluation with soil and human exposure sampling in Kea'au, HI, and started new multi-increment sampling for large agricultural tracts for residential development.
2. System improvements for safe remediation and reuse of contaminated lands. DOH:
  - Advocated adoption of the Hawai'i Uniform Environmental Covenants Act, which became law in 2006. The law strengthens site specific controls to keep residual contamination in safe condition.
  - Implemented new Environmental Actions Levels to help and speed screening and preliminary risk assessments of contaminated sites.
  - Held the first Hawai'i Brownfields Forum to help cleanup and redevelop land.
  - With the Office of Planning, set up the Brownfields Cleanup Revolving Loan Fund and publicized the availability of loans to the public.
  - Specific sites: Completed two brownfields sampling and analysis plans to assess the Department of Hawaiian Home-lands East Kapolei Affordable Housing Project.
3. DOH reissued to the Navy a hazardous waste storage permit for Dept. of Defense hazardous waste, which is the only Treatment Storage or Disposal Facility (TSDF) permit in Hawaii. Commercial hazardous waste must use mainland TSDFs.
4. Waste Minimization: DOH worked with Hilton Waikoloa Village and Hawaii Prince Hotel in the Green Hotel Forums to decrease new waste and energy use.
5. Haz Waste Cleanups. DOH completed and certified closures of 2 hazardous waste generators facilities and issued 78 no further action letters for leaking underground (petroleum) storage tanks (LUSTs);

# State Department of Health

6. Public access improved. Reports from facilities with LUSTs were scanned onto a CD. This would provide an easy accessibility and reproduction for the public and will provide additional space in the filing cabinets.

7. Solid Waste. DOH reduced its permit backlog, receiving 59 applications and issuing 88 permits, handled 254 complaints, issued 77 warning letters, and 6 notices of violations, assessing penalties of almost \$3 M.

8. Deposit Beverage Containers had a 68% redemption rate in FY 06 (960M DBC sold), the first full fiscal year. California recycled about 55% in its first year.

9. Other Recycling remains at about 31% of statewide solid waste (metals, paper, plastic, green waste, other).

Goal/Objective #5: Protect and Enhance Indoor and Outdoor Air

1. Overall air quality. Hawaii's air quality remained far better than national and state standards.

2. Vog. For better vog (volcanic smog) monitoring and advisories, DOH planned and chose 2 new monitoring sites, and the legislature appropriated \$150,000 for construction.

3. Permits and enforcement. DOH issued 89 air permits for stationary sources and 185 permits for agriculture burning. DOH investigated 1,173 complaints and inspected 484 facilities and sources. DOH operated 16 monitoring stations statewide.

4. Data. DOH is setting up important data systems on facilities and air emissions.

5. Indoor Air: New Lead Rules Adopted; EPA approves. Hawaii Administrative Rules, Chapter 11-41, Lead-Based Paint Activities, was adopted on September 19, 2005. This rule meets U.S. Environmental Protection Agency (EPA) requirements, and EPA later delegated authority to DOH to implement a federal lead program in Hawaii.

# Dept. of Land & Natural Resources

## DIVISION OF FORESTRY AND WILDLIFE

### Goal

Plan and implement reforestation and management of deteriorating and disturbed state lands for commercial forest resource production, native resource protection, watershed value enhancement and other forest purposes.

Achievement – The Department of Land and Natural Resources, Division of Forestry and Wildlife and USDA Forest Service have agreed to work cooperatively to establish a first experimental tropical forest program in Hawaii and the Pacific. The two sites will be located on the island of Hawaii – a wet forest at Laupahoehoe in North Hilo, and a dry forest at Puu Waawaa in North Kona. The research program will focus on: tropical forestry, conservation biology, ecology and sustainable harvest of forest products, along with education, training, outreach and preservation of cultural values important to native Hawaiians.

### Goal

Insure viable populations of native species and increase populations of endangered species by protecting and managing their natural habitats by a system of state-owned and managed sanctuaries, forest and natural area reserves, and cooperative managed areas.

Achievement – The Board of Land and Natural Resources forwarded for Governor's approval, the Hawaii's Comprehensive Wildlife Conservation Strategy (CWCS) that was completed and submitted to the U.S. Fish and Wildlife Service's National Advisory Acceptance Team by the Division of Forestry and Wildlife. The CWCS is a strategic plan that comprehensively addresses Hawaii's current conditions of plant, wildlife and aquatic species and their habitats, identification of potential threats, and resulting efforts and strategies for their conservation.

### Goal

Advocate public access with private landowners to increase public use of trails and access.

Achievement – After years of negotiations, the Na Ala Hele Trails and Access program staff initiated a Memorandum of Understanding with Dole Foods Hawaii, Inc. on Oahu to allow public easement through private property and provide access to the state Poamoho trail. This was a community effort as hunting and hiking groups volunteered to help erect the fence and gate corridor to the Poamoho trailhead.

### Goal

Plan and implement expanded management plans for state forest reserves to effectively use new source of funding to protect and enhance forested watersheds.

Achievement – 2006 Legislature and Executive Branch, State of Hawaii amended chapter 183, HRS relating to protection of forest reserves statewide by establishing general administrative penalties for violations of the forest reserves law. Increase criminal fines for timber trespass. Allows all revenue derived from forest reserves, including fines or penalties for violations, to be deposited into the Forest Stewardship fund for management of the forest reserve system.

# Dept. of Land & Natural Resources

## Office of Conservation and Coastal Lands

1. Environmental goals for FY 06
  - Complete the Hawaii Coastal Hazard Mitigation Guide Book
  - Work with OHA to develop a natural resource conservation plan to protect the Papohaku Dune on Molokai
  - Complete Kuhio Beach Sand Bypassing Project
  - Conduct statewide workshops to disseminate information about the Comprehensive Integrated Shoreline Policy
  - Create new shoreline specialist position to improve shoreline certifications.
  
2. Environmental achievements for FY 06
  - OCCL successfully published the Hawaii Coastal Hazard Mitigation Guide Book
  - Completed Papohaku Dunes Natural and Cultural Resource Preservation Plan
  - Issued contract and Notice to Proceed for the Kuhio Beach Sand Bypassing Project
  - Completed workshops to disseminate information about the Comprehensive Integrated Shoreline Policy
  - Shoreline specialist position created. 117 site visits, 146 applications accepted, 99 certified
  - Provided funding to complete the mapping of erosion hazards on Oahu and Kauai
  - Continuing to act as local sponsor with the Department of the Army for the East Oahu Regional Sediment Project and 227 Beach Restoration Demonstration Projects
  - Completed new publication “ Natural Hazard Considerations for Purchasing Coastal Real Estate in Hawaii”.
  
3. Environmental goals for FY 07
  - Initiate comprehensive amendments to Title 13-5, Hawaii Administrative Rules related to Conservation Districts.
  - Initiate comprehensive amendments to Title 13-1, Hawaii Administrative Rules related to Rules of Practice and Procedure
  - Initiate amendment to Title 13-5, Hawaii Administrative Rules to designate Papohaku Dune to the Protective subzone
  - Complete the Kuhio Beach Sand Bypassing project
  - Procure funding and partnerships with the City and County and Hoteliers to initiate planning for the first phase of the Waikiki Beach Improvements. Seeking to raise \$1 million.

# State Land & Natural Resources

## Department of Land and Natural Resources, Engineering Division

### Goals – FY 2006

- Develop water and land resources to provide support to the programs which are designed to achieve the State's economic, agricultural, environmental and social goals, with priority given to State-sponsored projects.
- Provide engineering services to other divisions of the Department and other State agencies to execute Capital Improvements Program and/or operating, maintenance and repair projects, utilizing sound engineering practices.
- Protect people, property and natural resources from natural hazards through planning, management, mitigative efforts and regulatory programs.

### Achievements – FY 2006

- Provision of engineering services to other divisions to provide individual wastewater system improvements at various DLNR facilities within available capital improvement funding constraints.
- Provision of engineering services to other divisions to mitigate environmental hazards on State-owned lands.

### Goals – FY 2007

- Develop water and land resources to provide support to the programs which are designed to achieve the State's economic, agricultural, environmental and social goals, with priority given to State-sponsored projects.
- Provide engineering services to other divisions of the Department and other State agencies to execute Capital Improvements Program and/or operating, maintenance and repair projects, utilizing sound engineering practices.
- Protect people, property and natural resources from natural hazards through planning, management, mitigative efforts and regulatory programs.

# State Land & Natural Resources

## Commission on Water Resource Management

### TOP THREE ENVIRONMENTAL GOALS FOR FY 2006:

#### Goal #1:

Update the water use permitting process by requiring applicants to identify and analyze alternative sources of water that may be used to meet their projected water demands. By using alternative sources of water where practical, public trust resources (i.e., ground and surface waters) may remain in their natural state, in the streams and in the underground aquifers, which supports the health of stream life and near-shore waters.

#### Goal #2:

Begin setting instream flow standards for streams with initial focus on West Maui and East Maui to establish appropriate environmental flows.

#### Goal #3:

Complete Phases I and II of the refinement and modification of Robust Analytical Model (RAM) to update the sustainable yield estimates for those areas that have deep monitor wells, and to use this analysis to extrapolate to regions within the State that do not have deep monitor wells. Accurate sustainable yield estimates will provide the Commission with information to balance reasonable and beneficial uses with protection of the groundwater resources.

### RESULTS OF EFFORTS TO ACHIEVE THOSE GOALS:

#### Goal #1:

The Commission is now requiring water use permit applicants to identify and analyze all practical alternative sources of water, but our experience throughout the year has illuminated practical difficulties in establishing standards for an adequate statement of reasonable alternatives, given the variabilities in use location and type and the cost and water quality of identified alternative sources. The level of analysis varies with the applicants' ability to hire professional help. The Commission will use its working experience with this new requirement to develop a standard set of items on the water use permit application that can be reasonably applied to all applicants.

The Commission has also been examining the amounts of proposed irrigation use to determine whether they are following appropriate standards of consumption. A consultant has been enlisted to aid in this quest. Several staff meetings were conducted to progress toward standardized identification and analysis on the permit application.

#### Goal #2:

The Commission's goal in FY 2006 to begin setting instream flow standards for streams on West Maui and East Maui is a result of two Petitions: 1) To amend the Interim Instream Flow Standards (IIFS Petition) for 27 streams in East Maui (East Maui Petition) and; 2) To amend the Interim Instream Flow Standards for four streams in West Maui (Waihee, Waiehu, Iao, and Waikapu, also referred to as Na Wai Eha) (Na Wai Eha Petition).

For West Maui, in addition to the pending Na Wai Eha Petition, a subsequent citizen complaint and declaratory order to immediately cease wasting water was filed against Wailuku Agribusiness Co., Inc. and Hawaiian Commercial & Sugar Company (Na Wai Eha Waste Complaint). Due to the complex hydrologic issues in the Wailuku area and the interaction between the Iao high-level aquifer and Na Wai Eha streams, the Commission moved to hold a combined contested case hearing for the IIFS Petition, the Iao Ground Water Management Area High-level Source Water Use Permit Applications, and the Na Wai Eha Waste Complaint. However, prior to initiation of the contested case hearing, the parties involved in the Na Wai Eha Waste Complaint were ordered into mediation. Mediation proceedings are currently set to begin in September 2006.

In an effort to gather the best available information to address the Na Wai Eha Petition, the Commission, in cooperation with the County of Maui and the Office of Hawaiian Affairs, entered into a cooperative agreement with the United States Geological Survey (USGS) in June 2006 to study streamflow and stream-macrofauna characteristics in Central Maui.

# State Land & Natural Resources

For East Maui, USGS completed and published two reports for a study in Northeast Maui through a cooperative agreement with the Commission, the County of Maui Department of Water Supply, the Department of Land and Natural Resources, Land Division, and East Maui Irrigation Co., Ltd. The 3-year, study resulted in the following reports: 1) Scientific Investigations Report 2004-5262 – Median and Low-Flow Characteristics for Streams under Natural and Diverted Conditions, Northeast Maui, Hawaii; and 2) Scientific Investigation Report 2005-5213 – Effects of Surface-Water Diversions on Habitat Availability for Native Macrofauna, Northeast Maui, Hawaii.

The results of the USGS East Maui study will be the focus of upcoming meetings and discussions among stakeholders to address the East Maui Petition. The actions taken in FY 2006 will enable the Commission to make better, more informed decisions when setting instream flow standards, not only for West Maui and East Maui streams, but other streams statewide.

#### Goal #3:

The Commission completed phase one of the refinement and modification of the Robust Analytical Model (RAM), and as a result, now has new estimates for the sustainable yields of the Pearl Harbor Aquifer Systems. These estimates are generally higher than numbers currently in use, indicating that present sustainable yield estimates are conservative and viable. The Commission has also reviewed initial results on revised sustainable yield for parts of Molokai and Maui, which, so far, have looked very favorable. The final report will be available in early 2007.

#### TOP THREE (OR FEWER) ENVIRONMENTAL GOALS FOR FY 2007:

##### Goal #1:

Continue efforts of setting instream flow standards for Maui streams & other streams statewide.

##### Goal #2:

Expand statewide deep monitor well network in order to gather more data that can be analyzed to provide information on the sustainability of basal aquifer systems.

# State Department of Public Safety

1. Your agency's top environmental goals for fiscal year 2006 (July 2005 to June 2006).

Our goal is to upgrade the wastewater treatment plant in Waiawa Correctional Facility in Waipahu, Oahu, once funding is available. Two ponds will be relined. The orchard with proper irrigation system will be expanded to use up the recycled water.

2. Your agency's environmental achievement in fiscal year 2006 (July 2005 to June 2006)

Our Halawa Correctional Facility has successfully obtained an approval from Department of Health for National Pollutant Discharge Elimination System Permit Requirement for State Owned Small Municipal Separate Storm Sewer System. It is a relatively new requirement. With the permit, the facility, as a small municipal separate storm sewer system, may discharge storm water to State waters.

3. Your agency's environmental goals for fiscal year 2007 (July 2006 to June 2007)

We will continue to work with Department of Environmental Service, C&C of Honolulu, in regard to Wastewater Mitigation Compliance Plan at Oahu Community Correctional Center. OCCC has been removing debris from various manholes every weekday to ensure sewer lines do not get blocked.

# State Department of Transportation

## Harbors Division

### I. TOP THREE ENVIRONMENTAL GOALS FOR FY 2006

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

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

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

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

#### A. Goal #1:

The Harbors Division employs the use of best management practices on its construction projects. For example, dredging, excavation and ocean dumping projects require the use of silt curtains, filtering pools and water quality monitoring. Asbestos, lead paint, contaminated soil and other hazardous wastes generated by demolition contractors are properly disposed or treated by the appropriated services.

#### B. Goal #2:

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

#### C. Goal #3:

The Harbors Division practices paper and aluminum recycling. Harbors Division's tenants and lessees are advised of appropriate pollution control measures.

### III. TOP THREE ENVIRONMENTAL GOALS FOR FY 2007

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

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

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

# Honolulu Board of Water Supply

## 1. Your agency's environmental goals for fiscal year 2006 (July 2005 to June 2006):

### Goal/Objective #1:

#### Water Conservation:

1. Complete and implement the Board of Water Supply (BWS) water conservation program development study to expand water conservation programs for residential and non-residential customers in alignment with national best practices. Evaluate and measure the results from the year-round media campaign on conservation methods.

2. Establish an Internal Conservation program to reduce water loss in the existing BWS distribution system. Improve data acquisition, meter efficiencies, corrosion protection and proactive leak repair to reduce main break frequency and damage.

### Goal/Objective #2:

#### Alternative Resource Development:

1. Work with affected agencies to advance recycled water use on Oahu with particular emphasis on joint development agreements.

2. Expand seawater district cooling projects in Kaka'ako and Ko Olina as a conservation measure and business development program.

### Goal/Objective #3:

#### Watershed Management Planning:

1. Implement a Watershed Protection grant program to fund watershed enhancement projects and programs.

2. Fund Watershed Management Plans for Ko'olaupoko and the North Shore land use districts in the FY 2007 budget.

## 2. Your agency's environmental achievements in FY 2006 (July 2005 to June 2006):

### Water Conservation:

1. The scoping phase of our water conservation program development study was completed in February 2006, and the study was funded in FY 2007. The multi-year study will start shortly and will provide the foundation for a comprehensive water conservation program.

2. BWS established an internal (infrastructure) conservation program to reduce water loss within the existing BWS distribution system. New ductile iron pipelines have cathodic protection systems that increase pipe life by reducing pipe corrosion from corrosive soils and stray electrical currents. Our proactive leak detection and pipe repair program reduces main break frequency and damage. BWS crews completed an island wide leak survey, detecting and repairing leaks that saved an estimated 500 million gallons of freshwater for calendar year 2005. We also purchased new equipment to improve our ability to find leaks. 60 fixed loggers placed on valves and meters listen for leaks and new correlators locate the leak for our pipe repair crews. In 2005, BWS replaced 6.2 miles of pipelines, which have experienced frequent main breaks.

# Honolulu Board of Water Supply

Although our pipeline distribution system is aging, the number and severity of main breaks/year is stable because of our internal infrastructure conservation and replacement programs. Every gallon saved preserves our natural resources and reduces our operating and maintenance costs.

## Alternative Resource Development:

1. Recycled water use was increased in Ewa by adding new customers to our Honouliuli recycled water system. Ewa developers are preparing nonpotable water master plans to expand the use of recycled and brackish water for landscaped irrigation in Ocean Pointe, Ewa Gentry, City of Kapolei, Kapolei Business Park, Kapolei West, UH West Oahu Campus, Department of Hawaiian Home Lands-East Kapolei and Ho'opili-East Kapolei. Every golf course in Ewa now irrigates with nonpotable water. HECO's Kahe and proposed Campbell Industrial Park power plants are planning to use reverse osmosis recycled water for their boilers, eliminating their use of potable water.

2. Our seawater district cooling plant in Kaka'ako was brought on-line in September 2005, conserving freshwater and energy for the John A. Burns School of Medicine. Discussions are still ongoing to construct seawater cooling wells in Ko Olina.

## Watershed Management Planning:

1. The public review draft of the Waianae Watershed Management Plan (WMP) has been released and can be accessed on the BWS web site. The Ko'olauloa WMP should be available shortly. BWS is collaborating with the Army Corps of Engineers and the City Department of Environmental Services on the Central Oahu Watershed Study, creating a watershed profile of issues and threats and then identifying several watershed enhancement projects for groundwater, surface water and land management.

2. BWS awarded approximately \$135,000 in watershed grants in FY 2006 to the following projects:

- 1) Hawaii Nature Center: *Watershed Educational Outreach for Oahu's Elementary School Children;*
- 2) The Nature Conservancy: *Project Stewardship, Native watershed restoration with community volunteers at Honouliuli Preserve;*
- 3) Ala Wai Watershed Association: *Ahupua'a Tour & Lecture Series on the water cycle within the Ahupua'a;*
- 4) Mohala Ika Wai: *Makaha Cultural Learning Center, a restoration plan for historic loi kalo lands owned by BWS along Makaha Stream;*
- 5) Punalu'u Watershed Alliance: Tools to maintain the Punalu'u Stream agricultural irrigation distribution system for efficient use of stream water.

We plan to resume our watershed grant program in upcoming years as funds become available.

3. **Your agency's environmental goals for FY 2007 (July 2006 to June 2007):**

### Goal/Objective #1:

#### Water Conservation:

Develop a program to pilot the top three most effective water conservation measures and best practices as part of the water conservation program development study. Continue to expand our year-round media campaign on conservation methods, messages, surveys and educational outreach.

# Honolulu Board of Water Supply

## Goal/Objective #2:

### Alternative Resource Development:

Expand recycled and brackish water use in Ewa and advance planning for reuse in Central Oahu to reduce use of potable water for irrigation. Expand seawater district cooling in Ko Olina as a water and energy conservation measure and business development program.

## Goal/Objective #3:

### Watershed Management Planning:

1. Seek new opportunities for Watershed Management Planning such as partnerships, education and forestry management projects using in-kind services.
2. Secure funding for the Ko'olaupoko and the North Shore Watershed Management Plans to fulfill the next increment of the Oahu Water Management Plan.

# Honolulu Fire Department

1. Your agency's environmental goals for fiscal year 2006 (July 2005 to June 2006).

As stated in the 2005 Environmental Council Annual Report (p.54):

- Complete foam disposal project.
- Explore feasibility of reviving solar water heating in all fire stations.

2. Your agency's environmental achievements in fiscal year 2006 (July 2005 to June 2006).

- Disposed of all outdated and nonconforming foam on September 15, 2005.
- The Honolulu Fire Department continues to install solar water heating or point-of-use (tankless) water heaters in all new and renovated facilities wherever feasible. The City and County of Honolulu's Department of Design and Construction is pursuing the installation of solar water heating systems in fire stations that do not have solar water heating.

3. Your agency's environmental goals for fiscal year 2007 (July 2006 to June 2007).

- To obtain the National Pollution Discharge Elimination System Small M4 permit.
- Continue to explore environmentally sound business practices such as continued retrofitting of solar water heaters in the fire stations and practicing energy conservation by reinforcing HFD energy conservation procedures.



# Honolulu Parks and Recreation

## **1. Your agency's environmental goals for fiscal year 2006 (July 2005 to June 2006).**

Goal #1. Continue the City's beautification and park landscaping efforts through tree planting and other landscape improvements.  
Goal 2. Continue the conversion of virtually all green waste from residential collection, as well as from all City Parks and Botanical Gardens to mulch and compost. Compost not utilized in our parks and botanical gardens is made available, free of charge, to the public at Hoomaluhia Botanical Garden and at the Ala Wai, Manoa, Makiki and Wahiawa community gardens.

## **2. Your agency's environmental achievements in fiscal year 2006 (July 2005 to June 2006).**

Goal# 1. The Division of Urban Forestry of the Department of Parks and Recreation planted 127 trees, 2,540 shrubs and 9,625 square feet of sod and groundcover.

Goal #2. The City and County of Honolulu was able to successfully convert virtually all green waste from residential collection as well as from all City Parks and Botanical Gardens to mulch and compost. This program will continue in FY 2007.

## **3. Your agency's environmental goals for fiscal year 2007 (July 2006 to June 2007).**

Goal #1. Complete upgrading of all remaining cesspool and cavitette astateer systems at beach parks.

Goal#2. Plan, design and construct improvements at park facilities to ensure compliance with the requirements of the National Pollution Discharge Elimination System (NPDES).

# Honolulu Transportation Services

## 1. Our environmental goals for fiscal year 2006 (July 2005 to June 2006)

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

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

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

## 2. Our environmental achievements in fiscal year 2006 (July 2005 to June 2006)

Goal #1: Initiated rail planning studies and ferry demonstration project Request for Proposals. Construction contracts for Mililani Transit Center and Waianae Transit Center executed. Installed 40 new bus shelters in 2006. Phase II of ADA Bus stop Accessibility Project currently under design. Initiated comprehensive study of TheHandi-Van service. TheBus provided special services for the Mayor's Memorial Day Service at Punchbowl, Easter Sunrise Service, Great Aloha Run, Veteran's Day Service, Aloha Stadium Football Express for all UH home games, and the Pro Bowl football game. Kapiolani Community College Bike Staging Station constructed. Purchased and distributed various bicycle safety education materials to the public, including bicycle rental agencies in Waikiki. Conducted four bicycle traffic safety training sessions with new TheBus drivers. Served as grant manager for Hawaii Bicycling League's Bike Ed Program. Purchased, relocated, replace and/or installed 15 bike racks.

Goal #2: Reviewed, coordinated and processed approximately 47 environmental impact and assessment documents. Completed the Waikiki Livable Community Project. Initiated rail planning studies. Administered the contract for professional services to prepare environmental documents for the North-South Road Project. Competed draft and final environmental assessments for the Waipio Point Access Road Study and draft environmental assessment for Kamokila Boulevard Extension Project. Completed planning work on the Kaimuki Business District Parking Master Plan. Completed alternatives analysis for Makakilo Drive Extension Project.

Goal #3: Procured 40 state-of-the-art, hybrid electric, fixed route and 32 TheHandi-Van vehicles. Completed final engineering design work on Dillingham Boulevard Bus Pullouts and related improvements. Awarded construction contract for intersection improvements at the Waimano Home Road/Kuala Street/Moanalua Road intersection. Constructed Waianae Coast Emergency Access Road (WCEAR) – Nanakuli Makai II, Ala Oli/Haloa Roundabout, Kamehameha Highway Safety Improvements, Young Street Park Boulevard, Lanikai Triangle Park, Wahiawa Traffic Calming and Ala Aolani Street Traffic Calming. WCEAR – Helelua Place Extension, WCEAR – Paakea Road, Lualualei Homestead Road/Leihoku Street Improvements, and Kaonohi Street/Moanalua Road Intersection Improvements under construction. WCEAR – Kaulawaha Road Extensions I and II, Kaahele Street Restriping, Pauoa Road/Nuuanu Avenue Intersection Improvements, Kipapa Drive Bulbout Modification, and Kaluanui Road Restriping being planned and designed. Construction of Middle Street Intermodal Center TheHandi-Van Administration and Maintenance Building underway. Contract for Kalihi-Palama Bus Facility running repair maintenance shop roof went out to bid. A review of City bus stop spacing and removal of several mid-block bus stops initiated; a total of 518 mid-block or too closely spaced bus stops were identified and after review, 50 stops have been removed and 14 new stops have been created. Installed 40 new bus shelters in 2006. Phase II of ADA Bus Stop Accessibility Project currently under design. Design competed and construction commenced on bus pads at six sites. Purchased 32 new bus stop benches.

## 3. Our environmental goals for fiscal year 2007 (July 2006 to June 2007)

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

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

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

# Maui Department of Parks & Recreation

## 1. Agency's environmental goals for fiscal year 2006.

A. Plan, develop and maintain parks and recreational facilities using sound environmental management practices and recognizing environmentally sensitive areas.

B. Design and implement conversion of large capacity cesspools at parks and recreational facilities to EPA approved individual waste water systems.

C. Design and implement installation of grease traps at various community centers countywide.

## 2. Agency's environmental achievements in fiscal year 2006.

A. We were successful in planning and developing park facilities pursuant to our environmental goals.

B. Our cesspool conversion program is approximately 50% completed.

C. Our grease trap program is 95% completed.

## 3. Agency's environmental goals for fiscal year 2007

A. Continue to plan develop and maintain parks and recreational facilities using sound environmental management practices and recognizing environmentally sensitive areas,

B. Continue completion of cesspool conversion program.

C. Complete grease trap installations.

# Maui Housing and Human Concerns

## I. AGENCY ENVIRONMENTAL GOALS FOR FY2006:

1. Public education and awareness of need for ecosystems preservation.
2. Public awareness of need for environmental protection.
3. Environmental protection information included in grantee program plans.

## II. AGENCY'S ENVIRONMENTAL ACHIEVEMENTS IN FY2006:

1. Environmental protection information available through public programs.
2. Recycling and community clean-up programs ongoing throughout the year.
3. Recycling and environmental protection information distributed to the community by the Department of Public Works, Solid Waste Management Program.

## III. AGENCY'S ENVIRONMENTAL GOALS FOR FY2007:

1. Continuing emphasis on inclusion of recycling and environmental protection practices in County funded programs and services.
2. Continue to emphasize community education and awareness information to advocate for environmental protection/ecosystems preservation.
3. Promote community collaboration to facilitate environmental protection.

# Maui Public Works & Env. Mgt.

## **I. What are your agency's top environmental goals for the period from July 2005 to June 2006?**

A. Continue working on getting the adopted amendment to County drainage rules requiring the incorporation of storm water pollution-control measures and Best Management Practices into subdivision design and fully implement rules.

B. Continue working on the Central Maui Wastewater Planning Study recommendations. Work with Maui County Council to obtain resolution of support. Begin planning and design of recommended alternative.

C. To adopt the Outdoor Lighting ordinance to minimize the outdoor light pollution and light trespass through regulation of the type and use of the outdoor lighting.

## **II. What are the results of your agency's efforts in achieving your July 2005 to June 2006 goals?**

A. An initial draft of the rules was prepared, however, a comprehensive re-write of the rules is required based on comments from the State, Department of Health (DOH) and the Environmental Protection Agency (EPA). A list of questions and proposals was sent to both agencies for clarification and we are currently waiting for responses. Upon receipt of the requested clarifications, we will proceed to re-write and adopt the rules.

B. The Central Maui Wastewater Planning Study was completed, sent to the Council, discussed in chambers and the end result was a resolution recommending the existing facility remain in its existing location. In the FY-07 budget, funding was approved to evaluate options for the protection of the plant from shoreline erosion.

C. The technical advisory group presented their recommendation to the County Council in the form of a bill for an ordinance. The bill is still in committee for fine tuning to respond to police concerns with color recognition.

## **III. What are your environmental goals for the period from July 2006 to June 2007?**

A. The development of the Lahaina Watershed Flood Control project which is being done in partnership with the U. S. Department of Agriculture, Natural Resources Conservation Service. The project will divert flood waters around Lahaina town and include desilting basins to reduce the impact to near shore waters.

B. Develop the construction documents for modifications to the Lahaina Wastewater Reclamation Facility to reinstate the original design capacity and improve reliability.

C. Improve the recycling programs to divert more waste away from the landfills.

# Hawai'i Housing and Community

## **1. Your agency's environmental goals for fiscal year 2006**

Goal #1: The OHCD will continue to seek training to keep staff abreast of the National Environmental Policy Act (NEPA) and Section 343 Hawai'i Revised Statutes rule changes.

## **2. Your agency's environmental achievements in fiscal year 2006**

Achievement #1: Staff of the OHCD attended environmental training from 5/25/06 to 5/26/06. The training was sponsored by the U.S. Department of Housing and Urban Development (HUD) and covered current HUD/NEPA environmental regulations and specific topics such as historic preservation, noise, toxic substances, and floodplain management. There were several representatives from Federal and State environmental oversight agencies presenting in their areas of expertise.

Achievement #2: The OHCD conducted environmental review responsibilities for 9 Community Development Block Grant (CDBG) projects and 2 HOME Investment Partnership Program (HOME) projects.

## **3. Your agency's environmental goals for fiscal year 2007**

The goals for the OHCD would be to continue seeking training to maintain environmental compliance.

# Hawai'i Department of Public Works

## **AGENCY'S ENVIRONMENTAL GOALS FOR FY 2006:**

Pursuant to an EPA mandate and a consent agreement, replace all existing large capacity cesspools by November 1, 2006.

## **AGENCY'S ENVIRONMENTAL ACHIEVEMENTS IN FY 2006:**

Secured funding and initiated construction of new wastewater disposal systems.

## **AGENCY'S ENVIRONMENTAL GOALS FOR FY 2007:**

Complete the replacing of large capacity cesspools.

# Hawai'i Department of Water Supply

## I. ENVIRONMENTAL GOALS/OBJECTIVES FOR FISCAL YEAR 2006:

A. Goal Objective No. 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 No. 2: Continue to replace transite pipes containing asbestos and replace steel tanks that contain lead-based paint.

C. Goal Objective No. 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 TO ACHIEVE GOALS/OBJECTIVES FOR FISCAL YEAR 2006:

A. Goal Objective No. 1: Construction and advertising for bids for deep wells is continuing throughout the island. Continuing with corrosion control treatment islandwide.

B. Goal Objective No. 2: Replacing transite pipes with ductile iron pipe and steel tanks with concrete tanks throughout the island is continuing. This will be an on-going activity.

C. Goal Objective No. 3: A system to track energy savings is being developed. Projects for hydro generation are being advertised for bids, and Phase II of our energy study has been completed.

## III. ENVIRONMENTAL GOALS/OBJECTIVES FOR FISCAL YEAR 2007:

A. Goal Objective No. 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 No. 2: Continue to replace transite pipes containing asbestos and replace steel tanks that contain lead-based paint.

C. Goal Objective No. 3: Provide electrical power to remote sites to improve system reliability, implement energy study recommendations, and continue to develop projects for hydro generation.

# Hawai'i Dept. of Environmental Mgt.

- 1. County of Hawai'i Department of Environmental Management environmental goals for fiscal year 2006:**
  - A. Work closely with US EPA and move forward with large capacity cesspool closure efforts.
  - B. Enhance current permitted County Solid Waste convenience centers with CDBG and EPA funding.
  - C. Increase opportunities for recycling through County Diversion Grant Program.
  - D. Enforce illegal dumping regulations against violators.
  
- 2. County of Hawai'i Department of Environmental Management environmental achievements for fiscal year 2006:**
  - A. Continued infiltration/inflow reduction to the Kealakehe Wastewater Treatment Plant to reduce chloride concentrations in effluent. This allows further upgrades of effluent to R-1 quality.
  - B. Renovation and upgrade of Lanihau Sewage Pump Station to provide a Supervisory Control and Data Acquisition (SCADA) system for monitoring and to provide upgraded alarm system at Kealakehe Wastewater Treatment Plant.
  - C. Naalehu and Pahala Large Capacity Cesspool conversion project is well underway. This project, designing and constructing a new sewer collection and treatment system, affects approximately 300 homes in two small towns.
  - D. Design and funding in place for the upgrade to the Hilo Solid Waste Transfer Station. Construction is due to begin early 2007.
  - E. Landfill diversion rate rose to 25.8%. In FY 2002, it was 12.65%; in FY 2003, it was 15.2%; in FY 2004, it was 15.6% and; in FY 2005, it was 20.0%.
  - F. Received additional US EPA grant funding for East Hawai'i Community Recycling diversion project. This follows two previous years of funding for West Hawai'i.
  - G. Began a Derelict Vehicle disposal program that allows vehicle owners to have up to two vehicles on private property properly disposed with most elements recycled. 74 Vehicles were removed through this program in addition to the 1,352 vehicles removed from public property under the current program.
  
- 3. County of Hawai'i Department of Environmental Management environmental goals for fiscal year 2007:**
  - A. Continue to move forward with closure of Large Capacity Cesspool projects and the transition to treatment plants or septic systems.
  - B. Continue rehabilitation of our system of solid waste transfer stations (convenience centers).
  - C. Secure site and funding to complete permitting and EIS for South Kona/Kau solid waste transfer station.
  - D. Secure illegal dumping inspector to work with Police and communities on enforcement, primarily evidence collection that will allow penalties to be enforced through the courts.
  - E. Undertake two Sewer Master Plan projects of large areas in Kailua-Kona where growth is occurring and expected to increase in the future.
  - F. Assist residents and businesses with Large Capacity Cesspool compliance by expanding sewer systems or partnering to create new wastewater treatment systems.
  - G. Begin an Update to the County Solid Waste Management Plan to further consensus of all island residents on the most effective ways to responsibly handle solid waste.
  - H. Increase landfill diversion rate by two more percentage points to 28%.

# Hawai'i Parks and Recreation

## 1. What were your agency's environmental goals for fiscal year 2006 (July 2005 to June 2006)?

- i. Promote the landscaping of parks and park lands with native and climate appropriate trees, shrubs and groundcovers through volunteer efforts (Eagle Scout projects, service groups, etc.), park development projects and with staff through park beautification and enhancement projects.
- ii. Implement conversion of large capacity cesspools at park facilities to approved individual wastewater systems.
- iii. Restore the shoreline and public park lands at Lehia Beach Park "Pu'umaile" to provide additional safe shoreline recreational opportunities for East Hawai'i residents by removing the illegal dwellings and occupants that have existed there for several years and remove all refuse and waste associated therewith.
- iv. Assess older park structures for the presence of hazardous materials, such as lead paint, determine a course of action for mitigation or remediation and implement the plan in phases as they are scheduled for repairs and improvements.

## 2. What were your agency's environmental achievements in fiscal year 2006 (July 2005 to June 2006)?

- i. Several landscaping projects were accomplished:
  - Planting of palm trees at University Heights Park by the Waiakea High Key Club
  - Landscaping of Aupuni Center planters by Eagle Scout candidate, Daren Inaba
  - Bayfront Soccer Fields Shade Trees by Eagle Scout candidate, Conrad Nerveza
  - Bayfront Soccer Fields Shade Trees by Eagle Scout candidate, Kirk Usui
  - Landscaping of Kuhio Kalaniana'ole Park by the Rotary Clubs of East Hawai'i
  - Palm Society planting projects at the Pana'ewa Rainforest Zoo and Gardens
  - Rhododendron Society planting projects at the Pana'ewa Rainforest Zoo and Gardens
  - Water Garden Society planting project at the Pana'ewa Rainforest Zoo and Gardens
- ii. In conjunction with the Department of Public Works, five construction projects were bid, awarded and executed to implement the conversion of all large capacity cesspools at parks county-wide (amongst other county facilities) to approved individual wastewater systems or for connection to approved sewer systems. The five projects were commenced in March 2006 and are projected to be completed by October 2007.
- iii. The Lehia Beach Park "Pu'umaile" site was cleared of all illegal dwellings and refuse and restored to its natural state using in-house staff and with the assistance of the Department of Public Works. The gravel roadway was restored and vehicular traffic barricades installed to contain the movement of vehicles within defined areas, away from the ponds and tidal waters at the site. The site is locked nightly to prevent unauthorized entry and it is maintained regularly by staff.
- iv. Consultants have not been selected to perform the hazardous materials assessments but funding has been secured and the project will be started in FY 2007.

## 3. What are your agency's environmental goals for fiscal year 2007 (July 2006 to June 2007)?

- i. Promote the landscaping of parks and park lands with appropriate (emphasis on native) species through volunteer and employee efforts as well as CIP Projects.
- ii. Successfully complete the abandonment of all large capacity cesspools and implement appropriate sewage disposal systems.
- iii. Successfully complete the hazardous materials assessment of all park facilities and implement necessary hazard mitigation, if necessary.