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ENVIRONMENTAL REPORT CARD, 1996

ENVIRONMENTAL COUNCIL, STATE OF HAWAII

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Introduction

This Annual Report

Each year the Environmental Council submits an annual report on environmental matters with recommendations for improvement to the Governor, the Legislature and the public. This Annual Report continues with the dramatically improved format initiated in 1995.

This year, the Environmental Council has invited community-based organizations to submit essays on their efforts to protect Hawaii's natural environment. Readers will find a grass-roots perspective and case studies on community activism. Our hope is to promote a forum of ideas and share experiences that will encourage citizens to get involved in the important environmental issues on their island.

Also in this Annual Report you will find an agency survey. Last year, Government agencies were asked to list the environmental goals they hoped to achieve in their specific line of work. This year, the Environmental Council revisited each department and inquired on their progress toward meeting their goals. Monitoring agency progress toward fulfilling environmental goals is a feature that will continue in future annual reports.

In this report we expand and refine last year's comprehensive listing of Hawaii Environmental Indicators. These data track the environmental health of our islands on issues ranging from government funding to gallons of oil spilled into our waters. The environmental indicators that are graphed and charted in this report will be updated and presented each year. This report will provide students, policy makers and the public with an objective view of our State's progress in managing the natural environment.

This report contains a new feature. The Council, after considering the relevance of each indicator, offers a report card and grades our State's efforts to protect the environment. We offer this report card, and the methodology we used to create it, as a first draft to be improved and refined each year. We hope it will stimulate your thoughts and suggestions for our future annual reports.

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 also empowered to approve the Exemption List of any agency before the list can be implemented. Each agency in the state is required to compile this list of minor activities that can be implemented without first preparing an Environmental Assessment.

The Environmental Council was created in 1970 by the Hawaii State Legislature. The members of the Council represent a broad range of professional disciplines. These include the sciences, architecture, and the visitor industry, among others.

The law prescribes that the Council monitor the progress of state, county, and federal agencies in achieving the State's environmental goals and policies. In a report each year, the Environmental Council must advise state policy makers on important issues affecting Hawaii's environment. By law, all state and county agencies are directed to cooperate with the Council in this endeavor.

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 determine and maintain the optimum quality of the environment of the State (HRS 341). The Office provides staff to the Environmental Council, supports environmental education efforts, and fosters a working relationship with the University community through the Environmental Center at the University of Hawaii.

State law also assigns to OEQC the job of implementing 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.

Acknowledgments

This annual report could not have been completed without the participation and support of many people. Mr. Bill Petti, Chair of the Environmental Council Annual Report Committee and committee members Tamar Chotzen, Louis Kanae, Raymond Tabata and Patricia Tummons gave their time and talents. Jeyan Thirugnanam, OEQC's lead planner, and volunteer intern Marlyn Aguilar researched and coordinated the production of the report.

Director's Report

The year 1996 was a fruitful one for the Office of Environmental Quality Control. I will outline a few of the significant events and milestones for the office this past year.

After more than five years of review and re-writes, the new Environmental Impact Statement rules were finally approved by the Governor and adopted in August.

A major point of contention at the last minute were the provisions that dealt with "cultural impacts." The landmark State Supreme Court decision *PASH v. Hawaii County Planning Commission* brought Government's duty to protect Native Hawaiian gathering rights and cultural practices to the forefront of public debate.

In lieu of specific rules dealing with the assessment of cultural impacts within environmental review documents, the Environmental Council's Cultural Impacts Committee is developing a guidance document that will establish a cultural impacts study protocol. The Office and Council hope that such guidance will bring consistency, certainty and fairness to this contentious issue.

The improvements to our bulletin, *The Environmental Notice* have continued in the past year. We have added notices from the Federal Register for the convenience of our readers. We have included Department of Health Pollution Control Permits. We now publish *The Notice* on-line over the Internet to make our information available to anyone in the world who communicates via computer.

These new features have made the *Environmental Notice* more popular than ever. As our subscription list continued to grow and our table of contents expanded, our costs also rose to new levels. To stay within budget, we no longer print project descriptions more than once.

The challenges of our daily workload continued unabated in the calendar year. The OEQC reviewed and processed 385 environmental studies and related documents. (See chart on next page).

One high profile issue of the year was the proposed "settlement agreement" between the City and East Honolulu developers. The City and the developers hoped to settle pending lawsuits by granting wholesale zoning and development rights in the region. The scheme could have lead to massive new development from Hawaii Kai to Makapu'u,

including a golf course at Queen's Beach. This plan was proposed for City Council approval while bypassing the State EIS law. Stiff public opposition, including resolute criticism from OEQC, put an end to the idea.

While the settlement agreement is dead, developers are pushing ahead with their golf course plans at Queen's Beach. The Governor has proclaimed his intention to purchase the parcel to preserve the open and natural coastline forever.

The Office successfully completed a few other projects in the past year. With the help of the Office of Planning, we developed a simple new way to make use of the State's Geographic Information System (GIS). By converting the computer mapping data into personal computer format and saving it to a CD ROM, we have placed this powerful planning tool at the fingertips of anyone with a personal computer. Now, planners in any office and interested citizens can create computer-generated planning maps from the State's data. We hope access to this technology will improve the quality of planning in the state and encourage greater public participation.

We also completed, with the help of student interns, an audit of Environmental Impact Statements and the mitigation measures they contain. This report, for the first time to our knowledge, took a concerted look back at selected projects to see whether the mitigation measures listed in their corresponding environmental studies had actually been implemented. The audit found a number of discrepancies in both the permitting and implementation of projects when compared to the findings of their environmental reviews. We hope to continue this work by performing regular audits in the future.

Finally, OEQC staff mobilized to move our office from our leased private office space into the State Office Tower closer to the Capitol. We accomplished this with no delay to our work.

On behalf of the staff of the OEQC, I would like to thank all those who helped make 1996 an eventful and productive year.

Gary Gill
Director, Office of Environmental Quality Control

Chair's Report

With the retirement of Ken Fukunaga from the Environmental Council, I was honored to be elected as the new Chair in September.

The principal committee structure that Ken developed continues in place. Many of the Council's major projects were conceived, developed and finally accomplished with his guidance. To Ken, the Council is deeply grateful.

One example of a project completed during Ken's term is the rules found in Chapter 200, Title 11, Hawaii Administrative Rules (Docket R-394). The rules were adopted in 1996 after numerous hours of writing and rewriting. Special thanks are due to the Rules Committee, chaired by Steven Lim, OEQC Director Gary Gill, and OEQC staff member Leslie Segundo.

Exemption List Committee Chair Mike Furukawa received public comments and deliberated on several exemption list requests. Requests were received from the Department of Accounting and General Services and the Division of Forestry and Wildlife, Department of Land and Natural Resources. The Committee also resumed its study of an exemption list survey headed by Dr. John Harrison of the University of Hawaii Environmental Center.

The Annual Report Committee, with direction from Chair Bill Petti, proceeds to transform and refine the format established in 1995. The 1996 report was approved and printed. We welcome your comments on improving the

display of our report. We acknowledge OEQC staff member Nancy Heinrich for her assistance and creativeness.

Mr. Roy Benham served as the Chair of the Legislative Committee. OEQC staff member Jeyan Thirugnanam deserves credit for his diligence in tracking bills before the Legislature.

Before closing I wish to recognize and bid farewell to outgoing members Chair Ken Fukunaga, Harry Nakata, Gerard Sakamoto, and Herbert Tateishi. Your participation in our activities is sincerely appreciated.

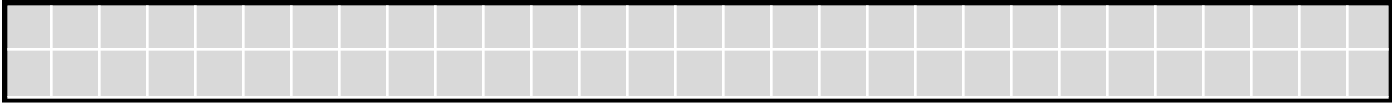
I would also like to take this opportunity to welcome new members Arnold Lum, Barbara Robeson, Raymond Tabata and Patricia Tummons. Thank you for your willingness to share your time and perspectives with the Council.

With gratitude to all those whose dedication and hard work have made it possible, The Environmental Council respectfully submits this annual report to the Governor, the Legislature and the public. We believe it will be useful in the unending task of protecting Hawaii's natural environment. We hope you, the readers, will agree. We look forward to your comments and suggestions to guide our future work.

Harlan H. Hashimoto
Chair, Environmental Council, State of Hawaii

Environmental Documents Processed by OEQC in 1996

Type of Notice	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Draft EA	8	12	15	11	10	23	13	13	15	7	17	20	164
FONSI	16	16	4	11	12	5	19	18	15	11	9	6	142
EISPN	1			2		1	2		1		1	1	9
Draft EIS	2	1	1	1		2				3	3		13
Final EIS	2		1	3	1	2		2		1			12
EIS Acceptance		1	1		1	1	4			1		2	11
Withdrawals	1							1			1		3
NEPA Documents		5	4		2	3	1		8	5	2	1	31
Total	30	35	26	28	26	37	39	34	39	28	33	30	385



Section I

Citizens Speak Out

In this Section, individual citizens present essays on the work of grass-roots organizations to protect Hawaii's natural environment. The Environmental Council solicited articles from across the state by placing a request in the Environmental Notice published by OEQC. These four perspectives on community-based activism suggest that when it comes down to preserving the special nature of Hawaii, there can be no substitute for an educated and involved public.

Citizens Speak Out

Kenneth Boche, for *Ka Makani O Kohala`Ohana*

Citizens have had to create new roles for themselves in the political process in order to work effectively on behalf of Hawai'i's environment. Citizens must take a proactive posture, network, and build support at the grassroots level for community-based planning initiatives.

This approach is demonstrated in two on-going Big Island projects: The Kohala Community Energy Plan and the Kohala Forest Management Group.

The first of these got its start when the Hawai'i Electric Light Company (HELCO) announced that it was planning to build a diesel-fired power plant directly upwind from most of the North Kohala community. People felt threatened not only by the potential emissions but also by the fact that they had no say in a decision that would profoundly affect their lives.

To go forward with its plan, HELCO needed permits only from the Department of Health and the Public Utilities Commission. We had little confidence that either of these would protect our health and interests, so we formed a steering committee for energy planning, seeking participation from a broad cross-section of the community. We intended to seek cost-effective, socially acceptable, and healthy solutions to Kohala's and the Big Island's energy needs. We wanted to be an inclusive, not divisive, influence in the community, and we utilized consensus methods of decision-making.

Other committees were formed as well: a legal committee, which filed a petition for a contested case, and considered other legal challenges to the HELCO proposal; a health committee, which researched the effects of diesel emissions and electromagnetic fields on human physiology; a communications committee, which wrote letters, made posters, published articles, and even put on a live television presentation of the results of the other committees' activities; and a legislative committee, which, among other things, got the County Council to adopt a resolution calling for the "creation of a forum to address ... energy issues."

All of these initiatives were undertaken by private citizens who developed a coherent vision of a sustainable and healthy energy future. This vision was at last presented to the PUC at a public hearing.

One result was that the PUC rejected HELCO's proposal. But the role of grassroots organizations is not only to oppose potentially harmful projects; it is also to create our own proposals that will help solve community problems. This ultimately resulted in the drafting of the Kohala Community Energy Plan, which embraces a wide range of initiatives that will allow the community to have adequate power supplies while providing maximum protection of natural resources and human health.

“But the role of grassroots organizations is not only to oppose potentially harmful projects; it is also to create our own proposals that will help solve community problems.”

Recommendations for the State Legislature include: 1) Financing an aggressive residential solar water-heating program with DOH's Clean Air Fund; 2) Implementing the Greenlights Program; 3) Establishing a micro-loan program to finance energy efficiency and solar water heating investments; 4) Establishing "Clean Air Refuges" on each island where pollutants would be kept below current standards.

The second project, the Kohala Forest Management Group, had its start when the state Department of Land and Natural Resources proposed fencing an area in the Pu'u O`Umi Natural Area Reserve on Kohala Mountain. The fencing was intended to protect native forest ecosystems from damage by pigs, but was planned without taking hunter considerations into account.

The DLNR established the Natural Areas Working Group (NAWG) to bring all stakeholders to the table to draft a series of recommendations by consensus methods for each state natural area reserve. The Kohala Forest Management Group was the first group to convene under NAWG recommendations. The role of each citizen-stakeholder is the same as in the NAWG: to represent his or her interests in a genuine effort to create a plan that everyone can agree to. After more than a year and a half, substantial progress has been made, even on the most controversial issues. We anticipate a draft consensus management plan very soon.

Sherri Carden, for *West Maui Taxpayers Association*

The role of community-based organizations and private individuals in environmental protection is to share in creating and maintaining strong partnerships. Through unity and diversity, there are infinite possibilities.

Gina Aranki, executive director of the West Maui Taxpayers Association (soon to change its name to West Maui Community Association) represents us at nearly every hearing or meeting involving our community. She sits on numerous other boards as well and gives guidance as to the best way of using our resources. She and other committee members research all sides of an issue before presenting it to the board of directors and writing it up for our monthly newsletter. With over 4,000 members, our organization has a strong voice -- and it is heard.

In an effort to reach to our youth, WMTA has initiated a "bounty" program where the youth are paid for every bag of seaweed they clear from the beach.

In partnership with the county of Maui, we recently dedicated a park known as "S-turns." What was once a barren spot now flourishes with native plants, parking stalls, and even a shower.

But certainly our most important work is with the environment. We have established a partnership with Lahaina

Open Space Society and Na Kupuna O Maui to explore fully the impact of a timeshare development on West Maui's last undeveloped sandy beach. In addition to issues of water consumption, sewage, drainage, reef impacts, and further tourism, WMTA is studying the traffic impacts and is in the process of conducting a survey of its members and others.

The project I most admire is the Maui Eco-Directory. This is a full-color, 18" x 24" fold-up map and guide to all environmental businesses and organizations on Maui. On the back is a complete guide to establishments, organized according to categories. Unlike other visitor publications, the Maui Eco-Directory lists only environmentally conscious businesses and organizations.

In addition to being a valuable publication for tourists, the directory is useful for residents as well, since it provides information that helps create a sense of teamwork and promotes partnerships. It is also a great tool for businesses in that it helps them see what other establishments are doing and allows them to share information. (How do you avoid using pesticides? Where do you get organic produce? And the like.)

These and other examples demonstrate the effectiveness of hard work and dedication. Because the partnerships forged were strong, these efforts have made a distinct impact throughout the community, transcending otherwise impossible barriers.

"Because the partnerships forged were strong, these efforts have made a distinct impact throughout the community, transcending otherwise impossible barriers."



Ed Johnston, for *Share Onomea Access*

Share Onomea Access (SOA) is a group of Hawai'i island residents formed to secure for the future the public's right to use public lands in Onomea Valley for the purposes of gathering, fishing, and recreation. Yet our efforts have gone far beyond the narrow issue of access and have come to include preservation of old trails, health of streams and shorelines. To me, the greatest significance of our work lies in bringing together in common cause people of remarkably diverse backgrounds, ethnic groups, and ages. From families whose lineage goes back three generations at Onomea to relative newcomers to the island -- all have shown an abiding attachment to this place called Onomea and its history, which would almost certainly have been lost and forgotten if not for the efforts of SOA.

Ken Okimoto came up with the name Share Onomea Access. Ken's father, Tadao, had been the unofficial "mayor" of Onomea Camp a generation ago and the rich history of the area is neatly summarized in their little book, *Onomea Camp 1935*. Beyond the sugar history of Onomea is the rich Hawaiian habitation, which dates back to prehistory as the village of Kahali'i at the floor of the valley. It changed through the centuries from an exclusively Hawaiian village to a multiracial community of settlers from virtually all ethnic backgrounds known during the territorial days.

Kahali'i was occupied until the 1940s. As many as a thousand residents were known to have lived in the village at times. These included a group of the Queen's loyalists who went into hiding there just after the overthrow of the monarchy. Queen Ka'ahumanu is known to have visited Kahali'i, as did Mark Twain, Isabella Bird, and King Kamehameha II.

For two generations, and within the memory of many SOA members, the Onomea area was known by local residents as "The Store" because of the abundance of products which one could gather there by descending into the valley via an old Hawaiian trail. All this changed in 1978 when a California businessman purchased the south half of the valley and closed the trail. For 16 years that trail (and later the northern half of the trail as well) was closed.

The ad-hoc activities of Share Onomea Access gained the attention of the Rural South Hilo Community Association (RSHCA), the group which represents communities along 20

miles of the Hamakua Coast. In an effort to preserve history, tradition, and access, RSHCA nominated the Onomea trails for inclusion in the federally funded Plantation Heritage Corridor Project Report. Consequently, a comprehensive report of the trails and area was written by historian Helen Wong Smith. This report includes oral histories and historic research on the Onomea trails and the village of Kahali'i.

SOA also worked to protect the natural resources of the area. When the Hawai'i Tropical Botanical Garden, whose founder was responsible for closing access, came before the state Water Commission to resolve numerous violations regarding streams in the valley, SOA intervened by requesting a contested case hearing. Members were concerned that the dams at low elevations impacted populations of fish along the coast, where some of our group enjoyed fishing. After our intervention, there were further investigations by the U.S. Army Corps of Engineers, Water Commission staff, and the state Division of Aquatic Resources. In the end, the Water Commission fined the garden for violations and decided to allow the Aquatic Resources Division to determine what should be done with the dams. The division and the garden have now agreed that the dams must come out.

A different group of SOA members acted when the U.S. Fish and Wildlife Service determined that the garden's new headquarters would have "severe" effects on a population of rare orange-black Hawaiian damselflies. As a result of SOA efforts, the National Biological Service began working with the garden to relocate populations of the damselfly from the headquarters site into the garden proper.

In sum, while a gate across an old trail resulted in the formation of SOA, the resulting activities have gone far beyond Onomea trails, extending to stream protection, preservation of historic sites, and mitigation measures to protect rare insect species. Friendships have formed and new knowledge gained about access rights, stream health, and the public's right to government documents and records. SOA has even contributed toward the reopening of another old trail which provides access to a surfing beach on the Hilo Coast. The public benefits accomplished by the combined efforts of government agencies and this small group of Hawai'i Island residents will have permanent, positive environmental effects now and for future generations.

"The greatest significance of our work lies in bringing together in common cause people of remarkably diverse backgrounds, ethnic groups, and ages."

Angel Pilago, for *Protect Kohanaiki* *‘Ohana and Hui He‘enalu O Kona*

The Protect Kohanaiki ‘Ohana (PKO) is a community group centered in North Kona on the Big Island of Hawai‘i. Our members and supporters are adults and young people from all over whose aim is to protect the exceptional Kohanaiki coastal area, where, for generations, families have come together to gather food, surf, camp, fish, and enjoy the natural bounties.

The Kohanaiki coast is a prime cultural and recreational spot on an otherwise rugged coastline. Its outstanding historic and environmental resources include one of the last and most extensive anchialine pond systems remaining in Hawai‘i. For hundreds of years, these important ponds and ancient systems of aquaculture have been used by local fishermen and have provided unique habitat for endangered plant and animal species, including the ‘Ae‘o (the Hawaiian black-neck stilt).

PKO’s mission is to educate and involve the community in activities that protect our environment as well as perpetuate and restore cultural practices and values.

PKO is perhaps best known for its actions leading to a landmark state Supreme Court Victory: *PASH and Angel Pilago v. The Hawai‘i County Planning Commission and Nansay Hawai‘i*. The groundwork for this case was laid years before by the work of many dedicated individuals and organizations. The Kohanaiki Supreme Court decision mandates all government agencies to affirm and support native Hawaiian rights, traditions, customs, and usage while considering permits for development. Supporting us in this case was a broad coalition of attorneys and organizations, which shows that coalition building and citizen participation at the grass-roots level does make a difference. Amicus (friend of the court) briefs were filed in this case by the state Attorney General, the Office of Hawaiian Affairs, the Kona Hawaiian Civic Club, the Pele Defense Fund, Ka Lahui Hawai‘i, and the ‘Ohana Council.

For our efforts to protect important environmental resources at Kohanaiki and our work in the community, the Protect Kohanaiki ‘Ohana has received an award from Representative Patsy Mink as well as one from the Governor.

PKO also works to preserve the ancient Hawaiian activity of he‘enalu (wave-sliding) through formation of the Hui He‘enalu o Kona. Through education, positive environmental action, and recreation, the primary purpose of the hui is to encourage preservation of the surf and coastline for generations to come. The motto, “Na Kia‘i o ka Nalu” (Guardians of the Surf) declares our commitment to this purpose. The Hui includes many families in the Kona area who are concerned with maintaining our Class AA water quality and the pristine reef ecosystems, as well as beach access. Hui He‘enalu works with PKO on projects that focus

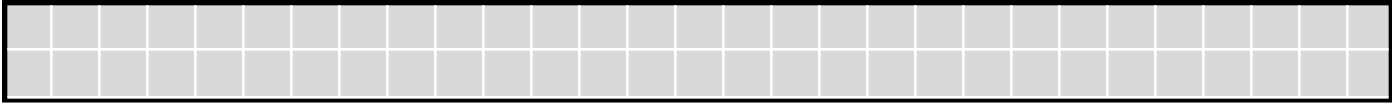
“As stewards and responsible youth, they ensure their future by learning their connection to Hawai‘i’s natural resources.”

on young people. Both organizations participate in the planning process by offering public testimony and as intervenors at public hearings, maintaining the positions that the protection and preservation of environmental resources are crucial to the continuation of cultural practices, and that “standing” for citizens’ participation in the public hearing process is a guaranteed constitutional and human right.

The Hui helps sponsor the annual “Keiki Surf for the Earth” contest and beach clean-up at Kohanaiki in conjunction with Earth Day. Hui members also help organize and raise money for the health and sanitation project at Kohanaiki and send out monthly reminder notices to keep funds coming in to pay for the dumpster and portable toilets.

The PKO sits on the steering committee of the Ahupua‘a Action Alliance. This alliance brings together more than 40 Hawaiian and environmental organizations throughout the state. The alliance pledges to protect our marine, coastal, and watershed ecosystems and associated Kanaka Maoli cultural traditions from irreparable harm.

The Protect Kohanaiki ‘Ohana focuses on projects that foster an understanding of the value of our cultural treasures and historic resources unique to our Kona community and to this particular geographic region of Kekaha. We credit the “Keiki Surfers for the Earth” for the major victory won at Kohanaiki. Their dedication protects the environment and quality of life for Kona and Hawai‘i. As stewards and responsible youth, they ensure their future by learning their connection to Hawai‘i’s natural resources.



Section II

Agency Goals

The Environmental Council asked most government agencies in the state to present their goals to protect Hawaii's environment. Each agency was then asked to make a progress report of how those goals are being implemented. The result is a practical outline of how your government is meeting its responsibility to manage and cherish the unique resources and healthy natural ecosystems of our island home.

Agency Goals

State Department of Accounting and General Services

DAGS Environmental goals and objectives occur at two levels, the first as organization efforts and the second as individual office efforts. Three of the former and two of the latter are described below.

I. Goals/Objectives FY 1996

Organization Level Efforts

A. Objective #1: Use products with recycled content (State Procurement Office). Whenever appropriate to the commodity being purchased, the recycled products preference is included in the competitive sealed bid process. The preference is presently applied to the following commodities: disposable polyethylene bags; disposable food service products and kitchen supplies; coarse paper products (hand towels, toilet paper, etc.); and office supplies.

B. Objective #2: Require preservation of the environment in State Public Works construction projects (Public Works Division). PWD construction plans and specifications require:

- protection of archeological sites if found
- erosion protection
- dust prevention
- preventing air pollution
- preventing work on weekends and holidays where feasible
 - excessive noise control
 - proper storage and disposal of wastes
 - preventing discharge of polluted waters to streams, lakes and ocean
 - traffic control and signs for the safety of the public
 - restoration of pavements, fences, utilities, walls, etc. damaged during construction
- cleanup of sites
- asbestos and hazardous materials not be used in construction
 - Value Engineering, to make use of the contractors expertise in construction (projects over \$100,000). Under this program, the contractor is encouraged to make suggestions on methods and materials which can provide the same function but at lower cost. The contractor shares in any costs saved.

- conformance to Federal and State regulations in handling existing asbestos and hazardous wastes
- conformance with all laws and regulations including enforcement of tax payments

PWD awards about 560 contracts totaling \$154,000,000 annually (5 year average).

C. Objective #3: Energy conservation. Achieve a 15% reduction in energy consumption by the end of FY 97 at DAGS managed facilities (Central Services Division).

Methods employed:

- replacing original ballasts and bulbs in light fixtures with more energy efficient ones
- shortening hours of air conditioning usage, a major energy consumer, outside of "core" hours

Individual Office Efforts

A. Objective #1: Recycling/Reuse. DAGS divisions and offices save used office paper and toner cartridges for recycling.

Two of our offices (Audit Division and Systems and Procedures) also uses the reverse side of used copy machine and computer printer paper for draft memos and reports prior to recycling of the paper.

Many of our offices reuse manila folders, large envelopes, and other materials.

B. Objective #2: Energy Conservation. DAGS offices practice energy conservation. These efforts consist of:

- disconnecting light fixtures in areas not used when on a common switch with light fixtures that must be left "on"
- turning off lights in storerooms and other areas not intermittently used
- turning off office lights and equipment when not to be used for prolonged periods of time

II. Results of Efforts FY 1996

Organization Level Efforts

A. Objective #1: Bids for the above cited products were evaluated to determine whether the recycled products preference applied, before contracts were awarded. Many contracts for products with recycled content were awarded.

B. Objective #2: Substantial compliance has been achieved by contractors in all of our projects thus preventing unnecessary degradation of the environment.

C. Objective #3: Energy use reduction: Fully expect to meet 15% reduction in energy use by 1997.

Individual Office Efforts

A. Objective #1: A substantial reduction in waste paper was made. This resulted in reduced disposal costs.

Audit Division's purchased fewer reams of paper in fiscal year 1996 than in the previous fiscal year due to the efforts at conservation and reuse of used paper.

B. Objective #2: Energy savings were made but the total amount is unknown.

III. Goals/Objectives FY 1997

A. Objective #1: Continue with upgrades of lighting fixtures for energy efficiency and continue with energy conservation practices.

B. Objective #2: Increase the number of contract awards for products with recycled content.

C. Objective #3: Continue to require and monitor conformance with environmental regulations in State Public Works construction.

State Department of Agriculture

I. Goals/Objectives FY 1996

A. Objective #1: Prevent the introduction of harmful pests and diseases into the State.

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

C. Objective #3: Minimize the adverse effects of pesticides on the environment.

II. Results of Efforts FY 1996

A. Objective #1: Issued over 900 violation notices resulting from surveillance of Hawai'i-bound air and sea baggage, cargo, mail, and visitors.

Educated over 11,500 Hawai'i residents about the need to protect Hawai'i's environment by not importing alien species.

B. Objective #2: Identified six new immigrant insects which have the potential to become plant or nuisance pests.

Continue mechanical and chemical control programs to reduce incidence of established plant and insect pest and searching for new biological controls for the same.

C. Objective #3: Issued over 50 letters warning farmers and others of improper use or storage of registered pesticides.

Conducted over 600 inspections of farms, pesticides dealers, produce for sale, and non-farm users for proper pesticide use.

III. Goals/Objectives FY 1997

The Department of Agriculture's goals and objectives will be the same as in FY 1996.

State Department of the Attorney General

I. Goals/Objectives for FY 1996

A. Objective #1: The goal of the Department of the Attorney General for the fiscal year 1996 was to provide legal assistance to our clients to aid them in vigorously enforcing environmental laws and acting on environmental violations.

II. Result of Efforts FY 1996

A. Objective #1: The goal of the Department of the Attorney General is being accomplished on an ongoing basis, and the department continues to support its clients in their environmental enforcement and regulatory efforts.

Agency Goals

For example, the Department recently announced a \$600,000 settlement of civil and administrative cases against two corporations at the Hawai'i Kai Sewage Treatment Plant for violations from 1988-1990. The defendants were alleged to have secretly dumped sewage sludge and other unpermitted effluent and to have caused a large sewage spill that led to the closing of Sandy Beach in 1990. As part of the settlement, the two defendants will provide goods and services to implement a reclaimed water project that will be a model of wastewater reuse at Sandy Beach Park.

Another example of a recent successful enforcement action is the Honolulu Harbor Cleanup. This is a cooperative effort between DOH and potentially responsible parties (PRPs) to assess for contamination and possible remediation of hazardous substances. The Honolulu Harbor Cleanup area is between Piers 17 and 38.

Also in fiscal year 1996, the drafting of amendments to the state hazardous waste rules was completed. The amendments will make the rules as stringent as the federal regulations that were promulgated between July of 1993 and June of 1996.

III. Goals/Objectives FY 1997

A. Objective #1: The Department of the Attorney General has as its primary goal to continue to provide legal assistance to our clients to support their environmental regulatory and enforcement efforts.

B. Objective #2: A secondary goal of the Department of the Attorney General is to participate in a multi-agency environmental enforcement task force that will take action against environmental violations in an effort to deter environmental polluters. This task force will facilitate communications between state and federal environmental enforcement branches regarding violators, successful prosecutions, and evidence used in prosecuting violators.

State Department of Defense

I. Goals/Objectives FY 1996

A. Objective #1: Training. Develop and conduct a comprehensive environmental awareness and regulatory training program.

B. Objective #2: Compliance. Ensure current installation operations meet applicable Federal, State, and local requirements.

C. Objective #3: Environmental documentation. Ensure documentation is completed on all anticipated/proposed actions, programs, and projects to determine impacts affecting the areas of conservation, preservation, and restoration.

II. Results of Efforts FY 1996

A. Objective #1:

- Implementation of Environmental Compliance Officers (ECO) training at all levels of command. Designation of 41 primary and 46 alternates (completed). Initial 40-hour training (near completion), refresher (ongoing).
- Initial response to hazardous material incidents refresher training conducted statewide and completed by 204 State/Federal employees. This year's spill response exercise involved county fire department personnel, i.e., observing the drill, meeting personnel, inspecting response equipment, etc.
- Environmental awareness training for 90 IDT soldiers (completed).

B. Objective #2:

- Installation of three oil/water separators (completed).
- Acquisition of secondary containment systems (ongoing).
- Updates of management plans, i.e., Spill Prevention Control and Countermeasure, Installation Spill Contingency, Hazardous Waste Management (final/near completion).
- Noise survey of O'ahu facilities (completed).
- Statewide water quality surveys (completed).

C. Objective #3:

- Preservation studies of the Moloka'i Cannon and Battery Harlow (near completion).
- Natural and cultural resource/biological/endangered species surveys (near completion).
- Integrated management plan for Kanaio training area (completed).

III. Goals/Objectives FY 1997

A. Objective #1: Training. Ensure personnel at all levels of command receive environmental awareness and regulatory training (initial/refreshers), i.e., general awareness/safety, hazmat, spill response, transportation, land management of training areas, etc.

B. Objective #2: Compliance. Ensure current installation operations meet applicable Federal, State and local requirements, i.e., removal of five underground storage tanks, installation of three oil/water separators, procurement of spill containment, hazardous waste minimization and pollution prevention equipment, etc.

C. Objective #3: Environmental documentation. Ensure documentation is completed on all anticipated/proposed actions, programs and projects to determine impacts affecting the areas of conservation, preservation and restoration, i.e., integrated resources management plan, use of local training areas, cultural/natural resources inventory, environmental assessments, etc.

State Department of Education

I. Goals/Objectives FY 1996

A. Objective #1: Provide staff development activities to strengthen teachers' knowledge and skills to assist students in improving their critical thinking, problem-solving, and decision-making skills for responsible environmental actions.

B. Objective #2: Develop environmental curriculum materials, including a handbook of instructional strategies that adapts a nationally developed program, Investigating and Evaluating Environmental Issues and Actions, to meet local needs.

C. Objective #3: Provide outdoor education experiences for students to learn more about the island environment.

II. Results of Efforts FY 1996

A. Objective #1:

- Provided 20 teacher workshops in `Ohi`a Project, Environmental Issues and Actions, Project Wild Aquatic, and Space Education for each of the seven districts.
- Established a cadre of eight master teachers trained to conduct Environmental Issues and Actions workshops.

B. Objective #2:

- Developed a handbook on Feral Pigs, an Introduced Specie for students to study the effects of introduced animals on the local environment.
- Updated a teacher's guide for Exploring the Islands, a 4th grade distance learning program viewed by 7,000 students statewide.

C. Objective #3:

- Provided outdoor education opportunities for 20,000 5th and 6th graders to explore the forest ecosystem at Koke'e State Park and Hawai'i Volcanoes National Park.
- Provided a five-week residential program for 22 high school students to investigate the local environment on the Big Island.
- Provided a voyaging experience on the E Ala and Makali'i for 200 high school students from Hilo High, Konawaena High, and Wai'anae High Schools.

III. Goals/Objectives FY 1997

A. Objective #1: Continue to provide staff development activities to strengthen teachers' knowledge and skills to assist students in improving their critical thinking, problem-solving, and decision-making skills for responsible environmental actions.

B. Objective #2: Develop environmental curricular guides to infuse critical thinking, problem-solving, and decision-making skills into the classroom.

C. Objective #3: Establish community partnerships to enrich the instructional delivery of environmental education through contextual learning.

Agency Goals

State Department of Hawaiian Home Lands

I. Goals/Objectives FY 1996

A. Objective #1: Reduce and eliminate health and safety hazards from Hawaiian home lands.

B. Objective #2: Protect and enhance land, natural, and historic resources on Hawaiian home lands.

C. Objective #3: Encourage community participation in restoring and protecting resources.

II. Results of Efforts FY 1996

A. Objective #1: Old underground storage tanks removed at Anahola, Kaua'i (3) and Waimea, Hawai'i (1).

B. Objective #2: Joint efforts with the Department of Land and Natural Resources, Department of Agriculture, and other agencies to eliminate gorse at Humuula, Hawai'i and myconia at Hilo, Hawai'i and Hana, Maui.

C. Objective #3: Community groups formed and volunteered for resource stewardship projects at Kahikinui, Maui and Mo'omomi, Moloka'i.

III. Goals/Objectives FY 1997

Same as FY 1996 with focus on:

A. Objective #1: Removal of old underground storage tanks at Hanapepe, Kaua'i (2) and Ho'olehua, Moloka'i (1).

B. Objective #2: Extend/renew cooperative management agreements with Department of Land and Natural Resources for endangered plant sanctuaries and archaeological/historic sites on Hawaiian home lands.

C. Objective #3: Expand weed elimination and reforestation projects on Hawaiian home lands.

State Department of Health

Goals

- To protect and enhance Hawai'i air quality for the health of the people.

- To protect Hawai'i's groundwater from contamination for drinking, irrigation, and other appropriate uses.

- To protect and restore the quality of Hawai'i's streams, wetlands, estuaries, and other inland waters for fish and wildlife, recreation, aesthetic enjoyment and other appropriate uses.

- To protect Hawai'i's lands from pollutants that endanger people and the environment, and to rehabilitate contaminated lands.

- To ensure Hawai'i's coastal waters are safe and healthy for people, plants, and animals.

Note: For more information, refer to "The State of Environmental Protection in Hawai'i: A Report by the Hawai'i Department of Health" or contact Patrick Felling of the Environmental Planning Office at 586-4337.

State Department of Labor and Industrial Relations

I. Goals/Objectives FY 1996

We currently have not identified or established environmental goals and/or objectives.

II. Results of Efforts FY 1996

Accordingly, we are unable to report the results of our efforts.

However, the Department's Hawai'i Occupational Safety and Health Division (HIOSH) has an Occupational Health Branch charged with establishing an occupational health program for the State of Hawai'i. We have established

permissible exposure limits (PELs) for worker's exposure to air contaminants in the workplace and measure our success with both the Bureau of Labor Statistics injury and illness data and state workers' compensation data.

The HIOSH Consultation and Training Branch provides on-site consultation and training in the area of occupational health. This branch measures results similarly. Since employer's requests are the basis for this branch's activity, there are not set goals with respect to numbers of training sessions, number of employees/employers trained, or numbers of occupational health hazards identified and resolved.

III. Goals/Objectives FY 1997

None

State Department of Land and Natural Resources

Aquaculture Development Program

I. Goals/Objectives FY 1996

The program's goal is to encourage and support sustainable aquaculture development which fosters wise use and good stewardship of land, water, plant and animal resources, is environmentally non-degrading, technically appropriate, economically viable and socially acceptable.

A. Objective #1: Facilitate and streamline the permit process for restoration of ancient Hawaiian fishponds and assist interested community groups and individuals in their reconstruction and operation.

B. Objective #2: Plan and facilitate the development of an aquarium products industry for Hawai'i.

C. Objective #3: Encourage statewide commercial development of sustainable aquaculture utilizing native species and environmentally-sound production systems.

II. Results of Efforts FY 1996

A. Objective #1:

- Obtained master CDUA for 29 fishponds on Moloka'i - 13 State and 16 private. Communicated to private interests the next steps in the permit process.
- Obtained final permits for Honouliwai Demonstration Fishpond on Moloka'i and worked with DOH to obtain final permit for Kahinaphaku Fishpond on Moloka'i.
- Obtained State lease for Honouliwai Fishpond so that ADP could work directly with a Moloka'i nonprofit organization and/or community group to sublease and restore the pond.
- Prepared a draft fishpond permit handbook based on demonstration pond experience.
- Worked with various other groups around the State to facilitate restoration of fishponds.

B. Objective #2:

- A report to the 1996 State Legislature on how to develop the aquarium projects industry was completed by working with an industry advisory group. The report had 17 recommendations, with 10 as top priority. Efforts to implement the top recommendations were begun.
- Coordinated testimony on bills and resolutions related to the report.

C. Objective #3:

- Worked with DAR to promulgate rules and complete the development of implementation procedures for the Aquaculture License, which allows culture of regulated aquatic species.
- Advised potential farmers on appropriate species, systems and sites for environmentally sound development, particularly the use of small-scale recirculating and integrated agriculture/aquaculture systems.
- Assisted in developing a market for aquatic snails that have become a problem for taro farmers on Maui and Kaua'i.

III. Goals/Objectives FY 1997

ADP will have the same top goals and objectives as in FY 1996.

Agency Goals

Aquatic Resources

I. Goals/Objectives for FY 1996

A. Objective #1: Fulfill requests to review development proposals (environmental impact assessments, permit applications, etc.), legislation, rule-making, other actions proposed by public and private organizations; provide to authorities technical guidance on potential effects adverse to Hawai'i's aquatic resources, aquatic environments, fishermen and fisheries programs; recommend measures to avert or minimize harmful impacts and to enhance public benefits.

B. Objective #2: Plan and develop public information and education materials for children and adults, and carry out activities regarding Hawai'i's aquatic resources: Foster appreciation and understanding; instill conservation ethics; improve fishing skills and water safety; reinforce respect for rights of others.

C. Objective #3: Monitor abundance and species composition of fish stocks in existing Marine Life Conservation Districts (MLCDs); survey sites for new MLCDs and establish new MLCDs and adjust management of existing MLCDs through rule-making where appropriate.

II. Results of Efforts FY 1996

A. Objective #1: Responded to 100% of 408 such requests received.

B. Objective #2: Trained 380 teachers and volunteer instructors to use above materials; delivered above information through 6600 personal and 700,000 mass-media contacts.

C. Objective #3: Monitored 100% of 10 established MLCDs, surveyed sites proposed for two new MLCDs.

III. Goals/Objectives for FY 1997

Aquatic Resources will have the same goals and objectives as in FY 1996.

Forestry and Wildlife

I. Goals/Objectives FY 1996

A. Objective #1: Ensure viable water yields by protecting and enhancing the condition of Hawai'i's forested watersheds to retard rapid runoff of storm flows, prevent soil erosion, and improve infiltration rates.

B. Objective #2: Protect and enhance the condition of Hawai'i's unique native plant and animal species, and native ecosystems for their productive value to science, education, and industry and the cultural enrichment of future generations. Prevent species extinctions whenever possible.

C. Objective #3: Enrich leisure time and capabilities of Hawai'i's residents and tourists by providing opportunities and facilities for outdoor recreational activities such as hiking, hunting, fishing, camping, photography, and nature walks.

II. Results of Efforts FY 1996

A. Objective #1:

- Controlled noxious weeds and plants on 310 acres.
- Removed 23 wild cattle in the Kula and Makawao forest reserves.
- Removed 133 feral, hybrid, and mouflon sheep from Mauna Kea forest reserve.
- Fought 153 fires encompassing 1,983 acres.
- Controlled 64 acres of fountain grass/various weeds in conjunction with fire access road/firebreak maintenance in the Mauna Kea, Pu`uwa`awa`a and Pu`uanahulu areas.

B. Objective #2:

- Removed 18 feral pigs from the Ka`ala and Pahole NARs, O`ahu using staff and public hunters.
- Removed 11 goats from the Ka`ala NAR, O`ahu.
- Removed 24 goats from the Kalalau Valley rim, adjacent to the Hono O Na Pali NAR, Kaua`i.
- Maintained 12 miles of pig-proof control unit fence in the Puu Maka`ala NAR, Hawai`i.
- Cleared 175 acres of fountain grass, banana poka, and palm grass from the Manuka, Puu Maka`ala, and Puu O`Umi NARs, Hawai`i.

- Maintained 35 enclosures on various sites on Hawai'i to protect the Mauna Kea silversword, the Hawaiian vetch, uhiuhi, kauila, kokio, loulu, ohai and other rare, threatened and endangered species.

- Maintained 5 enclosures in Pahole NAR, 1 enclosure in Ka'ala NAR, and 1 in Kunia, O'ahu, protecting the *Gardenia brighamii* and other rare, threatened and endangered species.

- Constructed 4 enclosures/exclosures on Kaua'i, protecting the *Wilkesia hobdyi*, *munroidendron racemosum*, *Alsiniidendron viscosum*, and the *Poa siphonoglossa*.

- Maintained 20 enclosures/exclosures in the Kalepa and Na Pali-Kona forest reserves, and the Ku'ia and Hono O Na Pali Natural Area Reserves.

C. Objective #3:

- Constructed 5.9 miles of trails, and 6.4 miles of fences.

- Maintained 410 miles of roads, 128.5 miles of trails, and 4.5 miles of fences.

- Maintained 703 acres of arboreta.

- Maintained 192 trail shelters, 226 picnic campsites, 227 wildlife water units and 80 viewpoints.

- Maintained 34 hunter check-in stations.

- Posted 124 hunter informational, boundary, and safety zone signs.

- Maintained 3 game feeding sites.

- Planted 29 acres of herbaceous cover and cleared 41 acres of noxious shrubs for game habitat improvement.

- Coordinated special public archery, muzzle loader and rifle hunts for Black-tailed deer on Kaua'i.

- Coordinated statewide special public hunts, through lotteries, for Axis deer, Blacktail deer mouflon sheep and wild goats.

- Cooperated with the Hawai'i Tropical Botanical Garden to install signs and a chain link fence to open the Alakahi alignment of the Onomea Trail to the public.

- Conducted a campsite cleanup at Waimanu Valley after a severe windstorm in March, 1996; also cleared debris on 7 miles of the Muliwai trail.

- Assisted hunters and fishermen in obtaining selected access through the Hamakua lands of the Kamehameha Schools/Bishop Estate.

- Initiated the construction of the Mamane Trail in the Kula Forest Reserve.

- Incorporated the Lanai Fisherman's trail into the Na Ala Hele Trails and Access System.

III. Goals/Objectives FY 1997

A. Objective #1: Ensure viable water yields by protecting and enhancing the condition of Hawai'i's forested watersheds to retard rapid runoff of storm flows, prevent soil erosion, and improve infiltration rates.

B. Objective #2: Protect and enhance the condition of Hawai'i's unique native plant and animal species, and native ecosystems for their productive value to science, education, and industry and the cultural enrichment of future generations. Prevent species extinctions whenever possible.

C. Objective #3: Broaden the State's economic base by producing, improving, and assisting in the production of high quality forest products in sustained yield systems to create job opportunities in rural areas.

Kaho'olawe Island Reserve Commission

Kaho'olawe had been used as a U.S. Military weapons range and training area for more than fifty years. In 1993, the U.S. Congress voted to permanently stop the bombing and return Kaho'olawe to the State of Hawai'i. Congress also authorized funding to the U.S. Navy to cleanup the Island, in consultation with the State to assure the meaningful, safe use of the Island for appropriate cultural, historical, archaeological, and educational purposes determined by the State. In 1993, the Hawai'i Legislature established the Kaho'olawe Island Reserve (the island and surrounding waters extending two miles from its shoreline) and the Kaho'olawe Island Reserve Commission (KIRC) to implement controls and permitted uses for the reserve and to serve as the Navy's single point of contact for State oversight of the Cleanup.

I. Goals/Objectives FY 1996

A. Objective #1: Planning, Implementation and Completion of the Unexploded Ordnance (UXO) Model Clearance Project to identify procedures and requirements for the anticipated Omnibus Cleanup of the Island.

B. Objective #2: Development and completion of three agreements between the Navy and the State: Regulatory Framework, an agreement to ensure that the Navy conducts the clearance or removal of unexploded ordnance from, and environmental restoration of Kaho'olawe; Site Protection

Agency Goals

Agreement which establishes procedures to preserve and protect historical, cultural, and religious sites and artifacts; and a Public Participation Agreement which provides a process to keep the public informed about the Cleanup.

C. **Objective #3:** Achievement of in-house KIRC expertise in the areas of environmental restoration, ocean management, and UXO remediation, in order to better plan for and implement agency program strategies.

II. Results of Efforts FY 1996

A. **Objective #1:** Successful completion of the UXO Model Clearance Project. Conducted clearance of approximately 240 acres of Kaho`olawe Island. Project identified procedures, requirements and clarified State/KIRC role for the ongoing cleanup undertakings of the Island.

- Detected and either detonated or moved 3,334 surface and 306 subsurface UXO items; 17,736 lbs of surface and 16,977 subsurface UXO remnants.
- Located 1,066 lbs of target material debris; 4,691 lbs of non-ordnance related trash.

B. **Objective #2:** Initiated negotiations with the Navy on the necessary agreements; defined critical issues, coordinated and consulted with other State and County agencies.

C. **Objective #3:** Filled Restoration Coordinator, Ocean Management and Remediation Assistant positions; participated in various workshops and conferences regarding restoration and cleanup issues; initiated planning processes for ocean management and environmental restoration; identified State cleanup goals.

III. Goals/Objectives FY 1997

A. **Objective #1:** Completion of the Regulatory Framework and other necessary agreements between the State and the Navy.

B. **Objective #2:** Commencement of the Omnibus Cleanup, with continued meaningful coordination with the Navy and its contractors, in order to achieve State cleanup goals.

C. **Objective #3:** Completion of the Ocean Management Plan and the Restoration Plan and implementation of pilot projects.

Land Division

I. Goals/Objectives FY 1996

A. **Objective #1:** To undertake a program to identify stream ownership and prioritize stream maintenance requirements on State Lands in an environmentally sensitive manner. (LAND SECTION)

B. **Objective #2:** To minimize the loss of lives and property damage through the mitigation of flood hazards and regulation of dams and reservoirs. (ENGINEERING SECTION)

C. **Objective #3:** To continue the review of the State Conservation District, including an assessment of available Geographic Information System resource attributes, models of land use regulation in sensitive environmental areas as developed by other states, and an alternatives analysis of potential mechanism for future land use permit criteria and guidelines. (PLANNING SECTION)

II. Results of Efforts FY 1996

A. **Objective #1:** An analysis is underway to determine stream ownership and clarifying state land responsibilities. Maintenance efforts are prioritized for specific streams on an "as needed" basis. (LAND SECTION)

B. **Objective #2:** The division has prepared and submitted to the Federal Emergency Management Agency (FEMA), a State Flood Hazard Mitigation Plan which identifies statewide hazard mitigation issues and proposes an action plan that can be taken to lessen the risk of life and property. (ENGINEERING SECTION)

C. **Objective #3:** The Conservation District Review Project is approximately one-third (1/3) completed. Draft deliverable work products have been framed related to GIS resource attributes and their relationship to existing zoning classifications. (PLANNING SECTION)

III. Goals/Objectives FY 1997

A. **Objective #1:** To develop and implement a Coastal Erosion Management Plan for the State of Hawai'i in coordination with pertinent Federal, State and County agencies, with assistance from technical and scientific expertise provided by the U.H. (LAND SECTION)

B. Objective #2: To implement specific elements and action items, as identified in the State Flood Hazard and Mitigation Plan. (ENGINEERING SECTION)

C. Objective #3: To complete the Conservation District Review Project and implement Land Board approved recommendations and work elements. (PLANNING SECTION)

Water Resource Management

I. Goals/Objectives FY 1996

A. Objective #1: To sustain the water resources of the state through improved data collection and monitoring.

B. Objective #2: To more efficiently use our remaining water resources by promoting the use of reclaimed sewage effluent in the `Ewa Plains region on the island of O`ahu.

C. Objective #3: To improve stream protection and management by adopting administrative rules.

II. Results of Efforts FY 1996

A. Objective #1: Met with the counties to discuss the problems unique to each county. Surveyed hydrologists to get input on better ways to estimate water availability.

B. Objective #2: On-going. On March 13, 1996, the Commission on Water Resource Management (Commission) adopted a policy recognizing that reclaimed water is a valuable resource in the `Ewa Plain region and that direct or indirect reuse will be championed by the Commission. The Commission's staff also participates in a "Water Reuse Champions" committee which includes the City's Planning and Wastewater Departments, the Board of Water Supply and the State's Department of Health.

C. Objective #3: On-going. State-wide public hearings on the draft administrative rules for SPAM were held and public comments received are currently being assessed.

III. Goals/Objectives FY 1997

A. Objective #1: To better plan for the sustainability of our water resources by initiating an integrated resource planning process to revise the Hawai'i Water Plan.

B. Objective #2: Same as #2 above.

C. Objective #3: To improve our assessments of water resource availability by initiating the planning and design of four deep monitor wells on the islands of O`ahu, Maui and Hawai'i.

State Department of Public Safety

I. Goals/Objectives FY 1996/1997

A. Objective #1: The State Department of Public Safety began an initiative to ensure all operations conform to, and are in compliance with, all State and Federal Environmental Laws and Regulatory Guidelines. To achieve this end, a complete review of all current hazardous material handling practices was undertaken in conjunction with a thorough inventory of all hazardous chemicals now in use throughout the system. Existing departmental policies and procedures were revised, and a detailed hazardous material use and control training program is now under development. It is the Department's objective to achieve full compliance by the end of FY 96-97.

State Department of Transportation

Airports Division

I. Goals/Objectives FY 1996

A. Objective #1: Complete Stormwater Pollution Prevention Plan for Honolulu International Airport (HIA) and obtain NPDES permit.

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B. Objective #2: Complete Stormwater Pollution Prevention Plans and water quality analyses at Kahului and Lihue Airports.

C. Objective #3: Initiate Noise Compatibility Plans for Kahului, Princeville and Dillingham Airports.

II. Results of Efforts FY 1996

A. Objective #1: Completed SPPP for HIA and received NPDES permit for stormwater. Continued to monitor the many pollution prevention and containment devices on HIA.

B. Objective #2: Made progress on Stormwater Pollution Prevention Plans and water quality sampling, but did not complete them.

C. Objective #3: Completed Noise Compatibility Studies and Plan for Kahului Airport. Initiated noise studies for Dillingham, Princeville, Kalaeloa and Keahole Airports.

III. Goals/Objectives FY 1997

A. Objective #1: Complete Stormwater Pollution Prevention Plans for Kahului and Lihue Airports and gather water quality data to report to the Department of Health.

B. Objective #2: Complete Environmental Compliance Handbook for tenants. Hire Environmental Technical Assistance Consultant. Hire one (1) Environmental Engineer on staff.

C. Objective #3: Complete Noise Compatibility Plans for Kalaeloa, Princeville, Dillingham and Keahole Airports.

Harbors Division

I. Goals/Objectives FY 1996

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

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

C. Objective #3: To support Hawai'i's life-style, the Harbors Division develops transportation systems in compliance with environmental regulations.

II. Results of Efforts FY 1996

A. Objective #1:

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

B. Objective #2:

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

C. Objective #3:

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

III. Goals/Objectives FY 1997

Harbors Division will have the same goals and objectives as in FY 1996.

Highways Division

I. Goals/Objectives FY 1996

None submitted for FY 1996.

II. Goals/Objectives FY 1997

A. Objective #1: Obtain a legislative appropriation for and initiate development of the "Statewide Shoreline Protection Master Plan."

B. Objective #2: Obtain a legislative appropriation for and initiate development of the "Landscaping Master Plan for O'ahu."

Hawai'i County Department of Public Works

I. Goals/Objectives FY 1996

A. Objective #1: Protect our land and water resources through sound solid waste management practices and increased recycling.

B. Objective #2: Protect coastal waters by expanding municipal wastewater systems.

C. Objective #3: Protect groundwater resources by replacing all underground storage tanks (USTs).

II. Results of Efforts FY 1996

A. Objective #1:

- Closure of the old Kailua Landfill
- Operated West Hawai'i & Hilo Landfills in compliance with RCRA
- Encouraged private recycling through diversion grants

B. Objective #2:

- Construction of Ali'i Drive, Waiakea Houselots Ph 1, `Ainako & Kalaniana'ole Wastewater Collector Systems

C. Objective #3:

- Completed replacement of all county owned and operated USTs

III. Goals/Objectives FY 1997

A. Objective #1: Protect our land and water resources by the construction of a large scale recycling facility and closure of the Hilo Landfill.

B. Objective #2: Protect our coastal water resources by the development and implementation of an effluent reuse program for Kealakehe.

C. Objective #3: Reduce our dependency on fossil fuel and delay expansion of power plants by retrofitting all county facilities with energy efficient equipment.

Hawai'i County Department of Water Supply

I. Goals/Objectives FY 1996

A. Objective #1: Removal of accumulated scrap metal from baseyards. Our Department's Operations Division maintains and works out of the three major baseyards. The baseyards are situated in Hilo, Kona, and Waimea. Scrap metal from our field and plant facilities is generated when a certain segment of these facilities are either abandoned or replaced. The scrap materials are removed and stored at the baseyards. These materials are nonfunctional and over a period of time creates a messy environment.

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II. Results of Efforts FY 1996

A. Objective #1: The Department advertised for a Request for Proposal for the purchase and removal of the scrap metal from the Hilo, Kona, and Waimea baseyards. Through this proposal, the bidder supplies the disposal bins, purchases the scrap metal (by the ton), and removes the scrap metal from the baseyards on a periodic basis.

We anticipate that this process will provide for a cleaner appearance at our baseyards. The scrap metal would be recycled.

III. Goals/Objectives FY 1997

A. Objective #1: Removal of detected hazardous materials at water facility sites.

- Fire fighters familiarize themselves with areas pre-planned.
- Department sent Fire personnel to wildland fire classes to better prepare themselves to battle these fires effectively.
- Cutting of fire breaks that would have the least impact on the land.
- Identifying sensitive areas (archaeological sites).
- Discussing wildland urban interface with community groups. Removal of all fire-prone fuels close to residences.

III. Goals/Objectives FY 1997

A. Objective #1: Hazmat Team for East and West Hawai'i. To prevent loss of life and minimize property losses and protect the environment from hazardous material incidents.

B. Objective #2: Wildland Fire Pre-Planning. Preventing wildland fires in Hawai'i County can help our economy and environment. Working together with landowners and Fire Department personnel can minimize losses from fire.

C. Objective #3: Work with the Department of Public Works to, through attrition, replace lighting fixtures in fire stations with energy efficient models.

Hawai'i County Fire Department

I. Goals/Objectives FY 1996

A. Objective #1: Hazmat Team for East and West Hawai'i.

B. Objective #2: Wildland fire pre-planning.

II. Results of Efforts FY 1996

A. Objective #1:

- Purchased Hazmat vehicle for East Hawai'i.
- West Hawai'i Hazmat vehicle will be purchased at a later date due to budget restraints.
 - Educating all Fire personnel in Hazmat training; e.g., Haz Wopper, Hazmat Technician, Hazmat Specialist.
 - Department has Hazmat instructor for the Haz Wopper and Technician level.
 - Pre-planning all businesses for hazardous materials and inputting all information in the computer (CAMEO).
 - Constant training and refresher courses are provided by the Fire Department.

B. Objective #2:

- Fire Department personnel worked together with landowners and formulated a pre-fire plan for their property.
 - Some landowners retrofitted their water sources with Fire Department fittings.

Hawai'i County Office of Housing and Community Development

I. Goals/Objectives for FY 1996

A. Objective #1: To ensure compliance with the National Environmental Policy Act's (NEPA) rules and regulations (CFR Part 58 Environmental Review Procedures for Entities Assuming HUD Environmental Responsibilities) regarding federally funded projects.

B. Objective #2: Continue to provide staff training to keep up with NEPA's rules and regulations in completing an Environmental Assessment (EA) for Federally funded projects.

C. Objective #3: Work toward an acceptable format to comply with both HRS 343 and Certified Federal Register (CFR) Part 58. At present the OHCD is required to complete two separate EA's to comply with State and Federal requirements.

II. Results of Efforts FY 1996

A. Objective #1: The OHCD staff attended an EA workshop in Chicago in fiscal year 1996. The workshop focused on the changing NEPA's rules and regulations and provided staff with valuable information to ensure compliance with CFR Part 58.

B. Objective #2: Same as Objective #1.

C. Objective #3: The OHCD has contacted the State's Office of Environmental Quality Control (OEQC) and HUD to work toward an acceptable format to comply with both State and Federal environmental requirements.

Editor's Note: Hawai'i County OHCD is incorrect in its assertion that presently two separate Environmental Assessments are required to conform to State and Federal requirements. In fact, just the opposite is true. State law requires the contents of State and Federal reviews to be combined into a single document. OEQC will continue to educate and coordinate with agencies regarding this fact.

III. Goals/Objectives FY 1997

A. Objective #1: The OHCD will continue to seek training to keep staff abreast of NEPA's rule changes. As a follow up to the EA workshop held in Chicago, staff will be attending a workshop with HUD officials in January 1997 regarding changes to NEPA's requirements.

B. Objective #2: The OHCD will continue to work with the State's Office of Environmental Quality Control and the Department of Housing and Urban Development to reach an agreement on an acceptable format to comply with both State and Federal EA requirements. (*See ed. note above.*)

Kaua'i County Department of Public Works

I. Goals/Objectives FY 1996

A. Objective #1: Remediate the remaining environmental impacts of the Hurricane Iniki recovery effort.

B. Objective #2: Continue public education program to promote environmental awareness.

II. Results of Efforts FY 1996

A. Objective #1: Completed clearing/closure of Temporary Hurricane Debris Receiving Sites. State Department of Health final approval pending submittal of closure reports.

B. Objective #2: Distributed an educational pamphlet containing information for proper disposal of various wastes and promoting the County residential recycling program.

III. Goals/Objectives FY 1997

A. Objective #1: Continue public education program to promote environmental awareness.

Kaua'i County Office of Economic Development

I. Goals/Objectives FY 1996

A. Objective #1: Currently in the process of developing the Kaua'i Resource Exchange Center. This Center will be a place where reusable and recyclable items can be taken as an alternative to hauling and burying them at the landfill. Services provided by the Center will include education and promotion of waste reduction, reuse, and recycling issues and assistance and support for island businesses that collect and handle materials or have an interest in creating or expanding on-island uses or markets for them.

The Center's primary environmental goals are to:

- help in diverting valuable resources from landfills
- provide for salvage of items that have remaining usefulness
- support the development of community-based recycling effort
- encourage recycling and reuse related entrepreneurial activities on Kaua'i

Agency Goals

II. Results of Efforts FY 1996

A. Objective #1:

- Grant funding from the U.S. Economic Development Administration of the Department of Commerce has committed to fully pay for the costs of facility design and construction.
- The Feasibility phase of the project was completed in 1995.
- Currently in the Phase II or Facility Design phase of the project.

III. Goals/Objectives FY 1997

A. Objective #1: Facility construction

B. Objective #2: Contract an operator for the Center

C. Objective #3: Promote use of the facility

Maui County Department of Housing and Human Concerns

No environmental goals/objectives.

Maui County Department of Parks and Recreation

I. Goals/Objectives FY 1996

A. Objective #1: To promote and monitor beautification of County property, including landscaping projects and maintenance of trees. Projected the planting of 600 trees.

II. Results of Efforts FY 1996

A. Objective #1: The promotion and monitoring of beautification of County property is an on-going effort. We have planted 731 trees.

III. Goals/Objectives for FY 1997

A. Objective #1: To promote and monitor beautification of County property, including landscaping projects and maintenance of trees. Project that 200 additional street trees and 400 additional park trees be planted.

Maui County Planning Department

I. Goals/Objectives for FY 1996

A. Objective #1: To provide the expertise and staff to enforce the County's Special Management Area and Shoreline Area Regulations.

B. Objective #2: To ensure that projects reviewed are in conformance with County policies as expressed in the Maui General Plan and appropriate community plans.

C. Objective #3: To support the adoption of all pending community plans by providing timely updated information and revised proposals necessary for the County Council's review.

It should be noted that while some of this Department's goals and objectives are not identified as directly focused on the environment, their application results in direct review of environmental impacts and the creation of the County's environmental policy.

II. Results of Efforts FY 1996

A. Objective #1: In fiscal year 1996, the Planning Department reviewed 241 applications for Special Management Area permits. Of these, 184 were minor permits which are reviewed administratively. The other 57 were publicly reviewed before one of Maui County's planning commissions.

B. Objective #2: In fiscal year 1996, the Planning Department reviewed 79 discretionary applications for conformance with County environmental policies as expressed in the Maui General Plan and appropriate community plans. These applications include:

- 5 State District Boundary Amendments
- 24 State Special Use Permits
- 14 Changes in Zoning

- 6 Project District Reviews
- 4 Community Plan Amendments
- 3 Conditional Use Permits
- 2 County Special Use Permits
- 9 Shoreline Setback Approvals
- 4 Administrative Shoreline Setback Approvals
- 5 Environmental Assessments

C. Objective #3: In fiscal year 1996, the Planning Department supported the revision and adoption of the West Maui Community Plan, and the County Council's review of the Makawao-Pukalani-Kula Community Plan through the Planning Committee phase of adoption. Community plans are policy documents which are intended to guide public and private actions. Each of these documents contains specific policies, objectives and implementing actions related to the environment.

III. Goals/Objectives FY 1997

This Department's environmental goals and objectives will not change for fiscal year 1997.

Maui County Department of Public Works and Waste Management

I. Goals/Objectives FY 1996

A. Objective #1: Reduce sediment runoff into water bodies.

B. Objective #2: Develop and implement a wastewater reuse program.

C. Objective #3: Adopt a wastewater reuse ordinance to mandate the use of recycled water in areas with a reclaimed water system in place.

II. Results of Efforts FY 1996

A. Objective #1: The County solicited and received a federal grant of \$88,000 to revise our Soil Erosion and Sedimentation Control Ordinance taking into account the best possible practices to control erosion and sediment loss. We will also develop a training program to educate the public on the provisions of the ordinance.

B. Objective #2: We have actively pursued the expansion of our wastewater reuse program in South and West Maui. We have made great strides in South Maui with the following users coming on line in 1996: (a) Haleakala Ranch, (b) Dekalb Corn, (c) Kihei Fire Station, and (d) Kihei Public Library. Additionally, we are in final negotiations with AMFAC to irrigate 22 holes of their Ka'anapali golf course sometime in March 1997.

C. Objective #3: A wastewater reuse ordinance was adopted on November 18, 1996. This ordinance requires any commercial property within 100 feet of a reclaimed water system to connect to the County system. Any use of potable water or alternative water source without permission from the County would be in violation of this new ordinance.

III. Goals/Objectives FY 1997

A. Objective #1: Adopt the revised Soil Erosion and Sedimentation Control Ordinance and implement its provisions and training program.

B. Objective #2: Develop and implement a pretreatment program which will effectively manage and track commercial discharges into the County's wastewater collection system. Additionally, this program will have the enforcement authority to issue fines for properties that are in violation of the new pretreatment program.

C. Objective #3: Continue to expand the wastewater reuse program by actively speaking with prospective reuse users both in the private and public sectors.

City & County of Honolulu Board of Water Supply

I. Goals/Objectives FY 1996

A. Objective #1: Develop environmentally appropriate water system projects to ensure a safe and reliable supply for island residents.

B. Objective #2: Encourage the Commission on Water Resource Management (CWRM) to develop an implementation schedule to set permanent in-stream flow standards which would resolve the uncertainty regarding surface water resources.

Agency Goals

C. Objective #3: Increase personnel, agency cooperation, communication and action to make our environmental efforts more efficient and encompassing.

II. Results of Efforts FY 1996

A. Objective #1: BWS projects have become more environmentally appropriate.

B. Objective #2: The CWRM has not made any recent progress to develop permanent in-stream flow standards.

C. Objective #3: Due to budget constraints, personnel could not be increased, however, new computers have aided staff response time. Through streamlining our process, we will continue to address all pertinent environmental policies within current resources.

III. Goals/Objectives FY 1997

A. Objective #1: Continue to develop environmentally appropriate water system projects to ensure a safe and reliable supply for island residents.

B. Objective #2: Continue to encourage the CWRM to set permanent in-stream flow standards to resolve the uncertainty regarding surface water resources.

C. Objective #3: Formulate, in conjunction with the City's Department of Wastewater Management and Planning Department, an integrated water resources plan to address all of O'ahu's water resources: groundwater, surface water, reclaimed effluent and storm water.

City & County of Honolulu Building Department

I. Goals/Objectives FY 1996

A. Objective #1: Comply with Environmental Impact Statement Rules, Hawai'i Administrative Rules, Title 11, Department of Health, Chapter 200.

B. Objective #2: Comply with environmental programs that directly affect construction activities.

C. Objective #3: Comply with environmental requirements in our maintenance and operations activities.

II. Results of Efforts FY 1996

A. Objective #1: During the past year, our planning and engineering efforts were involved in 13 projects for which environmental assessments were accomplished or are in progress.

B. Objective #2: The following types of programs have been addressed in our public building facility construction activities.

- Underground Storage Tank Program
- National Pollutant Discharge Elimination System (NPDES) Program
- Elimination of Chlorofluorocarbon (e.g. air conditioning refrigerant) Program
- Polychlorinated Biphenyls (PCB) Program (e.g. transformers, capacitors, lighting ballasts)
- Lead Paint Abatement/Removal Program
- Asbestos Abatement Program
- Indoor Air Quality Program
- Energy Conservation Program (e.g. Green Lights)

The Building Department, Safety Division, administers Ordinance No. 94-75 which provides for building energy efficiency standards in all new buildings and new construction in existing buildings.

C. Objective #3: Activities in this area include the proper storage and handling of hazardous materials which includes compliance with Material Safety Data Sheet Program and disposal of such materials as paints and chemicals, fluorescent lamps and ballasts. This area also includes our activities in the collection of paper waste in public facility offices for recycling purposes.

III. Goals/Objectives FY 1997

The Building Department will have the same Goals and Objectives as in FY 1996.

City & County of Honolulu Department of Land Utilization

I. Goals/Objectives FY 1996

A. Objective #1: Seeks to improve the effectiveness of land use and development controls, and increase compliance with regulations in order to meet community social, environmental and economic priorities.

B. Objective #2: Other environmental goals are embodied in City Ordinances, Chapter 23, ROH related to shoreline setbacks, and Chapter 25, ROH related to the special management area. These laws generally call for preservation and protection of the coastal zone.

II. Results of Efforts FY 1996

A. Objective #1:

- Adoption of the Waikiki Special District amendments by the City Council to assist in the revitalization of Waikiki.
- Correction of violations through implementation of 1993 legislation which allows fines to be attached to zoning violations.

B. Objective #2:

- Development in the special management area and shoreline setback is regulated by permits and conditions which are designed to minimize impacts to coastal resources.
- In FY 1995-1996, a total of 65 special management area use permits and 9 shoreline setback variances were granted.

III. Goals/Objectives FY 1997

A. Objective #1: We are continuing to administer these laws during the current fiscal year. We have also begun to work with the State Department of Land and Natural Resources to help formulate a system of erosion management aimed at protecting beaches from erosion. This may be a long-term project which could require changes to existing laws to implement.

B. Objective #2: We hope to confirm or redefine our role in area-wide beach erosion issues with respect to

specific problem areas on O`ahu. Our Department is currently exploring area-wide solutions in three geographic areas. These appear to be long-term efforts.

City & County of Honolulu Department of Parks & Recreation

I. Goals/Objectives FY 1996

A. Objective #1: Environmental/microclimate enhancement

B. Objective #2: Recycle and use recycled materials

II. Results of Efforts FY 1996

A. Objective #1: We are responsible for street trees and beautification of park lands and traffic islands. This reduces solar radiation and purifies the air within the hard-surfaced urban environment, increases habitats for birds and other wildlife, and improves groundwater recharge. We also increasingly use native Hawaiian/indigenous trees and plants and xeriscape practices.

B. Objective #2: We specify playground equipment using recycled plastics, metals, rubber, etc.; recycle metals and use green waste from tree trimming; use mulch as a soil amendment and ground cover to conserve plants' moisture; and operate a tree bank to collect trees being removed and dispense them to areas needing planting.

III. Goals/Objectives FY 1997

Parks and Recreation will have the same goals and objectives as in FY 1996.

City & County of Honolulu Department of Public Works

I. Goals/Objectives FY 1996

A. Objective #1: To comply with stormwater National Pollutant Discharge Elimination System (NPDES) permit requirements.

Agency Goals

B. Objective #2: To promote public awareness and participation in non-point source pollution prevention programs.

C. Objective #3: To coordinate interagency efforts and actions related to environmental protection.

II. Results of Efforts FY 1996

A. Objective #1: Developed administrative procedures and policies in regulating stormwater discharge activities; conducted field investigations and cited illegal discharge of non-storm water; established stormwater monitoring stations; and implemented public education programs.

B. Objective #2: Developed video tapes, refrigerator magnets, door hangers, billboards and brochures related to prevention of non-point source pollution. Disseminated education materials to school students, community groups and general public to promote public awareness; launched "Adopt-A-Stream", "Storm Drain Stenciling", and recycle programs to encourage citizen participation in pollutant control and reduction.

C. Objective #3: Served as a member in various task force and advisory committees to provide input on proposed rules and regulations, administrative policies, technical assistance related to environmental activities, e.g. Kailua Bay Advisory Council, Ala Wai Canal Watershed Steering Committee, Interagency Water Quality Training Committee and Stormwater Dewatering Committee, just to name a few.

III. Goals/Objectives FY 1997

Public Works will have the same Goals and Objectives as in FY 1996.

City & County of Honolulu Department of Transportation Services

I. Goals/Objectives FY 1996

A. Objective #1: Evaluate the social, economic, and environmental impact of additions to the transportation system prior to construction.

B. Objective #2: Promote programs to reduce dependence on the use of automobiles.

II. Results of Efforts FY 1996

A. Objective #1: Reviewed, coordinated and processed approximately 40 environmental impact and assessment documents for regulatory compliance. Initiated planning and environmental impact assessment work on the North-South Road project in `Ewa.

B. Objective #2: Construction was completed for the Ke Ala Pupukea, Pearl Harbor, and Kapahulu Avenue Bikeways. The construction contract for the Kailua Area Bikeway project was awarded.

III. Goals/Objectives FY 1997

A. Objective #1: To improve the safe and efficient operation of City transportation and other facilities under the jurisdiction of the department.

B. Objective #2: To assess and improve use, convenience and safety of the City's transportation facilities.

C. Objective #3: To improve the overall operation of the City and County of Honolulu through the department's cooperative partnership with other government agencies and the private sector.

City & County of Honolulu Department of Wastewater Management

I. Goals/Objectives FY 1996

A. Objective #1: To initiate the City's effluent reuse program.

B. Objective #2: To obtain our second 301(h) waiver permit for Sand Island WWTP that allows discharge of less than secondary treated effluent into the marine environment.

C. Objective #3: To complete ultraviolet disinfection study at Kailua Regional WWTP.

II. Results of Efforts FY 1996

A. Objective #1: We currently have constructed a secondary facility called the `Ewa Water Reclamation Facility located on the Honouliuli Wastewater Treatment Plant. The facility is undergoing certification procedures anticipated to last roughly a year. Once completed we can provide up to 13 mgd of R-3 water. Plans are also underway to provide additional processes so that R-1 and R-2 water can be available. Finally, the City is actively pursuing agreements with potential users of reclaimed water.

B. Objective #2: Many questions have been asked by EPA regarding our application. Several letters have been sent responding to these questions. Most of the questions are clarification in nature and are not anticipated to hold up the permitting process. We understand a draft permit will be available for review early next year. We are also anticipating a closer relationship with other agencies and organization so that we can address their concerns.

C. Objective #3: A study was initiated to study the application of UV on secondary treated effluent. A report is approaching its final version was sent to the City and is being reviewed by four panelists. We anticipate the review process to end on December 31, 1996. Upon receiving their comments, we will incorporate the changes and should complete the study by mid/end January 1997.

III. Goals/Objectives FY 1997

A. Objective #1: Obtain agreements with several users of effluent reuse water.

B. Objective #2: Treatment and discharge of primary effluent under a new 301(h) waiver permit for the Sand Island WWTP. Also, obtain 301(h) waiver permit for the Honouliuli WWTP.

C. Objective #3: If the consensus of UV application at Kailua Regional WWTP is unanimous and if the City concurs with this technology, positive efforts toward application of a UV disinfection system at the subject facility should move forward.

City & County of Honolulu Fire Department

I. Goals/Objectives FY 1996

A. Objective #1: To establish a Departmental Recycling Program by providing receptacles to receive aluminum cans, paper waste and glass.

B. Objective #2: To purchase and issue biodegradable supplies to the stations.

C. Objective #3: To design new stations that will address environmental and energy issues. Designs will incorporate energy saving devices such as solar panels, oil/water separators and energy-efficient lighting sources.

II. Results of Efforts FY 1996

A. Objective #1: Recycling plan has been established. Meetings with the recycling coordinators will be scheduled in the immediate future.

B. Objective #2: Storekeepers have been purchasing recycled paper products and biodegradable products for use by Fire Department personnel.

C. Objective #3: Oil/water separators have been installed in the newly constructed fire stations, Kapolei and Aikahi Fire Stations. A wash rack has been constructed at the newly constructed Waipahu Maintenance Facility for use by the stations which do not have oil/water separators. This wash rack meets NPDES requirements.

III. Goals/Objectives FY 1997

A. Objective #1: Implement and monitor Departmental Recycling Program. Make changes based upon the evaluation of this program.

B. Objective #2: Continue to integrate energy-efficient appliances in the older, existing stations whenever possible. Coordinate with the Building Department to replace existing light fixtures with high efficient lamps.

Agency Goals

City & County of Honolulu O`ahu Civil Defense Agency

I. Goals/Objectives FY 1996

None

II. Results of Efforts FY 1996

Not applicable

III. Goals/Objectives FY 1997

A. Objective #1: Each of the nine employees of the agency will be able to describe, in general terms, the purpose of the State Environmental Policy articulated in Chapter 344 of the Hawai`i Revised Statutes.

B. Objective #2: Civil Defense volunteers (approximately 200) will be able to describe, in general terms, the purpose of the State Environmental Policy articulated in Chapter 344 of the Hawai`i Revised Statutes.

C. Objective #3: The agency will identify additional applicable environmental goals/objectives for the Fiscal Year 1998.

City & County of Honolulu Public Transit Authority

I. Goals/Objectives FY 1996

A. Objective #1: To conduct environmental site assessments of the Halawa and Middle Street Bus facilities (especially the existing underground storage tanks), and the four Park and Ride facilities (Hawai`i Kai, Village Park, Mililani Mauka, and the Wahiawa Armory).

B. Objective #2: To review compliance with applicable local, state, and federal regulations, and evaluate current hazardous material handling practices at the facilities.

C. Objective #3: To provide recommendations for the development and/or revision of operational policies and procedures as needed.

II. Results of Efforts FY 1996

A consultant was hired to help achieve the goals mentioned above. Environmental Guidance Documents are currently being reviewed by staff. The Environmental Guidance Document generally covers the gamut of environmental regulation pertinent to transit facilities.

III. Goals/Objectives FY 1997

A. Objective #1: To plan for the upgrade of existing underground storage tanks in order to assure compliance with federal and state regulations.

B. Objective #2: To complete the Environmental Guidance Documents and close the consultant contract.

City & County of Honolulu Planning Department

I. Goals/Objectives FY 1996

A. Objective #1: To ensure compliance with environmental requirements by incorporating the environmental review process within the Development Plan Annual Amendment Review process.

B. Objective #2: To analyze proposed projects that may have potential impacts on the environment, and to provide objective information to decision makers.

II. Results of Efforts FY 1996

A. Objective #1: During the 1996 Annual Amendment Review Process, the Planning Department processed and accepted 2 Final Environmental Impact Statements, and processed and issued 2 Finding of No Significant Impact determinations for proposed amendments which triggered the environmental review process.

B. Objective #2: The Planning Department reviewed and commented on 4 Pre-Environmental Assessments, 24 Draft Environmental Assessments, 4 Environmental Impact Statement Preparation Notices and 6 Draft Environmental Impact Statements.

III. Goals/Objectives FY 1997

A. Objective #1: To ensure compliance with environmental requirements by continuing to incorporate the environmental review process within the Development Plan Annual Amendment Review process and to establish environmental policies, principles and guidelines in the Revised Development Plans.

B. Objective #2: To continue to analyze proposed projects that may have potential impacts on the environment, and to provide objective information to decision makers.

C. Objective #3: To incorporate principles of community sustainability and responsible natural resource and hazard management in the North Shore Development Plan Revision Program, targeted for completion in December 1997; the Waipahu Livable Communities Initiative, targeted for completion in the Fall of 1997; and the Wahiawa Urban Design Plan, targeted for completion in the Summer of 1997.

D. Objective #4: To integrate principles of visual and technical environmental quality in the development of the Wahiawa Urban Design Plan.

E. Objective #5: To seek and analyze information and new technologies that are applicable to our island environment.



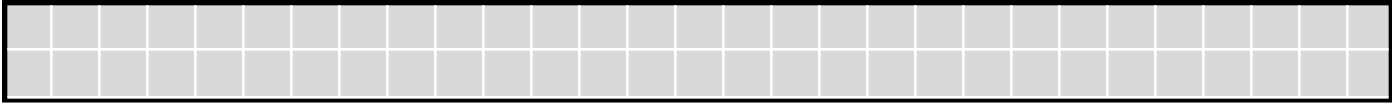
Editor's Note:

We would like to thank the many State and County agencies listed above for their assistance in compiling this report. The following agencies were surveyed but failed to submit any environmental goals and objectives.

- 1. Hawaii County Department of Parks and Recreation*
- 2. Hawaii County Planning Department*
- 3. Kauai County Fire Department*
- 4. Kauai County Planning Department*
- 5. Maui County Department of Fire Control*
- 6. Maui County Department of Water Supply*
- 7. City and County of Honolulu Department of Housing and Community Development*
- 8. Office of Hawaiian Affairs*

The following agencies submitted their survey forms too late to publish in this report. The completed surveys are available for public review at OEQC.

- 1. State Department of Business, Economic Development and Tourism*
- 2. Kauai County Housing Agency*
- 3. Kauai County Department of Water*



Section III

Environmental Indicators

Each year, the Environmental Council collects data on important indicators of the health of Hawaii's Natural Environment. These data are presented in text, tables and graphs so that the public and policy makers can readily understand the status of pollution and environmental decay in Hawaii today. The indicators provide the first comprehensive look - from water quality to endangered species - at the many faceted task of keeping Hawaii clean and healthy. Beyond just presenting the raw data, the Council for the first time is issuing a report card to the public. You will find in this section, as you did in school, a list of grades from A to F evaluating our efforts to protect what makes our part of the world so special.

Environmental Indicators

Environmental Program Funding

1. 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 Hawaii's environmental programs will result in better overall state environmental quality. The portion of expenditures for environmental protection reflects the priority given towards environmental programs relative to other functions.

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

Table 1: State Expenditures on Environmental Protection Programs, FY 1992 to 1996.

Year	Environmental Expenditures in FY 91 Dollars	% of State Expenditures
FY92	\$27,825,000.00	0.76%
FY93	\$23,939,000.00	0.61%
FY94	\$23,976,000.00	0.55%
FY95	\$25,779,000.00	0.57%
FY96	\$51,691,000.00	1.25%

Source: The Variance Report, State of Hawaii, compiled by the Department of Budget and Finance. This report is prepared annually and submitted to the state legislature.

Note: Fiscal year 1996 figures include the Water Pollution Control Revolving Fund that was not shown in previous years and will continue to be shown in the future. In FY 1996, \$30 million was budgeted for the revolving fund.

Environmental Indicators

Water Use and Management

2. Municipal Water Consumption

Good drinking water is one of Hawaii's 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 and water consumption per capita.

Table 2: Municipal Water Consumption by County, Fiscal Years 1992 to 1996.

County	FY 92	FY 93	FY 94	FY 95	FY 96
Honolulu (MG)	51,241	51,033	50,407	51,006	50,682
Kauai (MG)	4,453	4,056	4,149	4,114	4,206
Hawaii (MG)	8,024	7,937	7,999	8,378	8,363
Maui (MG)	10,399	10,312	11,177	11,494	11,477
Total (MG)	74,117	73,338	73,732	74,992	74,728
State de facto Population	1,274,559	1,269,289	1,265,341	1,287,309	1,294,506
Per capita Consumption (Gallons)	58,151	57,779	58,270	58,255	57,727



Source: The State of Hawaii Data Book 1995 prepared by the Department of Business, Economic Development and Tourism; Honolulu Board of Water Supply; Hawaii County Department of Water Supply; Kauai Department of Water; and Maui Department of Water Supply.

Note: i) These figures include only municipal water supply. Military, private and plantation water systems are not included.

ii) Within the municipal distribution system, water is used for residential, agricultural, government, industrial and commercial use.

iii) The percentage of municipal water used for agricultural purposes varies by county. Honolulu - 3%, Hawaii - 9%, Maui - 11%, Kauai - not available.

iv) MG = million gallons.

Environmental Indicators

3. Municipal Wastewater Treatment and Reuse

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

The table below shows how much wastewater was treated and reused at municipal (county) wastewater plants.

County	FY 1995			FY 1996		
	Wastewater treated (MG)	Reused (MG)	% Reused	Wastewater treated (MG)	Reused (MG)	% Reused
Honolulu	43,174	732	1.7%	41,403	1,570	3.8%
Maui	5,351	638	11.9%	5,307	725	13.7%
Kauai	872	571	65.5%	907	568	63.0%
Hawaii	1,772	0	0%	1,758	0	0%
Total	51,169	1,941	3.8%	49,375	2,863	5.8%

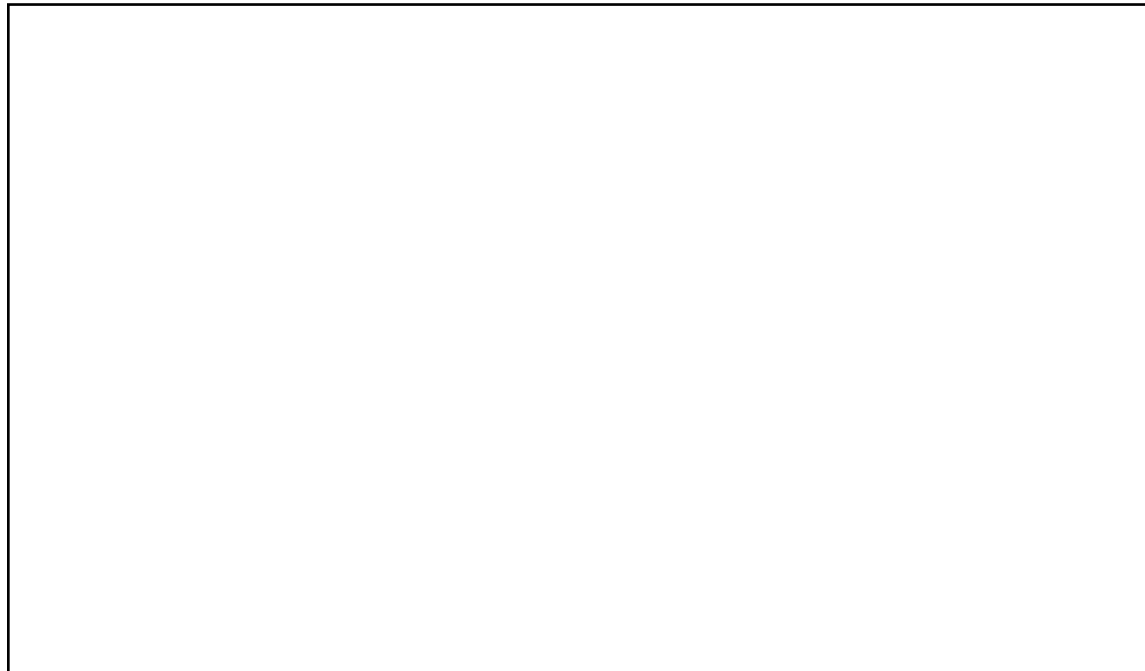


Table 3: Municipal Wastewater Treatment and Reuse by County, FY 1995 to 1996.

Source: Honolulu Department of Wastewater Management, Maui Wastewater Reclamation Division, Kauai Division of Wastewater Management, and Hawaii County Department of Public Works.

Note: i) These data include only municipal wastewater treatment and reuse. Military and private treatment plants are not included.

ii) 100% (451 MG in FY 1996) of wastewater treated at the Lihue Wastewater Treatment Plant is sent to Kauai Lagoons Resort. Kauai Lagoons then manages the treated water between reuse for golf course irrigation and disposal by injection well. The county assumes that all of the treated water is reused.

Solid Waste

4. Solid Waste Generation and Diversion

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

The following table shows the total amount of municipal solid waste generated and the amount recycled and composted.

County	FY 94		FY 95		FY 96	
	Municipal Solid Waste (in tons)	Waste Diversion (Recycling & Composting) Rate	Municipal Solid Waste (in tons)	Waste Diversion (Recycling & Composting) Rate	Municipal Solid Waste (in tons)	Waste Diversion (Recycling & Composting) Rate
Oahu	1,508,000	17.0%	1,561,000	21.0%	1,667,000	24.0%
Maui	193,000	24.0%	212,000	24.0%	203,000	25.0%
Kauai	92,000	15.0%	90,000	22.0%	81,000	15.0%
Hawaii	159,000	9.0%	160,000	7.0%	181,000	17.5%
Total	1,952,000	17.0%	2,023,000	20.0%	2,132,000	23.0%

Table 4: Solid Waste Generation and Diversion by County, Fiscal Years 1994 to 1996.

Source: DOH, Office of Solid Waste Management

Note: Mton = Million Tons

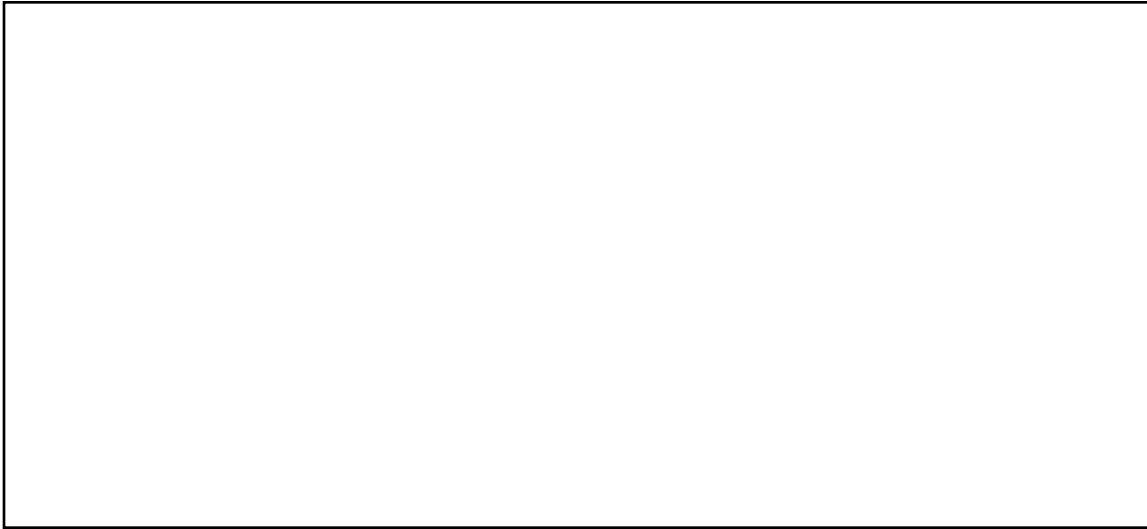
5. Statewide Solid Waste Generation

The table below shows the amount of solid waste generated in Hawaii for 1990, 1995 and the estimated figure for 2000. The amount of materials discarded into Hawaii's waste stream is expected to keep increasing.

Year	1990	1995	2000
Solid Waste Generation	12 Mton	19 Mton	23 Mton

Table 5: Statewide Solid Waste Generation, 1990 to 2000.

Environmental Indicators



Source: DOH, Office of Solid Waste Management
 Note: Mton = Million Tons

6. Municipal Solid Waste Landfill Capacity

The table below shows how much longer county landfills can accept waste at its current disposal rate. Solid waste minimization and diversion is critical in Hawaii because at our present disposal rate, county landfills (except Hawaii County) will fill up in 10 years or less.

County	Location	Landfill Life Remaining
Oahu	Waimanalo Gulch, MS WLF	4 years
Maui	Central Maui, MSWLF all phases	4 years
Molokai	Naiwa, MS WLF	10 years
Lanai	Lanai, MS WLF	3-5 years
Kauai	Kekaha, MSWLF phase III	2 years
Hawaii	Hilo MS WLF West Hawaii MS WLF	1 year 40 years

Table 6: Solid Waste Landfill Life Remaining for Municipal Landfills in Hawaii.

Source: DOH, Office of Solid Waste Management
 Note: MSWLF = Municipal Solid Waste Landfill

Air Quality

7. Registered Motor Vehicles in Hawaii

Exhaust from motor vehicles emit 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 Hawaii.

Year	1991	1992	1993	1994	1995
Number of Registered Motor Vehicles	920,124	921,259	899,961	898,008	901,291

Table 7: Number of Registered Motor Vehicles In Hawaii, 1991 to 1995.

Source: City and County of Honolulu, Department of Finance, Motor Vehicles and Licensing Division.

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

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

8. Air Quality in Honolulu

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

The table below shows measurements of total suspended particulates and sulfur oxides in Honolulu. The sampling was conducted on the roof of the State Department of Health Building, 1250 Punchbowl Street.

Table 8: Air Quality Measurements in Downtown Honolulu, 1985 to 1995.

Year	Measurement of Total Suspended Particulates	Measurement of Sulfur Oxides
1985	24	<5
1986	25	<5
1987	26	<5
1988	26	<5
1989	30	<5
1990	30	<5
1991	30	<5
1992	28	<5
1993	21	<5
1994	21	<5
1995	20	<5

Source: Hawaii State Department of Health, Clean Air Branch, data

Environmental Indicators

supplied in July 1996.

- Note: i) The figures shown are the annual arithmetic mean, in micrograms per cubic meter, for total suspended particulates and sulfur oxides.
 ii) Particulates are tiny specks of soot, dust and unburned fuel in the air.
 (iii) Sulfur dioxide is a colorless and irritating gas with a strong odor.

Sampling Station	PM10 Measurements						Sulfur Dioxide Measurements					
	Annual Range				Arithmetic Average		Annual Range				Arithmetic Average	
	Minimum		Maximum				Minimum		Maximum			
	'94	'95	'94	'95	'94	'95	'94	'95	'94	'95	'94	'95
Oahu: Kapolei	15	10	97	78	31	24	0	0	13	21	1	2
Makaiwa	NA	NA	NA	NA	NA	NA	NA	0	NA	15	NA	3
Pearl City	3	0	28	56	15	14	0	NA	NA	NA	NA	NA
Waimanalo	11	8	30	29	19	16	NA	NA	NA	NA	NA	NA
West Beach	9	1	42	46	17	16	0	0	11	16	1	2
Kauai: Lihue	14	8	32	37	21	17	NA	NA	NA	NA	NA	NA

9. Air Quality at Various Locations

The Department of Health has been monitoring ambient air quality for the state since 1957. At that time and up until 1971, there was only one monitoring site. Today, the air quality monitoring network has been expanded. The following table shows air quality data for six different locations.

Table 9: Air Quality Measurements at Specified Locations Statewide, 1994 to 1995.

Source: Hawaii State Department of Health, Clean Air Branch, data supplied in July 1996.

- Note: i) The data, shown in micrograms per cubic meter, are obtained from 24-hour sampling at the specified locations.
 ii) PM10 = Particulate matter which is 10 microns or less in diameter.

Energy Use

Hawaii depends on imported oil for about 92% of its energy. Energy production from fossil fuels is a major source of air pollutants. Additionally, petroleum shipping and handling pose risks to our fragile environment. Displacing petroleum fuels

Year	1990	1991	1992	1993	1994	1995
Total Electric Energy Used (Million KWH)	9,566	9,610	10,104	10,219	10,341	10,563
State de facto Population	1,257,032	1,274,559	1,269,289	1,265,341	1,287,309	1,294,506
Per capita Electric Energy Used (KWH)	7,610	7,540	7,960	8,076	8,033	8,160

Environmental Indicators



with alternate or renewable forms of energy and improving energy efficiency will improve our environmental quality.

10. Total Electric Energy Used

We can help reduce per capita energy use by conserving energy and improving energy efficiency. A solar water heater can reduce water heating costs by 90%.

Table 10:

Resources	1994		1995	
	Amount of Energy Produced in Trillion BTU	Percent	Amount of Energy Produced in Trillion BTU	Percent
Petroleum	270.8	86.6	271.7	86.8
Biomass	16.1	5.2	12.0	3.8
Solar hot water	2.3	0.7	2.8	0.9
Hydro-electric	1.5	0.5	1.6	0.3
Coal	13.6	4.3	16.5	5.3
Wind	0.2	0.1	0.2	0.1
Geothermal	1.8	0.6	2.3	0.7
Solid Waste	6.2	2.0	6.3	2.0
Total	313.0	100.0	313.0	100.0

Total Kilowatt Hours of Electric Energy Used in Hawaii, 1990-95.

Environmental Indicators

Source: State DB EDT, Energy Division, Energy Data Services.

Type of Imported Fuel	Amount of Fuel Imported in 1994	Amount of Fuel Imported in 1995
Crude Oil	323.9	298.2
Distillates	1.9	0
Jet Fuel	6.1	4.6
Residual Fuel	2.6	5.7
Other	0	3.4
Coal	14.2	16.5
Total	348.7	311.9

11. Energy Produced in Hawaii

One of Hawaii's goals is to replace energy produced from fossil fuels with alternate and renewable sources such as solar power. The state promotes the use of solar water heaters by giving a 35% energy tax credit to those who install a solar water system. The table below shows the amount of energy produced by source.

Table 11: Amount of Energy Produced in Hawaii by Source, 1994 to 1995.

Source: State Department of Business, Economic Development and Tourism, Energy Division, Energy Data Services.

Sector	1995		1996	
	Amount of Fossil Fuel Used in Trillion BTU	Percentage	Amount of Fossil Fuel Used in Trillion BTU	Percentage
Electricity Production	95.81	32%	95.06	33%
Transportation (Ground & Water)	81.45	27%	82.09	28%
Transportation (Air)	89.96	30%	96.53	33%
Other Sectors	17.74	6%	9.27	3%
Exports	16.42	5%	8.76	3%
Total	301.39	100%	291.71	100%

Environmental Indicators

12. Fossil Fuel Imported to Hawaii

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

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

Table 12: Amount of Imported Fossil Fuel into Hawaii by Type, 1994 to 1995.

Source: State Department of Business, Economic Development and Tourism, Energy Division, Energy Data Services.

Note: i) Figures in trillion British thermal units (TBtu)

Year	Urban Land Area	Conservation Land Area	Agricultural Land Area	Rural Land Area
1990	175,285	1,960,976	1,965,935	10,192
1991	178,114	1,960,608	1,963,491	10,175
1992	181,407	1,959,621	1,961,294	10,066
1993	180,912	1,960,615	1,960,795	10,066
1994	187,697	1,958,897	1,955,704	10,090
1995	190,134	1,976,016	1,936,322	9,916
1996	191,345	1,975,007	1,936,119	9,917



Environmental Indicators

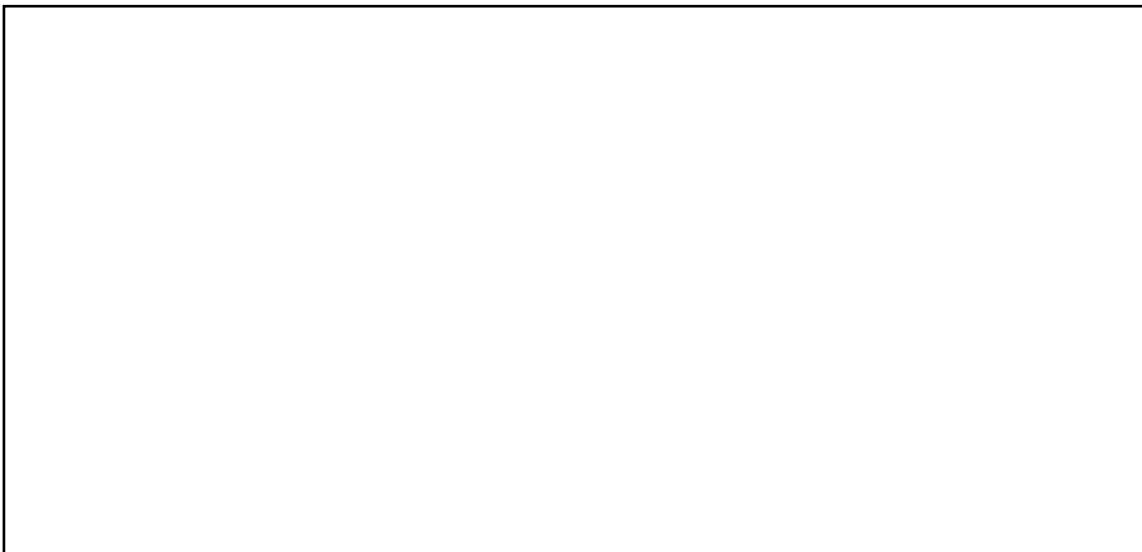
13. Fossil Fuel Used in Hawaii

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

Table 13: Amount of Fossil Fuel Used in Hawaii by Category, 1994 to 1995.

Source: State Department of Business, Economic Development and Tourism, Energy Division, Energy Data Services.

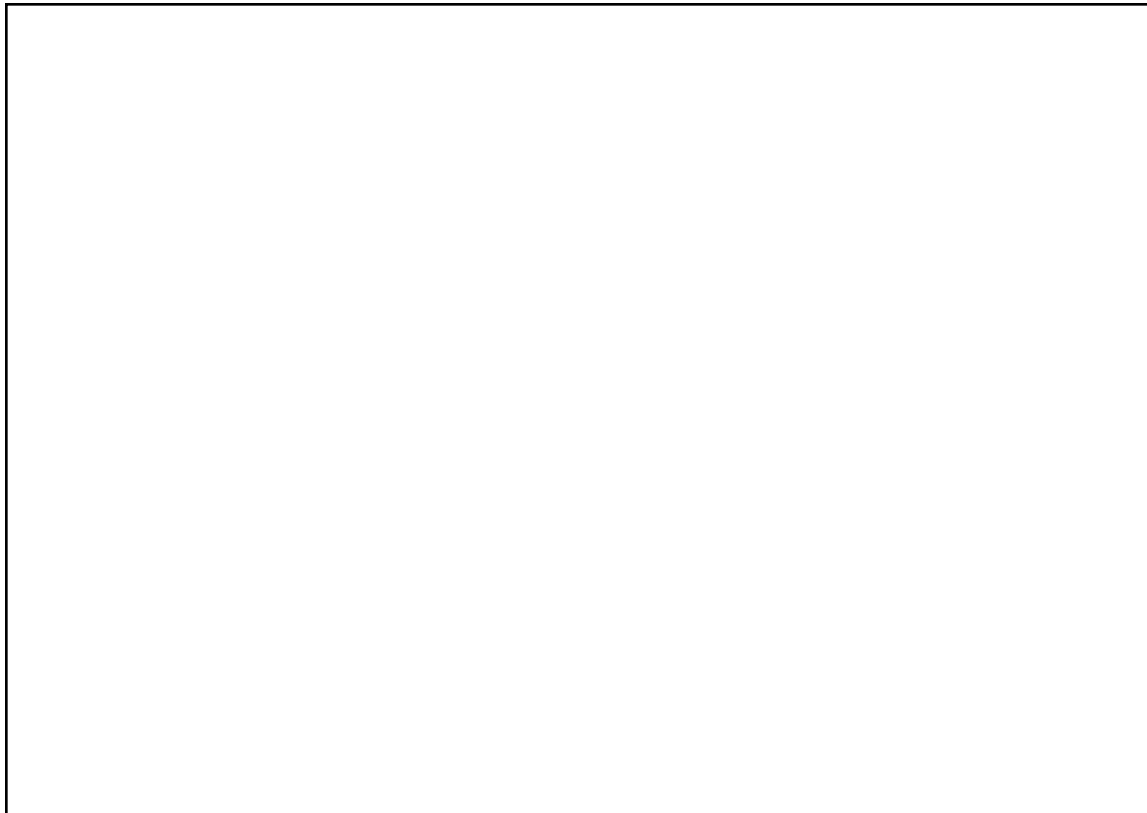
Island	Urban Land Area	Conservation Land Area	Agricultural Land Area	Rural Land Area	Total Land Area
Hawaii	52,785	1,305,706	1,214,268	641	2,573,400
Maui	20,836	194,836	246,370	3,758	465,800
Kaho'olawe	-----	28,800	-----	-----	28,800
Lana'i	3,228	38,197	46,678	2,397	90,500
Moloka'i	2,509	49,768	111,657	1,866	165,800
O'ahu	98,221	156,618	131,349	-----	386,188
Kaua'i	13,766	198,782	140,097	1,255	353,900
Ni'ihau	-----	-----	45,700	-----	45,700
Kaula/Lehua	-----	400	-----	-----	400
Other (Northwest Hawaiian Islands)	-----	1,900	-----	-----	1,900
Statewide	191,345	1,975,007	1,936,119	9,917	4,112,388



Environmental Indicators

Urbanization

Island	1994 Bikeway Miles			1996 Bikeway Miles		
	State	County	Total	State	County	Total
Kauai	3.8	0	3.8	3.8	0	3.8
Oahu	21.2	34.2	55.4	21.2	44.9	66.1
Maui	17.8	1.8	19.6	17.8	22.2	40.0
Hawaii	6.9	1.3	8.2	6.9	1.3	8.2
Statewide	49.7	37.3	87.0	68.4	48.0	118.1



Environmental Indicators

14. Statewide Land Use District Acreage

There are four land use districts in which all lands in the state are placed: urban, rural, agricultural, and conservation. With the decline of sugar cane and pineapple, there may be less productive agricultural land in Hawaii. The following table shows that since 1990, approximately 30,000 acres of agricultural land have been converted to Urban and Conservation designation.

Year	Total Number of Bus Passengers
1992	79,139,000
1993	79,513,000
1994	79,563,700
1995	81,241,300

Table 14: State Land Use District Acreage 1990 to 1996.

Source: State Land Use Commission, Department of Business, Economic Development and Tourism. (Data as of November, 1996)



15. State Land Use District Acreage by Island

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

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

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Table 15: Statewide Land Use District Acreage by Island.

Type of Complaint	Noise Complaints in 1992	Noise Complaints in 1993	Noise Complaints in 1994	Noise Complaints in 1995	Noise Complaints in 1996
Agriculture	5	2	1	3	1
Aircraft	8	9	12	11	5
Commercial	0	0	21	6	2
Construction	166	164	157	142	129
Industrial	6	19	6	2	3
Miscellaneous	31	22	17	12	12
Refuse Collection	72	36	41	35	39
Stationary	100	85	93	112	101
Unreasonable: Animal	42	34	22	24	13
Hobby	11	3	8	9	9
Maintenance	38	37	29	37	27
People	21	23	16	12	11
Unknown	6	10	4	13	8
Sound Production	100	93	62	48	38
Vehicular	39	26	20	21	29
Total	645	563	509	487	427

Source: State Land Use Commission, Department of Business, Economic Development and Tourism. (Data as of November 1996)

16. Bikeway Miles

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

The next table shows the total miles of bikeways under the state and county jurisdiction.

Table 16: Miles of Bikeways in Hawaii, 1994 and 1996.

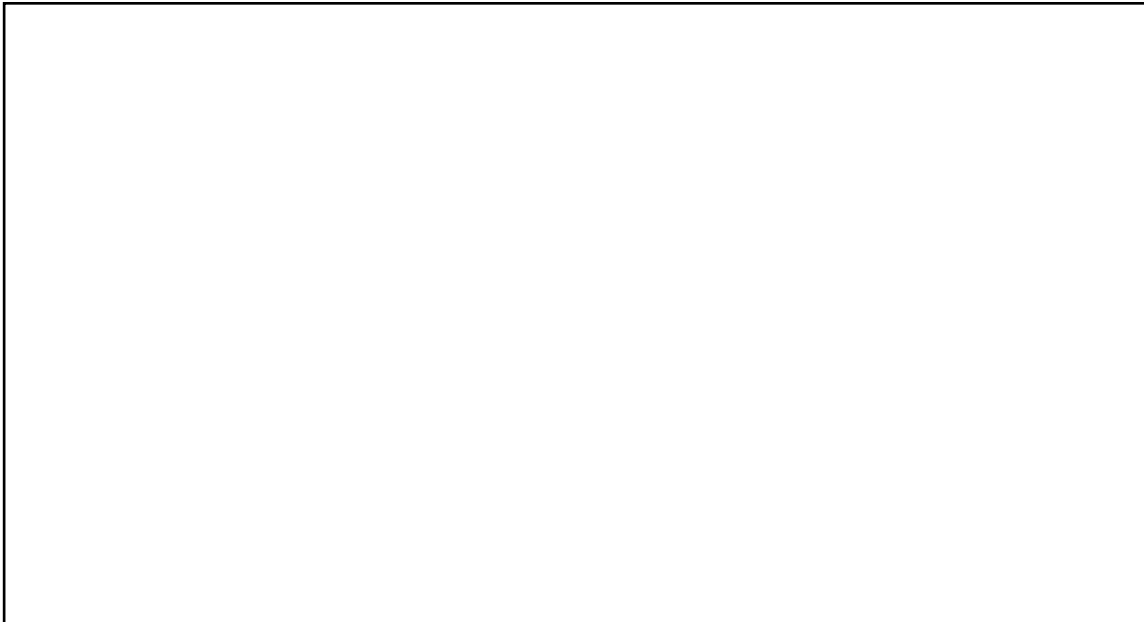
Source: State Department of Transportation, Highways Division

Note: i) Bikeway miles are provided only for bikeways that are designated by sign or pavement markings. Maui County (including the islands of Maui, Lanai and Molokai) has 125.7 miles of improved shoulders under state jurisdiction that have not been designated bikeways.

Environmental Indicators

17. Number of Bus Passengers on Oahu

Year	Extinct	Number of Plant Species (2,004)					
		Native (1,093)					Non-Native (Exotic)
		Rare (1995 = 604, 1996 = 607)				Abundant	
		Listed Endangered or Threatened	Proposed Endangered or Threatened	Candidate	Of Concern		
1995	103	198	85	13	308	489	911
1996	103	280	0	10	317	486	911



The data below are estimates of the number of boardings on Oahu 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 stationary checks.

Table 17: Number of Bus Passengers on Oahu, 1992 to 1995.

Source: Honolulu Public Transit Authority

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.

18. Noise Complaints Received by The Health Department

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

The following table shows the number of noise complaints (by category) received by the Department of Health.

Table 18: Number of Noise Complaints Received by the Department of Health, 1992 to 1996.

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

Environmental Indicators

Note: 1996 figures are up to 11/26/1996.

Native Species

Location of Beach	Days Beaches Posted as Unsafe	Number of Days
Kahala Beach, Oahu	07/06/94 to 07/12/94	FY 1995 = 18 days
Pohaku Park, Napili, Maui	11/19/94 to 11/23/94	
Lua landing, Laie, Oahu	03/20/95 to 03/25/95	
Kalapaki Bay, Kauai	07/26/95 to 07/29/95	FY 1996 = 28 days
Hanamaulu Beach Park, Kauai	07/29/95 to 08/03/95	
Kihei, Maui	01/06/96 to 01/09/96	
Lahaina, Maui	06/08/96 to 06/21/96	

19. Status of Plant Species

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

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

Table 19: Number of Plant Species in Hawaii by Status, 1995 to 1996.

Source: Center for Plant Conservation at the Bishop Museum

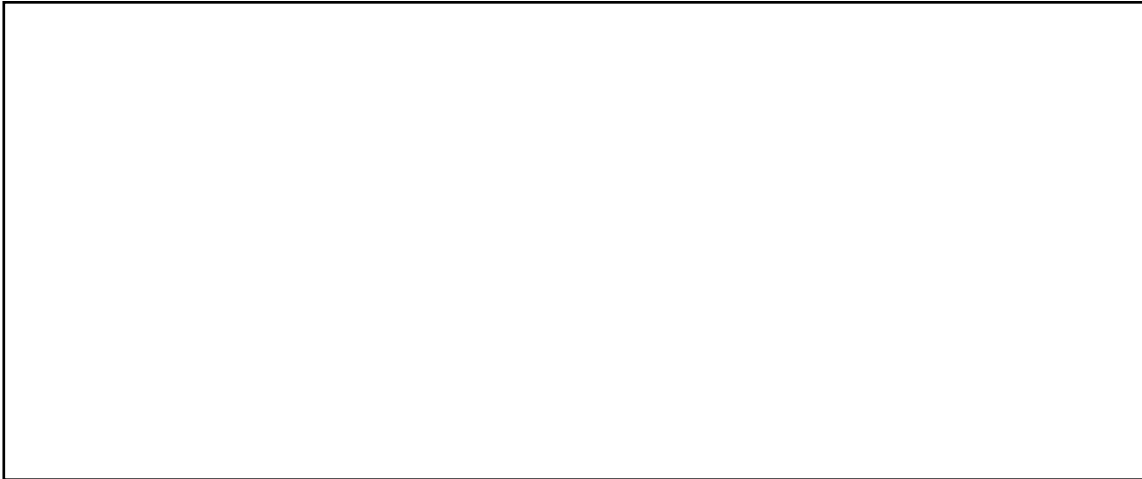
Note: i) Native plant species are those that were established in Hawaii before the arrival of humans.

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

Island	Spills in 1995			Spills in 1996		
	Wastewater	Oil	Other Chemicals	Wastewater	Oil	Other Chemicals
Oahu	421	58	129	401	164	140
Maui	63	6	3	60	11	13
Hawaii	7	15	10	12	24	3
Kauai	10	3	9	12	9	3
Total	501	82	151	485	209	159

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

Environmental Indicators



Act.

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

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

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

Quarter	Oil Spilled in FY 1994	Oil Spilled in FY 1995	Oil Spilled in FY 1996
1st	5,570	1,525	679
2nd	16,205	2,280	1,287
3rd	9,123	978	39,615
4th	8,079	343	15,221
Total	38,977	5,126	56,802

candidates for listing.

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

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



Environmental Indicators

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

Pollution

County	As of October 1996		
	Total Number of wells	Number of Wells Free of Chemicals	Percent Free of Chemicals
Oahu	251	178	74%
Hawaii	76	49	64%
Maui	44	37	84%
Kauai	63	59	94%
Lanai	9	9	100%
Molokai	10	10	100%
Total	483	372	77%

20. Beaches Posted as Unsafe Due to Pollution

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

The following table shows the places and times beaches were posted with warning signs (unsafe due to water pollution) by the Department of Health.

Table 20: Days Beaches Posted as Unsafe Due to Pollution by The Health Department, FY '95 - '96.

Source: Department of Health, Clean Water Branch

Note: i) There were additional postings of warning signs on streams, lakes, and harbors. The City and County of Honolulu also posts warning signs on beaches after opening stream mouths to drain water.

ii) There were no beach closures in FY 1995 or FY 1996.

Year	1995	1996
Number of Systems Free of Microbiological Violations	134	144
Total Number of Systems	150	150
Percentage Clean	89%	96%

Environmental Indicators

21. Wastewater, Oil, Chemical Spills

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

The following table shows the number of wastewater, oil and chemical spills in Hawaii.

Table 21: Wastewater, Oil and Chemical Spills in Hawaii, 1995 to 1996.

Year	Hazardous Waste Generated (tons)
1983	6,400
1985	7,100
1987	1,900
1989	2,600
1991	2,200
1993	2,000

Source: Wastewater spills (fiscal year data) - Department of Health, Wastewater Branch. Oil and other chemical spills (calendar year data) - Department of Health, Hazard Evaluation and Emergency Response Office.

22. Oil Spills

Oil spills from vessels and pipelines pollute our shores and waters. This table quantifies oil spilled in Hawaiian waters.

Table 22: Amount of Oil Spilled in Hawaii in Gallons, FY 94 to FY 96.

Source: Commanding Officer, United States Coast Guard, Marine Safety Office, Honolulu

Note: i) Data are for federal fiscal year (October to September).

ii) On May 14, 1996 approximately 39,000 gallons of fuel oil spilled into Pearl Harbor. The oil leaked from a corroded pipeline at Waiiau Power Plant.

iii) The figures include waters of Johnston Atoll, Plamyra Atoll and Midway Island.

Environmental Indicators

Year	Bottomfish Spawning Potential Ratio (in percent)				
	Ehu	Hapuupuu	Onaga	Opakapaka	Uku
1986	35	42	25	26	37
1987	31	37	19	21	32
1988	42	52	29	35	44
1989	45	58	20	42	48
1990	30	37	13	31	33
1991	27	34	9	24	27
1992	30	37	12	27	31
1993	28	26	14	22	29
1994	28	33	13	23	29
1995	22	19	10	19	24

23. Drinking Wells Free of Chemicals

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 risk spending millions of dollars to treat it.

The next table shows the number of drinking wells free from chemical contamination.

Table 23: Number of Wells Free of Chemicals, October 1996.

Source: Department of Health Safe Drinking Water Branch

Notes: (i) Contaminants include pesticides, fuels and other man-made compounds. Nitrates are not included.

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(ii) Figures include new wells and exclude non-drinking water wells.

(iii) The contamination levels usually detected are well below standards established to protect public health. If contamination approaches or exceeds standards, the well is closed to protect drinking water for the public. One well on Oahu was closed because contamination levels approached health standards.

Environmental Indicators

1996 Environmental Report Card Hawaii, State of	
Environmental Funding	C
Water Use	C+
Solid Waste	C+
Air Quality	B
Energy Use	B
Urbanization	B
Native Species	C-
Pollution	B+
TOTAL SUSTAINABILITY GRADE	B-
Comments: Hawaii needs to improve in all aspects of environmental management. Special attention should be paid to increasing funding for environmental programs and protecting native species from decline and extinction.	

Environmental Indicators

1996 Environmental Report Card

In this section, for the first time, the Environmental Council grades the status of Hawaii's environment. This report card provides citizens and policy makers with a quick assessment on how well we are caring for our environment. The Council hopes that this evaluation will stimulate the public to learn about and take action to improve our environment. Your thoughts and suggestions on the content and methodology of this report card are welcomed.

Method

The method used by the Council is based on the National Wildlife Federation's 1971 Environmental Quality Index (Kimball, 1972). The basis for the Council's ratings is the environmental indicators which are shown in this annual report.

The various indicators are scored on a numerical scale of "0" to "100." A "0" equals an unacceptable condition and "100" means an optimum situation. The numerical values are determined by calculating the relative position of the indicator data compared to the benchmarks for unacceptable and optimum levels (see Table A).

Table A: Benchmarks and Indicator Ratings for 1996 Environmental Report Card.

Category	Indicator	Unacceptable Condition	Optimum Condition	1996 or Latest Data	Indicator Rating
Environmental Funding	% of State Expenditures	0%	2.4% (a)	1.25%	52
Water Use	Water Consumption per capita	107,000 Gal. (b)	36,000 Gal. (c)	57,700	69
	Wastewater Reuse Rate	0%	25% (d)	5.8%	23
Solid Waste	Waste Diversion rate	0%	50% (e)	23%	46
	Annual Waste Generated	4.25 Mtons (f)	0.85 Mtons (g)	2.1 Mtons	63
Air Quality	Particulates in Honolulu	50 mcg/m3 (h)	10 mcg/m3 (i)	20 mcg/m3	75
	Number of Motor Vehicles	1,341,000 (j)	479,000 (k)	901,291	51
Energy Use	Elec. Energy Used per capita	12,240 KWH (l)	6,365 KWH (m)	8,160 KWH	69
	Imported Fuel	468 Tri Btu (n)	249 Tri Btu (o)	312 Tri Btu	71
Urbanization	Conservation Land Area	1,028,000 Ac. (p)	2,264,000 Ac. (q)	1,975,000 Ac.	77
	Number of Noise Complaints	3,650 (r)	0	487	87
	Bikeway Miles	0 Miles	1,309 Miles (s)	118 Miles	9
	Annual TheBus Passengers	0	124,000,000 (t)	81,241,300	66
Native Species	# of Abundant Native Plants	0	1093 (u)	486	44
Pollution	Number of Spills	3,650 (v)	0	853	77
	Days Beaches Posted Unsafe	100 Days (w)	0 Days	28	72
	Wells Free of Chemicals	0%	100%	77%	77
	Water Systems Free of Microbiological Violations	0%	100%	96%	96
	Hazardous Waste Generated	4,500 Tons (x)	900 Tons (y)	2,000 Tons	69

Environmental Indicators

Step 2.

The environmental indicators are then organized into eight categories. The categories are: environmental funding; water use; solid waste; air quality; energy use; urbanization; native species; and pollution.

A weight is assigned to each of the indicators in a given category. This weight is used to obtain the score for each category. The weights are assigned to each indicator in relation to the empirical importance of the indicator itself as well as the reliability of its related data (see Table B).

Table B: Category Scores for 1996 Environmental Report Card.

Category	Indicator	Indicator Rating	Relative Importance (Weights)	Category Score
Environmental Funding	% of State Expenditures	52	100%	52
Water Use	Water Consumption per capita	69	70%	55
	Wastewater Reuse Rate	23	30%	
Solid Waste	Waste Diversion rate	46	50%	55
	Annual Waste Generated	63	50%	
Air Quality	Particulates in Honolulu	75	60%	65
	Number of Motor Vehicles	51	40%	
Energy Use	Electric Energy Used per capita	69	70%	70
	Imported Fuel	71	30%	
Urbanization	Conservation Land Area	77	50%	68
	Number of Noise Complaints	87	10%	
	Bikeway Miles	9	10%	
	Annual TheBus Passengers	66	30%	
Native Species	Number of Abundant Native Plants	44	100%	44
Pollution	Number of Spills	77	20%	79
	Days Beaches Posted Unsafe	72	10%	
	Wells Free of Chemicals	77	30%	
	Water Systems Free of Microbiological Violations	96	20%	
	Hazardous Waste Generated	69	20%	

Environmental Indicators

Step 3.

Finally, a weighted average of the eight components is used to obtain a total sustainability index for Hawaii's environment. For simplicity in interpreting the "0" to "100" scores, letter grades are used (see Table C).

Table C: Category Grades and Total Sustainability Index for 1996 Environmental Report Card.

Category	Category Score	Grade	Relative Importance (Weights)	Total Sustainability Index Points
Environmental Funding	52	C	15%	7.8
Water Use	55	C+	15%	8.3
Solid Waste	55	C+	10%	5.5
Air Quality	65	B	15%	9.8
Energy Use	70	B	5%	3.5
Urbanization	68	B	10%	6.8
Native Species	44	C-	15%	6.6
Pollution	79	B+	15%	11.9
OVERALL GRADE AND TSI		B-	100%	60.1

Limitations

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

a) The assessment is based on a sample of 19 environmental indicators. This small sample is not a full representation of Hawaii's environment.

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

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

This is the first attempt to assess the overall status of Hawaii's environment. With time, the Council hopes to refine and improve this assessment process.

Assumptions for Conditions

The Council's assumptions for unacceptable and optimum conditions for Hawaii's environmental indicators are listed below.

a) 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. 0.5% above the average state is optimum.

b) According to the Honolulu Board of Water Supply's domestic water consumption guidelines, a multifamily high rise should use 300 gallons per unit per day. If all housing units use 3 times that amount of water, the situation would be unacceptable. Based on The State of Hawaii Data Book, 1995, we estimate that there are 423,000 housing units statewide. The de facto population in Hawaii is 1,294,506.

c) According to the Honolulu Board of Water Supply's domestic water consumption guidelines a multifamily high rise should use 300 gallons per unit per day. All housing units should be held to the same standard.

d) According to The State of Environmental Protection In Hawaii: A Report by the Hawaii Department of Health, the year 2000 target for percentage of wastewater recycled after treatment is 25%.

e) Pursuant to section 342G-3, HRS, it is the goal of the state to reduce solid waste stream prior to disposal by 50% by the year 2000.

f) According to Healthy Hawaii 2000, the national objective is to reduce the average pounds of municipal solid waste produced per person each day to no more than 3.6 pounds. It is unacceptable to produce 5 times the national objective.

Environmental Indicators

g) According to Healthy Hawaii 2000, the national objective is to reduce the average pounds of municipal solid waste produced per person each day to no more than 3.6 pounds.

h) The standard for PM10 is 50 mcg/m³. Since there are no longer any standards for Total Suspended Particulates, the PM10 standard is applied.

i) 80% below the standard of 50 mcg/m³ is optimal.

j) Based on The State of Hawaii Data Book, 1995, we estimate that there are approximately 383,000 households in Hawaii. Three registered cars per household is unacceptable. A factor of 0.5 car per household is added to account for business and visitor use.

k) It is optimal for each household to have no more than 1 registered car and should travel more often in mass transit, van pools, bicycles and other less polluting means. A 0.25 car per household is added to account for business and visitor use.

l) Using 1.5 times the current amount of electric energy is unacceptable.

m) According to The State of Hawaii Data Book, 1995 statewide electric energy use distribution is as follows: residential - 29%; nonresidential - 71%. Solar water heating can reduce residential energy use by 36%. Other demand side management techniques such as compact fluorescent lamps can provide additional reductions (2% for residential and 16% for nonresidential). Therefore, a total reduction of 22% from existing levels is optimum.

n) Using 1.5 times the current amount of fossil fuel is unacceptable.

o) This can be achieved by the following: 95 trillion BTU of fossil fuel is used for making electricity. If we save 22% of electric energy use (see note m), that would amount to a savings of 21 trillion BTU. 82 trillion BTU is used for ground and water transportation. If we cut the number of registered cars by half (see note k) and assume the same reduction rate in water transportation energy use, that would amount to a savings of 41 trillion BTU. If we reduce energy use in "other sectors" by 10%, that would amount to a savings of 1 trillion BTU. Total savings equals 63 trillion BTU.

p) Any less than one fourth of state lands in the Conservation district is unacceptable.

q) The State Land Use District Boundary Review recommends 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.

r) An average of 10 noise complaints per day is unacceptable.

s) According to Bike Plan Hawaii a total of 1,309 miles of bikeways is proposed.

t) The present bus fleet is 525. The FEIS for the Honolulu Rapid Transit Program considered an expanded bus fleet of 997 busses 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 busses would be 124,000,000 per annum.

u) There are 1093 native plants species in Hawaii.

v) An average of 10 spills per day is unacceptable.

w) 100 beach closure days per year is unacceptable.

x) According to The State of Environmental Protection In Hawaii: A Report by the Hawaii Department of Health, the year 2000 target for the amount of hazardous waste generated is 900 tons. Five times the target amount is unacceptable.

y) According to The State of Environmental Protection In Hawaii: A Report by the Hawaii Department of Health, the year 2000 target for the amount of hazardous waste generated is 900 tons.

Letter Grades

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

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

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1996 Environmental Report Card Hawaii, State of	
Environmental Funding	C
Water Use	C+
Solid Waste	C+
Air Quality	B
Energy Use	B
Urbanization	B
Native Species	C-
Pollution	B+
TOTAL SUSTAINABILITY GRADE	B-
Comments: Hawaii needs to improve in all aspects of environmental management. Special attention should be paid to increasing funding for environmental programs and protecting native species from decline and extinction.	