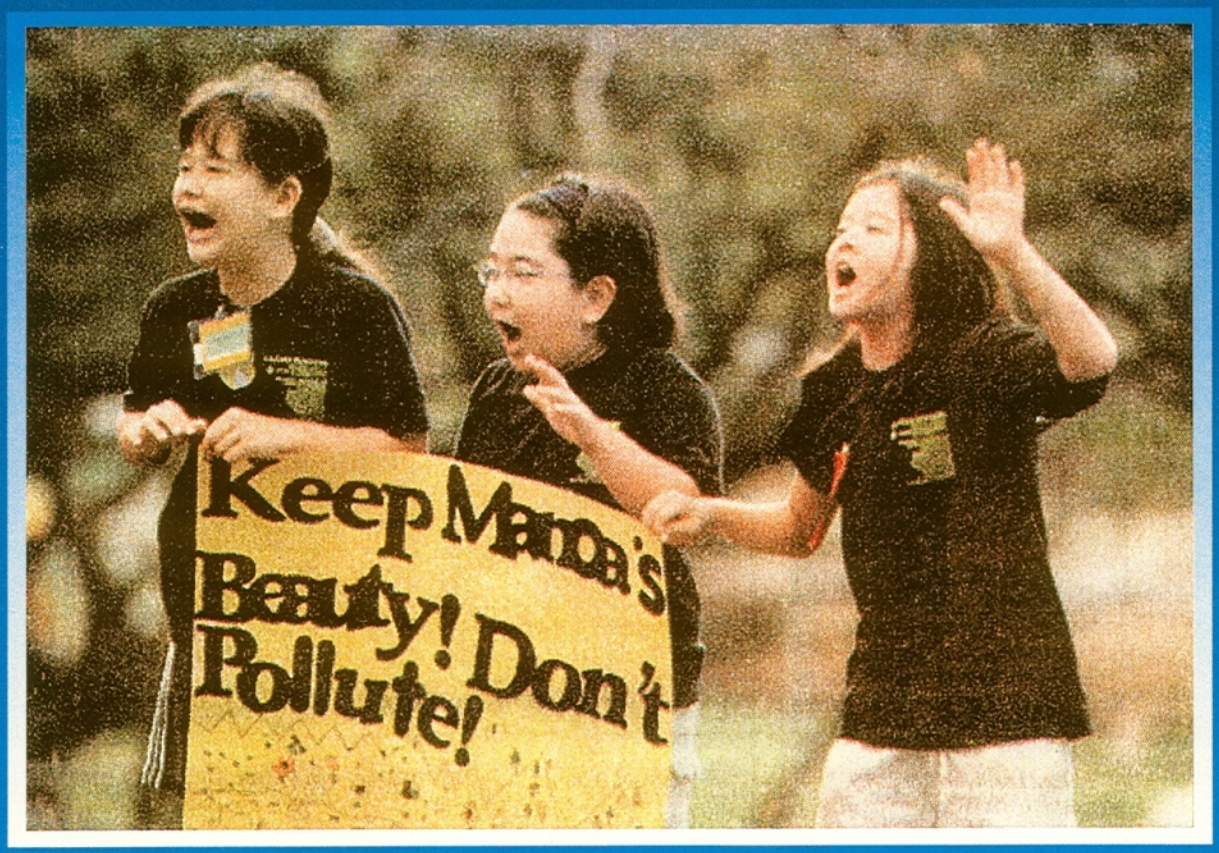
WATER WARRIORS

Kuleana Eco-Project



JEFF WIDENER • The Honolulu Advertiser

A Community Guidebook for Conducting a Watershed Outreach Campaign

A behind-the-scenes look into how grassroots groups really get things done

Water Warriors: Kuleana Eco-Project

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(Cover photo of Manoa Elementary students Taylor Kamagome, left, Joel Yagi, center, and Isa MacDonald reminding passing motorists in Manoa of their responsibility to help prevent pollution and keep the community clean, February 22, 2004.)

Dear Board of Water Supply,

This year we have been studying about the importance of pure water and how to conserve it. I learned that we must take care of our natural water system and, in turn, it will take care of us by giving us pure water to drink and use. I have three suggestions so that our children and our children's children can continue to have water like we do now. First, we could have a 'Water Conservation Week.' There, flyers on how to conserve water and water-saving devices will be given out to people who go through water conservation training, and children can watch a movie and play games all about conserving water. Second, in places where there is a lot of rainfall, cages could be put over storm drains so that trash can be filtered out and not clog up the drain. Third, we could highlight a family or person once a month that has done something to help conserve water. This would increase awareness of the need to make this a habit and not just think about it once a year.
I am a Water Warrior and will fight for the watershed!

Marissa Rohlfing,
5th Grade, Noelani School
February, 2004

DEDICATION

This guidebook is dedicated to Water Warrior Marissa and all the other Water Warriors who worked with us these past two years: Phase I: Hokulani Elementary, Iolani School, Manoa Elementary, Maryknoll Grade and High Schools, Mid-Pacific Institute, Noelani Elementary, Punahou School, Roosevelt High, St. Francis School, Stevenson Middle, and UH Educational Laboratory; Phase II: Iolani School, Manoa Elementary, Mid-Pacific Institute, Noelani Elementary, Punahou School, and UH Educational Laboratory. These vanguards of our outreach efforts and their dedicated teachers inspired us with their passion and perseverance. It is with grateful appreciation that we acknowledge their contribution to the Kuleana Eco-Project.

Kuleana Teachers (Phase I, 2003-2004): Bobby Whiteley, Carol Nagasako, Daniel Gaudiano, David Taba, Debra Uwaine, Eric Kawano, Gail Peiterson, Georgia Nguepdjo, Grace Williams, Jack Kay, Janet Wolf, Janis Honda, Juli Borges, Kristen Lum, Laora Vidal, Laurie Taguchi, Malcom Cogbill, Marie Collins, Michelle Matsuura, Mike Among, Noelani Chang, Sheri Kaneshiro, Troy Hendricks, and Troy Kamiya.

Kuleana II Teachers (Phase II, 2004): Barry Luchenbach, Bruce Black, Candace Young, Cheri Keefer, Cindy MacFarlane-Flores, Danny McInerny, Darcie Kajioka, Darlene Watanabe, Dayna Pacheco, Ellen Gaylor, Eunice Itoga, Florine Nakasone, Gail Fukumoto, Jennifer Hoof, Jennifer Matsumoto, Julie Sutera, June Yamanuha, Kristen Lum, Kristin Nakamura, Kyle Pupuhi, Laora Vidal, Laurie Taguchi, Luana Ligot, Michele Matsuura, Naomi Takemori, Natalie Chung, Natasha Gentry-Heath, Noelani Chang, Patty Kugiya Schmitz, Sharlene Arita, Sharon Rokuta, Steve Doi, Tiana Ariel, Tiffany Byrne, and Trent Takamiya.

Manoa Valley, a part of the highly-urbanized Ala Wai watershed, as seen from the Ko'olau mountains to the beaches of Waikiki. The challenges facing local conservationists become evident when one compares the population of the Ala Wai watershed, 29,300 people per square mile, with that of New York City, 26,404 people per square mile. (Data from "Urban Forestry Success Stories", National Association of Conservation Districts website, December, 2003.) Photo by Iwalani Sato, US Army Corps of Engineers, 2004.

TABLE OF CONTENTS

Manoa Stream runs through the center of the valley and once provided a major source of recreation for the residents. Old-timers still recall swimming, fishing, and playing in it's waters. Today, children no longer can do so. Photo by Iwalani Sato, US Army Corps of Engineers, 2004.

Dear Manoa Residents,

My name is Shayne.

Don't put unwanted animals, fish, or plants in the stream. I've been seeing a lot of rubbish in the stream lately. So I picked the rubbish up and put it in the trash can. When I go to baseball games, I see gum on the grass and once I saw a man littering. He was eating and the plate flew away and he never picked his rubbish up. And don't put fertilizer or oil or anything else in the stream. Once I saw someone put a turtle, a baby chick and a bird in the stream. Once I saw a man throw away unwanted food and his empty can in the stream. And he didn't even recycle. And once someone put unwanted fish in the stream. Some people keep littering, like when I saw a man putting all of his rubbish on the ground and never picking it up. Someone must have put magnets in the stream too because I once saw them there too. Someone threw away his dead pet (a cat), in the stream because I saw it. I also saw many fish and plants that didn't belong there, so someone must have dumped them there and didn't throw them away in the proper place. I have also seen dead animals, like a dog, thrown away in the stream. Streams are not the right place to throw away the things you don't want."

—Shayne Kanemitsu,
3rd Grade, Manoa School
February, 2004

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Assistant Project Coordinators, who provided the "brain and sweat power" and infused the project with their integrity - Phase I: Daniel Dinell and Phase II: Naomi Ohta.

Phase I and II Treasurer, who had much to complain about but never did: Bertha Ueoka.

Videographer and photographer, who always made us look good: Jim Harwood.

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Phase I: School Liaisons, the bridge to the schools, the "face" and "heart" of the community and who did everything that needed to be done and wasn't: Naomi Ohta, Head Liaison, Adora Nakamura, Betty Ikeda, Carol Iwanuma, Carol Nagasato, Dennis Masui, Dennis Ohta, Evelyn Inn, Juliette Ling, Kozen Kaneshiro, Lela Goodell, Lisa Joy Andres, Lori Feldman, Lory Noda, Mandy Bowers, Margie Durant, Sharlene Hirai, Thalya DeMott, Tosh Tasaka, Tsugio Suzuki, Vi Hiranaka, and Walt Hiranaka.

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Phase II: Wednesday Morning Group, ever faithful and committed to the end: Betty Ikeda, Carol Iwanuma, Naomi Ohta, Juliette Ling, Mandy Bowers, Sharlene Hirai, Vi and Walt Hiranaka.

Phase I and II: Other Volunteers - Pat Avery, Clara Ching, Ai Leen Choo, Dunc and Joan Dempster, Tom Heinrich, Linda LeGrande, George Nakano, Karen Yamamoto Hackler, Pat and Jim Harwood, Dennis Ohta, Pete Radulovic, Jonathan Scheuer, Patsy Tsukamoto, June Shimokawa, Michelle Cordero, Jeff Lee. Boy Scout Troops 42, 1, 33, and 142; Kalani High School National Honor Society and Interact Club, Punahou School Jr. Sierra Club, Poelua Street Neighborhood Watch, Iolani School Sierra Student Coalition, Sacred Hearts Key Club.

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To these people and the countless others who pulled together and partnered with us for this grand community effort, our deepest and heartfelt thanks.

INTRODUCTION

Purpose: To share experiences and lessons learned on the Kuleana Eco-Project in order to foster project replication. Advice is based on what we did and what we wished we had done. Users are encouraged to amend or adapt whatever we did to suit the needs of their own community.

Much of the information is based on accurate statistical records, while some information is "best guesstimate", included to help others in future planning. Student and participant comments are added to give readers an insight into behind-the-scenes happenings and the education that took place on all levels.

Audience: Sponsors, project partners and participants, other community organizations, government agencies and students of community-based planning. Most importantly, this guidebook is written for ordinary citizens in Hawaii and elsewhere concerned about making their communities clean, healthy and sustainable.

Challenges: One of the challenges facing communities endeavoring to improve their environment is how to foster sustainable behavioral changes among its members. We believe that local residents who tackle their own problems at the grassroots level have the best chance for achieving long-term success because they are most vested in their communities. The Kuleana Eco-Project proved the value of such a community-based approach.

Malama o Manoa (MOM) is typical of many other grassroots organizations in that it has no paid staff, no telephone or office, and only a small percentage of the members are active. However, it is not typical in its willingness to take on big challenges. (www.malamaomanoa.org)

The Eco-Project was led by community activists, not professional environmentalists. We capitalized on the good ideas and talents we had and utilized experts as resource people. The volunteers were committed, bonded by a common love of Manoa Valley, and obligated by family ties or long-standing personal relationships.

The Kuleana Eco-Project was a pilot program, created and expanded upon over two years. There was no guidebook to follow. Procedures, letters, forms, guides, surveys and tests were developed as needed. Educational materials from the Board of Water Supply, the University of Hawaii, government agencies and other groups were incorporated into the project. It morphed as circumstances changed, new opportunities opened and some best-laid plans fell flat. The experience was frustrating, chaotic, exhilarating and inspiring, all at the same time. Each small accomplishment was celebrated as we felt we were making a difference.

Too much time and effort can be spent in planning. Get going or the momentum will be lost and interest in the project will wane. This experience reinforced our belief that when intentions are good and goals are noble, the people and resources we needed would appear, somehow, just like magic.

"If you believe in something, do it!"

—Mandy Bowers, retired librarian, Liaison to Mid-Pacific Institute

WHO'S GOING TO DO IT?

This is a story about four people:
SOMEBODY, ANYBODY, NOBODY and EVERYBODY.
There was an important job to be done and
Everybody was sure that Somebody would do it.
Anybody could have done it, but Nobody did it.
Somebody got angry about that because it was
Everybody's job. Everybody thought Anybody could
do it, but Nobody realized that Somebody wouldn't.
So it ended up that Everybody blamed Somebody
when Nobody did what Anybody could have done.

Author Unknown

(Poster given to all Phase I teachers to be posted in their classrooms)

How It Started

"Funny how things got started. I went on this bus tour sponsored by the Ala Wai Watershed Association. I signed up because I hadn't been to the places mentioned and the tour promised to be informative, plus lunch was free. I was enthralled by stories of how the islands were formed and how ancient Hawaiians had developed a system of water management in the ***a'hupua'a***, centering on individual and collective responsibility and stewardship. I learned how those of us now living on the same land were polluting and destroying, through our ignorance and indifference, what had been so carefully preserved.

We were also informed that there were EPA (Environmental Protection Agency) grants available for community projects and that the deadline was in three weeks. I thought, "Hey, if government is doling out money, Manoa as one the subwatersheds, should be entitled to its fair share, right?" Malama o Manoa had been cleaning part of the Manoa Stream for five years and non-point source pollution still remained a big problem. MOM had organized rallies, family nights, an environmental fair, historic tours, so how hard could this be?

Shortly after, never having written a grant request before, I nonchalantly approached the MOM Board for approval to go forward with the proposal. (In MOM, the person who comes up with the bright idea gets to do the work)

A total stranger, a planner with strong environmental convictions, writing and analytical skills, just happened to be at that monthly meeting. Daniel Dinell, who became the writer of the grant, was the first of many miracles that occurred throughout the project.

This is "chicken skin stuff" but I often felt that I was just an instrument doing the bidding of a higher power. Every time the project stalled and I was feeling overwhelmed, another miracle would happen. It got to be that I expected that a solution would be found, that who or what we needed would somehow appear. The moral of this story is not that "there ain't no such thing as a free lunch," but that the free lunch was worth the exhilarating ride of the following two years."

—Helen Nakano, retired financial planner,

Project Coordinator

Summary

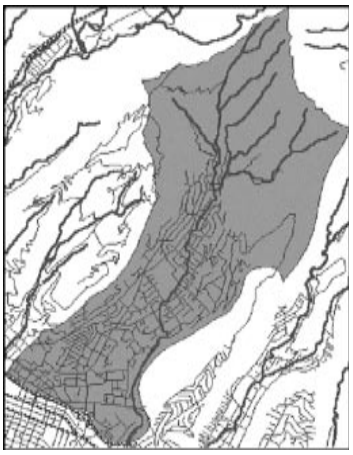
The Kuleana Eco-Project was a two-year outreach effort to educate residents of Manoa Valley about ways to preserve and protect their water resources. Over the past 12 years, since its founding, Malama o Manoa (MOM) had gained a reputation for its steadfast determination to ***"malama"*** (to cherish, preserve and perpetuate) the beauty and history of Manoa and the Kuleana Eco-Project was considered yet one more way to meet the challenges facing its community. The major goal of the project was to affect behavioral changes in 1,000 households.

- **Phase I:** During the first year, students were asked to administer a three-step survey program created by volunteer experts and MOM members to teach residents about ways to save water and prevent pollution and measure the program's effectiveness.

- **Phase II:** During the second year, students were enlisted to participate in the "Water Warrior Challenge". They qualified as "Water Warriors" by becoming responsible, proactive role models, persons who were knowledgeable about, and who pledged to protect, the environment, and, also, by recruiting others to become "Water Warriors."

One impetus for this project was a six-year drought and the increasing pollution of the Manoa Stream which flows through the heart of the community. Much of the polluted runoff was attributed to the practices of the residents themselves. "***Kuleana***", the deep sense of responsibility and stewardship of the environment practiced by the early Hawaiians, was the feeling organizers hoped to cultivate among residents, hence the choice of name for this project.

Manoa Valley is a residential neighborhood of 5,000 households situated four miles from the city center of Honolulu, Hawaii. It is one of seven subwatersheds within the Ala Wai Watershed, which begins at the Koolau Moutains and ends at the Ala Wai Canal and the Pacific Ocean. By targeting 1,000 households, roughly 20 percent of the valley population, organizers hoped to reach the critical mass needed to make a significant impact



Manoa Sub watershed.

Children as Teachers: Public and private area schools were recruited to partner with MOM in the Eco-Project. Their students, ages 8 to 18, played the most significant role of all the different people involved. Instead of being assigned to their traditional role of the learner, children were asked to become the teacher, a role usually reserved for adults. This "upsidedown" approach of using children to teach adults resulted in an outreach much greater and more effective than could have been accomplished otherwise.

Authentic Learning: The technique of using the students as the messengers for this watershed outreach program resulted in an "authentic" learning experience for them. Surveys, contests, and fairs are teaching tools which schools have used before but what made this experience unique was that the children were involved in helping their neighbors to recognize a real environmental problem caused by carelessness and lack of knowledge.

During Phase I, almost 1,000 students and their 24 teachers in twelve schools participated in the three-step program. Students initially surveyed 776 households. The students analyzed the survey

responses and returned to the households with pamphlets and suggestions of better practices so that the householders could modify their harmful practices. A follow-up survey was completed by 517 families, and, of that total, 375 represented Manoa households. That survey provided data that showed the success of the program in modifying the practices of the households involved.

In Phase II, 1,400 adults and children passed the Water Warrior Challenge and took the Kuleana Water Warrior pledge: "I promise to save water for future generations. I will protect the environment. I will be responsible, proactive, a role model, and courageous in the face of adversity and indifference." In addition, 2,000 people participated in the Kuleana Eco-Fair on National "Make a Difference Day". Forty government agencies, environmental groups and businesses presented educational testing/informational booths that informed residents about ways to ***"malama"*** the environment using eco-friendly products and services.

Other numbers reveal the depth and breadth of the outreach. At least fifty residents served on the various project committees. Two hundred and fifty volunteers from in and out of the valley helped with a door-to-door walking campaign of the valley and a "Don't Dump" storm drain stenciling program. Dozens more went on bus tours to water treatment plants. Many others were reached by the extensive media coverage the project received on TV and in the local newspapers (see Media Coverage page), as well as the mass mailings of letters, videos and newsletters generated by MOM. Partner schools held programs, made videos and sent information to parents.

The final test of the effectiveness of this project will not be realized for yet another generation. The sustainability of our efforts lies in the hands and hearts of our Water Warriors upon whom we must ultimately entrust the care of Manoa Valley. Whether they will continue to misuse nature's bounty, as earlier generations have done, or ***"malama"*** this valley with the true spirit of "***kuleana"***, remains to be seen.

Public Indifference

"A major problem to our Manoa Stream is public indifference. In fact it must be our biggest problem! Public indifference is when people just don't care about the problem and even do things to make it worse. Public indifference is the root of all problems to our Manoa Stream; problems such as introduced animals, pollution, runoff, and other damaging problems to our stream. Who unleashes introduced animals into wildlife, where they compete with our native animals for food? Who gets pesticide and fertilizer and soaps in our runoff, so when it reaches our stream it poisons it? And who just generally makes a mess of polluting things? Us!

But there is still hope! We can stop this harmful business once and for all. It might be hard to quit at first, through force of habit for some people. And some people might be able to quit cold turkey! You can make a game out of it, or set a goal for it! You could get your family to help out and think of ways to clean up the stream! We can hire forest rangers to teach our schools, colleges and industries about Manoa Stream and public indifference. We could make more volunteer work programs for Manoa Stream. Or even declare a Hawaii state holiday to clean up our streams!

But it's a big world and some people might not listen, or care. However, there are also some people who do care, people who try to make a difference. And they do. Like the Malama o Manoa people who are doing their best to teach my school about how precious nature is. The Kuleana Project is a project where children are taught about wildlife and how we can help it. But we need help! Just recycle a little bit more. What kind of stream do you want? Remember, it's your decision. Make the right one."

Christopher Iijima,
5th Grade, Noelani Elementary School
February, 2004

SEVEN STEPS TO CONDUCTING A WATERSHED OUTREACH CAMPAIGN

Listed below is a checklist of general areas that are part of any successful planning, implementation and evaluation of a project. Of the seven steps, this guide focuses on two areas that community groups may find most difficult: 1) partnership building with schools; and 2) recruitment of volunteers. The steps we took are outlined in the guide, side-by-side with the lessons we learned with each step.

1. Create a Plan of Action
- A. Identify the Problem
- B. Decide the Mission
- C. State the Values
- D. Decide the Goals
- E. Determine the Human Resources Needed
- F. Develop Ways to Deliver the Message
- G. Sustain the Outreach and Behavior

2. Obtain Funding and Design a Budget (grant writing, fund raising, solicitations)
- A. Funding: How to Write a Grant Proposal
- B. What to Consider in Designing a Budget

3. Build Partnerships
- A. Tips for Building Strong Partnerships
- B. Partnership with Sponsors
- C. Partnership with Schools

4. Recruit, Train and Work with Volunteers
- A. Recruiting Volunteers
- B. Working with Volunteers

5. Implement Project from Proposal through Plan of Action
- A. Phase I: Constructing The Survey
- B. Phase II: The Water Warrior Challenge & The Eco-Fair

6. Promotion and Public Relations

7. Evaluation and Feedback

1. CREATE A PLAN OF ACTION

A. Identify the Problem:

1. Consult environmental experts (UH professors who teach in water- related areas, persons who work for the Board of Health, Board of Water Supply, Dept. of Land and Natural Resources, Army Corps of Engineers, etc.), especially those who live within the target area themselves.

2. Talk to community leaders and elected representatives to determine what the most pressing and urgent problems are, and if the problems are currently being managed by government agencies, and whether or not they might be managed more effectively by the community.

3. Limit scope of project: define the target group the project is to influence, i.e. by institution, by school district, by neighborhood, and keep the project within the geographical area that the stakeholders are interested in.

4. Choose a problem that is something residents care about, impacts most of the residents, is caused by the residents, and can be partly or entirely corrected by the residents themselves.

5. Clearly define the problem. Break the problem down into smaller units, from general to specific. For example, "the pollution problem " into pollution caused by improper use of herbicides, pollution caused by improper use of fertilizers, pollution caused by green waste, etc.

Lesson Learned: (What Members of the Community Considered Urgent)

Our original premise was that residents did want to practice environmentally-friendly behaviors, only didn't know how. By and large, those who consented to be surveyed represented this group and were therefore open to change. We learned that others in our community were not interested and did not want to be bothered.

We discovered that watershed problems were not immediate and clearly evident to most Manoa residents despite news articles about the growing scarcity of water in the islands and the impact of non-point source pollution on shoreline waters used for recreation.

Lesson Learned: (Formulating the Problem)

People are more willing to help with a problem when it causes some sort of personal danger, discomfort or inconvenience.

As 5th Grader Christopher Iijima pointed out, "public indifference must be our biggest problem."

" Money is a universal symbol of power. Money can make people do both good and bad things. When someone's dog is lost or there is an arrest warrant for a fugitive, money is almost always offered as a reward. People also often steal in order to obtain money. Money has such a great influence over people that it can make people do things that they often would not.

So you might be wondering what this has to do with the conservation of water. Wouldn't it make people think twice before they left the shower running while lathering up their body and hair if the cost to use water was higher? Wouldn't more people conserve more water if they could easily and better picture $20 bills flowing down the sink along with the water? I know that since gas prices have been exceptionally high lately, more and more of my friends have been asking to carpool in order to save money on gas. Just as long as the price to use water doesn't sky rocket to ridiculous prices, I see this as a fair and feasible way to make people aware of the need to conserve water."

—Jessica Broadfoot,
12th grade, Punahou School
February, 2004

B. Decide the Mission (Purpose): What will be accomplished with the project?

1. Analyze the mission carefully and get commitments from the key leaders.

   Example: The Kuleana Eco-Project mission:
   - To increase awareness of homeowner practices that contribute to non-point source pollution.
   - To affect a sustained decrease in polluting practices of 1,000 households in the Manoa subwatershed through grassroots outreach and education.
   - To promote water conservation

2. Keep the mission as your reference point throughout the project. Don't get sidetracked with activities that take away from your focus and waste time and energy. Keep asking, is this activity relevant to accomplishing the mission?

3. Use the mission statement to set high expectations. Motivate volunteers to stretch and reach with the mission.

Lesson Learned: (Large Numbers)

Synergy occurs when a great number of people work together, interdependently, for a common purpose. The partnerships between the schools, government agencies, non-profits and community members generated an energy which was unexpected and became greater than the sum of its parts.

C. State the Values: What are the guiding principles upon which to base your project?

> ***"E malama I ka wai." It means, "Conserve/Preserve the Water" A rule that we should all live by! There are so many little things that we, the people of Hawaii, can do to conserve our water. Water is the one thing that the ancient Hawaiian people cherished most, water was the center of the circle of life, and that's something we should all be doing too! The ancient Hawaiian people believed that water was a gift from the gods, and when you think about it, water is a gift from the gods, so we should treat it like it is."***
>
> **-Kilakila Kalai,**
> **7th Grade, Maryknoll School**
> **February, 2004**

People's values affect their behavior. To change behavior, you must change values.

Example: The values the Kuleana Eco-Project espoused were:

- Responsibility (***Kuleana***):
  - People need to understand the interdependency of humans to their environment.
  - The negative mind-set that says the actions of one person cannot make a difference needs to be changed.
  - Resources must be managed wisely for use by all. Those who live in the upper regions of a watershed, such as Manoa Valley, need to be aware of the impact of their behavior on those living below;
- Accountability: People do not have the right to act without regard to consequences; and
- Cooperation (***Kokua***): People need to learn that individuals must work together for the common good.

Lesson Learned: (The Pledge)

People often respond to efforts which are ethical or moral. Kids recited the Kuleana Pledge with a great deal of seriousness. Parents were pleased that we were not only testing knowledge but requiring commitment in order to become Water Warriors. (See Water Warrior Pledge and Concepts in Water Warrior Study Guide).

Kuleana Water Warrior Pledge

I promise to save water for future generations. I will protect the environment. I will be responsible, proactive, and a role model, and courageous in the face of adversity and indifference.

D. Decide the Goals: How is the mission going to be accomplished? What steps are needed?

1. Break the mission into smaller parts to keep it from overwhelming participants. Define the objectives of the project. What is the first step to be taken, the second? Are these steps to be done sequentially?

Helen Nakano describes project mission at training session.

2. Appeal to the interests of people of different generations, ethnic backgrounds and educational levels.

   Example : The Kuleana Eco-Project goals:
   - Create awareness of non-point source pollution and water waste in the community;
   - Promote change of practices of households to pollute less and use water more efficiently;
   - Cultivate sense of ***kuleana*** (responsibility) among current and next generation;
   - Teach residents best practices;
   - Cultivate stewardship of the watershed. Explain values and practices of ancient Hawaiians regarding the management of the watershed;
   - Develop a model that can be easily replicated by other communities.

3. Design practical ways to measure success. Establish a baseline to make comparisons between the start of the project and the end result. Create a quantitative goal based on percentage of population participating in pollution averted, water saved, etc.

Challenge: (How Do You Change People's Behavior?)
- *provide information*
- *appeal to emotion*
- *send a personal messenger*
- *provide local examples of negative consequences of water waste and household pollution.*

Lesson Learned: (Goals)
Our goal of surveying 20% of the population was probably unrealistic. Despite that, or because we set high goals, we were able to survey 7.5% of the target population.

Lesson Learned: (Faulty Assumptions Made)
We assumed that recruiting survey participants, including our friends and family, would be easy. We learned that community acceptance and participation was more difficult than anticipated. We realized after our "Beta" (trial) survey that we would need to work much harder to generate community acceptance.

Lesson Learned:
In an ideal situation, we would be able to test the pollution in the stream at the beginning and again at the end of the project, and be able to measure the degree of difference. This was not possible as the causes and sources of the stream's pollution were so varied. We compared the data from initial surveys with that of the final surveys to get an indication of how many practices changed for the better because of the increased awareness of the problems and solutions.

E. Determine the Human Resources Needed: Where and how can you find the people to do the job?

> ***"Our organization already had a volunteer base of people who work together regularly on other projects and events. A paid coordinator would need to be a strong, passionate, organized leader to lead volunteers especially in a project of this scale"***
>
> **– Thalya DeMott, business woman, Liaison for Roosevelt High School**

> ***"The first administrative assistant was found right away - a new law school grad who was available half the day, five days a week. She came to my kitchen "office" every afternoon to work with me. In the meantime, while looking for the coordinator, I was doing the job of the coordinator."***
>
> **– Helen Nakano, Project Coordinator**

1. Recruit a project coordinator (or co-coordinators) who possesses some of these qualities:
   - established credibility within the community through the years with an understanding of the sub-groups, i.e, old timers/ newcomers, different ages, ethnicities, educational levels;
   - passionate commitment to the community and the project values;
   - strong collaborative leadership skills and experience nurturing volunteers;
   - the vision and strategic planning skills needed to overcome obstacles;
   - the flexibility to change direction and plans when circumstances warrant;
   - dedication to the work ethic, time to donate to the project and a network of acquaintances living in the community willing to volunteer time and expertise.

2. Recruit a core group of organizers who support and guide the actions of the project coordinator, to:
   - Share the work of developing materials, organizing activities, training sessions etc.;
   - Be the eyes and ears of the coordinator to guage reaction of the community members and the teachers;
   - Be the communication link between the teachers, schools and other groups;
   - Share decision making;
   - Be committed, attend meetings, and bring friends to help;
   - Be able to give and take constructive criticism.

Lesson Learned: (Recruiting a Project Coordinator)
The original plan was to hire a project coordinator and a search was conducted. While individuals with environmental and academic qualifications were found, the committee felt that the coordinator needed to be a person who would be a good "fit" with the volunteers and the target community.
The project ended up with the person who initiated the grant writing process as the volunteer coordinator. She had the most stakeholder interest from the beginning and volunteered to do it.

Lesson Learned: (Interchange Members of the Core Group Over Time)
The leadership team consisted of a mix of long-time Malama o Manoa volunteers and new volunteers who were recruited because of their special skills. The core group interchanged people with different strengths over the months but remained small. Volunteers were grouped into: Steering, Advisors, and School Liaisons but individuals within these groups served in different capacities at different times.

The five main motivations of the volunteers were:
- *friendship*
- *close relationship to students benefiting from the project*

Carol Iwanuma (left), Lory Noda and Tsugio Suzuki (right) packaging resource materials for teachers.

3. Recruit resource people who have environmental expertise and who can be asked for advice.

4. Recruit a network of short-term or activity-specific volunteers.

5. Recruit an administrative assistant, who;
   - Helps with time-intensive work-computer input, filing, book keeping, record keeping, writing letters, telephoning, and tracking volunteers;
   - Possesses knowledge, skills and talents that compliment those of project coordinator;
   - frees the coordinator and other organizers for meetings, decision making and implementation of activities;
   - Is considerate of, and works well with, the volunteers;
   - Is paid. Must be consistent in attendance and complete task to meet deadlines. (Very few volunteers can be relied on to take on such duties for any length of time)

- *desire to better own community*
- *belief in educational value of project*
- *belief in environmental values and benefits of project*

The degree of commitment depended on how many of these five aspects a volunteer possessed.

Lesson Learned: (Relationships)
Relationships are the most important aspect of core group work. The stronger the existing bonds and the more internalized the goals of the project became, the greater the commitment over long periods of time.
Because the coordinator was also a volunteer (and friend), the other volunteers worked harder and shared their resources-talents, time, food, ideas and insights generously.

Lesson Learned: (Informality Fosters Open Collaboration)
The "worker bees" argued loudly with one another, laughed and complained alternately, ate whenever possible and worked collaboratively, even when the pace was hectic.

Lesson Learned (Residents and Environmentalists)
Environmentalists are a special breed and were universally willing to help the project. The motivations of the two groups of volunteers overlapped: residents, to improve their local community; environmentalists, to improve the overall environment.

Lesson Learned: (Short-term Volunteers)
Short-term volunteers are willing to assist the committed core group with specific activities which were short in duration and limited in complexity. They are willing to show up at an event and follow directions. Strangers, members of Malama o Manoa, and members of school and community service organizations were recruited.

Lesson Learned: (Responsibility)
Volunteers often don't want to take on the full responsibility of any committee or activity but are willing to work in pairs with people they get along with. Nearly every activity was co-chaired and that worked well.

F. Develop Ways to Deliver the Message: What are the most effective ways to accomplish these goals?

> ***"The students interacting directly with the adults was extremely important to the entire survey process. How else would the children be able to assume their roles as the teacher?"***
>
> **—Vi Hiranaka, retired DOE personnel specialist, Liaison to Noelani Elementary School**

1. Find ways to make the problem personal to the community members. Are they part of the cause and can they be part of the solution? How does this problem affect their health or pocketbooks?

2. Create emotional hooks to motivate action. The strongest emotional appeals are love, fear and guilt. The strong argument the Kuleana Eco-Project used with older adults was to demonstrate how the problem would affect their children and grandchildren.

3. Create excitement and gain acceptance of the project through a variety of means including special events.

4. Empower children to become the messengers/ teachers/change agents. Trust in their power to influence. They can be powerful messengers. When motivated, they can be both passionate and relentless.

5. Teach by using stories rather than facts and figures. Most people are suffering from an overload of information but they will remember stories.

Lesson Learned: (Children as the messengers)
In Phase I, we did not anticipate the difficulties schools would have to meet their 100 interviews goal. Yet, while these obstacles resulted in fewer numbers of surveys being completed, it was still more effective than if the surveys had been conducted by mail or by adults.

When the survey-taker is a child, the householder is more willing to participate in this school-sponsored project and more motivated to make changes if they are related to the child.

The Challenge: How do you empower the students to become teachers?
Since the organizers, not even the school liaisons, had much contact with the students, the project had to rely totally on the teachers for this transformation.

- *Students had to be knowledgeable about the subject*
- *Students had to be inspired and motivated.*

The challenge was for the project to impart knowledge to the teachers and inspire and motivate them.

Lesson Learned: (Teaching Through Stories)
Jeff Mikulina of the Sierra Club, Hawaii Chapter, guest speaker at the Mid-term dinner meeting, encouraged teachers to teach and persuade with stories. Application of this method by a Noelani School teacher resulted in her class winning the first place prize at the City's Watershed Model Contest.

"Every student in the third grade, regardless of ability, should be given the opportunity to participate in the Kuleana Eco-Project."

—Tsugio Suzuki, retired DOE principal, Liaison to Manoa Elementary School

Five ways you can make a difference:

1. Don't throw yard clippings and green waste in streams or drainage ditches.

2. Wash your car on the lawn, not on the street or on paved driveways where the soapy water can run into storm drains.

3. Always clean up after your pet. When you walk your dog, don't leave pet waste on sidewalks, streets or driveways where it can wash into storm drains.

4. Water your yard at night or in the early morning, not during the heat of the day.

5. Don't use outdoor pesticides or herbicides on windy or rainy days.

➤ **On the Web:** For more information on the Kuleana Project, visit *malamaomanoa.org*

Jeff Widner, The Honolulu Advertiser

"Hello my name is Trey Saito. I am writing this letter because I am part of the Kuleana Project. Kuleana means responsibility.

I play baseball in Manoa. I play for the Orieles. Last year after one of my games it was a windy day. My teammate's plate flew away and no one picked it up. Then the plate went in the stream. I was not in the Kuleana Project back then.

This year, I know that it will hurt the stream. The rubbish like plastic bags, cans, McDonald's boxes, towels, and many more go into the stream and down to the ocean. Turtles might think they are jelly fish and will die from starvation if they eat it. I am going to pick up any rubbish that I see and I am going to tell my team and my coaches not to litter. I hope my coaches listen."

—Trey Saito,
3rd Grade, Manoa School
February, 2004

G. Sustain the Outreach and Behavior: How can we encourage carryover of our efforts? How can we continue the behaviors learned?

> ***"Most important, they may have started a revolution in Manoa Valley on Oahu in the Hawaiian Islands....All of us....need our ration of water. It's our most precious resource. We need it to maintain our health, to grow the food that we eat, to manufacture many of the necessities of our daily lives. We must conserve it. But don't count on my friends the politicians to lead the way toward sustainability. They'll respond first to the special interest with the strongest lobby and the largest campaign contribution: the developer, the golf course builder, the polluter. Only as we near our last drop will the pols respond. No, count on the kids and their teachers, those wonderful revolutionaries. They will be our salvation—and their own."***
>
> **—Dan Boylan, UH history professor, MidWeek columnist, Kuleana Eco-Project speaker**

1. Publish a guidebook, such as this, to give encouragement and lessons learned to other community groups. Include all forms, survey, quiz, letters etc. Produce a CD with the same information and put the information up on a website for the technically savvy.

2. Share information about the project with university students, leaders from other communities, other teachers. Invite people other than the partners to the programs, training sessions and events and allow them to participate. Through information sharing, knowledge of your project will spread. The more that people know about your project, the more information will flow to and from your group.

3. Include children in your planning. Our belief is that lessons learned in childhood will be sustained into adulthood. Recognize that children can play important roles now, as well as when they are adults.

Noelani Elementary, Hokulani Elementary, UH Education Lab and St. Francis School students compete in City and County Watershed Model Contest.

Lesson Learned (Sustainability)
Children are our hope for the future.
When asked on their Water Warrior pledge cards how they would protect the environment, these children envisioned themselves as influential, powerful and in control of their futures.

"I will protect the environment by asking people to please take care of the world" - Brittany Takushi, 4th Grade, Manoa School

"I will protect the environment by explaining and doing all the things on this (Early Bird Water Warrior Quiz) test with my children and others" - Isabelle Rossi de Leon, 4th Grade, Noelani School

"I will use less water by inventing a faucet that uses less water"
- Dax Shizuru, 5th Grade, Noelani School.

Dear Editor,

We need to convince not only the people of Manoa, but also the people of Hawaii to preserve our land. The reason why people throw the empty bottles out their car window onto our hillsides, or flick their cigarettes out into our oceans and our streams, is because it's the easy way. They can't see the immediate impact of their actions and so they don't think that what they're doing is the contributing factor to pollution. But the thing is, THAT is the deciding factor. It's not just one person who's tarnishing our yards or dirtying our rivers, it's ALL of us.

Participating in the Kuleana Project opened my eyes to not only the harm that we've done, but to the harm that we will do. After interviewing the families here in Manoa, we got a real sense for what people are and aren't willing to do to protect the ecosystem. Nobody is purposely trying to trash the environment, we're just not willing to take the extra step and go out of our way to make a difference. For example, when people take showers, it's not necessary to keep the water running the whole time, but it's easier to do so than to turn off the water each time we're washing our bodies or hair. We're also not willing to pay the extra few dollars to get the herbal, more eco-friendly, pesticides rather than the destructive chemical ones. If that's just in Manoa, one of the cleaner areas on the island, imagine what's happening to the environment of other areas of the island.

We need to convince the people that we all have to make concessions to ensure that we will have the same lush paradise that we grew up with for the rest of our lives. I am only 18 years old and I'm worried that fifty years down the line, this will all be gone. We need to solve the problem now before it gets out of control and turns out like the island of Nauru. But, it will not take the effort of just you or me or high school science classes, it will take the effort of all of us."

—Burton Woodhull,
12th Grade, Mid-Pacific Institute
February, 2004

2. OBTAIN FUNDING and DESIGN A BUDGET

A. Funding: How to Write a Grant Proposal
What are the most important considerations to be included in writing a grant proposal?

1. Get a clear understanding of what funding agents are looking for.
   - Consult with the grant writers of non-profit organizations and educational groups who are willing to meet with you.
   - Meet with people who have been in positions to grant requests. Ideally, have your draft completed and ask them to provide you a quick and dirty assessment. They will give you valuable guidance and insights.
   - Find and review a few successful, as well as unsuccessful, grant proposals for dos and don'ts.
   - Assign each committee member to talk to one source within a week, then pool the information gathered. Finally, pull together all ideas.

2. There are only so many ways to skin a cat. Don't expect to come up with some brilliant idea never before tried for your project. Look at what had been done in the past and then, look for ways that the same thing could have been done more effectively and efficiently.

3. Provide evidence of your good reputation in the community and show that you have a proven track record of completing successful projects.

4. Describe the community support for your proposal. Include a list of partners and volunteers, the skills and talents they bring, willing to work on the project.

5. Describe how you are going to recruit other partners - schools, teachers and students and get them to buy in to the program.

6. Explain how you plan to overcome perceived obstacles. For example, by recruiting at least 10 schools and asking each school to recruit a 100 householders (two classes of 25 students as- signed to completing two surveys), the goal of reaching 1,000 householders within a 5,000 household community did not seem such an impossible goal.

Lesson Learned: (Asking for help)
We learned that people are willing to meet with you to offer advice. Suggest coffee or even lunch if the favor you want is big. This can save you time and effort. Don't reinvent the wheel. Ask for help.

Lesson Learned: (Good Reputation)
What tipped the scale for Malama o Manoa (MOM) was its reputation for getting things done in the community earned over many years. Government agency representatives and other community groups either had worked with MOM in other activities or had heard of its ability to organize and mobilize volunteers and conduct events that promoted a sense of community. So, despite the fact that MOM had no staff or office, people trusted that MOM would do a good job in whatever the group undertook.

B. Budget:
Does your projected plan for expenditures guide you in allocation of funds for various activities?

1. Create a workable budget that is both flexible and realistic.

2. Seek the advice of experienced people.

3. Assure accountability:
   - have all checks signed by two members. Be sure these are people who are easily available to the project organizers;
   - create procedures and forms for requests and reimbursements;
   - insist that receipts be turned in with all requests for reimbursements;
   - create the position of project treasurer to administer the funds, independent of your own organization's treasurer. This provides an additional layer of audit of expenditures.

Lesson Learned: (Keep Sponsor in the Loop)
Most funding agencies require detailed, complicated and frequent reporting requirements. While proper oversight is important and necessary, filling out paperwork can drain the limited time, abilities and energy of volunteer groups. Fortunately, the Board of Water Supply (BWS) did not micro-manage. The Kuleana Project was able to extend deadlines, modify the budget to purchase unanticipated items, and fund new activities. BWS was kept informed of all decisions as they were being made because they were included in the committee's group email, and representatives were included in all of the activities. Because BWS was "in the loop" they were supportive, very easy to work with and responded quickly to our questions regarding changes in expenditures etc.

3. BUILD PARTNERSHIPS

A. Tips for Building Strong Partnerships:

Nowhere is this more important than in grassroots endeavors. Resources are always unequally distributed and what one lacks may be found through partnerships and nurtured relationships.

SEVEN TIPS FOR BUILDING STRONG PARTNERSHIPS

1. **Be inclusive. Allow all interested individuals, other teachers and classes, community groups, churches, youth groups to attend meetings and other activities, even if they are not members of established partnerships.**
2. **Seek and promote mutually advantageous goals. How can others help or benefit from the project?**
3. **Establish personal relationships with one or more key members in each organization. Nurture these relationships through frequent contact.**
4. **Keep everyone in the loop. Establish a good communication network by email or other means. Share information and resources generously. Inform everyone of the decisions made by the leaders, as well as successes and challenges facing the project.**
5. **Provide frequent opportunities for input and feedback and suggestions. Create an atmosphere where other opinions and ideas are valued and welcomed.**
6. **Give credit to all the partners. Credit them in all publications, provide certificates of participation and appreciation. Track attendance and volunteer service hours for inclusion in final report.**
7. **Show appreciation frequently. If people know their efforts are appreciated, they are more apt to continue to help. Look for simple inexpensive ways to thank people.**

B. Partnership with Sponsors:

"It was absolutely essential that we establish credibility for the project and the survey with our neighbors and the schools. My neighbors wanted evidence that we had the sponsorship of the Honolulu Board of Water Supply before they would participate in the survey."

—Betty Ikeda, retired DOE resource teacher, Liaison for St. Francis School.

1) Keep them informed with monthly reports, copies of important correspondence, all expenditures.
2) Showcase their support. Include representatives as honored guests at meetings and functions. Give them top billing on informational materials and letterheads.
3) Get prior approvals before materials are sent out mentioning them or new unexpected expenditures are made.
4) Meet face-to-face with contacts occasionally to nurture relationships.

C. Partnership with Schools

"Today, the pressures of the No Child Left Behind Act on teachers are enormous. Unless the project is well thought out and shown to be totally in sync with the Hawaii State Standards, and teachers can readily see how it can be integrated into their curriculum, it will be difficult to sell."

—Ginny Young, retired DOE resource teacher, Steering Committee Member

1. Timeline:
   - Jan - Mar: (three to six months before the start of the project, contact the DOE and initiate contact with the principals and teachers)
   - Avoid months of April (testing), May and June as principals are preparing for end of year and teachers are busy with end of-school activities.
   - August: Beginning of school year is the ideal time to start a new project.
   - October/November: Best time to end the project. March, the following year is the best time to end a longer project.
2. Grade/subject organization:
   - Understand the complexities of working with different grade levels and subject areas at the same time.
   - Make deadlines but give a period of time (weeks of May 8 to May 22) rather than a specific day (May 8) as a deadline.
3. Administrative protocol: The DOE and each private school have specific protocols to follow to get new projects approved.
   - The DOE School Renewal Specialist:
     Each DOE school complex has a School Renewal Specialist(SRS). Meet with the SRS first to explain the project, unofficially learn about teachers who may be interested in project.

Lesson Learned: (Length of Project) *The first phase of the Kuleana Eco-Project worked with three different school schedules(public high schools, elementary schools, private schools) over eight months. It was a struggle to carry on a project which ran for that length. A project which can be completed within one semester is more manageable.*

Lesson Learned: (Grade Level and Subjects Taught Make a Difference)
Elementary School teachers were able to incorporate the Kuleana Project into their curriculum more easily and complete the activities in a more timely manner.

- *Middle and high school teachers often meet with their students for only one period a day. Sometimes their classes were only one-semester long. Not all schools teach the same topics at the same time in the year.*
- *Public and private schools have different schedules. Some are on year-round schedules so adjustments must be made.*

- Roles of the SRS include:
  - suggest appropriate grade levels and subject areas (but have your own list ready).
  - suggest how the project could be aligned with the Hawaii Standards and incorporated into the curriculum (Have your own written alignment with the Standards ready and ask for additions, etc.)
  - recommend adjustments to schedule of activities to complement the school calendars of the complex schools
  - recommend teachers who might be the key movers in each school.
  - recommend the program to the Complex Superintendent and the principals
  - introduce and promote the program at administrative and complex meetings
  - For DOE: Arrange meetings with principals, Complex Superintendent and DOE Superintendent at the beginning of the planning.
- The DOE School Superintendent and Complex Area Superintendent (CAS):
  - endorse the project and write a letter of endorsement to the schools (have a suggested endorsement letter written).
  - help you gain access to the principals and schools. The CAS may even make phone calls to precede your call or visit to the school.
- School Administrative Staff:
  - Be nice to office personnel. Recruit anyone on the staff, tell them about the project and convince them of the value of the project. Leave a copy of the project description with them. They can be valuable allies and can be the key to getting access to the principal and the teachers.
  - Be persistent but always polite. It is rare to get a "yes" response the first time the project is introduced. Principals are bombarded with requests everyday.
  - inform principal of your project initially by mail. (Timing: within a week of endorsement letter from Complex Area Superintendent)
  - Have your materials prepared in detail. Show the direct connection and close alignment to the Hawaii State Standards.
  - Explain exactly what is expected of the teachers
  - Offer incentives and benefits to the teachers and to the school

- *Don't close doors on interested teachers, regardless of the grade level or subject area they teach. A creative teacher can overcome any obstacle and integrate the project successfully into the curriculum.*

Lesson Learned: (Protocol)
Meet with the DOE (State Department of Education) School Renewal Specialist (SRS) before you approach the DOE Complex Superintendent. The SRS services all the schools in a complex , a high school and its feeder elementary and middle schools. The SRS can make suggestions and pave the way for the project. Recruit a volunteer who has worked at the DOE district level to introduce us to the right people within the DOE structure.

Lesson Learned: (Assistance from Elected Officials)
The Manoa state representative was asked to make the appointments to meet with the DOE School Superintendent in Phase I and the DOE Complex Superintendent in Phase II. It took weeks before the appointment was secured, so start early. Because our representative had a prior relationship with both the school superintendent and the complex superintendent, a warm reception was received.

Lesson Learned: (Persist in Getting Foot in the Door)
Administrators who don't want to respond in the negative to a community member may not give any response. Don't give up. Send them another letter, email or fax, presenting the information in different ways, always adding new information. It worked.

Lesson Learned: (Recruitment)
Bottom Up, not Top Down
Best recruitment approach was to go to teachers directly once administrators knew about the project. Teachers were more likely to follow through when they buy in to the project without pressure from administrators.

Lesson Learned: (Get Support of Administration.)
Principals usually agree only to inform teachers, not recommend projects. The administrators were

- Explain what kinds of administrative help the project would provide: pick up and delivery of resource materials; correction of surveys and quizzes; chaperones for field trips; order and purchase of materials, etc.
- Show how possible objections and concerns of parents and teachers will be met regarding the safety of the students when conducting surveys, the privacy of teachers, students and parents, and any liability.
- Leave sufficient copies of materials for each teacher you wish to recruit from a school with the Principal. Include a personal introductory letter to each teacher outlining the project description and goals, as well as incentives and benefits of participation.
- Demonstrate that deadlines for your activities have been scheduled with their school calendar. Plan phases so that they begin, and end, within the semester in the school calendar.

4. Partnership with the Teachers:
   - Concurrently Target the Teachers:
     - Identify the movers and shakers among the teachers through formal and informal network of personal contacts. For example, ask the parents of students who attend the schools for teacher recommendations or arrange to meet the teachers personally through a mutual contact.
     - Seek their feedback, opinions and ideas directly.
     - If one or more of these spark plugs in each school is convinced to join the team, the others will follow and your success is almost guaranteed.
   - Training of Teachers:
     - Provide them with resource materials, including maps, posters, display materials, handouts, pamphlets, etc. to expand their knowledge and to use with their students.
     - Provide them with materials to teach life skills, such as hints for conducting interviews, making appointments, business etiquette for telephone use etc.
     - Create a teacher handbook with all the forms, timeline, deadlines, directions and resources available. This is a must.

reluctant to commit to the project and the final decision was left to the individual teachers In the public schools, teachers were more independent about choosing or not choosing to participate in "extra-curricular" projects sponsored by "outside" groups.

Lesson Learned: (Contact Challenges)
The volunteer School/Community Liaison (SCL) person was a valuable communications link. If teachers felt comfortable, and trust had been established, the teachers were willing to give out home phone, cell phone and home email numbers which made contact time easier and faster.

Lesson Learned: (Selecting the Partner Schools)
Ideally, schools should be in or close to the target community. The schools with the most students living in the target community were the most motivated to meet the project goals. Most parents were residents of the target community. Community members could go to the schools to be interviewed. Teachers appreciated working with community volunteers.

Lesson Learned: (Training Sessions)
Recognize that the project imposed on the free time of the teachers when they were asked to meet after school, in the evenings or weekends. Hold meetings infrequently. Maximize the effectiveness of these meetings by having:
- *Interesting speakers to provide information, motivation and inspiration;*
- *Demonstrations and skits;*
- *T-shirts, videos, other materials to give away;*
- *Door prizes and small gifts;*
- *Free meals.*

Lesson Learned: (Poor Attendance)
People who did not attend a meeting did not receive all the information available. Make a plan of action to have the school liaison arrange individual meetings with absent teachers to deliver information and materials. If possible, schedule a back-up meeting. Perhaps just paying a stipend for meeting attendance would result in a better turnout.

5. Financial Support and Incentives for Schools and Teachers

   - Cash Credit for Schools
     - Make available cash credit for schools and teachers. Be very specific as to the types of expenditures teachers can have to get the cash credit: supplies, equipment, prizes, refreshments etc. Give teachers choices and keep paperwork to the minimum. The $1,000 school educational credit from the Kuleana Project proved to be a strong initial motivation for schools and teachers to join.
   - Honorariums and Stipends:
     - Honorariums had no strings attached - Give out to teachers as a gift of appreciation for participating in the project. Divide the gift into two payments. The first should be presented with a thank you note at the beginning of the project. The last should be presented with a gift and or appreciation certificate at the completion of the project. The honorarium is a personal gift to the teachers to use as they see fit.
     - Stipends were given as payment for task completion, whether it be deadlines met or meetings attended. These should be given immediately upon receipt of the completed task. For example, stipends were paid to the teachers when they turned in all the early bird Water Warrior quizzes to their SCLs.
   - Teacher Scholarships:
     - Provide scholarships to local seminars and workshops to teachers to encourage professional development and as an added incentive for teachers.

6. The School – Community Liaison
   Communication and Interaction with Teachers and Administrators: The School-Community Liaison (SCL)

   - The personal contact between the school and the community is a valuable step toward partnership because the teachers and students are able to put a face to the community they were working with. Assign one or two specific people to be a link between each school and the project organizers.
     - Liaisons should be tactful, helpful, patient, committed, non-demanding, flexible, reliable, and available when needed.
     - Liaisons serve as the eyes and ears for the organizers to learn about what is going on in the schools as well as the community as it responds to the activities of the students.
     - Liaisons provide transportation support for teachers: pick up and deliver resource materials, contact resource persons, recruit interviewees, and, in some cases, arrange transportation.

Lesson Learned: (Resource Materials)
Agencies have an amazing amount of materials and resources stockpiled that are available to teachers. Many agencies spend their funds on creating these written materials but have no distribution vehicle. Gather and deliver the resource materials for the teachers, rather than providing them with a resource list. Teachers will appreciate the service.

Lesson Learned: (Curriculum Integration)
The most successful teachers integrated the Kuleana Project completely into their curriculum. Teachers were encouraged to promote students' understanding of the subject matter through activities such as field trips, skits, art projects, and musical programs. They purchased digital cameras, science kits, video materials, and/or rented buses for field trips, using the $1,000 educational credit. The more successful classes took full advantage of the money which was provided. Some did not use any of the funds provided, thus had fewer activities.

Lesson Learned: (Cash credit)
We found that we needed to be much more specific as to what teachers could and couldn't use the cash credit for. To avoid funds being spent inappropriately or wastefully, a list of specific items and recommended activities, etc. with guideline amounts would allow the project organizers to have more control over the kinds of products purchased.

Lesson Learned: (Honorariums and Stipends)
In Phase I, Teachers were pleasantly surprised to receive the $150 honorarium. However, a few teachers did not meet expectations nor attended meetings. Recommend that a smaller honorarium be given as a token of appreciation and more stipends be paid after on-time completion of specific tasks. For example, teachers would be required to attend at least two of three meetings in order to get an attendance stipend.

Lesson Learned: (Teacher Scholarships)
None of the teachers took advantage of offers of tuition to take courses or attend seminars to enrich their own education. We learned how difficult it is for teachers to find the time and

- Liaisons provide administrative support for teachers. They may help the teachers administer, collect and correct surveys, quizzes and other paperwork; shop or order materials; provide refreshments, etc.

- Communications:
  - Expectations: Deliver in clear and exact writing. Review with the school, and have them review with the teachers. If they don't understand, deliver expectation in a different form, with different wording.
  - Group Meetings: Keep large group meetings for teachers and administrators to a minimum. Make the meetings multi-purpose: give information, distribute materials, and provide motivational programs.
  - Individual Meetings: Arrange frequent meetings with teachers, at the teachers' convenience. Unless a rapport has been established between the liaison and the teacher, these meetings will not be welcome. Keep the meetings to the point and brief. Don't waste the teachers' time.
  - Send frequent E-Mails, letters/news articles, etc. to teachers and administrators. Keep the news positive and sprinkle liberally with praise and appreciation for any work well done that shows extra effort. (Weekly)
  - Include meals or refreshments at all meetings as people are more willing to attend and it is another way to show-appreciation.
  - Use incentives such as door prizes, meals, special guest speakers, distribution of resource materials etc. at the-meetings.
  - Design "events" rather than just meetings.

energy to continue their own professional education. We thought that the continuing education credit courses would be an incentive, but they were not.

Lesson Learned: (SCL Training)
Liaisons needed to be well trained and informed because they conveyed the information to the teachers, especially when the teachers didn't attend the meetings. Liasons motivated and supported the teachers. If they didn't, the school did not perform well.

Lesson Learned: (Value of School Liaisons)
It might have been more efficient if there had been one paid coordinator to meet with and provide service to all the teachers. However, having more than one liaison promoted interaction between more community members with teachers. The value of this interaction was immeasurable.

Lesson Learned:
(Layers of Communication)
There were many ways for information to be mis-communicated if it wasn't made simple and clear. The information flowed from (1) the core group to (2) the volunteer liaisons to (3) the lead teachers to (4) the other teachers, to (5) the students, and finally, to (6) householders.

Lesson Learned: (Group vs Individual Email Contacts)
Use group emails to keep everyone informed. Use individual emails if you want responses.

Emails sent to individuals are much more effective and more likely to get action. It is worth the extra time and work. Ask for response even if it is only a yes to the question: Did you get this message?

4. RECRUITING, TRAINING, AND WORKING WITH VOLUNTEERS

"We already had the common values in community activism and the Kuleana Eco-Project was a cause that brought us together."

-Carol Iwanuma, retired secretary, Liaison for St. Francis School

"The school liaison volunteers were key to the success of the project. They were the worker bees. They ended up running the major events and teacher meetings. After Phase I, they became the Wednesday Morning Group, packing videos and T-shirts, correcting quizzes and doing whatever else was needed."

- Naomi Ohta, retired personnel specialist, Chief School Liaison

A. Recruiting Volunteers

1. Look for volunteers among members of environmental organizations and agencies (e.g. Sierra Club, hiking clubs) because they already are interested in environmental causes
2. Look for volunteers among neighbors who work in government positions. They may be able to give you contacts, materials and information. Especially helpful are persons working for the Board of Health, Board of Land and Natural Resources, US Army Corps of Engineers, UH Oceanography and Tropical Agriculture Departments, etc.
3. Ask people for names and phone numbers of others who have worked on community projects before.
4. Look at the attendance roster of other organizational projects and start calling.
5. Start with your relatives. Most are willing to help just because you are family. Go from the immediate family and reach out to the extended ohana, including aunties and uncles, cousins, nieces and nephews.
6. Utilize underutilized talent. One of the most underutilized segments of a community is its pool of retired seniors with valuable skills. Plus, they know a lot of people in the community simply because they have been around a long time. They may know who the livewires are.

   With most adults working outside of the home, volunteers among the working population are difficult to find, but don't give up. You will find gems.

Challenge: *It was very important that volunteers understood the goals of the project and incorporated project values into their own value system.*
The most committed were challenged to see how far they could go to save water, whether they could influence neighbors who were polluting, and took pride in their school's progress.

Lesson Learned: *Conviviality is key to developing the core group solidarity.*

Members must be free to spout off, complain and criticize without holding back.

Lesson Learned: (Harnessing Grey Power)
Retired teachers, administrators, parents, and grandparents of students make excellent school liaison volunteers because they understand the work of the teachers and the school system. Liaisons must be empathetic while working with the teachers and be flexible about deadlines that have been set.

"It was an incredible journey. The impossible became possible!"

— Juliette Ling, retired DOE principal, Liaison for Hokulani School

7. Expect a high number of volunteer dropouts when you have a project which extends for more than one or two months. Expect half or more to drop out or become inactive by the end of the project. Other priorities, illness, boredom, lack of interest will contribute to the attrition.
8. Keep recruiting. You never know when you will find a really motivated go-getter.
9. Mention other people who are working with you. If they know and like these people, they will be more likely to join the group. The opposite is also true so avoid recruiting gloomy and grumpy people who pull others down with them.
10. Find the right fit for the volunteer's availability, skills, and interests.
11. Don't be disappointed by the apparent apathy you may encounter in the community. Many people have responsibilities for the care of elderly parents, children, grandchildren, jobs, and they do not have the time to participate for any length of time. While everyone may agree that the project is worthwhile, getting them out to meetings or to take on assignments is not easy. Be persistent and don't get discouraged.

Left to right: Mandy Bowers, Vi Hiranaka and Juliette Ling packing videos for mass mailing.

B. Working with Volunteers

1. Use email to get the information to the most number of people. If you want actual volunteers for specific projects, expect to engage them in person or on the telephone.
2. Meeting face-to-face is time-consuming and inconvenient but is still the best way to convince people to join your project and stay connected. Always stress the benefits.
3. You cannot expect to make rapid and productive progress with face-to-face meetings alone. Use the internet as a tool to complement and substitute for regular meetings. Email meetings are conducted by the project coordinator emailing one or more core members while copying the rest in the dialogue. Decisions can be made frequently and in a timely manner by the core group and tasks can be distributed. The project can move forward without calling for face-to-face meetings.
4. When you have core group members that have valuable abilities and expertise, the project coordinator should have separate meetings with them in order to capitalize on their knowledge.
5. Scheduling should be flexible to accommodate the best times for the working and retired volunteers. Ask when the best time and date is for the volunteers, even if it means just meeting with a few of them at a time. They can't refuse when you say, "Let's meet the earliest time you are free."
6. Proper Care of Volunteers
   - Accommodate their preferred meeting times and dates.
   - Meet in homes, if possible, simply because it is a friendlier place.
   - Provide food - it is a must.
   - Bring them along to meet important people for lunch.
   - Give them the same gifts prepared for the teachers, if possible.
   - Provide frequent appreciation and recognition.

Lesson Learned: *Not all volunteers are equally technically proficient. If volunteers didn't have email access, they were often inadvertently left out of the loop due to lack of time for telephoning.*

Lesson Learned: (Meeting times) *Older and retired volunteers prefer early weekday morning meetings. Accommodate them. Working volunteers are willing to meet Saturday or Sunday afternoons. Accommodate them.*

5. IMPLEMENT PROJECT FROM PROPOSAL AND PLAN OF ACTION

"A key component to the successful implementation of the Kuleana Project was the individual teacher-leader in each school. We found that it didn't matter what grade level or subject they taught. It was not important whether the children were younger or older. A good teacher was able to overcome obstacles and totally integrate the project into his/her curriculum. "
-Naomi Ohta, retired personnel specialist, Chief School Liaison

A. Phase I: The 3 Step System (Survey I, Feedback and Education, Survey II)

1. STEP 1: Survey I

- Construct the survey
  - Design a survey covering the ways humans cause non-point source pollution and waste water. Include these areas: recycling, green and hazardous waste disposal, herbicides, pesticides, fertilizers, household chemicals, sewage, and non-permeable surface runoff, watering lawns and washing cars. Surveys I and II were identical and were used as pre- and post-surveys.
  - The survey writers should:
    - Keep it simple.
    - Use multiple choice questions.
    - Use photos where appropriate .
    - Phrase questions so that those answering the questions in the survey will learn better practices.
    - Provide list of definitions.
    - Identify best practices for each question.
    - Develop a computerized correction grid.

- Conduct Survey I
  - Train the student interviewers by providing guidelines and materials on how to obtain appointments, interview procedures, etc.
  - Emphasize life skills training of students prior to having them conduct Survey I.
  - Have students practice taking the survey prior to interview.

- Recordkeeping:
  - Have liaisons provide administrative assistance so as not to add to the teacher's paperwork.
  - Create simplified forms to streamline process.

Lesson Learned: (Purpose of Survey)
The primary purpose of the survey was to make homeowners aware of their actions and lead to possible change. The survey also allowed us to gather quantitative data on pollution and conservation practices of homeowners. Not all the volunteers and teachers understood the primary purpose clearly.

Lesson Learned: (Photos in the Survey)
Photos of actual herbicides and pesticides incorporated into the survey made householders more aware that the products they were using were potentially harmful. People often could not recall a specific product name, but could recognize a photo of the item.

Lesson Learned: (Life Skills)
The entire survey taking process provided a valuable opportunity for students to learn life skills such as: persuasive speaking, requesting appointments, making follow-up calls, calling ahead, common courtesies such as bringing thank you gifts, and techniques of setting up schedules. Even though we provided some instructions regarding these matters, more training in social skills was definitely needed...For instance, here's one actual experience:
"My student interviewers just showed up for the follow-up survey without an appointment. Their parents had driven them over and I was sorry that I couldn't see them but I had already made other plans." Curt Cottrell, MOM Board Member.

Manoa School 3rd graders conductiong surveys with householders.

2. STEP 2: Feedback and Education

- Educational visit - the most valuable step of the survey process must be conducted as soon after completion of Survey I as possible. This is when the students become teachers.
  - Arrange for educational visit by the student within a week of the householder taking the survey. Students must have training on evaluation answers prior to the educational visit.
  - Prepare and present an evaluation of each householder's answers. Develop and/or gather resource materials with simple suggestions and explanations for non-polluting behaviors to accompany the evaluation sheet for each householder. Our committee used the HAPPI (Hawaii's Pollution Prevention Information) materials prepared by the College of Tropical Agriculture and Human Resources, University of Hawaii at Manoa.

3. STEP 3: Conduct Survey II (identical to Survey I)

- Compare the results of Survey I and Survey II and analyze data to determine the degree of change in behavioral practices.
  - When designing the survey, create a weighted formula for determining which answers were more or less desirable.
  - Hire a data processing company to process the information gathered from the surveys in order to ensure accurate, consistent, and timely results.
  - The data analysis itself requires expertise that can be provided by hiring a marketing analyst or by finding a volunteer with similar skills.
- Summarize Survey results and present them to the participants, the community, and the public.
  - Applaud the work of everyone involved.
  - Present teachers' evaluations of what worked and what didn't work throughout the process.
  - Present winning student entries from the "Give Us Your Ideas" writing contest showing what students learned from the experience and their suggestions on solving the problem of pollution in Manoa Stream.
  - Invite leaders from surrounding communities to encourage project replication.

Lesson Learned (Educational Visits)
The process broke down when students were expected to conduct three separate face-to-face meetings with their householders. The logistics of making contact, having the householder go to the school, etc. were too elaborate. Recommend that students be allowed to survey their parents or relatives to avoid these logistical problems.

Lesson Learned: (HAPPI materials)
The HAPPI (Hawaii's Pollution Prevention Information) materials were very comprehensive and detailed, but may have been too academic and lengthy for the average householder.

Lesson Learned: (Length and Complexity of Project)
Phase I of the Kuleana Project, the 3-Step process was too complex, involved too many steps, and took too long a period of time to successfully work as an extra-curricular service project. When the project was integrated into the curriculum, it worked.
When Phase II was designed, the Water Warrior Challenge and Eco-Fair was simplified, shortened to one semester, and ended before the start of the holiday season.

Lesson Learned: (Liability and Safety)
School administrators were concerned about liability and safety issues such as children interviewing strangers and going to homes of strangers. This challenge was overcome in the following ways: students conducted surveys in pairs; they met their householders in public places, such as the library; and were accompanied by parents. However, this requirement to interview only Manoa residents was burdensome, and in the future, to minimize these issues, students should be asked to interview only friends and family.

Challenges:("Authentic Learning")
Teachers were not used to working with community members and some teachers had difficulty helping their students find interviewees and make arrangements for the interviews etc.

Teachers had to give up their power in order to empower their students.

B. Phase II: Water Warrior Challenge and Eco-Fair

1. Water Warrior Challenge:
   - Not a stand alone activity. Used as the means to get all the Water Warrior students as well as "indifferent and uninterested" residents to the Kuleana Eco-Fair;
   - Provide open invitation to upper elementary class levels in a school (Ideal);
   - Have teachers elect one lead teacher as MOM contact;
   - Show teachers how the Water Warrior Challenge can be integrated in the Hawaii Standards and General Learning Objectives (GLO);
   - Keep Water Warrior Challenge as a class activity, not a service project;
   - Make it fun and competitive and serious. Have individual, class and school challenges (contests) and prizes;
   - Create a Study Guide of 60 questions and answers, from simple to complex concepts. List vocabulary and concepts to be learned by the students. Provide each child with the study guide but base the number of Q and A to be learned on grade level, i.e., Grades 3-4, first 20 Q and A, Grades 5-6, first 40 Q and A, Grades 7-8, all 60 Q and A.
   - Give teachers a week within which to administer the Early Bird Quiz of questions selected directly from the previously provided Water Warrior Study Guide. Children who won a passing grade of 75% received a T-shirt and 10 scrip to use for free food and rides at the Eco-Fair, made a personal commitment to do something to better the environment and took the Water Warrior pledge.
   - Enlist help of children to persuade other students and adults to attend the Kuleana Eco-Fair. Only students whose teachers had volunteered to be part of the Water Warrior Challenge were able to take the Early Bird Quiz. All other students in the school could become Water Warriors only by attending the Eco-Fair and passing the challenges at the Information/Testing Booths.
   - Create competition among the schools. Each school would compete with the others for the most Water Warriors who either passed the Early Bird Quiz or passed challenges at the Eco-Fair.
2. Eco-Fair:
   - Include fun activities at the Eco-Fair to attract children, such as rides and games, prizes, costume contest, parade etc. Participants used scrip they earned to "purchase" hot dogs, drinks, play games and use the rides.
   - Include eco-friendly prizes of significant worth to attract adults who might not attend otherwise.

Lesson Learned: (Standards Integration)
The project works best when based on Standards and integrated in curriculum. In Phase I, the teachers and administration were not shown how to integrate the project into their curriculum. In Phase II, the project was aligned with the Hawaii Content and Performance Standards (HCPS) and the General Learner Outcomes (GLOs) before it was presented. The administration and teachers appreciated our efforts and acceptance was universal.

Lesson Learned: (Recruitment Requirement and Testing at Booths - Key to Success of Eco-Fair)
Without the student Water Warriors' recruitment efforts preceding the Eco-Fair, attendance would have been poor. For example, only five persons attended because of the mass video mailout. Without the recruitment requirement and contest, most of the attendees would have been persons already interested in learning about the environment. Without the testing element to the Eco-Fair, attendees would not have been so involved or attentive.

- Judge costumes in Costume Contest on best conservation/ pollution prevention message and use of recycled materials;
- Make participation in parade a recognition of Water Warriorship. Have all participants wear their T-shirts. Give first 50 in the lineup swords (plastic) to lead the parade.
- Give children 10 scrip for passing the Early Bird Quiz. All others could earn scrip by passing the challenges at the information testing booths.
- Invite agencies, environmental groups, and eco-friendly businesses to provide informational exhibits, samples and prizes. They would also serve as "testing" stations and could either use questions from the Early Bird Quiz or devise their own "challenge" so participants could earn scrip and earn a stamp for their Water Warrior Challenge Score Card. Each participant was required to pass ten challenges to become a Water Warrior.
- Require all volunteers to pass the Early Bird Quiz and take the pledge and receive their T-shirt. This requirement will cause them to take a more serious attitude about the educational aspects of the eco-fair.
- Develop a ceremony to make the pledge taking a solemn event.

Lesson Learned: Early Bird Quiz Questions need to be rewritten and rearranged from simplest to most difficult concepts

Many questions suggested by the experts dealt with information, such as definitions. Instead, the kind of questions asked should be thought-provoking and behavior changing. For example: In order to save water, you can clean your hands just as well as with soap and water by using waterless hand sanitizer, wiping your hands with alcohol or wiping your hands with hydrogen peroxide. T or F.

6. PROMOTION AND PUBLIC RELATIONS

Jonathan Scheuer emailed Lee Cataluna, the popular Honolulu Advertiser columnist, outlining the scope of the survey program. We were going to be analyzing the results of the surveys. She met with a group of us. "There is too much going on to cover in my column," she said. "Let me talk to the editors. In a recent poll, our readers had said that education and the environment were their top two concerns. Your project covers both areas."

Cataluna called back later. "We're going to give you the front page. " "Front page of the Island Life section?" I asked? "No, the front page of the Advertiser."

-Helen Nakano, Project Coordinator

A. Promotion

1. Get sponsorship or endorsements (financial or non-financial) from well-established and well-known organizations and respected individuals. Use this to gain visibility and credibility for the project.
2. Promotion of the project, the participants and the events must be continuous. This is not the time to be self-effacing. Send news releases as often as something new happens.
3. Big posters- Most shops are not willing to put them up in their storefront windows. Don't print many unless you have prior commitments. Deliver them to merchants one month prior to the event. Bring your own scotch tape.
4. Flyers - Get professional help to make them attractive and enticing. Get people's reaction to your flyers. They are most effective if volunteers talk about the event to people as they pass them out. Send home with students two weeks prior to the event.
5. Road signs - Keep them the size of real estate signs. Use large clear plastic lettering on metal backs. Keep the message simple. Ask permission of the owners of key locations to post them one week before the event so only the day of the week, not the date can be used. Do not post on public property without a permit and never on telephone poles, mail boxes, etc. Effective as a reminder but not as a description of the event.
6. Email announcements - Send a flyer by email to the volunteers, the teachers, MOM Board and members and as many other community members as you know two to three weeks before the event, asking them to forward the email flyer to other people that they know. Put a note on the flyer to both post the flyer at their places of work and to forward the email.
7. Make telephone calls to friends, as well as cold calls to inactive members, 2-3 weeks before an event, with reminder calls 3 days just before the event. This is more effective than all the flyers, road signs, emails, etc. The enthusiasm with which the invitation is expressed makes others want to join in.

Lesson Learned: (Motivation)
The benefits of getting coverage on TV or the newspapers cannot be ignored or underestimated. It is not only the best way to get information out to the general public, but it is like a shot in the arm especially for the volunteers, the teachers, the students, as well as the project sponsor (funding agency). In a long-term project, participants get tired and bored. Seeing the project that they are involved in reported positively in the news reenergizes the group and sustains or increases their level of involvement and participation.

Lesson Learned: (Do Your Own Reporting)
The schools were asked to keep us informed of all their activities. News releases and phone calls about these activities followed. Whenever the reporters arrived, the kids and teachers were excited. When they saw their activities in the paper, they felt important.

Lesson Learned: (Story Needs a Hook to Make News)
"When the Ala Wai Boat Harbor filled with debris after a big storm, Linda LeGrande saw the mess early in the morning and called to tell me. I called James Gonzer, a Honolulu Advertiser reporter, and told him about the debris and how the MOM outreach project related to it. He had received the news release describing the Kuleana Eco-Project earlier, but at that time, there was no "hook". When the harbor filled with debris, he had the hook he needed to mention the project as part of the more dramatic flood story."-Helen Nakano, Project Coordinator

8. T-shirts
   - Purpose: motivation, pride, identification with project
   - Message: Emphasize partnership of everyone involved and being part of a bigger effort.
   - Make the point that taking care of the environment is cool.
   - Create a design and color to be appealing to the students.
   - Don't get bogged down with design contests. It will delay production by a month, be a diversion from the mission, and you will spend too much energy promoting the contest itself.

B. Relations with News Media

1. Send news releases at least one to two weeks in advance. State the who, what, where, when and how and keep them short. Explain, briefly, why the activity is newsworthy and would interest their readers. Always give them a "hook", some interesting tidbit, that they can use to catch the attention of their readers.
2. Cultivate relationships with reporters. Get to know them personally. Give them tips and leads which will help them with their jobs and in their coverage of community events, even those unrelated to the project. Don't give them gifts or buy them lunch. It's against the rules. Be a credible source and they will appreciate your help.
3. Don't get discouraged and don't take it personally if your article doesn't make it into print. You have a lot of competition for free coverage. Keep calling, sending emails, and news releases. Sooner or later, on a slow news day, your perseverance will pay off.
4. Publicize school/teacher-generated activities. Ideal when the Kuleana Eco-Project becomes an inter-disciplinary effort. Examples:
   - Iolani School had the fourth grade teachers as well as the art and science teachers, working together with the same group of students. They made ceramic raindrops to give away and conducted a fashion show using recycled materials with conservation messages.
   - Manoa School third graders produced two videos, one during Phase I and the other, a video journal, during Phase II.
   - The fifth graders at Noelani produced a video of PSA (Public Service Announcements) urging the public not to waste water nor engage in polluting behaviors.
   - Mid-Pacific Institute Environmental Science classes produced a video on their water quality testing activities.
   - The seventh grade science students at St. Francis School created a children's coloring book about watershed pollution.

Lesson Learned: (T-Shirts)
During Phase I, T-shirts were used to promote the partnership of the community, the schools, and the BWS, all working together for the common good. The names of all of the schools were listed on the T-shirt and the shirts were given to all participants without obligation to meet any requirements.

However, during Phase II, students, as well as adults, including the volunteers, had to earn the T-shirts. Only students, who had passed the Early Bird Quiz with a grade of 75% or better, were given the Water Warrior T-shirts. The T-shirts were also used as incentives for other students and all other fairgoers to study the required information so they would be able to pass the challenges presented at the Eco-Fair testing booths. Students were issued their T-shirts a week before the Eco-Fair and encouraged to wear them frequently to help us advertise the event. It worked and over 2,000 came to the Eco-Fair.

Lesson Learned: (Prizes)
Don't use savings bonds as prizes. The children's social security numbers and other personal information are needed.

Don't use live plants as prizes. They often die before being given out.

Media Directory

(as of June, 2005)

To make sure your news release reaches the intended reporter or editor, send the same news release addressed to the person, by fax as well as by email. Media people are always looking for a good story so call them directly to make your case as to why the news you are sending would be of interest to their readers. Columnists usually want exclusive interviews.

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Media Coverage

Date	Source	Title	Size
Sept. 13, 2003	The Honolulu Advertiser (Front Page)	Rain washes tons of debris into canal. Canal: Volunteer group looks to stop pollution	56 column inches
Sept. 14,2003	Honolulu Star-Bulletin	Project promotes water kuleana	28 column inches
Sept. 18, 2003	Honolulu Star-Bulletin (Editorials)	Isle students take lead in protecting the environment	23 column inches
Sept. 28, 2003	Honolulu Star-Bulletin (Letter to Editor)	Kids outside Manoa help Kuleana project	9 column inches
Jan., 2004	Malama o Manoa Newsletter	Kuleana Project in Full Swing	2 pages
Feb. 22, 2004	The Honolulu Advertiser (Front Page)	Students lead effort to protect valley. Project helps Manoa become environmentally aware. Kuleana: Project organizers, students make a difference	123 column inches
Feb. 22, 2004	The Honolulu Advertiser (Second Page)	Third-graders prove effective in Manoa water project	42 column inches
March 24, 2004	MidWeek (Dan Boylan, Columnist)	Revolutionary Kids And Teachers	9 column inches
April 2, 2004	The Honolulu Advertiser (Lee Cataluna, Columnist)	Clean sweep in Manoa (2003 Environmental Achievement Award)	19 column inches
April 8, 2004	Island Weekly (Lee Cataluna, Columnist)	Clean sweep of awards in Manoa (2003 Environmental Achievement Award)	21 column inches
April-May, 2004	Olelo	Ka Wai o Manoa Showing	15 minutes
April 29, 2004	Honolulu Star-Bulletin	EPA honors isle environmental campaigns	14 column inches
Sept., 2004	Malama o Manoa Newsletter	The Kuleana Project	2 pages
Sept., 2004	Manoa Community News	Bulletin Notice: Manoa Eco-Fair and Water Warrior Challenge October 23	1 column inch
Oct. 13-19, 2004	Honolulu Weekly	Ka Wai o Manoa	7 column inches
Oct., 2004	Malama o Manoa Newsletter	Water Warriors Make a Difference. Wednesday Morning Steering Committee Members Provide Grey Brain and Muscle Power for the Kuleana Project, Phase II.	3 pages
Oct., 2004	Mayor's Office of Culture and the Arts Calendar of Events	Bulletin Notice: Kuleana Eco-Fair	8 column inches
Oct. 20, 2004	The Honolulu Advertiser (Island Life Section)	A Day for Good Deeds: Make a Difference Day. Help out!	66 column inches
Dec. 11, 2004	The Honolulu Advertiser (Front Page)	Noelani Elementary Makes a Difference – Again. Schoolchildren donate $2000	45 column inches
Dec. 10 or 11, 2004	Channel 3 News Coverage	Noelani Elementary donates $2000	Evening news

7. EVALUATE EFFECTIVENESS OF ACTIVITIES BY FEEDBACK SYSTEM

"Society expects to see statistics measuring the success or failure of a project, but the real success lies in the interaction of the participants and the knowledge and positive experiences we shared."
— Betty Ikeda, retired DOE resource teacher, Liaison for St. Francis School

A. Project Conclusions: How We Measured What Was Learned

- Students – Phase I, letter/report writing contest; Phase II, personal commitment in Water Warrior Pledge
- Teachers – Phase I, teachers' panel and liaison feedback; Phase II, evaluation forms and liaison feedback
- Householders – Phase I, changes in their conservation practices from Survey I to the Survey II; Phase II, evaluation forms
- Volunteers – feedback at meetings and other gatherings, changes in their conservation practices and evaluation forms
- Partners (agencies, non-profit groups and eco-friendly businesses) – evaluation forms

B. Most Valuable Evaluation Tool: "Give Us Your Ideas" Letter/Report Writing Activity

- Include it as an expected culmination activity for all the classes participating in the project.
- Make the requirement a persuasive letter or essay on what the student thinks decision makers (parents, government and community leaders, etc.) should do, rather than what he or she learned or did during the Project.
- Have an adult (parent or surveyed householder) co-author the letter/essay with the student. Excellent method of learning for both parties.
- Have newspapers co-sponsor the writing contest so the best papers can be published.
- Offer prizes for participation. For example, offer a pizza party for the class with 75% or more participation, as well as individual prizes for the best ideas.

Lesson Learned: (The Volunteers)
As our eyes and ears, the volunteers were invaluable. They reported what people in the community, teachers and students were saying. Constant changes were made based on their feedback.

Lesson Learned: (Writing Activity as Evaluation)
This was a last-minute idea to evaluate the children's learning during Phase I with 327 students participating. It was made into a contest, rather than a requirement. The letters evidenced that if students were not highly motivated or had not internalized what they had learned, they all gave the same examples and repeated what they had been taught by their teachers. The students who were truly engaged offered imaginative solutions and argued passionately.

Recommend that adults in their family be encouraged to co-author the letters. It would become a family project and adults would be drawn into thinking about solutions.

Lesson Learned:
(Value of Evaluation Forms)
Getting people to fill out forms and return them is difficult.
In Phase II, we sent the forms to the principals and teachers with thank you gifts of books and self-return envelopes. Only one-third responded. We passed out several hundred evaluation forms at the eco-fair to participants, vendors and agency partners. Percentage-wise, the return was probably about five percent. Overall, the evaluations were positive with criticism about situations we knew about already. The writing contest proved to be a much more enlightening indicator of how much the students learned.

Things that Worked

A. ***The Children and Teachers*** - If the message had been delivered directly by Malama o Manoa volunteers, residents would not have been as receptive. Without the children's involvement, there would not have been a Kuleana Eco-Project. On their own, teachers created numerous related activities that were conducted concurrently.

B. ***The Committed Volunteers*** - Volunteers are an endangered species. By harnessing "grey power", the retirees, an underutilized segment of the community, was tapped. The high level of talent and skills of the volunteers AND their willingness to give their time and effort made the project successful.

C. ***The Grant Money*** - The grant money allowed energy and resources to be directed to the project itself so the project moved quickly. In so many grassroots efforts, too much of the volunteers' effort is spent on fund raising. The energy of the volunteers is dissipated by the time the actual event occurs.

D. ***The Synergy Created by Partnerships*** - Energy and excitement was created through interaction of the partners including the Board of Water Supply, the schools, the government agencies charged with caring for the environment, environmental groups, and Malama o Manoa. All believed that their missions were supported by the others.

E. ***The Magnitude of the Project - Critical Mass***- This gave the people the feeling that they were part of a major undertaking. More people heard about the project by word of mouth. Because of the number of individual participants, reporters became eager to give the activities more publicity.

F. ***The Value-Based Foundation*** - Environmental science projects are normally informational in nature. The Kuleana Eco-Project was unique in that the project was based on the values of responsibility and stewardship as practiced by the ancient Hawaiians. Throughout the project, moral values rather than factual learning were stressed as the goal for adults and students. Volunteers, partners, parents and students felt motivated by these values.

G. ***Timing and Real Life Occurrences*** - The Kuleana Eco-Project began at a time when water conservation was being highly publicized. The Board of Water Supply was appealing to the public to conserve water due to a six-year drought, and a sudden storm had dumped massive amounts of debris in the Ala Wai Boat Harbor just as we were ready to kick off the project. Both events made the news, thus the opportunity to provide real-life learning experiences for the students.

H. ***Fun and Contests*** - Contests and prizes provide fun for everyone, and these motivational tools work. Everyone works harder when they are having fun. When the competition requires team work, it is all the better. Students, and even the teachers, get excited when there is competition between schools. The high turnout at the Eco-Fair was in large measure attributable to the Water Warrior Challenge.

I. ***The Miracles*** - The right people and the necessary resources appeared when most needed and least expected.

In Hindsight...
What we would have done differently

A. ***Mission*** - The mission of the Kuleana Eco-Project was "to change the behavior of 1,000 Manoa householders". In hindsight, the focus should have been on the children, first and foremost. The teachers need more time on training the students to become teachers. Less effort should be spent on changing the behavior of adults.

B. ***Residency Requirements*** - Initially, in Phase I, the survey was limited to householders in single family homes within Manoa Valley. We had naively assumed that the residents would welcome information on ways to conserve and protect their watershed and willingly participate in the survey. We did not anticipate the number of refusals we encountered. When we realized the additional burden placed on the teachers and students, especially from the private schools, that requirement was dropped. But by that time, the students had become discouraged and did not meet their quotas or have the time to meet the deadlines. In Phase II, because Manoa residency was not required to become a Water Warrior, we exceeded our goal by 40%.

C. ***Layers of Communication*** - The most direct route to accomplish the survey would have been for professional interviewers to contact 1,000 householders. Instead, children were chosen as the messengers. This required the project to work with their teachers. To reach the teachers, the organizers used School Community Liaisons. Each time the directions went down to the next layer, the message became diffused, and, sometimes, confused. Communication was more difficult and messages had to be more frequent and restated in different ways.

D. ***Elaborate Project Requirements*** - In Phase I, the requirements were more elaborate and required the completion of many steps. The project was not sensitive enough to the time limitations the teachers had to devote to this project. When teachers were pressed, regular school work and activities took precedence over Kuleana Eco-Project requirements. In Phase II, our activities were simpler and the deadlines more realistic.

E. ***Duration of Project*** - Continuing the momentum for three months in Phase II was much more manageable as compared to the eight months in Phase I. Keeping the energy and interest of the children, teachers, and volunteers at a peak for any extended period is a real challenge. It is easier to keep the excitement level high with a shorter time period.

F. ***Written Material*** - The survey questionnaire in Phase I and the Water Warrior study guide, the directions and the educational resources need more revision and simplification.

G. ***Protecting Privacy*** -
- Students and Teachers: The extent to which schools protect the privacy of their teachers and students made it difficult to get information on school personnel and on the students for even such simple things as a student roster of a grade level. The requirements by the schools to get permission from the school administration and the parents of the students today as compared to before added unanticipated hurdles.
- Householders: Householders were given the option of participating in the survey process and answering the questions "anonymously". There was confusion on what the term, "anonymous" meant, even among the core group of volunteers. Trying to keep householders' identity "anonymous" through this three-step process was a headache. Householders would still be given that option, if another survey is conducted, but it would need to be expressed in a different way.

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CALENDAR OF EVENTS

Phase I - THREE STEP SURVEY PROGRAM (August, 2003 - April, 2004)

April - August, 2003: Groundwork laid

I. ***Planning and Organization***
The MOM Board approved the proposal to apply for a watershed project grant. (April, 2003) A broad base of community members was canvassed. An environmentalist, water toxicologist, educator, and Hawaiian cultural specialist helped create the grant proposal for an educational project based on community and Hawaiian values. A grant of $76,850 was secured. (June, 2003)

II. ***Recruitment of Volunteers***
Recruitment of steering committee members and school liaison members (go-fers) began at time of grant writing. The grant request demonstrated the depth and extent of community interest and commitment by listing the names of all the volunteers.

III. ***Recruitment of Schools***
Principals of all private and public elementary, middle and high schools in greater Manoa area subwatershed were approached in April. Ten schools were needed to conduct 100 surveys to achieve survey goal of 1,000 households.

Project endorsed by DOE Superintendent of Schools Pat Hamamoto (June, 2003).

IV. ***Creation of Survey***
a. A committee of experts and community members created a survey with 34 multiple choice questions. The survey was intended as a teaching tool as well as a means to collect data for analysis.
b. Seven students and seven residents of diverse ages and ethnic backgrounds conducted a "Beta test" in order to determine whether the questions were straightforward and if 5th to 12th graders were capable of conducting the survey. In addition, the ethnic sensitivity of the survey was analyzed. Then, the survey was refined using the valuable data from the "Beta test". (August 2, 2003)

Student interviewers ranged from 5th graders to high school seniors.


Students practice survey with residents.

August, 2003 - April 2004: Three Step Survey Program

I. ***Step 1***
Student interviewers learned the vocabulary and concepts of the survey. Teachers helped students practice recruiting and interviewing skills, including etiquette. Students recruited target householders, practiced with sample surveys and conducted initial face-to-face interviews. (August, 2003 - September, 2004)

II. ***Step 2***
The students identified householders' environmentally harmful practices and then provided appropriate reference materials to give the householder with suggestions for changes. They presented this information to the householder, usually in a face-to-face interview. (November - December 2003)

III. ***Step 3***
Target householders were given 1-2 months to change their behavior. Students surveyed the same householders again with a survey identical to the first one. The survey results showed that a significant number of householders did change some, or most of, their unsound practices. (December 2003 - January 2004)

August, 2003 - June, 2004: Supporting Activities

I. ***Teacher/Volunteer Training***: Informational and motivational sessions included meals or refreshments, inspirational, motivational and educational speakers, teacher gifts and door prizes, skits and demonstrations, as well as training.

a. Kick-off Dinner-meeting - Distribution of Teacher's Guidebook and half of $150 teacher's stipend. Teachers were given $1000 line of credit to be spent on related activities and materials. (August 25, 2003)
b. Half-Time Dinner-meeting - Distribution of t-shirts and Ka Wai o Manoa Video; presentation of Malama I Ka A'ina interactive science exhibits. (October 14, 2003)
c. Christmas Reception to build teamwork and synergy among teachers and volunteers. (December 16, 2003)
d. Final Luncheon - Presentation of survey results and student writing contest awards presented. Panel discussion presented by teachers on successes and failures. Remaining stipends distributed. (March 6, 2004)

Environmental journalist Jan Tenbruggencate speaks to teachers and volunteers at Kick off Dinner.

Hawaiian cultural specialist Ramsay Taum explains water management system of the ancient Hawaiians.

Dr. Eric DeCarlo of UH Oceanography Dept. explains causes and prevention measures of water pollution.

II. ***Community awareness and member motivation***

Committee members provided constant feedback from the community.

a. Mass mailing from Honolulu Board of Water Supply to 5,000 households. (August 25, 2003)

Students stencil signs on storm drains.

b. Two hundred and fifty participants, including BSA troops, high school service groups, and community members, stenciled "Don't Dump, Goes to Ocean" on 400 storm drains. (August 30, 2003)

Kozen Kaneshiro directing walking teams to different areas

Team Capt. Robin Otagaki and volunteers loaded with BWS materials to put on door knobs

c. Door-to-Door Walking Campaign: Additional BWS materials and letter from Malama o Manoa were delivered to 5,000 households. (August 30, 2003)

d. Video Production of "Ka Wai o Manoa" a 9-minute informational and motivational video on Manoa Stream pollution featuring long-time residents. One hundred videos were distributed to partnering schools and other groups. Goal - to have video viewed by 1,000 residents. (October 14, 2003)

e. "Kuleana Partners" T-shirts distributed to 1,000 participating students and volunteers. (October 14, 2003)

Student teams show off their watershed models to the expert judges.

f. C & C Watershed Model Contest with student entries judged at Manoa Marketplace, the local shopping center. (October 25, 2003)

g. Field Trips touring the BOS water treatment and recycling facilities at Honouliuli in the Ewa district of Oahu. (November 15 & 18, 2003)
h. Finale Luncheon and conclusion of Phase I attended by teachers, volunteers, and student award winners. Awards and results of the survey were presented. Teacher panel presented insight on what worked and what didn't work. Representatives from surrounding communities were also invited to encourage them to conduct similar projects. (March 6, 2004)

III. ***Evaluation:***
a. Students: Letter/Essay "Give Us your Ideas"Writing Contest for participating students. Essays received: 327. (Deadline: February 9, 2004)
b. Teachers: Evaluation Panel as mentioned above. (March 6, 2004)

September, 2003 - March, 2004: Teacher-initiated Activities

Three-step survey integrated the Kuleana Eco-Project into the school curriculum. Teachers used the $1000 educational credit for field trips to different water treatment facilities, water quality monitoring studies, video production, skits, and other school activities.

April, 2004: Honolulu Board of Water Supply, Mālama o Mānoa, and 12 Participating Area Schools Win 2004 EPA Environmental Award for Outstanding Achievement

EPA Regional Administrator Wayne Nastri (2nd from left) presents EPA Award to Kuleana Eco-Project volunteers at April 28 ceremony in Manoa Valley.

Phase II - WATER WARRIOR CHALLENGE AND KULEANA ECO-FAIR (July, 2004 - October, 2004)

July - August, 2004: Groundwork Laid for Water Warrior Challenge (WWC) and Kuleana Eco-Fair

I. ***Planning and Organization***

a. An AWWA (Ala Wai Watershed Association)/USACE (United States Army Corps of Engineers)-sponsored Earth Day inspired the idea of an Eco-Fair for the Manoa subwatershed community. To gain wide community involvement, the Watershed Warrior Challenge was created. This afterthought, the recruitment and training of "Water Warriors," became the key educational tool of the Kuleana Eco-Project, Phase II.

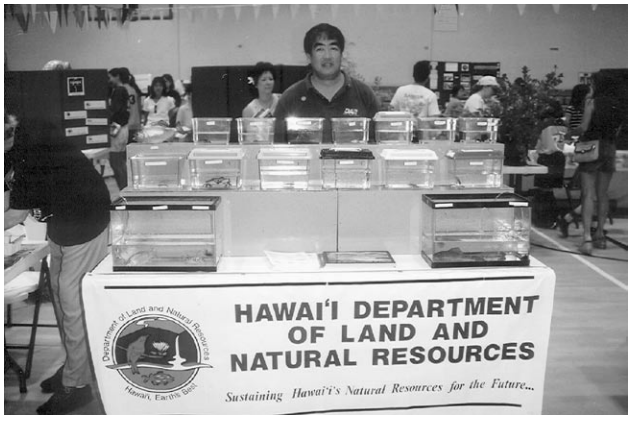
b. The Water Warrior Challenge was aligned with the DOE's General Learner Outcomes and the Hawaii Content and Performance Standards.

c. A study guide was prepared with the assistance of city, state, and federal governmental agency experts who agreed to setup teaching/testing exhibits at the Eco-Fair.

d. Partner Recruitment (Agencies, Non-Profit Organizations, Commercial Vendors, Donors) for the Eco-Fair began.

II. ***Volunteer Recruitment***

As Phase I volunteers were lost, new ones were recruited. Outside support came in the form of environmental organizations, government agency experts and business people who sold eco-friendly goods and services.



III. ***School Recruitment***

a. Project endorsed by Complex Superintendent Raelene Chock. (August, 2004)

b. Principals of all private and public elementary, middle and high schools in the area were approached. (August, 2004)

August - October, 2004: Water Warrior Challenge (WWC)

I. ***Step 1***
Teachers worked with students on study guide of 60 questions and answers. (September, 2004)

II. ***Step 2***
Students qualified to become Water Warriors by: (a) passing the Water Warrior Early-Bird Quiz; (b) making a personal commitment of watershed stewardship; and (c) making a commitment of watershed stewardship through the Water Warrior Pledge. Only children who passed the Early-Bird Quiz were sworn in as Water Warriors and received their T-shirts.

III. ***Step 3***
Students recruited and taught other students and adults to become Water Warriors. An intra-school competition was held. Schools recruiting the most Water Warriors were awarded prizes of $1,000, $500 and $250.

August-October, 2004: Supporting Activities

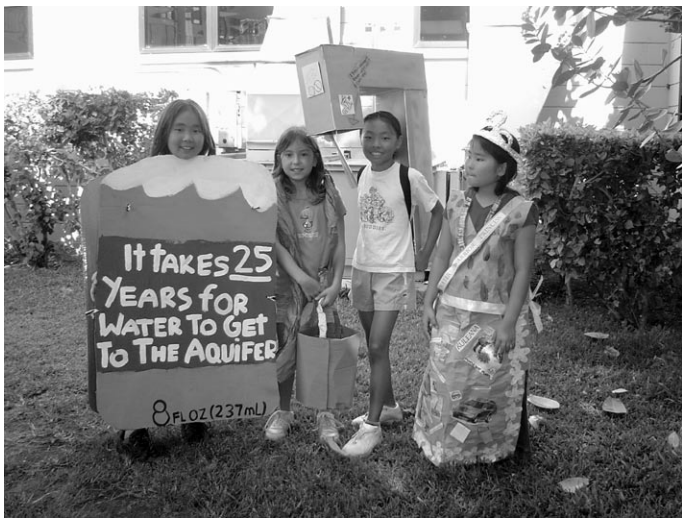
I. ***Step 1. Teacher training and motivation***
a. Distribution of Water Warrior Information Booklet, Resource Packet, and "Ka Wai o Manoa" video to Teachers. (September 13, 2004)
b. Heiau Tour and Reception for Teachers. (September 18 & 25, 2004)
c. Teacher stipends given. (October 5, 2004)

II. ***Publicity for Eco-Fair and Promotion of Water Warrior Challenge for Manoa Community***
a. Mass mailing of "Ka Wai o Manoa" video to 900 households.
b. Mass mailing of Kuleana Eco-Fair flyer to 5,000 households.
c. Hand delivery of Eco-Fair flyer to 1,000 households by political candidate
d. Malama o Manoa newsletter (Volume XII, No. 3) containing article about Water Warrior. Challenge distributed to 3,700 MOM members. (October, 2004)
e. Distribution of 1,000 Eco-Fair flyers to schools.
f. "Water Warrior" T-shirts distributed to students who passed the Early Bird Water Warrior Quiz.

October 23, 2004: Make a Difference Day

I. The training of volunteers was held the evening prior to the event. Volunteers also had to earn their T-shirts by passing the Early Bird quiz. This required all to be informed about the subject.

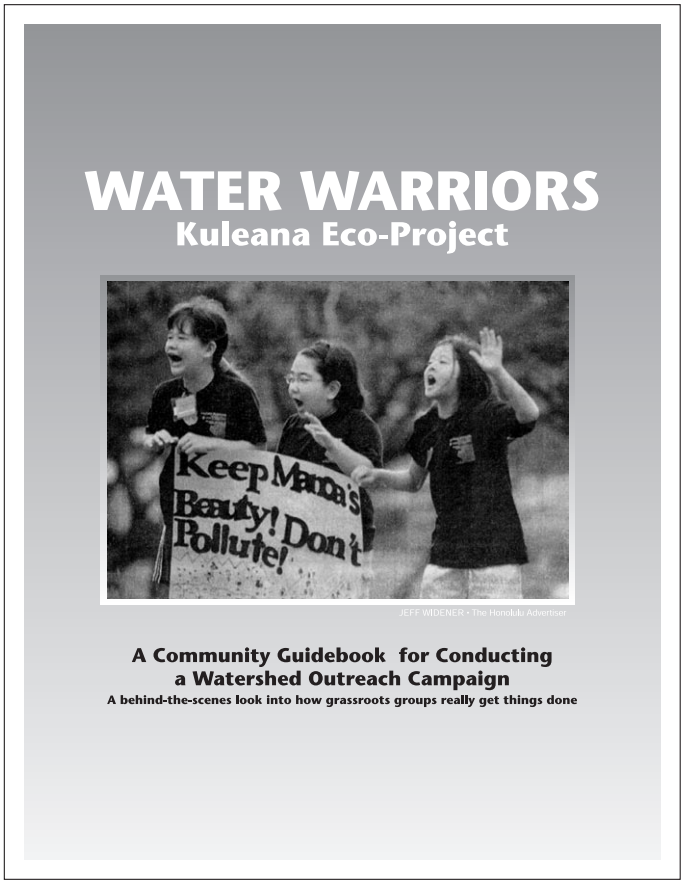
II. Community members other than the students were given the opportunity to learn and be tested on eco-friendly watershed practices and become Water Warriors at the Eco-Fair. Fair events included a Water Warrior Parade with a costume contest, games, rides, refreshments and over 40 informational/testing booths that provided the "challenges" for the participants to pass in order to become Water Warriors.



Two Water Warriors lead Ruby Raindrop, Sammy Soil, Apoha the O'opu and others at the Water Warriors Parade.

Swearing in of new Water Warriors at the Kuleana Eco-Fair. Fairgoers being tested at booths.

December, 2004 - June, 2005: Community Guidebook for Conducting a Watershed Outreach Campaign



The writing of the Guidebook was a collaborative effort and reflect the thoughts and opinions of many persons involved in the project. Every effort was made to make the publication useful and practical.

Listing of Kuleana Project Phase I Addendum

1. Grant Proposal for Kuleana Project
2. Letter to Principals from DOE Superintendent Patricia Hamamoto
3. Letter to Community from Board of Water Supply
4. Letter to Teachers from President of Malama o Manoa
5. Survey Guide for Students
6. Survey Guide for Liaisons (Gofers) and Teachers
7. Household Initial Survey
8. Household Initial Survey Educational Report (Best Answers)
9. Sample of Individual Household Initial Survey Evaluation Report
10. Sample of Hawaii's Pollution Prevention Information (HAPPI-Home 3)
11. "Ka Wai o Manoa" Video Lesson Plan
12. Culminating Activity–"Give Us Your Ideas" Writing Contest
13. Writing Contest Judging Guidelines
14. Reimbursement Request and other Forms
15. Honouliuli Bus Excursion Flyer
16. News Release – March 6, 2004
17. Malama o Manoa Newsletter, June 2004

(Updated 8/19/05)

Mālama o Mānoa
P.O. Box 61961 • Honolulu, Hawaii 96839

PROJECT TITLE

Kuleana Project

"kuleana" – responsibility, ownership, cause, small piece of property, tenure (Hawaiian Dictionary by Pukui, Elbert, Mookini)

A community-based environmental protection initiative jointly sponsored by Mālama o Mānoa and the Honolulu Board of Water Supply. Endorsed and supported area elected officials: Senator Brian Taniguchi, Representative Kirk Caldwell, and Councilmember Ann Kobayashi.

CONTACT INFORMATION

Project Coordinator: Helen T. Nakano on behalf of Mālama o Mānoa
Address: 3080 Pūhala Rise
Honolulu, Hawai'i 96822
E-mail: nakano@aloha.net
Phone Number: 808-988-5671
Facsimile Number: 808-536-4471

PROJECT PURPOSE:

Effect change of activities and practices of 1,000 households in the Mānoa subwatershed through education and outreach utilizing a community-based grassroots approach by:

- **Promoting water conservation practices** that reduce water demand as well as best management practices that lead to an increase in aquifer recharge and the reduction of storm water runoff which facilitates nonpoint source (NPS) pollution into Mānoa Stream, which in turn leads to the Ala Wai Canal, and ultimately, to the ocean; and
- **Increasing awareness of homeowner practices** which contribute to NPS pollution including: 1) fertilizers, herbicides and yard/garden waste; 2) car washing methods, detergent use and vehicle maintenance; 3) pet excrement; and 4) pesticides.

MĀNOA VALLEY c.1865
PAINTING BY
ENOCH WOOD PERRY

PROJECT SITE DESCRIPTION:

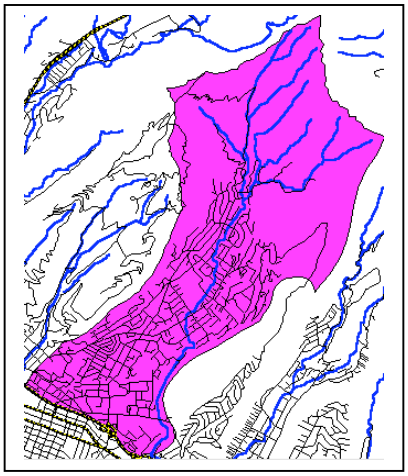
Location: Mānoa Valley
-Makai of Ko'olau crest
-Mauka of H1 Freeway
-Between both ridges
-East of Punahou St.
-West of Kanewai St.

Land Owner: Various
75% owner-occupied
25% renter-occupied

Land User: 5,529 occupied single-unit dwellings (2000 Census)

Size (acres): Approx. 3,200 acres

Land Use: Conservation, Urban



PROJECT GOALS:

a. Create heightened awareness of pollution and wastewater generation by individual households by means of grassroots education on ways community members can reduce NPS pollution and conserve water.
b. Change practices of household members to act in ways of polluting less, reducing runoff/increasing permeability and using water more efficiently.
c. Cultivate kuleana among current and next generation Mānoa subwatershed residents through education.
d. Develop a model easily replicated and/or modified by other O'ahu communities that stresses the spiritual connections with the environment through understanding the values and practices of the indigenous Hawaiian population.
e. Teach children appropriate behavior through exemplary process of voluntary best management practices (BMPs) implementation and maintenance.

PROJECT PERIOD: September 1, 2003 – February 15, 2004

SCOPE OF WORK (Phases):

I. Enlistment of schools, teachers, volunteers, material development, workshops, PR launch with stenciling of storm drains and door-to-door campaign with BWS and project material.
II. Initial survey of participating households on present practices relative to NPS items and use of BMPs to reduce storm water runoff/increase permeable surfaces. Students will follow-up with household-specific recommendations. They will re-survey 6-8 weeks later to determine amount of change.
III. "Kuleana Project Guide" that evaluates project including data analysis, what worked and what didn't, as well as recommendations on how to best replicate.

FISCAL SUMMARY:

BWS Funds Granted	$ 76,850
Non-BWS Funds in-kind	$ 103,000
Total Project Costs	$ 179,850

VALUES

Kuleana Project embraces the Hawaiian geographic and resource management philosophy encompassed in the concept of ahupua‘a. The ahupua‘a system acknowledges and respects the symbiotic and synergistic relationship between the tenants and their respective duties/responsibilities in the ahupua‘a as stewards of the ‘aina. (Incidentally, the concept of ‘aina is not a western one of land only, but of all living and non-living things that are on the surface land, beneath, above, and into the surrounding sea.) Unfortunately, modern urban society has largely lost this sense of individual and community responsibility in caring for the ‘aina and the waters that flow from the mountains to the sea. The ahupua‘a management system explicitly recognizes that activities that take place in the upper reaches of the ahupua‘a impacts regions below. It are these practices that Kuleana Project intends to modify on a grassroots person-to-person level.

Kuleana – is passed on generation-to-generation . . .
At the individual level it represents skills/gifts/talents that others don't have.
In an ahupua'a, at the community level, it is essential to have a good balance and mix of kuleana.
Each of us have a kuleana . . . every morning we wake up and make choices.
As individuals, and collectively, we take responsibility and make personal choices through our activities.

These values, and that of kōkua, or assisting, are core to Mālama o Mānoa – a grassroots community organization founded 11 years ago. Today, our membership numbers 3,700, most of whom live in Mānoa Valley. We are a volunteer-driven organization with no paid staff or office. Part of our mission is “*to preserve, protect, and enhance the special qualities of historic Mānoa Valley.*” In pursuit of our mission, we have established a partnership with the Honolulu Board of Water Supply (BWS) to launch Kuleana Project. Integral support will be received from the Curriculum Research & Development Group at the University of Hawai‘i, the Hawai‘i Nature Center, and the schools in the Mānoa subwatershed.

Mālama o Mānoa has long been concerned about the environment and pollution/waste of precious water resources. An early participant in the City & County’s “Adopt a Stream Program,” Mālama o Mānoa volunteers have cleaned their assigned section of the Mānoa Stream four times a year since 1998. We built a 2-mile long Mānoa Stream recreational pathway along the part of the stream between Woodlawn Avenue and Dole Street. In addition, Mālama o Mānoa has awarded grants from its Educational Endowment fund to assist Mānoa Elementary School with the creation of a taro lo‘i and native plant garden, supported St. Francis School with plantings along the stream embankment in back of the school grounds, and helped fund Punahou School’s “Save the Earth” native plants project. The organization also sponsored “Mālama ‘Aina Day” several years ago which featured educational workshops, tree planting, and the sale of native plants to which the entire Mānoa Valley community was invited. Our most recent successful effort was the campaign opposing the installation of 138kv power lines by the local electric company atop the eastern ridge of the Valley on nineteen 100-130 ft. poles. This effort was motivated by the desire of the community to stop further desecration of the natural environment, including problems of erosion, loss of native vegetation on the watershed’s slopes, cultural insensitivity, and visual blight.

Pollution and watershed protection are typically seen as the kuleana of government. Indeed, when there are problems with a resource one takes for granted like water, people generally blame government agencies for not protecting the environment and/or providing an adequate supply. We complain to neighbors and our elected officials while pointing fingers at the “bad guys.” Rarely does one consider his/her own contribution to the problem. Kuleana Project is placing ownership with individuals as part of their responsibility to the community; in the process we are actually changing a mindset. *Our premise is that most of us are responsible and do want to keep our home beautiful and our water healthy but we just don’t realize the impacts or know how to act responsibly*. We believe that people usually only change when outside forces (often negative such as illness, financial situation, etc.) impact them or they are exposed firsthand to the benefits of say, water conservation, do practices change. Once educated, only through institutionalizing (i.e. establishing as permanent in the life of a community) positive individual habits do long-lasting improvements occur.

Kuleana Project deliberately focuses on residential households instead of commercial properties in order to leverage the grassroots strength of Mālama o Mānoa and to provide an opportunity to create community pride while educating children who are the future stewards of the ahupua‘a. Such an approach allows maximum outreach to strengthen our community. This grassroots approach also recognizes that long-range progress is not possible as long as one does not take personal responsibility for what happens to ourselves. Ultimately, we believe this value of kuleana will spread into other areas of individual practices relating to protecting our environment, conservation and respect for our air, land and waters.

WATER QUALITY AND QUANTITY ISSUES

The intent of Kuleana Project is two-fold: 1) to promote water conservation and 2) to reduce the deleterious impact of NPS pollution on water quality in the Mānoa subwatershed. This will be accomplished by emphasizing individual and community responsibility/ownership ("kuleana") in caring for our precious surface and ground water resources.

The topography of O‘ahu, augmented by a healthy, balanced natural ecosystem, catches, collects and stores water. Conserving water – the "demand" side – is one means of ensuring there will be enough water for future use. Kuleana Project will attempt to prove or disprove our theory that people do want to change – to conserve water and pollute less – they simply need to be educated how. We believe this is most effectively accomplished on a one-on-one basis utilizing students to teach adults.

Kuleana Project is focusing on educating and changing practices that would decrease the addition of nutrients such as nitrate and phosphate (fertilizers and detergents), bacteria and nitrogen (pet excrement), solids (gross and vegetative litter) and undesirable pesticide/herbicide use throughout the urbanized area. We also will promote water conservation means such as low flow toilets and other methods to reduce use. Rain barrels and car washing BMPs reduce not only water use, but also reduce the volume of water containing emulsifiers traveling on city streets that pick up pollutants ultimately deposited within storm drains. In order to reduce the amount of urban run-off as well as increase percolation for aquifer replenishment we will emphasize the importance of permeable surfaces and BMPs such as green cover for existing surfaces. The ideal ratio in a watershed is 90% permeable to 10% nonpermeable surfaces. However, the Ala Wai watershed is already estimated to have a 50-50 ratio with anticipation of ever-greater nonpermeable cover in the future due to increasing development. Lastly, we propose installing five (5) storm drain filters in order to demonstrate to student participants what NPS pollutants flow into streams. Since interested schools will "adopt" these curb drain inlets that will last multiple years, there is perpetuation of the project and the lessons learned therein. Although such filters do little to change practices, the filters will act as an educational tool because participants will observe firsthand that littering (manmade items as well as leaf-litter and other vegetative debris) is a significant source of NPS pollution in the subwatershed.

PROJECT GOALS

Baseline surveys will be conducted with results entered by students on large maps delineating property parcels on a household-by-household basis. Since activity change on the individual level is the objective, student surveyors (it is hoped that each of the participating schools will recruit 100 households for a project goal of 1,000) will return to each household after the initial assessment to present a customized report on the household's current practices and its impact on the Ala Wai watershed water quality. These reports will have specific recommendations for each household on how they can personally contribute to conserving water as well as improving Ala Wai watershed water quality. Optional educational field trips will be conducted by each group of student surveyors to which project participants will be invited. Final re-surveying will be conducted with results compared internally on the parcel maps to provide graphical and measurable outputs for Kuleana Project. It is important to note that beyond teaching the next generation the importance of kuleana and stewardship of natural resources, the students will likely influence their own households wherever on O‘ahu they reside.

Generally, changing the way people act on a community-basis is government initiated using broad communication methods (i.e. mass media) and regulation (i.e. mandated conservation). Kuleana Project is different in that students will drive the process with specific recommendations. They will choose from a number of suggested options and/or develop their own methods of motivating participating households to change existing practices.

SCOPE OF WORK

Phase I – laying the groundwork (May – August 2003)

- Formation of Steering Committee, School Liaison/Facilitation group (15 volunteers, 1 per school and 5 substitutes/assistants), and Advisory Group of experts (10 recruited from educational and governmental agencies to work as an adjunct to the Steering Committee). **COMPLETE**
- Recruit schools to participate. The following are committed: Hokulani, Manoa and Noelani elementary schools; Education Laboratory UH; Maryknoll Grade School; Maryknoll and Roosevelt high schools; Iolani, Punahou and St. Francis schools; Stevenson Middle School; and Mid-Pacific Institute. **EXCEEDED GOAL OF 10 SCHOOLS**
- Kuleana Project Kit materials developed to include pre-tested surveys, background information regarding pollutants, written resource materials, a list of persons and agencies that facilitators could contact for more information/are knowledgeable in pertinent fields. Curriculum website links will be posted on the Mālama o Mānoa website, as well as, if desired, the BWS site. **UNDERWAY**
- A kickoff informational meeting on August 25 will be held for teachers and Mālama o Mānoa volunteers to review Kuleana Project objectives, curriculum including water conservation information, how NPS pollutants degrade our watershed and how to conduct effective surveys along with a motivating video about the project. **UNDERWAY**
- One Mālama o Mānoa volunteer liaison/coordinator (Kuleana Gofer) will be assigned to assist each school in preparation of project reporting, accounting for funds, contacting speakers, providing information for students, procuring materials required for class activities, etc. Each participating teacher will receive a $150 honorarium – $75 at kickoff and $75 at completion.

Phase II – Fielding (August – November 2003)

- On August 30 storm drains in the Mānoa subwatershed area will be painted with "no dumping, leads to ocean" message while all 5,000 households will receive a hand delivered package of information including BWS and project material. **UNDERWAY**
- Student knowledge test using BWS curriculum can be used to determine level of students' general knowledge about NPS pollutants before curriculum rollout.
- Each school through the number of classes that participate will recruit 100 households in the Mānoa subwatershed. (For ease of data collection, only single-family dwellings and not multi-unit apartments are targeted.) We believe students will have a much greater success rate than adults and certainly government/agency personnel in approaching residents and gaining acceptance. A recruitment video tool will also be available and letters from the BWS and Malama o Manoa will be sent in late August. Students will be taught to get in touch with households through people they know. For example, they could ask other students in their school for recommended households to contact, rather than cold-calling homes. Students will write a letter to each targeted household citing the name of who suggested the contact, explaining the interview assignment and general scope of the project. Then the students will follow-up with a call asking if they could meet at a public place or come visit at a convenient time. If their request is turned down, they note why the household was unwilling or unable to participate. They would categorize the responses (i.e. "too busy," "none of your business," etc.). Classes can choose to count the nonparticipating household as part of their school's 100 or, preferably, seek another household that will participate until they reach their quota. If they receive a large number of negative responses, the survey will show that many people are not taking personal kuleana and that will be a valuable finding.

- Five (5) storm drain filters will be installed near schools that wish to do so in order to allow students to visually observe what currently flows into streams. Monitoring the filters on a regular basis and after large storms will raise the consciousness of NPS pollutants among project participants.
- Students will administer an initial survey and interview residents in September.
- The participating households will be given feedback in the form of a customized report by the student interviewer, based on their practices regarding the targeted activities. This is the educational visit.
- Optional educational follow-up opportunities including field trips planned to the Hawai‘i Nature Center and BWS sites will be offered in September and October.
- A follow-up survey will be taken 6-8 weeks, sometime in December, after householders were provided with information on how their activities are contributing to the pollution of the Ala Wai watershed, practices they could change to pollute it less, and ways to conserve water.
- Midproject Celebration with progress reports and more information for teachers and volunteers will be held in October, approximately 6 weeks after project start.
- Student knowledge test after completion of curriculum is taken so effectiveness can be measured.

Phase III – Reporting and Extending the Effort (December 2003 – February 2004)

- Throughout this phase local newspaper, radio and television will be contacted and op-ed pieces submitted in order to draw more attention to the project and its outcomes.
- Kuleana Finale Dinner Meeting – completion of projects from 10 schools/recognition will be held in December 2003.
- Should budgets allow the school that was successful in getting the most households to change their practices will be featured in a public television presentation with each of the students receiving their own DVD copy of the show.
- Tentative plans call for a Kuleana Project Water Festival for all participating schools to share their projects and present their work based on the theme of promoting concepts of kuleana and kōkua in our community. Teachers will be polled at Midproject to see whether they would like to do this.
- Students will have the opportunity to present their projects to policymakers from the legislature, city council and government agencies, as well as take part in the Year of the Hawaiian Forest celebrations before it concludes in 2003 and Year of the Hawaiian Reef in 2004.
- A “Kuleana Project Guide” guide in a 3-ring binder that contains materials used, results achieved, lessons learned (e.g. reasons why some residents are receptive and some are not, most effective approaches, etc), and a basis for others to emulate Kuleana Project methods in other subwatershed districts as an effective community-tested model will be produced and distributed in February 2004. Included in the material will be a DVD copy of the television show. In this manner the project’s life and reach will be extended.

SUMMARY

As a community-based non-profit Mālama o Mānoa working with the Honolulu Board of Water Supply will contribute to making a difference in water conservation and water quality in the watershed. Kuleana Project is built on Hawaiian values, and stresses education of not just residents, but also the next generation. It will be highly visible in nature and take the concept of stewardship of our island resources to a broad audience in a grassroots format that is repeatable elsewhere. It will serve as an excellent model to study as well as provide schools with a “real life” learning experience for students.

Sample BUDGET DETAIL

Item	Unit Cost	Number	Total
Mālama Volunteer Coordinator/Facilitator (one assigned to each school plus 5 substitutes) reimbursement of project expenses	$200	15	$3,000
Teacher Honoraria	$150	30	$4,500
Kuleana Project Kits (one per school)	$100	10	$1,000
Teacher Incentive: Local water conferences/seminar scholarships	$200	20	$4,000
Working Fund for each Participating School – purchase of video tape, inexpensive cameras, water study materials	$1,000	10	$10,000
Kickoff; Mid Project; Final Recap Informational meetings for participating teachers, Kuleana Project volunteer coordinators, steering committee, and advisory group (approx 60 people)	$1,200	3	$3,600
Educational "Recap" guide/handbook in 3-ring binder and DVD – create, publish (includes editorial and layout work) for AWWA to distribute to Ala Wai Watershed Area Neighborhood Boards and Schools	$75	50	$3,750
Mālama o Mānoa Steering Committee Working fund – covering data collection, communication to households, meeting room rentals, equipment rentals, meeting refreshments, postage, reproduction, clerical assistance, correspondence, gas/parking expenses, prizes/awards, maps, speaker honoraria, lei, mahalo gifts, local conference/workshop fees for volunteers to attend, media/community outreach (unit is per month)	$2,000	7	$14,000
Student Incentive: Movie tickets or other similar item for student	$75	10	$750
Household Incentive: Dry car wash kits or similar gift for participating households	$5	1,000	$5,000
Household Incentive: Free dry car wash for each participating household – community groups will provide labor for car washes at no charge; these funds pay for equipment, materials, refreshments	$1,000	1	$1,000
TV program production expense of Best School and Best Households	$10,000	1	$10,000
Extra DVD copies of TV Program for students at best school, Steering Committee, facilitators, etc.	$5	150	$750
Storm drain filters	$3,000	5	$15,000
Additional liability Insurance	$500	1	$500
TOTAL AWWA Funded (43%)			**$76,850**

Household Incentive: free native plant from "Save our Earth" project	$5 inkind	1,000	$5,000
Curriculum from The Globalization Research Center at the UH funded by the Hawai'i Community Center Foundation	$15,000	1	$15,000
Steering Committee volunteer labor (per hour in kind value) est. 15 hours/month/person for 8 months	$25	1,800	$45,000
School Coordinator/Facilitator Group volunteer labor (per hour in kind value) est. 20 hours/month/person for 5 months	$25	1,500	$37,500
Event Liability Insurance (existing Mālama o Mānoa policy)	$500	1	$500
TOTAL Non-AWWA Funded (57%)			**$103,000**

STEERING COMMITTEE

Role: overseeing all aspects of the project including informational meetings; school kits; surveys; contracts; resource and speaker lists; end-project guide; publicity; and fiscal compliance.

Helen Nakano (Project Coord.)	Resident, businesswoman, Mālama o Mānoa Advisor
Daniel Dinell (Asst. Project Coord.)	Resident, private sector strategic planner
Bertha Ueoka (Treasurer)	Resident, businesswoman
Naomi Ohta (Chair, School Coordinator/Facilitator Group)	Resident, retired human resources specialist, Mālama o Mānoa Director
Lisa Joy Andres	Resident, teacher, literacy coach, America's Choice School Reform Program
Dr. Erin Baumgartner	Univ. of Hawai‘i, Assistant Professor of Education
Jim Harwood	Resident, retired administrator, Mānoa Neighborhood Board
Kozen Kaneshiro	Resident, community volunteer, Mālama o Mānoa Advisor
Dr. Rebecca Knuth	Univ. of Hawai‘i, Assistant Professor of Library Sciences
Beverly Major	Interior designer, Mālama o Mānoa Director
Beth McDermott	Resident, environmental communication consultant
Trisha Nakamura	Resident, student, Univ. of Hawai‘i, School of Law
Doug Ross	Resident, video/television producer
Scott Wilson	Resident, architect, Mālama o Mānoa Director

SCHOOL COORDINATOR/FACILITATOR GROUP

Role: Assigned to schools and to specific classes to assist teachers in order to move the project forward such as take minutes of any class meetings, shopping for supplies, keeping track of expenditures, and helping with all facets of project details. The “Kuleana Gofer” would report the progress of their respective schools to the Steering Committee for consolidation into regular reports to the BWS.

ADVISORY GROUP

Role: Serve as a professional sounding board for the Steering Committee and assist in guiding the project.

Dr. Ralph Berger	Resident, Univ. of Hawai‘i, Professor Emeritus, Microbiology
Dr. Paul “Doc” Berry	Author, professor emeritus
Beryl Leolani Bailey Blaich	Coordinator, Mālama Maha‘ulepu (Kaua‘i-based preservation non profit)
Mary M. Cooke	Resident, community activist, Founder Mālama o Mānoa
Dr. Eric de Carlo	Resident, Univ. of Hawai‘i, Professor, Dept. of Oceanography
Dr. Carl I. Evensen	Univ. of Hawai‘i, Professor, Dept. of Natural Resources & Environmental Mgmt.
Dr. Claudia Hamblin-Katnik	Aquatic toxicologist, Hawaii Conservation Alliance
Tom Heinrich	Resident, Attorney, Ala Wai Watershed Association, Malama O Manoa Adviser
Dr. Ken Kaneshiro	Univ. of Hawai‘i, Director, Center for Conservation Research & Training
Richard Morris	Businessman/Supporter/Malama o Manoa member
Chuck Pearson	Resident, Project Planner, Mālama o Mānoa Director

STUDENT ADVISORY GROUP

Role: Give feedback to the Steering Committee and assist in guiding the project.

Elizabeth Seaton	Student, Punahou School
Eric Cunningham	Student, Iolani School
Franklyn Lau	Student, Iolani School
Kelly Nakamura	Student, Iolani School
Stephen McCall	Student, Iolani School
Melanie Bomke	Student, Iolani School

LINDA LINGLE
GOVERNOR

PATRICIA HAMAMOTO
SUPERINTENDENT

STATE OF HAWAI'I
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAII 96804

OFFICE OF THE SUPERINTENDENT

July 10, 2003

To: Principals of Hokulani, Manoa, Noelani, Stevenson Middle, and Roosevelt High Schools

From: Patricia Hamamoto
Superintendent

Subject: KULEANA PROJECT

Representative Kirk Caldwell and Helen Nakano, a volunteer with the community organization Malama o Manoa, recently visited and asked me to give support to their educational outreach efforts to promote water conservation, and encourage activities to lessen nonpoint source pollution in the Manoa subwatershed.

The Kuleana Project, as it is conceived, gives our students a unique opportunity for authentic learning, as well as a chance to give back to the community. Instead of theory, our students would be able to get involved in a real grassroots initiative. This Project could be incorporated in your social studies, speech, science, Hawaiiana and math programs, and at many different graade levels.

While Malama o Manoa organizers are asking the students to conduct the surveys and help conduct educational programs for the Manoa householders, their volunteers are willing to provide our teachers with clerical assistance and will be doing public relations and mass information dissemination about the Kuleana Project. Financial assistance will also be provided by a grant from the Honolulu Board of Water Supply.

I encourage you to participate in whatever way you think possible, and the possibilities are endless.

PH/ga
c: The Honorable Kirk Caldwell, House of Representatives
Ms. Helen Nakano ✓
Ms. Raelene Chock, McKinley-Roosevelt Complex CAS
Mr. Peter Uehara, Kaimuki-Kalani Complex CAS
OCISS

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

August 25, 2003

RESIDENT

Dear Valued Customer:

The Honolulu Board of Water Supply (BWS) has established a partnership with the community organization Malama o Manoa to conduct an educational outreach program specifically for the Manoa subwatershed, one of seven in the Ala Wai Watershed.

The goals of the BWS/Malama o Manoa's Kuleana Project are to preserve and protect the existing watershed and to conserve our greatest resource, water.

We have enlisted hundreds of our area children and their teachers to help in this pilot program. They come from Hokulani Elementary, Iolani, Maryknoll, Mid-Pacific Institute, Noelani Elementary, Punahou, Roosevelt High, St. Francis, Stevenson Intermediate, and the Education Laboratory at the University of Hawaii, Manoa. In September, these students will be surveying 1,000 households living in single-unit residences within Manoa Valley about their water conservation and preservation practices. Residents will be offered opportunities to learn about ways they can prevent pollution of the Manoa Stream and conserve the water in our aquifer for Manoa's children. You are invited to participate in this very important project. If successful, we hope to develop more such educational outreach programs using similar partnerships with other communities.

The Kuleana Project kickoff event will occur on Saturday, August 30. The Boy Scouts, the Sierra Student Coalition, and dozens of adults and students will be distributing informational materials about ways to keep our watersheds healthy. If weather permits, they will also be stenciling reminders on over 5,000 storm drains throughout Manoa Valley. Please applaud the efforts of these volunteers.

If you have further questions regarding the Kuleana Project, you may log on to Malama o Manoa's website www.malamaomanoa.org or call the Kuleana Project Coordinator Helen Nakano at 988-5671. If you have any questions on BWS watershed programs, please call Barry Usagawa, Principal Executive, at 748-5900.

Very truly yours,

CLIFFORD S. JAMILE
Manager and Chief Engineer

Pure Water ... our greatest need – use it wisely

Mālama o Mānoa
P.O. Box 61961 • Honolulu, Hawaii 96839

August 25, 2003

Dear Kuleana Teachers:

Malama o Manoa acknowledges with gratitude your contribution to the Kuleana Project, a partnership of a public utility, a community organization and 12 area schools. Hundreds of students and teachers, Malama volunteers and other environmentally conscious members of our larger community in Hawaii will be working together to bring about positive change in our Ala Wai Watershed through grassroots education during these next four months.

We are engaged in a great experiment. While other attempts at persuasion have failed, will it finally be our children, inheritors of this *'aina*, who will provide the solution? Will they be able to convince 1,000 householders of a single community to experience a change of heart, then a change in attitude, and finally, a change in their long-standing habits? Will the students of Hokulani, Iolani, Manoa, Mid-Pacific, both Maryknoll Grade and High, Noelani, Punahou, Roosevelt, Saint Francis, Stevenson, and The Education Lab UH, be able to persuade the people who live in Manoa Valley to dump less pollutants in storm drains and to waste less water?

As far as we know, the Kuleana Project is the first attempt at grassroots education of this magnitude in the islands. Our children will become our teachers; us adults, the students. The challenge is ours to try.

Malama o Manoa was founded 11 years ago by a group of 27 residents who wanted to "preserve, protect, and enhance the special qualities of historic Manoa Valley." Since that time, Malama o Manoa has engaged in numerous civic, environmental and historic preservation activities. Thank you for joining us in our latest effort to keep Manoa green and beautiful for future generations to enjoy.

Warmest Aloha,

Jeremy Lam, M.D., President

KULEANA PROJECT SURVEY GUIDE
FOR STUDENTS

General Instructions:

- Participants must live in the Manoa Subwatershed Area (Manoa Valley, Makai of Koʻolau crest, Mauka of H1 Freeway, Between both ridges, East of Punahou St., West of Kanewai St.)
- No multi-story high-rise dwellers (e.g. UH dorms, apartments/condos), townhouses such as faculty housing OK. Renters or Owners are fine. Please refer to the Manoa Subwatershed map.
- There are two surveys – the Initial survey to be conducted in September 2003 (white copy) and the Follow-Up survey (blue copy) to be conducted in November/December 2003. An Education Visit, at the participating householder's option, will take place as soon after the Initial survey as possible.
- Depending on instructions from your teacher, you may choose to visit homes accompanied by an adult or another student. No student is to visit a home by his/herself.

Initial Survey (white color)

- You will be sending letters to friends, relatives and other households who live in the Manoa Subwatershed Area. The letter will provide people with background about the Kuleana Project and introduce you to the potential participant.
- You will then call to set up an appointment to conduct a 15 to 20 minute in-person interview. Use the white Initial Appointment Sheets given to you to keep track of the participant's name/address and the date/time of the interview.
- Once you have completed the white Initial Appointment Sheet, bring to school and you will be given everything you need to conduct the interview(s).
- Prior to conducting your interview(s), practice reading the survey using the yellow Practice Survey so you are comfortable with it. You will see words contained in [BRACKETS] and CAPITALIZED. These are instructions to you and should not be read aloud. These will give you more information about how to ask the questions and help you know what to do.
- On the day of the interview, ensure that you show up on-time.
- You will take with you:
    - A copy of the white Initial survey (with white Initial Appointment Sheet attached)
    - A pen or pencil to complete the survey.
    - A clipboard or something to write on.
    - The Initial Survey Thank You Gift (Peggy Chun print)
- Begin the survey by reading the introduction – speak clearly.
- The survey should not just be handed to the participant to fill out. You need to ask the questions and record the answers. If you need assistance, ask your adult/student helper or the participant to review the questions with you.
- You should remain objective/neutral during the survey – there are no "incorrect" answers as you are simply asking people about their practices.
- At the end of the survey, thank the participant and give them the white Initial Appointment Sheet and Thank You gift.

Education Visit

- For those householders who choose to, you will arrange a time to visit them again with the HAPPI Home material. Your teacher or school liaison will help you review the survey and highlight the sections of the educational material you believe would be most helpful to the householder. After the review of the survey is complete, turn these in to your school liaison or your teacher. The survey is not given back to the participant.
- When you present the material to the participant, thank them again and give them the Education Visit Thank You gift (plant with instructions on how to care for).

Follow-Up Survey (blue color)

- Prior to the Follow-Up Survey period, you will receive the blue Follow-Up Appointment Sheet (containing participant contact information) attached to the blue Follow-Up Survey.
- Contact the householder and set up an appointment to conduct the Follow Up interview.
- On the day of the interview, ensure that you show up on-time.
- You will take with you:
    - A copy of the blue Follow-Up survey (with blue Follow-Up Appointment Sheet attached)
    - A pen or pencil to complete the survey.
    - A clipboard or something to write on.
    - The Follow-Up Survey Thank You Gift ("Manoa" bumper sticker & letter from Malama o Manoa President Jeremy Lam)
- Begin the survey by reading the introduction – speak clearly.
- Again, the survey should not just be handed to the participant to fill out. You need to ask the questions and record the answers. If you need assistance, ask your adult/student helper or the participant to review the questions with you. Also remember to remain objective/neutral during the survey – there are no "incorrect" answers as you are simply asking people about their practices.
- At the end of the survey, thank the participant and give them the blue Follow-Up Appointment Sheet and Thank You gift.

KULEANA PROJECT SURVEY GUIDE
FOR SCHOOL LIAISONS AND TEACHERS

GENERAL INSTRUCTIONS:

- Participants must live in the Manoa Subwatershed Area (Manoa Valley, Makai of Ko‘olau crest, Mauka of H1 Freeway, Between both ridges, East of Punahou St., West of Kanewai St.)
- No multi-story high-rise dwellers (e.g. UH dorms, apartments/condos), townhouses such as faculty housing OK. Renters or Owners are fine. Please refer to the Manoa Subwatershed map.
- There are two surveys – the Initial survey to be conducted in September 2003 (white copy) and the Follow-Up survey (blue copy) to be conducted in November/December 2003. An Education Visit, at the participating householder’s option, will take place as soon after the Initial survey as possible.

FOR SCHOOL LIASONS:

Letter of Introduction

- Provide sample letter for students to send to potential participants.

Initial Appointment Sheet

- Provide teachers/students with copies of the Initial Appointment Sheet (white copy). Students will contact the households, set up appointments and fill out the Initial Appointment Sheet.
- Each appointment sheet should contain the student’s name/school, the participant’s name/address/phone, time and date of appointment and if applicable, the name of the person who provided (referred) the name of the participant.

Survey Packet Preparation:

- For your school, you will receive 100 white (Initial) and 100 blue (Follow-Up) surveys. You will also receive 100+ copies each of the white Initial Appointment Sheet and the blue Follow-Up Appointment Sheet.
- In the “For Office Use Only” box at the top of all 200 surveys, check the name of the school and number the white surveys from 001 to 100 on the “HHID” line. Number the blue surveys from 001 to 100.
- Match up the corresponding white and blue surveys (i.e., white HHID001 and blue HHID001)
- Students will bring their completed white Initial Appointment Sheets to school. You (or the teacher) will help the student copy the information onto a blue Follow-Up Appointment Sheet and staple these Appointment Sheets to corresponding white and blue surveys (HHID 001/white, HHID 001/blue). **It is extremely important that the Initial and Follow-Up surveys be matched by HHID number.** This is a good time to confirm: 1) the household is in the Manoa Subwatershed Area and 2) who will be accompanying the student on the interview.

- Give students their copies of the white Initial survey with white Initial Appointment Sheet attached. You will retain the blue Follow-Up survey with blue Follow-Up Appointment Sheet attached. Make sure that the blue Follow-Up Appointment Sheet is completely filled-out – this information is needed in order to recontact the household for the Follow-Up interview).
- If you need additional copies of the survey, contact Naomi Ohta. **When preparing additional surveys for use, remember to start your HHID numbering at 101 and mark the school on both the Initial and Follow-Up surveys.**

After Initial Survey Interviews are Conducted:

- Upon completion of the interview, the student will bring the survey back to school. You (or the teacher) will review the surveys and separate out those who opt-in for an Education Visit. Surveys from those who choose to remain anonymous can be collected and turned in to Naomi Ohta for data entry.

Education Visit:

- For the Education Visit, provide assistance to the teacher (if necessary) in getting additional copies of the HAPPI and other educational materials. Make sure each student has a Thank You gift (plant with instructions on how to care for) to give to the householder along with the material.
- After Education Visit recommendations are developed and presented, submit all completed surveys to Naomi Ohta for data entry.

Follow-Up Survey:

- When the students are ready to resurvey, give each student the blue survey with the blue appointment sheet already attached. Make sure each student has a Thank You gift ("Manoa" bumper sticker & letter from Malama o Manoa President Jeremy Lam). Each student is to make contact with the householder and set-up a mutually agreeable time. Remember, no student is to visit a home by his or herself.
- Upon completion of the Follow-Up survey, the student will bring the survey back to school. All surveys should be turned in to Naomi Ohta for data entry.

Additional Information

- You (or the teacher) will need to keep track of all copies of the surveys – both Initial (white) and Follow-Up (blue) so you are able to determine if each student has completed and turned in the all the materials that have been provided. This can be a simple log with the student's name and the HHID numbers on the surveys given to them. This will also help in keeping track of the thank you gifts.
- In the event that an Initial or Follow-Up Survey is lost or unusable, contact Naomi Ohta. If, for some reason, the interview is not completed (cancelled appointment, not rescheduled/householder decides not to participate), collect all materials relating to the interview from the student, including the survey(s) and gift(s) and return to Naomi Ohta.

FOR TEACHERS:

- Refer to School Liaison section – mutually agree on roles and responsibilities.
- Refer to Teacher Kit for curriculum and other information.

KULEANA PROJECT HOUSEHOLD INITIAL SURVEY

FOR OFFICE USE ONLY

❑ Hokulani	❑ Iolani
❑ Noelani	❑ Punahou
❑ Education Lab	❑ St. Francis
❑ Maryknoll Gr.	❑ Stevenson
❑ Maryknoll Hi.	❑ Mid-Pacific
❑ Manoa	

Hello, my name is _____ and I am a ___-grader at _____ School. Thank you for taking the time to help me with this school assignment. It is called the Kuleana Project, an environmental protection program sponsored by Malama o Manoa and the Honolulu Board of Water Supply.

After we complete today's survey, I will go back to school, where I will review the answers, and then, if you would like, l will deliver to you a report that will contain information on ways your household can help the environment.

The questions I ask will be tallied and overall scores grouped by household. Your individual answers will not be made public. Approximately 6 to 8 weeks from now, we will do a follow-up survey.

If you have any questions about the survey or Kuleana Project which I haven't answered, you may get more information from the Malama o Manoa website [www.malamaomanoa.org] or you may contact the project coordinator. [HELEN NAKANO at nakano@aloha.net or 988-5671]

The survey will take about 10 to 15 minutes. If you are unsure about an answer, for instance, if someone else takes care of your yard, please select the answer that you think best describes what they do. If you're uncomfortable answering any particular question just let me know and we'll move on. Also, please let me know if you need me to speak more slowly, loudly, or repeat a question. Let's begin.

1. First, thinking about Oahu's water supply, which of the following statements do you agree with: [READ CHOICES, CHECK ONE ANSWER]
   a) ❑ Oahu has more than enough water to meet the islands' needs indefinitely.
   b) ❑ Oahu will start facing water shortages in 20 years.
   c) ❑ Oahu will start facing water shortages in 5 years.
   d) ❑ Oahu is currently facing a water shortage.

2. Have you seen or heard of Honolulu Board of Water Supply activities or programs in the following areas: [READ a–d, CHECK YES OR NO FOR EACH]

a)	Ways residents can conserve water	❑ Yes	❑ No
b)	Water recycling programs for large users like hotels, golf courses and schools	❑ Yes	❑ No
c)	Converting salt water to drinkable water	❑ Yes	❑ No
d)	Education programs in schools and communities	❑ Yes	❑ No

My next few questions are about your yard or garden.

3. Do you use fertilizer in your yard or garden?
   a) ❑ Yes
   b) ❑ No or Unsure [GO TO Q6]

4. Which of the following best describes the kinds of fertilizer you use? [READ CHOICES, CHECK ONE ANSWER]
   a) ❑ A fertilizer with three numbers on the package, (for example 10-30-10).
   b) ❑ An organic fertilizer like bone meal or chicken manure
   c) ❑ Or, both kinds.

5. Please tell me which of the following best describes how you, or the person that takes care of your yard, uses fertilizer. [READ CHOICES, CHECK ONE ANSWER]
   a) ❑ Fertilizer is used based on specific plant requirements and soil tests that have been done.
   b) ❑ Fertilizer is applied mostly when it looks like some plants aren't growing well.
   c) ❑ Fertilizer is applied on a regular schedule, for example monthly.

6. What do you do with your green waste, things like grass clippings, leaves, trimmings, and fruit? Do you…? [READ a–f, CHECK YES OR NO FOR EACH]

a)	Use a covered compost pile or composter.	❑ Yes	❑ No
b)	Have your green waste picked up regularly by the City's waste collection program.	❑ Yes	❑ No
c)	Leave your green waste on the ground as mulch.	❑ Yes	❑ No
d)	Put your green waste with your regular trash.	❑ Yes	❑ No
e)	Leave it in the storm drain, gutter, or stream near your home.	❑ Yes	❑ No
f)	You don't generate any green waste. (no plants, grass in my yard)	❑ Yes	❑ No

7. Do you use chemical pesticides or herbicides (i.e. bug spray, weed killer)?
   a) ❑ Yes
   b) ❑ No or Unsure [GO TO Q.14]

8. Which of these pesticides and herbicides do you use in your yard or garden? [SHOW SHEET, CHECK ALL THAT APPLY]

   Herbicides (A)__, (B)__, (C)__, (D)__, (E)__, (F)__, (G)__, (H)__, (I)__, (J)__,
   (K) Other (list what kind)_____

   Pesticides (A)__, (B)__, (C)__, (D)__, (E)__, (F)__, (G)__, (H)__, (I)__, (J)__,
   (K) Other (list what kind)_____

9. Please tell me which of the following describes the way you use pesticides or herbicides in your yard. [READ CHOICES, CHECK ONE ANSWER]
   a) ❑ They are carefully applied according to the directions on the label.
   b) ❑ They are sometimes applied according to the directions on the label.
   c) ❑ You generally use your own judgment.

10. How often do you use pesticides or herbicides in your yard. [READ CHOICES, CHECK ONE ANSWER]
   a) ❑ On a regular basis.
   b) ❑ Only when you see insects or weeds.
   c) ❑ Only in cases of extreme infestation.

11. Have you ever applied pesticides or herbicides when it is windy or raining?
   a) ❑ Yes
   b) ❑ No

12. How do you store your pesticides and herbicides? Do you store them in …? [READ a–d, CHECK YES OR NO FOR EACH]

a)	Leak proof containers	❑ Yes	❑ No
b)	A dry area of your home	❑ Yes	❑ No
c)	A well–ventilated area of your home	❑ Yes	❑ No
d)	A secure area of your home	❑ Yes	❑ No

13. Say you prepared some pesticides or herbicides for use, which of the following best describes what you do with leftovers after you are done? [READ CHOICES, CHECK ONE ANSWER]
    a) ❑ Pour it down the sink or in the toilet.
    b) ❑ Remaining product is applied in your yard.
    c) ❑ Pour it down the storm drain.
    d) ❑ Throw it away in the trash.
    e) ❑ Keep it in the container for next time.

    OK, the next section is about motorized vehicles.

14. Do you have a car, truck, motorcycle, moped, lawn mower, or any other type of gas powered vehicle?
    a) ❑ Yes
    b) ❑ No [GO TO Q.19]

15. What do you do when oil, coolant or brake fluid spills or leaks onto the ground or driveway? Do you…? [READ a–d, CHECK YES OR NO FOR EACH]

a)	Clean it up with rags, sawdust, paper, or sand	❑ Yes	❑ No
b)	Hose it down	❑ Yes	❑ No
c)	Let it evaporate	❑ Yes	❑ No
d)	I never have spills or leaks	❑ Yes	❑ No

16. Do you change coolant, oil, brake or other automotive fluids at your home?
    a) ❑ Yes
    b) ❑ No [GO TO Q.18]

17 If yes, what do you usually do with waste fluids? [READ CHOICES, CHECK ONE ANSWER]
    a) ❑ Take it all to a qualified dumping station
    b) ❑ Put it in an oil change box and place it in your household trash
    c) ❑ Put it in a container and place it in trash.
    d) ❑ Pour it down your sink or toilet.
    e) ❑ Leave it on the ground to soak up.
    f) ❑ Pour in the gutter or storm drain.

18. Which of the following best describes the way you usually wash your car: [READ CHOICES, CHECK ONE ANSWER]
    a) ❑ Take it to a commercial car wash.
    b) ❑ Wash it on the lawn or a gravel area away from streams.
    c) ❑ Wash it in the driveway or street using a running hose.
    d) ❑ Wash it in the driveway or street using a bucket and only run the hose when

needed.

e) ❑ Take it to school or community fundraisers and let the kids wash it.
f) ❑ Use a waterless car wash kit.
g) ❑ You don't wash your car

19. Now I want to ask about animals – do you have a pet that spends time outdoors, either in your yard or that you walk?
    a) ❑ Yes, what kind of animal? _____ [IF DOG, ASK Q20, OTHERWISE GOTO Q21]
    b) ❑ No [GO TO Q.21]

20. How often would you say you pick up the your dog's waste to dispose of it in the toilet or trash? [READ CHOICES, CHECK ONE ANSWER]
    a) ❑ Always
    b) ❑ Sometimes or Usually
    c) ❑ Not generally

21. Let's talk about recycling and trash . . . do you reuse old plastic bags for any purpose such as for household trash and carrying things?
    a) ❑ Yes
    b) ❑ No

22. Do you usually use a canvas bag, or reuse old plastic bags, when shopping for groceries or other purchased goods?
    a) ❑ Yes
    b) ❑ No

23. How often would you say you, or members of your household, get some kind of take-out food or beverage that comes in a plastic or styrofoam container or cup? [READ CHOICES, CHECK ONE ANSWER]
    a) ❑ Every day
    b) ❑ A few times a week
    c) ❑ Occasionally or a few times a month
    d) ❑ Rarely or Never

24. Do you generally recycle at least one of the following: newspapers, aluminum cans, glass or plastic? [IF YES, ASK "ALMOST ALWAYS?" OR "ON OCCASION?"]
    a) ❑ Yes, almost always
    b) ❑ Yes, on occasion
    c) ❑ No, rarely or never

25. Which of the following best describes how often you pick up litter at the beach or on the street? [READ CHOICES, CHECK ONE ANSWER]
    a) ❑ Whenever you are able to
    b) ❑ Sometimes
    c) ❑ Not generally

26. Now we want to ask about water runoff. Which of the following best describes your house and yard or garden? [READ CHOICES, CHECK ONE ANSWER]
    a) ❑ Mostly grass and planted areas
    b) ❑ About half the lot is plantings and half is buildings or pavement
    c) ❑ Mostly buildings and pavement.

27. At your house, is rain from your roof directed mainly on to… [READ CHOICES, CHECK ONE ANSWER]
    a) ❑ A lawn or garden
    b) ❑ Paved or other surfaces where water runs off into the street
    c) ❑ Both

28. Which of the following best describes the planted coverage of your yard: [READ CHOICES, CHECK ONE ANSWER]
    a) ❑ Yard is mostly covered with grass, bushes and other plants.
    b) ❑ There are some bare areas, particularly on slopes
    c) ❑ There are lots of exposed or bare areas

29. Lastly, I have a few questions about water conservation. Which of the following describes how you water your yard or garden? Do you…? [READ a-g, CHECK YES OR NO FOR EACH]:

a)	Never water [GO TO Q31]	❑ Yes	❑ No
b)	Hand water using a can, bucket, or hose	❑ Yes	❑ No
c)	Set the sprinkler, turn on water, then come back later to turn it off	❑ Yes	❑ No
d)	Set the sprinkler with a manual water timer on your hose	❑ Yes	❑ No
e)	Have an automatic sprinkler system on manual controls or times that you set	❑ Yes	❑ No
f)	Use low water-use devices such as soaker hoses or drip systems	❑ Yes	❑ No
g)	Have an automatic sprinkler system on a pre-set basis such as every other day	❑ Yes	❑ No

30. What time of day do you usually water?
    a) ❑ Morning, before 10 a.m.
    b) ❑ Between 10 a.m. and 6 p.m.
    c) ❑ Evening, after 6 p.m.

31. What kind of toilets do you have? [READ CHOICES, CHECK BOTH IF THEY HAVE BOTH]
    a) ❑ Low-flow (under 1.6 gallons/flush) [GOTO Q34]
    b) ❑ Standard, "old" style (over 3 gallons/flush)
    c) ❑ Don't know [GO TO Q34]

32. Do you use water bags or bricks in the toilet tank?
    a) ❑ Yes
    b) ❑ No

33. Would you be interested in receiving information on the $100 low flow toilet rebate program?
    a) ❑ Yes
    b) ❑ No

34. Are you interested in any of the following water conservation programs? [READ, CHECK IF INTERESTED]

a) ❑ Rain barrel catchments (a device that stores water from your roof for use later)
b) ❑ Point of use meters (a device on your shower or water hose that shows water usage)
c) ❑ Educational Field Trips, at no cost to you, to 'Ualaka'a or Board of Water Supply sites including the conversion of seawater to drinking water plant.

That's all the questions I have for you today. Thank you very much for your time. To complete my project, approximately 6 to 8 weeks from now, I will contact you to schedule a convenient time to do a follow-up survey.

Lastly, you have the choice of putting your name on this survey or staying anonymous. *If you sign the survey it will be more valuable for my classmates and me to learn from. Also I will send you a list of suggestions based on your specific answers as well as provide information on programs that you expressed interest in*. If you choose to remain anonymous, I will not be able to provide you with this additional information.

Question 6 - herbicides
Please check which of the following you use:

(A) Brush-B-Gon

(B) Grass-B-Gon

(C) Weed-B-Gon

(D) Roundup

(E) Other

Question 6 - pesticides

(A) Zap-A-Roach

(B) Advanced Lawn Multi-Insect Killer

(C) Green Light Diazinon

(D) Other

Question 8 – pesticides
Please check which of the following you use:

(A) Zap-A-Roach [bioinsecticide]

(B) Advanced Lawn [multi-insect killer]

(C) Green Light [diazinon]

(D) Green Light [dipel dust]

(E) Safer [insecticidial soap]

(F) Volick Oil Spray [insect killer]

(G) Ortho Bug-B-Gon [insect killer]

(H) Advanced Home [ant and termite killer]

(I) Servin [bug killer]

(J) Ortho-Systemic Insect Killer [controls insects and mites]

Question 8 - herbicides
Please check which of the following you use:

(A) Brush-B-Gon

(B) Grass-B-Gon

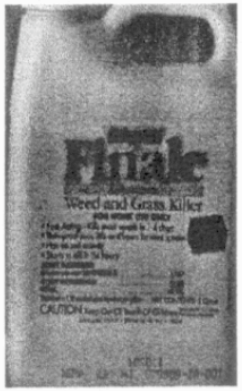
(C) Weed-B-Gon

(D) Roundup

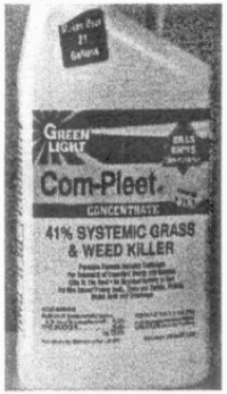
(E) Safer [garden fungicide]

(F) Ortho- GroundClear [vegetation killer]

(G) Best-Turf Supreme [weed and feed]



(H) Finale [weed and grass killer]



(I) Com-Pleet [weed killer]

(J) Advanced Lawn [weed killer]

----------[HAND SURVEY TO PARTICIPANT TO READ & SIGN]----------

□ I give my permission to the students of _____ School to be identified and to have my survey answers evaluated, and to receive educational materials. My answers will remain confidential and be used for the Kuleana Project only.

_____
Print Name

_____
Address Phone

_____ _____
Signature Date

Best time for follow-up Education Visit: _____

□ I prefer to have my identity and survey answers remain anonymous. My answers will remain confidential and used only for general statistical purposes.

[AFTER PARTICIPANT DECIDES, REMOVE APPOINTMENT SHEET AND GIVE TO PARTICIPANT ALONG WITH THANK YOU GIFT]

KULEANA PROJECT
Initial Survey Education Report

HHID Number _____

Name of Student_____ School_____

Name of Householder_____ Date of Visit_____

Thank you very much for allowing us to give you information on pollution and water conservation practices. We appreciate the opportunity you have given us.

Here are some recommended practices which we would like to suggest based on your answers on the Initial Survey.

Question #1: First, thinking about Oahu's water supply, which of the following statements do you agree with?

The correct choice: Oahu is currently facing a water shortage.

Question #5: Please tell me which of the following best describes how you, or the person that takes care of your yard, uses fertilizer?

The best practice is to use fertilizer based on specific plant requirements. See Happi-Homes 13, 14

Question #9: Please tell me which of the following describes the way you use pesticides/herbicides in your yard?

The best practice is to always apply according to the directions on the label. See Happi-Homes 13, 14

Question #10: How often do you use pesticides/ herbicides in your yard?

The best practice is only in cases of extreme infestation. See Happi-Homes 13, 14

Question #11: Have you ever applied pesticides/herbicides when it is windy or raining?

The best practice is to never apply these when there is a high likelihood of washing off or drifting on the wind to non-targets and contaminating the environment. See Happi-Homes 13,14

Question #12: Do you store your pesticides/herbicides in leak-proof containers, in a dry, well-ventilated secure area?

The best practice is to store in a dry place, in leak proof containers since many powders are sold in cardboard boxes. Ventilation helps to keep from breathing fumes when accessing the products. They need to be kept out of the reach of children and vandals. See Happi-Homes 3,4,5,6,13,14

Question #13: Say you prepared some pesticides/ herbicides for use, which of the following best describes what you do with leftovers after you are done?

The best practice is to apply the remaining product to your yard according to the label. Pouring it down the sink or in the toilet, is not a good practice, unless the label recommends this for disposal. However, it is must not be poured down a storm drain because it goes directly to the streams and canals.
See Happi-Homes 3,4,5,6,13,14

Question #15: What do you do when oil, coolant or brake fluid spills or leaks onto the ground/driveway?

The best practice is to clean it up with rags, sawdust, paper, or sand and then into the trash. Hosing it down is not recommended because toxic fluids may contaminate your plants or lawn or get flushed into the storm drain, where it pollutes streams and seashore. See Happi-Homes 15

Question #17: What do you do with waste fluids if you change coolant, oil, brake or other fluids at your home?

The best practice is to take it all to a qualified dumping station or put it in an oil change box and place it in your household trash. It is not recommended to pour it down a sink or toilet because this can impair the biological processes at the sewage treatment plant. Leaving it on the ground to soak up contributes to ground and water table pollution and may kill adjacent plant life. The worst practice is to pour it down the gutter or storm drain because it will feed into the stream and ocean. See Happi-Homes 15

Question #18: Which of the following best describes the way you usually wash your car?

The best practice is to take it to a commercial car wash because the water is recycled for the final rinse or wash it on the lawn or gravel area away from streams using a bucket to limit the water waste. By doing so, the water recharges the underground aquifer and irrigates the lawn. The worst practice is washing it in the driveway or street using a running hose, the dirty water and driveway dirt goes right into a storm drain. Also, there is lots of water wasted during the washing process. See Happi-Homes 15

Question #20: How often would you say you pick up your pet's waste to dispose of it in the toilet or trash?

The best practice is to always pick up your dog's waste as soon as possible. Animal excrement left on the ground can be a health hazard and generate flies. Rain can wash the excrement together with multiplying bacteria into streams and the ocean, where the bacteria may exceed permissible standards and cause streams and shorelines to be closed to recreation. See Happi-Homes 16

Question #24: Do you generally recycle at least one of the following: newspapers, aluminum cans, glass OR plastic?

Question #25: Which of the following best describes how often you pick up litter at the beach or on the street?

The best practice is to recycle as often as you can and to pick up litter whenever you are able to. See Happi-Homes 3

Question #26: Now we want to ask about water runoff. Which of the following best describes your house and yard / garden?

Question # 27: At your house, rain from your roof is directed mainly onto?

Concrete driveways and surfaces increases runoff, which increases peak flow in nearby streams leading to erosion, flooding, and greater pollutant transport. Since the runoff didn't go into the soil, there is a lack of ground water that renews stream flow during dry periods and maintains healthy stream life.
See Happi-Homes 12

Question #28: Which of the following best describes the planted coverage of your yard?

The best practice is planting grass and other vegetation to prevent soil erosion from bare areas in the yard and to filter contaminants out of runoff water and keep them out of streams. See Happi-Homes 12

Question #29: Lastly, I have a few questions about water conservation. Which of the following best describes how you water your yard or garden?

The best practice is to use low water-use devices such as soaker hoses, drip systems to conserve water and to reduce leaching or runoff losses. The use of an automatic sprinkler system on manual controls or sprinkler with manual water timer is also recommended so you don't forget to turn it off when water is not needed. See Happi-Homes 12

Question #30: What time of day do you usually water?

The board of water supply has instituted voluntary guidelines for residents to water before 10 a.m. and after 6 p.m. on certain days.

You will be offered two point-of-use meters to thank you for your participation. However, if you do not find them useful, please return them to the student. We hope you find the materials given to you helpful in adopting the recommended practices. We will be asking you to take a follow-up survey in December/January.

(A Sample) Household Evaluation Report

Thank you very much for allowing us to give you information regarding your present non-pollution and water conservation practices. We appreciate the opportunity you have given us.

Your overall non-pollution and conservation practices_____
_____

Here are some suggestions as to ways of better caring for our ‘aina and improving the water quality of Manoa Stream. The practices below are based on your answers on the Initial Household Survey.

Question # 6 Disposal of Green Waste – Putting your green waste with your regular trash is okay but an even better practice would be to make compost for your yard with a composter. (Attachment HAPPI-Home #3)

Question #12 Storage of your pesticides and herbicides – Some of these chemicals are not good for humans to inhale and need to be kept in leak-proof containers in a dry, well-ventilated secure area. (Attachment HAPPI-Home #3,4,5,6)

Question #18 Best ways to wash your car – Sorry, taking your car to a school fundraiser to have it washed by students is not a good idea. The dirty water goes right to a storm drain. Also, washing your car with a running hose uses the most water. The best option is to take it to a commercial car wash because the water is recycled, except for the final rinse. Another good option is to wash your car on the lawn or on a gravel area using a bucket. (Attachment HAPPI-Home #15)

Question 21, 22,23,24 all deal with recycling – The more we recycle, the less will find its way to our storm drains from improper disposal. Plastic sheets, bags, string and other trash are killers of marine life.

Question 25 – Picking up other people’s litter on our streets, Manoa Stream, our beaches.
Who’s going to do it?

We will be asking you to take a follow-up survey in late November or early December. We would appreciate your reading the materials we have given you and your consideration of suggestions we have provided.

Possible Ideas for creating more awareness

You are invited to attend our Water Pollution Program on _____ at _____
Our guest speaker is _____ and our class will be giving a presentation.
Start an Adopt a Storm Drain campaign or Clean Up Manoa Stream activity for Make a Difference Day or Earth Day.

Cooperative Extension Service
C/T/A/H/R
College of Tropical Agriculture & Human Resources
University of Hawaii at Manoa

Hawaii's Pollution Prevention Information
Dec. 2000
HAPPI-Home 3

Reducing Pollution Risks from Your Trash

One of the most visible forms of pollution in Hawaii is household waste. This worksheet will help you determine the pollution risks from your trash disposal practices and give you some ideas of how to manage your trash to reduce those risks. The topics covered are

- identifying what is in your trash
- reusing, recycling, and composting
- proper waste disposal.

What is household waste?

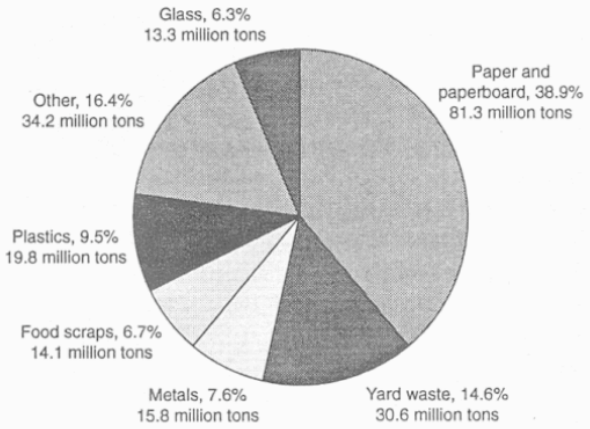
What do you call the stuff you want to get rid of? Trash? Garbage? Solid waste? Recyclables? Refuse? Junk? Here's how we define the terms:

- ***Trash*** and ***waste*** refer to items and materials that are being discarded.
- ***Reusables*** are items that are used again by a different user or for a different purpose, like a hand-me-down jacket or a jar used for a cup; they are not reprocessed into raw materials.
- ***Recyclables*** are materials including glass, metal, paper, even refrigerators that are collected, separated, processed back into raw materials, and made into new products.
- ***Compostables*** are primarily yard and food wastes that can decompose and return to the land as nutrients or organic matter.
- ***Garbage*** is generally food waste or wet food, either of animal or plant origin.

What is in your trash?

As Hawaii's population increases, the amount of waste produced each year also rises. In fact, material consumption has increased faster than the population. Studies estimate that in 1994 each person in the USA produced around 4.4 pounds of waste each day, a significant increase from the 2.7 pounds produced per person daily in 1960.

Most consumers do not realize what makes up solid waste. Many think that we throw away more plastics by weight than we really do, or that disposable diapers are a major source of trash—which they are not. The following graph shows what is in the solid waste thrown away in the USA each year.



Components of the U.S. national waste burden
(Source: Franklin & Assoc. Ltd. 1995)

The problem with waste

Much of Oahu's household waste is used for power generation by H-Power. However, the ash produced by the H-Power plant goes to landfills. On the other islands, most waste goes directly to landfills, and they are filling up. New regulations and land scarcity make it harder to find places for new landfills. Waste is a major environmental and economic problem for consumers and municipalities. Producing less waste and finding ways to deal with waste not only saves money but also helps protect air, soil, and water quality and the health of people and wildlife.

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Additional materials on composting are available by request from your local CTAHR Cooperative Extension Service office.

Waste disposal

Disposing of household wastes by burning it or dumping it on private property can pose threats to your health and the environment. Waste dumped at your home is not only unsightly, it may contain harmful chemicals that can leach out and contaminate groundwater, or be spread by wind and rain. Burning your waste can produce toxic fumes as well as contaminated ashes that can blow or wash away and cause pollution.

Wastes dumped directly into storm drains, ditches or steams or washed into these water bodies can quickly cause pollution problems. Other materials, like foam "peanuts" and other plastic debris, can be transported by storm runoff to open water where they may be mistaken for food and eaten by fish or birds. Dumping potentially hazardous substances down a drain that leads to a septic system or sewer system can also cause problems. The table below provides information on the disposal methods for various types of household wastes that create the lowest water pollution risks.

You need to take particular care when disposing of household hazardous products. By reading product labels, you can generally tell which ones have hazardous ingredients. Look for words like CAUTION, WARNING, DANGER, FLAMMABLE, POISON, VAPOR HARMFUL, or HARMFUL OR FATAL IF SWALLOWED. These are clues that a substance in the product is potentially hazardous to your health and to the environment.

Carefully dispose of any of these types of products. If it is safe and legal to do so, use the product up according to the label directions so nothing is left to discard. If you do have extra that you do not need, always read the label for disposal recommendations, or contact the manufacturer. For more information, see HAPPI-Home 4, *Managing hazardous household products*.

Assessing your risks

There are two ways to reduce the risk of pollution from trash disposal. The first is to generate less trash and the second is to dispose of it in the most environmentally friendly way. Use the table on page 4 to assess your *waste potential*. A low waste potential means that less trash needs to be disposed of. Also, assess the pollution risks from the trash that you do have to throw away.

Waste resource	Water quality–friendly disposal methods
Food waste	Compost vegetable matter if possible; dispose of meat and other materials in landfill
Green waste, grass clippings, leaves	Compost or use as mulch; separate from other waste for municipal composting where available
Paper, cardboard	Reuse and recycle where possible; dispose in landfill as last resort
Plastics	Reuse and recycle where possible; dispose in landfill as last resort
Aluminum	Recycle where possible; dispose in landfill as last resort
Other metals (steel, tin)	Recycle where possible; dispose in municipal trash (on Oahu, recycled at H-power)
Glass	Reuse or recycle where possible; dispose in landfill as last resort
Large appliances	Have potentially hazardous parts/items removed before recycling (PCBs, freon, mercury in lights, capacitors, etc.); take to landfill.

For other potentially hazardous products including household cleaners, aerosol cans, paint, paint thinner, glues and adhesives, and gasoline, see HAPPI-Home 4, *Managing hazardous household products,* for information on storage and disposal.

This HAPPI document was adapted by Michael Robotham, Carl Evensen, and Linda J. Cox from *Managing household waste: preventing, reusing, recycling, and composting,* by Shirley Niemeyer, Michael P. Vogel, and Kathleen Parrott, Chapter 11, pp. 106–115, in *Home•A•Syst: An environmental risk assessment guide for the home* developed by the National Farm•A•Syst / Home•A•Syst Program in cooperation with NRAES, the Northeast Regional Agricultural Engineering Service. Permission to use these materials was granted by the National Farm•A•Syst/Home•A•Syst Office. HAPPI-Home materials are produced by the Hawaii's Pollution Prevention Information (HAPPI) project (Farm•A•Syst/Home•A•Syst for Hawaii) of the University of Hawaii College of Tropical Agriculture and Human Resources (UH-CTAHR) and the USDA Cooperative Extension Service (USDA-CES). Funding for the program is provided by a U.S. EPA 319(h) grant administered by the Hawaii State Department of Health.

Waste Potential and Trash Disposal

	Low risk	Moderate risk	High risk	Your waste potential
Quantities purchased	I only buy what I need and avoid accumulating unused products	I sometimes buy more product than I can use	I often buy more product than I can use	❑ low ❑ moderate ❑ high
Product durability and potential for reuse	I select products based on their durability, ease of repair, and potential for reuse	I sometimes consider durability, ease of repair, or potential for reuse	I seldom consider durability, ease of repair, or potential for reuse	❑ low ❑ moderate ❑ high
Recyclability of packaging	I regularly purchase containers / packaging that can be recycled locally	I sometimes consider packaging that can be recycled	I seldom consider recyclability	❑ low ❑ moderate ❑ high
Packaging selected	I always select packaging that minimizes waste	I sometimes select packaging that minimizes waste	I seldom consider whether a packaging minimizes waste	❑ low ❑ moderate ❑ high
Trash disposal in storm drains, streams, or ditches	No household wastes are discarded near storm drains, streams, or ditches; there is very little water runoff from driveways and yards	Some runoff from a driveway carries spills and yard chemicals away; runoff occasionally flows into storm drains, ditches, or streams	Household wastes are dumped into storm drains, streams, or ditches	❑ low ❑ moderate ❑ high
Yard and garden waste (green waste) disposal	All green waste is composted, disposed of in a municipal collection program, or left on the ground as mulch where it will not wash into streams or storm drains	Green waste is collected and disposed of on my property in a location far from streams or drainage ditches	Green waste is collected and disposed of in or near a stream or drainage ditch	❑ low ❑ moderate ❑ high

Your Action Plan

Write down all your moderate-risk and high-risk activities below	What can you do to reduce the potential risk for water pollution?	Set a target date for action

For more information on the disposal of hazardous household products, see HAPPI-Home 4, *Managing hazardous household products.*

LESSON PLAN

Ka Wai o Manoa (The Waters of Manoa)-9 minutes

Kuleana Project, Board of Water Supply and Malama o Manoa, October 2003

Purpose - The video, Ka Wai o Manoa, was produced to help students involved in the Kuleana Project to motivate the residents of Manoa Valley to participate in the household surveys. It was also intended as an educational tool to influence householders to change any activities which negatively impact our 'aina. All Kuleana Project participants, especially long-time Manoa residents, are the audience this video is intended to reach.

Outreach -Please help us circulate this video. Our goal is to have at least 1,000 households see this video within the next two months. Please ask your students to take this video home and watch it with their families. Please invite your friends to watch the video whenever you have a gathering. The greater the audience, the greater the possibility that more people will want to change their activities for the better.

Story Outline

Voice: "Ka Wai o Manoa reminds of our responsibility, our kuleana."
Q: Why is the stream supposed to remind us of our responsibility to our 'aina?
Why is it our responsibility to care for the Manoa Stream when we don't play in the Stream or even live near the Stream? Isn't it the kuleana of Manoa residents?

Three long-time residents, George Arizumi, Robin Otagaki, and Len Miyasaki reminisce about playing, fishing, and swimming in the Manoa Stream. George swam in a pond near the Woodlawn Bridge near Long's Drug Store and caught fish, which he kept in mayonnaise jars. Robin used to make dams, lots of dams. He would build them up and break them down. Len, who used to swim in a pond up stream says, "The water in the pond was so clear you could see the bottom, and it was so clean that we would drink out of it. If we didn't have the stream to play in, I can't imagine what we would have done when we were kids".
Q: How old are the three men? How long did it take for the stream to become polluted? Did it happen overnight, or gradually over many years?

The two young girls, Chauncey and Brailey Hirose-Hulbert, are 5th graders at Punahou School. Their mother grew up in Manoa and the twins often visited their grandparents who lived in Manoa. They say, "It isn't safe to play in the stream anymore." They cautioned viewers to be careful about using too much herbicides, pesticides and fertilizers and to keep their streets free of litter and to have their pets do their business away from the streets.
Q: Although the twins never lived in Manoa, why should they be concerned about the pollution of the Manoa Stream? Where do the waters of Manoa ultimately end up? Is pollution in the streams affecting the fish, seaweed, and shellfish we all eat? Presently, some people are catching fish from the Ala Wai. They keep the fish in clean water for about two weeks and then eat the polluted fish. How long should you keep the fish in clean water before it is okay to eat?

Ramsay Taum, Ala Wai Watershed Project Manager, Hawaii Nature Center, is also a

Hawaiian cultural specialist. His mission is teaching people the concept of kuleana. He believes that most people do not maliciously spoil our waters. They, unwittingly (without knowing), are impacting Manoa Stream negatively by their behaviors…. by yard wastes, by how they wash their cars, and by the kind of household products they use.
Q: Do you believe that people pollute our 'aina deliberately or because they just don't think about how their activities affect other people and nature?

Dr. Eric De Carlo is a research professor with the School of Ocean & Earth Science & Technology at the Dept. of Oceanography, UH. He cautions about over fertilizing, because what we use in our yards runs off into our streets when it rains and goes into our storm drains. All of these pollutants do not go to a sewer treatment plant, but into our streams. Our fertilizers make the algae in the water grow and cause the water to become murky and smell badly.
Q: Before participating in the Kuleana Project, did you know that everything going into our storm drains ended up in our streams and oceans?

Pat Avery is a senior volunteer who helps clean Manoa Stream. Members of the community organization, Malama o Manoa, have been cleaning the area in back of the Manoa Marketplace from the Woodlawn Bridge to the East Manoa Bridge, four times a year for the past five years. Pat says, "Somebody has to do it."
Q: If some people don't care and aren't careful; is it up to us to pick up other people's trash? Is that what we mean by kuleana? Are there other groups cleaning other areas of the Manoa Stream on a regular basis?

Len Miyasaki feels that "it's pretty depressing when I think that when I have kids, my kids won't be able to have the same kind of fun I had when I was growing up."
Q: Is the damage we have caused to the stream irreversible?

Robin Otagaki - "We have to accept that we can't go back to the horse and buggy days but we can retard (the damage to the stream) by making people aware of what we are all doing…"
Q: Is keeping our streams the way they are now the best we can hope for?

Voice: "Every day we make choices which impact ourselves and others… If we take responsibility, kuleana, individually and collectively, right now, we can begin the healing and our children once again will be able to play in Ka Wai o Manoa.".
Q: Do you believe that it will ever be safe enough for children to play in the Manoa Stream again?

Students, give us your ideas!

The Kuleana Project wants to hear from you!

The culminating activity of the Kuleana Project will include original student-written pieces to tell the Board of Water Supply, the community, and Malama O Manoa about the solutions you have uncovered and possibilities of making great or small differences while working on the project. Go ahead…we're listening.

- Write a letter to the Board of Water Supply to give them workable suggestions on how government and business leaders could do a better job of preserving our water resources.
- Write a report about what you have been doing with your class and tell us what more students could do to get people to conserve water and stop the further pollution of our watershed.
- Write a persuasive letter to the general public (Letter to the Editor) explaining your solutions and convincing them to adopt your ideas.

Written letters and reports will be selected based on relevancy, content, originality of thought, organization, grammar, strength of advocacy, and clarity. Research and parental help are encouraged. The limitation is 200 words for letters and 400 for reports. Selected works will be published in newspapers, our newsletters and websites. Winners will be announced on the MOM website, www.malamaomanoa.org/kuleana awards will be presented at the Kuleana Finale luncheon on March 6. All letters and reports received become the property of Malama O Manoa and the Board of Water Supply.

Entries must be turned in to your teacher by February 9, 2004 to be eligible for prizes.

Be a winner in one of three levels; Gr. 3-6, Gr. 7-8, Gr. 9-12. Winners at each Kuleana School will win a $100 savings bond for 1st Place, a $75 savings bond for 2nd Place, and a $50 savings bond for 3rd Place. Any class or club with more than 75% participation wins a pizza party too.

Complete the form below and submit with your letters/reports to Malama O Manoa

✂---------- -------✂

Name of Student_____ and Adult assistant (Optional)

_____ School: _____ Grade Level: _____ Teacher:

_____ Home Address:

_____ City: _____ Zip Code: _____ Home/Cell

Telephone No.: _____ and/or email_____

May we have parent permission to print letter/report? Yes _____

_____ _____

Parent /Guardian Signature Date

GIVE US YOUR IDEAS! Writing Activity

Teachers:

Please encourage your students to share their ideas and solutions with the sponsors and organizers of the Kuleana Project. They can tell us what they think works best. Tell them to think of:

1) New and better ways of getting more people to conserve water
2) New and better ways of getting more people to lessen ways they are polluting our waterways
3) Changes they have seen adults make or have made themselves, while working on the Kuleana Project.

The limitation is 200 words for letters and 400 for reports.

Class assignment or extra-curricular activity

You are encouraged to fit this writing activity into your curriculum as a **class/home assignment or extra credit activity.** This activity meets the requirements of the Hawaii Content Standards for Language Arts, Life Skills and Science as Inquiry.

We also ask that you encourage those students engaged in the Kuleana Project as a service project to write also. They are also eligible to win savings bonds for themselves and a pizza party for their club or group by participating.

The letters and reports we receive will be forwarded to our decision makers for consideration and help us discover the students who show ability to think critically. We want to invite them to be part of our Kuleana Student Focus Groups during Spring break. Students will be given the opportunity to interface with members of Malama O Manoa, the Honolulu Board of Water Supply, the City and County Environmental Services and other government officials in charge of our water supply and water quality and share their ideas with them.

Individual prizes – (Grade levels 3-6, 7-8, 9-12) will be awarded to winners at each of the Kuleana Schools

1st place- $100 Savings Bond
2nd place- $75 Savings Bond
3rd place-$50 Savings Bond
Winners and one accompanying parent will be invited to the Kuleana Finale to receive their prizes.

Group Prizes

If at least 75% of your class or student organization submits student letters or reports to Malama O Manoa, your class or student organization will receive enough pizza coupons to have a pizza party. Entries may be turned to your school's Kuleana Go-Fers or Naomi Ohta by February 9, 2004. Call Helen Nakano at 988-5671 if you have any questions. Malama O Manoa is not responsible for any late entries or lost pieces.

JUDGING GUIDELINES FOR

“GIVE US YOUR IDEAS” CONTEST

CONTENT—20%

ORIGINALITY OF THOUGHT –20%

STRENGTH OF ADVOCACY—20%

RELEVANCY – 10%

ORGANIZATION – 10%

CLARITY -- 10%

GRAMMAR AND SPELLING -- 10%

1. Separate papers by school, as the plan was to award each school something.

2. Separate papers by the age/grade groups you established for the contest.

3 As you peruse papers, think of a 4 point scale, with 4 as the top. Ask yourself the question: is this paper in the top half or the bottom half of the quality we can expect kids of this age to produce, i.e., a 1 or a 2 goes in the bottom half; a 3 por a 4 goes in the top half pile. We will judge only the top half pile.

4. From the top half pile, make a few xerox copies of papers from each grade group for judges to use in building consensus.

5. Each paper is read by two judges. The judges first read through the xerox copied papers from the top half pile of a given grade group , talking briefly to establish a consensus of what consitutes better of school by school.

Judges then read all the papers for that grade group for the first school.

Note. the first reader puts a score (presumably a low of 2 through a high of 4) on the back of the paper and initials it.

A second judge then reads it and marks a grade on the front of the paper before turning it over to see what the first judge marked on the back. If there is number difference, say a 2 by one judge and a 4 by the next, then the two judges go outside and discuss what they can agree on for a mark. It doesn't take long. If the scores are the same, the second judge simply marks the score on the front with a circle to denote its final score. Final scores are circled on the front of the paper.

A 4 paper vs one or more other 4 papers requires all the judges talking through and agreeing on which is the top paper.

6. After all the papers from one contest grade level at a given school are marked, the judges decide who wins, who gets honorable mention for that grade level at that school.

7. The judges go through all of the same grade level writing first in order to keep their consensus. When they have finished all of the schools for, say, grades 3-5, then they go on to reading the xeroxes of a few papers from 6 grades 6-8 in order to establish a consensus for what constitutes a good paper for that level.

8. They then repeat reading all of the papers for that grade level from one school, deciding its winner, then going on to the papers from that grade level for the next school, etc.

KULEANA PROJECT REIMBURSEMENT FORM for Volunteers (Green)

Please use this form for reimbursement of all expenditures incurred on behalf of the Kuleana Project. Please attach receipts and all other supporting data to this form as proof of purchase.

Name of Volunteer_____ **Date of Request**_____

Write check payable to: _____

Description of Purchase_____

_____

Total Amount_____ **Receipts Attached**_____

FOR OFFICE USE ONLY

Date Paid _____ **Check No.** _____

****

KULEANA PROJECT CHECK REQUEST FORM for Volunteers (Green)

Please use this form for all check requests for needed purchases to be incurred on behalf of the Kuleana Project.

Name of Requesting Volunteer _____**Date of Request**_____

Description of Items_____

_____

Check payable to: _____ **Amount**_____

-FOR OFFICE USE ONLY

Date Paid _____ **Check No.** _____

KULEANA PROJECT EXPENDITURE RECORD FOR VOLUNTEERS—Only requested for multiple purchases

Requesting Volunteer_____

Request Date	Description Activity or Event	Amount	Check #	Issue Date	CODE (See legend)
Example 9/1/03	3 bottles waterless hand sanitizers	$6.00	#0005	9/15/03	F
			TOTAL		

The Honouliuli Bus Excursion

Take advantage of this rare opportunity to see water recycling up close. The Honolulu Board of Water Supply and Malama o Manoa invite you to a **FREE** *tour of the Honouliuli Water Recycling Facility located in Ewa Beach. Although, recycled water is not intended for drinking, learn about how waste water is treated to a level suitable for a number of industrial and irrigation uses.*

WHAT? Honouliuli Water Recycling Facility and Water Treatment Plant Tours
Approximate length of tour: one hour and a half

WHEN?

- ✓ Saturday November 15 tour: leave Manoa at 8:30 a.m.
  return approximately 11:00 a.m.
- ✓ Tuesday November 18 tour: leave Manoa at 8:30 a.m.
  return approximately 11:30 p.m.

***The Saturday tour will **only** cover the water recycling facility. The Tuesday tour will cover the water recycling facility **and** the sewage treatment plant.*

WHERE TO BE PICKED UP?

- ✓ The bus will depart **promptly** at **8:30 a.m.** from the Manoa Recreation Center (in front of the gym).

Please park only in the **upper level** parking lot fronting the two gyms.
Enter from Manoa Road.

WHO IS INVITED?

- ✓ Household survey participants, Kuleana Go-fers, Teachers, Committee and Advisors –Please RSVP by Thursday, Nov. 13 to Helen at 988-5671 or nakano@aloha.net

*** Children are not invited to participate in these tours*

WHAT TO BRING?

- ✓ A photo id
- ✓ If a group, a list of all attendees including phone numbers

WHAT TO WEAR?

- ✓ Long Pants and Close-Toed Shoes (no high heels)

RSVP by Thursday, Nov 13. Call Helen at 988-5671 or nakano@aloha.net . Limited seating on non-air conditioned school bus.

** All *tour members are required to sign a liability waiver form as condition of entry.*

News Release
For more information, contact:
Helen Nakano
Project Coordinator, Kuleana Project
Phone: 988-5671

Kuleana Project Proves Value of Community-based Approach

Embargoed Until 10:00 a.m. (Hawaii Standard Time), March 6, 2004

MANOA – A 9-month long initiative funded by the Honolulu Board of Water Supply and executed by Malama o Mānoa, culminated with the release of key findings from a survey administered to area residents.

The Kuleana Project set out to effect change of activities and practices of 1,000 households in the Mānoa sub-watershed through education and outreach utilizing a community-based grassroots approach to promote water conservation practices and to increase awareness of homeowner practices which contribute to nonpoint source pollution.

Students representing 12 area schools administered a total of 776 surveys in an Initial wave that established a baseline measure. (See chart #1) Households were recruited for participation in the survey in a number of ways, including referrals from those affiliated with the project; parents, grandparents or other adult relatives of students; and other interested parties. 68% of those surveyed indicated a desire to receive an educational visit (chart #2) where students explained to householders best practices based on their individual responses to the Initial survey. Students used materials developed by Dr. Carl Evensen of the University of Hawaii's Department of Natural Resources and Environmental Management . Students then administered a Final survey (chart #3) to the same households that participated in the Initial survey. A total of 517 households were interviewed in the Final Survey.

A subset of 375 surveys representing households in the Manoa sub-watershed was analyzed (chart #4). Questions centered on eight areas: 1) water conservation; 2) use of fertilizers; 3) green waste; 4) use of chemical pesticides and herbicides; 5) motorized vehicles; 6) pets; 7) recycling; and 8) water run-off. Survey highlights include:

- At the time of the Initial Survey (September-November 2003), 73% of respondents felt that Oahu was currently facing a water shortage (chart #5). Despite widely publicized water conservation guidelines in effect at the time, 2% of the survey respondents felt that Oahu has more than enough water to meet the island's need indefinitely.
- 41% of those questioned initially said they used chemical pesticides or herbicides (chart #6). By the time the Final survey was fielded, that figured declined to 31%. Additionally, 68% stated that they carefully applied chemicals according to directions during the Initial survey, a figure that improved to 80% in the Final survey (chart #7).

- There were no significant differences between results of the Initial and Final surveys (chart #8) in some areas where households might find it difficult to change practices, such as how rain water is directed from a roof.

Using a weighting formula, where each response was given a point value with positive numbers representing more desirable practices and negative numbers less so, the data were analyzed showing an Initial average score of 18.2 with a range from –31 to +37. Not only did the average score improve to 20.0 in the Final survey, the range of scores improved with the lowest a –17 and the highest a +38. (Chart #9)

Significant score improvements were experienced at two of the four schools with sample sizes large enough to analyze – Manoa and Noelani Elementary schools. Manoa Elementary scores ranged from a –31 to a +37 with an average of 16.9 in the Initial survey. The Final survey saw an average score of 22.1 with a range of +4 to +38. (Chart #10) Noelani Elementary experienced similar results with an average of 19.2 in the Initial survey and a range of –2 to +34 to an average of 21.7 with a +1 to +38 range in the Final survey. (Chart #11) **[MEDIA: Contact Helen Nakano to arrange for interview of teachers and students who can share their experiences with the survey.]**

Since some households did not receive formal educational visits, analysis of differences between households receiving a visit versus those that did not receive a visit was possible. The results show significant increases from 18.3 in the Initial survey to 20.4 in the Final survey if an educational visit took place. (Chart #12)

While Manoa sub-watershed households' practices generally are not bad to begin with, the survey suggests that educational visits help increase positive practices. It also points to the fact that a community-based initiative is a solid model to modify practices.

Malama o Manoa is a broad-based community organization made up of residents and friends of Manoa Valley whose purpose is to promote community; celebrate our cultural diversity and heritage; and preserve, protect and enhance the special qualities of historic Manoa Valley. It is a non-profit corporation founded in 1992 by a group of citizens concerned about Manoa's future. Additional information on the Kuleana Project can be found at: ww.malamaomanoa.org

# # # # #

Listing of Kuleana Project Phase II Water Warrior Challenge (WWC) Addendum

1. Letter to Principals from DOE Complex Area Superintendent Raelene Chock
2. Letter to Principals from Project Coordinator
3. Letter to Teachers from Project Coordinator
4. Letter to Parents from Project Coordinator
5. Water Warrior Challenge Planning Timetable
6. Water Warrior Challenge Project Description to Schools
7. Instructions for WWC Teachers
8. WWC Question and Answer Study Guide
9. Results of WWC Early Bird Quiz
10. Letter to Community from Board of Water Supply
11. Release and Authorization to Record and Memo to Random Video Recipients
12. Sample Score Card and Pledge (Back to Back)
13. Sample Donation Request Letter
14. Instructions for WWC Vendors
15. Eco-Fair Program

16 Eco-Fair Costume Contest Plans

17. Booth General Information
18. Gym Map and Vendor List
19. Final WWC Report
20. WWC Evaluation Memo

LINDA LINGLE
GOVERNOR

PATRICIA HAMAMOTO
SUPERINTENDENT

STATE OF HAWAII
DEPARTMENT OF EDUCATION
OFFICE OF DISTRICT SUPERINTENDENT
4967 KILAUEA AVENUE
HONOLULU, HAWAII 96816

HONOLULU DISTRICT

August 25, 2004

To: Principals of public schools in the Manoa Subwatershed: Hokulani Elementary, Lincoln Elementary, Manoa Elementary, Noelani Elementary and Stevenson Middle School

From: Raelene Y. Check, Complex Area Superintendent, McKinley/Roosevelt

Subject: **Water Warrior Challenge**

The Water Warrior Challenge, an educational activity for schools in the Manoa Subwatershed is jointly sponsored by the Honolulu Board of Water Supply and Malama o Manoa. And will take place from August 27 through October 23.

The purpose of the Water Warrior Challenge is to motivate students and adults to learn about the Ala Wai watershed, and to become more knowledgeable about water and water pollution. The curriculum is aligned to the Hawaii Content and Performance Standards II with particular emphasis on the benchmarks for Grades 3, 4, 5, 7, and 8.

Water Warriors are persons committed to saving our water for future generations. They are individuals who protect the environment; they are responsible, proactive, role models, and courageous in the face of adversity and indifference.

The Water Warrior Challenge Activity will provide your classroom teachers in Grades 3, 4, 5, 7, and 8 an opportunity to teach standards with rigor and relevancy using Manoa Valley and the Ala Wai Canal Watershed as their foci. The Water Warrior Challenge will be part of a culminating activity on October 23 at the Kuleana Eco-Fair at the Manoa Valley District Park.

Water Warrior Students will be given an opportunity to win a free tee-shirt as well as scripts for rides and refreshments at the Kuleana Eco-Fair. Additionally, Water Warrior Teachers earn a cash bonus of $50 for completion of requirements, and Water Warrior Schools may earn cash awards of $2000 (see attached, Water Warrior Challenge).

Please take a few minutes to peruse the informational packet that accompanies this letter. Should you have any questions, please contact Helen Nakano, Project Coordinator, either by phone at 988-5671, or by email, nakano@aloha.net.

RYC:gy

Attachments

C: Glen Miyasato, School Renewal Specialist, Roosevelt Complex

September 13, 2004

Dear Mr. Yoshinaga:

Congratulations on becoming a Water Warrior School! Your teachers and students are performing a valuable service for the Manoa Valley community and we appreciate everyone's efforts very much.

Your school is now eligible to win valuable cash prizes. Since winning is based on the number of Water Warrior votes the school receives, your school may wish to send flyers out to your school population and set up a display at the Kuleana Eco-Fair. At your exhibit, you may showcase past environmental projects or your school may want to use the exhibit to persuade the public to use water saving methods devised by your students. By having a booth at the Eco-Fair, you may encourage attendees who take the Water Warrior Challenge to give their one vote to your school. Each school wishing to have a display will be assigned an 8 ft. by 10 ft. area and one table. Please let me know the number of flyers you require and whether your school would like to have a display at the Fair at your earliest convenience.

Jim Harwood, a video producer, is working on a documentary of the Water Warrior Challenge and events at the Kuleana Eco-Fair. Jim would like to shoot footage of the students at some of our Water Warrior schools so please let us know about any special activities or photo opportunities that may take place at your school between now and October 23 . The completed video will be shown on Olelo. We also anticipate media interest in the Water Warrior Challenge. Because the reporters may want to conduct interviews, take photos, or shoot footage of your students, we have prepared a release form which we would like to have signed by parents and returned to us.

Finally, if you have not already done so, please contact Mary Cooke at 988-6016 to reserve a space on the tour of Kukao'o heiau on September 25.

Should you have any further questions, please contact me at nakano@aloha.net.

Mahalo,

Helen Nakano
Kuleana Project Coordinator

Mālama o Mānoa
P.O. Box 61961· Honolulu, Hawaii 96839

September 13, 2004

Dear Teacher,

Congratulations on becoming a Water Warrior Teacher! You and your students are performing a valuable service for the Manoa Valley Community and we appreciate everyone's efforts very much.

You will receive a $50 cash award and your school is now eligible to win valuable cash prizes. Most important, please know that you are providing an authentic learning experience for your students and I hope a rewarding one for yourself as well.

Enclosed please find the following:

- Questions and Answers Study Guide (Q&A) which will help to ensure your students' successful completion of the Early Bird Water Warrior Quiz. Please print additional copies of the Q&A as needed. Teachers are to review the Q&A, discuss the responsibilities of being a Water Warrior, as well as encourage their students to study with their family and classmates during the Water Warrior study period from September 13-27. While students are encouraged to study all 60 Q&A, please note that specified questions are designed for certain grade levels.

- Letter to Parents and Permission Slips. Please duplicate additional as needed and send home with students. We ask that the permission slips be completed by September 17 and left at the school office for pick up.

- T-shirt order. Please email the names of your students and their tee-shirt sizes by September 17. Include your tee-shirt size as well.

- Photo/video/TV opportunities: A video documentary about the Water Warrior Challenge is being prepared. Please email me at nakano@aloha.net with a cc to Jim Harwood, producer, at harwood@hgea.org whenever your students are engaged in any special Water Warrior activities.

Should you have any further questions, please contact me by phone at 988-5671 or email nakano@aloha.net.

Sincerely,

Helen Nakano
Kuleana Project Coordinator

Mālama o Mānoa
P.O. Box 61961· Honolulu, Hawaii 96839

September 13, 2004

Dear Parents,

Your student has accepted the Water Warrior Challenge (WWC) sponsored by the Honolulu Board of Water Supply and the non-profit community organization Malama o Manoa. WWC is a community-based initiative to provide children with a relevant and authentic learning experience about watershed stewardship.

The purpose of the Water Warrior challenge is to motivate students and adults to become more knowledgeable about water and to become better stewards of the environment.

- During the period from September 13-27, your child will be studying the WWC Question and Answer (Q&A) Study Guide and your assistance is encouraged. Upon successful completion of the WWC Early Bird Quiz, your child will become a Water Warrior and be given a Water Warrior tee-shirt.

- On October 23, there will be a parade of the Water Warriors at the Kuleana Eco-Fair at the Manoa Valley District Park Gym. We hope that your child will be able to join us and march in the parade wearing his/her tee-shirt. The lineup for the parade begins at 8:30-8:45 a.m.

- We invite everyone in your family to become Water Warriors also. Please join us for this exciting and educational community event. To vote for your child's school, you must pass 10 information or activity-based challenges at the Kuleana Eco-Fair. You will then be eligible to win valuable prizes donated by our vendors.

- Please sign the attached Release and Authorization to Record. We plan to produce a documentary on the Water Warrior Challenge and Kuleana Eco-Fair as well as enter the USA Weekend "Make a Difference Day" contest. We hope you will allow your child to participate in these and other possible media coverage by signing this release form.

The Eco-Fair will be held at the Manoa Valley District Park Gym on Saturday, October 23 from 9:00 a.m. to 2:00 p.m. Parking will be limited so please walk or carpool. Everyone is also asked to wear rubber-soled footwear that day to protect the gym flooring.

Should you have any questions, please call me at 988-5671 or email me at nakano@aloha.net.

Helen Nakano
Kuleana Project Coordinator

KULEANA WATER WARRIOR CHALLENGE: Oct. 23, 2004
Approximate Planning Timetable

August 2004:

- Secure all necessary committee chairpersons
- Set-up calendar of meetings, leading up to event
- Secure all necessary (written) permits for use of facility (be sure to include set-up of the day BEFORE the event; also include Set-Up & Clean-Up times on permit)
- Check if Temporary Concessionaire's Permit is needed due to food distribution (shave ice, etc.), and submit as required
- Door Prize/Donations Chairperson to begin contacting, seeking donations, as well as for Refreshment and Redemption Committees
- All committee chairs to submit requests to Logistics Chair for equipment, supplies, etc.
- Submit committees' budget requests to Finance Chair (Malama's Treasurer?)
- Decide how many T-shirts to order, then check around for shirt vendors
- Determine type of bouncers for event, then contact vendor for reservations & pricing

September 2004:

- Logistics Chair to have map/diagram of layout of event; review with all committee chairs
- Publicity hits airwaves, media, periodicals, etc. Secure possible dates to meet the media, etc.
- Create and order necessary banners, signs, flyers, posters, etc. (decide where signs will be located, and where flyers are to be distributed)
- Finalize all events' participants; i.e., agencies, non-profits, vendors, exhibitors, speakers, demonstrators, etc. (do timetable for speakers, etc. use in multi-purpose room(s))
- All committees to seek adequate manpower/volunteers for their responsibilities, especially for event day (shifts)
- Finalize all written materials (i.e., brochures, speakers' handouts, scorecards w/cords, etc.)
- Create event day's timetable

October 2004:

- Continue publicizing as much as possible (include Malama Newsletter)
- Print Brochures and all other written materials needed for event
- Committee Chairs to review w/Logistics Chair of specific set-ups, etc. for event day
- One of the October Mtgs should be a "walk-through" at the gymnasium and surrounding area for overall committee orientation
- Contact all agencies, vendors, exhibitors, etc. and inform them of schedule of the day (i.e., what time to set-up, where they can drop off their items, then where to park-do we need parking passes and have a special parking area for workers, etc?)
- Donations/Door Prizes and Redemption Committees review all their items and prep for event
- Contact company that will provide bouncer(s) for event and review delivery & pick-up time & place
- Prep all needed items (scorecards, scripts, etc.)
- All committee chairs to submit a list of their committee's volunteers to Overall Chair (make a shift list if necessary)
- Program Chair & Sub-Chairs to have a check-in and check-out list for agencies, vendors, speakers, etc. so we can determine exactly who is present or absent
- On Oct. 22 (day prior to event), do set-up and delivery of some of our items (be sure to ask park personnel beforehand, for a secure space)

Kuleana Project, Phase II (July – October 2004)

Purpose: Effect changes of activities and practices of 1,000 residents in the Manoa subwatershed through education and outreach utilizing a community-based grassroots approach.

Goals: Promote water conservation practices
Increase awareness of practices that contribute to nonpoint source pollution (NPS) of Manoa Stream and change those practices
Cultivate *kuleana* (responsibility, ownership) among current and next generation
Develop a model easily replicated and/or modified by other communities

Tactics: Hold Kuleana Eco-Fair including a "Water Warrior" Challenge (WWC) – a day of fun, activities, and learning. Funding provided by the Honolulu Board of Water Supply.
Invite 11 area elem/middle schools to assist Malama o Manoa in recruiting Water Warriors. The schools which recruit the most Water Warriors will win cash prizes.
Where: Manoa Valley District Park -new gym and multi-purpose room
When: Saturday, October 23 ("Make a Difference Day") from 9am to 2pm

Requirements to qualify to be a Water Warrior, a steward of the 'aina:
a. **residency**– any child of school age and adult of any age who participates in the WWC event may become a Water Warrior regardless of residency.
b. **knowledge** – successfully answer 10 questions/challenges either Early Bird/WWC event.
c. **commitment** – pledge to do something positive to preserve and protect the watershed.

Measure of success: Have 1,000 people become "Water Warriors"

Activities:
Kuleana Eco-Fair will feature exhibits/testing stations staffed by sponsoring agencies and non-government organizations (NGO), as well exhibits of eco-friendly products and services by commercial vendors. There will be no sales of any products or services at the event. Those interested in participating in the Water Warrior Challenge will earn scripts/stamps for answering questions. When a participant successfully finishes 10 challenges and signs the pledge, he becomes a Water Warrior, receives a free t-shirt and can then vote for the school of his choice to receive the grand prize of $2,000. Fun and games include a costume contest; xtreme slides; environmental demos, speakers and videos and guided Manoa Stream walking tours. Of course there will be refreshments and special guest appearances of Apoha the O'opu, Sammy Soil and Ruby Raindrop. Free bus tours and registration for tours taking place in early November to xeroscape gardens, Honouliuli waste treatment plant, Nuuanu Watershed and the USACE Visitor Center will also occur.

Event Promotion and Publicity: (Event must be different, exciting, fun, timely, and involve children)
1) Aug 25-Sign up Water Warrior Teachers in 11 area elem/middle schools- to prepare students and recruit residents
2) Sept 5 - Malama 1,000 Tree Giveaway Event – pass out flyers publicizing the Kuleana Eco-Fair
3) Sept 7 – a notice in Annual Malama solicitation letter - 3,700 pieces
4) Oct 4-6 - 950 "Ka Wai o Manoa" video mailout
5) Oct 4-6 - Malama o Manoa Newsletter insert –3,700 pieces
6) Oct 4-19 – BWS letter with flyer to all residents of zip area 96822
7) Oct 4-8 – Provide 5,000 flyers to 11 Water Warrior Schools
8) Oct 17 - 10 Street signs – KULEANA ECO-FAIR – MANOA GYM – SATURDAY. - 9 a.m. - 2 p.m.

Agencies/NGO/Vendor Partners for Kuleana Eco-Fair to date: Honolulu Board of Water Supply; US Army Corps of Engineers (USACE); State DLNR, Dept. of Aquatic Resources; State DLNR, Division of Forestry & Wildlife; DOH, Clean Water Branch; EPA; UH-SOEST; Lyon Arboretum; City & County, Dept. of Environmental Services; Oahu Invasive Species Committee; UH-College of Tropical Agriculture; NOAA – National Weather Service; Ko'olau Mountains Watershed Partnership; Hawaii Nature Center; Ala Wai Canal Project (USACE) Sierra Club; MOA Nature Farm; Ala Wai Watershed Association; Ameron, ExactaSales; Hawaiian Earth Products, Ltd. Nutrex, Geotech Solutions, Island Recycling, Intech Inc., Melaluca, Sierra Student Coalition.

Rev. 8/24/04

Water Warrior Challenge

Jointly sponsored by the Honolulu Board of Water Supply and Malama o Manoa
September 10 – October 23, 2004

History: From August, 2003 to April, 2004, the Honolulu Board of Water Supply (BWS), Malama o Manoa and 12 area schools (Hokulani, Iolani, Manoa, Maryknoll Grade and High Schools, Mid-Pacific, Noelani, Punahou, Roosevelt, St. Francis, Stevenson, UH Education Laboratory), worked together to encourage watershed stewardship among their students and the residents of the Manoa Valley. Their efforts were recognized, and in May, 2004, the Kuleana Project partners received an award for outstanding achievement from the U.S. Environmental Protection Agency.

Sponsorship: Kuleana Project Phase II (August –October, 2004), which consists of the Kuleana Eco-Fair and the Water Warrior Challenge, is a continuation of its mission to promote water conservation and pollution prevention. Phase II is funded by a grant from the Honolulu Board of Water Supply.

The **Kuleana Eco-Fair** is an exciting and fun-filled community event. The purpose of the Eco-Fair is to provide participants with information about water and the watershed in the hopes that the increased awareness will result in change of our practices, leading to more water conservation and pollution prevention. The BWS' hope is for everyone to use 10% less water by 2005. This can be accomplished if everyone does his/her part.

Over 40 city, state and federal agencies, non-government organizations, and commercial vendors offering environmentally-friendly products and services, will be at the Eco-Fair to provide information with colorful displays, demos, costume contests and other fun activities. The Eco-Fair will be held at the Manoa Valley District Park Gym on Saturday, October 23 (National Make a Difference Day), from 9am to 2pm.

The **Water Warrior Challenge** was developed to be a part of the Kuleana Eco-Fair. The purpose of the Water Warrior Challenge is to motivate students and adults to learn about the Ala Wai Watershed, and to become more knowledgeable about water and water pollution.

Water Warriors are persons committed to saving our water for future generations. They are individuals who protect the environment; they are responsible, proactive, role models, and courageous in the face of adversity and indifference.

Public and private schools in the Manoa Subwatershed have an opportunity to be a Water Warrior School during the Water Warrior Challenge Activity which takes place between September 10 through October 23, 2004. Water Warrior Schools may earn cash prizes of $2000, $1000, or $500. Participating teachers and students earn a free tee-shirt and teachers are given a cash bonus of $50.

Water Warrior School

1. Has at least one Water Warrior teacher from Grades 3, 4, 5 or 7 and 8.
2. Eligible to receive the grand prize of $2,000, or 2nd prize of $1,000, or 3rd prize of $500 which is determined by highest number of votes received from individuals who have successfully completed the Water Warrior Challenge on October 23 OR the Early Bird Water Warrior Quiz given by Water Warrior Teachers. (See #3 of Water Warrior Teacher). Each score card with 10 completed challenges or 10 correct answers on the Early Bird Water Warrior Quiz counts as one vote. (**Only one card/vote per person.)**
3. Optional: Setup a booth at the Kuleana Eco-Fair on October 23 to encourage fair participants to vote for the school to win the grand prize of $2,000, or 2nd prize of $1,000, or 3rd prize of $500.

Water Warrior Teacher

1. A classroom teacher of grades 3, 4, 5, 7 and 8, public or private school who indicates to principal of his/her interest in becoming a Water Warrior Teacher (by September 10, 2004) and receives a free tee-shirt and a $50 bonus for completing Water Warrior Activity.
2. Submits class list with students' tee-shirt sizes. (This file will be sent electronically; if a teacher is unable to complete electronic spreadsheet, a hard copy will be given to teacher.)
3. Uses the Water Warrior Challenge Question and Answer and other curriculum material provided by the Kuleana

4. Project Coordinator. Note: Water Warrior Challenge Questions are aligned with the Hawaii Content and Performance Standards II. The Water Warrior Challenge Questions and Answers (Q & A) will help to ensure students' successful completion and passing of the Early Bird Water Warrior Quiz as all questions in the quiz will be taken from the Q & A. Teachers may print additional copies of the Q & A, as needed. Teachers are to review the Q & A with students as well as encourage students to study with their family and classmates during the Water Warrior Study period from September 13-September 27.
5. Administers the Early Bird Water Warrior Quiz during the period, September 27 through October 1. All questions used in the Early Bird Water Warrior Quiz will be taken from the Water Warrior Challenge Q & A Sheets.
6. Receives $50 after administering the Early Bird Quiz and submits quizzes, and completed Water Warrior Scorecards to a designated Malama o Manoa representative within the deadline period given.
7. Encourages his/her class to wear Water Warrior tee-shirts prior to the Eco-Fair to encourage others to attend.
8. Reminds students that by successfully completing the Early Bird Quiz of the Water Warrior Challenge, they have already voted and may not vote again at the Kuleana Eco-Fair on October 23. However, students may encourage their family and friends to attend the Kuleana Eco-Fair, complete the Water Warrior Challenge, and vote for their school.

Water Warrior

1. Passes 10 information-based or activity-based challenges at the Kuleana Eco-Fair, **OR**, passes 10 questions on the Early Bird Quiz administered by a Water Warrior Teacher between September 27 and October 1, and thus is able to cast one vote for his/her school.
2. Receives a free tee-shirt upon successfully passing the 10 challenges or the Early Bird Quiz.
3. Receives 10 scripts for use for refreshments, rides and prizes at the Kuleana Eco-Fair on October 23, 2004 at Manoa Valley District Park.
4. Votes for a Water Warrior School of their choice (see Water Warrior Challenge scorecard), making the school eligible for the grand prize of $2,000, 2nd prize of $1,000, or 3rd prize of $500.

TIMELINE

1. **Friday, August 27 –** Informational packets about the Water Warrior Challenge are distributed to schools in the Manoa Subwatershed. Packets are given to Principals and classroom teachers in grades 3, 4, 5 or 7 and 8.
2. **Friday, September 10** – Schools are to submit the names of all classroom teachers willing to be Water Warrior Teachers. Any school with at least one Water Warrior Teacher will be a Water Warrior School. Participating teachers will submit list of students and their tee-shirt sizes (in order to expedite tee-shirt orders).
3. **Monday, September 13** – Water Warrior Teachers will be given a set of the Water Warrior Challenge Questions and Answers, which will help students to ensure successful completion and passing of the Early Bird Water Warrior Quiz. Teachers may print additional copies of the Q & A, as needed. Teachers are to review the Q & A with students as well as encourage students to study with their family and classmates.
4. **September 13 to September 27** –Students have two weeks to prepare for the Early Bird quiz. Students will be encouraged to take Q & A home and have parents work with them.
5. **September 27 to October 1** – Early Bird Quiz for Water Warrior Classes. Water Warrior Teachers will administer a 15-question quiz between Sept. 27 and Oct. 1 (Students need to earn a score of 10 or better in order to receive a tee-shirt). Quizzes are to be sent to office and a Malama o Manoa representative will pick up the quizzes for assessment. Teachers will also submit a class list of students who took the quiz. In the event that a student is absent or does not pass the Water Warrior Challenge Early Bird Quiz, those students will have another opportunity to take the Water Warrior Challenge on October 23 at the Kuleana Eco-Fair.
6. **Monday, October 11** – All Early Bird Water Warriors who successfully pass the Early Bird Quiz will receive their free tee-shirt on October 11. (Tee-shirts will be delivered to the school). Students are to pick up their scripts, redeemable for refreshments, rides and prizes, on the day of the Eco-Fair, October 23, at the Malama o Manoa booth. All Early Bird Water Warriors are asked to wear their tee-shirts to school on any day that the class decides. They may wear their tee-shirts as often as they wish prior to and on the day of the Eco Fair.
7. **Saturday, October 23, at the Eco-Fair** – Open to all schools and the entire community. All students with Water Warrior tee-shirts earned from passing the Early Bird Water Warrior Quiz are encouraged to wear their shirts. Students who do not pass the Early Bird quiz may try again and may still qualify as Water Warriors by doing the activities-based challenges at the Eco-Fair. All other students at Water Warrior schools and adults may become Water Warriors by completing their scorecards. They will use the completed scorecard to vote for one Water Warrior School. **(Only one card/vote per person.)**

For more information, please contact Helen Nakano, Kuleana Project Coordinator, at 988-5671 or nakano@aloha.net, or go to our website at www.malamaomanoa.org.

The Water Warrior Challenge and Alignment to the DOE's General Learner Outcomes and the Hawaii Content and Performance Standards II

GENERAL LEARNER OUTCOMES (GLO)

The GLOs are essential overarching goals for all grade levels and content areas. All content and performance standards should support the learner's progress towards these outcomes, and opportunities to demonstrate the GLO competencies must be integrated into classroom instruction. --K.T.Kawaguchi. 2/17/04

1. Self-directed learner - Responsible for one's own learning. Water Warrior students will be responsible for their own learning for caring for the environment.
2. Community contributor - Essential for human beings to work together. Water Warrior students will know that it is essential for everyone to work together.
3. Complex thinker - Complex thinking and problem-solving. Water Warrior students will use complex thinking and problem-solving for issues regarding the environment.
4. Quality Producer - Recognize quality performance and produce quality products. Water Warrior students will know that Manoa Valley is a quality environment and students will know how to sustain efforts to keep the valley beautiful and healthy.
5. Effective communicator - Ability to communicate effectively. Students who become Water Warriors will learn to communicate effectively to others about the need to protect the environment.
6. Effective and ethical user of Technology - Use a variety of technologies effectively and ethically.

CURRICULUM STANDARDS

HCPSII Environmental and Society
Content Standard Students demonstrate stewardship of earth's resources through the understanding of society and the physical environment.
Benchmark: Explain how people depend on, adapt to, and modify the physical environment in their community, and demonstrate stewardship of a local environment.
Questions that apply: 4, 5, 6, 7, 8, 11, 12, 14, 16, 17, 1 8, 19, 21, 22, 23, 27, 29, 30, 34, 35, 36, 37, 38, 39, 40, 42, 51, 52, 53, 56, 57

HCPSII Historical Empathy
Content Standard Students learn to judge the past on its own terms and use that knowledge to understand present day issues, problems, and decision making.
Benchmark: Identify issues and problems on their own community and those of communities of the past.
Questions that apply: 4, 5, 12, 14, 33, 41, 42

HCPSII Interdependence
Content Standard Students describe, analyze, and give examples of how organisms are dependent on one another and their environment.
Benchmark: Identify and give examples of the various interactions within a local environment.
Questions that apply: 1, 2, 3, 6, 7, 9, 10, 11, 13, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 34, 35, 36, 37, 40, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55

INSTRUCTIONS FOR WATER WARRIOR TEACHERS ON HOW TO ADMINISTER THE EARLY BIRD WATER WARRIOR QUIZZES 9/22/04

DEADLINES: 1) Enclosed are the EB Quizzes for your students and yourself. Please administer during the testing period, September 27 to October 1. If testing is not done within this period, your students may not receive their tee-shirts on October 11, the deadline we have set for ourselves and the tee-shirt suppliers.

PREPARATION: 1) Have students keep the Scorecard attached to the Quiz. 2) Each student is to fill out the information requested – a) signature b)printed name c) city and zip code d) school e)grade f)their teacher's name. 3) Each student is to fill in the section BY….. stating their personal commitment as to what they will do as a Water Warrior. 4) Each student is to check off the school they wish to win the cash prizes. 5) Each student is to print his/her name on the top of the EB Quiz.

QUIZ COMPLETION: 1) As soon as the quizzes are administered, please seal and email Helen Nakano at nakano@aloha.net for pickup. DO NOT CORRECT THE QUIZZES. (Taking the quiz is optional for teachers. Teachers will still receive a tee-shirt, but cannot become a Water Warrior unless they pass the EB quiz and fill out the scorecard properly.)

WATER WARRIOR QUALIFICATION: 1) Students must pass 10 of 15 questions on the EB Quiz. 2) Students who do not pass the Quiz will NOT receive a tee-shirt or become an Early Bird Water Warrior. 3) HOWEVER,
they may still become Water Warriors, but only by coming to the Kuleana Eco-Fair and going through the 10 information or activity-based Challenges at the testing booths like regular fairgoers.

BENEFITS OF BECOMING A WATER WARRIOR: 1) Water Warriors will receive a Water Warrior tee-shirt. 2) Only Water Warriors will be able to vote for a school of their choice to receive valuable cash prizes. ONLY ONE VOTE PER WATER WARRIOR 3) Only Water Warriors will be eligible to win eco-friendly prizes at the Kuleana Eco-Fair. ONLY ONE SCORECARD PER PERSON. They do not have to be present to win. There are no age restrictions.

ADMINISTRATION OF WATER WARRIOR PLEDGE: 1) Teachers are asked to administer the Water Warrior Pledge at a Water Warrior Induction Ceremony at their school. T-shirts may be given to the students at that time.

MAHALO FOR ALL YOUR HELP!!!!!

WATER WARRIOR QUESTIONS & ANSWERS STUDY GUIDE 09/10/04

Grades 3-4: Level 1 Early Bird Quiz will be taken from Questions 1-20
Grades 5-6: Level 2 Early Bird Quiz will be taken from Questions 1-40
Grades 7-8: Level 3 Early Bird Quiz will be taken from Questions 1-60

Water Warriors are encouraged to recruit other potential Water Warriors and teach them the questions and answers from the entire list. The questions asked at the Kuleana Eco-Fair testing stations will be taken from questions 1-60.

VOCABULARY:

ahupua'a	decompose	gravel	non-native species	subwatershed
algae	desalinization plant	gutter	nursery	technology
alien species	drought	hand sanitizer	nutrient	toxic
alcohol	ecosystem	herbicide	organic	urban watershed
aquifer	environment	hydrogen peroxide	oxygen	vegetation
artesian well	erosion	impervious surface	pollutant	water meter
asphalt	estuary	infiltrate	porous surface	water quality
bacteria	evaporation	invasive species	rebate	water runoff
biodegradable	fertilizer	littering	reclaimed water	xeriscape garden
chlorine	filter	mulch	recycle	100-year flood
coolant	food chain	native species	sediment	

CONCEPTS

- Pure drinking water is a precious resource. We cannot live without clean water.
- Pure drinking water is a limited resource.
- What we do every day affects our environment positively or negatively.
- The kind of environment we live in affects our health.
- Polluted water is dangerous to our health because we eat the animals which live in and the vegetation which grows in the water. The bacteria in the water can make us sick.
- Native plants and animals are good for the environment.
- Invasive alien plants and animals hurt our environment.

DISCUSSION QUESTIONS

- What are some things you can do to make a difference as a **Water Warrior**?
- **Kuleana** – How can you show your **responsibility** toward the environment?
- What does it mean to **monitor** one's own actions, to do something **intentionally**, to make a **deliberate** decision?
- What are some **effective** ways to encourage people to make choices that will **help** our environment? (ie: neighbor and family education, voluntary or mandatory programs, radio and television advertisements, punishment)
- What is a **pledge** or **promise**?
- How can you be **proactive**?
- How must you act if you want to be a **role model**?
- How can you be **courageous** in the face of **adversity** and **indifference**?
- What is **community service** and why do we need it?
- What is **sustainability** and why is it so important for an island state like Hawaii?

NO.	QUESTION	CHOICE(s)	ANSWER

1	Because everything that goes into our storm drains goes into our streams, all of the streams flowing into the Ala Wai Canal carry pollutants.	True or False	True
2	The City and County of Honolulu has a law which requires all homeowners to keep the gutters in front of their property clean.	True or False	True
3	What is the Hawaiian word which describes the idea of taking responsibility for protecting our environment?	1) Ahupua'a 2) Kuleana 3) Kokua	2
4	Which fresh water fish is native to Manoa Stream?	1) Tilapia 2) Bass 3) O'opu 4) Swordtail	3
5	How many years does it take for rain that falls today to filter into the earth and fill our aquifer so we can have it available for us to drink?	1) 5 years 2) 10 years 3) 25 years	3
6	It is better for the environment if you use herbicides (bug spray) on your plants on a:	1) windy day 2) calm day 3) rainy day	2
7	According to the Board of Water Supply, how many years has the island of Oahu had drought conditions?	1) 3 years 2) 6 years 3) 15 years	2

8	You save water by using the same towel for a week, spreading mulch in your garden, and using a cup of water while brushing your teeth.	True or False	True
9	A yard with native plants generally uses less water than a yard with non-native plants.	True or False	True
10	All of the water which flows into the storm drains along Manoa Valley streets goes into Manoa Stream and eventually into the ocean.	True or False	True
11	If all homeowners concreted their yards instead of keeping them green, the amount of water going into the aquifer would be:	1) more 2) less	2
12	There is a tunnel and an artesian well in Manoa Valley that provides water to Manoa residents. The well supplies more than 50% of the drinking water used by the Manoa residents.	True or False	False
13	It is safe to wade in Manoa Stream, even if you have open cuts, as long as you have had a tetanus shot within the past 6 months.	True or False	False
14	How can watershed planning improve the quality of water that flows in our streams and oceans?	1) Decrease soil erosion 2) Decrease runoff 3) Decrease effects of flooding 4) All of the above	4
15	Which of the following descriptions of an aquifer is false? An aquifer is:	1) where Hawaii gets its drinking water 2) where Hawaii gets much of its water for farming 3) an underground water-rich layer 4) where Hawaii gets its water for bathing, cooking, and washing 5) where we can paddle our canoes	5
16	A watershed is:	1) a small shed in the back yard where the hot water heater is kept 2) an area that collects water and acts like a funnel, guiding the water to the streams and the sea	2
17	What is the best and most accurate way of finding out how much water your family uses each month?	1) Do a daily log 2) Check your water bill 3) Put water meters on all the shower heads in your house	2
18	As more people come to visit or live in Hawaii, our need to use water wisely will:	1) increase 2) decrease	1
19	Picking up pet waste and disposing of it in the trash is a good idea because it:	1) removes extra sources of nutrients from the watershed 2) keeps the neighborhood smelling nice 3) removes a source of bacteria (germs) from the watershed 4) all of the above	4
20	To save water, you should water your plants:	1) early in the morning 2) in the middle of the day	1
21	A person should always follow the directions on the container label when using fertilizers in their garden because:	1) too much fertilizer can hurt their lawn, and the nearby streams 2) too little fertilizer can kill their lawn 3) too much fertilizer will kill the "good" worms in their lawn	1

22	Which of the following ways to wash your car is <u>good</u> for the environment?	1) On the driveway 2) At a commercial car wash 3) On a grassy area with a bucket 4) On the street	2 or 3
23	What is the best way to prevent sediment (dirt) from going into the storm drains?	1) Concrete your yard 2) Don't plant grass so the water can soak directly into the ground 3) Plant grass or other ground cover so it will hold the soil during rains	3
24	The trade winds, which blow from the northeast, determine where our primary aquifers are located and how our water distribution system was set up. The trade winds help produce <u>abundant</u> rainfall over:	1) the Koolau Range 2) Ewa Beach 3) Honolulu 4) Waianae	1
25	Which is the <u>best</u> way to dispose of a coolant, oil, or brake fluid spill in your garage?	1) Hose it down 2) Wipe it with rags and dispose properly 3) Leave it to dry	2
26	What is the <u>most frequent</u> way alien (non-native) fish came to live in our streams?	1) They swim upstream from the ocean 2) People dump them from their aquariums 3) Government representatives release them to eat the mosquitoes and dragonflies	2
27	Flash flooding is the #1 cause of weather related deaths. It does not take much water to sweep a vehicle off the road. How many feet of fast moving water does it take to sweep a car downstream?	1) 2 feet 2) 6 feet 3) 10 feet 4) vehicles can not be swept downstream, only water!	1
28	Wild pigs living in our valleys are <u>bad</u> for the environment because they:	1) eat miconia on the mountains 2) cause erosion of our hillsides because they dig up the ground 3) eat the rats in the forest	2
29	In order to <u>save</u> water, you can clean your hands just as well as with soap and water by using waterless hand sanitizer, wiping hands with alcohol, or wiping hands with hydrogen peroxide.	True or False	True
30	Taro is one of the most important crops grown in our watersheds. What is the <u>most serious aquatic pest</u> of the taro plant?	1) Crayfish 2) Apple snail 3) Armored catfish 4) Smallmouth bass	2
31	97% of the earth's water is in the oceans and only 3% of it is available for humans as drinking water. If all of the earth's water could fit in a gallon jar, what would be the amount of fresh water available for human use?	1) one quart 2) one pint 3) one cup 4) one tablespoon	4
32	The Board of Water Supply has begun building a desalinization plant. Because the ocean is an unlimited water source, the cost of drinking water will be much less using this new technology.	True or False	False
33	Xeriscaping means using water efficiently in the landscape. The Board of Water Supply has a xeriscape garden in Halawa which uses less water to grow plants and teaches people to grow plants which use less water.	True or False	True
34	What percentage of our drinking water is treated with chlorine to purify it for drinking?	1) 10% 2) 50% 3) 90% 4) 100%	3
35	In order to keep an ecosystem healthy and able to sustain itself, the number of animals and people living in an area is <u>not important</u> because there is no way that overuse of resources can occur.	True or False	False
36	The Ala Wai Canal is an <u>estuary</u> because it has a mix of both fresh and salt water. An estuary is important because it is a nursery for <u>both</u> freshwater and saltwater fish.	True or False	True
37	Any surface that does not allow water to soak into the soil and causes urban watersheds have a lot of runoff into the stream is an <u>impervious surface</u>. Which is <u>not</u> an example of an impervious surface?	1) Rooftop 2) Concrete Sidewalk 3) Gravel driveway 4) Asphalt (black top) driveway	3
38	Green plants make oxygen. If the stream water is polluted, plants in the stream will not be able to make enough oxygen for fish to keep healthy.	True or False	True
39	Fish "sbreathe" oxygen dissolved in the water. Fertilizer runoff increases algae (green plant) growth. When algae die, bacteria decompose the dead algae and use up oxygen so there is not enough oxygen for the fish.	True or False	True
40	Automobiles do not add pollutants to a stream as long as drivers don't drive through the stream itself.	True or False	False
41	When you apply fertilizer to your lawn, you should keep it on the grass because any fertilizer does not soak into the ground:	1) causes the sidewalk to turn a blue color 2) can easily wash off into the storm drain	2

		and then into the stream causing too many nutrients in the stream 3) both one and two	
42	Native forests are important for watersheds because:	1) heavy vegetation allows the rain to soak slowly and fill up our water basins 2) heavy vegetation prevents erosion 3) shade provided by trees lessens evaporation of moisture 4) all of the above	4
43	Mililani residents were given recycling bins as a part of our City's pilot program. Participation in the recycling program was:	1) voluntary 2) mandatory	1
44	If you purchase a low-flow toilet, you receive a rebate on your purchase. How much will you get back from the Board of Water Supply?	1) $50 2) $100 3) $200	2
45	The purpose of storm drains in Hawaii is to:	1) guide overflow rainwater to the sewer system 2) take water to the water treatment plant where it is turned into drinking water 3) carry storm water from streets into the nearest stream 4) carry storm water into lava tubes to prevent flooding	3
46	In 2000, the citizens of which country used the most water per person?	1) Italy 2) United States 3) Thailand 4) Japan 6) England 7) Australia	2
47	The Board of Water Supply is giving residents water meters to attach to showers and outside garden hoses. When you use too much water, the meters:	1) make a loud noise 2) automatically shut off the water 3) allow you to monitor your water use and make a deliberate decision to use less water	3
48	Each Briton uses 88 gallons, each Asian 23 gallons, and each African uses 12 gallons. How many gallons of water does the average Honolulu resident use?	1) 50 gallons 2) 75 gallons 3) 90 gallons 4) 110 gallons	4
49	The reclaimed water used at some of the golf courses and cemeteries on the island is safe to touch, but not drink.	True or False	True
50	Manoa Valley and Ala Wai Canal below the valley are all part of the Manoa Subwatershed. Based on the concept of the ahupua'a, the health of the forest above directly affects the health of the waterways below.	True or False	True
51	It is better for our environment to either leave the ground bare (no plants or grass) or concrete it over so there is no need to use any water for plants.	True or False	False
52	Trees provide shade, keep our homes cooler, make our air cleaner, and slow rainwater down so it can soak into the soil.	True or False	True
53	The punishment for littering can range from a $25 fine and 4 hours of community service to a $500 fine and 8 hours of community service. Littering is a petty misdemeanor.	True or False	True
54	Xeriscape gardening uses plants needing less water (unthirsty plants). If a person wanted to learn more about a xeriscape garden, the fastest way to find out how to get started is:	1) attend a workshop at Halawa Xeriscape Garden 2) enroll at the UH-College of Tropical Agriculture 3) train at the Pacific Center for Environmental Studies	1
55	Washing your car on your lawn is:	1) a good idea because it allows water to infiltrate (seep down) into the soil 2) a bad idea as it causes permanent damage to the grass 3) a good idea because it uses poor quality water rather than drinking water.	1
56	The U.S. Army Corps of Engineers is working on a plan to prevent flooding in Waikiki in the event of a "100-year flood." Since the last 100-year flood occurred 75 years ago, USACE still has time because we won't get another 100-year flood for 25 years.	True or False	False
57	Which of the following statements is most <u>true</u>?	1) I can't do anything about water quality 2) The products I use and how I use them can affect the quality of water in our streams 3) My home is already built and	2

		there is nothing to make it more eco-friendly	
58	Low-flow toilets use only 1.6 gallons of water per flush. Older toilets use as much as 7 gallons a flush. If a family flushes their toilet 20 times a day, how many gallons of water would they <u>save</u>, each day, if they replaced their old one for a low-flow toilet?	1) 35 gallons 2) 54 gallons 3) 108 gallons	3
59	Which type of product should you avoid using whenever possible?	1) toxic 2) biodegradable 3) recycled 4) organic	1
60	Because we are using water faster than our aquifers are filling up, the Board of Water Supply wants everyone to use 10% less water. If your current water usage is 10,000 gallons, how many gallons does the Board of Water Supply want you to <u>save</u>?	1) 900 gallons 2) 1,000 gallons 3) 9,000 gallons 4) 9,100 gallons	2

Kuleana Water Warrior Challenge
UPDATE 10/14/04

Counting down 10 days before the Kuleana Eco-Fair! Here are the latest results of the KWWC:

Position/Place	School	Number of Water Warriors
1st Place	Noelani Elementary	298
2nd Place	Manoa Elementary	207
3rd Place	UH Education Laboratory	125
4th Place	Punahou	101
5th Place	Mid-Pac	71
6th Place	Iolani	66

FINAL TALLY of Water Warrior votes will take place after the Eco-Fair closes at 2:00 p.m. on October 23, 2004. So, there is still time to recruit new Water Warriors and move your school up in the numbers of total Water Warrior votes it receives and the opportunity to win cash prizes of 1st Pl. -$2,000, 2nd Pl.- $1,000 or 3rd Pl.-$500!!

CONGRATULATIONS!

All the students of the following classes passed the Early-Bird Water Warrior Challenge and met all the requirements of Water Warriorship. (A passing score is 10 correct out of a total of 15 answers). Please note the percentage of students in these classes who achieved perfect scores (15 correct) on their Early Bird quizzes.

School Participation	Teacher(s)	Grade	% of Students Tested w/100%
Iolani (3 classes)	Mrs. Young	4	43%
	Ms. Schmitz	4	39%
Manoa (9 classes)	Mr. Takamiya	5	84%
	Mrs. Vidal	3	29%
	Mrs. Ariel	3	21%
Mid-Pac (4 classes)	Mrs. Fukumoto	3&4	53%
	Ms. Byrne	3&4	35%
Noelani (11 classes)	Ms. Ligot	3	75%
	Mrs. Heath & Mrs. Itoga	4	64%
	Mr. Pupuhi	4	38%
	Mrs. Watanabe	4	19%
Punahou (2 classes)	Mr. McInerny	5	65%
	Mr. Luckenbach	5	64%
UH Lab (5 classes)	Ms. Hoof	7	37%
	Ms. Collins	8	24%

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

September 1, 2004

Dear Valued Customer,

Last year, the Honolulu Board of Water Supply, in partnership with the community organization Malama o Manoa, produced the enclosed video, "Ka Wai o Manoa," (The Waters of Manoa) to promote watershed stewardship. With additional funding received from the Hawaii Nature Center, Malama o Manoa reproduced additional copies of this video to be shared with our Manoa community. I encourage you to spend some time and see the good work being done by your neighbors. Perhaps you will be inspired to join with us in this very worthwhile cause – protecting and preserving our most valuable resource – *water*. With your help we can make water conservation a part of our everyday lives. In fact, I urge you to share your copy of "Ka Wai o Manoa" with your neighbors so that everyone will have a chance to see and hear what is being done in Manoa.

To celebrate these conservation efforts by our students, families and businesses, Malama o Manoa invites you to the Kuleana Eco-Fair, Saturday, October 23, 2004, at the Manoa Valley District Park Gym. There will be rides, refreshments, informational booths, and the opportunity to test your water conservation knowledge by participating in the Water Warrior Challenge. Winners will have the chance to help the kuleana school of their choice win the grand prize of $2,000.

The Kuleana Eco-Fair is just one of the many ways that you can join with your community in conserving water. Through the hard work and diligence of your neighbors, Manoa is one of the communities leading the effort in the stewardship of our water resource. With everyone sharing this responsibility we can ensure that future generations will have abundant water from sources that are pure and dependable, *water for life – Ka Wai Ola.*

Very truly yours,

Clifford S. Jamile
Manager and Chief Engineer

Kuleana Eco-Fair and the Kuleana Water Warrior Challenge

You are one of 950 persons selected randomly who has received the video, “Ka Wai o Manoa”. Enclosed please find the Kuleana Water Warrior Challenge score card with three completed Challenges. You are invited to bring this scorecard to the Kuleana Eco-Fair on October 23 to the Manoa Valley District Park Gym. At that time, you are encouraged to complete the remaining seven challenges by either completing activities or answering questions correctly. (All of the questions and answers used in the Water Warrior Challenge can be found on our website, www.malamaomanoa.org) You will have two chances to pass each of the seven challenges. After completing the seven challenges and taking the Water Warrior Pledge printed on the scorecard, you will become an official Water Warrior, and you will be entitled to receive a tee shirt and to vote for a Water Warrior School listed on the back of the scorecard.

Should you wish to volunteer in this community activity please contact Naomi at 988-7463 (ddnoh@aol.com) or Helen at 988-5671 (nakano@aloha.net)

Kuleana Eco-Fair and the Kuleana Water Warrior Challenge

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SCORE CARD
Kuleana Water Warrior Challenge

Earn a sticker when you get it right. Successfully answer ten (10) questions or challenges and become a certified Water Warrior and have an opportunity to earn a t-shirt.

Challenge 1	Challenge 2	Challenge 3	Challenge 4
Challenge 5	Challenge 6	Challenge 7	Challenge 8
Challenge 9	Challenge 10	EARLY BIRD QUIZ	

T-Shirt Sizes:

☐Children small ☐Adult small ☐Adult large
☐Children medium ☐Adult medium ☐Adult X-large

T-shirts are limited to available supply & sizes.

Kuleana Eco-Fair
Manoa Valley District Park Gym
Sat., October 23, 9 am–2 pm

Kuleana Water Warrior Pledge

I promise to save water for future generations. I will protect the environment. I will be responsible, proactive, a role model, and courageous in the face of adversity and indifference.
... **BY** (please specify how):

_____
_____

Signature: _____
Print name: _____
City & Zip code: _____
School & Grade: _____
Teacher's name: _____

School you would like to have credited for the grand prize of $2,000 *(check one only)*:

☐Iolani ☐Manoa ☐Mid-Pac
☐Noelani ☐Punahou ☐UH Educ. Lab

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_____
_____

Signature: _____
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Teacher' s name: _____

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☐Iolani ☐Manoa ☐Mid-Pac
☐Noelani ☐Punahou ☐UH Educ. Lab

Malama o Manoa
PO Box 61961 • Honolulu, Hawaii 96839

August 22, 2004

Dear Mr. Okimoto:

This letter is to inform you of a wonderful opportunity for your business!

We are in the midst of coordinating the Kuleana Eco-Fair and Water Warrior Challenge to be held October 23, 2004. The Eco-Fair is an exciting community event with the purpose of increasing public awareness of water conservation and pollution prevention. We feel that this cause is extremely important, and know that you do, as well.

We foresee the participation of much of the Manoa Valley community, including students from eleven public and private area schools, that we have built strong relationships with. Over forty organized groups, including government agencies, non-governmental agencies, and commercial vendors will participate in the Eco-Fair to promote conservation practices. Participating vendors are not allowed to sell products during the event, but we expect the promotion of new and innovative water conserving products will lead to increased future sales.

Your business, in particular, is one that we would like to have join us for this event. Low flow toilets are an important step toward water conservation, and many families are interested in purchasing them. However, many of my neighbors have voiced concerns regarding these low flow toilets saying that more than one flush is necessary in most models. In contrast, we have heard great things about your new generation of TOTO toilets, and are interested in having you explain their merits. In fact, without rapid conversion by a large percentage of households to low flow toilets, we will not be able to reach our goal of 10% reduction of our current water usage by 2005.

As a participant in our Eco-Fair, you will be able to display your fine products. We hope that your product will dispel the negative myths about low flow toilets, and further promote public use. We would also like to use your TOTO toilet to draw the public to come to the Eco-Fair and request that T. Oki donate a TOTO toilet to the Kuleana Eco-Fair project so that we can offer one as a door prize.

Your early consideration of our request is appreciated so we can inform the community about this wonderful opportunity to win a TOTO toilet. Please call me at 988-5671 if you need more information. I have also asked Mr. Lawrence Kometani, another volunteer, to call on you for the same purpose.

Sincerely,

Helen T. Nakano
Kuleana Project Coordinator

Kuleana Eco-Fair and the Water Warrior Challenge
Vendor Instructions – 08/15/04

HOW WE GOT STARTED

History: From August, 2003 to April, 2004, the Honolulu Board of Water Supply (BWS), Malama o Manoa and 12 area schools (Hokulani, Iolani, Manoa, Maryknoll Grade and High Schools, Mid-Pacific, Noelani, Punahou, Roosevelt, St. Francis, Stevenson, UH Educ. Laboratory), worked together to encourage watershed stewardship among their students and the residents of the Manoa Valley. Their efforts were recognized, and in May, 2004, the Kuleana partners received an award for outstanding achievement from the U.S. Environmental Protection Agency.

Sponsorship: Phase II (August –October, 2004), which consists of the Kuleana Eco-Fair and the Water Warrior Challenge, is a continuation of our mission to promote water conservation and pollution prevention.

With your support, the **Kuleana Eco-Fair** will be an exciting and fun-filled community event. Our goal is 1,000 Water Warriors in attendance. The purpose of the Eco-Fair is to provide residents with information about water and the watershed in the hopes that the increased awareness will result in change of our practices. However, all are welcome to just enjoy your exhibits without participating in the Water Warrior Challenge

Over 40 city, state and federal agencies, non-government organizations, and commercial vendors offering environmentally-friendly products and services, will be at the Eco-Fair to provide this information with colorful displays, demos, costume contests and other fun activities. The Eco-Fair will be held at the Manoa Valley District Park Gym on Saturday, October 23 (National Make a Difference Day), from 9:00 am to 2:00 pm.

The **Water Warrior Challenge** was developed to run on a dual track with the Kuleana Eco-Fair. The purpose of the Water Warrior Challenge is to motivate students and adults to learn about the Ala Wai watershed and to become more knowledgeable about water and water pollution. We are again working with area school teachers to motivate students and their parents to attend the Eco-Fair. **For participants to become Water Warriors** they must 1) pass 10 information-based or activity-based challenges at the Eco-Fair; 2) sign a pledge; and, 3) make a commitment to do a specific activity to better our environment. All school-age children, as well as adults, regardless of residency, may become Water Warriors. All exhibitors are also welcome to become Water Warriors so they can vote for their favorite Kuleana School. All Water Warriors will receive a certificate and a free Water Warrior tee-shirt, subject to availability of size and supply. They will also receive 10 scripts that can be exchanged for refreshments, rides, shaved ice, and prizes at a redemption center at the Eco-fair.

EXHIBITING AT THE ECO-FAIR

1. Commercial vendors are to provide exhibit/display booth (you will be given space limitations at a later date), if possible, interactive, and/or related children's activity/game and/or giveaways
2. Please bring your own tables, chairs, display boards etc. Be sure tables and chairs have rubber caps as the gym floor is wooden.
3. Set up times: Gym staff will open the gym doors for set up at 7:00 am on October 23. You are encouraged to set up the night before, between 8:00 pm and 9:30 pm on Friday, October 22. Gym will be occupied by basketball teams before 8:00.
4. Morning coffee, refreshments and lunch will be provided for all volunteers, agency and NGO representatives and vendors.
5. Parking: Please part in the lower park lot (enter from Lowrey Ave.) after unloading to keep parking open for Eco-Fair participants with children.
6. Footwear: Please wear rubber-soled footwear or go barefoot.

Fees

There is NO CHARGE to promote your products and/or services at the Eco-Fair. Our hope is that members of our community will be made aware of, and, consequently, use more eco-friendly products in the future. We appreciate your support and thank you for your participation.

DONATIONS WELCOME!

If you would like to help our efforts to draw the crowds – Any and all cash donations and contributions for BIG door prizes, and prizes which kids can redeem at the Redemption Center will be gratefully accepted If you can help us find donors of low-flow toilets, low-flow washing machines, water-filters, etc., for major drawings would be appreciated as well.

Testing Stations

Government Agencies and Non-Government Organizations (NGO) will be serving as our Water Warrior testing stations. Participants must pass either an activity-based or information-based challenge in order to get a stamp on their Water Warrior Score Card and a script. If participants fail to answer the information-based challenge correctly, he will be given one more chance to pick another number and try again.

If any vendors are interested in becoming testing stations, please call Helen at 988-5671 or email her at nakano@aloha.net

A VERY SPECIAL KULEANA THANKS

Sponsor: Honolulu Board of Water Supply

Our Generous Donors: Ameron (bottled water); Ben Franklin Pearl City (rubber stamps); ComposTumbler Co. ("Back Porch" ComposTumbler); Eddie Tanabe family (musubi); Hawaiian Electric Company (Kenmore low-flow washer); Frito-Lay (chips); Itoen (USA) Inc. (beverages); Love's Bakery (buns); Redondo's Sausages (hotdogs); Starbuck's (coffee); T.Oki Trading Ltd. (TOTO low-flow toilet); Army, Diamond Head, Kennedy, Kumu Kahua, and Manoa Valley Theatres (tickets); Sen. Brian Taniguchi, Rep. Kirk Caldwell, Cmbr. Ann Kobayashi (costume contest sponsorship); Tom Terrific's (signage); and Preferred Medical Plan Insurance, Inc. (copies).

Agencies: C&C Dept. of Environmental Services, C&C Dept. of Refuse, C&C Information Services, Coordinating Group on Alien Pest Species, Hawaiian Electric Company, Ko'olau Mountains Watershed Partnership, Lyon Arboretum, NOAA--National Weather Service, Oahu Invasive Species Committee, State Dept. of Health, Clean Water Branch, State Dept. of Health, Environmental Health Branch, State DLNR, Dept. of Aquatic Resources, State DLNR, Div. of Forestry & Wildlife, UH-School of Ocean & Earth Science & Technology, US Army Corps of Engineers, US Dept of Agriculture Natural Resources Conservation Services, US Environmental Protection Agency (EPA), US Geological Survey. ***Non-Government Organizations:*** Hawaii's Thousand Friends, Kahea, MOA Nature Farm, Protect the Planet, Sierra Club Hawaii Chapter, Hawaii Nature Center, Windward Ahupua'a Alliance - Bust-a-Dumper. ***Exhibiting Vendors of Eco-Friendly Products and Services:*** Ameron, EXACTA Sales, Inc., Hawaiian Earth Products, Ltd., Intech Inc., Inter Island Solar Supply, Kevin Mulkern Landscaping, Melaluca, Natural Systems, Nikken, Waterless Car Wash Co.

Volunteers: **A project of this complexity and scope does not just happen. It is the result of many hands, heads, and hearts.**
Lisa Joy Andres, Mandy Bowers, Elizabeth Cole, Joan Dempster, Claudia Hamlin-Katnik, Jim Harwood, Sharlene Hirai, Vi Hiranaka, Walt Hiranaka, Betty Ikeda, Carol Iwanuma, Caroline Kim, Eunice Ko, Lawrence Kometani, Juliette Ling, Barbara Lowe, Richard Morris, Carol Nagasako, Roy Nagasako, George Nakano, Dennis Ohta, Naomi Ohta, Pete Radulovic, Iwalani Sato, Matt Taufate'e, Eddie Tanabe, Connie Tanabe, Elizabeth Tsuruda, Bertha Ueoka, Ginny Young and the many others, too numerous to name, who helped on the Water Warrior Challenge and the Kuleana Eco-Fair.

To each and all, my sincerest mahalo, Helen Nakano, Project Coordinator.

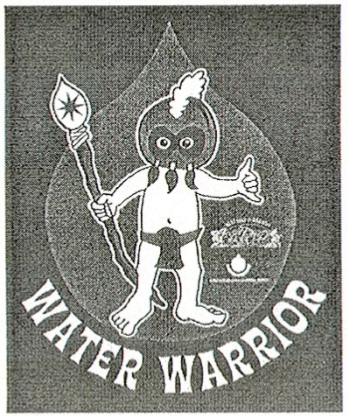
Mālama o Mānoa
P.O. Box 61961 • Honolulu, Hawaii 96839
To promote community, our cultural diversity and heritage, and preserve, protect, and enhance the special qualities of historic Manoa Valley.

KULEANA ECO-FAIR

and

Water Warrior Challenge

Saturday, October 23, 2004
9:00 a.m.-2:00 p.m.
Manoa Valley District Park



Water Warrior T-design / Option 1
black t-shirt / white and "B.O.W.S." green ink
8-9-04

WATER WARRIOR CHALLENGE

To promote water conservation practices, increase awareness of practices that contribute to nonpoint source pollution of Manoa Stream, and cultivate *kuleana* (responsibility, ownership) among current and next generation

Instructions / Activities:

- Look for agency and non-profit organization booths/exhibits as they are designated Water Warrior "testing stations". These booths will conduct the activity and information-based challenges.
- To accept the Water Warrior Challenge, pick up a scorecard at the Registration booth. Upon successful completion of ten challenges, go to the Redemption booth to make a personal commitment and take the Water Warrior Pledge. Then, you may 1) vote, 2) get a t-shirt (or water meter), 3) receive 10 scrips, and 4) enter for prize drawings (one entry per person).
- Drawing for washer, toilet and composter are open only to Water Warriors, without age or residency requirements or need to be present to win.

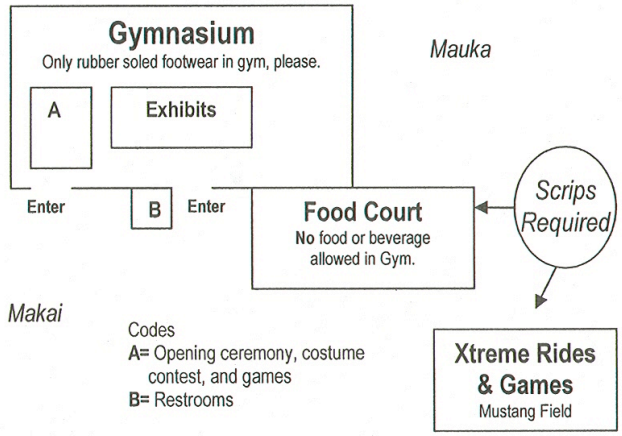
(Early-Bird Water Warriors present your ID card and pick up your scrips at the Registration booth)

Mahalo to our participating schools and students

Iolani School - 4th Grade (Mrs. Gaylor, Mrs. Kugiya-Schmitz, Mrs. Young, Mr. Doi, Mrs. Keefer)
Manoa School - 3rd Grade (Mrs. Vidal, Mrs. Matsuura, Mrs. Ariel) - 4th Grade (Mrs. Chung, Mrs. Kajioka, Mrs. Nakasone) - 5th Grade (Mrs. Pacheco, Mrs. Rokuta, Mr. Takamiya)
Mid-Pacific - 3-4th Grade (Mrs. MacFarlane-Flores, Mrs. Byrne, Mrs. Fukumoto) - 5th Grade (Mr. Black, Mrs. Matsumoto)
Noelani School - 3rd Grade (Mrs. Takemori, Mrs. Nakamura, Mrs. Sutera, Mrs. Ligot) - 4th Grade (Mrs. Watanabe, Mrs. Itoga, Mrs. Gentry-Heath, Mr. Pupuhi) - 5th Grade (Mrs. Taguchi, Mrs. Chang, Mrs. Lum) - 6th Grade (Mrs. Arita, Mrs. Yamanuha)
Punahou School – 5th Grade (Mr. Luckenbach, Mr. McInerny)
UH Lab School – 6th and 8th Grade (Mrs. Collins) – 7th Grade (Mrs. Hoof)

SCHEDULE OF EVENTS

Time	Activity
8:50	**Parade of Water Warriors**
9:00	**Opening Ceremony** Curt Cottrell and Lisa Joy Andres
9:05	**Welcome** The Honolulu Board of Water Supply, Barry Usagawa Malama o Manoa, Mary Cooke.
9:10-1:50	**Water Warrior Challenge** Testing, Xtreme fun and games, refreshments, and demonstrations
9:30	**Registration** for costume contestants.
10:00-noon	**Costume Contest**
2:00	**Drawing** for prizes **End of Eco-Fair**



Cooperative Extension Service
C/T/A/H/R
College of Tropical Agriculture & Human Resources
University of Hawaii at Manoa

Hawaii's Pollution Prevention Information
Dec. 2000
HAPPI-Home 3

Reducing Pollution Risks from Your Trash

One of the most visible forms of pollution in Hawaii is household waste. This worksheet will help you determine the pollution risks from your trash disposal practices and give you some ideas of how to manage your trash to reduce those risks. The topics covered are

- identifying what is in your trash
- reusing, recycling, and composting
- proper waste disposal.

What is household waste?

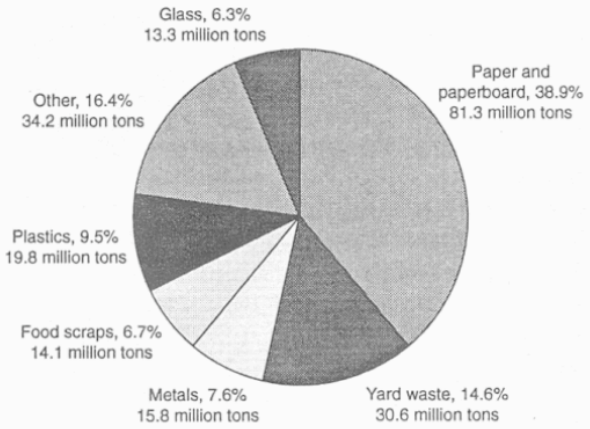
What do you call the stuff you want to get rid of? Trash? Garbage? Solid waste? Recyclables? Refuse? Junk? Here's how we define the terms:

- ***Trash*** and ***waste*** refer to items and materials that are being discarded.
- ***Reusables*** are items that are used again by a different user or for a different purpose, like a hand-me-down jacket or a jar used for a cup; they are not reprocessed into raw materials.
- ***Recyclables*** are materials including glass, metal, paper, even refrigerators that are collected, separated, processed back into raw materials, and made into new products.
- ***Compostables*** are primarily yard and food wastes that can decompose and return to the land as nutrients or organic matter.
- ***Garbage*** is generally food waste or wet food, either of animal or plant origin.

What is in your trash?

As Hawaii's population increases, the amount of waste produced each year also rises. In fact, material consumption has increased faster than the population. Studies estimate that in 1994 each person in the USA produced around 4.4 pounds of waste each day, a significant increase from the 2.7 pounds produced per person daily in 1960.

Most consumers do not realize what makes up solid waste. Many think that we throw away more plastics by weight than we really do, or that disposable diapers are a major source of trash—which they are not. The following graph shows what is in the solid waste thrown away in the USA each year.



Components of the U.S. national waste burden
(Source: Franklin & Assoc. Ltd. 1995)

The problem with waste

Much of Oahu's household waste is used for power generation by H-Power. However, the ash produced by the H-Power plant goes to landfills. On the other islands, most waste goes directly to landfills, and they are filling up. New regulations and land scarcity make it harder to find places for new landfills. Waste is a major environmental and economic problem for consumers and municipalities. Producing less waste and finding ways to deal with waste not only saves money but also helps protect air, soil, and water quality and the health of people and wildlife.

Published by the College of Tropical Agriculture and Human Resources (CTAHR) and issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Andrew G. Hashimoto, Dean, Cooperative Extension Service/CTAHR, University of Hawaii at Manoa, Honolulu, Hawaii 96822. An Equal Opportunity / Affirmative Action Institution providing programs and services to the people of Hawaii without regard to race, sex, age, religion, color, national origin, ancestry, disability, marital status, arrest and court record, sexual orientation, or veteran status. CTAHR publications can be found on the Web site <http://www2.ctahr.hawaii.edu> or ordered by calling 808-956-7046 or sending e-mail to ctahrpub@hawaii.edu.

Additional materials on composting are available by request from your local CTAHR Cooperative Extension Service office.

Waste disposal

Disposing of household wastes by burning it or dumping it on private property can pose threats to your health and the environment. Waste dumped at your home is not only unsightly, it may contain harmful chemicals that can leach out and contaminate groundwater, or be spread by wind and rain. Burning your waste can produce toxic fumes as well as contaminated ashes that can blow or wash away and cause pollution.

Wastes dumped directly into storm drains, ditches or steams or washed into these water bodies can quickly cause pollution problems. Other materials, like foam "peanuts" and other plastic debris, can be transported by storm runoff to open water where they may be mistaken for food and eaten by fish or birds. Dumping potentially hazardous substances down a drain that leads to a septic system or sewer system can also cause problems. The table below provides information on the disposal methods for various types of household wastes that create the lowest water pollution risks.

You need to take particular care when disposing of household hazardous products. By reading product labels, you can generally tell which ones have hazardous ingredients. Look for words like CAUTION, WARNING, DANGER, FLAMMABLE, POISON, VAPOR HARMFUL, or HARMFUL OR FATAL IF SWALLOWED. These are clues that a substance in the product is potentially hazardous to your health and to the environment.

Carefully dispose of any of these types of products. If it is safe and legal to do so, use the product up according to the label directions so nothing is left to discard. If you do have extra that you do not need, always read the label for disposal recommendations, or contact the manufacturer. For more information, see HAPPI-Home 4, *Managing hazardous household products*.

Assessing your risks

There are two ways to reduce the risk of pollution from trash disposal. The first is to generate less trash and the second is to dispose of it in the most environmentally friendly way. Use the table on page 4 to assess your *waste potential*. A low waste potential means that less trash needs to be disposed of. Also, assess the pollution risks from the trash that you do have to throw away.

Waste resource	Water quality–friendly disposal methods
Food waste	Compost vegetable matter if possible; dispose of meat and other materials in landfill
Green waste, grass clippings, leaves	Compost or use as mulch; separate from other waste for municipal composting where available
Paper, cardboard	Reuse and recycle where possible; dispose in landfill as last resort
Plastics	Reuse and recycle where possible; dispose in landfill as last resort
Aluminum	Recycle where possible; dispose in landfill as last resort
Other metals (steel, tin)	Recycle where possible; dispose in municipal trash (on Oahu, recycled at H-power)
Glass	Reuse or recycle where possible; dispose in landfill as last resort
Large appliances	Have potentially hazardous parts/items removed before recycling (PCBs, freon, mercury in lights, capacitors, etc.); take to landfill.

For other potentially hazardous products including household cleaners, aerosol cans, paint, paint thinner, glues and adhesives, and gasoline, see HAPPI-Home 4, *Managing hazardous household products,* for information on storage and disposal.

This HAPPI document was adapted by Michael Robotham, Carl Evensen, and Linda J. Cox from *Managing household waste: preventing, reusing, recycling, and composting,* by Shirley Niemeyer, Michael P. Vogel, and Kathleen Parrott, Chapter 11, pp. 106–115, in *Home•A•Syst: An environmental risk assessment guide for the home* developed by the National Farm•A•Syst / Home•A•Syst Program in cooperation with NRAES, the Northeast Regional Agricultural Engineering Service. Permission to use these materials was granted by the National Farm•A•Syst/Home•A•Syst Office. HAPPI-Home materials are produced by the Hawaii's Pollution Prevention Information (HAPPI) project (Farm•A•Syst/Home•A•Syst for Hawaii) of the University of Hawaii College of Tropical Agriculture and Human Resources (UH-CTAHR) and the USDA Cooperative Extension Service (USDA-CES). Funding for the program is provided by a U.S. EPA 319(h) grant administered by the Hawaii State Department of Health.

Kuleana Eco-Fair

General Information

1) NO Food or Drinks allowed in the Gym.

2) Only barefoot or rubber-soled SHOES are allowed in the Gym.

3) LOST AND FOUND and FIRST AID can be found at the Malama o Manoa Registration Booth.

4) KULEANA PLATE LUNCH tickets will be distributed to you between 10:00 and 11:00 am. You must have one of these tickets to get a lunch.

5) If you are a TESTING BOOTH, Questions and Answers are included in your folder and you will be given a stamp and stamp pad. Please make sure to return the stamp and pad at the end of the day to the Malama o Manoa Registration Booth.

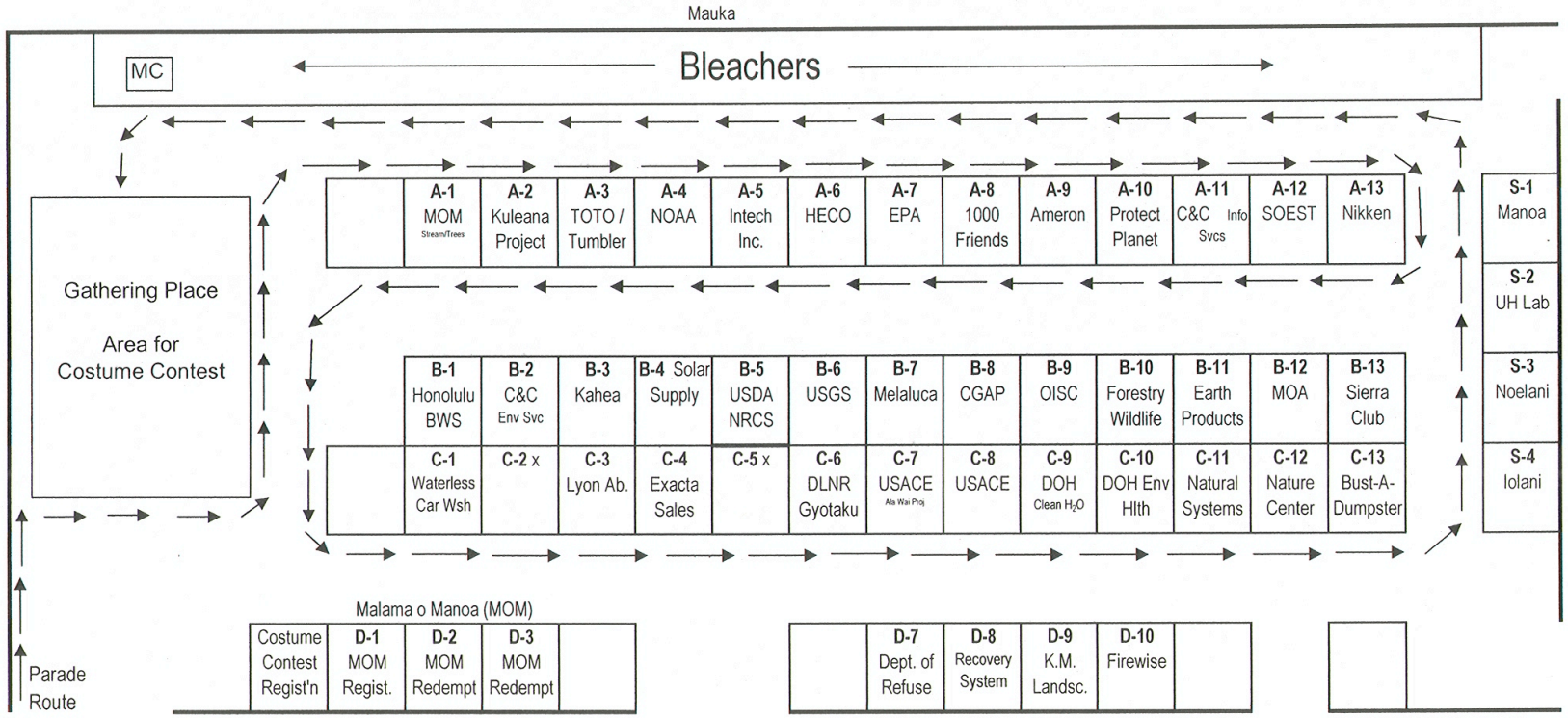
6) In order to be eligible to win the TOILET, COMPOSTUMBLER, and WASHING MACHINE, you must complete a Water Warrior scorecard by passing ten challenges.

7) SCRIP are issued only at the Malama o Manoa Redemption Booth. Each challenge earns one scrip. Ten challenges must be done in order to complete one scorecard. A completed scorecard earns a t-shirt or water meter (supplies limited), ten scrip, and eligibility for prize drawings.

8) We will have "TROUBLESHOOTERS" walking around to help you. Look for the people in the green hats!

Please remember that the entire purpose of this Eco-Fair is to help people learn to become better stewards of the environment. If you are approached with questions, please try to answer them to the best of your ability. If you are unable to answer any question, direct participants to volunteers in the green hats or to the Malama o Manoa Registration Booths.

Thank you for all your hard work in helping us "MAKE A DIFFERENCE"!


Mauka
MC
Bleachers
Gathering Place
Area for
Costume Contest
A-1 MOM Stream/Trees
A-2 Kuleana Project
A-3 TOTO / Tumbler
A-4 NOAA
A-5 Intech Inc.
A-6 HECO
A-7 EPA
A-8 1000 Friends
A-9 Ameron
A-10 Protect Planet
A-11 C&C Info Svcs
A-12 SOEST
A-13 Nikken
S-1 Manoa
S-2 UH Lab
S-3 Noelani
S-4 Iolani
B-1 Honolulu BWS
B-2 C&C Env Svc
B-3 Kahea
B-4 Solar Supply
B-5 USDA NRCS
B-6 USGS
B-7 Melaluca
B-8 CGAP
B-9 OISC
B-10 Forestry Wildlife
B-11 Earth Products
B-12 MOA
B-13 Sierra Club
C-1 Waterless Car Wsh
C-2 x
C-3 Lyon Ab.
C-4 Exacta Sales
C-5 x
C-6 DLNR Gyotaku
C-7 USACE Ala Wai Proj
C-8 USACE
C-9 DOH Clean H_2O
C-10 DOH Env Hlth
C-11 Natural Systems
C-12 Nature Center
C-13 Bust-A-Dumpster
Malama o Manoa (MOM)
Costume Contest Regist'n
D-1 MOM Regist.
D-2 MOM Redempt
D-3 MOM Redempt
D-7 Dept. of Refuse
D-8 Recovery System
D-9 K.M. Landsc.
D-10 Firewise
Parade Route
Makai Entrance 1
Makai Entrance 2
Multipurpose room

BOOTHS / EXHIBITORS

No.	Type	Booth ID	Company	Notes	Lunch Ticket
1	Agency	B-2	C&C Department of Environmental Services		
2	Agency	D-7	C&C Department of Refuse	Bags	
3	Agency	A-11	C&C Information Services	Bob Rock	
4	Agency	B-1	Honolulu Board of Water Supply		
5	Agency	B-8	Coordinating Group on Alien Pest Species		
6	Agency	A-6	Hawaiian Electric Company Limited		
7	Agency	B-5	U.S. Dept of Agr. Natural Resources Conservation Ser.	Jolene Lau	
8	Agency	C-3	Lyon Arboretum		
9	Agency	A-4	NOAA, National Weather Service		
10	Agency	B-9	Oahu Invasive Species Committee		
11	Agency	C-9	State Department of Health, Clean Water Branch	Okubo	
12	Agency	C-10	State Department of Health, Environmental Health Branch	Okubo	
13	Agency	C-6	State DLNR, Aquatic Res. - Gyotaku		
14	Agency	B-10	State DLNR, Div. of Forestry & Wildlife / Ko'olau Mountains Watershed Partnership	Jolie Wanger	
15	Agency	A-12	UH-School of Ocean & Earth Science & Technology		
16	Agency	C-7	US Army Corps of Engineers (Ala Wai Canal Project)	Derek Chow	
17	Agency	C-8	US Army Corps of Engineers (USACE)	Iwalani Sato	
18	Agency	A-7	US Environmental Protection Agency (EPA)	Dean Higuchi	
19	Agency	B-6	US Geological Survey		
20	NGO	D-10	National Firewise Communities Program		
21	NGO	A-8	Hawaii's Thousand Friends	Donna	
22	NGO	B-12	MOA Nature Farm	Ivan	
23	NGO	A-10	Protect the Planet	Debbie Pollock	
24	NGO	B-13	Sierra Club, Hawaii Chapter	Carrie	
25	NGO	C-13	Windward Ahupua'a Alliance - Bust-a-Dumper	Sharon	
26	NGO Sponsor1	D-1	Malama o Manoa; Registration		
27	NGO Sponsor2	D-2,3	Malamo o Manoa; Redemption		
28	NGO Sponsor3	A-2	Malama o Manoa; Kuleana Project		
29	NGO Sponsor4	A-1	Malama o Manoa; Stream Cleaning		
30	NGO Sponsor5	A-1	Malamo o Manoa; Adopt-A-Tree		
31	NGO	C-12	Hawaii Nature Center		
32	School	S-4	Iolani		
33	School	S-1	Manoa		
34	School	S-2	UH Lab	Marie Collins	
35	School	S-3	Noelani	Naomi Takemori	
36	Vendor	A-9	Ameron	Denny Moore	
37	Vendor	C-4	EXACTA Sales, Inc.	Will bring tables	
38	Vendor	A-13	Nikken	Barbara Miyashiro	
39	Vendor	B-11	Hawaiian Earth Products, Ltd.	giveaways	
40	Vendor	A-5	Intech Inc.		
41	Vendor	B-4	Inter Island Solar Supply	Meliana Silva	
42	Vendor	B-7	Melaluca		
43	Vendor	A-3	Toto Toilet and "Back Porch" ComposTumber	none	
44	Vendor	C-1	Waterless Car Wash Co. aka Dri-Wash N'Guard Int'l.	Magic	
45	Vendor	C-11	Natural Systems		
46	Vendor	D-8	Honolulu Recovery System	??	
47	Vendor	D-9	Kevin Mulkern-Landscaping		
48	NGO	B-3	Kahea		

FINAL WATER WARRIOR CHALLENGE AND KULEANA ECO-FAIR REPORT
TO ALL 10/27/04

Many thanks to all the teachers, the students, agency reps, vendors, non-profit reps, and, especially the volunteers, who participated in the Water Warrior Challenge and the Kuleana Eco-Fair. All of your hard work paid off. From all of the positive feedback we have been receiving, Kuleana Project, Phase II was a great success and we appreciate you.

Here are the results you have been waiting for:
Total "Early Bird" student participation: 950
Total certified "Early Bird" Water Warriors: 868
(Noelani: 298; Manoa: 207; UH Education Lab: 125; Punahou: 101; Mid-Pac: 71; Iolani: 66)
Total Eco-Fair participation: 2000
Total certified Water Warriors: 1314

School Awards for most Water Warrior votes:

First Place: Noelani School	404 WW votes - $2,000
Second Place: Manoa School	364 WW votes - $1,000
Third Place: UH Education Laboratory	174 WW votes - $500
Fourth Place: Iolani School	147 WW votes
Fifth Place: Punahou School	135 WW votes
Sixth Place: Mid-Pacific Institute	90 WW votes

Winners of Eco-friendly prizes

Kenmore low-flow Washing Machine – Deitricht Ito (Manoa, K-garten)
Toto low-flow toilet – Bryce Yoshikawa (Noelani, 5th Grade)
"Back Porch" ComposTumbler – Yoojin Rhee (Noelani, 3rd Grade)
Waterless Car Wash Kit – Jennifer Kishimoto (Mid-Pacific, 3rd Grade)

MEMO

TO: Water Warrior Project Teachers and Principals
FROM: Helen Nakano
DATE: October 17, 2004
SUBJECT: Water Warrior Challenge Finale

Much of the success of meeting Manoa Kuleana's vision to develop long term watershed stewardship and sustain the beauty of our islands and particularly of Manoa valley is due to your relentless efforts to incorporate the Water Warrior Project into your curriculum. You have encouraged students to be active advocates, taught them how their efforts make our environment sustainable, and have convinced them that they are capable of making a difference.

In appreciation, attached you'll find a copy of _____. I think you will agree that this volume is not only going to be a great classroom resource packed with useful and interesting information, but that it's photos are clear and beautiful.

In addition I have attached an evaluation form and a self addressed envelop. Your completing this form and returning it to me by _____ will aid us in any next steps the project might take in future stewardship projects.

Thank you for your participation. You cannot even begin to phantom how much each of you is appreciated!

Mahalo.

Water Warriors
End of Project Evaluation

October 17, 2004

We value your input and feedback. The survey is composed of two parts: *Part A* is 10 questions that require yes and no answers. Please check the appropriate boxes. *Part B*, helps us capture your ideas, recommendations, and suggestions and will make any continuing or added program even more relevant and successful.

Thank you for your help in making us all even better.

Part A. **QUESTIONS**	**YES**	**NO**
1. Did you find it easy to incorporate the Water Warrior Challenge project into your curriculum?		
2. Were sufficient resources provided to implement the project?		
3. Did the challenge excite and/or motivate your students?		
4. Did you observe that students changed their behavior after being taught about ways to conserve, recycle, or protect the environment?		
5. Were students willing to venture forth to gain commitments from friends or other family members?		
6. Were or did you use the Eco Fair as a culmination point to meet a curriculum goal?		
7. Was providing prizes such as a T-shirt, script to the eco-fair, and/or a certification card very important in motivating students to complete testing and pledge to being a water warrior?		
8. Did any student(s) want to start a school recycling program?		
9. Was the testing instrument (Early Bird Quiz) appropriately designed for your grade level?		
10. Would you again participate in a similar project?		

Part B: Suggestions, Opinions, Recommendations Please don't limit your comments to the space provided. If additional space is required, please attach needed sheets.

1. What specific improvements would you suggest?

2. What additional resources/assistance would you have wanted/liked?

3. How or what would you suggest to increase the outreach success of students (help them to teach others and gain a commitment from those they contacted)?

4. If/When you attended the Eco-Fair, did it meet your expectations or exceed your expectations?

5. Did you feel personally rewarded? If not, how could that improve?

Optional, but in case we need to contact you for further details, could you leave us your name and contact information?
Name:_____ Phone_____