

# Maui Soil & Water Conservation Districts Annual Report



Clip Art and Photo by  
National Association of Conservation Districts  
Soil Stewardship Education Program



**DLNR Division of Water and Land Management  
and  
USDA Natural Resources Conservation Service  
Serving  
Central Maui SWCD  
Olinda-Kula SWCD  
Hana SWCD**

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Asst. Vice President

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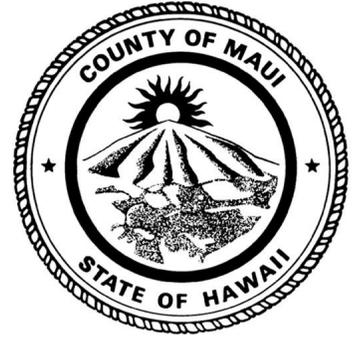
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## **A MESSAGE FROM MAYOR ALAN M. ARAKAWA**

Aloha Kakou,

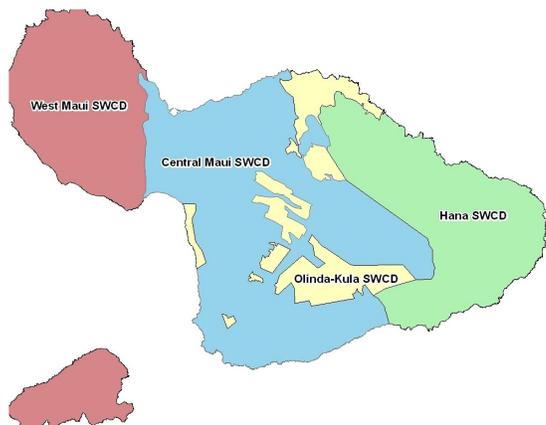
On behalf of the people of the County of Maui, it is my pleasure to once again congratulate the Maui Soil and Water Conservation Districts on their efforts to preserve our islands' most precious resources- land and water.

For decades, the Maui Soil and Water Conservation Districts have been providing our community with important educational and outreach programs. Their efforts to protect our natural resources are greatly appreciated, especially in these challenging times of increased demand and diminished availability.

Mahalo to the Maui Soil and Water Conservation Districts for their commitment to conservation, and congratulations on another successful year.

A handwritten signature in black ink, appearing to read "Alan Arakawa". The signature is fluid and cursive.

Alan M. Arakawa  
Mayor, County of Maui



## *Hawaii Association of Conservation Districts Island of Maui VP Message*

The role of the Soil & Water Conservation Districts is to carry out programs for the conservation of soil and water; to prevent soil erosion; control floodwaters and sediment damages; and assist farmers, ranchers, and all private landusers in making the best use of their natural resources through proper landuse planning, design and implementation of best management practices, and use of federal funded farm programs. The Districts' responsibilities also include reviewing Maui County drainage and erosion control plans for land use changes, developments and subdivisions. (Chapter 20.08.080 Grubbing and Grading Permit Review). The Districts also assist in environmental education of the general public through school programs, and other methods of recognition for conservation minded citizens.

There are 16 Soil & Water Conservation Districts in the State of Hawaii. The SWCD Boards operate on a voluntary basis. The Island of Maui consists of Central Maui, Hana, Olinda-Kula, and West Maui. The SWCDs of Hawaii are legally constituted, self-governing units of the State of Hawaii, organized under Hawaii Soil & Water Conservation District Law, Chapter 180, Hawaii Revised Statutes. Our purpose is to conduct soil and water conservation activities within our respective boundaries on the islands of Maui and Kahoolawe.

In partnership with the USDA Natural Resources Conservation Service (NRCS), the SWCDs are poised to meet the needs of local agricultural producers and the community through conservation planning, and technical assistance with Best Management Practices (BMPs) or conservation practices. In some instances, an agricultural producer with an approved conservation plan may be eligible to receive financial assistance through the USDA-NRCS Farm Bill to implement the conservation practices identified on their conservation plan.

All of the programs involving SWCDs are community based. SWCD directors are citizens from their respective communities and welcome community input toward identifying natural resource problems. The SWCD Programs carries out its activities in partnership with County, State, and Federal agencies.

We truly appreciate the ongoing support we receive from DLNR, USDA-NRCS, U.H. Cooperative Extension Service, Mayor Alan Arakawa, Maui County Council Members, Maui County Dept. of Public Works and Environmental Management, Office of Economic Development, State Dept. of Health, Coastal Zone Management, Maui County Farm Bureau, and Tri-Isle Resource Conservation and Development.

Sincerely,

A handwritten signature in black ink that reads "JoLoyce Kaia". The signature is written in a cursive, flowing style.

JoLoyce Kaia  
HACD Island of Maui Vice President



## ***Message from Kahului Field Office District Conservationist***



*Ranae Ganske-Cerizo*

The cooperative efforts between the USDA-NRCS Kahului Field Office and the Maui SWCD personnel provided technical assistance to more than sixty land owners and operators this year. The 2008 Farm Bill Program and Environmental Quality Incentive Program (EQIP) addresses soil, water, air, plants and animals at various levels of resource treatments on grassland, non-industrial forest land, organic and conventional cropland.

The West Maui Coral Reef Initiative is designed to provide support for coral reef health through targeted assistance for conservation and land management activities in the West Maui, Kahakuloa, Waihee, Wailuku, Waikapu and the Maalaea District.

Currently the 2012 EQIP, Coral Reef Initiative and AMA conservation plans written are greater than 1500 acres and current total contract cost amount is approximately \$1,060,916.79.

The Farm Bill programs require that each participant enter into an agreement to practice and maintain their operations according to NRCS standards and specifications. Currently the NRCS Kahului Field Office manages over 100 active Farm Bill conservation plans which result in soil savings, coral reef and marine health, reduction of sedimentation, improvement in endangered species habitat, control of invasive species, reforestation of native riparian buffers and declining habitats.

The Hawaii Conservation Reserve Enhancement Program (CREP) is a federal-state partnership developed to encourage conservation and environmentally sound practices on degraded lands. The Kahului USDA-Farm Service Agency (FSA), Department of Land & Natural Resources (DLNR) - Division of Forestry and Wildlife and NRCS are partnering together to help agricultural landowners address specific environmental issues on their property. CREP will reduce sedimentation and nutrient runoff, improve coral reef health and marine diversity, and restore riparian forest and wetland buffers by planting primarily native vegetation and controlling non-native invasive species. NRCS, FSA & DLNR are currently working with landowners to improve their resource concerns.

We welcome three new employees; Ryan Woolbright, Joe Takai, and Kira Nims. Ryan is a civil engineer, who transferred from Oklahoma. Joe was born and raised on the island of Saipan. Joe filled the vacancy as Soil Conservationist. Joe's prior USDA-NRCS assignment was on the island of Guam. Kira, a Maui Seabury graduate and majored in a Natural Resources degree at the University of Hawaii, Manoa. Kira filled the vacancy as the Maui SWCD's Conservation Specialist. Unfortunately, Leo Smock-Randall, Maui County Resource Conservationist resigned as of May 1, 2012. The vacancy will be filled soon.

I would like to thank all of our partners for their continued support throughout the years. NRCS recognizes and appreciates the support and efforts of Maui Soil and Water Conservation Districts, Hawaii Association of Conservation Districts, Maui County Farm Bureau, Mayor Alan Arakawa, Maui County Council Members, Department of Public Works and Environmental Management, Department of Health, Department of Land and Natural Resources, UH Cooperative Extension Service, Maui Invasive Species Committee, Environmental Protection Agency, USDA- Farm Service Agency and the Tri Isle Resource Conservation & Development.

Mahalo & Aloha,

A handwritten signature in black ink that reads "Ranae Ganske-Cerizo".

Ranae Ganske-Cerizo  
District Conservationist



# Mahalo

*To the Maui Soil & Water Conservation Districts . . .  
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Thank you to the  
**Maui Soil & Water Conservation Districts**  
for their invaluable service to the community.

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Paul M. Ueoka  
Craig G. Nakamura

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## Maui Family Ranch Deals with Natural Resource Concerns and Helps to Save Children's Lives



**Thompson Ranch**, a local family business in Kula, runs almost solely by 3<sup>rd</sup> generation rancher, Gerry Thompson. The ranch consists of beef cattle, meat goats, and horseback riding.

Like most ranches in Hawaii, Thompson Ranch has to deal with resource concerns such as brush management, drought, and invasive feral animals.

Thompson Ranch began raising goats to help with brush management. The goats will eat brush and weeds that cattle will not. This in turn is very beneficial to pasture health.

As far as the drought issue, Thompson stated that they are luckier than most. Thompson Ranch is located along the cloud line and most of the precipitation comes from fog drip. No cattle or goats were lost due to the drought. Despite this fact, Thompson was devastated by the loss of over 50 new born goats (kids) because of feral pigs.

Friends from the Big Island have mentioned to Thompson that wild pigs have been killing goats and even calves. It is uncertain how these animals learned to eat meat, but many think it may have began during the drought when pigs were found feasting on baby deer, and goats were simply their next food source.



Fencing Project photo by Kahana Stone

To address the killer hog problem, Thompson keeps his goats in a pig proof fenced area when they are ready to kid. Other methods include trapping and hunting. The meat is then shared with family and friends.

Invasive feral animals are creating a negative impact in our community. Farmers and ranchers both face problems with feral pigs and deer on a daily basis. Feral deer have also caused motor vehicle accidents. Thompson believes that this problem is beyond the point of eradication, and something can be done if we all work together as a community or state level to help control the growing population of feral animals.



Trail of Saddle Up for St. Jude participants heading out for a scenic ride on the slope of Haleakala.

Photo by Andrea Thompson

Aside from daily ranching activities, Thompson Ranch is committed to help St. Jude Hospital battle against childhood cancer and other catastrophic diseases. Combining their passion for horses with helping to save the lives of children, Thompson Ranch holds an annual event, *Saddle Up for St. Jude*, which is unique to Maui.

The Thompson 'ohana, along with a huge network of friends, extended family, sponsors, donors and participants, organized the St. Jude trail ride around a single goal. This community collaboration has helped children on Maui as well as all over the world.

Saddle Up participants feel a deep connection to St. Jude Children's Research Hospital. In past years, there have been many children from our island who have needed and received their help.

This year marks the 20<sup>th</sup> anniversary of *Saddle Up for St. Jude*. To contribute to making St. Jude an international beacon of hope for the critically ill children of the world, call the Thompson Ranch at (808)878-1910.



## Happy Soil, Healthy Food: How Soil Conservation is Connected to What We Eat

By Kira Nims



Every morning I wake up and eat a papaya. Sometimes, if I don't have a papaya, I eat some bananas or strawberries, or when the kitchen is stocked, I have a big fruit bowl with all of it. Whatever fruit I choose, whether it's a papaya, banana, strawberry, or even a mango, I know it's grown right here on Maui and had its roots in Maui's soil. Most everything we eat can be traced back to soil, and with the abundance of produce that is grown locally, a large portion of what Maui residents eat can be traced right back to the soils of Maui.

Not many people think about the importance of soil, but it provides us with a lot more than just stable ground. Healthy soil gives us clean air and water, plentiful crops and forests, productive rangeland, diverse wildlife, and beautiful landscapes. Soil does all this by performing five vital functions:

1. *Sustaining the biodiversity and habitat of plant and animal life* - Soil supports the growth of a variety of plants, animals, and soil microorganisms, usually by providing a diverse physical, chemical, and biological habitat.
2. *Regulating water* - Soil can regulate the drainage, flow and storage of water and solutes, which includes nitrogen, phosphorus, pesticides, and other nutrients and compounds dissolved in the water. With proper functioning, soil partitions water for groundwater recharge and for use by plants and soil animals.
3. *Filtering potential pollutants* - Soil acts as a filter to protect the quality of water, air, and other resources. The minerals and microbes in soil are responsible for filtering, buffering, degrading, immobilizing, and detoxifying organic and inorganic materials, including industrial and municipal by-products and atmospheric deposits.
4. *Cycling nutrients* - Carbon, nitrogen, phosphorus, and many other nutrients are stored, transformed, and cycled in the soil.
5. *Supporting structures* - Buildings need stable soil for support, and archeological treasures associated with human habitation are protected in soils.

Unfortunately soil erosion and soil degradation is fast becoming one of the world's greatest problems; and here in Hawaii, where land is already limited, we cannot afford to lose more productive farm land through the loss of healthy soil.

A measure of the erosion problems we face here in the islands is the large amounts of suspended soil particles (sediments) that are washed into the surrounding ocean. It has been well documented that sediments are smothering our reef organisms, increasing water turbidity, and resulting

in the decline of Hawaii's fish and seaweed populations. Additionally, nutrients and pesticides attached to the sediments are further contaminating our waterways. In a recent study completed here in Maui excessive nitrogen runoff was linked to the tumors we see on our Hawaiian green sea turtles<sup>1</sup>.



One of the largest contributors of soil loss and pollution worldwide is agriculture, and the largest culprit is conventional agriculture, which relies heavily on intensive tillage operations and the concentrated use of pesticides and fertilizers. Tillage use to be associated with increased fertility because it made minerals more available for crop production in a process called mineralization. In the long term, however, this process leads to a severe reduction in soil organic matter. Soil organic matter provides nutrients to crops and is a crucial element for the stabilization of soil structure. The loss of soil organic matter causes compaction and the formation of crusts, leads to a decline in soil productivity and fertility, increases evaporation and moisture loss, decreases the capability of soil to hold water, and increases soil erosion. This process is amplified under tropical climatic conditions, such as those found here on Maui.

Fortunately, farmers agree that the best place for soil to stay is in their own fields. This general consensus supports the opinion that the future of agriculture, especially in Hawaii, must employ the practices of conservation and should essentially be "sustainable." Which is one of the reasons why the Soil and Water Conservation Districts (SWCDs) were created: to help farmers in their efforts to employ conservation practices on their lands. There are 16 SWCDs in Hawaii, with 4 of those being on Maui, and their job is to help promote and assist in conservation farming and land management at the local level. The U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) provides expertise and technical assistance to the SWCDs and district land users with approved district conservation plans are eligible for cost-share funding programs through the NRCS. Such programs include the Environmental Quality Incentives Program (EQIP) and Agricultural Management Assistance (AMA). These NRCS programs and others provide financial and technical assistance to agricultural producers who voluntarily incorporate conservation into their farming operations to address issues such as water management, water quality, and erosion.

<sup>1</sup> Van Houtan, K., S. Hargrove and G. Balazs. 2010. Land use, macroalgae, and a tumor-forming disease in marine turtles. *PLoS ONE* doi:10.1371/journal.pone.0012900).



## Maui Students Ready to Test Their Knowledge Through Competition



*Students receiving instructions from Ranae Ganske-Cerizo, NRCS District conservationist*



*Paxton Malek, 4-H Dirt Devil in green shirt, determines soil texture.*

**Maui Pineapple Company, Haliimaile** — students from Baldwin, Maui, St. Anthony, and Lahainaluna High School and a 4-H Group from Seabury Hall participated in the 2011 Conservation Awareness Contest. The Land Judging Contest is made possible by a partnership between the Maui Soil and Water Conservation Districts, USDA-Natural Resources Conservation Service and the University of Hawaii Cooperative Extension Service, and is the culmination of the Conservation Awareness Program. This year's participating students used their knowledge about the physical features of soil, factors affecting land use and classification to evaluate 3 sites for the contest. The contest not only provides students with a fun way to learn about local soil and water resources, but it also taught them how to recognize resource concerns and how to address them with conservation practices.

### **1st Place Team 4-H Dirt Devils**

*Paxton Malek, Christie Kimura, Tyler Kiyota pictured with Jay Nobriga, CAP Committee Chair*



### **2nd Place Team St. Anthony Dirt Club**

*Jonathan Ibanez  
Michelle Rabara  
Yusuke Yamagumi*

*Missing  
Matt Matasci*



### **3rd Place Team Baldwin High School**

*Brendan Molina, Meakalia Stout, and Raven Cariaga*

## 4-H Dirt Devils Represents Hawaii at the National Land Judging Contest



Advisor Daryl Yamada with Christie Kimura, Tyler Kiyoto, and Paxton Malek at Kahului airport

Six months after winning the State CAP Contest in Hilo, the 4-H Dirt Devils traveled to Oklahoma City to compete against more than 700 FFA and 4-H members in the 61<sup>st</sup> annual National Land and Range Judging Contest, held on May 1-3, 2012.

The first two days of the three-day event offer contestants opportunities to visit nearby practice sites to get acquainted with Oklahoma soils and plants with information available from soil experts. A dance in the evening of the second day gives the participants a chance to socialize with other teens from across the nation. On the third day, a caravan of over 100 cars spanning several miles travel to the secret contest location with a police escort.

Overall, the Dirt Devils placed 8<sup>th</sup> in the team category for homesite evaluation and 17<sup>th</sup> for land judging.

The 3-day event was an awe-inspiring experience.



***Mahalo**  
to the following  
agencies, businesses, people, and SWCDs  
for making the 4-H Dirt Devils' trip  
to Oklahoma City possible*

**Amy Saunders**  
**Central Maui SWCD**  
**Diana Perry**  
**East Kauai SWCD**  
**HACD**  
**Hamakua SWCD**  
**James Robello**  
**Ka'u SWCD**  
**Maui Pineapple Company**  
**Mauna Kea SWCD**  
**Neal Fujiwara**  
**Olinda-Kula SWCD**  
**Puna SWCD**  
**Rick Volner Jr., HC&S**  
**Tri-Isle RC&D**  
**Ulupalakua Ranch**  
**UH Cooperative Extension Service**  
**Waiakea SWCD**  
**Wes Nohara, Puu Kane Farms**  
**West Kauai SWCD**  
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Director



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Garret Hew, Director



Robin Shimabuku and Eddie Perreira  
Associate Directors



Alan Nago, Director

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Photo L-R

**Daniel Pomaika'i**  
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Director

**Kimo Falconer**  
Treasurer

**Jeff Rebugio**  
Director

**Jay Nobriga**  
Chairman

**Wes Nohara**  
Secretary



Missing Photos  
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**Brian Hashiro**  
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**Dave Minami**  
Martin Luna

**Ian Swezey**  
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# Hana SWCD

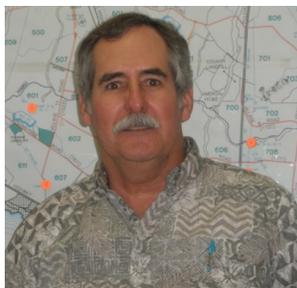
Est.  
1953



**Directors (l-r)**  
**JoLoyce Kaia, Scott Crawford, Annette Smith, Sue Cuffe**



Doug MacCluer, Chairman



Randall Moore, Secretary

## CENTRAL MAUI SWCD Est. 1957



Scott Meidell, Treasurer



Dan Clegg, Director



Jimmy Gomes, Director



Bobby Brooks, Director



Associate Directors: Richard Sylva, Darren Strand, and Wes Nohara

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**The Watershed Protection and Flood Prevention  
Watershed Operations (WF-08) Projects  
Written by Mike Hayama, USDA-NRCS**

**Lahaina Watershed Project:**



*Lahaina Watershed Project  
Diversion Channel, Phase 1*

The Lahaina Watershed Project is a USDA-NRCS watershed project authorized under the Watershed Protection and Flood Prevention Act (PL-83-566). The Maui County Department of Public Works and the West Maui

Soil and Water Conservation District are sponsoring this project to reduce sediment discharge to the ocean and provide flood protection to residential and commercial areas in the southern part of Lahaina town. The six-phase project will ultimately consist of two miles of diversion channel, four sediment basins, and a debris basin.

Progress continues with the recent award of a construction contract for Phase 2B. Scheduled to begin construction in 2012, this phase will consist of about 2,000 feet of grass-lined diversion channel extending from the upstream end of Phase 1 to Hokiokio Place. Construction on the next phase, the Hokiokio Place culvert, is scheduled to begin in 2013. Final design for the Kauaula debris basin is scheduled to be completed in September 2012.



*Lahaina Watershed Diversion Channel, Phase 1*

**Upcountry Maui Watershed Project:**



*Upcountry Maui Watershed Distribution Pipeline, Phase 1*



The Upcountry Maui Watershed Project is an agricultural water distribution system which will ultimately transmit non-potable water from a bypass at the Olinda Water

Treatment Plant to agricultural users in the Upper Kula area. The system will consist of a main distribution pipeline with 8 laterals to convey water downhill to agricultural users.

In 2011, construction was completed on Phases IV and V of the main distribution pipeline. These two phases resulted in the installation of approximately 2,500 feet of 20-inch diameter pipe and 1,000 feet of 12-inch diameter pipe.

Currently under contract for construction are the Distribution Pipeline, Phases VIA, VII and the Pulehuiki Lateral. Progress also continues on design work for the Kealahou, Waiakoa, Waiohuli and Kaonoulu Laterals and the Distribution Pipeline, Phases VIB and VIC.

Project sponsors include the Olinda-Kula SWCD, USDA-NRCS, State Department of Agriculture and the Maui County Department of Water Supply.

## Kula Stormwater Reclamation Study Tasks Completed

Drought periods have frequently harmed farmers and ranchers in Maui County, especially on the island of Maui, because much of their supplemental water supply has been dependent on surface water sources influenced directly by rainfall. This has been the case for agricultural producers in Kula where fertile soil and unique agricultural growing conditions exist, but are subjected to frequent drought due to their location on the leeward slope of Haleakala. They have been recently challenged by increased competition for available municipal water supplies by expanding residential development.

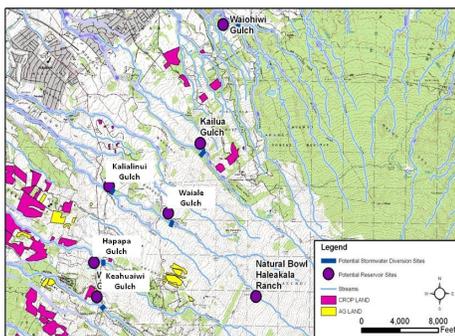
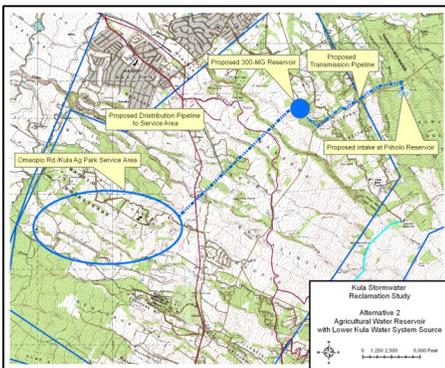
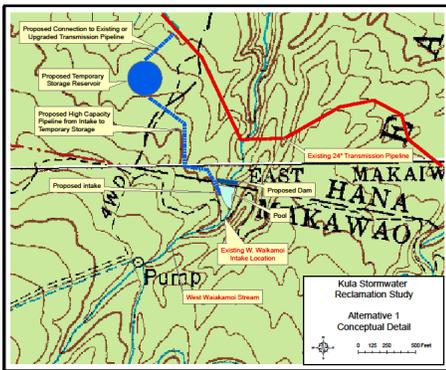
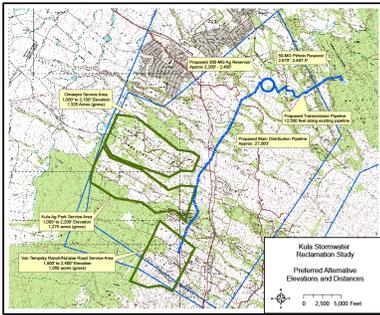
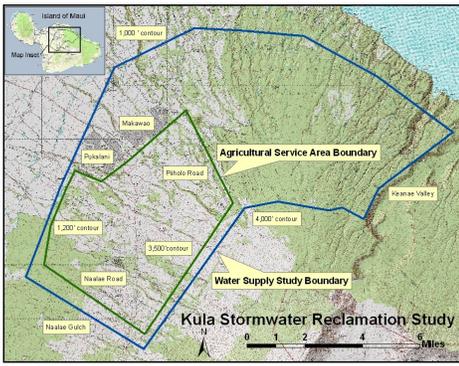
The Kula Stormwater Reclamation Study (KSWRS) was conducted as a part of the Hawaii Hazard Mitigation Project. The KSWRS will evaluate and prepare alternatives for capturing and storing stormwater for use by agricultural producers to alleviate drought impacts in the Kula region. The Study included an inventory and assessment of agricultural water needs; agricultural water sources and facilities; and identified economic, social, and environmental issues associated with the implementation of agricultural drought mitigation measures in the Kula region. The Study also identified and evaluated alternatives to improve agricultural water supply and distribution to farmers and ranchers.

The KSWRS was conducted by the Central Maui Soil and Water Conservation District (CMSWCD) in support of the Hawaii Hazard Mitigation Plan, Hawaii Drought Mitigation Program, and the County of Maui Drought Mitigation Strategy. The Hawaii Drought Mitigation Program is administered by the State of Hawaii Commission on Water Resources Management (CWRM). Funding is provided by Act 238, SLH 2007 State Appropriation. The CMSWCD has acquired technical assistance from the USDA Natural Resources Conservation Service (NRCS) to conduct data collection, technical analyses, and study report preparation.

The Study was completed in four phases: Task 1, Existing Conditions Report; Task 2, Drought Mitigation Resource Analysis Report; Task 3, Alternatives Identification and Analysis Report; and Task 4, System Development Assessment Report. Copies are available through the CMSWCD.

Where do we go from here ..... Below are some of the most important steps CMSWCD needs to take in the near term to move the project forward:

- Organize a Steering Committee among partners and develop a Partnership Memorandum of Understanding and a Statement of Need.
- Contact Maui DWS to discuss inclusion of the Preferred Alternative System 2 as an option to their reservoir expansion plans for the Lower Kula Water System.
- Contact NRCS and discuss the status of the Watershed Program. Send a request letter to NRCS to resume planning on the still-authorized Lower Kula Watershed in the Watershed Surveys and Planning Program. Contact the National Watershed Coalition to obtain their analysis of the state of the Watershed Program.
- Make the preparation of the Project Plan and Environmental Impact Statement the most important goal.



**Kahului Field Office Staff**



Ranae Ganske-Cerizo  
NRCS District Conservationist



Ryan Woolbright  
NRCS Civil Engineer



Kahana Stone  
NRCS Soil  
Conservationist



Joe Takai  
NRCS Soil  
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Andrea Thompson  
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Carl Hashimoto  
NRCS  
Soil Conservation  
Technician



Tiana Malia Santos  
NRCS Student Trainee  
Soil Conservation



Kira Nims  
SWCD Conservation Specialist

Maggie Kramp  
SWCD Administrative Assistant



My NRCS career began at the McAlester Technical Service Office in McAlester Oklahoma, where I was employed as an Agricultural Engineer. The McAlester TSO provides engineering and technical support to the field offices in 15 counties in Southeast Oklahoma. Much of my workload was centered around wetland restoration, watershed projects, and pond/reservoir design. I spent 1 ½ years there before coming to the Kahului Field Office in August of 2011.

I grew up in Southwest Oklahoma and attended Oklahoma State University. While going to OSU, I worked as a teaching assistant and an intern for the ARS Hydraulic Engineering Research Unit. After completing my BS in Biosystems Engineering, I stayed at Oklahoma State for graduate school and completed a Master's in Biosystems Engineering. My Master's Thesis focused on the hydraulic performance of roller compacted concrete spillways used in watershed dam rehabilitation. The research for my thesis was performed at the ARS Hydraulic Lab in Stillwater, OK. After graduate school, I had a 6 month internship with Bayer Crop Science in Monheim, Germany. Moving to Maui has been a huge adjustment, but it has also been very rewarding.



Ryan Woolbright

I was born and raised on Maui, in Haiku, where I spent most of my free time hiking in the pastures and valleys next to my home and surfing. I attended Seabury Hall, and it was there that the seed of conservationism really started to take root. During my freshmen year I got to plant native koa trees in upper Ulupalakua and the experience gave me a huge appreciation for preserving, restoring, and caring for the aina (land). I spent two years studying biology at the University of San Diego, but I knew I wanted to work in conservation in Hawaii, so I transferred to the University of Hawaii at Manoa, enrolled in the College of Tropical Agriculture, and majored in Natural Resource and Environmental Management. During college I volunteered with Oahu Invasive Species Committee where I helped identify and remove invasive plants from specified areas. I gained experience in agricultural needs and practices by helping with the student farm for Sustainable Organic Farm Training (SOFT), a student based group dedicated to exploration in agriculture and food sustainability. I also interned for a summer at Hale Akua Garden Farm, which in 2009 started working with NRCS to develop a conservation plan and is now completing an Environmental Quality Incentives Program (EQIP) Organic contract. I gained further experience in sustainable outreach and education by becoming a member of HUB (Help us Bridge) another student based group dedicated to turning Manoa into a world wide example of sustainable practices. While I was involved with HUB I helped coordinate and host a Hawaii 2020 Sustainability Plan conference on campus and the 2<sup>nd</sup> Earth Day event at Manoa. Ever since that week of helping to restore native trees to a degraded Hawaiian forest in order to create a healthier ecosystem that would better conserve our natural resources, I dreamed of making that my job, and now it is. I am very happy to be here working for the Conservation Districts.



Kira Nims

**Joe Takai** was born and raised on the island of Sa'ipan, Commonwealth of the Northern Mariana Islands. His NRCS career began in the Saipan Field Office as a Student Trainee while in high school. Joe was transferred to the Guam Field Office when he enrolled under the Student Career Enhancement Program (SCEP) while in college. He received his bachelor's degree in Agriculture from the University of Guam, and his career conditioned appointment led him to Contra Costa County, California in February 2002. He worked out of the Concord Field Office for five years. He says, "The move was outside my comfort zone but I gained valuable training, experience, and also made lots of friends."

In February 2007, Joe left California to fill the vacant planner position in the Guam Field Office. Due to budget cuts throughout the Federal Government and hiring freeze, Joe was reassigned to work out of the Maui Field Office. "I look forward to working with our cooperators on Maui. I know my experience & knowledge will only get better and improve while being here" Joe says. Joe is accompanied by his wife Arlene, sons Joshua (17yrs), Leonard (7yrs), and Matua (4yrs).

## First Constructed Seasonal High Tunnel on Maui Beneficial for Organic Farming



Dave Horsman of Ho'o Pono Farms stands in doorway of the newly constructed high tunnel.

Seasonal high tunnels, also known as hoop houses, are plastic covered structures with no heating or cooling systems. The structures provide cover for the plants and extend the growing season. They are easy to build and can be moved around. The tunnels are put up to cover plants grown directly in the

ground. Unlike greenhouses, seasonal high tunnels use no energy other than sunlight, saving money and energy.

High tunnel benefits include better plant and soil quality, fewer nutrients and pesticides in the environment, and better air quality due to increased local food production and thus fewer vehicles being needed to transport crops.

*Carl Hashimoto  
NRCS Soil Conservation Technician*



Dave Horsman discussing tomatoes and vine crops planting plans with Leo Smock-Randall, Maui County NRCS Resource Conservationist.

The non-industrial private forest initiative through NRCS encourages landowners to become active forest stewards. The program can assist land managers to develop a forest management plan targeting timber, native restoration or agro forestry objectives. Non industrial private forestland is any land that does or can grow trees.



Steve Armstrong of Vipassana Metta Foundation stands next to his 1 year transplant of Honduran Mahogany.



Through the Environmental Quality Incentive Program, Steve is installing a timber-style forestry plan. Over several years invasive species will be removed from

the property and selected non-invasive non-native species will be planted. Mulching is being applied to reduce weed pressure and conserve moisture in this dry environment. Spanish Cedar is pictured above growing very well a year after planting.

*Leo Smock-Randall  
NRCS Resource Conservationist*

## SOUTHWEST MAUI WATERSHED-BASED PLAN



The Southwest Maui Watershed Plan is an effort sponsored by the Central Maui Soil and Water Conservation District with the goal of developing a plan for improved water quality in the Hapapa, Wailea, and Mo'oloa watersheds of South Maui. The planning area includes lands mauka to makai, from

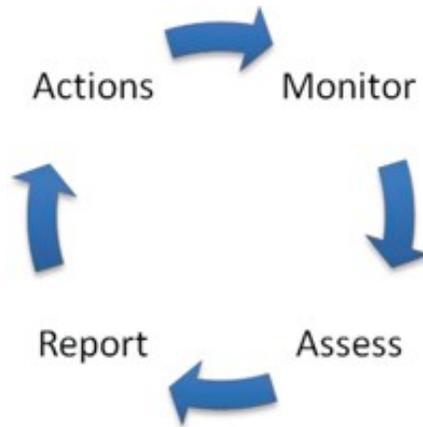
Makena to Ma'alaea Bay.

South Maui's nearshore waters have been deemed "impaired" by the state Department of Health. The people of Maui had opportunities to work together to develop this plan.

The result will be recommended Best Management Practices (BMPs) for all land uses to help land managers and users better protect our natural resources.

The watershed plan is 95% completed.

The process is part of an adaptive management cycle: Monitor, Assess, Report, Act (and back to Monitor). Monitoring is continuous. Assess = is it meeting goals? Report = States report their assessments to the EPA, which reports to Congress. Assess and Report happen every two years. Act = permitting, and planning.



For more information visit the project website, at <http://www.mauiwatershed.org/project/>



Since its founding in 1888, Haleakala Ranch Company has played a key role in land management and conservation efforts on the island of Maui. Spanning roughly 30,000 acres on the slopes of the dormant volcano bearing its name, Haleakala Ranch encompasses a variety of microclimates and vegetation zones ranging from subalpine shrubland to rainforest to rocky coastline. Such diversity in a tropical environment has required adaptive and somewhat unique strategies for land management. This, combined with Haleakala Ranch's historic orientation to land stewardship has resulted in a variety of livestock operations based on their particular contributions as landscape-level land management tools.

The relatively high costs of imported finishing rations and supplemental feed have allowed Haleakala Ranch to successfully partner with other ranches in developing a premium grass-finished beef program destined for local markets. Cattle rotations are carefully managed according to holistic grazing protocols developed with the assistance of NRCS range specialists and a host of internationally recognized experts. The implementation these protocols have resulted in improved diversity and sustainable forage profiles across a range of pasture types on Haleakala Ranch.

Island ecosystems are particularly vulnerable to the impacts of invasive species. Absent the natural predators in their home ranges, a few noxious non-native species have become established in Haleakala Ranch pastures and have presented a very real threat of complete infestation and devaluation of significant amounts of property. The scale of the infestations

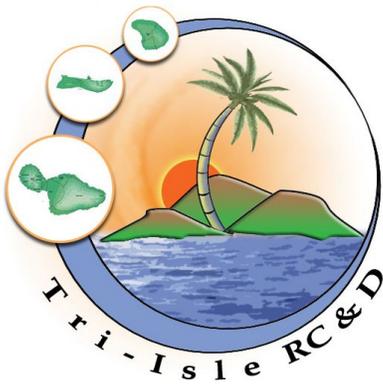


Waikamoi Preserve

and the ideal growing conditions for invasive weeds has prompted Haleakala Ranch to adopt a multi-faceted approach to weed control that involves chemical, mechanical and browsing programs. The rotational exposure of increasing numbers of goats and sheep to the infested areas has helped to reclaim thousands of acres of pasture with a diminishing reliance on costly mechanical and chemical alternatives and has provided additional revenue opportunities. In the early stages of the Ranch's weed control efforts, NRCS program assistance was critical in developing a strategy that has been successful.

Haleakala Ranch has also had the opportunity to partner with key stakeholders in critical watershed protection and conservation efforts. The Ranch has granted a perpetual conservation easement to the Nature Conservancy of Hawaii on over 5,000 acres of its pristine, forested holdings and is a key member in partnerships which collectively manage 165,000 acres of watershed and other sensitive areas. In addition to partnership activities, the Ranch has installed miles of conservation fencing to protect ecologically sensitive areas with critical assistance from NRCS.

For over 20 years, Haleakala Ranch and NRCS have successfully collaborated on programs ranging from pasture management, weed control, reforestation and a variety of conservation planning initiatives. Haleakala Ranch is grateful for the critical role that NRCS had in its development as a significant stakeholder in land management efforts in the State of Hawaii.



# TRI-ISLE RESOURCE CONSERVATION AND DEVELOPMENT COUNCIL, INC.

SERVICING ALL OF MAUI COUNTY

Establishing partnerships within our community to conserve our natural resources, strengthen our economy and enrich the lives of our residents.

## Who We Are

The Tri-isle RC&D Council is a community-based non-profit 501C3 organization. Our mission is to improve the quality of life for the people of Maui County by encouraging and assisting local leaders to develop and carry out activities that conserve and sustain our natural, human, cultural and economic resources.

A 12-member volunteer Board of Directors, representing all of Maui County governs the Tri-Isle RC&D Council.

## History

In 1962, Congress established a unique program within the U.S. Department of Agriculture that empowered rural communities to improve themselves while protecting and developing their natural resources. The focus on local direction and control made Resource Conservation and Development one of the most successful rural development programs of the Federal Government. Three hundred seventy-five RC&D areas had been authorized throughout the country.

With the loss of Federal funding in April 2011, many of our nation's RC&Ds have gone into hibernation, however Tri-Isle RC&D continues to thrive and is successful in building partnerships within Maui County. Tri-Isle RC&D recently achieved Circle of Diamonds membership under the National Association of RC&Ds for excellence in it's programs.



## What We Do

TIRCD provides a mechanism for local residents and community leaders to work together and actively address community, economic, environmental, and agricultural needs. We help utilize the abilities, knowledge and energy of local volunteers to get projects done. Interested groups may approach TIRCD for project sponsorship by submitting a project for consideration by the TIRCD Council.

The Council has taken a strong leadership role in community economic development, water quality issues, and environmental projects. TIRCD has over 135 community projects totaling over \$12 million. The projects include protecting and promoting wise use of the islands' natural resources, providing opportunities for locally led community improvement measures, and assisting sustainable agricultural and alternative energy initiatives.



*Lana'i Watershed Protection*

# Selected Activities and Accomplishments

## Environmental

TIRCD works with the Moloka'i Land Trust on fragile land restoration, the Kaho`olawe Island Restoration Commission (KIRC) on culturally sensitive lands, the Maui Nui Botanical Gardens for Earth Day activities, local government for boat sewage pumping in Ma`alaea Harbor, and the Hawaiian Tourism Authority to assist local volunteer dune restoration efforts.

## Endangered Species

The Maui Forest Bird Recovery Project, Pu`u O Kali Dryland Forest and the Leeward Haleakala Watershed projects all work for better management of endangered plants and animals through research, mitigation, restoration, and planning.

Several grants through TIRCD support the Lanai Native Species Recovery Program, which works to protect native and endangered seabirds by building local capacity and educating and involving local residents in conservation measures.



*Pu`u-O-Kali Dryland Forest*

## Traditional Agriculture



*Keanae Arboretum Taro Fields*

Wai Ke Kena is a farm project located near the famous Jaws big wave surfing area that teaches youth how to cultivate taro as part of learning about native Hawaiian culture. They work with approximately 200 student volunteers and 12 adult volunteers per year. Two additional at-risk recovering adults provide additional assistance on a year-round basis.

Keanae Arboretum Taro Project -- This project supports a local volunteer group, Wailuanui Hui to restore taro fields and educate visitors on traditional Hawaiian farming through field demonstrations and by distribution of an educational brochure.

## Watershed Restoration and Invasive Species Control

TIRCD provides administrative support for several groups active in watershed restoration: the Leeward Haleakala Watershed Restoration Partnership, East Maui Watershed Partnership, West Maui Mountains Watershed Partnership and the Lanai Forest and Watershed Partnership.

TIRCD continues its long-term partnership with the Maui Invasive Species Committee to address the most aggressive and damaging exotic plant and animal species in the county. Grants from county, state and federal funding sources are utilized in control strategies for coqui frog, miconia, fireweed, axis deer and other invasive pests.



*Restoration Planting  
Leeward Haleakala*



Tank Picture (*Coqui heliops* – water hog picks up an 80-gallon load of citric acid)

### *Fish in Mouth*



The Roi Roundup Program is a competition devised to raise awareness of the impact of the invasive Roi (fish) on native fish species while testing the skills of divers.

### **Economic Development**

TIRCD continued community development efforts through fiscal and administrative support of the Wailuku First Fridays, Chinese New Year, and Upcountry Fair events, which have been attended by over 35,000 local residents and visitors. These projects have benefitted local businesses through increased customer numbers and revenue. In addition they have utilized local talent, and provided opportunities for family friendly entertainment.



*First Friday Beer Garden Crowd*

*Chinese New Year*



### **Contact Us or Donate to:**

**Tri-Isle Resource Conservation and Development Council, Inc.**  
P.O. Box 338  
Kahului, HI 96733

**244 Papa Place, Suite 101, Kahului, HI 96732**  
**(808) 871-1010**

[Tri-Isle@Tri-Isle.org](mailto:Tri-Isle@Tri-Isle.org) or [www.Tri-Isle.org](http://www.Tri-Isle.org)



The Maui Soil and Water Conservation Districts sincerely appreciate and thank the Maui County Council Members for their active support for the SWCD program in Maui County.

The Maui County Council Members are our strongest unifying factor in the soil and water conservation movement. They help our program with financial aid and believe the soil and water conservation district program will preserve our community for future generations.

**Danny A. Mateo**  
Council Chair  
Residency Area—Molokai



**Joseph Pontanilla**  
Council Vice-Chair  
Residency Area—Kahului



**Michael P. Victorino**  
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Waihee, Waikapu



**Mike White**  
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Residency Area— Makawao,  
Haiku, Paia



**Gladys C. Baisa**  
Council Member  
Residency Area— Pukalani,  
Kula, Ulupalakua



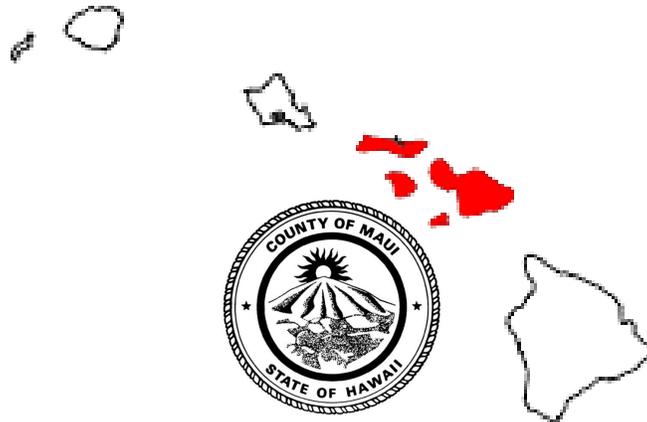
**Robert Carroll**  
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Residency Area— East Maui

**G. Riki Hokama**  
Council Member  
Residency Area— Lanai



**Elle Cochran**  
Council Member  
Residency Area— West Maui

**Donald G. Couch, Jr.**  
Council Member  
Residency Area— South Maui



The Maui Soil and Water Conservation Districts and the people of Maui want to express our thanks and appreciation to the following Senators and Representatives for their active support of our District's program in Maui County.

We are fortunate to have legislators that believe farming is the backbone of our community, and soil and water conservation program will preserve it for future generations. They have helped out our program with financial aid locally and statewide



**Senator  
J. Kalani English**  
District 6  
Hana, East and Upcountry  
Maui, Molokai,  
Lanai, Kahoolawe



**Senate President  
Shan S. Tsutsui**  
District 4  
Wailuku, Waihe'e, Kahului,  
Pa'ia, Lower Pa'ia



**Senator  
Rosalyn H. Baker**  
District 5  
South and West Maui,  
Makena, Wailea, Kihei,  
Maalaea, Lahaina, Kaanapali,  
Napili, Kapalua

**Representative  
Gilbert S.C. Keith Agaran**  
District 9  
Kahului, Wailuku, Puunene,  
Spreckelsville, Paia



**Representative  
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Wailuku, Waihee, Waiehu,  
Puuhala, Waikapu



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George R. Fontaine**  
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**Representative  
Angus L.K. McKelvey**  
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