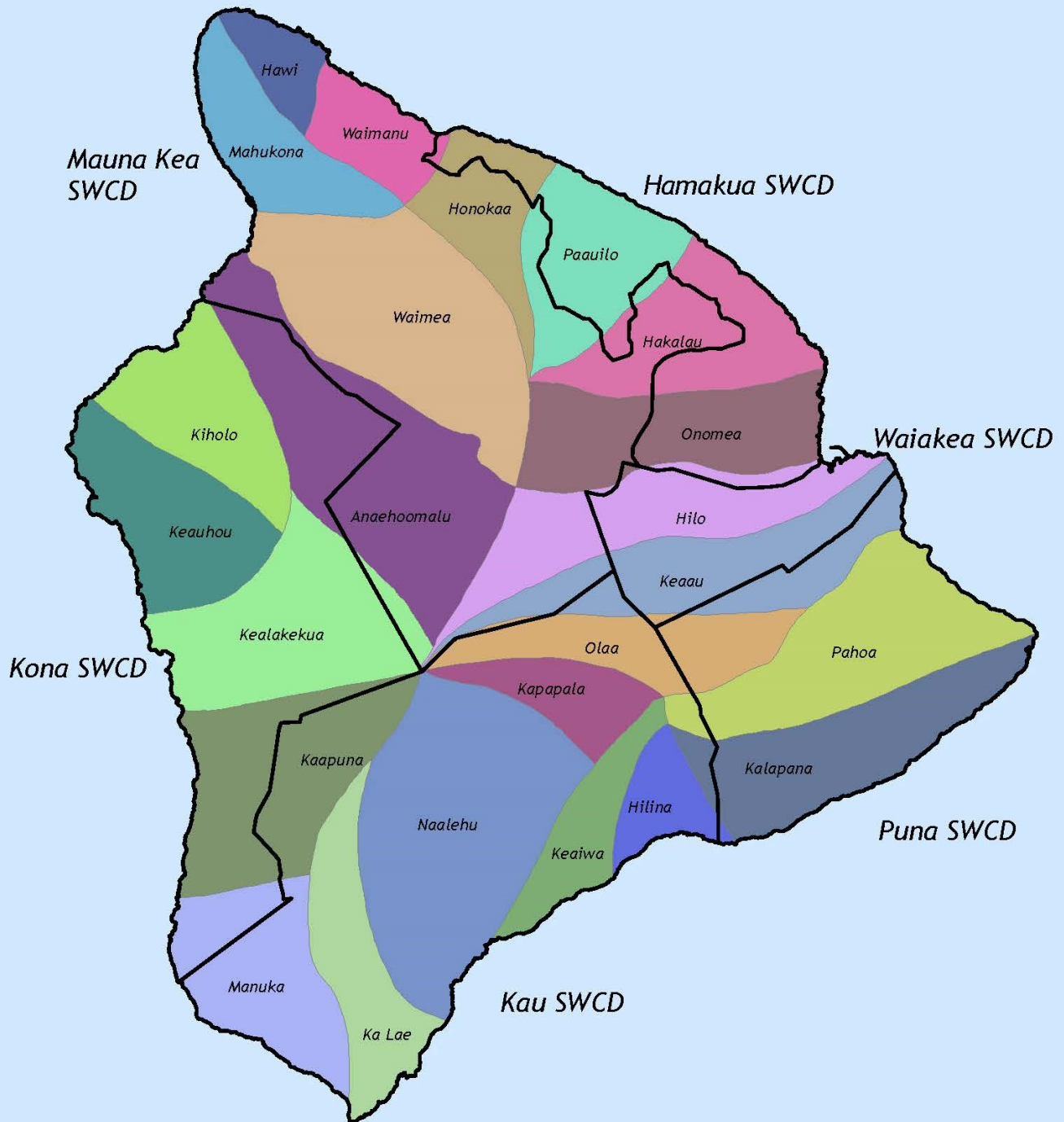


Hawaii Island Soil and Water Conservation District 2013 Annual Report



The cover art for this year's annual report is a map showing the Big Island's aquifer (groundwater) systems. Most of the residents and visitors to Hawaii Island drink ground water. Some of our aquifers are confined and some are not. Some have salt water intrusion, some do not. Some are replaceable for drinking water sources, lower elevation water sources, and some are irreplaceable. If we damage the irreplaceable ones what will we drink?

It is up to the community at large to ensure our ground water remains safe. The following are ways you can help:

- ◆ Use pesticides according to label directions.
- ◆ Have your soil tested before you apply fertilizer so that you don't apply too much. This could save you a lot of money too.
- ◆ Do not dump chemicals directly on the ground, into lava tubes or down storm drains. Bring them to Hazardous Waste Day in your community. For Hawaii Island's schedule of Hazardous Waste Day check out www.hawaiizerowaste.org
- ◆ Use "Septic Safe" soaps. Septic Safe soaps have little to no phosphorous or surfactants.

William P. Kenoi
Mayor



Walter K.M. Lau
Managing Director

Randall M. Kurohara
Deputy Managing Director

County of Hawai'i Office of the Mayor

25 Aupuni Street, Suite 2603 • Hilo, Hawai'i 96720 • (808) 961-8211 • Fax (808) 961-6553
KONA: 74-5044 Ane Keohokalole Hwy., Bldg. C • Kailua-Kona, Hawai'i 96740
(808) 323-4444 • Fax (808) 323-4440

MAYOR'S MESSAGE

On behalf of the people of the County of Hawai'i, it is an honor to extend our heartfelt thanks to all the volunteers of the Hawai'i Island Soil and Water Conservation Districts whose achievements are documented in the 2014 SWCD Annual Report.

Often times unsung heroes, the Hawai'i Island Soil and Water Conservation District volunteers work tirelessly to preserve and to protect Hawai'i's natural resources and our pristine environment. This dedication provides technical conservation assistance, continuing education, and underscores the value of protecting these essential agricultural resources.

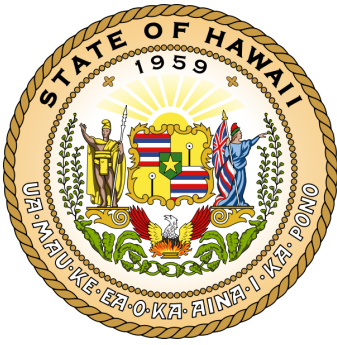
Your work truly benefits the people of Hawai'i now and for generations to come.

Aloha,

Billy Kenoi
Mayor



County of Hawai'i is an Equal Opportunity Provider and Employer.



Department of Land and Natural Resources

The Department of Land and Natural Resources (DLNR), headed by an executive Board of Land and Natural Resources, is responsible for managing, administering, and exercising control over public lands, water resources, ocean waters, navigable streams, coastal areas (except commercial harbors), minerals, and all interests therein. The department's jurisdiction encompasses nearly 1.3 million acres of State lands, beaches, and coastal waters as well as 750 miles of coastline (the fourth longest in the country). It includes state parks; historical sites; forests and forest reserves; aquatic life and its sanctuaries; public fishing areas; boating, ocean recreation, and coastal programs; wildlife and its sanctuaries; game management areas; public hunting areas; and natural area reserves.

The state's 16 soil and water conservation districts (SWCD) operate under the DLNR Engineering Division. The SWCDs in the state are tasked with approving conservation plans for farmers and ranchers for many purposes including obtaining an exemption for a county's grubbing and grading permit. Conservation plans approved by an SWCD for the purpose of allowing this exemption must still obtain concurrence from the State Historic Preservation Division (another division within DLNR) that no historical artifacts exist, or if they do exist that they have been recorded or are to be protected during land clearing activities.

We understand the challenges facing our SWCDs from insufficient funding to inexperienced directors, but all challenges present us with opportunities. The relationship between DLNR and the SWCDs across the state has been a valuable partnership for many years. Going forward, in order to overcome many of the obstacles that face our communities great cooperation between local, state, and national governments will be demanded to solve the problems that lie in the future. We are confident DLNR's divisions, offices, boards and commissions will be able to work with our SWCDs to move our communities toward the future.



College of Tropical Agriculture and Human Resources (CTAHR)

The founding college of the University of Hawai'i, established 1907

University of Hawaii is known as a land grant college. A land grant college is an institution of higher learning designated by a state to receive the benefits of the Morrill Acts of 1862 and 1890.

The act of 1862 set for the mission for these schools to focus on the practical aspects of agriculture, science, military science and engineering. In Hawaii the university's College of Tropical Agriculture and Human Resources (CTAHR) strives to meet that mission every day and one of the tools CTAHR uses are CTAHR Extension Services. Extension Services brings the science of agriculture directly to the farmer whether it is through crop specific management or natural resource management.

CTAHR and local soil and water conservation districts (SWCDs) recognize the value of each other and act as partners in many ways. CTAHR provides continuous support to SWCDs by recognizing the value of conservation planning and recommending to local agricultural producers that they work with the SWCD in their area to develop a conservation plan that will protect and improve the farm's natural resources. This can be through cover cropping, mulching, nutrient management, pest control, water management or planting species that directly impacts natural resources such as nitrogen fixing plants to name a few of the practices used in protecting a farm's natural resources

The relationship between CTAHR and Hawaii's SWCDs has a long history of providing service to our agricultural community. We work in partnership to help farmers and ranchers overcome the challenges of agriculture in a tropical environment. Both organizations want to see our local producers thrive because we know a thriving agricultural community lends itself nicely to a thriving community.



United States Department of Agriculture
Natural Resources Conservation Service

A Message From the Acting Director, Christine Clarke

As the Acting Director for the PIA I have had the great opportunity to work with you, the talented and professional individuals brought together through the NRCS and SWCD partnerships. The Pacific Island Area requires a diverse and accomplished set of skills to fully address the many resource needs and conservation interests. Through the dedication of the community members, volunteers, SWCD staff and the NRCS staff, we work together to support rural communities and enhance the resource conditions of our surroundings.

The 2014 Farm Bill brings many opportunities and conservation tools to our cooperators, staff and districts. We have all been challenged to learn the details of the new Farm Bill. Much analysis is needed when a new law is written to ensure NRCS and USDA satisfy the letter and intent of the law. Documents have to be created or old ones updated to reflect the language and intent of the law, and again that takes time. I have no doubt about the abilities of NRCS staff or the district's directors and staff to educate local cooperators as to the challenges and benefits of implementing a new law and overcoming them.

Though I have headed back to Massachusetts, I am happy to continue to serve as Acting Director until the end of May and provide you with the leadership you deserve. Effective June 1, Dr. William Puckett will serve as PIA Director and he and I will work together to ensure a smooth transition. Your professionalism and dedication, combined with your desire to provide assistance to producers will always serve PIA and its natural resources well.

PIA staffers, district staffers and district volunteers have the skill and the ability to work within the framework of the new law to continue helping people help the land as much as the law will allow.

Aloha,

Christine Clarke

Acting Pacific Island Area Director



Kamehameha Schools is a private, education, charitable trust founded and endowed by the legacy of Princess Bernice Pauahi Bishop. Kamehameha Schools operates a statewide educational system enrolling over 6,900 students of Hawaiian ancestry at K-12 campuses on O`ahu, Maui, and Hawai`i and 30 preschool sites statewide. Over 40,400 additional Hawaiian learners and caregivers are served each year through a range of other Kamehameha Schools' outreach programs, community collaborations and financial aid opportunities in Hawai'i and across the continental United States. Income generated from its Hawai'i real estate, as well as diverse investments, fund the Schools education mission almost entirely.

Kamehameha's Endowment has kuleana for approximately 363,000 acres, 98 percent of which are zoned for conservation and agriculture. The rest are zoned for residential and commercial uses, with less than 1 percent actively used for generating commercial revenue. This underscores the importance of Kamehameha Schools' Strategic Agricultural Plan which was prepared to provide a planning framework, vision and strategy for active management of roughly 88,000 acres of high potential agricultural lands.

Kamehameha Schools Land Assets Division consider the state's 16 soil and water conservation district important partners in all its areas of agricultural land management. The SWCDs in Hawaii have had a direct role in shaping natural resource management throughout the state. Each SWCD understands its local community's natural resource challenges and the best ways to address them.

SWCDs throughout the state do a significant job in connecting our farmers to the federally funded conservation programs offered by the Natural Resource Conservation Service (NRCS). The programs and partnership between our SWCDs and NRCS are vital to the success of our farmers and will play a role as we implement our agricultural plan.

Through the Strategic Agricultural Plan, Kamehameha Schools aims to achieve the following 10 agricultural goals:

1. Increase the production of fruits, vegetables, meat and other food products on KS land for the local market.
2. Supply locally grown products, ideally from KS land, to KS campuses and facilities.
3. Restores and revitalize traditional systems: lo`i, loki i`a and dryland field systems.
4. Support agricultural educations, business planning, and farmer certification programs.
5. Actively engage in agricultural marketing and media
6. Strategically invest in agricultural support facilities and infrastructure
7. Explore agriculture research and development opportunities
8. Develop a robust and consistent set of agricultural decision-making tools, procedures and guidelines.
9. Contribute to a sustainable clean energy future for Hawai`i through education, energy efficiency gains and renewable initiatives.
10. Steward forestlands in consideration of the full range of ecosystem services and resource extraction activities— including native forest restoration, traditional forest products and energy production.

Having the state's SWCDs available as a resource is a great benefit to us and our lease holders. It is through partnerships like this that we move forward.

Kona Soil and Water Conservation District

Message from the Chair

This was a busy year for the Kona SWCD from technical assistance, conservation planning, subdivision reviews, site visits, and outreach efforts. Our board and staff have been working very hard for the benefit of the North and South Kona agricultural communities.

We have continued to produce our newsletter and participate in the Earth Day Fair, the Kona Coffee Expo and we continue to bring our water model into schools as an educational tool for demonstrating the water cycle and the role ground water plays in it.

At the time of this writing and over the course of this past fiscal year the Kona SWCD reviewed 31 subdivision applications for proximity to a mapped water course. The maps created for this purpose are available to the public upon request.

Our staff has done 46 site visits. The purpose of a site visit is varied, some producers want to participate in the federally funded conservation programs to improve and protect their natural resources, others simply want the on-the-ground conditions documented and still others are simply looking for technical assistance, such as what grass will grow at their elevation and rainfall or how to manage a particular weed, such as Koster's Curse. The staff and Kona SWCD board are consistently impressed by the dedication and ingenuity exhibited by our farmers and it is only through site visits that we can see the real efforts of a producer and they are generally remarkable.

The board approved 17 new cooperators this year. It is the goal of our staff to work within the agricultural community and have a minimum of two new cooperators every month. We know some months will have more but 2 is the minimum standard the staff will work toward meeting.

Most of our cooperators are on existing small farms and have a much greater need for conservation technical assistance than they have for opening up new lands to agricultural production. We did have a eight land owners come forward requesting conservation planning for a grubbing and grading exemption due to their desire to remove vegetation from more than one acre. Of those eight, seven are required to do an Archeological Inventory Survey (AIS) and submit their report to the State Historic Preservation Division (SHPD) for concurrence. Only one of those seven has the financial resources to have an AIS completed. This aspect of conservation planning is the most significant hurdle for our cooperators when they want to open up additional land for agricultural production.

The Kona SWCD will continue to work with our cooperators providing them technical assistance and assistance understanding their eligibility for federal programs. We will also continue assisting our cooperators in working with each other, for example, one cooperator was removing some orchard grass and contacted us to see if we could distribute their sprigs to other cooperators and the answer was a resounding "Yes we can!" We help our cooperators help the land and each other.

The Kona SWCD would like to thank our cooperators, Natural Resource Conservation Service and Farm Service Agency staffer, county staffers from Public Works and Research and Development and all other county staffers as well. We would also like to the College of Tropical Agriculture and Human Resources (CTAHR) personnel. By all of us working together we can protect the aina from harm so that for generations to come it will provide food and fiber for us all and our future generations.

Greenwell Coffee Farms, Cooperator of the Year

In 1850, Henry Nicholas Greenwell arrived in Kona where he and wife, Elizabeth Caroline, among other things established a coffee exporting business. In 1873 the Greenwell's received an award, a "Recognition Diploma" at the World's Fair held in Vienna Austria for their Kona Coffee. Henry and Elizabeth's home is now home to the Kona Historical Society and Museum. Henry and Elizabeth are the great grandparents of Tommy Greenwell who currently operates and manages Greenwell Farms; continuing a family tradition of dedication to quality.

Over the past few years, Greenwell Farms expanded the number of coffee orchards they manage. The company converted pasture located on old sugar cane land mauka of Konaweana High School back in to productive agricultural lands. The practices of Conservation Cover, & cross slope tree planting were instrumental for the purpose of erosion control. The only exception to cross slope planting is when the slope is too steep to work safely across the slope. Grass strips were planted at the top and bottom of these areas to mitigate erosion.

Greenwell Coffee Farms is many times on the cutting edge of agricultural practices. One of the things we learned during the tour is that the Greenwell Farm tests its soil for glyphosate (Roundup) accumulation. Some tests did show and accumulation and some did not. Another cutting edge agricultural practice being implemented on Greenwell Coffee Farms is the grafting of soil. This came about through soil testing for microbial activity. Some areas of the farm had soil with high microbial activity and some had low activity. Working with the Greenwell Farms staff biologist some of the soil with microbial activity was collected and amended with a number of different things including molasses. Molasses is the food source for the microbes. When everything is well mixed and microbes are busy consuming the molasses the soil is poured evenly into a trench that was dug for the purpose. One the soil mixture is poured into the trench the trench is covered up and microbes continue to multiply and improve the soil.

Their next project is a three tank waste water treatment system. Coffee processing requires a lot of water and process turns it acidic with a pH at about 4.3. The first two tanks, each 10,000 gallons, will treat the acidic water with microbes brining the pH up to 7 and reducing the Biochemical Oxygen Demand (BOD) levels to an acceptable level for irrigation. The water is then collected in the third tank, a 50,000 gallon storage tank and will used for irrigation.

Greenwell Coffee Farms has invested a lot of time, energy and money at improving their soil . They know it is the greatest resource.



Greenwell Coffee Farms took the land in the photo on the left and turned it into the productive and well managed coffee orchard you see on the right.

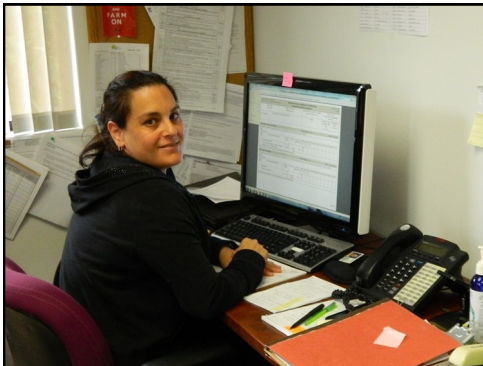
NRCS and Kona SWCD Staff

The USDA/NRCS Field Office in Kealahou is staffed by an exceptional group of dedicated professionals. They can help with technical assistance and recommend steps you can implement to protect your natural resources. They have diverse professional and personal backgrounds. Some were construction workers in previous work, some have raised cattle, we even have a coffee/cacao farmer on staff. Others have backgrounds where skill sets were developed that have proven to be beneficial in carrying out our tasks.



On the left, Carl Rossetti, our resident Civil Engineer Technician. He is a great asset to have in the office for providing conservation technical assistance.

On the right, Laura Nelson, the most recent addition to our Soil Conservationist ranks. Laura brings an ability to I.D. many of the plants we find on our cooperators' lands.



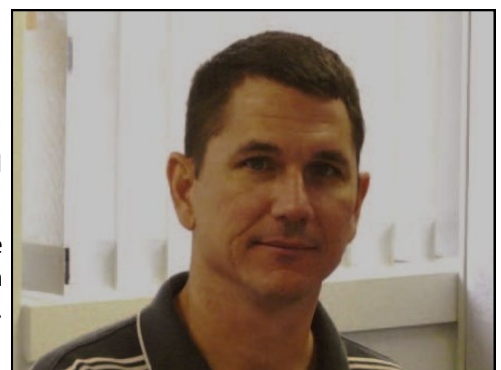
On the left, Jessica Schmelz, the DC for the Kealahou Field Office. She came to us with great experience doing conservation planning for livestock operations.

On the right, Mike Kolman, the lead Soil Scientist for the Soil Survey Group. Mike has worked in the Kealahou Field Office longer than anyone currently working here making him a valuable source of historic information..



On the left, Mary Robblee, the Kona SWCD staff. She does site visits and provides technical assistance and is a great advocate for cover cropping. Mary has been with the district for over 7 years and learns more and more all the time!

On the right, Bernard Vermeulen, a native of Western Samoa who came to us from the Environmental Protection Agency.



On the left, Jim Sutter, came to us from Iowa where he was a District Conservationist. He also raised livestock in Iowa and maintains control over a land there. He has decades of experience with NRCS and is a great resource for us here.

On the right, Jacky Vega, a Soil Scientist working with the Soil Survey Group. Originally from Puerto Rico she received her undergraduate and graduate degrees.



Kona Soil and Water Conservation District Directors



Chair Rick Robinson was at one time a Soil Conservationist for the Soil Conservation Service, now called the Natural Resource Conservation Service. Today he is retired from Kamehameha Schools Land Asset Division but keeps himself busy on his own farm and as a member of Hawaii County's Water Board.

Greg Hendrickson, our Vice Chairperson, is an attorney specializing in conservation law, a great thing for a soil and water conservation district.



Denise Light is a retired NRCS Soil Conservationist. She is from the Big Island and received her agricultural degree from UH Hilo. Regrettably, Denise has decided to retire from her position on the Kona SWCD board. We wish her well and hope to see her around town.



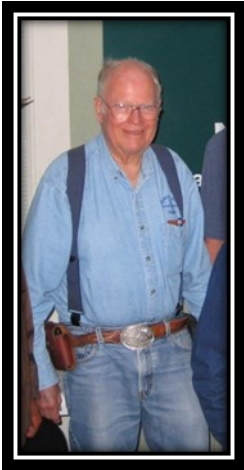
Director Jeff Knowles is a retired NRCS District Conservationist. His last duty station was the NRCS Kealahou Field office. He continues to maintain a home with his wife and family in Kealahou. This photo of Jeff is from when he was volunteering at the West Hawaii Veterans' Cemetery on a tree planting day.

Director Keith Unger is the Ranch Manager at McCandless Land and Cattle Company. He raised his family here on the Big Island and his son, Max Unger, recently won a Super Bowl ring. Keith is active in the Cattlemen's Association and has hosted tours of the ranch for the Hawaii Island Land Trust.



Mauna Kea SWCD

Message from the Chairperson



Monty Richards,
Director

From Mauna Kea and Mauna Loa to the Kohala Mountain the Mauna Kea Soil and Water Conservation District (MKSWCD) covers over 730,930 acres of the beautiful Island of Hawai'i. Within this vast area there is a unique collection of farmers, ranchers, and conservationists. This has been a year of change for the district. Our long time Admin Assistant Margaret Fowler resigned after working for us for 10 years, her dedication and knowledge are greatly missed. Thank you Margaret. We also lost our Conservation Specialist, Jill Beaton to the Hilo NRCS office where she is gainfully employed in a full time capacity. Congratulation Jill! We also welcome our new admin assistant / planner Hannah Conley. She has deep roots in the area and grew up ranching in Kohala so she has a great understanding of the needs of the ranching community which is a large part of client base.



Chris Robb, Chairman



Pono von Holt, Director
and wife, Angie

We also have a new director. The current board members include Chris Robb, of Robb Farms; Brad Lau, of Lau Ranch; Monty Richards, of Kahua Ranch; Morgan Toledo, of Waipio Valley Taro Products; and Pono von Holt, of Ponooho Ranch. The district is happy to welcome Pono as a new director to the board. Pono and his family own and operate Ponooho Ranch Ltd. Raising beef cattle in Kohala, the von Holts have been in cattle production since 1928 when the von Holt and Richards families first purchased the land and began Kahua Ranch. The families have since split up into two separate ranches,



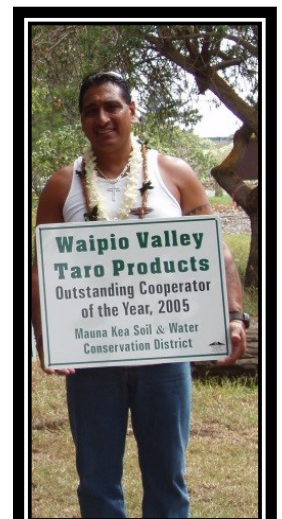
Brad Lau, Treasurer

but still hold a close working relationship. Ponooho Ranch has worked with both the district and NRCS in the past. Awarded as Outstanding Cooperator of 2003, Pono feels it's his time to give back and the district welcomes his mana'o.

The district sponsored the annual HACD convention in Waimea, thanks to all for making this event a great success. The long awaited Waimea-Paauilo watershed plan is currently still alive in leg. This plan dates back to 1997. It will be a 120 million gallon reservoir on DHHL land supplying water for DHHL ranchers and farmers. We finally broke an 8 year drought this winter and this water system will go a long way towards alleviating the effects of future draught.

The board meets every second Wednesday of the month in the Waimea NRCS field office. This meeting is open to the public and participation is welcome. For more information about the district go to www.maunakeaswcd.org

We want to thank Matt Wung and his staff at the Waimea field office for their never ending support of the district.



Morgan Toledo,
Director

Mauna Kea Soil and Water Conservation District



Z Bar Ranch pastures before fireweed control. Clearly evident by the bright yellow color, the fireweed flowers and seed heads cover a majority of this pasture

times used in its control, however they too will fall victim to the fireweed toxins as it affects their liver. The efforts to control fireweed are varied; they include chemical, biological, mechanical, and grazing management. However, the eradication and control of fireweed has, and will continue to be, an uphill battle.

Z Bar Ranch has been able to successfully control the fireweed in selected areas of their pasture through a thorough application of herbicides, and dedicated grazing management.

Zanga has done an excellent job implementing his Conservation Plan and conservation practices. As a result, the treated pastures are rid of the majority of fireweed that previously controlled it and made them unfavorable for grazing.

The district is happy to honor Z Bar Ranch and Zanga for the outstanding work and dedication they have shown to improving the land and working to conserve their natural resources.

Zanga Schutte, owner and operator of Z Bar Ranch LLC, runs a beef cattle operation in Pu'ukapu. Like many of his fellow ranchers he has been trying to fight the invasive Madagascar Fireweed since its introduction in the 1980's. *Senecio madagascariensis*, commonly known as fireweed, has become a widespread problem for ranchers across the state. Fireweed is able to grow in a multitude of climates and its seed remain viable in the seed bank for many years even through drought. Fireweed is a strong competitor with rangeland forage plants and is also toxic to livestock. Cattle and horses are unable to digest any amounts of fireweed. Sheep and goats are able to eat a fair amount of fireweed and are some-



Zanga overlooking his Pu'ukapu pasture and cattle



Z bar Ranch pasture after chemical treatment

Natural Resource Conservation Service Staff

The NRCS Waimea Field office is happy to welcome Jared Considine a new NRCS conservation Planner. Jared graduated with a B.S. in Forest Management from Southern Illinois University and continuing his education by currently working on his master's thesis in soil science from Oregon State University. Jared is originally from Northern Illinois but has seen many places during his time in the U.S. Marines. His career in natural resources began by volunteering for the Nature Conservancy, moving on to work with the U.S. Forestry Service and then to the Klamath Falls NRCS in Oregon. He and his wife, Sada, recently moved to the island from Oregon when Jared accepted a planning position for the Waimea Field office.



Left to Right: Preston Irwin; State Range Specialist, Matthew Wung; District Conservationist, Carolyn Wong; Soil Conservationist, Jared Considine; Conservation Planner, Reese Libby; GIS Specialist, Andrew Stout; Area Engineer

Waiakea SWCD Chairman's Message

The mission of the Waiakea Soil and Water Conservation District (SWCD) is to preserve our land and water resources by assisting in planning and education. The Waiakea Soil and Water Conservation District provides conservation plans for individual agricultural landowners to help control surface water and reduce sediment runoff. The Waiakea District, being in an urban setting, also assists on flood control projects along with the County Department of Public Works (DPW) and Natural Resource Conservation Service (NRCS) with planning and annual inspection of such projects. Plans are also provided for USDA NRCS Farm Bill cooperators, primarily for Environmental Quality Incentive Program (EQIP) with the District acting as a Technical Service Provider (TSP).

We are currently working with Warren Lee and Hawaii County Department of Public Works to improve access to the Piihonua Diversion for our annual inspection. Clearing of the access trail should be done by late summer.

The District would like to thank its partners the County of Hawaii Department of Research & Development, County of Hawaii Department of Public Works, USDA Natural Resources Conservation Service, the University of Hawaii Cooperative Extension Service and the State Department of Land and Natural Resources for all their assistance in our goals. We also would like to thank the cooperators for their earnest efforts towards helping to create and implement the plans.

The Waiakea SWCD would also like to thank Wes Nohara, representing HACD, for all his efforts to secure funding from the State Legislature. His work has not been an easy road. We at the Waiakea SWCD would like to join with all District Directors to come up with new ideas for better funding. One idea our District wants to promote is the potential use of lands controlled by the Department of Land and Natural Resources. If part of the income from State land leases can be directed to the Districts, we may have sufficient funding to carry out our mission.

If given the land we could produce and sell plant material for windbreaks, ground covers, forage, or native species for natural area restoration. The State is land rich. Let's see if we can tap this wealth for the benefit of conservation.

We are currently investigating the potential use of an under used property in the Kukuau district that may serve this purpose. We will keep you all informed as things progress.

Waiakea SWCD Spotlited Cooperator of the Year 2013

(Forestry Project)
Planner: Spencer Nagata



Melissa Pang Ching's 2 acre parcel is located in the Waiakea Uka area, within the Waiakea Soil and Water Conservation District. Her goals of this property is to remove noxious and invasive plants and to reintroduce native Koa and Ohia, which will serve as the initial canopy in this small scale reforestation project. These canopy trees and naturally occurring ground cover will be maintained until a desirable canopy has been created. Hapu'u and other native understory plants will then be introduced.

Melissa has completed 2 acres of access control which consisted of 1500' of hog wire fencing, to keep feral pigs out of the planting area. 2 acres of tree/shrub site preparation, to clear the land and remove the invasive waiwi and guava. Lastly, 2 acres of tree/shrub establishment, which she planted over 240 native trees and shrubs.



Waiakea SWCD Spotlighthed Cooperator for 2013

(on-going pasture project)

Planners: Spencer Nagata/Amelia Drury

Thomas Shiroma Farm is located above the Komohana Gardens subdivision in the Waiakea Soil and Water Conservation District. The farm consist of 40 acres, half of which is pasture and the other half is an ornamental nursery. Mr. Shiroma's goals for the property was to improve his pasture area, by improving the forage quality and quantity for his cattle, sheep, and goat herds.

Over the past year, Mr. Shiroma along with his family has completed 23 acres of heavily dense brush management, 23.6 acres of herbaceous weed control, 3850' of interior cross fencing, 75' of pipe, 1 water trough, and 23 acres of forage and biomass planting. The 23.6 acre pasture has been cut into 5 paddocks with a central water trough providing clean drinking water to all livestock. They planted a mixture of Baron Goto grass, Gutton panic, white clover, limpo, and mulatto grass. The Shiroma family also destocked their pasture for nearly a year in order to allow the new forage to grow and spread throughout the pasture.



Before destocking and implementing Pasture and Hay Planting practices



One year after destocking and implementing Pasture and Hay Planting practices

Waiakea SWCD Board of Directors



Leslie Takayama, Chairman



Sheldon Takajo, Vice-Chairman



Amy Bugado, Treasurer



George Mikami, Secretary



Stanley Haraguchi, Director

Puna Chairman's Message

The Puna Soil and Water Conservation District (SWCD) have been instrumental in conservation planning and accomplishments throughout the agricultural lands in the Puna District.

With the assistance of full time district employees, Amelia Drury, Jennifer Reavis, and part time employee Kamran Fujimoto, the Puna District was able to assist 55+ Cooperators in 2013. The District continues to be one of the fastest growing districts in the State of Hawaii.

Invasive species are increasing in this district as more nurseries and potted plant cooperators start to expand. The Coqui frogs are spreading to higher elevations. Other pests of interest include the nettle caterpillar and fire ant. Animal waste remains a district priority, other critical issues are water quality, noxious weeds, and soil erosion control.

We would like to thank the many governmental agencies that assist in the District programs. The State Legislature through DLNR, USDA Natural Resource and Conservation Service for supporting the SWCDs, the UHM Extension Service for their assistance, and the County of Hawaii Research & Development for their funds to hire District Employees.



Oliver English, Chairman



Aileen Yeh, Vice Chair



David Schell, Sec./Treas.



Ron Nickel (Director)



Randy Cabral (Director)

Puna SWCD Spotlighted Cooperator of the Year

Emily Taaroa

Prescribed grazing and Forage & biomass planting

The Puna Soil and Water Conservation District is pleased to announce the selection of Emily Taaroa as the recipient of the “Puna Spotlighted Cooperator of the Year”. The 5.9 acre ranch is operated by her and her husband, Yoric.

Mrs. Taaroa’s ranch is located in Keaau area. She has been a cooperator on this property since 2013. She has worked with Soil Conservationist Amelia Drury to address her concerns of plant productivity health & vigor and inadequate feed and forage. Emily Taaroa was selected due to her and her family’s hard work and dedication to conservation in the beginning to address these concerns.

Mrs. Taaroa’s ranch is mainly the typical Puna weedy pasture of broadleaf carpet grass, hilo grass, wainaku grass and sensitive plant. Her and her husband have begun the hard work of planting the pasture with some pangola and forage peanut and they want to complete their forage & biomass planting in the future by planting giant Bermuda and more forage peanut throughout the pasture. Here and her husband have begun the hard of work prescribed grazing of rotating their chicken in their chicken tractors “take half, leave half” of the grass throughout their 5.9 acre ranch. She has already noticed the grass becoming healthier, weeds starting to decrease, and chickens putting on better weight. Their hard work has led to a more productive pasture. She and her family hope to do more in the near future to make it even better. Great Job!



Looking at a pasture with chicken tractors that are being rotated daily across the field in 2013.

Ka'u Chairperson's Message



*Brenda Iokepa-Moses
Chairperson*

*John Cross
Vice-Chairman*

*Amos Meyers
Secretary/Treasurer*

*Lani Petrie
Director*

*Chris Manfredi
Director*

Ka'u Soil and Water Conservation District (KSWCD) are fortunate to have a Board of well rounded and dedicated volunteers from the Ka'u Community. Current board members are Brenda Iokepa-Moses, Ka'u Farms Management and Ka'u Coffee Mill; Amos Meyers, retired School Teacher; Lani Cran-Petrie with Kapapala Ranch; Chris Manfredi, Ka'u Farm and Ranch; and John Cross, Edmund C. Olson Trust. Board Members all bring something different to the table and this diversity helps them in their decision making and recommendations.

One of the highlights this year in Ka'u was the extremely successful 6th Annual Ka'u Coffee Festival, bringing over 4,000 visitors to the Pahala Community Center to celebrate the Ka'u Coffee Farmers. The week long events leading up to the festival were the Pa'ina Kickoff at the Pahala Plantation House; Kalaekilohana Ka'u Farmers Table event; Triple C Recipe Contest at Ka'u Coffee Mill; Ka'u Pageant; Ka'u Mountain Water System Hike; Coffee and Cattle Day at Aikane Plantation Coffee Farms, Ho'olaule'a and Ka'u Coffee College. Governor Neil Abercrombie declared through proclamation May 5th -10th Ka'u Coffee Week. "Can't imagine a better group of people to recognize and celebrate than our hard working Ka'u Coffee Farmers" said chairperson Brenda Iokepa-Moses. The theme that was kept close to the festival and throughout our island is to "Buy Local it Matters!"

With our district being comparable in size to the Island Of Oahu it is a challenge just getting to our clients. With the drive being an hour or two away from the field office a lot of time is spent on the road getting to these rural area clients. With the help of our partner NRCS they make it work with careful planning.

Jennifer Lopez Reavis heads our Field Office Operations that not only handles Ka'u district but also the districts of Puna and Waiakea. Amelia Drury, a very talented full time planner with engineering skills under her belt providing knowledge nationwide through the Waiakea, Puna, and Ka'u Soil and Water Conservation District. Seasoned part time planner Kamran Fujimoto reaches out to farmers on weekends and after hours to make it more convenient for them.

A special mahalo to Mayor Billy Kenoi , DayDay Hopkins, Jane Horike and Randy Kurohara with the County of Hawaii R&D, Department of Land and Natural Resources, Natural Resources Conservation Service, and other affiliated agencies for their continued support of the agricultural community.

Ka`u SWCD Spotlighted Cooperator of the Year

Randy Cabral

Prescribed Grazing, pipeline, and trough

The Ka`u Soil and Water Conservation District is pleased to announce the selection of Randy Cabral as the recipient of the “Ka`u Spotlighted Cooperator of the Year. The 491.1 acre, 6 paddock, ranch is operated by him.

Mr. Cabral’s ranch is located in the Pahala area. He has been a cooperator on this property since 2009. He has worked with Soil Conservationist Amelia Drury to address his concerns of plant productivity health and vigor, noxious weeds, inadequate feed and forage and inadequate livestock water. Randy Cabral was selected due to his hard work and dedication to conservation in the beginning to address those concerns.

Mr. Cabral’s ranch is mainly the typical Ka`u pasture of a guinea grass, glycine, haole koa, monkey pod trees and christmasberry. He has begun the hard work of prescribed grazing of rotating cattle “talk half, leave half” of the guinea grass from paddock to paddock throughout the 491.1 acre ranch and has begun to install troughs and intends to install a new pipeline soon. He has already noticed the guinea grass becoming healthier, weeds starting to decrease, and cattle putting on better weight. He had done this while preserving through a recent severe drought and a difficult economic environment.

Mr. Cabral’s hard work has lead to a more productive pasture. He hope to do more in the near future to make it even better. Great Job!



On the left, a paddock during the peak of a severe drought. Vegetation consisted mainly of Monkey pod trees and Guinea grass.

On the right, is a paddock that was put into rest for a year and the end of the drought to be able to start a rotation grazing plan to begin developing a better pasture in 2010. This paddock on the right consists mainly of Christmasberry, guinea grass, sil oak trees and haole Koa.

Hilo Field Office Staff

Servicing Hamakua, Waiakea, Puna and Ka'u SWCDs



Back Row: Alicia Greene, Engineer; Spencer Nagata, Soil Con.; Jill Ficke-Beaton, Soil Con.; Grant Kow, Hawai'i CREP Planner
Front Row: Lehuanani Angay, Program Assistant; Lester Suehiro, Soil Con. Tech.; Laila Jayyousi, Soil Con.; Kori Hisashima, District Conservationist



Amy Kock
NRCS GIS Specialist
Resource Soil Scientist

Jennifer Reavis
SWCD Sect. Cons. Aide

Kanoë Malani
SWCD Soil Cons.

Kamran Fujimoto
SWCD Soil Cons.

Amelia Drury
SWCD Soil Cons.

Hamakua SWCD Message from the Chairperson

It's been another busy year for the Hamakua Soil and Water Conservation District addressing the soil, water and other resource concerns of agricultural producers and residents within the district. The impact of climate change is evident; less frequent and more extreme rain events have set the importance of soil erosion and water quality and quantity as top priorities. With the increase of small farmers and more land being used for the cultivation of annually tilled crops, there is much potential for the district to implement their programs in conservation education, planning, and complying with the County's Grading Ordinance.

The Hamakua SWCD would like to thank our partners, the County of Hawaii Department of Public Works, the USDA Natural Resources Conservation Service, the University of Hawaii's Cooperative Extension Service, and the Department of Land and Natural Resources among others for providing the financial and/or resource support we utilize to reach our goals and serve the conservation needs of the community as best we can. The Hamakua SWCD's success in having conservation activities implemented on the land would not be possible without the voluntary cooperation of our clients and residents who are putting conservation into action at the ground level. Mahalo to all who are working towards improving the health of our environment and resource sustainability of our island communities.

Our Board of Directors



Marissa Harman, Hamakua SWCD
Chairperson



Dylan Shropshire, director



Doug Beaton, director



Troy Keolanui, director



Dwayne Cypriano, director

2013 Hamakua SWCD Farmer of the Year

Ferol White



Photo: 2013 Farmer of the Year Ferol White and husband Patrick Niemeyer in front their farm.



Contour orchard of lychee

Ferol White and her husband Patrick Niemeyer own a 9 acre farmstead in Umauma on the island of Hawaii complete with orchard, vegetable crops and livestock. In 2004, the couple purchased this fallow cane land property and began transforming what was an overgrown Guinea grass pasture into a beautifully landscaped and sustainably productive diversified family farm. Half of the property is planted to a tropical fruit and nut orchard that produces a variety of exotic crops including banana, coffee, citrus, avocado, mango, lychee, breadfruit, macadamia nut and cashew just to name a few. They also grow many seasonal vegetables including tomatoes, eggplant, lettuce and cucumber. Although not organically certified, Pat and Ferol raise their crops using organic principles and “no spray” methods. The other half of the property is dedicated to raising sheep.

Ferol became a Hamakua SWCD cooperater in 2003 and has since worked with NRCS completing several conservation plans through the EQIP program. Some of the conservation practices in the earlier years included planting the orchard on the contour to reduce soil and water loss, and establishing windbreaks to protect the farm’s resources and provide wildlife habitat. A grassed waterway had also been installed to stabilize soil erosion they had been experiencing. In the summer of 2013, a seasonal high tunnel was built to extend the growing season for their vegetable crops.

More recently, the couple had been focused on providing water for their livestock and completed the installation of a watering system for their sheep that utilizes collected runoff and catchment wa-



Grassed waterway

ter distributed to paddocks through pipeline and troughs. In the future, they hope to continue working with NRCS to improve their livestock forage by cutting their paddocks into smaller sections and implementing a prescribed grazing management plan.

The investments Pat and Ferol have made and will make in protecting their land’s resources will continue to benefit themselves, the land and the community they support. The Hamakua SWCD is pleased to honor these dedicated farmers with the 2013 Outstanding Farmer Cooperator of the Year Award.

Hamakua SWCD 2013 Forester of the Year

Peter Kubota

In 2010, Peter Kubota was the first recipient of Conservation Reserve Enhancement Program (CREP) contract in the State of Hawai'i. Peter, along with his Conservationist, Kori Hisashima developed a conservation plan for his 21.0 acre parcel in Pepe'ekeo. 2.2 acres was planned for a riparian forest buffer along the Alia Stream. This buffer has been devoted to a native plant community rehabilitation and restoration to provide conditions for native plants to be established and native wildlife to utilize as habitat. An additional 13.4 acres were planted in high value non-native hardwoods.

Before any of the preparation of planting occurred, Peter installed an ungulate proof fence around the property to ensure protection to seedling and saplings from feral pigs that roam the area. He then began tree/shrub site preparation by an herbicide treatment of the grass. After the grass had died lines were laid out and holes were dug for seedling on 6 ft. x 6 ft. Spacing. Because some of the areas were severely manipulated due to earth movement implemented by the previous truck crop farmers, the planting areas were less than perfect for growing seedlings. Some areas had its topsoil completely removed, therefore leaving the subsoil as the growing media for the seedlings. In these areas Peter dug holes 18 inches deep. He then incorporated organic matter (mulch), lime, and a mild complete fertilizer to each hole. He mixed the soil and additional ingredients and allowed the hole to react for approximately 2 weeks before planting. The extra tender loving care helped to ensure healthy and vigorous saplings and trees. He continues to mow and maintain the grass between rows to reduce sedimentation and erosion, and provide extra carbon to trees from grass clipping.

For the native areas he planted Koai'a, Ohia, Kou, and Alahe'e. In the non-native forests he established Honduran, Africa and Little Leaf Mahogany, Pheasantwood, Spanish and Pink Cedar, Narra, Brazilian Cherry and Eucalyptus deglupta. Congratulations Peter on being honored as the 2013 Hamakua SWCD forester of the Year.



On the left, Honduran Mahogany in 2011. On the right, Peter standing by the Honduran Mahogany in 2012.

Below left, Pheasantwood planting in March 2011 and on the right the Pheasantwood a year later in 2012



Hamakua SWCD 2013 Rancher of the Year

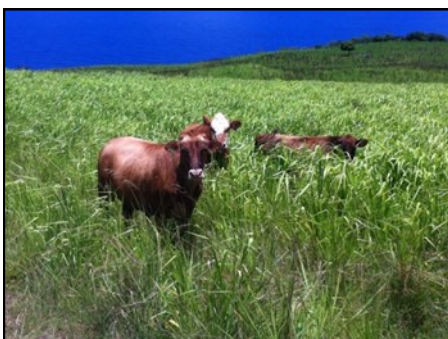
Darcy Nobriga

Cattle, goats and donkeys enjoy a million dollar view of the Hamakua coastline and the Pacific Ocean while grazing on a ranch operated by Darcy Nobriga, along with his girlfriend Joanna, Son Darsen and Daughter Deana in Papaaloa on the Big Island of Hawaii. This 129 acre parcel. That is leased from Kamehameha Schools was an open grazing system three years ago with an earthen, unlined water hole that all the animals stood in and drank from. Forage quality and quantity were impaired due to continuous grazing, which led to less desirable Hilo grass dominating the forage species. There were also animal health and water quality issues due to the communal water hole.

Darcy had heard of NRCS and EQIP through other ranchers in the community. With the help of NRCS, Darcy has transformed his pasture. The project included new fencing that divided the 129 acres into 60 paddocks of approximately 2 acres each. Livestock water was established to provide clean and safe drinking water for the animals. The water system included tanks, pipeline and troughs and excluded the animals from the water hole. The paddock fencing and watering system enabled him to implement a rest-rotation grazing system. Since the hardware was installed about two years ago, Darcy and Joanna along with NRCS personnel Kori Hisashima and Preston Irwin, have witnessed the forage transition from Hilo grass to a much more productive Guinea grass pasture. This has resulted in an increased quantity, quality and palatability of forage, an overall healthier pasture as well as healthier animals. The positive trend has resulted in an excess abundance of feed, leaving Darcy in an unusual predicament...finding more animals to increase his stocking rates to manage the forage!



Darcy, his son Darsen, and Preston Irwin, NRCS Range Management Specialist doing a forage clipping in this highly productive Guinea grass pasture.



Healthy forage = healthy animals

Funding for the production of this annual report is through
Hawaii County's Department of Research and Development.