

# Hawaii Island Soil & Water Conservation Districts Annual Report 2006



# MESSAGE FROM THE MAYOR



On behalf of the people of the County of Hawai'i, it is a pleasure to extend my appreciation to the volunteers of the Hawai'i Soil and Water Conservation Districts, whose efforts are documented in your 2006 SWCD Annual Report.

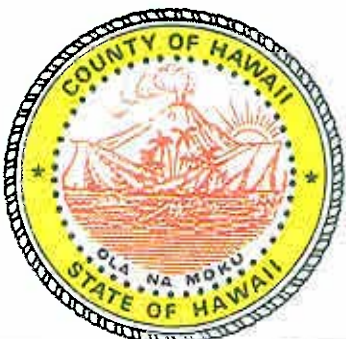
The Hawai'i Soil and Water Conservation District volunteers are often unsung heroes for the important work they do to preserve our precious natural resources and pristine environment.

The hard work you perform benefits the people of our island and future generations to come.

We are grateful for your continued dedication to the vital mission of the Hawai'i Soil and Water Conservation Districts.

Aloha,

Harry Kim  
MAYOR



## MESSAGE FROM HAWAII ISLAND VICE PRESIDENT HAWAII ASSOCIATION OF CONSERVATION DISTRICTS

The Big Island has seen tremendous growth in diversified agriculture in our economy along with strong growth in urban areas through the years, and this strained our capacity to provide services. New diversified agricultural ventures and the expansion of existing farms increased the demand for conservation planning and implementation of these plans. This was always evident in the lag time it took after signing up a cooperator for services and the development and implementation of plans.

The six districts Puna, Kau, Kona, Mauna Kea, Hamakua, and Waiakea, with funding from contracts with the County of Hawaii Department of Public Works to provide conservation planning for agricultural lands and an exemption from the grubbing and grading ordinance Chapter 10, did not provide the capacity to deal with the number of plans with its level of funding. Supplemental funding from County Council Member Virginia Isbell of the Kona District helped the Districts to increase the level of service by doubling our funding to \$300,000 and reduce the lag time. Three new planners were hired for the Hilo field office serving the Hamakua, Waiakea, Puna, and Kau SWCD. Training assistance was provided by the USDA Natural Resource Conservation Service (NRCS) in both education and funding. The Kona SWCD is also in the process of training a new planner. Funding for conservation technical assistance is also provided by the NRCS with the SWCD planners as Technical Service Providers (TSP) when we work on Farm Bill Programs. Currently, funding from the County of Hawaii Department of Public Works (DPW) may also increase in the next fiscal year to help expand our capacity to provide services.

HACD through Wes Nohara and the members of the legislative committee also worked with the Hawaii Farm Bureau to formulate legislation to increase our funding as HB399 which successfully passed and will provide \$500,000 to the sixteen districts of the State in the next fiscal year.

We'd like to give thanks to our partners the NRCS for providing training, funding, and office space at their field offices; County of Hawaii Mayor Harry Kim, DPW Bruce McClure, Director and Galen Kuba, DPW Engineering Division, for assistance in funding; the Hawaii Farm Bureau, Wes Nohara and the Legislative Committee of HACD and the State Legislature for help with additional funding.

**Leslie Takayama**  
**Vice President**  
**Hawaii Association of Conservation Districts**

## DIRECTOR'S MESSAGE

Looking back at what we have accomplished in 2006, I am proud of what our NRCS employees contributed. From responding to damaging floods on Kauai, to a break through on land eligibility for EQIP in the Commonwealth of the Northern Mariana Islands, to increased emphasis on animal waste issues in American Samoa, to a new Memorandum of Understanding with the Federated States of Micronesia, and our response to the earthquake on the Big Island of Hawaii -- NRCS efforts have been outstanding.



This year our efforts in meeting our performance goals were tremendous. In Hawaii, all of the field offices met all of their performance goals. These NRCS efforts are a reflection of our professionalism and commitment to conservation in the Pacific Islands Area. With that, I look forward to this coming year because new circumstances will again test our strength and character.

Part of the future is the realization that tighter budgets are now here. The previous U.S. Congress was not able to pass our appropriations bill. And as a result of the elections in November, the U.S. Congress will be going through dramatic changes in leadership and potentially in our priorities. This has led to tremendous uncertainty for us in the short term.

We are currently operating under a Continuing Resolution (CR). This means we have only limited funds and that our future funding for Fiscal Year 2007 has not been determined yet. The new Congress could change priorities and provide us new direction. They could ask us to do things very differently.

In order to be prepared for these potential changes, I have instituted some austere measures to avoid overspending while we are under the Continued Resolution. Please be patient with our efforts as we work through these difficult times. I am hopeful and anticipate that things will improve as Congress gets back and addresses our financial needs. We look forward to working under any new direction they provide and hope that it will help us help our communities. The upcoming 2007 Farm Bill will also offer an opportunity for Congress to help us meet the needs of our communities.

We need to work together as we find ways to thrive in these austere times. Please help us work through these changes. You are needed as we continue "Helping People Help the Islands."

**Lawrence Yamamoto - Director**  
**USDA NRCS Pacific Islands Area**



*USDA is an equal opportunity employer and provider*

# HAMAKUA SOIL & WATER CONSERVATION DISTRICT



*Lesley Hill  
(Chair)*



*Thomas Young  
(Vice Chair)*



*Jill Mattos  
(Director)*



*Leanord Cardoza  
(Director)*



*Richard Ha  
(Director)*

## **Report from the Chair – Lesley Hill**

Last year 2006 was a transitional one for Hamakua SWCD.

In October we lost our long time director and district chair Tommy Crabb. His passing was a great loss to our conservation community and our district.

Another former director of Hamakua and then Waiakea SWCD, Francis Pacheco passed shortly after his long time friend Tommy. These two men are honored for all their years of dedication.

We are continuing on in their spirit and with our new director Richard Ha, as well as Tom Young, Leonard Cardoza, and Jill Andrade-Mattos we pursue the conservation goals of the district.

As anyone can see from the 50 mile drive along the coast the Hamakua area is making wonderful progress in the transition from sugar cane to other crops such as forestry, pasture, fruit orchards, vegetable crops, dracaena stock, orchid greenhouses, cut flowers and heart of palm fields being planted and tended.

There was a lot of cooperator activity with 17 new cooperators signed up and 15 plan approvals and 11 plan revisions. With the help of more planners hired with funds from Hawaii County the backlog of work has been shortened as well as the length of time for plan completion.

We had two cooperators recognized for their good work. Kaala Ranch and its four owners did plenty of hand labor to revive their 624 acres of pasture land with brush management and replanting of desirable grasses. Kukaiiau Ranch invested much to make their 10,000 acres of pasture more productive and is now featuring a grass fed beef locally and in the US Mainland.

With more communication ongoing with the Hawaii County Public Works Department and our other conservation partners the Hamakua SWCD optimistically looks forward to another year of conservation work with more educational programs and encouragement of land stewardship.

## HAMAKUA SWCD OUTSTANDING RANCHER OF THE YEAR KUKAIAU RANCH

**Kukaiiau Ranch** is the Hamakua Soil and Water Conservation District's Outstanding Rancher of the Year.

Kukaiiau Ranch is located along the Hamakua Coast. It was established in 1885. In 2000, David S. De Luz Sr. put together a group and purchased the ranch. In 2003, David and his wife Josephine became sole owners of the 8000 acre Ranch. They leased the pastureland to outside ranchers until 2004, when Robert Sporleder joined the team as the Ranch manager. Together, David, Josephine and Bob formulated a plan to rebuild the ranch and bring it to sustainability for future generations. Since 2004 the ranch has expanded to over 10,200 acres and is in the rebuilding process to become one of the largest producers of Premium Grass Finished Beef in the nation.

Kukaiiau Ranch filed for a new conservation plan late in 2004. This plan is based around an intensive rotational grazing Regime. When fully implemented, this plans call for cattle grazing for no more than 7 days on a paddock with a 42-49 day rest period.

They started implementing this plan late in 2005 and since that time they have installed more than 20 miles of fencing both electric and permanent fencing to divide paddocks to allow their program to work. They have installed more than 5-miles of new water lines along with new water troughs and rebuilt a rain catchment facility. They are in the process of rebuilding roads and implementing a major weed control program. They are implementing a custom formulated range supplement program to optimize growth and produce top quality cattle in order to capture the value added markets.

Although they are just in the beginning stages of their overall plan they are now producing a limited amount of Grass Finished Beef and are moving towards being a major supplier of Premium Branded Grass Finished Beef Products to both local retail outlets and the high-end export markets.



*Bob Sporleder (Manager), Josephine De Luz, David De Luz Sr.*



*Cross-fencing large tracts of land into manageable paddocks allows desirable forage species to recover in between grazing periods.*

The Conservationist for this parcel is Harrison Vidinha.

The Hamakua Soil and Water Conservation District congratulates Kukaiiau Ranch for their hard work and dedication to conservation, and for being selected as the Hamakua SWCD 2006 Outstanding Rancher of the Year.

## HAMAKUA SWCD OUTSTANDING RANCHER OF THE YEAR KAALA RANCH

In 2003, seven gentlemen formed a partnership called Kaala Ranch. These men took over a 500 acre lease within the Umikoa Ranch in O'okala at the 2560 – 4000 ft. elevation. The previous lessee had a continuous grazing system, where the cattle had free roaming privileges. This freedom allowed the cattle to graze wherever they wanted, whenever they wanted, for as long as they wanted. Pasture management was largely being left to the animal's judgment. This type of grazing resulted in overgrazing of desirable grasses like Kikuyu. This selectivity caused problems over the long term and resulted in the decline of desirable species, and the opportunity for noxious and invasive plants to take their place. So as the decline in kikuyu grass occurred, narrow leaf carpet grass, Hilo grass, waiawi, guava, banana poka, and fire tree took its place.



*Spencer Nagata, Lesley Hill (SWCD), Roddy Nagata, Loren Mochida.*

After moving some cattle for a cow-calf operation to the ranch, they began installing cross fences, closed all of the gates and started a rotational grazing system. In all, they have installed over 13,600 ft. of cross fencing.

Their next task was to do brush management to control the waiawi, guava, fire tree, and banana poka. All of their efforts were done without any machinery in their effort to try and preserve the native Ohia forest, and native forest bird habitat they were grazing in. They did chemical control with back pack sprayers, and hand clearing with chainsaws and machetes. Over 200 acres of Brush Management has been implemented on this Ranch.

In 2006 a land swap occurred with the owner to do a Fish and Wildlife project. This left the Kaala Ranch at a loss of approximately 183 acres of grazing land, but was replaced with approximately 220 acres of adjacent grazing land. This swap now brings the Kaala Ranch total to 624 acres.

They are currently working on pasture planting of kikuyu grass and pangola grass, which includes fertilization on the acres treated with brush management, and plans are on the way for construction of a livestock pond, and water harvesting catchment area, as well as a livestock water distribution system.

A significant change has been noted in the type and quality of the vegetation present on the ranch. With the help of their Soil Conservationist, Kori Hisashima, they have converted the Ranch from a continuous grazing system, to a rotational grazing system on 6 paddocks, which allows each paddock to rest approximately 70 days before the cattle are rotated back to that paddock. This has allowed the kikuyu and pangola grass more than adequate recovery time for re-growth, and competing and reclaiming areas of narrow leaf carpet grass and Hilo grass. After the paddocks have all been re-planted, and established, plans include increasing the stocking rate on the ranch to up to 200 animal units.



*Intense Waiawi stands were controlled by chainsaw and chemical applications.*



Within the past few months, the partnership has decreased to four gentlemen. Ernest Pung, Roddy Nagata, Loren Mochida, and Spencer Nagata. They earn the award of Hamakua Cooperator of the Year because of their hard work and dedication to their Livestock, and for their desire to preserve and enhance the Natural Resources on the land that they Ranch on. Congratulations Ernie, Roddy, Loren, and Spencer.

*Roddy Nagata and Ernie Pung*

# WHAT ELSE IS HAPPENING IN HAMAKUA?

## Green Engineering: Vetiver Grass for Streambank Erosion Control

Edward Johnston owner of 'Alia Point Awa Nursery located in Pepe'ekeo maintains his collection of Awa on 2.2 acres. Both the 'Alia and Kaelikili streams border the property and overtime these two streams started to create some streambank erosion. Through the help of the Hamakua SWCD and the NRCS Plant Materials Center on Mo'loka'i, Ed was able to do a Vetiver Grass (*Vetiveria zizanoides*) planting trial to help retard the increased water velocity during high rainfall events.

In other parts of the world



Edward Johnston

Vetiver grass is used for animal feed, roots used for thatching, and of course erosion control. The variety of Vetiver that is safe to plant in the

tropics originates from South India. This variety has no viable seed and can be propagated by vegetative practices only. 500 Vetiver slips were provided to Ed in May 2006 and he used several different methods of propagation to learn that the most productive method was planting each slip directly

into 6" grow bags filled with general potting soil. Before transplanting,



each slip was able to multiply 4 times its original size and created a dependable root ball. The field plantings followed a grid pattern: 6 inches between plants and 3 feet between rows. Vetiver is a sun loving plant, so Ed needed to trim

back rose apple trees near the stream to get satisfactory growth. Today, each row is about 3 feet tall and as thick as 1 foot across. In between each row Ed was able to establish Tropic Lalo (*Paspalum hieronymii*) which is a tight growing, low maintenance grass widely used in orchards. The combination of these two species proves to reduce erosion on his farm. Frequent field surveys were conducted by Hamakua SWCD and NRCS personnel during high water flow and the Vetiver grass proves to capture sediment/debris, decrease water velocity, and in this case, channels the water back into the stream. Ed is really satisfied with this method of erosion control and is still in



Vetiver & Tropic Lalo

the process of collecting more data.

## Windbreak DVD:

Through a grant from the Natural Resources Conservation Service, both the Hamakua and Ka'u SWCD's put together an informational windbreak DVD which includes interviews with farmers, species selection, planting patterns etc... However there should be a note that the use of Tropic Coral (*Erythrina variegata*) also known as False Wiliwili is no longer recommended for any type of windbreak due to the infestation of the Gail Wasps. DVD's are available through the Hamakua SWCD at the NRCS Hilo Field Office.

## Lower Hamakua Ditch Project (LHD):

The LHD was constructed in the early 1900's and completed in 1910. Intakes collect water from springs located at the back of Waipio Valley, and the water flows through ten miles of tunnel and nearly 15 miles of open ditch. The ditch was originally designed to flume hand-harvested sugarcane stalks from upland fields to the processing mills located along the Hamakua coastline. As mechanized sugar harvesting and processing evolved, as well as irrigation systems developed, the ditch was primarily used for wash water at the sugar mills and as a source of irrigation water.

At the closing of Hamakua Sugar Company in 1994, over 600 workers were left unemployed. This watershed project is intended to provide small start up farmers with necessary irrigation water and conservation assistance. Although the ditch has the capacity to convey 40 million gallons per day (MGD) and currently operates at 12 (MGD).

There's approximately 2,500 acres of cropland and 6,000 acres of grazing land in the project area. The Hamakua SWCD has already approved 16 conservation plans for cooperators located in the LHD, in which the main concerns were irrigation systems and water management practices. Cost-share assistance and irrigation designs were provided through NRCS.

# The Big Island's Resource Conservation and Development (RC&D) Program

## **WORKING WITH THE COMMUNITY FOR A BETTER FUTURE**

S.Skipper, RC&D Coordinator

The RC&D Program represents a unique private and government partnership that provides an avenue for a wide range of partnerships and successful community driven projects.

The Mission of the Big Island RC&D Council is to assist the people of the Big Island in achieving sustainable development while caring for and appreciating their natural environment; to ensure broadened economic opportunities, enriched communities, and better lives.

The Vision of the Big Island RC&D Council: Conserve, enhance, and promote the economic, cultural, and natural environment of Hawaii.

The RC&D Program was initiated locally in 1975 and is administered by the Natural Resources Conservation Service (NRCS) through authorizations by the Secretary of the United States Department of Agriculture (USDA). It is also sponsored by the County of Hawaii and the six Big Island Soil and Water Conservation Districts (SWCD), Maunakea, Kau, Puna, Waiakea, Hamakua and Kona). The program is designed to assist local communities in identifying concerns, developing plans and seeking funding to address those concerns. Projects are community driven and based on partnerships between a volunteer RC&D Council that is a 501(c)(3) non-profit, NRCS, state & local agencies, foundations and corporations. Technical and operational support is provided to the council through NRCS in the form of an RC&D Coordinator and Program Assistant and office infrastructure and meeting space.

Currently the RC&D partnership is involved in assisting the community in a wide range of projects as a co-sponsor, fiscal agent, grant development assistant, technical advisor and project funding agent. A most recent highlight is the acquisition of \$530,000.00 of funds to administer the Hawaii Agricultural Development Program (HADP). These funds were made available by Senator Daniel K. Inouye and acquired through a successful proposal to USDA by BIRC&DC. Participants in the HADP project can apply for funds to start-up and or expand agribusinesses, create value added products and to help develop new markets for Big Island grown products. Twenty one projects are being implemented under this program and others are pending approval for the Phase III applicants.

On going or completed BIRC&DC projects & partnered activities:

Hilo Downtown Visioning Workshops (Mo' Bettah Together program).

Hawaii Agricultural Development Program (HADP) Phases 1-2-3.

Hilo Bike and Pedestrian Path.

Hilo's World Heritage Festival 1<sup>st</sup> 2<sup>nd</sup> and 3<sup>rd</sup> Annual – Completed (annual event)

International Mushroom Conference. - Completed

World Water Quality Day coastal monitoring effort.- ongoing

Activities (cont.)

1<sup>st</sup> Annual Hilo Native American Inter-tribal Powwow 2006 – Completed (annual event)

Slaughterhouse Waste Composting Proposal.- Ongoing

Hilo Bay Watershed Advisory Group Storm Drain Stenciling Project – Don't Dump Goes to Ocean -- Ongoing

Hilo Bay Watershed Advisory Group Earth Day Project - - Ongoing

2006 Big Island Pro-Am Alcohol and Drug Free Surf Contest for youth and young adults – Completed (annual event)

Continued....

# The Big Island's Resource Conservation and Development (RC&D) Program

## 2006-7 HIGHLIGHTS

**Hawaii Agricultural Development Program** – Started in 2004 this proposal acquired annual earmark has consistently lead to new agri- business genesis in Hawaii County – 31 Farm and marketing efforts have been created. The successful BIRC&DC proposal to USDA netted \$179,000.00 that was distributed to 9 farmers for projects in the \$20,000 to \$30,000 range. Current participation and HADP total expenditures in Hawaii County are at the 70% completion schedule in spite of earthquakes, drought and flood level rainstorms over the 3 year period. Total funding to date = \$535,330.00. No 2007 program funds are currently available to continue this effort

**Hilo Bay Watershed Advisory Group (HBWAG)** – Technical assistance and group training from Coordination. Support from RC&D in community outreach and water quality awareness efforts through storm drain stenciling projects, Earth Day presentations and press releases. Coordinator guided group in Development of EPA assisted Watershed Restoration Plan and on 467,000 acres and HBWAG Strategic Plan. Currently working on Watershed Resource Inventory capital fundraising with RC&D Council as fiscal conduit and proposal development for water quality research projects

**Annual Community Cultural Events and Ethnic Diversity Celebrations** - BIRC&DC successfully managed over \$80,000.00 in granted funds for; 1.) Hilo's First and Second Annual Native American Intertribal Powwow; 2) World Heritage Festival; 3.) Big Island Pro-Am Surfing Trials – Youth and young adult Hawaiian Cultural Sporting event; 4.) Gathering in His Honor – King David Kalakaua Hawaiian Hula preservation event; 5.) Honoring our Youth - Native American/Native Hawaiian at risk youth cultural awareness and self esteem building summer sessions

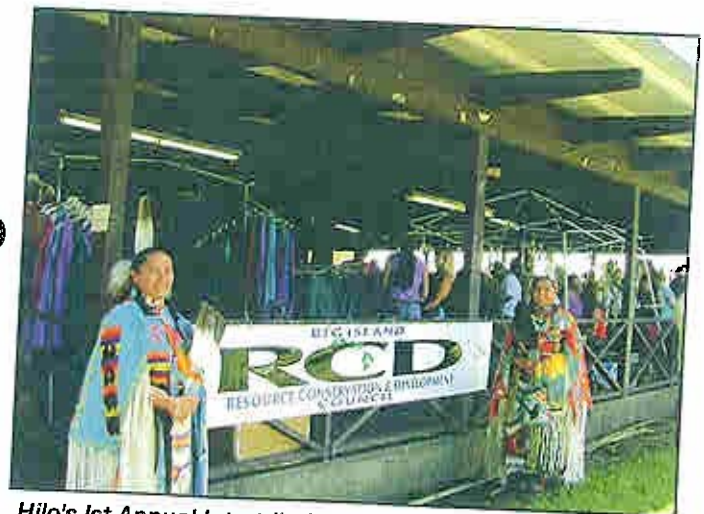
### **Big Island RC&D Council contact:**

David Kawika Marquez BIRC&DC Council  
President - 933-6996

**For more information on the NRCS RC&D  
Program contact:**

Steve Skipper, NRCS, RC&D Coordinator  
933-6996

Carol Sampaia, NRCS RC&D Program  
Assistant



*Hilo's 1st Annual Intertribal Powwow drew over 3000 people in 2006. The RC&D supported event showcased Native American culture, art dance, crafts and food. The annual event is held during the Memorial Day weekend.*

# KONA

## SOIL & WATER CONSERVATION DISTRICT

### Letter from the Chairman

The Kona Soil and Water Conservation District has seen a number of changes during 2006. The District hired Mary Robblee as its District Secretary and has expanded her position to include a career path in conservation training to assist the District with conservation planning. This career path will be made possible through cooperation with NRCS. The District also approved, Ambika Kosada, Fred Cowell, and Rick Robinson to serve on its Board as Directors and all were confirmed by the Department of Land and Natural Resources.

District Directors Philip Motooka, Donnie MacGowan and Roger Dilts have all left the District Board for various reasons and the District wishes them well in their new pursuits.

To guide the future growth of the District the Directors has formatted a long range plan to guide the District in its annual work plan process and that long range plan has education as its core strength and the protection and conservation of our natural resources as its theme throughout.

The Kona District has experienced explosive growth over the past several years due to an increase in developed land and an influx of new residents, as well as the continued growth of the coffee industry. The Board of Directors look forward to working with the increasing population of the Kona Districts in creating conservation plans for both farms and urban situations for both North and South Kona.

Education in the area of Grazing Management on pasture lands in Kona to improve soil fertility and lessen the potential for run off from pasture lands. Education on Forest Management is seen as critical by the Board so that we can insure a healthy forest that supports the recharge of the basal water lens that supports the ground water source of drinking water in West Hawaii

The District hopes to work with the community to understand the methods that can be used to lessen the damage of flooding to Kona lands and help the community understand the conservation practices that will help retain soil and prevent erosion.

In support of decreased sedimentation and for the protection of the near shore waters and reefs of the Kona Coast the Kona Soil and Water Conservation District will support watershed management principles and practices.

Overall, the District Board of Directors see education as the key step in alleviating some of the problems the community has with its land. The communication will be directed not only the citizenry of North and South Kona but also directed toward our elected and appointed officials on all levels, county, state and federal.

The task is great but with the dedication of our Board of Directors, staff and partner agencies we can work together to insure the lands of Kona remain productive for all members of our society.

**Rick Robinson**  
Chairman

## KONA SWCD OUTSTANDING COOPERATOR OF THE YEAR KEALOHA LLC

The Kona Soil and Water Conservation District recently honored Kealaola LLC, the home of Green Gecko Coffee, as its Cooperator of the Year. Mr. Lawton Allenby and Mr. Mike Katz operate the farm which is more than just a coffee farm. When they purchased the land approximately five years ago it was 5 acres of guinea grass and just a few old growth fruit trees. Today it is a beautiful property that grows coffee, citrus fruits, banana trees, bamboo, and scores of beautiful flower species.

Mr. Allenby and Mr. Katz went to the Natural Resource Conservation Service (NRCS) office in Kealahou for assistance. They wanted to know what needed to be done to tame their land and make it productive. John Jeffredo, NRCS Soil Conservationist at the time, recommended a number of conservation practices they could put to use. They ranged from pest management to assist in controlling the grass, to using a cover crop along with nutrient management, a trickle irrigation system, and mulching to name a few. New fruit trees were planted and after years of hard work, determination, and a willingness to learn and implement practices that conserve natural resources they have a beautiful farm that looks more like a sophisticated, elegant park.

They market their coffee under the Green Gecko Coffee label and have won two Gold Award Medals, at the Kona Coffee Council's premier Cream of the Crop — A Kona Coffee Extravaganza event: one for the Chef's Choice (awarded by the top chefs on the Kona Coast) and the People's Choice (awarded by the attendees at the event).

To Kealaola LLC farm we say congratulations and thanks for taking such good care of your corner of the world.



Left to right, front row: Lawton Allenby (Cooperator), Mike Katz (Cooperator), Jeff Knowles (NRCS); back row: James Eller (NRCS), Greg Hendrickson (Associate Director), Rick Robinson (Chairman), Bob Nelson (Vice Chair), Ambika Kosada (Secretary), Denise Light (NRCS), Fred Cowell (Treasurer), Mary Robblee (SWCD District Secretary/Conservation Assistant), Skip Cowell (Director) and Pete Hendricks (Maunakea SWCD)

# WAIAKEA

## SOIL & WATER CONSERVATION DISTRICT



*L-R Front: Jennie Wung (Associate), Amy Bugado (Treasurer);  
L-R Back: Leslie Wung (Secretary), Morris Kihara (Director), Les Takayama (Chair),  
Derrick Nishimura (Vice-Chair)*

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).

The District would like to thank its partners the County of Hawaii DPW, USDA NRCS, the University of Hawaii Cooperative Extension Service and the State Department of Land and Natural Resources for all their assistance in our goals.

# WAIAKEA SWCD OUTSTANDING COOPERATOR OF THE YEAR PATRICK McGRATH



L-R: Mei Ceria (SWCD), Pat McGrath, Les Takayama, Derrick Nishimura

The Waiakea Soil and Water Conservation District (SWCD) is pleased to announce the selection of Patrick ("Pat") McGrath as the recipient of the "Waiakea Outstanding Cooperator of the Year" award for 2006.

Pat McGrath has been a cooperator with the Waiakea SWCD since 1987. He has gone through Waiakea SWCD for a couple of conservation plans, which addresses any land resource problems on the property. He is also the owner and operator of Hawaii Foliage Exports, Inc.

Pat was selected by the Waiakea SWCD as "Outstanding Cooperator of the Year" for his

hard work and dedication to conservation which is evident on his production site located off of Kealakai St. in the Panaewa Farm Lots Subdivision. His 10 acre nursery of Rapis palms is very clean and highly productive due to conservation practices that he has implemented and maintained over the years. These conservation practices, which ultimately help to preserve the environmental quality of the island for all, include pest management, windbreak establishment and irrigation water management.



Congratulations Pat!



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# WAIAKEA SOIL & WATER CONSERVATION DISTRICT FLOOD CONTROL PROJECTS

The **WAILUKU-ALENAIO WATERSHED PROJECT** is a partnership effort between the County of Hawaii, Waiakea Soil & Water Conservation District, and the Natural Resources Conservation Service (NRCS). In this partnership, NRCS provides planning and technical services and funds most of the construction. The County provides local project leadership, landrights, road and bridge construction, and long-term operation and maintenance. The Waiakea SWCD ensures grass-roots input by the community and that the resulting projects meet the community objectives.



Portion of the Akolea diversion installed to protect homes in the Ainako subdivision.

In the late 1970's and early 1980's, the Wailuku-Alenaio Watershed project installed a floodwater diversion along Akolea Road which has prevented a considerable amount of flood damage in the Ainako area, a diversion above Chongmanville, and improvements to the stream at the Kaumana



Streambank protection project at the Chong bridge site.

Drive bridge by Chong street.

The Waiakea Soil and Water Conservation District conducts an inspection of the Wailuku Alenaio Watershed Phase I on an annual basis. This agreement was done in conjunction with the County of Hawaii, Department of Public Works since 1979.

The **KAUMANA DRIVE FLOOD CONTROL PROJECT** is a new part of the Wailuku-Alenaio Watershed Plan to protect homes along the north side of Kaumana Drive between Chong Street and an area above Wilder Road. A major push to the planning activities for the Kaumana project came as a result of the damages suffered in the November 2000 flood. Through funds from NRCS, the County contracted Belt Collins Hawaii Ltd. to prepare a flood protection plan and environmental assessment of the project area. So far, one community meeting has been conducted

and several more are planned. Design and construction are expected to start in 2008.



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# WAIAKEA SOIL & WATER CONSERVATION DISTRICT FLOOD CONTROL PROJECTS

One of the largest projects completed in the Waiakea District was the Waiakea Stream Bank Stabilization Project. A stream-bank stabilization project was completed along the Waiakea stream between Kupulau and Kawaiiani Streets. This project located within the Waiakea Watershed, receives over 100 square miles of runoff and is one of the largest watersheds in Hilo. The stream is usually dry but swells to a turbulent river during heavy rains, which have exceeded 20 inches in 24 hours in the past. The uses within the watershed include agricultural, residential, industrial, educational, commercial, and recreational uses. The project focused on the stream and the lands and subdivisions adjacent to it, totaling about 200 acres. Most of the land is privately owned, but some is owned by the state and some by the county.

The stream flows into Waiakea Fish Pond, a picturesque park frequently seen on postcards and used for a variety of recreational purposes. Waiakea Fish Pond is the focal point of Wailoa state park, whose scenic arch footbridges are frequented by tourists and residents alike. By completing this project, and building the retaining wall along the stream, the homeowners bordering this area were able to save the remaining portion of their property, and the scenic values increased in the Waiakea Fish Pond/Wailoa State Park area, the waters became safer for recreational activities such as swimming, fishing, boating, etc.



*Damage to the Kawailani bridge from the November 2000 flooding of Waiakea Stream.*



*Kawailani bridge and flood control channel project completed in 2005.*

## BEFORE



*Streambank Erosion caused by the 1994 flooding of Waiakea Stream.*

## AFTER



*Geotextile Streambank Stabilization and Protection project.*

LAND  
Division

STATE OF HAWAII, DEPARTMENT OF LAND AND NATURAL RESOURCES



The Land Division is responsible for managing State-owned lands in ways that will promote the social, environmental and economic well being of Hawaii's people and for insuring that these lands are used in accordance with the goals, policies and plans of the State. Lands that are not set aside for use by other government agencies come within the direct purview of the division. These lands are made available to the public through fee sales, leases, licenses, grants of easement, rights-of-entry, month-to-month tenancies or kept as open space area.

On the island of Hawaii, there are approximately 150 leases and permits issued for agriculture and pasture purposes. These leases and permits encumber over 115,800 acres of land. The DLNR requires all its tenants to apply as cooperators with their respective Soil and Water Conservation District and submit a plan for approval by the Chairperson of the Board of Land and Natural Resources. This requirement insures the land is kept in a productive state while encouraging our tenants to carry out good conservation practices.



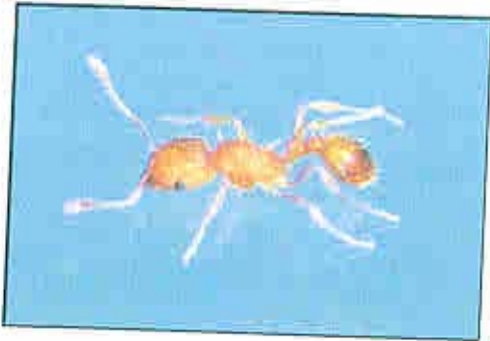
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Celebrating our 20<sup>th</sup> year of building a company that works *in*  
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Growing and selling Hawaii's finest macadamia nuts, and producing gourmet chocolates and confections  
enjoyed around the world.

# STATE DEPARTMENT OF AGRICULTURE: INVASIVE SPECIES CONCERNS

## Little Fire Ant (*Wasmannia auropunctata*)



This ant was first discovered in the Puna district of the Big Island in March 1999. This ant is found in central and northern South America, the West Indies, and warmer portions of Mexico.

It is common in south Florida. Due to it not being established in California, it is a quarantine pest for shipments to California.

The Little Fire Ants are tiny, measuring 1/16 inch long. They are pale orange and characteristically move very slowly. They produce painful stings and large red welts. Ants on the ground rarely sting, but will readily sting when they get under clothing as they drop off shrubbery. The ants are easily found outdoors crawling on the ground, in and under potted plants, and on ornamental foliage and flowers. Worker ants feed on dead animals, other arthropods, small animals, and are predaceous on many insects.

Amdro fire ant bait is being applied by the infested nurseries who have voluntarily refrained from moving plant material off of their properties unless first treated with insecticides. For growers of tropical fruit and nut orchard crops Amdro can be applied in bait stations; however a copy of the Special Local Need label is required. This label is available from the HDOA Hilo office.

## Nettle Caterpillar (*Darna Pallivitta*)

This caterpillar was first found in the Panaewa district on the Big Island in 2001. This species occurs in Southeast Asia and



is known to feed on palms and grasses.

Nettle Caterpillars grow to a maximum length of one inch and are covered with spines. A dark longitudinal stripe runs down the back of each caterpillar. The brownish cocoon is round and

surrounded by a netting of silk. The adult moth is brown and is one-half inch in length. The caterpillars stinging spines cause burning and itching sensations to the skin. Noticeable swelling may occur and welts may form that can last for several days followed by a persistent rash lasting for weeks.

Some pesticides (pyrethroid, organophosphate, car-

bamate, and microbial types including *Bacillus thuringiensis*, or Bt) are effective against the larval stage of the nettle caterpillar. Consult an agricultural products professional for help in choosing an insecticide.

## Coqui Frog (*Eleutherodactylus coqui*)



This frog was accidentally introduced into Hawaii from Puerto Rico in about 1988. They are now known to be over 200 infestation sites on the Big Island. Aside from being a major noise nuisance, the frogs pose a threat to Hawaii's ecosystem. They have a voracious appetite for insects and spiders.

The Coqui belong to a genus of frogs which do not have a tadpole stage. They do not require a body of water to reproduce. The female lays eggs which are brooded by the male until the eggs hatch. The tiny froglets hatch in about 14-17 days and are about one half inch long. The froglets mature in about 8 months.

Currently, two chemicals are available to homeowners to control coqui frogs in Hawaii: citric acid and hydrated lime (also called calcium hydroxide). In April 2005, the U.S. EPA approved the use of hydrated lime against coqui frogs for 3 years, at which time its impact will be reassessed. Since citric acid is primarily used as a food additive, it is listed as a non-restricted chemical.

## References:

University of Hawaii, CTAHR website <http://www.ctahr.hawaii.edu/coqui/background.asp>

Coqui Frog Control for Homeowners Brochure, University of Hawaii at Manoa, CTAHR

New Pest Advisory July 2005, Little Fire Ant, State of Hawaii, Department of Agriculture

New Pest Advisory July 2005, Nettle Caterpillar, State of Hawaii Department of Agriculture.

# HILO FIELD OFFICE STAFF

## HAMAKUA, WAIAKEA, PUNA AND KA'U DISTRICTS

The Hilo Field Office is made up of personnel from the United States Department of Agriculture Natural Resource Conservation Service and the "East Hawaii" Soil & Water Conservation District. The service area covers the Hamakua, Waiakea, Puna, and Ka'u Districts which ranges from the top of Waipi'o Valley to Manuka. This area totals about 1,333,500 acres. During the 2006 fiscal year, 85 cooperators requested assistance with different resource concerns such as erosion, flooding, noxious weeds, invasive species, irrigation, lack of water, and nutrient loading. This number does not include the enormous amount of day to day technical assistance that our staff provides to the public and other government agencies. Mahalo to the Hilo Field Office staff for their hard work and dedication to their cooperators and the lands that they represent.



*L-R Front: Harrison Vidinha (Planner), Kori Hisashima (Planner), Sherman White (Engineer)*

*L-R Back: Lester Suehiro (Technician), Lehuanani Angay (Secretary), Noel Ide (Planner), Harry Toki ( District-Conservationist)*



*L-R: Christine Yafuso (Planner), Jennifer Reavis (Conservation Aide/District Secretary), Kamran Fujimoto (Planner), Ronelle Kubo (Conservation Aide/District Secretary), Buddy Perry (Planner)*

**UNIVERSITY OF HAWAII COLLEGE OF TROPICAL AGRICULTURE  
AND HUMAN RESOURCES (CTAHR)  
CAN HELP YOU**

The University of Hawaii at Manoa, College of Tropical Agriculture and Human Resources (CTAHR) through the activities of the Cooperative Extension Service is responsible for providing community-based educational programs in agriculture and human resources. The Cooperative Extension Service is able to provide services to the public and your community through the work of county extension personnel.

County Extension Agents are University of Hawaii faculty members who work out of Extension Offices throughout the State. On the Big Island, the two principal Extension Offices are in Hilo (East Hawaii) and in Kainaliu (West Hawaii). County Agents are available for individual consultations or can provide educational workshops and short courses covering topics in agriculture, urban horticulture, aquaculture, home economics, leadership, family living, youth activities, community development, nutrition and health. Educational materials such as brochures, publications and videos are also available at extension offices for use by the general public. Services provided by County Agents are generally provided free of charge except those provided by the Agricultural Diagnostic Service Center that provides soil, tissue, water, feed and forage analysis, as well as, insect disease and nematode identification for a nominal charge.

CTAHR also maintains a network of eight agriculture research stations on the island, each with a unique environment. Researchers and extension faculty from CTAHR, other units of UH-Manoa, UH-Hilo, Hawaii Agriculture Research Center, U.S. Dept. of Agriculture, University of Wisconsin, and others utilize the stations for research on a variety of agricultural crops, forest trees and livestock; demonstrations on a new cultural techniques and cultivars; instruction; and work on native endangered plant species. A list of county extension agents, specialists and researchers who are assigned to the Big Island of Hawaii can be obtained by contacting the office in your area. CTAHR also has a number of agriculture researchers and specialists stationed on the Big Island to conduct research to solve high priority problems associated with various agricultural commodities. These researchers and specialists provide information to the extension agents who in turn are responsible for developing educational programs for the public. The extension agents are your link to the University and its community-based educational program.

**COOPERATIVE EXTENSION SERVICES:**

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Hilo, HI 96720-2757

**WAIMEA**  
**(808) 887-6183**  
67-189 Kamamalu Rd.  
Kamuela, HI 96743-8439

**KONA**  
**(808) 322-4892**  
79-7381 Mamalahoa Hwy.  
Kealahou, HI 96750-7911

**HAWAII AGRICULTURE EXPERIMENT STATION:**

**BEAUMONT RESEARCH STATION**  
**(808) 981-2823**  
875 Komohana Street  
Hilo, HI 96720-2757



# KA'U SOIL & WATER CONSERVATION DISTRICT

As is the case everywhere in Hawaii, Ka'u SWCD works in the context of on-going changes in land-ownership, government regulation, access and preservation issues, among many other factors. At the same time that it has striven to fulfill the mandate of protecting the natural resources of the district through sound conservation practices, in the past year Ka'u SWCD has been especially focused on dynamic, forward-looking responses to the challenges posed by these changing conditions. This focus is exemplified in Ka'u SWCD major project in the last year: sponsorship of the formation of the Ka'u Agricultural Water Cooperative District.



*Brenda Iokepa-Moses (Chair)*



*Randy Cabral (Director)*



*Amos Meyers (Vice-Chair)*

The Ka'u Agricultural Water Cooperative District (KAWCD) is a community initiative that will streamline access to water dedicated for the use of agricultural producers in the district. Although entirely distinct from the Ka'u SWCD, it is through the initiative and organization of the Directors of the Ka'u SWCD, in particular Randy Cabral, Jeff McCall and Brenda Iokepa-Moses, that KAWCD has been brought into being.



*Michelle Galimba (Secretary)*



*Jeffrey McCall (Treasurer)*

The purpose of KAWCD is to work with the state government to acquire long-term agreements to the tunnel and spring water sources developed in the early part of the 20<sup>th</sup> century by the sugar plantations. These water sources, administered by the sugar plantations up until their close, have been, since sugar's demise, managed by the state Department of Land and Natural Resources through 30-day revocable water permits. It is the intent of KAWCD to work with the state to develop long term water use agreements, which will allow farmers and ranchers to invest in and install water infrastructure such as pipelines, flumes, water tanks, and reservoirs and to justify the repair and redevelopment of the water sources. These long term agreements will be generated by the transferal of the water sources from the DLNR to the ADC (Agricultural Development Corporation), a state agency specifically charged with aiding in the transition from plantation agriculture to diversified agriculture, which in turn will lease the water sources to KAWCD to administer in a fair and equitable manner.



*Ailii Flume*

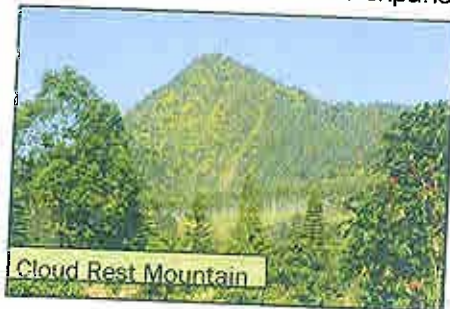
Over the past year the Directors and Associate Directors of Ka'u SWCD have been closely involved in the process of establishing consensus within the agricultural community as to the legal mechanism that will obtain these long-term commitments. After an initial community meeting with over 200 farmers, ranchers, and public officials in attendance in March 6, 2006 a steering committee has met bi-monthly to shape and formalize this community consensus into KAWCD, a water cooperative that will represent the interests of Ka'u farmers and ranchers with the state. KAWCD has already achieved considerable success in the direction of acquiring these long-term commitments. KAWCD is about to file the organizational documents for the water cooperative with the DCCA, has organized informational tours for key state officials such as Sandra Lee Kunimoto and the board of the ADC, and has received initial approval from the board of the ADC to begin the process of transferring ownership of the water sources from the DLNR to the ADC through an executive order.

KAWCD hopes to be a key element in bringing about positive change in Ka'u and contributing to a flourishing, vibrant agricultural economy based on sound conservation practices.

# KA'U SWCD AND THE REVITALIZATION OF THE KA'U ECONOMY:

## A NEW DAWN FOR KA'U COFFEE

As the sun rises on a new day on the slopes of Mauna Loa, so rises the future of Ka'u as an important producer of gourmet coffee. Coffee, the world's second-largest commodity after oil, has limitless growth potential. Not only in high demand in the US and Europe, gourmet estate coffee can tap into the vast market potential created by rising personal incomes in Asia, and especially China, where coffee is seen as a status item. The uplands of Ka'u, and especially the area commonly known as Moa'ula, have emerged as an increasingly vital part of the local economy. Ka'u SWCD works closely with coffee farmers to ensure proper conservation practices on the existing coffee farms and to provide support for the expansion of coffee-growing acreage.



The majority of Ka'u Coffee is grown in two enclaves near Pahala: Cloud Rest and Pear Tree Coffee Parks, both in the Moa'ula region. These two parks are comprised of nearly 40 coffee farms, with an estimated production of approximately 3,780,000 pounds of coffee cherry annually. While benefiting from all the elements that contribute to favorable growing conditions - fertile volcanic soils, generous sunshine, temperate climate and ample rainfall, Ka'u coffee also has another key ingredient: the people.

A small army of growers, primarily comprised of displaced sugar workers, toil over the approximately 270 acres of dark-green coffee trees in the Moa'ula area, their branches laden with white flowers and green and red beans. On favorable leases offered by C. Brewer upon the agro-giant's demise, they have poured their blood, sweat, tears and dollars into the land and have literally watched the fruits of their labor blossom. They are a tenacious bunch: willing to work hard, and take risks in order to succeed. Many of these farmers have taken the initiative to follow their product from farm to the consumer, learning to process, package, and market their products in local stores and on the internet. They are living proof of the old adage: "Where there is a will, there is a way." The common thread that runs through these hillsides is that these farmers love Ka'u and love to grow great coffee.

## SUN NOT ALWAYS SHINING

Following the failure of a condominium plan proposed by Peter Savio in 2004, the farmers were left with uncertainty as to the future of the coffee farms into which they had invested so much of their time and money. However, the new land owners of the Moa'ula area and their management arm, Ka'u Farm and Ranch Company LLC, are reaching out to the farmers to identify common goals and to enhance the productivity of the area, i.e. what sort of facilities are needed for continued growth. These facilities may come in the form of long term leases, a local, centralized processing facility, retail outlets, improved water resources and infrastructure and marketing support.

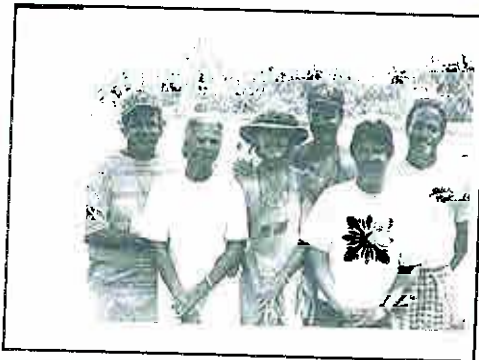
At the annual conference of the Specialty Coffee Association of America in May 2007, Ka'u growers plan to showcase their product on the world stage. After qualifying for the event, the growers and KFR hope to showcase the Ka'u coffee in blind cupping competition and thereby establish Ka'u as a premium coffee-growing region with a product worthy of promotion in the global coffee marketplace. While people all over the world enjoy their morning cup of coffee, the last chapter of the story has yet to be written, as Ka'u coffee is set to emerge as a rising star in a revitalized agricultural economy in Ka'u.



Written By:  
Chris Manfredi  
Michelle Galimba

# KA'U SWCD RANCHER OF THE YEAR

## DALEICO RANCH



The Hind Family L-R: Mike Hind, mom-Coco Hind, Marty Hind, Robby Hind, Jenny Hind Mitchell, Francis Hind

Daleico Ranch is the Ka'u Soil and Water Conservation District's Outstanding Rancher of the Year.

Robert "Robby" Hind III is presently the owner/manager of Daleico Ranch. This family owned and operated business was founded by Robert Leighton Hind Jr. and Florence V. Hind in 1953. Daleico Ranch has proudly been co-operators with the Ka'u SWCD for most of the ranch's 50 year history. Daleico Ranch now operates about 9000 acres of ranchland, and prides itself in their calm and relaxed temperament cattle. Today, as well as preceding history, shows that the majority of their efforts were spent removing and controlling noxious weeds and planting forage grasses, creating new and better pastures.

The expertise and partnership with NRCS and the Ka'u SWCD has made Daleico Ranch's mission in preserving our resources a reality. Robbie also states that without this partnership it would be very difficult.


The Conservationist for this parcel is Harrison Vidinha.

The Ka'u Soil and Water Conservation District congratulates Daleico Ranch and the Hind Family for their hard work and dedication to conservation, and for being selected as the Ka'u SWCD 2006 Outstanding Rancher of the Year.



This field was once 90% infested with Christmas Berry. Once cleared, Kikuyu Grass was established and will be grazed when ready.


### Hidden Treasure in Wood Valley



**Make an Offer!**

**This 3.87 acre parcel has 120 mature macadamia nut trees & over 400 producing coffee trees. This property is nestled in the shelter of the Ipu'u ridge some 700 feet above. Tranquil, serene surrounding makes this parcel a joy to farm! Priced to sell at **\$339,000****

**MLS#191743**



**Brenda Iokepa-Moses**  
R(S)  
**936-0499**  
The Land Office Inc.

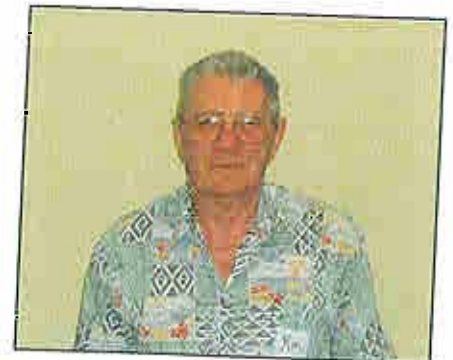
# PUNA SOIL & WATER CONSERVATION DISTRICT



*Loren Mochida (Chairman)*



*David Schell (Secretary)*



*Ron Nickel (Director)*



*Bob Raley (Vice-Chair)*



*Aileen Yeh (Treasurer)*

The Puna Soil and Water Conservation District (SWCD) have been instrumental in conservation planning and accomplishments throughout the agriculture lands in the Puna District. With the demise of sugarcane, diversified agriculture crops replaced large-scale agriculture and have recorded another banner year for the technical assistance offered to the farmers and ranchers in the Puna SWCD.

The District claims to be the fastest growing district in the State of Hawaii for the past several years. District Cooperators assisted in 2006 totaled 49.

Invasive species has been a top priority in this district as more nurseries and potted plant cooperators start to expand. The Coqui frogs are getting larger and traveling to higher elevations, while the Himalayan Berry is moving down from the National Park areas to lower elevations. Other pests include the nettle caterpillar and fire ant.

The Puna SWCD also hosted the Land Appreciation or Conservation Awareness contest for the Island of Hawaii held in October 2006 on Island Princess's Macadamia fields in Keaau. Four Big Island High Schools participated in this annual event.

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 for their funds to hire District Employees.

# PUNA SOIL & WATER CONSERVATION DISTRICT COUNTY CONSERVATION AWARENESS CONTEST

The annual County of Hawaii Conservation Awareness Contest was held on October 27, 2006 at Island Princes Macadamia Nut Company in Kea'au. The Puna Soil & Water Conservation District hosted the contest where land is judged by its physical features. Soil texture, permeability, soil depth, slope, erosion, wetness, rainfall, elevation, climate, and other factors determine the potential land use or the maximum capability of that land. Students ranging from age 14 to 18 prepare for this contest through classroom instruction, field practice, and studying different land/weather variables. They learn to recommend cultural, vegetative, and structural practices that aid in the conservation of our natural resources. Personnel from the Natural Resources Conservation Service and Big Island Soil & Water Conservation Districts helped organize and coordinate the contest. The overall educational experience gained from this contest has allowed our younger generation of agriculturalists to understand proper stewardship of all land classes.



*First Place Team: Waiakea High School—  
kneeling: David Doria, Mark Kaili Jr.  
Standing: Kristi Kohashi, Terrance Moniz  
(Advisor), Marvin Mihkel*

There were 4 schools that attended this years contest totaling 40 students. The results are as follows:

- 1<sup>st</sup> Place Team: Waiakea High School (featured in picture)
- 2<sup>nd</sup> Place Team: Kamehameha Hawaii Campus High School  
Advisor: Tom Chun  
Keakaulike Tomich, Jamson Penera, Ashlee Kalauli, Hekili Lani
- 3<sup>rd</sup> Place Team: Pahoa High School  
Advisor: Derek Inouye  
Jaime Rose Tangonah, Russell Pagala, Andrew Smith, Jordan Viemes
- 4<sup>th</sup> Place Team: Kanu O Ka Aina  
Advisor: Mark Kealamakia  
Jacob Birch, Iini Kahakalau, Healohamele Genovia, Dale Bates Jr.

### Overall Top Scorers:

- 1<sup>st</sup> – David Doria- Waiakea
- 2<sup>nd</sup> – Kekaulike Tomich - Kamehameha
- 3<sup>rd</sup> – Jaime Rose Tangonah - Pahoa
- 4<sup>th</sup> – Jamson Penera- Kamehameha



*Slope is determined by home-made slope finders.*



*Students texture soils to determine land classification.*

# PUNA SWCD OUTSTANDING RANCHER OF THE YEAR WAYNE MIRANDA

Wayne Miranda is the Puna Soil and Water Conservation District's Outstanding Rancher of the Year.

Wayne has been working with NRCS and the Puna SWCD since 1994. He has figured out a way to incorporate his passion for training horses into a working cattle ranch. His operation started with 60 acres designed for raising 400 pound class steers for the purpose of training cutting horses. Recently, his operation has expanded by acquiring an additional 90 acres of fallow cane land and tirelessly converted it into to a highly productive cow calf operation.



*Left to Right: Loren Mochida (SWCD), Wayne Miranda, Harrison Vidinha (NRCS)*

Some of the conservation practices that have been implemented on his property are noxious weed control, cross fencing, livestock pipelines and troughs, and forage improvements.

The ranch is located on North Kulani Road, about a quarter of a mile off of the Volcano Highway.

The Conservationist for this parcel is Harrison Vidinha.

The Puna Soil and Water Conservation District congratulates Wayne Miranda for his hard work and dedication to conservation, and for being selected as the Puna's SWCD 2007 Outstanding Rancher of the Year.



*Well rested pastures proves to be more productive.*



*Cross-fencing allows Wayne to reduce noxious weeds and increase stocking rates.*

# PUNA SOIL & WATER CONSERVATION DISTRICT

Public Awareness on Confined Animal Feeding Operations



*Pigs are raised on McNut husks and shells to reduce flies and odor.*



*The final product is a high quality soil amendment used in organic farming.*

The Puna SWCD entered into a grant agreement with the USDA Natural Resources Conservation Service to help educate animal feeding operations on various methods of managing their animal waste. A series of workshops were held that included speakers from NRCS, University of Hawaii Cooperative Extension Service, Puna SWCD, and Farm Managers. Everything from nutrient calculations, waste storage, waste treatment, land application, pathogens, odor control strategies, facilities and infrastructure design were covered. The composting component of the project was highlighted with a simple 6-part brochure which was based on the Modified Deep Litter System. This system fits perfectly for small to medium sized hog farms where green waste material is used as bedding to eliminate the wash down process. Several farms have already converted to this management system and more information is currently being gathered to improve such system. The brochure has been handed out to interested cooperators on the Big Island and more are available upon request.



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CARTONS AVAILABLE**

# MAUNA KEA SOIL & WATER CONSERVATION DISTRICT

## Report from the Chairman

The Mauna Kea Soil and Water Conservation District (MKSWCD), with volunteer Directors, exists to conserve and assist in management of soil, water, and other natural resources. MKSWCD, beginning at Anaehoomalu Bay, extends around the north end of the island to Waipio Valley, and up to the summit of Mauna Kea. Communities within the District include Waikoloa Village, Waikoloa Resort, Mauna Lani Resort, Puako, Mauna Kea Resort, Kawaihae, Hawi, Kapa'au, Halaula, Niuli'i, and Waimea.

MKSWCD is kept functioning smoothly by one Administrative Assistant. Funded by EPA through the Health Department, a conservation specialist was hired by the District in partnership with the Hawaii Association of Conservation Districts. The specialist has been a great help with two watershed projects, as well as assisting NRCS with conservation plans where possible. The specialist has been able to provide some assistance to Kona District.

MKSWCD concluded the Pelekane Bay project in 2005. Pelekane watershed project is funded by EPA through the State Department of Health and includes 12,000 acres of land above Kawaihae, from rain forest mauka to desert conditions makai. The District worked with land owners and lessees, particularly Parker Ranch, to improve water systems and rotational grazing. Though the Pelekane project is officially closed, the District is working with NRCS to revegetate a makai paddock with native pili grass. An important long term data collection effort for Pelekane was the installation of an auto sampler in an intermittent stream feeding Kawaihae harbor. The auto sampler collects information during stream flow, including sediment and water quality parameters.

Two more auto samplers are being installed in the Waikoloa stream as part of the current EPA/DOH/MKSWCD Waikoloa-Waiulaula watershed project. The Waikoloa project is a combination of public awareness, collaboration for best management practices, and flood prevention and mitigation planning, involving the whole community. Students will be involved in collecting water quality data above and below Waimea town. Several public presentations have already been given.

The District honored 2005 Cooperators of the year, A&S Farm in Waimea, and Waipio Valley Taro Products in Waipio Valley, for their exemplary management and conservation practices. Kona SWCD members joined us for the celebration at Ulu La'au, Waimea Nature Park.

A very enjoyable and informative MKSWCD public Tour was held on October 7, 2006. Participants saw best soil and water conservation practices on forest and ranch lands of Mauna Kea south slope, and ending with a great barbecue.

The earthquake of October 15 disrupted many people's lives and agricultural activities, and the District worked with NRCS Waimea office in damage assessment and mitigation information for clients. Water supply systems for farmers and ranchers were severely disrupted, and the District is working closely with NRCS in responding to shortages.

On October 11, a microburst of rain near Kawaihae caused severe sedimentation up to a foot deep on the adjacent coral reef; assessment and erosion prevention study continue on that tragedy in the local marine ecosystem.

The Directors of Mauna Kea Soil & Water Conservation District look forward to a productive year in 2007, with closer communication and cooperation among the 6 Districts of the island a priority.

Aloha,  
**Pete Hendricks**  
Chair, MKSWCD

# WAIMEA FIELD OFFICE STAFF

NATURAL RESOURCES CONSERVATION SERVICE



USDA Natural Resource Conservation Service Waimea Field office staff, Lori Metz, State Range Specialist, Reese Libby, Geographer, Jerry Williams, Soil Conservationist, Carolyn Wong, Soil Conservationist, Matthew Wung, District Conservationist



Hawaii Resource Office staff April Harden, Civil Engineering Technician, Andrew Stout, Civil Engineer

# MAUNA KEA SWCD OUTSTANDING COOPERATOR OF THE YEAR A & S FARM



NRCS Soil Conservationist Carolyn Wong, A&S Farm manager Ron Thompson, and Mauna Kea SWCD Chair Pete Hendricks

A & S Farm is a 310 acre cattle ranch in the Department of Hawaiian Homes Land lots in Puukapu. Previously the farms paddock configuration was the classic "wagon wheel" set up. With that set-up, they were experiencing significant trampling damage in the trough area at the top of the wagon wheel. Even though the Akana's are excellent pasture manager's fireweed (*Senecio madagascariensis*) has been observed in their pastures. A & S Ranch is a strong believer in maintaining the health of their forage in order to maintain productivity and control the fireweed in their pastures. In order to continue to achieve this objective the Akana's have changed their grazing plan to a "raceway" set up. With this set-up and temporary movable electric fence and moveable troughs (and use of supplemental feed when necessary), the Akana's have greater flexibility in paddock size and allows them to better respond to weather/growing conditions. Having moveable troughs also results in less damage in the watering areas. The Akana's ranch manager who lives on the property and does the day to day work, enables them to do short term grazing rotations of approx. 3 days at a time. The Akanas were assisted in making the change in their grazing set up by participating in the USDA Natural Resources Conservation Service (NRCS) Environmental Quality Incentives Program (EQIP). EQIP is a voluntary conservation program that promotes agricultural production and environmental quality. Through EQIP, farmers & ranchers may receive financial & technical help to install or implement structural & management conservation practices on eligible agricultural land.



# MAUNA KEA SWCD OUTSTANDING COOPERATOR OF THE YEAR WAIPIO VALLEY TARO PRODUCTS



NRCS Soil Conservationist Carolyn Wong, Mauna Kea Chair Pete Hendricks, Outstanding Cooperators Morgan & Mary Toledo



Waipio Valley Taro Products is a taro producing farm located in Waipio Valley. Morgan Toledo is the third generation of his family to farm taro in Waipio Valley. The Toledo's currently lease approximately 63 acres of Bishop Museum land in Waipio for their farm. Current resource issues include water quality (nutrients, sediments & pesticides), water quantity (flooding concerns and auwai management), wildlife habitat, pest management issues and the crawfish & weeds. Project is increasing wetlands, so increases native duck population. Project plans to use native wetland species whenever possible. This project intends to create a habitat for native water birds by 1. Restoring existing taro fields. 2. Maintaining a wet fallow field. The wet fallow field will be seeded with appropriate water bird forage & cover species including native & non-native sedges and other wetland species. The project areas will be fenced to exclude

feral horses, pigs and dogs. Long term impacts to threatened & endangered species are expected to be positive with the establishment of protected and managed wildlife habitat areas. By increasing their field sizes Morgan hopes to continue to perpetuate the culture of taro farming in Hawaii. Morgan's goal is to explore new ways to integrate culture and technology to create an ideal taro farming experience in Waipio. Morgan is currently working on finding new ways of preventing/treating "pocket rot" in his fields and reducing his labor costs. Morgan is being provided assistance through the USDA Natural Resources Conservation Service (NRCS) Wildlife Habitat Incentives Program (WHIP). WHIP provides technical and financial assistance to landowners and others to develop upland, wetland, riparian, and aquatic habitat areas on their property.

# MAUNA KEA SOIL & WATER CONSERVATION DISTRICT

## 2006 EVENTS

**Kanu o ka Aina 21<sup>st</sup> Century Charter School science fair contest-** along with NRCS staffer Reese Libby the Mauna Kea SWCD judged the schools annual science fair contest for the second year in a row.

**Kohala Foundation-** the Mauna Kea SWCD in partnership with the Kohala Foundation were able to receive assistance from visiting Cornell University interns mapped the dry wells/injection wells/storm drains in Waiulaula Watershed's Waimea Town area for the Districts current watershed management project

**Army Corps visit/Pelekane modeling project-**working with Group 70 to create a model of effects of land usage ex. Residential & commercial development, grazing, passive parks, permeable parking, etc.- how types of development affect non-point source pollution in our bodies of water

**Tour-** 10/06 tour of west flank of Mauna Kea on historic Parker Ranch, led by former Parker Ranch manager and area kaimaina Robby Hind and Parker Ranch Grazing Unit Ranch hand Brian Caires

**Monthly SWCD meetings-** 2<sup>nd</sup> Thursday of every month (except December) Waimea Civic Center, 4-6 pm, review/approve conservation plans for area ranchers and farmers, discuss conservation concerns in the Mauna Kea District

**Cooperator of Year-**annual award to the district ranchers & farmers who are practicing outstanding conservation practices on their farms/ranches

**Waiulaula-**The Mauna Kea SWCD initiated a watershed management project for the Waiulaula watershed in July 2005. This project, funded under a Section 319(h) grant from the Hawaii Department of Health, has an approved Sampling and Analysis Plan (SAP), a Watershed Advisory Group, and active landowner and community participation. During this phase of the project, we are compiling existing information pertaining to the watershed, gathering baseline information on the water quality of the streams and receiving waters, identifying types and sources of polluted runoff, describing management measures for causes and sources of pollution, and an implementation schedule, and estimating load reductions expected for each management measure. This information will be compiled into a watershed management plan, which will be completed by the end of 2008.

**Pelekane Bay Watershed Management Project-**The Mauna Kea SWCD's Pelekane Bay watershed management project, funded under a Section 319(h) grant, officially concluded in May 2005. Since then, the District has been working with NRCS and other partners to seek possible funding sources for a demonstration project to revegetate a badly-eroded section of the watershed. The autosampler installed on Makeahua Stream as part of the watershed management project will be used to provide water quality and erosion information for the GIS-based N-SPECT model for the low-elevation grazing land use, as part of the ongoing Waiulaula watershed management project. The U.S. Army Corps of Engineers, as part of its Pelekane Bay Ecosystem Restoration Project co-sponsored by the District, contracted the application of the N-SPECT model in the Pelekane watershed to determine erosion rates and sediment transport. The model, which is able to identify sediment contribution by sub-watershed, provides a great management tool to help direct BMPs to sub-watersheds for maximum improvements.

*Continued...*

# MAUNA KEA SOIL & WATER CONSERVATION DISTRICT

## 2006 EVENTS

**Waipio Stream bank management project-**The Waipio Stream Management Plan was published in February 2006 and is available online at [http://www.hi.nrcs.usda.gov/programs/waipio\\_stream.html](http://www.hi.nrcs.usda.gov/programs/waipio_stream.html). The purpose of the Waipio Stream Management Plan is to assist Waipio taro farmers and residents with maintaining the streams in Waipio and help them successfully operate in a traditional manner but within the constraints of modern law and society. The plan addresses stream activities and the permits and approvals necessary to conduct stream maintenance activities for the protection of the property and livelihood of the residents of Waipio Valley. In addition, the plan also strives to help maintain aquatic habitat for native organisms and preserve the cultural heritage of the Valley. The management plan was developed in a holistic manner with the idea that traditional and customary practices should be preserved, including the traditional taro-growing water management system led by water head leaders. The Natural Resources Conservation Service (NRCS) agreed to help develop a stream management plan for Waipio Valley after concerns were raised during the planning of the Lower Hamakua Ditch Watershed Project where Waipio farmers vocalized needs for assistance with stream maintenance issues. The Waipio Stream Management Plan will serve as a tool for current and future residents and farmers in the area as well as government regulatory agencies. It was developed with an understanding that Waipio is a sacred place that should be preserved for the future, and Waipio is also a place for farmers and residents to enjoy life. The plan is meant to be sensitive to people and wildlife and to aid farmers and residents in balancing their need for water, flooding concerns and value of nature. The Plan will provide a resource to help the community work together and is written in a way that all farmers and residents of Waipio will be able to understand the plan and agree on the basic elements of the plan. The Waipio Community Circle helped the public participate in the development of the plan. Many others provided input and assistance, including NRCS, the Mauna Kea Soil and Water Conservation District, Bishop Museum and other state, federal and local government agencies. A guiding principal in the development of the Stream Management Plan is that it is important to include the entire community in the process. Members of the community continue to work to implement and improve on this Plan with the help of the Waipio Community Circle, Friends of the Future and the University of Hawaii at Manoa.

### **Hawaii Grazing Lands Conservation Initiative-**

The Hawaii Grazing Lands Conservation Coalition provides guidance and leadership to landowners, land users and the grazing industry in general, with respect to the wise use and management of Hawaii's grazing lands.

The Coalition seeks to provide guidance and leadership on private grazing lands by:

1. Promoting voluntary action and respect for private property rights
2. Strengthen partnerships between grazing land managers and others
3. Increasing economic, environmental and social stability and sustainability
4. Closing the gap between the availability and application of knowledge and new technologies
5. Enhancing the ability of landowners to achieve greater profitability using ecologically sound and sustainable methods
6. Educating the general public about the value and ecological services provided through the conservation and management of grazing lands
7. Educating land users about, and facilitating their access to, available assistance programs.
8. Promoting the use of grazing animals to manage natural resources.

*Continued...*

# MAUNA KEA SOIL & WATER CONSERVATION DISTRICT 2006 EVENTS

**Hamakua Ditch:** A 6.7 magnitude earthquake centered in Kiholo Bay struck the Big Island on 10/15/06 causing much damage to the Upper & Lower Hamakua Ditch irrigation system, the main source of agriculture water in the district. The USDA Natural Resource Conservation Service (NRCS) at the request of the State of Hawaii conducted damage surveys and requested \$4,500,000 in Emergency Watershed Protection (EWP) funds from NRCS Washington DC to repair the damage to the system. NRCS received \$4,455,000 in EWP funds. A local contractor has been selected and repairs are expected to begin soon. All of the 8 dams in the district were inspected and 1 was found to have some very minor non-threatening damage and is in the process of being repaired. The ongoing repairs to the Lower Hamakua Ditch Intake are 99% complete at a cost of \$1,400,000.

**West Hawaii Wildfire Management Organization:** The Hawaii Wildfire Management Organization (HWMO) is a non-profit organization dedicated to protecting Hawaii Island's communities and irreplaceable dry land forests from wildfire. HWMO was founded in 2002 by a diversity of stakeholders including scientists, land managers, representatives of State and Federal agencies, ranchers, environmentalists, and fire fighters who came together to characterize wildfire threats and develop strategies to mitigate those threats. Hawaii Wildfire Management Organization is the only organization of its kind in the state and its recent activities include: unique research on fuels management; a network of fuel breaks that offer protection to resources and communities, including Waikoloa Village, Wailea Bay and Puako; fencing and fuels management projects to protect critical habitats; community planning and implementation to identify potential fire risks and mitigation measures; installation of water tanks and dip tanks that can be used by helicopters to suppress fires and by ranchers to water their cattle, which are helping to reduce fuels, including dip tanks at Puukapu and Puuanahulu; helping to protect residents in Kawaihae Village, Kanehoa and Anekona by coordinating access to water for cattle grazing adjacent to these communities; and development of a Wildfire Resource Map for the entire Island for first responders to a fire, which identifies features needed to develop suppression strategies for fires, e.g. water tanks, roads, sensitive areas, etc.



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# MAUNA KEA SOIL & WATER CONSERVATION DISTRICT



Mauna Kea SWCD Chair Pete Hendricks, Vice-Chair Ken Kaneshiro, Hawaii Association of Conservation Districts Conservation Specialist Evana Burt-Toland, Waiulaula Watershed Management Project Coordinator Carolyn Stewart, Mauna Kea SWCD Director Jim Thain, not pictured MKSWCD Director Daniel Kaniho Jr., Associate Directors, Robert L. Hind III, David Fuertes & Mike Tomich, Margaret Becka (Administrative Assistant)

**HACD staffer - Evana Maile Burt-Toland** was born and raised in the mauka part of Puna on the Big Island. Growing up in that atmosphere cultivated a passion and curiosity for Hawaii's natural resources, which eventually developed into a desire to turn that interest into a career through field-work jobs, participating in diverse team-based research and restoration projects, and eventually obtaining a Fisheries and Wildlife Science B.S. degree from Oregon State University's (OSU) College of Agriculture Science. She is currently the Hawaii Association of Conservation Districts Conservation Specialist, where she focuses on developing conservation plans for agriculture producers, and helps with several different aspects of the current watershed project in the Waiulaula Watershed. Prior to coming to work for the District, Evana was a Biological Science Aid at the Corvallis, Oregon USDA- ARS Insect Pathology Lab for three years, and has done several field-oriented seasonal positions focused on ecosystem restoration and wildlife inventory and monitoring.

**Carolyn Stewart**- Carolyn Stewart has 18 years experience as a coastal and marine resources planner working for international agencies, foreign and U.S. governments, Hawaii state government, and non-governmental organizations. She is a former senior planner with the Hawaii Coastal Zone Management Program and founder of the non-profit Malama Kai Foundation. She received a Master of Marine Affairs degree from the University of Washington, School of Marine Affairs. Carolyn is a Principal Consultant with Marine and Coastal Solutions International, Inc., a Hawaii-based environmental resources management planning firm. She is the coordinator for the Mauna Kea Soil and Water Conservation District's Waiulaula Watershed Management Project. Carolyn is married to David Tarnas and they have 2 children. Carolyn and her family have been residents of Waimea since 1996.

## IN REMEMBRANCE OF TWO LONG-TIME LEADERS

### Tommy Crabb 1925 – 2006



Tommy Crabb was a manager for C. Brewer & Company's sugar plantations. He also oversaw the establishment of eucalyptus tree farms to replace the abandoned sugar cane fields along the Hilo Hamakua Coast and Ka'u. He has been a director for the Hamakua Soil Water Conservation District for 15 years and served as board chairman for 10 years. Besides being active in the Hamakua District he sat on many committees such as the Big Island RC&D Board, Lower Hamakua Ditch Committee, the Hawaii Forest Industry Association and the Hawaii Forest Institute. Tommy's dedication to preservation and conservation has shined a light in many conservation districts.

He is characterized by his selfless service always caring for the needs of the land and others.

**To know Tommy was to love him.**

### Francis Pacheco 1928 – 2006



Francis Pacheco was the devoted district member for the Waiakea and Hamakua Soil and Water Conservation Districts. As a former police officer for the County of Hawaii and serving in the Army during the Korean War he was a go getter. He devoted all of energies to farming and conservation. He spent many years lobbying Congress for protection of the sugar industry from foreign competition. In 1967 Francis started sugar cultivation on a 7 acre leasehold property that developed into the Pacheco Farm, Inc. which he was one of the largest growers for the Hilo Coast Processing Company, Inc. He also sat on the board for many committees such as the Big Island Farm Bureau, Hawaii Island of Conservation Districts, Big Island RC&D, and many more. His dedication to conservation had made an impact on many farmers and ranchers lives. He was respected and appreciated by all.

**Over all, Francis was a man that did things "his way".**



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