



## 2010 NRCS Summary for the Pacific Islands Area



Pacific Islands Area  
Lawrence Yamamoto,  
Director

Honolulu, Hawaii

### Kagman Watershed Project

On June 24, 2010 a groundbreaking ceremony was held in Kagman for the construction of waterways that will lead to the completion of what's been described as the largest watershed project in the Mariana Islands. The Kagman watershed project is a collaborative venture of the USDA NRCS and the CNMI government through the DLNR and the Saipan and Northern Islands SWCD.

The watershed project, which aims to deal with the issue of flood control in the farming community of Kagman, will use rainwater and floodwater runoff for irrigation purposes. The project will also promote local agriculture, encourage local production of food, which in turn provides food security and sustainability for the CNMI.

It is the only flood control project in the CNMI that is funded by the ARRA of 2009. This phase cost close to \$3 million. The \$1.79 million is for the construction contract and a little over \$1 million for the technical assistance that involves planning, design, and contract administration. This project involves digging, concreting, and extending three water channels, Waterways A, B, and C that will bring the runoff to planned 70 million gallon reservoir. Waterway A will lead the runoff along Kagman Road from Isa Drive to the water control structure at the Kagman intersection; Waterway B will intercept the runoff from the area north east of the Kagman farm plots; and Waterway C will bring the regulated flow of water from the water control structure all the way to the location of the planned 70 million gallon reservoir.



Construction phase

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### Guam EWP Project

The Notice to Proceed with the installation of the Pale Medina Landslide Stabilization and Water Management Project was issued to Masoud & Company on the 16th of September 2009. Masoud & Company commenced work shortly afterwards and demobilized from the site in March of 2010.

The project protects two homes from damage that would result from additional movement of earth from above. Additionally those two homes and two residences downstream benefit from improved storm water management that conveys runoff from the hillside above to a stable outlet. The water management features are sized to carry the peak discharge from a 25 year frequency storm.

The landslide stabilization is accomplished by a wall of gabion baskets backed by geotextile to prevent movement of soil through the baskets. In the very bottom of the gabion basket wall is a layer of concrete blocks that capture and transmit subsurface and water passing down through the basket to traditional surface channels. The surface channels are concrete lined rectangular and vee shaped. They outlet into an energy dissipating structure before the storm water is discharged into a large lined culvert under Guam Route 12.



Guam Site Meeting



Concrete Testing

### Lower Hamakua Ditch Watershed

The Lower Hamakua Ditch Watershed Project is located in the Hamakua coast area of the Island of Hawaii. The project is sponsored by the State of Hawaii Department of Agriculture, the Mauna Kea Soil and Water Conservation District, and the Hamakua Soil and Water Conservation District. This project will increase the availability and reliability of agricultural water to diversified farmers and ranchers along the Hamakua coast through the repair and restoration of the Lower Hamakua Ditch. The 25-mile Lower Hamakua Ditch was completed in 1910 and was used and maintained by the sugar industry until the bankruptcy closing of the Hamakua Sugar Company in 1994.

Since 2001, design and construction have resulted in the installation of 2 water storage reservoirs, 2 pipeline distribution laterals, repair or replacement of 31 flume structures, modification of 3 intake structures, realignment of the Hakalaoa Falls Tunnel, and reconstruction of 2 historic redwood flumes. Remaining construction elements include the repair of ditch linings, exclusion fencing, a Supervisory Control and Data Acquisition (SCADA) system, 8 distribution lateral systems, and on-farm land treatment practices. Full project completion is anticipated in 2017.

This project will help to expand the diversified agricultural base in Hamakua and to promote economic revitalization of the Hamakua coast.



Lower Hamakua Watershed Project

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## Message from the Director of the Pacific Islands Area

The Natural Resource Conservation Service (NRCS) provides technical and financial assistance to private land users and communities across the Pacific Islands. We work throughout the State of Hawaii, the Territories of Guam and American Samoa, the Commonwealth of the Northern Mariana Islands, and the Freely Associated States of Palau, the Federated States of Micronesia, and the Republic of the Marshall Islands. This report is a brief summary of the work we have done in the federal fiscal year of 2010.

As we have in the past, NRCS delivers our programs directly to individuals and through partnerships with local governments, Non-Government Organizations and others. I would like to thank all of our partners for their hard work and assistance in serving the communities for yet another year. Our work together has benefited many people and has equated to over \$15 Million in financial assistance to the agricultural communities throughout Hawaii and the American Pacific.

One of the important tasks that continued in 2010 was the response to the September 29th earthquake and tsunami. We were able to immediately mobilize \$500,000 to help to remove dangerous debris from low lying areas and helped speed the recovery. In addition we continue more long term corrective work to address damage at nine other sites in need of repair.

Many of the programs we deliver to our communities are now part of the new **Food, Conservation and Energy Act of 2008** (which we refer to as the Farm Bill). The new legislation provides new opportunities for communities and will require some changes to our services. However, I believe that these changes in the programs will provide benefits to different sections of our community and will help us better able to serve all our people.

Another important program is the Watershed Protection and Flood Prevention program. Through this authority in 2010 we provided improvements to the Lower Hamakua Ditch irrigation system, the Up Country Maui irrigation system and the Lahaina Watershed Flood Control project. Also in 2010 we obligated funding to continue work on the Kagman Watershed Project on the Island of Saipan in the Commonwealth of the Northern Mariana Islands.

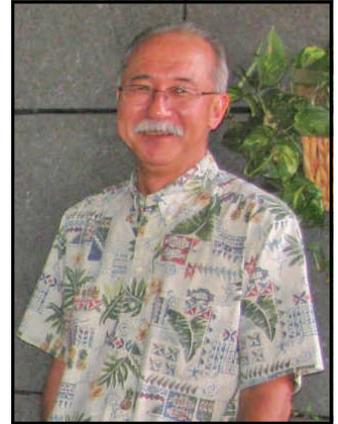
But the work is not done.

There are still people who need help protecting our island's natural resources. They need help controlling invasive weeds. They need help protecting against soil erosion. They need help to prevent flooding. They need help in restoring the habitat of forest birds. They need help protecting our coral reefs. They need our help.

We look forward to working with all of our partners to meet this challenge. We hope to continue our work helping our neighbors. Helping people help the land.



Lawrence T. Yamamoto,  
Director of the Pacific Islands Area



**Lawrence T. Yamamoto,**  
**Director of the PIA**

## Conservation Technical Assistance in the Pacific Islands Area

The Conservation Technical Assistance (CTA) Program is NRCS's foundation for providing conservation technical assistance to private individuals including farmers and ranchers, conservation districts, State and local governments and other organizations. Most technical assistance provided by NRCS and its partners leads to the voluntary development of a conservation plan – a schedule of operations and activities that allows clients to address opportunities, concerns, and problems related to the use of natural resources and to help clients make sound natural resource management decisions. Based on the conservation plans developed, NRCS and its partners may also provide the technical assistance needed to design, layout and checkout approved conservation practices. Although the CTA program does not include financial assistance to implement conservation practices, clients may elect to install practices on their own or apply for USDA financial assistance (Farm Bill) programs.

In fiscal year 2010, NRCS and its partners in the Pacific Islands Area assisted with the development of 193 conservation plans for clients which covered 70,839 acres. NRCS also provided technical assistance (design, layout, and checkout services) to clients to complete 276 installations of 33 different conservation practices at their own expense. Typical conservation practices and amounts implemented in the Pacific Islands Area during fiscal year 2010 included:

- Brush Management—390 acres
- Conservation Cover—304 acres
- Contour Farming – 484 acres
- Cover Crop – 614 acres
- Deep Tillage – 3,803 acres
- Nutrient Management – 595 acres
- Pipeline – 14,394 feet
- Prescribed Grazing – 3,768 acres
- Residue Management, Seasonal – 1,115 acres
- Terrace – 12,068 feet
- Upland Wildlife Habitat Management – 1,241 acres
- Vegetative Barrier – 2,907 feet
- Windbreak/Shelterbelt Establishment – 20,375 feet

The CTA is delivered to clients through Pacific Islands Area service center field offices at the following locations:

- State of Hawaii
  - Aiea, Oahu
  - Lihue, Kauai
  - Kahului, Maui
  - Hoolehua, Molokai
  - Hilo, Hawaii
  - Kealahou, Hawaii
  - Waimea, Hawaii
- Pago Pago, Territory of American Samoa
- Barrigada, Territory of Guam
- Saipan, Commonwealth of the Northern Mariana Islands
- Pohnpei, Federated States of Micronesia
- Palau (Koror), Republic of Palau



*Grass Waterway in Kunia, Oahu.*



*Kawaikapu, Molokai. Brush removal of noxious and invasive species such as the strawberry guava, christmasberry, lantana, and koa haole to improve habitat for the threatened 'A'o or Newell's Shearwater as part of Upland Wildlife Habitat Management.*



*Oats Cover Crop.*



*Hilo Grass Conservation Cover (Paspalum conjugatum).*

## Programs

**Farm Bill Programs:** The new 2008 Farm Bill continues to offer America's farmers and ranchers more incentives than ever before to voluntarily conserve natural resources on privately owned land. Its conservation provisions help reduce erosion, guard streams and rivers, restore and establish fish and wildlife habitat, and improve air quality. The summary below pertains to the financial assistance through Farm Bill Programs in the Pacific Islands Area.

**Environmental Quality Incentives Program (EQIP):** Addresses significant natural resource concerns that are locally identified. In 2010, we utilized \$9,384,483 for conservation planning, design and installation. In addition, \$6,242,558 was distributed (includes funds contracted in prior years) for implementation of conservation practices to address resource concerns on cropland, grazing land and animal feeding operations. Projects included noxious weed control, brush management, pasture hay land planting, mulching and cover crop. 179 EQIP contracts PIA wide.

**Agricultural Management Assistance (AMA):** AMA supports multiple conservation practices including irrigation, windbreaks and organic farming. In fiscal year 2010, \$297,027 was distributed for access road, crop rotation, cover crop, mulching, nutrient and pest management, windbreak establishment, irrigation, brush management, prescribed grazing, pasture and hay planting and upland wildlife habitat management. 4 contracts PIA wide.

**Grassland Reserve Program (GRP):** Helps landowners and operators restore and protect grassland, including rangeland and pastureland, and certain other lands, while maintaining the areas as grazing lands. In fiscal year 2010 the PIA funded between \$450,000 and \$500,000 on a single GRP projects on a total of 2331 acres. 1 contracts PIA wide.

**Wildlife Habitat Incentives Program (WHIP):** Develops and improves habitat for fish and wildlife. In 2010, funding was reduced to \$160,757 from the previous years' amount of \$562,366. 3 contracts PIA wide.

**Wetlands Reserve Program (WRP):** This program is used towards wetland restoration, enhancement, or creation on private land to help protect critical wetland and riparian areas. In FY 2010, though funds were available, there were no requests. 0 contracts PIA wide.

**Farm and Ranchland Protection Program (FRPP):** This program is used to help state, tribal, or local government entities to purchase the development rights to keep productive farm and ranchland in agricultural use. In FY 2010, though funds were available, there were no requests. 0 contracts PIA wide.

**Conservation Security Program (CSP):** This program was designed to reward agricultural producers for their continued commitment to be good stewards of the land. In 2010, Pacific Islands' producers received \$413,761 for their conservation efforts on watersheds on Guam, Hawaii, Honolulu, Kauai, and Maui. This program was replaced in the 2008 Farm Bill.

**Conservation Stewardship Program (CSP 2008):** This program replaces the previous CSP. The new program purpose is to encourage producers to address resource concerns in a comprehensive manner by installing and adopting additional conservation activities and improving, maintaining, and managing existing activities. In fiscal year 2010, \$105,873 was utilized. 16 contracts PIA wide.

**Conservation Innovation Grants (CIG):** Under EQIP, grants were made available to stimulate the development and adoption of innovative conservation approaches and technologies while leveraging Federal investment in environmental enhancement and protection, in conjunction with agricultural production. In fiscal year 2010, five grants were approved totaling \$326,000. 5 contracts PIA wide.



*WHIP Project - Upland Wildlife Habitat Management, 645.*



*Two seasonal high tunnels covering 24' x 48' or 2304 sq ft.*



*Seasonal high tunnels are used to prevent wind plant damage and seed loss.*



*Seed remains moist to harvest and exposed soil exceeds temp for seedling plant growth.*



## Resource Conservation & Development

The Resource Conservation and Development (RC&D) program helps communities plan and carry out projects that increase natural resources conservation, support economic development, and enhance the local environment and standard of living. Local NRCS RC&D offices work with their non-profit RC&D Councils, comprised of local leaders, to identify community needs and to obtain funding to implement projects to address those needs.

In fiscal year 2010, the six RC&D offices and their Councils in the PIA served as a great example of leveraging NRCS funding. With about \$930,000 in NRCS funding we were able to obtain additional contributions valued at \$8.4 million to fund 184 projects. The additional contributions came from grants and partnerships with other Federal, state and local agencies; private foundations; and non-governmental organizations. The projects benefitted land and water resources on 5,409 acres; created or retained 389 businesses in rural communities; created or retained 413 jobs in rural communities; and resulted in the development of 4 watershed or area-wide conservation plans. RC&D projects included:

- **The American Samoa RC&D** completed a project to plant vetiver grass along dirt roads and quarries to reduce the amount of fine sediment impacting streams and coral reefs.
- **The Marianas RC&D** obtained a public outreach grant from FSA to conduct five Farmer and Landowner Assistance Forums on four islands. Five agencies either presented or provided assistance program information to 83 people. As a result, the Southern Guam SWCDs decided to partner with Marianas RC&D to continue and expand the same public outreach program next year.
- **The Tri-Isle RC&D** recently completed construction of a new beverage container redemption center on the island of Lanai via a grant from the County of Maui.

In addition, the four RC&D offices in the State of Hawaii administer the Agricultural Development Program (ADP) which provides congressional funding to support community-based projects that promote agricultural development and sustainability. The ADP increased greatly from 2009 to 2010 with funding increasing from \$376,000 to \$1,250,000; total number of applicants increasing from 74 to 220; total number of projects funded increasing from 19 to 60, and the total estimated project funding increasing from \$313,139 to \$992,530. About 80% of the total funding went directly to the applicant projects selected for funding in 2010, with the remaining 20% going to cover overhead costs such as salaries and training. ADP projects included:

- **A Big Island RC&D** ADP project funded the purchase of seed separating equipment to assist in the propagation of native Hawaiian plants for a local nursery.
- A Garden Island RC&D ADP project funded the purchase of a coffee roaster and a coffee huller to assist a coffee farmer increase production.
- **A Oahu RC&D** ADP project funded the expansion of a pesticide-free aquaponic farm producing commercial vegetables, lettuce and tilapia using solar and wind power. Lettuce production has quadrupled to 16,000 head per month and three additional staff have been hired.

### Agricultural Development Program Fiscal Year 2010 Summary

Location	# of Applicants	# of Applicants Projects Funded	Estimated Project Funding
Big Island	51	12	\$205,465
Kauai	40	13	\$192,800
Oahu	77	7	\$194,265
Maui/Lanai	26	9	\$200,000
Molokai	26	19	\$200,000
<b>Total</b>	<b>220</b>	<b>60</b>	<b>\$992,530</b>

### Designated RC&D Areas in the Pacific Islands Area

Location	Service Area
American Samoa RC&D	Territory of American Samoa
Big Island RC&D	Hawaii County
Garden Island RC&D	Kauai County
Marianas RC&D	Islands of Guam, Rota, Tinian, and Saipan
Oahu RC&D	City and County of Honolulu
Tri-Isle RC&D	Maui County (Islands of Maui, Molokai, and Lanai)



## Resource Technology Accomplishments

**Agronomic:** In 2009 we in NRCS identified a concern with some of the cropping practices used in seed corn production. We felt that the amount of unprotected soil present in some seed corn production systems had the potential to produce a negative impact on near shore water quality and coral reef habitats. As a result, the PIA NRCS has developed improved Resource Management System options for seed corn producers and the first conservation plans for operators on Kauai.

### Pioneer Seed Corn Resource Management System

- Cover Crops on all land not in Seed Corn Production
- Permanent Covered Setbacks on land adjacent to the ocean
- Stop the practice of leaving large acres with no protection in bare ground
- Multiple Vegetative Barriers on all land above a 4% slopes
- Permanent Covered Drainage Ways to the ocean

### Dow Seed Corn Resource Management System

- Contour Buffer Strips on all land above 4% slopes
- No more bare ground during dry season
- Permanent Covered Setbacks on all land adjacent to the ocean
- Permanent Covered Drainage Ways to the ocean

### **Biology:**

- NRCS RTT assisted the Hawaii Wetland Joint Venture to develop maps indicating the focus areas of the Joint Venture for native water bird habitat. We helped determine the focus areas as well as provided GIS support to create the maps.
- Released technical notes on the bats of the Pacific Islands Area and shallow water management for water birds in Hawaii. Both technical notes provide information on the species and their habitat needs in a concise, easy-to-read format.

### **Cultural Resources:**

- Relocated the CR office to Honolulu. This move allows better communication between the NRCS/CRS, SHPD and OHA.
- CR training of FOs, including Kahului and Waimea offices. CR training will continue in FY11, including the West Area Offices.
- Successfully consulted with SHPD for extending the original Lower Hamakua Ditch MOA and the emergency repair Lower Hamakua Ditch MOA. This allowed NRCS to continue repair of the ditch following the earthquake.

**Forestry:** Development of a Forestry MOU between USDA-NRCS, Hawaii Division of Natural Resources, USDA-Forest Service, and HADC that details ways in which the Partners will collaborate on the delivery of forest management assistance to private landowners and land managers across the state. The MOU will be finalized and signed in the near future.

Development of native tree and shrub planting spreadsheets for all accessible Ecological Sites that occur on private lands on the Island of Hawaii, as well as a generic Coastal Strand planting spreadsheet. These spreadsheets allow the planner and cooperator to devise a planting plan that is suitable in terms of species, density, and diversity while tracking actual numbers of plants to acquire for the project.

**Grazing Lands:** Initiated the Maui and Big Island Fireweed projects. Cooperating with James Leary (UH Invasive Species Specialist), Ulupalakua Ranch, Frietas Ranch, and Kahua Ranch. The project focus is to monitor forage production response in areas treated with chemical herbicide used to reduce fireweed (*Senecio madagascariensis*) populations.

Launched the Hawaii Grazing Lands Conservation Initiative (HI-GLCI) outreach and education campaign. We established a media press kit and distributed it to all media outlets on all islands. The HI-GLCI and NRCS helped fund the Hawaii Sheep and Goat Association annual producer workshop and continued funding the prescribed grazing implementation agreement with Hawaii Cattlemen's Council. This effort extends into December 2010, with a guest appearance on the Insights on PBS Hawaii show and an official media/producer launch on Maui at Haleakala Ranch. Gretchen Daily, from the Natural Capital Project (Stanford University) is one of our key partners and is a guest at both venues.



*Grazing sheep on Big Island.*

### **Plant Materials:**

National Sunn Hemp Cover Crop Project – This project was participated in by approximately 15 Plant Materials Centers in 2010 across the US to fine-tune the planting rates and optimum time for incorporation of sunn hemp. The Hoolehua PMC provided seed of the Tropic Sun cultivar for the project. Sunn hemp is increasing in popularity throughout the US for soil quality improvement and organic agriculture production. It adds nitrogen and organic matter to the soil and reduces harmful nematode populations. It is non-toxic to animals and is non-invasive.

Cooperation with Invasive Species Committees – The NRCS PIA Plant Materials Program cooperates and communicates with the various invasive species committees in Hawaii. Primary objectives are early detection and control of invasive species. NRCS chairs the Molokai Subcommittee of the Maui Invasive Species Committee (MoMISC). In cooperation with other agencies, invasive species surveys and control are conducted on Molokai.

Kahoolawe Restoration/Erosion Control Project – Our technical assistance to the project is on-going. For example, a recent suggestion was made to plant strips of native piligrass between the rows of new plantings of native shrubs to enhance erosion control and increase diversity.

**Water Quality:** This IPM training was provided to more than 30 conservation planners in the PIA. The IPM standard has recently been changed to provide more guidance on how to mitigate the negative effects of pesticides on resource concerns in the PIA. In addition, a new IPM planning tool was introduced to the conservation planners which will streamline the conservation planning and provide for a consistent IPM product across the PIA.

The first Seasonal High Tunnel practice was completed and certified in the Lihue FO. This practice allows the landowner to grow better quality crops during poor growing seasons, while protecting resource concerns at the same time.

## Soils in the Pacific Islands Area

### Soil Survey

- Soil survey of the remainder of the Big Island (Hawaii) is 95% complete including the Pohakaloa Training Area (mapped in cooperation with the U. S. Army).
- Soil survey of the Island of Kahoolawe was updated including converting existing spatial and tabular data to digital format. The new soil survey can be used by the Kahoolawe Island Reserve Commission (KIRC) and other interested parties to inform management and restoration activities.
- Both spatial and tabular data for the soil surveys of the Republic of the Marshall Islands (RMI) and the Northern Islands of the Commonwealth of the Northern Mariana Islands (CNMI-NI) were updated to meet national standards and re-released to the public.
- Two summer student interns, Chelsea Hansen from Humboldt State University and Brook Fonesbeck from Utah State University assisted the soil survey program in both field and office activities.
- Soil Survey Planning meetings were conducted with government, university and private sector stakeholders in Guam and Saipan to provide information on the future of soil survey and solicit input on future information needs and program priorities.



*Soil scientists Ralph Tucker (left) and Mike Kolman beside ordnance display on Kahoolawe.*

### Technical Soil Services

- Provided soils information and technical assistance to NRCS field staff and private cooperators throughout the PIA to support the effective implementation of conservation practices to address resource concerns including irrigation management, soil quality, and wind and water erosion.
- Provided technical soils assistance and training to federal agency partners including the Army Corps of Engineers, the U. S. Army, the U. S. Navy, the National Parks Service and the Forest Service.
- Provided field support and training for local staff members as part of the FSM Vulnerability and Adaptation Assessment on Climate Change Impacts on Food Security on Outlying Atolls (FSM Atoll Assessment).
- Provided training and information on soils and soil survey related issues to local government staff and agency partners in Hawaii, Guam, CNMI, the Federated States of Micronesia and the Republic of Palau.

### Public Outreach

- PIA staff supported youth and young adult education through serving as judges at the Hawaii State Science fair and the Conservation Awareness Contests (both local and state), presenting university guest lectures and presentations in FSM, Guam and Hawaii and presenting soils and GIS information to middle and high school students on Oahu and on the Big Island of Hawaii.



*Soil scientist Tony Rolfes discusses soil texture and water holding capacity with Oahu nursery owners.*



*Soil scientist Bob Gavenda instructing students in the use of soil survey at the Yap Campus of the College of Micronesia.*



*Soil scientist Patrick Niemeyer demonstrates taking pH measurements to local participants during the FSM Atoll Assessment.*



*Soil scientist Amy Saunders and Hawaii Preparatory Academy students sample soils on Kohala Mountain of the Big Island.*

## Watershed

### Emergency Watershed Protection (EWP) Projects

**American Samoa Tsunami EWP:** During fiscal year 2010, NRCS provided \$850,000 in EWP financial assistance in response to the massive earthquake and tsunami that struck American Samoa September 29, 2009, claiming 37 lives and destroying hundreds of low-lying homes. Funds are being used by the sponsor, the American Samoa Government Department of Public Works, to repair or replace portions of damaged streambank stabilization structures at eight sites.

**American Samoa Landslide EWP:** On July 27, 2009, sustained heavy rainfall caused a landslide which blocked a stream in the village of Leloaloo. The blockage created a new waterway which caused water, mud, and debris to be deposited onto a school grounds and classrooms. During fiscal year 2010, NRCS provided \$80,000 in EWP financial assistance to the sponsor, the American Samoa Government Department of Public Works, to remove debris, repair damaged stream banks, and restore flow back to the original waterway.

**Kiihola Bay Earthquake EWP:** The earthquake of October 15, 2006 damaged the Honokaa-Paauilo Irrigation System and Waimea Irrigation System, cutting off agricultural water to nearly all farmers of north-west Hawaii Island. NRCS has paid out nearly \$4 million to date in financial assistance to the sponsor, the Hawaii Department of Agriculture, towards emergency repairs on seven individual projects. In 2010 repairs were completed on two flumes on the Waimea Irrigation System. Repairs to the Upper Hamakua Ditch lining, the seventh and final project, are expected to be completed in September 2011.



*Waimea Flume Repair*

**Kilauea River / Wailapa Stream EWP:** In March 2006, the Ka Loko Dam on Kauai breached after sustained heavy rains, causing flooding along Wailapa Stream and Kilauea River and the tragic loss of seven lives and several homes. In fiscal year 2010, NRCS initiated a project providing \$4 million in EWP financial assistance to the sponsor, the County of Kauai Department of Public Works. The project will remove approximately 22,000 cubic yards of sediment and debris along the Kilauea River, with estimated completion in May 2011.

### Watershed Operations (WF-08) Projects

**Lahaina Watershed Project:** During fiscal year 2010, both design and construction activities progressed for this project, which will reduce the amount of sediment discharged to the ocean and provide a 100-year level of flood protection to residential and commercial properties in Lahaina town in West Maui, Hawaii. The six-phase construction plan includes a two-mile long diversion channel, four sediment basins, and a debris basin. Local sponsors include the County of Maui Department of Public Works and the West Maui SWCD.



*Lahaina Phase 1 Channel*

**Upcountry Maui Watershed Project:** Sponsored by the State of Hawaii Department of Agriculture, the County of Maui Department of Water Supply, and the Olinda-Kula SWCD, this project will improve agricultural water supply to 12,250 acres on the western slope of Haleakala on the Island of Maui through the installation of a dedicated agricultural water distribution pipeline system that bypasses domestic water treatment facilities. During fiscal year 2010, NRCS funds contributed to the final design of the Waiakoa and the Kealahou laterals as well as the ongoing construction of Phases 4, 5 and 6A of the main pipeline.

**Wailuku-Alenaio Watershed Project:** Working with the County of Hawaii Department of Public Works as the project sponsor, this project is completing a Supplemental Watershed Plan and Environmental Assessment as a means to complete the last of four major elements providing flood protection to the northern part of the city of Hilo on the Island of Hawaii. A cultural resources survey conducted during fiscal year 2010 was a key task needed before continuing with the final design and construction phases of this flood prevention project.

### Watershed Planning Activities

Though Congress has not funded the Watershed Surveys and Planning program since 2007, PIA was able to respond to local partner requests for watershed planning assistance during fiscal year 2010 through a congressional earmark for CTA Watershed Planning, as well as through a reimbursable agreement using State of Hawaii drought mitigation project funds.

**Hanalei Valley Irrigation Intake Protection Preliminary Investigation:** NRCS is assisting project sponsors East Kauai SWCD and the Kauai Taro Growers Association with a study evaluating measures to reduce breach-flow events and retain flows in the main channel of the Hanalei River, protecting the water supply to commercial farms producing roughly one-third of all taro used for poi manufacture in Hawaii. The sponsors are seeking additional technical assistance and financial assistance funds for final design and construction.

**Waipio Valley Flood Damage Reduction and Stream Stabilization Preliminary Investigation:** NRCS funds enabled project sponsor Mauna Kea SWCD to initiate development of preliminary designs for two areas where stream migration and bank erosion threaten water diversions into critical auwai supplying multiple taro loi. Design completion is scheduled in fiscal year 2011.

**Kula Stormwater Reclamation Project:** State of Hawaii funds are enabling NRCS to contribute technical and project management assistance to the Central Maui SWCD for a project seeking to collect, store, and distribute stormwater discharges for agricultural use. Following project completion in fiscal year 2011, the sponsors hope to find funds to continue the project into final design and implementation.

**Additional CTA for watershed planning** during fiscal year 2010 included design assistance for outlet improvements at the **Napili 4-5 Sediment Basin** on Maui; review of the Environmental Impact Study for the proposed **South Kona Watershed Irrigation System** on Hawaii; and project feasibility scoping for stream restoration at Waihee Stream within Oahu's **Kahalu'u Watershed Project**.