

End of Year Report

Fiscal Year 2005

State of Hawaii / Department of Health / Clean Water Branch Polluted Runoff Control Program

October 1, 2004 – September 30, 2005

The Watershed Approach

Watershed Based Plans (WBPs) are the current keys to unlocking future funding for the abatement and control of nonpoint source pollution in Hawaii and bring together many of the elements required to achieve actual water quality improvements. The State has one WBP that meets nine specific requirements from the U.S. Environmental Protection Agency for a WBP. The Nawiliwili watershed (*photo right*) on the island of Kauai is now eligible for Clean Water Act Section 319(h) funds to implement water quality improvement projects highlighted in the WBP.



Other watersheds such as Koolaupoko, South Molokai, Hilo Bay, Kapakahi Stream, Waiulaula (Big Island) and Kaho'olawe are in the process of developing WBPs. The State believes these plans will provide the information and guidance necessary for local communities to address polluted runoff issues and achieve water quality improvements in their watersheds.

The State has also contracted with the University of Hawaii to develop background files on seven priority watersheds, including Hilo Bay. These files can then be used by a local community organization as the basis in developing a WBP. Background files for Kahului Harbor (Maui), Kihei (Maui), Kaiaka-Waiialua Bay, Kahana Bay, Waimea Bay (Kauai), and Hanapepe Bay (Kauai) will be completed October 31, 2005.

The State has made a concerted effort to fund projects with the highest likelihood of achieving positive environmental and water quality results. In FY 2005, the Request for Proposals (RFP) included an emphasis on expected project outcomes (load reductions, behavior changes, water quality and habitat improvements), targeted priority areas (Nawiliwili watershed, priority watersheds identified in Hawaii's Local Action Strategy to address Land Based Pollution Threats to Coral Reefs and Unified Watershed Assessment priorities), and required both a monitoring or evaluation component to document project outcomes and an education, public outreach and participation component. Experience from the RFP solicitation will be used to refine the approach used to educate potential project partners and generate awareness about the program goals and priorities.

The State continues to look for opportunities to integrate Polluted Runoff Control Program watershed-related activities with other water quality programs and watershed-oriented programs and activities of other state, local and nonprofit partners. PRC Program coordination within DOH includes the development and implementation of nonpoint source total maximum daily loads (TMDLs) and coordination with the ambient monitoring program to assist in determining the effectiveness of implementation projects. The PRC Program participates with other state agencies and participates on a variety of committees (technical committee on polluted runoff, Land Based Pollution Threat to Coral Reefs, state/federal Conservation Funders, NRCS state technical committee) in order to coordinate watershed planning and implementation activities, maximize the use of limited resources to support watershed projects and avoid duplication of effort.

Hawaii's Polluted Runoff Control Program



Current staff includes Lawana Collier, Public Participation Coordinator, Brian Hunter, Planner, Matthew Myers, Grants Management Specialist, and Tamara Wilbourn, Environmental Health Specialist, hired in June 2005. In August 2005, an IPA from EPA Region 4, Hudson Slay, came to work with the program to assist the State with the development and implementation of WBPs and the implementation of the State's Coastal Nonpoint Pollution Control Program.

Photo above: Alex Michailidis (contractor), Matthew Myers, and Tamara Wilbourn prepare for site visit of East Maui watershed project.

The Polluted Runoff Control (PRC) Program uses Clean Water Act Section 319(h) funding to address the State's nonpoint source pollution issues. In fiscal year 2005 the State of Hawaii did not receive federal funding for the Polluted Runoff Control Program, but was able to continue working under funding from prior years' grants.

Five (5) new project contracts were executed this year and added to the thirty-five (35) ongoing projects under the program's management. Ten (10) projects were completed and final reports are available at the PRC Program office.

New Projects get started

Five new projects were contracted this fiscal year.



Photos of Kapakahi Stream

Watershed Based Plan for Kapakahi Stream

The Oahu Resource Conservation and Development Council, Inc. received \$66,000 to develop a Watershed Based Plan for Kapakahi Stream on Oahu. This project will build upon watershed analysis conducted through the TMDL development process and is linked to the Pouhala Marsh restoration project. The project began in December 2004 and will be completed October 2006.

BMP Demonstration Park at Kaelepulu Pond

The Center for a Sustainable Future in partnership with the Kailua Bay Advisory Council received \$200,000 to construct a park at Kaelepulu Pond that demonstrates various best management practices people can use to help control polluted runoff, and provide education and outreach in the community. PRC Program staff participates in the Kaelepulu TMDL workgroup to promote coordination of this project as a potential TMDL implementation tool. The project began in March 2005 and will be completed in June 2007.

Watershed Based Plan for Koolaupoko

The Center for a Sustainable Future in partnership with the Kailua Bay Advisory Council received \$120,860 to update the 2002 Koolaupoko Watershed Restoration Action Strategy to meet the EPA requirements of a Watershed Based Plan. This project covers 21 subwatersheds from Kaneohe to Waimanalo and will address numerous impaired waters. The project began in May 2005 and will be completed in May 2007.

Watershed Based Plan for Waikoloa-Waiulaula

The Mauna Kea Soil and Water Conservation District received \$150,000 to develop a Watershed Based Plan for Waikoloa-Waiulaula. The project began in June 2005 and will be completed in June 2007.

Kaho'olawe Restoration

The Kaho'olawe Island Reserve Commission (KIRC) received \$1,500,000 to develop and implement a Watershed Based Plan for Kaho'olawe. The project began in August 2005 and will be completed in August 2008. Project details below.



Photos of pili roles, bales and other geotextile materials used to control erosion on Kaho'olawe.

The current Kaho'olawe project with the State Department of Health involves three phases, which include the following activities:

PHASE I: The installation of on-site monitoring equipment (two stream gages which will be located in Hakioawa and Kaulana streams); stream monitoring; installation of erosion pins (erosion pin transects for measuring soil migration and movement); the use of GIS to determine water flow patterns; the implementation of a program to obtain turbidity measurements (using retrievable/portable equipment (automated OBS-3A turbidity equipment); restoration/erosion control efforts; and the completion of an updated Watershed Based Plan for Kaho'olawe.

PHASE II: The continuation of restoration/erosion control efforts; any repair and maintenance of installed monitoring units; data collection; and the continued integration of community/volunteer efforts.

PHASE III: The completion of restoration/erosion control efforts, with the continued integration of community/volunteer efforts; any final repair and maintenance of installed monitoring units; the final report preparation and Open File Report prepared by the United States Geological Survey (USGS).

The project seeks to develop an updated Watershed Based Plan; to continue to restore the Island's hardpan and exposed soil; and to determine if restoration and erosion control efforts are successfully controlling/containing sediment from entering the streams and coastal waters of Kaho'olawe by measuring soil migration and movement (erosion pin transects), water flow movement (GIS analysis), volume of sediment entering Hakioawa and Kaulana streams before, during and after restoration activities (stream gages), and suspended sediments and turbidity (turbidity measurements) in Hakioawa; and Kaulana Bays. The project also seeks to continue to integrate the very successful volunteer program that the KIRC staff currently utilize to assist them in their restoration efforts.

Site Visits to ongoing projects

Staff try to visit projects annually if possible, or at a minimum, at the start and end of the project. Some projects require staff site visits in order to better understand the progress of the project. The following briefly describes this year's site visits.

Salt Lake Phytoremediation

(Site Visit: June 22, 2005)



Photos of Floating "FPPs" (floating phytoremediation platforms). The platforms utilize the concepts of rhizofiltration and allelopathy to reduce precipitate pollution compounds in the brackish water of Salt Lake.

This project will provide a sustainable approach to maintaining water quality in Salt Lake by installing FPPs to reduce the nutrient and sediment loads in the stream. Public outreach and education is also a key element of this project, as students from Salt Lake Elementary School and Moanalua High School have been actively involved in learning about the potential benefits of phytoremediation and will produce a video describing the project.

Preliminary results from sampling points within the Salt Lake drainage ditch indicate that turbidity readings are much lower in the treated area than in the non-treated area, with an average turbidity of 13.6 NTU compared with a control value of 21.9 NTU (Sun, August 2005). Likewise, total nitrogen and total nitrate concentrations (360 ug/L and 229 ug/L, respectively) were lower in the treated area than non-treated area (745 ug/L and 420 ug/L). Additionally, phosphorus was not detected in the treated sample, whereas the untreated sample contained 46.5 ug/L of phosphorus. While this study is ongoing, and more data needs to be collected to verify the effectiveness of the platforms, preliminary results show great potential for this technology.

Kawa Stream Phytoremediation

(Site Visit: June 22, 2005)



Photos of trash barrier and FPPs in Kawa Stream

Much like the Salt Lake project, this project also uses floating phytoremediation platforms to reduce sediment and nutrient load in a eutrophicated stream. A floating barrier has also been installed in Kawa Stream to prevent debris and trash from entering the stream and to protect the plant roots from predators.

Water samples have only been collected two times from this site, however, preliminary data analysis reveals a significant difference in water quality parameters between sampling events in January, 2005 and samples taken 4 months later, in May 2005 after the platforms had time to establish. Turbidity and total suspended solids (TSS) were significantly lower in May than in January (Shi, May 2005). Enterococcus and total nitrogen concentrations were also lower in May.

Community Based BMP Model for Pouhala Marsh

(Site Visit: August 24, 2005)



Photos of the Kapakahi Stream and the adjacent Pouhala Marsh. Volunteer efforts aim to reduce the aggressive invasive species, "pickleweed" as seen in the second photo.

The Hawaii Nature Center Pouhala Marsh project will develop a trail system, an interpretive guide book for the community, and a community-based wildlife monitoring program. This project has also encouraged community and school involvement as an outreach effort to support marsh restoration and maintenance through weed removal, trash cleanups and student water quality monitoring. 358 community volunteers removed 29,700 lbs of pickleweed, 90lbs of cattail, and 1700 lbs of water lettuce and 1014 mangrove trees. Approximately 70 acres of wetlands have been restored.

Central Maui SWCD Riparian Fencing and Irrigation System

(Site Visit: August 30, 2005)



Photos of the fence posts and irrigation pump system valve assembly which will use reclaimed water from the Kibei Sewage Treatment Plant

Riparian fencing and an irrigation system will be installed in pastureland alongside Keokea Gulch. This project will reduce erosion and sedimentation and the fire hazard that dry grasses in this area currently pose. Approximately 7,500 linear feet of fencing and irrigation will be installed to cover the 22 acre project area.

UH Integrated Technologies Controlling Water Contaminants at the Source

(Site Visit: October 7, 2005)



Photos of a test plot and water collection device in the Kaiaka-Waiialua Watershed; surface runoff is monitored for sediment and nutrients from four different demonstration crop cover plots

This demonstration project compared the ability of different crops to minimize soil surface erosion and reduce levels of phosphorus and nutrients in surface water. This project will also show growers and crop managers the feasibility of proposed management practices under local conditions.

Kalihi Community Resource Improvement Stream Project
(Site Visit: September 29, 2005)



Photos of the tiered planting area in the riparian zone of Kalihi Stream

The Kalihi Community Resource Improvement Stream Project (KCRISP) is a community-based initiative to restore the Kalihi riparian habitat and to educate the community on polluted runoff control topics through stream cleanups, presentations, field trips and community fairs.

Friends of He'eia State Park Stream Monitoring and Education
(Site Visit: September 30, 2005)



Photos of the He'eia fish pond and cleared mangrove trees

Outcomes of this project include: the revitalization of a section of the He'eia Stream in Kaneohe by removing invasive species, collection of stream and bay water data to monitor the effects of the restoration efforts, and the education of local students and the community about matters relating to pollution prevention through guided tours and volunteer water monitoring programs.

Water quality monitoring data was collected and analyzed from February 2004- March 2005. Stream flow has greatly increased at this site, likely due to mangrove removal. USGS data from 1998-1999 indicate an average daily stream flow rate of 1.63 cubic feet per second compared with the current rate of 3.28 cubic feet per second (McLean, 2005). Approximately 1,500 linear feet of mangrove will be removed from the stream banks once the project is completed.

Ke Kia'i Aloha 'Aina Malama 'Aina O Pu'uohhunaua O Waimanalo
(Site Visit: July 13, 2005)



Photos of native taro patch being weeded, stream bank stabilization measures, and a mural depicting Hawaiian traditional knowledge of kumulipo and ahupua'a

The Ke Kia'i project aims to increase understanding of the role of traditional knowledge of the ahupua'a and its relation to environmental stewardship through community based education programs, habitat restoration work, and the creation of a mural to illustrate these concepts.

Enchanted Lakes Residents Association Invasive Species in Kaelepulu Pond
(Site Visit: September 13, 2005)



Photos of cleared mangrove areas and the Enchanted Lakes perimeter in Kailua

This project will clear invasive mangroves from Kaelepulu Pond and clean floating trash and debris from the pond while providing environmental education to local students about the impacts of trash entering the storm drain system. Approximately 3 acres of mangroves have been cleared from Enchanted Lakes.

UH Hilo Bay Restoration Plan
(Site Visit: September 1, 2005)



Photos of Hilo Bay from different points in the watershed

This project will result in the production of watershed background files and a watershed-based restoration plan for Hilo Bay, which will include identifying the causes and sources of pollutant loads, best management practices to address these loads, and a monitoring component to evaluate the effectiveness of the proposed management measures.

UH Hui Ku Maoli Ola Restoration
(Site Visit: April 8, 2005)



Photos of the Hui Ku Maoli Ola Restoration site located in Waimanalo

This project will result in the restoration approximately 2,000 feet of Waimanalo Stream, the propagation of native plants at the Hui Ku Maoli Ola Native Hawaiian Plant Nursery to replace removed vegetation, and educational outreach to evaluate the effectiveness of the restoration activities

Nine Projects successfully completed this year

Nawiliwili Watershed Project

The University of Hawaii, Water Resource Research Center received \$106,080 from the State's Fiscal Year 1999 grant, to validate and document existing environmental data, identify current sources of pollution and contaminants, and develop a Watershed Based Plan for the Nawiliwili Watershed. The project began in October 2001 and was completed in September 2004. The State has reviewed the plan and feels it meets EPA's requirements for a Watershed Based Plan. Hard copies of the plan can be requested at the State Clean Water Branch, and an electronic version will be posted on the Clean Water Branch website as soon as it is made available by the University. Proposed management measures were divided into 9 classes of implementation activities: education and outreach, prevention of soil erosion and sedimentation from agricultural lands, capital improvements, invasive species control, cesspool elimination, development of a water budget, low impact development standards, habitat protection and restoration and dredging at site-specific locations.

West Maui Strategic Fences and Ungulate and Invasive Species Removal

The West Maui Soil and Water Conservation District in partnership with the West Maui Mountains Partnership received \$200,000 from the State's Fiscal Year 1999 grant, to install strategic fences to remove ungulate and invasive species in West Maui to prevent further degradation of the watershed caused by feral pigs, cattle, goats, and axis deer. The project began in September 2001 and was completed in December 2004. The Kahoma and Wahikuli ridge fences, as well as the Hanaula and Waikapu strategic fences were installed and over 247 animals were removed during the project period. The great success of this project is not easily translated into water quality improvements, and it is really just the beginning of the effort necessary to attain significant improvements in the watershed. Approximately 2.5 miles of strategic fencing was installed to protect 47,000 acres of land from feral animals.

Pelekane Bay Watershed UWA

The Mauna Kea Soil and Water Conservation District received \$200,000 from the State's Fiscal Year 1999 grant, to reduce the soil erosion in the Pelekane Bay Watershed by improving land management practices and restoring vegetative ground cover. The project began in December 2001 and was completed in May 2005. The 2005 Pelekane Bay Watershed Management Plan includes a Watershed Assessment and Inventory that covers; topography and soils; vegetation; precipitation; drainage; cultural resources in Pelekane Bay; land ownership in the watershed; and land use in the watershed. The water quality is impaired mainly by sediment and the resulting turbidity. The plan includes recommendations for restoring and preserving ground cover, fire management, education, and reducing sedimentation. Monitoring was an important component of this project, however, documenting water quality changes on a watershed scale caused by implementation of best management practices is difficult. Due to the affects of other variables in the watershed on water quality, the project measured changes in groundcover quantity and quality and soil loss to measure the effectiveness of their pollution control measures. An ISCO 6712C Compact Sampler, with flow module, was installed to monitor water quality at Makeahua Stream, however, delays in permitting caused delays in the installation and 6-7 sampling opportunities were missed during 2004. No samples have been collect so far.

Watershed Threat Control in East Maui

The University of Hawaii Office of Research Services, Pacific Cooperative Studies Unit, in partnership with the East Maui Watershed Partnership received \$120,000 from the State's Fiscal Year 2000 grant, to control the presence and minimize the threat of alien species in the East Maui Watershed. The project began in May 2003 and was completed in May 2005. The project resulted in the installation of over 2.5 miles of fence, designed to protect a 10,000 acre core area of the East Maui Watershed. Some of education and outreach highlights of the project included participation at 13 community events, conducting 19 hikes for over 300 participants, 22 presentations at 11 schools for over 600 students, hosting a 3 day watershed symposium, and sponsoring an art contest and 3 month art exhibit to share the East Maui Watershed Partnership program and the importance of our watersheds. Baseline data collected on ungulates and weeds can not alone demonstrate a reduction in nonpoint source pollution, however, the construction of fences and active ungulate and weed removal will deter threats to our native forested watersheds.

DOE School Watershed Project 2001-2003

The Department of Education received \$164,046 from the State's Fiscal Years 2000 and 2001 grants, to develop a teacher development program for the Honolulu district schools through which teachers would learn how to assist students in achieving selected content standards in the context of watershed study, which deepens their understanding of nonpoint source pollution and fosters environmental stewardship. The project began in May 2002 and was completed in July 2005. Over the three years, about 3100 students, 166 teachers, and 43 schools participated in the project. The project resulted in various products to measure the success of the training program including a Grade 4 – 5 Teacher's Manual, samples of teacher unit plans, workshop evaluations, data from pre/post teacher surveys and an evaluation of the Watershed Symposium. Overall the average post-assessment test scores were significantly higher than the pre-assessment test scores for all schools.

Hui Ku Maoli Ola Restoration

Hui Ku Maoli Ola received \$120,000 from the State's Fiscal Year 2001 grant, to improve the quality of water in Waimanalo's streams which will promote natural stream habitat and perpetuate cultural practices associated with the stream or vegetation associated with the stream. The project began in January 2003 and was completed in July 2005. Water samples taken during this project showed lower levels of nutrients compared to data from projects 2 or 3 years ago, however, it is difficult to determine what effect this project actually had on water quality. The project had many obstacles to overcome such as delayed delivery of equipment, loss of plant propagules, access issues, and large amounts of weed maintenance. Overall the project succeeded in removing the alien vegetation and opening up the stream so it could flow, and planting non-invasive native plants which appeared to be essential in reducing pollutant loads. Approximately 2,000 linear feet of invasive vegetation was replaced with native species.

Kalihi Community Resource Improvement Stream Project III

Hawaii's Thousand Friends received \$30,000 from the State's Fiscal Year 2001 grant to improve the water quality of Keehi Lagoon by restoring a stretch of Kalihi Stream and riparian area for the purpose of creating an educational facility for area schools and residents and by providing coloring books tailored to the Kalihi watershed. The project began in October 2002 and was completed in October 2004.

Lanai Watershed Restoration

Maui County Department of Water Supply received \$50,000 from the State's Fiscal Year 2001 grant to restore Lanai watershed by preventing further loss of soil and reducing nutrient loads of near shore waters through planting and ground cover, installing fencing and removing weeds that increase fire hazard or that do not provide good erosion protection. The project began in October 2001 and was completed in December 2004.

Kaho'olawe Watershed Restoration at Moa'ulanui

The Kaho'olawe Island Reserve Commission received \$388,220 from the State's Fiscal Years 1999 and 2000 grant to prevent and reduce nonpoint source pollution through the restoration of approximately 125 acres of land on the island of Kaho'olawe. The project began in September 2003 and ended in September 2004. Photographs, vegetation monitoring plots and erosion pin data was used to measure the results of the restoration efforts. Plant cover (expressed as a percentage) was initially collected in the Fall of 2003, and re-monitored in the Spring of 2005. The change in mean cover ranged between an increase of 29.98% to an increase of 99.99% within the various vegetation monitoring plots. A mean soil loss of 6.0mm was found using the erosion pin data, which equates to 1.4 cubic meters per hectare per year of soil lost for the project site. Future monitoring efforts, carried out as part of the current Kaho'olawe project, will provide further erosion data to determine the effects of the restoration on rates of soil loss.

Two projects faced overwhelming challenges

Ala Wai Watershed Mauka Restoration Project

The Koolau Mountains Watershed Partnership received \$120,000 from the State's Fiscal Year 2001 grant, to mitigate forest threats and reduce the current level of feral ungulate activity within the upper portions of the Ala Wai Watershed, and to establish a baseline for forested watershed pollutant loading and monitoring the impacts of these management activities on the water quality of the watershed. The project began in March 2003 and approximately 75% of the project was completed when the contract expired in August 2005. The project expended \$42,697, conducted on average 4 volunteer worktrips each month this year and planted over 1,000 native plants. The project developed a controlled hunting program to decrease the number of pigs in the area, however, during the second season of the program participation was low and the next season was put off to a later date. Monitoring activities have been conducted however no final report was submitted and the State will need to review data submitted to determine if the project was able to effectively establish a baseline and monitor the impacts of the reduction in feral ungulate activity.

Lahaina Watershed Revegetation Project

The Pacific Islands Land Institute received \$109,430 from the State's Fiscal Year 2000 grant, to improve water quality of West Maui by preventing, controlling, and reducing soil erosion in the Lahaina Watershed through revegetation, and by reducing and preventing sediment transport by runoff from fallow agricultural lands into surface and coastal waters. The project began in March 2002 and was completed in July 2005. The project developed a comprehensive Restoration and Management Plan, successfully prepared the area for planting and installed an irrigation system, conducted fourteen presentations on the project, and successfully developed and received approval from Lahainaluna High School for a watershed curriculum. The actual planting planned for this project was not completed due to excessive challenges such as the "unexpected serious illness of two key project implementers, some of the heaviest rains seen in Lahaina for years, institutional inertia of DOE, and long-standing community water issues." (a direct quote from the Final Report) The project expended only \$52,408 and provided \$74,654 in in-kind match.

State approaches full approval of CNPCP

A total of 70 Coastal Nonpoint Pollution Control Program (CNPCP) elements were presented in June 1996 for approval by NOAA and EPA in the Hawaii Coastal Nonpoint Pollution Control Program: Management Plan, including 57 management measures and 13 administrative elements. Initial approvals were given in the Findings for Hawaii's Coastal Nonpoint Pollution Control Program document (June 1998), which also contained conditions for the non-approvable elements. "Interim decision documents" are the tools used by the federal agencies when specific conditions are met. To receive final federal approval for the CNPCP, Hawaii will submit a summary document covering all the management measures and administrative elements as accepted in "interim decision documents" by February 28, 2006. NOAA and EPA will review this document; if they find it acceptable, they will develop a Full Approval Decision Memo and publish a notice of intent in the Federal Register. A 30-day public comment period is provided before Full Approval is granted.

Six management measures were eliminated by National Pollutant Discharge Elimination System (NPDES) Phase II requirements. Of the remaining elements, 24 were found "in conformity with the 6217(g) guidance" in the June 1998 "Findings..." Document, and 10 (Forestry) were covered by an "interim decision document" received in August 2003 for a total of 34 approved elements. Subsequent to the June 2005 CZARA review meeting, NOAA and EPA representatives stated that "interim decision documents" will be sent for Enforceable Policies and Mechanisms and Marina and Recreational Boating Management Measures, which brings the total of approved elements to 40.

As of September 30, 2005, of the remaining 24 elements, 9 are in final or redraft submissions waiting for EPA/NOAA comments, 2 require negotiations with outside entity or await outside action, 12 are draft or redraft submissions in preparation, and 1 is a developing program to satisfy condition.

Of the Management Measures assigned to the Polluted Runoff Control Program all are either with EPA/NOAA for review (On Site Disposal Systems and Roads, Highways and Bridges) or are in final submission form and delivered to EPA/NOAA (Nutrient Management, Erosion and Sediment Control, Grazing). Program staff continue to assist CZM as requested to allow the timely completion of the development of all management measures.

Apoha is a big hit with the community



The program has participated in fifteen various community outreach events this year. Some events are small with less than 100 people reached, and others have over 500 people pass through our display booth. During these community functions the program has very little time with each person and for the most part is simply distributing information. Having Apoha the O'opu, our mascot, with us helps draw a crowd to our booth and children and adults both love to have their picture taken with Apoha.

The program also visits schools upon request to do presentations on nonpoint source pollution. Presentations this year ranged from pre-school aged students to college students, with the bulk of the presentations done for 4th – 6th grade students. It is difficult to measure the impact of our presentation on the actual behavior changes we hope to illicit, however, it does seem that more often people gain a better understanding of nonpoint source pollution. Their behavior will change if they care about our natural resources.

This year the program worked with the University of Hawaii at Manoa, College of Tropical Agriculture and Human Resources (CTAHR) to develop a website that will provide the public with information on our past CWA Section 319(h) funded nonpoint source projects. The CTAHR staff used our files to build the website at <http://www2.ctahr.hawaii.edu/wq/>. We are currently in the process of working out how the site will be updated and maintained.



Training

13th National Nonpoint Source Monitoring Workshop

Tamara Wilbourn represented the PRC program at the 13th National Nonpoint Source Monitoring Workshop, which was held in Raleigh, North Carolina from September 18-22. Highlights of the conference included workshops and presentations on: measuring social indicators of change, reducing nitrogen from agricultural sources (using the Neuse River Basin as a case study), improving water quality through stakeholder involvement, and lessons learned from the National Monitoring Program. As part of the conference, Tamara participated in an agricultural water quality tour, which demonstrated various best management practices, such as riparian buffers, controlled drainage and nutrient management, currently implemented in the Neuse River Basin.

Grants Reporting and Tracking System (GRTS)

Matthew L. Myers attended training for the Section 319(h) Grants Reporting and Tracking System (GRTS). GRTS is the principle reporting vehicle for the 319 program. The State of Hawaii is one of the jurisdictions (under EPA Region 9) with a 319(h) Program.

The EPA sponsored course reviewed and updated users on the use of the following platforms:

- The overall use and operation of the GRTS system, and the complete overhaul of the system, i.e. the transition from a Lotus Notes to Oracle Platform;
- Introduction on how to use the Spreadsheet Tool for Estimating Pollutant Load (STEPL) and the Region 5 Model-load reduction; and
- Introduction to Watershed Assessment, Tracking & Environmental Results (Web-RIT)

Mr. Don Kunkoski, from EPA Headquarters conducted this four-day course. A series of presentations, examples, and practical exercises, were used to update the attendees on GRTS, STEPL/Region 5 Model and Web-RIT. The course used the online web-based platforms to update users on new enhancements to the systems, to practice using the web-based systems and to provide input on the transition of GRTS system to the Oracle platform which will completely change how users view and use the current GRTS system.