

**Hawai'i Department of Health Clean Water Branch
Polluted Runoff Control Program**



**Fiscal Year 2013
October 1, 2012 to September 30, 2013**

END OF YEAR REPORT

hawaii.gov/doh/pollutedrunoffcontrol

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Executive Summary

Fiscal Year (FY) 2013 was a challenging year for the State Department of Health's (DOH) Polluted Runoff Control Program (Program). In January 2013, the Program's Public Participation Coordinator retired, and in July 2013 the Program's Planner retired. Even with less than 50% of its staff, the Program was able to achieve many of its goals and is positioned to successfully continue its mission in 2014.

The Program is actively recruiting for a Planner, and is in the process of converting its Public Participation Coordinator position into a permanent, full-time supervisor position to effectively manage the Program. In the interim, the Program recently added both a Public Participation Coordinator and an Office Assistant as temporary hires to assist the Program with its various obligations.

Five 319(h) funded projects have been completed during this fiscal year. Two of these projects were to develop additional Watershed-Based Plans (WBPs), one was an education and outreach effort directed at schoolchildren, and the remaining two resulted in reductions in nitrogen, phosphorus, and sediment loads in local watersheds. Currently there are fourteen new or ongoing Clean Water Act (CWA) Section 319(h) funded projects. Projects range from implementation of Best Management Practices (BMPs) on agricultural lands, to the construction of bio-swales and raingardens. Specific project descriptions and results are detailed below.

The DOH was awarded \$1,146,000 in a FY13 CWA 319(h) grant from the U.S. Environmental Protection Agency (EPA) for the Program on August 26, 2013. The DOH will provide \$764,000 in non-federal match as required by the grant conditions. This funding will support the Program's staff and overhead; finance polluted runoff watershed implementation projects; and sponsor nonpoint source education and outreach. The DOH currently manages five existing open grants, in addition to this recently-awarded grant. The Program continues to concentrate its grant funds in targeted watersheds, having released a FY13 Request for Proposals (RFP) in June that focused on Maui, and will release another RFP in early FY14 focusing on the Big Island of Hawai'i.

The Program relies on its contractors to provide project monitoring for CWA 319(h) funded projects. However, the Program, along with the DOH Clean Water Branch (CWB), is conducting water quality monitoring in the He'eia Watershed, which was the Program's FY12 RFP priority targeted watershed. The Program's contractors will continue project monitoring to demonstrate effectiveness, but going forward the CWB will conduct technical and long-term stream monitoring to validate water quality improvement and the efficacy of the targeted watershed approach. Specific monitoring details can be found below.

The Program's education and outreach activities, described below, have been revised to increase the effectiveness of the aforementioned targeted watershed approach. The Program continues to support nonpoint source education and outreach efforts to instill behavioral changes at all levels, but at a reduced pace. Quantifying the effectiveness and documenting behavior changes remains a challenge, however the Program strongly believes in its worth.

319(h) Funded Projects

The following table summarizes all completed, continuing, and new projects for FY13. Detailed descriptions and additional information can be found at the following project-specific pages below:

Completed Projects	Key Outcomes/Results/Updates
Conservation on Agricultural Lands in the Honouliuli Watershed (Figure 1, A)	<p>Large landowners in Honouliuli were encouraged to implement large scale BMPs through cost-sharing. The contractor also held field days for professionals to assist with spreading the conservation message. The contractor developed a WBP for the upper Honouliuli Watershed.</p> <p>Approximate Load Reductions: Total Nitrogen: 12,878 lbs/yr Total Phosphorous: 384 lbs/yr Sedimentation: 2,800 tons/yr</p>
Honolulu Theatre for Youth (Statewide)	<p>Performed a five minute play highlighting nonpoint source pollution and its prevention at 150 elementary schools for 30,000 students on Kaua'i, O'ahu, Maui, and Hawai'i.</p>
WBP for the South West Maui (Figure 15, C)	<p>The SW Maui WBP was completed on May 2013 and was conditionally approved by the Program. The watersheds within the SW Maui Plan were added to the Program's FY13 RFP.</p>
WBP for the Hanalei Bay Watersheds (Figure 14, D)	<p>The Hanalei Bay WBP was completed but not approved by the Program due to several missing elements. The Program has been in contact with the contractors to satisfactorily complete the WBP. The Program anticipates that the WBP will be completed and approved prior to the release of the Program's FY15 RFP.</p>
Ka'elepulu Stream On-site Stormwater Retrofit (Figure 1, F)	<p>Bio-swales, pervious pavement, and recessed parking were installed and construction at the parking lot is completed. The Final Report was submitted to the Program in June 2013.</p> <p>Approximate Load Reductions: Total Nitrogen: 250 lbs/yr Total Phosphorous: 50 lbs/yr Sedimentation: 1 ton/yr</p>

Continuing Projects	Key Outcomes/Results/Updates
He'eia Stream Riparian Restoration Phase II (Figure 1, G)	<p>The riparian corridor mauka of the Phase I site is being planted with native sedges and approximately 800 meters of stream bank is being restored on both edges of the stream. Restoration along the corridor continues up to the U.S. Geological Survey (USGS) Stream Gage Station.</p> <p>Approximate Load Reductions: Total Nitrogen: 1,600 lbs/yr Total Phosphorous: 80 lbs/yr Sedimentation: 80 tons/yr</p>
Demonstrating Management Practices at Wailupe Beach Park (Figure 1, E)	<p>The original proposal could not be fully implemented due to unforeseen City and County of Honolulu (CCH) regulatory hurdles. The contract was modified to include similar, allowable practices at an adjacent site (Kuliou'ou Beach Park). Two raingardens were installed at the Wailupe Beach Park and Kuliou'ou Beach Parks.</p>

Continuing Projects (Cont.)	Key Outcomes/Results/Updates
Hawaii Association of Conservation Districts (HACD) Conservation Specialists (Statewide)	<p>The contractor assists the DOH with the approval of conservation plans for local agricultural operations. All four HACD Conservation Specialist positions were filled this year.</p> <p>Approximate Load Reductions: Total Nitrogen: 6,956 lbs/yr Total Phosphorous: 760 lbs/yr Sedimentation: 2,130 tons/yr</p>
Hawai'i Homeowners Raingarden Manual and Implementation (Figure 1, H)	<p>Two raingardens have been installed in the Ko'olaupoko Watershed in public areas (He'eia State Park and Hawai'i Pacific University) for the community to view and to demonstrate practices featured in the approved Raingarden Manual. The manual has been distributed to local community groups and libraries and is also available online. A minimum of ten additional raingardens will be installed at private homeowner residences.</p> <p>Approximate Load Reductions: Total Nitrogen: 60 lbs/yr Total Phosphorous: 30 lbs/yr Sedimentation: 3 tons/yr</p>
Hawai'i Watershed Experience: A Hands-on Elementary Education Project (Statewide)	<p>A two-day educational presentation for students to learn about watershed health and ways to combat nonpoint source pollutants. These presentations continue to be held in priority watersheds on the five major islands.</p>
He'eia Stream Riparian Restoration Phase III (Figure 1, G)	<p>The contractor is currently drafting a plan for removing and replacing mangroves with native plants at the lower He'eia Stream restoration site. The contractor is also procuring equipment and securing manpower for restoration of the hillside scarring.</p>
Maui Monitoring Implementation and Ungulate Fencing Installation (Figure 15, I)	<p>Ungulate fences have been installed in the upper West Maui Mountain Watersheds and in the upper Hana Forest area, and a monitoring plan is being developed.</p>
Windward Mall Raingarden Retrofit (Figure 1, J)	<p>The contractor is drafting a Memorandum of Understanding (MOU) with the Windward Mall property owners to begin raingarden and BMP installation.</p>
Waimanalo Stream Outreach and Restoration Phase II (Figure 1, K)	<p>The contractor has begun implementation of conservation plans. Four farms have committed to cost-share BMP implementation.</p>
Reducing Sedimentation in the Hakioawa Watershed (Figure 15, L)	<p>The contractor submitted a draft monitoring plan for the project. The contractor will revegetate barren lands with native plants and install geotextile rolls. A site visit is being scheduled to observe the work installed in previous 319(h) funded projects and to observe work that will be done in this project.</p>

New Projects	Key Outcomes/Results/Updates
Pelekane Bay Watershed Restoration Project: Phase 3 (Figure 19, N)	<p>The contractor will continue maintenance of previously constructed sediment check dams, install 15 additional check dams, and continue feral ungulate control to decrease loading on Pelekane Bay by approximately 10 tons per check dam.</p>

New Projects (Cont.)	Key Outcomes/Results/Updates
<p>“Curbing” Non-Point Source Pollution in Wahikuli and Honokowai Watersheds: Installation of Curb Inlet Baskets (Figure 15, P)</p>	<p>The contractor shall install storm drain curb inlet baskets at 38 locations throughout the Wahikuli and Honokowai watersheds to decrease sediment and nutrient loading.</p>
<p>Agricultural District Erosion Control in Wahikuli and Honokowai Watersheds: Assessment and Installation (Figure 15, O)</p>	<p>Agricultural roads and fallow fields in Wahikuli and Honokowai are targeted for BMP installation by the contractor to decrease sediment loading. Conservation plan implementation will also be undertaken on priority selected farms.</p>
<p>Manoa Watershed Improvement Project (Figure 1, M)</p>	<p>This project aims to restore riparian corridors in the upper Ala Wai Watershed by implementing BMPs from the property owner’s conservation plan.</p>

Projects on the Island of O'ahu

Total 319(h) funds allocated to projects on O'ahu: \$2,490,315

Total matching funds for 319(h) projects on O'ahu: \$1,713,532

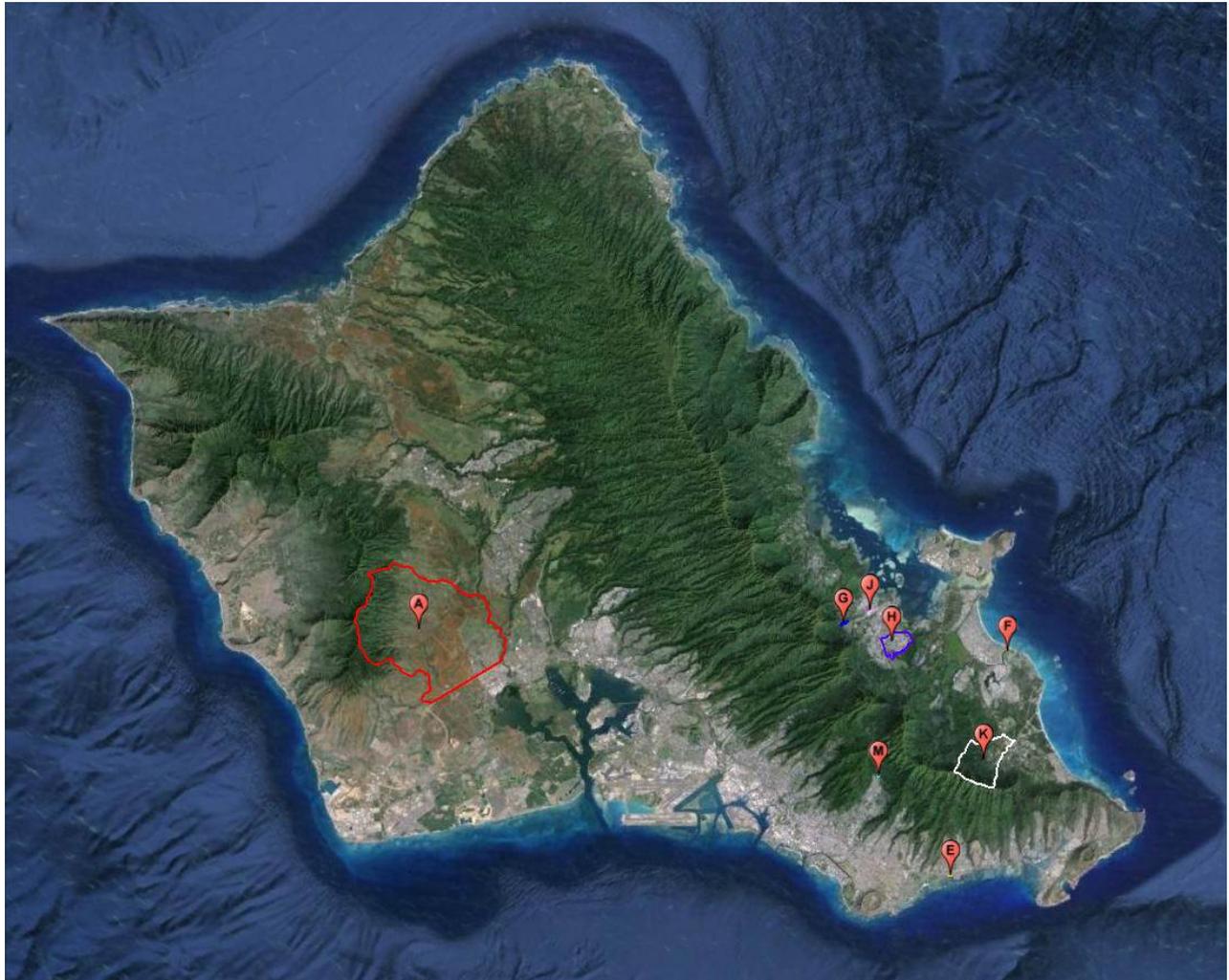


Figure 1: Locations of all 319(h) funded projects on the Island of O'ahu.

Conservation on Agricultural Lands in Honouliuli

(Figure 1, A)

O'ahu Resource Conservation & Development Council (O'ahu RC&D)

Duane Okamoto, Executive Director

P.O. Box 209, Kunia, HI 96759

(P) 808-622-9026

<http://www.oahurcd.org>

319(h) Funds: \$522,577

Match: \$663,259

Start/End: 5/13/2010 - 6/28/2013

Location: Upper Honouliuli Watershed, O'ahu

Partners: CWB, U.S. Department of Agriculture Natural Resources Conservation Service (NRCS), AECOM, HACD, Dow, Monsanto

Pollutants Addressed:

Total Nitrogen (TN), Total Phosphorous (TP), and Sediment

The upper Honouliuli Watershed is a combination of large agricultural (large corn-seed production) and State conservation lands. This project assisted the agricultural landowners with installation of structural BMPs arising from their conservation plans. In the first quarter of 2012 the contractor released an RFP for major agricultural producers to cost-share conservation practices outlined in conservation plans using 319(h) funds. Four sites were chosen and nearly 1,500 acres of agricultural land has been remediated with recommended BMPs, including cover cropping, terracing, and grassed waterways.



Figure 2: Vetiver strips are used to control the flow of water and act as wind breaks.

The project also resulted in a WBP for the Upper Honouliuli watershed area. The plan's Watershed Characterization notes that the area is dominated by agricultural influences and points to large landowners who already have conservation plans. The WBP has been approved and will allow for the Honouliuli watershed to receive further 319(h) funding in future Program RFPs.



Figure 3: Grassed waterways and cover crops retain pollutants and prevent runoff in agricultural lands in the Honouliuli Watershed.



Figure 4: Sedimentation basin and terracing at Monsanto Farms in the Honouliuli Watershed.

Environmental Results:

Load reductions were modeled using soil map classifications, grades and selected BMPs. Estimated Nitrogen reduction was measured at 12,878 lbs., Phosphorous reduction was measured at 384 lbs. and sediment load reductions were modeled at 2,800 tons per year.

He'eia Stream Riparian and Water Quality Improvements Phases II & III (Figure 1, G)

Hui O Ko'olaupoko
 Todd Cullison, Director
 1051 Keolu Drive #208, Kailua, HI 96734
 (P) 808-277-5611
www.huihawaii.org

Phase II 319(h) Funds:	\$215,526	Phase III 319(h) Funds:	\$747,026
Phase II Match:	\$232,238	Phase III Match:	\$284,372

Phase II Start/End:	5/7/2012 – 5/7/2014
Phase III Start/End:	6/20/2013 – 6/19/2016

Location: He'eia Watershed, O'ahu

Partners: CWB, Hui Ku Maoli Ola, Hawai'i Pacific University

Pollutants Addressed: TN, TP, and Sediment

The He'eia Stream is listed in the DOH's 303(d) list for TN, Nitrates + Nitrites, TP, Turbidity, and Total Suspended Solids. There is an effective WBP for the Ko'olaupoko Watershed. Implementation at He'eia is necessary due to stream bank erosion and overgrowth of non-native invasive species. The contractor is stabilizing stream banks and riparian areas along He'eia Stream by removing harmful non-native, invasive plant species and replacing them with native plants, which have a greater potential to reduce erosion and increase nutrient uptake. The contractor is also educating the nearby community about nonpoint source pollutants via pamphlets, hosting public site visits, and meetings with nearby homeowners to discuss proper fertilizer usage. Over 10,000 volunteer hours have been contributed to these projects. In Phase II of the project, an additional 800 meters of stream banks are being restored with native vegetation.



Figure 5: He'eia Stream riparian restoration. (June 2011)



Figure 6: Lower section of the He'eia Stream riparian area with installed coir logs and native shrubs. (October 2013)

In Phase III of the project, the contractor will work in both the upper and lower watershed areas. The upper watersheds have large erosional scars due to invasive vegetation on steep gradients with shallow roots that create unstable land. The project will stabilize the scarring by installing approximately 24,000 square feet of erosion control matting planted with native vegetation. Sedimentation basins measuring approximately 6,000 square feet each will be installed at the base of the scars to remove most of the erosional inputs. The lower watershed is dominated by mangroves and other non-native invasive vegetation. The contractor will assess and report to the Program whether removing the current vegetation and replacing the vegetation with native plants will provide a net water quality benefit. If the contractor can demonstrate a positive benefit from the replacement of vegetation then approximately four acres of wetlands within the lower watershed will be cleared of mangroves and replanted with native plants.



Figure 7: He'eia Stream Restoration Phase II mauka section near the USGS stream gage station. (October 2013)

Environmental Results:

Ground cover has increased in the riparian areas, and plants rooting into the substrates have improved overall water quality by decreasing sediment loads and water movement from the stream banks during rain. Load reduction estimates have been conducted by the contractor on site and sediment loading is estimated to have been reduced by approximately 16 tons per year. TN was estimated to be reduced by 1,600 lbs. and TP was estimated to be reduced by 800 lbs. Re-vegetation with native plants has also increased diversity in the stream bank areas, increasing the possibility for native flora and fauna to return to their natural habitats. Native shrubs and sedges planted include Ti, Hinahina, Kalo, Hapu'u ferns and Kukui trees.

Hawai'i Homeowner Raingarden Manual and Implementation (Figure 1, H)

Hui O Ko'olaupoko
 Todd Cullison, Director
 1051 Keolu Drive #208, Kailua, HI 96734
 (P) 808-277-5611
www.huihawaii.org

319(h) Funds: \$107,064
 Match: \$119,687

Start/End: 3/1/2011 - 8/31/2015

Location: Ko'olaupoko Watershed, O'ahu

Partners: CWB, Hui Ku Maoli Ola

Pollutants Addressed:
TN, TP, and Sediment

Hui O Ko'olaupoko developed a manual that specifically addresses each island's Windward, Leeward, Mauka (mountain), and Makai (ocean) locations so homeowners may customize a raingarden to thrive in their specific location. Raingardens have been installed in the He'eia State Park and at Hawai'i Pacific University's Windward Campus to demonstrate the practices featured in the manual to the community. A minimum of ten additional raingardens will be installed in participating residences in the Pikoiloa neighborhood, with an additional forty installed in homes by cost-share throughout the Ko'olaupoko Watershed.

Hawai'i's Residential Raingarden Manual is available online at:
<http://www.huihawaii.org/uploads/1/6/6/3/16632890/raingardenmanual-web-res-smaller.pdf>



Figure 8: A demonstration raingarden installed at the entrance to the He'eia State Park pavilion, planted with native vegetation from a local nursery (Hui Ku Maoli Ola).

The raingarden manuals have been distributed to local public libraries and community groups for use by the public. The contractor is working with the community to increase raingarden awareness and installation throughout the Ko'olaupoko Watershed.

Environmental Results:

Raingardens have been installed in the He'eia State Park and at Hawai'i Pacific University. The finalized manual has been distributed to the public state library system and other various public information systems. Pollutant load reductions were calculated by Hui O Ko'olaupoko, with TN reduction estimated at 60 lbs., TP reduction estimated at 30 lbs., and sedimentation reduction estimated at 3 tons.

Ka'elepulu Stream On-site Stormwater Retrofit
(Figure 1, F)

Hui O Ko'olaupoko
Todd Cullison, Director
1051 Keolu Drive #208, Kailua, HI 96734
(P) 808-277-5611
www.huihawaii.org

319(h) Funds: \$89,840
Match: \$91,575

Start/End: 6/9/2009 - 6/28/2013

Location: Ka'elepulu Watershed, O'ahu

Partners: CWB, Hui Ku Maoli Ola, CCH, Hughes and Hughes Landscaping Co., Mid-Pacific Country Club

Pollutants Addressed:
TN, Sediment, and Vehicular Residue

Ka'elepulu Stream is listed on the DOH's 303(d) list for nutrients and turbidity. Very few areas on the banks of Ka'elepulu stream are publicly accessible; therefore there are limited areas where restoration and BMPs can be installed. Hui O Ko'olaupoko proposed to retrofit one of these accessible areas to decrease sediment and nutrient loading from a CCH-owned parking lot.



Figure 9: Sediment plume from the parking lot adjacent to the Ka'elepulu Stream. The parking lot was retrofitted with setback parking stalls, porous pavement, and grassed swales to filter stormwater and decrease potential loads.

The contractor implemented a landscaping plan created by Hughes and Hughes Landscaping Co. and Hui Ku Maoli Ola. Parking stalls were setback approximately three meters from the stream and BMPs (bio-swales and vegetated buffers) were installed at the stream bank. The contractor acquired additional funding from the Hawai'i Tourism Agency to install porous pavement in the parking area. The construction was completed in October 2012 and the project is now complete. A final report was submitted to the DOH in June 2013.



Figure 10: Ka'elepulu Stream parking lot site location prior to beginning construction. Note the compacted, sandy area and close proximity of vehicles to the waterway.

Environmental Results:

By relocating the parking stalls further away from the stream, harmful liquids and metals from leaking vehicles may be absorbed and diluted by the implemented BMPs. The buffer is also increasing filtration during storm events and decreasing water movement from the parking lot into the stream. Approximately 250 lbs. of TN, 50 lbs. of TP, and 1 ton of sediment have been prevented from entering the stream.



Figure 11: Ka'elepulu parking area after construction completion. Note the parking setback, newly-planted native vegetation, porous pavement, and mini-sedimentation basins near the outfalls.

Waimanalo Stream Restoration and Community Outreach Phase II

(Figure 1, K)

O'ahu Resource Conservation & Development Council

Duane Okamoto, Executive Director

P.O. Box 209, Kunia, HI 96759

(P) 808-622-9026

<http://www.oahurcd.org>

319(h) Funds: \$155,975

Match: \$51,100

Start/End: 4/30/2013 – 4/29/2015

Location: Waimanalo Watershed, O'ahu

Partners: CWB, Hui O Ko'olaupoko, NRCS, Windward O'ahu Soil and Water Conservation District

Pollutants Addressed:

TN, TP, and Sediment

In Phase I of the project, cooperators assisted eight farmers with the installation of agricultural BMPs in areas of concern. All farmers who received funding in Phase I continue operating and maintaining the installed BMPs. In Phase II, four farms have been pre-selected and will receive a portion of 319(h) funding to cost-share the installation of BMPs from their conservation plans. The project calls for the installation of compost structures, soil remediation and mulching, riparian area protection (installing riparian vegetative buffers), and slope stabilization. Field days are planned for 2014 to demonstrate the effectiveness of the installed BMPs and inform other local farmers of the assistance programs that improve water quality.

Environmental Results:

Estimated load reductions arising from the planned implementation projects are approximately 75 lbs. of TN, 35 lbs. of TP and 110 tons of sediment, once the BMPs are installed.

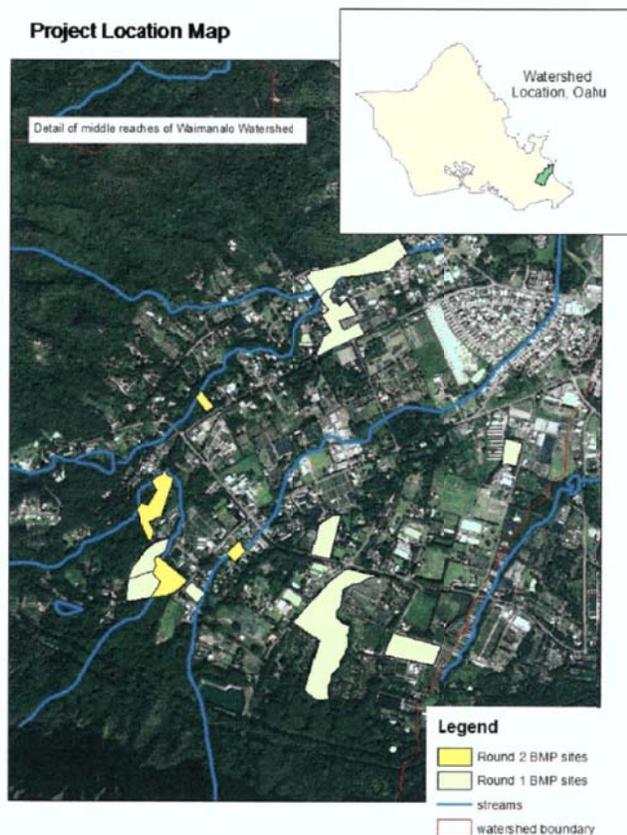


Figure 12: Locations of the farms within the Waimanalo Watershed that have or will be receiving BMP implementation agreements.

Demonstrating Management Practices at Wailupe Beach Park

(Figure 1, E)

Sustainable Resources Group Int'l, Inc. (SRGII)
Kristin Duin, Principal
111 Hekili Street, Suite A373, Kailua, HI 96734
(P) 808-356-0552

www.srgii.com

319(h) Funds: \$131,877
Match: \$133,785

Location: Wailupe Watershed, O'ahu

Start/End: 6/16/11 - 9/30/14

Partners: CWB, CCH, Malama
Maunalua, CPK Planning,
Project Management Plus
LLC, Geotech Solutions Inc.

Pollutants Addressed:

TN, Sediment, and Vehicular Residue

Per the applicable WBP, Wailupe Beach Park is one of only a few publicly accessible locations in the Wailupe Watershed. With the assistance and approval of the CCH's Parks and Recreation Division, the contractor designed, installed, and is maintaining demonstration BMPs at the Wailupe Beach Park on the south shore of O'ahu. An infiltration swale was constructed around the existing parking lot. Due to permitting restrictions, coir logs that were proposed to be installed at the Wailupe Beach Park were relocated to the Kuliou'ou Beach Park and are being used to direct storm flow into a raingarden. Because Maunalua Bay is the receiving water from both BMP installation sites, the relocation of this portion of the project was deemed permissible by the Program. The project continues to receive support from the local community group Malama Maunalua, which is currently maintaining the installed raingardens.

Environmental Results:

The Wailupe and Kuliou'ou Beach Parks are prime candidates for installing BMPs due to their proximity to Kalaniana'ole Highway, a highly-traveled roadway by residents and tourists. Two Raingardens were installed at the beach parks to reduce loads entering the Wailupe and Kuliou'ou Streams, and ultimately Maunalua Bay.

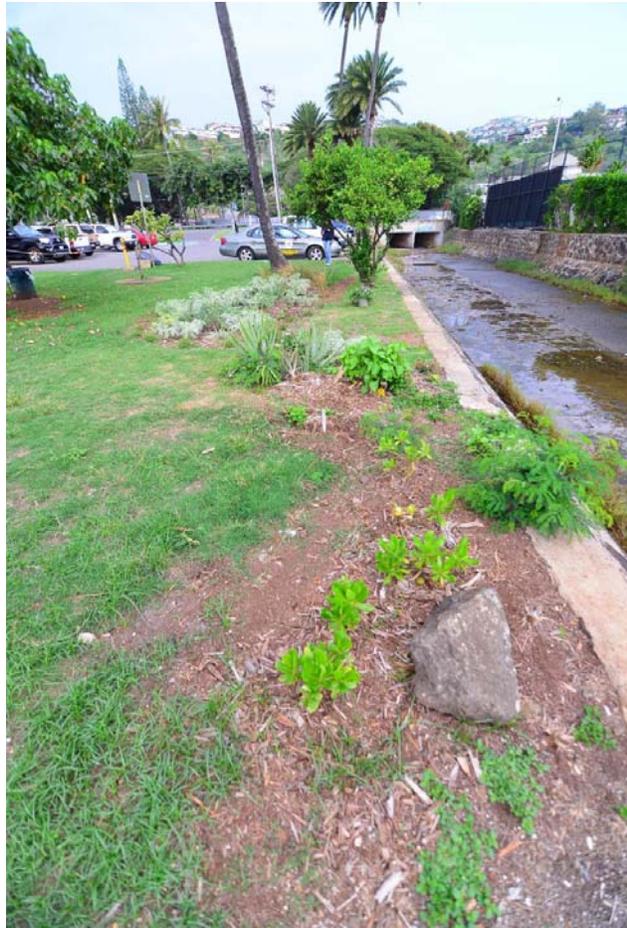


Figure 13: Raingarden installed at Wailupe Beach Park. (October 2013)

Manoa Watershed Improvement Project

(Figure 1, M)

Ala Wai Watershed Association, Inc.
Karen Ah Mai, Executive Director
2146 St. Louis Drive, Honolulu, HI 96816
(P) 808-955-7882
www.alawai.org

319(h) Funds: \$298,212
Match: \$75,000

Location: Manoa Watershed, O’ahu

Start/End: TBD

Partners: NRCS, O’ahu RC&D, CCH Department of Environmental Services, U.S. Army Corps of Engineers, South O’ahu Soil and Water Conservation District, Department of Land and Natural Resources (DLNR)

Pollutants Addressed:
Sediment

Manoa Stream is listed in the DOH’s 303(d) list for TN, Nitrates+Nitrites, TP, and Turbidity. Both the WBP and the Total Maximum Daily Loads (TMDL) identify conservation area sediment as a major pollutant affecting the water quality of Manoa Stream and ultimately the Ala Wai Canal. The goal of this project is to reduce sedimentation loading by improving and stabilizing 1,800 feet of stream banks and forest buffers in and adjacent to a private parcel operated by Paradise Park. This will be accomplished via the removal of invasive species, row planting of native flora on sloping and near-vertical banks, installing vegetated buffers and erosion matting while new plants take root, and removing trees and canopies to increase sunlight.

Environmental Results:

Implementing these management measures will decrease erosion of sediment in the upper conservation areas of the watershed. Community education will also be a key to increase stewardship of the watershed on a local level.

Windward Mall Raingarden Retrofit

(Figure 1, J)

Hui O Ko’olaupoko
Todd Cullison, Director
1051 Keolu Drive #208, Kailua, HI 96734
(P) 808-277-5611
www.huihawaii.org

319(h) Funds: \$222,218
Match: \$62,516

Start/End: 6/21/2013 – 6/20/2015

Location: Ka’elepulu Watershed, O’ahu

Partners: CWB, Hui Ku Maoli Ola, Kamehameha Schools Bishop Estate, Roth Ecological Design Inc., Green Girl Land Development Solution

Pollutants Addressed:
TN, Nitrate+Nitrite, TP, Sediment, and Vehicular Residue

Windward Mall is located in the He'eia Watershed and is the largest single location of impervious surfaces in the watershed. The primary focus of this project is to reduce the amount of nonpoint source pollutants entering into the Kahuhipa Stream from parking lots at the Windward Mall by mimicking the natural processes of infiltration. Three raingardens with six BMPs have been strategically sited to address stormwater flows and impervious surface runoff. The project will also inform the public about nonpoint source pollutants in a highly visible area via interpretive signs, an informational kiosk, and landowner presentations.

Environmental Results:

The installed BMPs will treat and reduce nonpoint source pollutants from entering the stream by capturing and infiltrating stormwater. This will be accomplished by replacing impervious surfaces with raingardens composed of engineered soils for infiltration and planting native plants for phyto-remediation. The six existing storm drains currently drain directly into Kahuhipa Stream from channelized and hardened conveyances. Once the raingardens are installed, storm flow should be greatly reduced at each drainage site.

Project on the Island of Kaua'i

Total 319(h) funds allocated to projects on Kaua'i: \$118,278
Total matching funds for 319(h) projects on Kaua'i: \$127,700



Figure 14: Location of the 319(h) funded project on the Island of Kaua'i.

WBP for Hanalei Bay Watersheds

(Figure 14, D)

Hanalei Watershed Hui
Makaala Kaaumoana, Executive Director
P.O. Box 1285, Hanalei, HI 96714
(P) 808-826-1985
www.hanaleiwatershedhui.org

319(h) Funds: \$118,278
Match: \$127,700

Start/End: 6/16/11 - 12/31/12

Location: Hanalei Bay Watersheds, Kaua'i

Partners: CWB, SRGII, Sunshine Helicopters, Ho'ike, Hanalei to Ha'ena Community Association

The Hanalei Bay Watersheds are on the DOH's 303(d) impaired water bodies list for Enterococci and turbidity, and are located on the northern coast of the Island of Kaua'i and include the Hanalei, Waiole, Waipa, and Waikoko sub-watersheds. An approved WBP was to be developed using the EPA's 9 key elements, incorporating data from the Hanalei Bay TMDL and including a BMP strategies and implementation plan for priority areas to decrease potential nonpoint source pollutant loading into the Hanalei Bay.

The WBP's Watershed Characterization notes that there are several major contributors to water quality issues in the Hanalei Bay Watersheds. These include taro farmers over-fertilizing their crops, numerous residential Onsite Disposal Systems (OSDS), and feral ungulate input from conservation lands.

The WBP's Implementation Strategies section of the plan failed to meet the 9 key elements and the WBP was not approved by the Program. The contractors will meet with the Program in early FY14 to discuss how the plan can be approved, by including TMDL loadings and estimated load reductions based on the TMDL loading numbers. The Program anticipates that the contractor will complete an approved WBP prior to the release of the Program's FY15 RFP.

Environmental Results:

The Program expects to receive a WBP that meets the EPA's 9 key elements, with an implementation plan that clearly states where the issues are located, a priority list of nonpoint source pollutant issues and BMPs to effectively remediate these issues, BMP cost estimates, and potential load reductions from each proposed BMP. These documents are anticipated to provide a blueprint for local groups and organizations to install water quality BMPs throughout the Hanalei Bay Watersheds.

Projects on the Islands of Maui & Kaho'olawe

Total 319(h) funds allocated to projects on Maui & Kaho'olawe: \$1,262,236
Total matching funds for 319(h) projects on Maui & Kaho'olawe: \$900,372

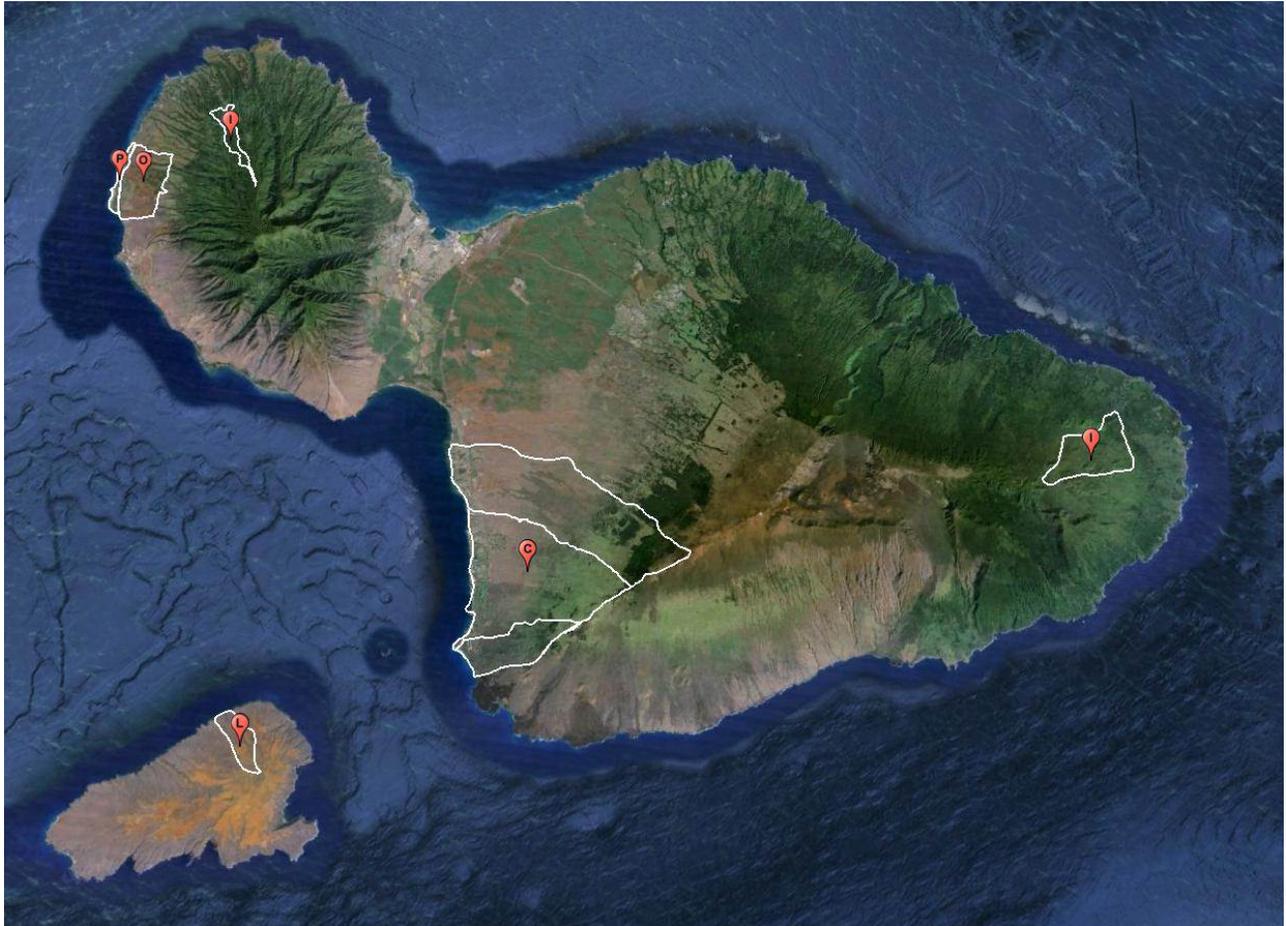


Figure 15: Locations of all 319(h) funded projects on the Islands of Maui and Kaho'olawe.

Maui Monitoring Implementation and Ungulate Fencing Installation **(Figure 15, I)**

University of Hawai'i (UH) and the Hawai'i Association of Watershed Partnerships (HAWP)
Chris Brosius and Randy Bartlett, Program Managers
1151 Punchbowl Street, Room 325, Honolulu, HI 96813
(P) 808-388-9699
www.hawp.org

319(h) Funds: \$250,000
Match: \$255,452

Start/End: 4/20/2010 – 6/30/2014

Location: Hana Forest Reserve and Honolua Watershed, Maui

Partners: CWB, UH, East Maui and West Maui Mountains Watershed Partnerships, DLNR, U.S. Fish and Wildlife Service, National Park Service, EPA, USGS

Pollutants Addressed:
TN, TP, and Sediment

HAWP is drafting a comprehensive monitoring plan that will be available for other nonpoint source pollutant control projects throughout the State. The contractors will develop chemical, physical, and hypothetical (pollution load models) monitoring practices for the State and other interested parties to characterize watershed projects and nonpoint source pollutant reduction implementation. In addition, the HAWP East Maui and West Maui Mountain Watershed Partnerships have installed fencing and continue with feral ungulate removal in those fenced areas. Using specific methods outlined in the monitoring plan, the Maui watershed partnerships are assessing the efficacy of their fencing projects. Currently the project has completed fencing in the upper West Maui Mountains and has nearly completed fencing the upper Hana Watershed. The monitoring plan has been drafted and reviewed by the Program, and comments have been sent to the contractor.



Figure 16: Looking towards a fencing site just outside of the Honolua Bay Watershed.

Environmental Results:

The removal of feral ungulates (wild pigs, *Sus scrofa*) will lead to a reduction of erosion. Furthermore, the development of local monitoring guidelines customized for the State's climate and watersheds will assist cooperators across the State with developing monitoring plans. Approximately ten miles of fencing has been erected in the Honolua and Hana upper forest areas, which will keep non-native and destructive animals out of high priority areas.

WBP for South West Maui

(Figure 15, C)

Central Maui Soil and Water Conservation District
Richard Sylva, Project Coordinator
77 Hookele Street, Suite 202, Kahului, HI 96732
(P) 808-871-5500
www.hacd.hawaii.com

319(h) Funds: \$194,356

Match: \$194,392

Start/End: 10/13/2009 - 4/15/2013

Location: Hapapa, Wailea, and Mo'oloa Watersheds, Maui

Partners: CWB, HACD, County of Maui, UH, U.S. Army Corps of Engineers, DLNR, Ulupalakua Ranch, Board of Water Supply, USGS, Kula Community Association, Kihei Community Association, Department of Hawaiian Homelands

The Hapapa, Wailea, and Mo'oloa Watersheds are located on the southern coast of the Island of Maui, which was the focus of this WBP. A WBP was developed using the EPA's 9 key elements, and included proposed BMP implementation in priority areas to decrease potential nonpoint source pollutant loading into Southwest Maui's waters.

The WBP's Watershed Characterization section provides information regarding nonpoint source pollutant sources, and describes agricultural practices and conservation plan implementation in the upper watershed. The Characterization also notes that there are several areas that may be converted into wetlands near urbanized areas.

The Implementation Section still requires some revisions; therefore the plan was conditionally approved. Recommendations were sent to the contractor to address load reduction numbers for specific recommended BMP implementation projects, and to further develop its priority project list.

Environmental Results:

The Program received a WBP that characterized the watershed conditions and detailed some implementation projects. Although the implementation section lacked a priority list of nonpoint source pollutant issues and prioritized BMPs, the plan was conditionally approved with a subsequent request for more specifics.

Reducing Sedimentation in the Hakioawa Watershed
(Figure 15, L)

Kahoolawe Island Resource Commission
Lyman Abbott, Project Manager
844 Kolu Street, Suite 201, Wailuku, HI 96793
(P) 808-243-5020
<http://kahoolawe.hawaii.gov/>

319(h) Funds: \$204,188
Match: \$246,600

Start/End: 4/1/2013 - 4/1/2015

Location: Hakioawa Watershed, Kaho'olawe

Partners: USGS, DLNR

Pollutants Addressed:
TN, TP, and Sediment

Hakioawa Watershed is largely impacted by soil erosion because of high winds, low rainfall, and lack of wind protection due to low elevations. Over the last decade, the contractor has been revegetating Kaho'olawe by planting in priority areas and removing feral ungulates (primarily goats and sheep). Previous projects



Figure 17: Endangered Kamanomano grass will be used in high-wind areas such as Hakioawa. Note the barren landscape around the grass.

sponsored by the Program focused on the Kaulana and Hakoawa Watersheds for 50 hectares and 100 hectares of restoration and revegetation, respectively.

Within the Hakoawa Watershed there is a large area of barren land that was prioritized in the Hakoawa WBP. This project will revegetate the area with native plants that can survive Kahoolawe's harsh growing conditions.

Environmental Results:

Approximately 20,000 native plants will be planted to restore ground cover in the watershed. Geotextile rolls will be included to decrease sedimentation rates by slowing and retaining water flows and facilitating infiltration into the porous ground.



Figure 18: Geotextile rolls like the one pictured will be planted with natives to stabilize gullies and slow erosion.

Agricultural District Erosion Control in Wahikuli and Honokowai Watersheds: Assessment and Installation (Figure 15, O)

SRGII

Kristin Duin, Principal

111 Hekili Street, Suite A373, Kailua, HI 96734

(P) 808-356-0552

www.srgii.com

319(h) Funds: \$376,143

Match: \$108,239

Start/End: TBD

Location: Wahikuli and Honokowai Watersheds, Maui

Partners: West Maui Watershed Coordinator (Tova Callendar), NRCS, West Maui Soil and Water Conservation District

Pollutants Addressed:

TN, TP, and Sediment

The Wahikuli and Honokowai Watersheds have an approved WBP and the agricultural districts in the watersheds were prioritized as problem areas that contribute large sediment loads from derelict agricultural roads and fallow fields. The Wahikuli Stream is not listed on Hawai'i's 303(d) list for any known pollutant, but the Honokowai Stream is listed visually for turbidity.

This project will reduce loads originating from the agricultural sections of the two watersheds by prioritizing critical eroding agricultural roads and lots. There are approximately 170 miles of relic agricultural roads eroding at differing rates. A systematic inventory assessment of the roads and fields will be conducted to catalogue conditions and rank and prioritize sites for BMP installation as part of the project.

Environmental Results:

BMPs being planned for installation include: road surface improvements (grading, crowning, cross-sloping, and installing ditches and improved outlets), road drainage improvements (broad-based dips, water bars, energy dissipaters, road grading, drainage ditches, detention basins, and energy dissipaters), sediment retention basins, conservation cover, contour furrows, and vegetated filter strips. Approximately 150 tons of sediment will be removed with BMP implementation and roadway remediation.

“Curbing” Nonpoint Source Pollution in Wahikuli and Honokowai Watersheds: Installation of Curb Inlet Baskets (Figure 15, P)

SRGII

Kristin Duin, Principal
111 Hekili Street, Suite A373, Kailua, HI 96734
(P) 808-356-0552
www.srgii.com

319(h) Funds: \$237,549
Match: \$95,689

Start/End: TBD

Location: Wahikuli and Honokowai Watersheds, Maui

Partners: West Maui Watershed Coordinator (Tova Callendar), County of Maui, Ka’anapali Operations Association, State Department of Transportation (DOT)

Pollutants Addressed:

Sediment and Trash

The Wahikuli and Honokowai Watersheds have an approved WBP, and while installing curb inlet baskets was listed as a lower priority BMP, the project was awarded due to ease of access and proposed impact on reducing nonpoint source pollution. The WBP labeled storm drains throughout the two watersheds to denote where curb inlet baskets should be installed. Targeted areas include roads owned by the County of Maui and the DOT, resort and residential condominiums, and commercial properties. Letters of support were obtained by the contractor to initially install a few baskets in several proposed areas, and the contractor will secure the permission to install approximately 38 baskets in total throughout the watersheds.

Environmental Results:

The project aims to install approximately 38 curb inlet baskets to remove sediment, trash, and other urban pollutants. The baskets will filter pollutants carried in stormwater runoff mainly from impervious and pervious surfaces (roads, parking lots, etc.) as it enters storm drains and before it flows to the ocean.

Project on the Island of Hawai'i

Total 319(h) funds allocated to projects on Hawai'i: \$76,420
Total matching funds for 319(h) projects on Hawai'i: \$43,818

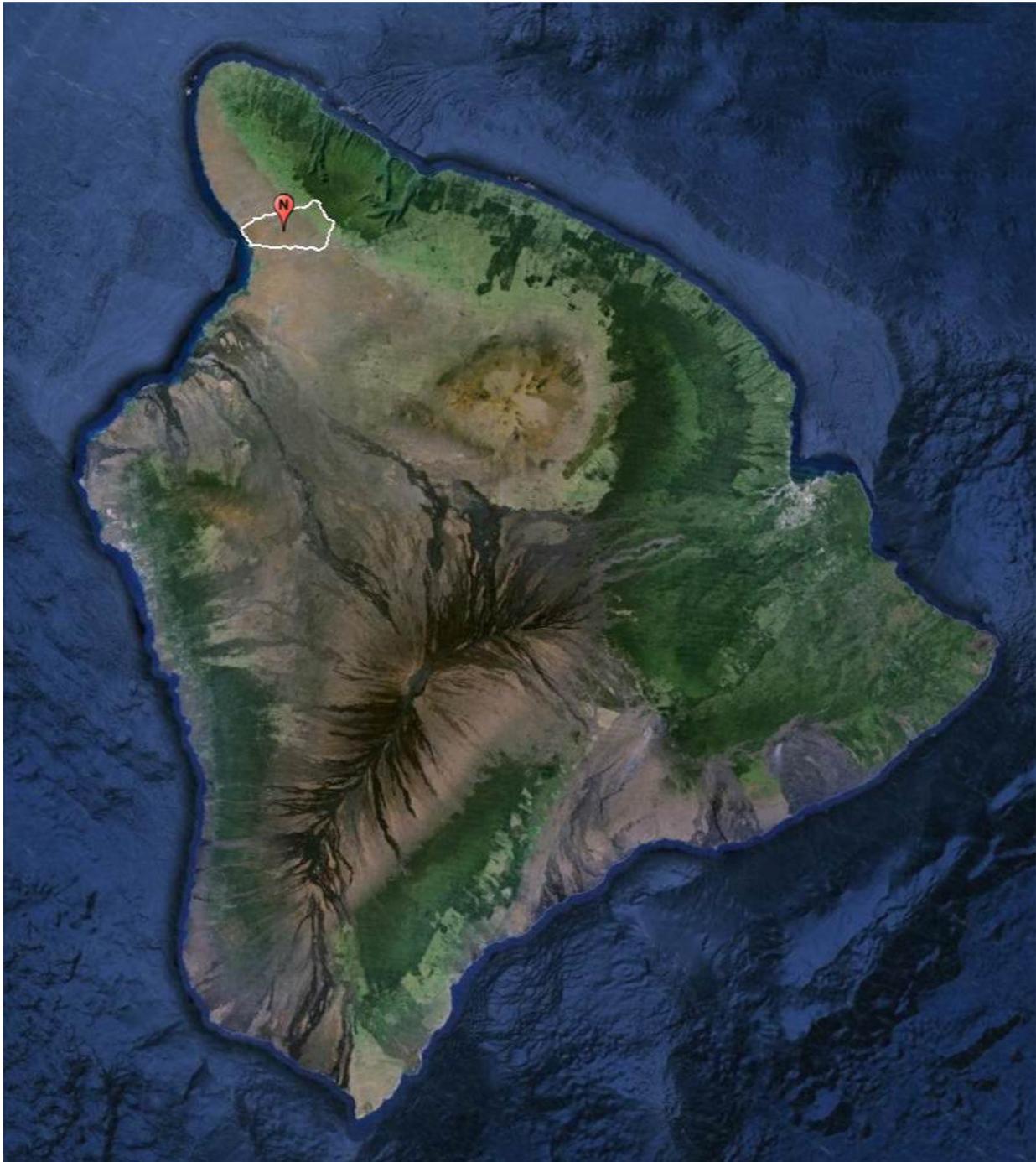


Figure 19: Location of the 319(h) funded project on the Island of Hawai'i.

Pelekane Bay Watershed Restoration Project, Phase 3

(Figure 19, N)

The Kohala Center, Inc.
Melora Purell, Project Coordinator
P.O Box 437462, Kamuela, HI 96743
(P) 808-887-6411

www.kohalacenter.org

319(h) Funds: \$76,420

Match: \$43,818

Start/End: TBD

Location: Pelekane Bay Watersheds, Hawai'i

Partners: NRCS, Mauna Kea Soil and Water Conservation District, DLNR, Parker Ranch, Kohala Watershed Partnership

Pollutants Addressed:

TN, TP, and Sediment

Pelekane Bay is listed in Hawai'i's 303(d) list for Enterococci, TN, Nitrates+Nitrites, TP, Chlorophyll A, and Ammonia. Extensive areas of bare soil at lower, drier elevations developed over time by fire, uncontrolled populations of feral goats, and drought. This contributes large loads of sediment and nutrients in downstream waterways and nearshore environments when storms generate runoff. Watershed restoration and erosion mitigation measures have been implemented to address the threats to water quality. In this project, the contractor will maintain a perimeter fence to control feral goats and sequester sediment via the creation and maintenance of sediment check dams in the watershed.

Environmental Results:

A minimum of 15 sediment check dams will be installed to decrease erosion in high priority areas of the watershed. The sediment check dams will reduce approximately 10 tons per rain event per dam. The contractor will also maintain the existing ungulate fence and continue with feral ungulate control.



Figure 20: An existing sediment check dam designed to mitigate runoff.

Statewide Projects

Total 319(h) funds allocated to Statewide Projects: \$515,652
Total matching funds for 319(h) Statewide Projects: \$30,470
Total State funds allocated to Statewide Projects: \$505,121

Hawai'i Watershed Experience

Healthy Hawai'i Coalition
Ali Riggs, Project Manager
P.O. Box 75505, Kapolei, HI 96707
(P) 808-778-4243
www.healthyhawaiicoalition.com

319(h) Funds: \$25,040
Match: \$30,470

Start/End: 6/29/2012 – 6/29/2014

Location: Hilo Bay Watersheds, Honokowai Watershed, Wahikuli Watershed Waiulaula Watershed, Nawiliwili Watersheds, Hanalei Bay Watersheds, Ko'olaupoko Watersheds, and the Ala Wai Watershed

Partners: CWB

Pollutants Addressed (Indirectly):
TN, TP, and Sediment

The Hawai'i Watershed Experience: A Hands-on Elementary Education Program introduces the concepts of the watershed and ahupua'a to elementary school students throughout the State. The contractor addresses various nonpoint source pollutant issues, including storm drain education, erosion control, and nutrient management. The program consists of three days. On the first day a short play titled "The Adventures of Waterwoman and Oily Al" is presented to the students. The second day consists of a field trip to a local, easily accessible area where the students are introduced to concepts such as erosion, nutrient and fertilizer control, and the local ecology. The third day consists of reviewing materials and lessons learned from the first two days. The goal of the project is to raise awareness in the State's priority watersheds. The contractor aims to increase general and base knowledge of watersheds and nonpoint source pollutant issues. The project is specifically targeted to children in the fourth and fifth grades.

The Program has been funding this project for approximately eight years. During that time the contractor has shown that the students retain much of what was learned from the presentations, but not for longer than a school year. The Program has been working with the contractor to include additional follow-up testing with children who have previously participated in the program to gauge and further detail the retention of the information acquired from the initial presentations.

Environmental Results:

This type of education and outreach project is challenging to quantify specific environmental impacts. Nonetheless, the Program strongly believes in the importance of influencing behavioral changes at a young age, and the contractor is monitoring its effectiveness via surveys to develop data.

Nonpoint Source Pollution Educational Playlet

Honolulu Theatre for Youth
229 Queen Emma Square, Honolulu, HI 96813
(P) 808-839-9885
www.htyweb.org

319(h) Funds: \$20,000
Match: N/A

Start/End: 8/1/2012 - 11/30/2012

Location: Statewide

Partners: CWB, CCH

Pollutants Addressed (Indirectly):
Sediment and Trash

The Honolulu Theatre for Youth produced and performed a five minute educational playlet that defined nonpoint source pollution and described mitigation efforts for schoolchildren after their performances of the “Five Chinese Brothers” play. The play was performed on Kaua’i, O’ahu, Moloka’i, Lana’i, Maui, and Hawai’i. Approximately 150 schools throughout the State were targeted and over 30,000 students viewed the playlet.



Figure 21: “Five Chinese Brothers” play performed by the Honolulu Theatre for Youth.

Environmental Results:

This type of education and outreach project is challenging to quantify specific environmental impacts. Nonetheless, the Program strongly believes in the importance of influencing behavioral changes at a young age.

HACD Conservation Specialists

HACD
Michelle Watson, Executive Director
P.O. Box 1411, Wailuku, HI 96793
(P) 808-483-8600 x120
www.hacdhawaii.org

319(h) Funds: \$470,612
State Funds: \$505,121
Match: Not Applicable

Start/End: 4/17/2009 - 12/31/2013

Location: The Islands of Kaua'i, O'ahu, Maui, and Hawai'i

Partners: CWB, NRCS, UH, O'ahu RC&D, CCH, County of Maui, County of Kaua'i, County of Hawai'i, Hanalei Watershed Hui

Pollutants Addressed:
TN, TP, and Sedimentation

The HACD Conservation Specialists are tasked with reducing nonpoint source pollutants through outreach and education, assisting local farmers with creating conservation plans for their farms, watershed planning support and implementation efforts, and monitoring exercises. All positions are currently filled. This project will be terminated at the end of the calendar year due to the continued inability of the Program to receive specific information about approved conservation plans. The Program met with the State Department of Agriculture and DLNR to keep the Conservation Specialist positions funded under a different department, but both agencies are unable to support the project. The Program met with the Soil and Water Conservation Districts to inform them of other funding opportunities for Conservation Specialists. Several districts have expressed interest in applying for funding and are in conversations with the Program to submit proposals.

Environmental Results:

The Conservation Specialists are tasked with assisting cooperators with developing and implementing conservation plans in the State, which help improve water quality through prescribed BMP installation. Currently, there are approximately 113 approved conservation plans in the State, with BMPs implemented on over 2,000 acres of farmland. Conservation Specialists are also tasked with developing and implementing WBPs where applicable, which aids in improving water quality. Each Conservation Specialist also assists cooperators with installing BMPs on their respective farms. Some examples of farm BMPs include cover crops, wind breaks, bio-swales, and mulching. Reductions in nonpoint source pollutant loads attributable to the Conservation Specialists include a TN reduction of 6,956 lbs., TP reductions of 760 lbs., and sedimentation reduced by 2,130 tons.

Hawai'i's Implementation Plan for Polluted Runoff Control

Hawai'i's Implementation Plan for Polluted Runoff Control (July 2000) has guided the Program for the past 13 years. While the Program's aim was to update the plan every five years, staffing turnover and challenges arising from the economic recession have hindered the scheduled updates. As the Program prepares to develop an updated Implementation Plan by the end of 2014, it considers the progress made toward reaching the goals outlined in the original plan, and looks forward to incorporating these successes and lessons learned from the past 13 years into this updated plan.

Progress Made Under the Existing Implementation Plan

The Program has made great progress in meeting the long-term goals outlined in the original plan, and has demonstrated success in completing many of the recommended activities supporting those goals. The plan outlined the following long-term goals, to be achieved by 2013:

Long-term Goal #1:

"Ensure that Hawai'i's coastal waters are safe and healthy for people, plants, and animals and protect and restore the quality of Hawai'i's streams, wetlands, estuaries, and other inland waters for fish and wildlife, recreation, aesthetic enjoyment and other beneficial uses by 2013."

Under Long-term Goal #1, the Program:

- Strengthened the use of the watershed approach, and, more specific to Hawai'i, the regional watershed approach, by tailoring efforts of the private and public sector to the particular needs of individual watersheds, and by carrying out watershed restoration action strategies and BMP implementation efforts under watershed-based plans and projects;
- Focused on the development of BMPs by: 1) working closely with the Soil and Water Conservation Districts to assess the effectiveness of BMPs in agricultural areas, with an emphasis on soil erosion control and nutrient management, 2) promoting the restoration and stabilization of highly erodible areas through the use of BMPs and improved land management controls, and 3) developing mechanisms to track BMP implementation;
- Promoted community-based watershed management through voluntary compliance and educational programs targeted to the general public, students, land users and industry, and specific cultural groups;
- Developed effective watershed-based plans for the following watersheds, which were designated as priorities based on the CWA Section 303(d) List of Water Quality Limited Segments: West Maui, Ko'olaupoko, Nawiliwili Bay, and Ala Wai Canal; and
- Developed effective watershed-based plans for four out of the five priority watersheds designated as priority based on the State's previous *Unified Watershed Assessment* (1998), under the federal *Clean Water Action Plan* (1997): Pelekane Bay, West Maui, Ko'olaupoko, and Nawiliwili Bay.

Long-term Goal #2:

"Identify impaired water bodies and restore their designated uses through a statewide approach to watershed management within 15 years."

Under Long-term Goal #2, the Program:

- Strengthened the use of the statewide approach to watershed management by continuing partnerships with the Office of Planning, DLNR, DOT, US Department of Agriculture, NRCS, county agencies, Soil and Water Conservation Districts, businesses, and nonprofit organizations, to address implementation strategies and actions for conservation areas, agricultural and rural areas, urban areas, marinas and recreational boating areas, and wetland management programs;

- Completed the Quality Assurance/Quality Control (QA/QC) plan, and followed the timelines contained in the plan;
- Increased the number of chemical and biological databases to develop scientifically valid criteria;
- Used information from the CWA Section 303(d) List of Water Quality Limited Segments, to prioritize watersheds that need additional attention to reduce nonpoint source pollution loads, especially when allocating grant funds to projects;
- Worked with the DOH CWB to develop a schedule to complete and implement the TMDLs for the State's Section 303(d) listed waters;
- Completed a TMDL demonstration project in Waimanalo;
- Used information from the CWA Section 305(b) Report to geographically target funds and activities to water bodies and associated watersheds that are impaired by polluted runoff; and
- Supported *farm-a-syst* and *home-a-syst* projects for the State, and targeted the use of these materials in priority watersheds.

Long-term Goal #3:

“Develop and implement economically achievable management measures, as identified in Section 6217 of the Coastal Zone Act Reauthorization Amendments, which are appropriate to Hawaii's physical, economical [sic], cultural, and social environment by 2013.”

Under Long-term Goal #3, the Program:

- Worked with the State's Attorney General's Office to conduct a review of the State's enforceable authorities and policies for polluted runoff control, and to address gaps identified in the review;
- Prioritized management measures and focused implementation efforts following a phased approach;
- Coordinate with the DOH Wastewater Branch in implementing its State Revolving Fund (SRF) loan eligibility to accommodate funding for nonpoint source pollution control projects to meet CWA 319(h) match requirements; and
- Coordinated its efforts with the Coastal Nonpoint Pollution Control Program (CNPCP), established under Section 6217 of the Coastal Zone Act Reauthorization Amendments (CZARA), as further detailed below.

Focus Areas for the Updated Implementation Plan

Some of the goals and activities included in the original plan are no longer relevant or appropriate as anticipated. Therefore, the Program intends to make major revisions to the existing plan to increase its effectiveness and meet today's challenges. For example, the updated Implementation Plan will include annual milestones that can be incorporated into the Program's annual EPA workplan for more accurate reporting and to better chart the Program's progress. Also, the updated plan will prescribe methods to prioritize watershed regions based on a more comprehensive set of criteria (i.e., relative load reduction expected; added benefits; costs; public acceptance; and ease of construction and maintenance), instead of the former methods of prioritization that focused mainly on Water Quality Limited Segments and the *Unified Watershed Assessment*.

The Program anticipates that it will submit to the EPA for approval an updated Implementation Plan by September 2014, and have a finalized updated plan by December 2014. The Program has hired a contractor for approximately \$50,000 to assist in developing the updated plan, with an anticipated contract commencement date of January 2014. The updated plan will identify the Program's short- and long-term goals, detail activities and milestones for progress towards those goals, and meet the EPA's November 2012 Key Components of an Effective State Nonpoint Source Management Program.

Grant Implementation

At the start of fiscal year 2013, the Program was actively managing five EPA CWA Section 319(h) grant awards (FY08, FY09, FY10, FY11, & FY12). The Program was awarded a sixth 319(h) grant in August 2013 (FY13). Specific challenges and accomplishments regarding grant implementation, as well as additional information regarding available and expended funds of the aforementioned grants, are listed below.

The Program continues to be challenged by the lack of effective WBPs within the State. There are approximately 600 watersheds in the State, with only 39 watersheds addressed in 11 WBPs. This limits where the Program can allocate funds, due to grant conditions directing the use of Program and Project grant funds (e.g., Project grant dollars can only be used for implementation projects arising out of effective WBPs).

Over the past three years, the Program has undergone an effort to increase the number of effective WBPs. In FY13, the Program received WBPs for the Hanalei Bay, Southwest Maui, and Honouliuli watersheds. The Hanalei Bay WBP requires additional revisions, but both the Southwest Maui and Honouliuli WBPs were approved and the watersheds are now eligible for 319(h) funding. The Program will also begin a cost-share with the CCH to develop a Waialua-Kaiaka Watershed WBP that is anticipated to be completed in FY15. In addition, under the West Maui Ridge to Reef (WMR2R) partnership, the U.S. National Oceanic and Atmospheric Administration (NOAA) developed a WBP for two watersheds in West Maui, and other partners in WMR2R are expected to fund the development of the remaining three adjacent watersheds in that region.

The Program has also reviewed its existing WBPs to determine their effectiveness, and has noted the WBPs that require updating to qualify for Project funds. The Program continues to work towards improving these incomplete WBPs through community outreach and by providing technical support to interested community groups. The Program continues to work on increasing the number of effective WBPs in a measured, timely fashion to balance having a sufficient number of WBPs while avoiding a surplus of plans without the means to implement projects.

Contracting with public funds continues to be a challenge, as grant awards are required to undergo lengthy procedures throughout the procurement process. The Program has been actively involved in helping to reduce the bureaucratic setbacks, which has proven to successfully reduce the lag time of contracting from as much as twenty-four months to six to eight months. Understandably, as the procurement process involves public funds, there will always be thorough vetting and documentation requirements. That being said, the Program is proud of its accomplishments in easing the overall process and continues to enjoy a good working relationship with the various State departments that facilitate the process from Notice of Award to Notice to Proceed.

Individual grant awards are listed below by fiscal year, with 319(h) funded projects highlighted. Outcomes, load reductions, and other specific information for the 319(h) funded projects listed below can be found in the respective project-specific pages in this report, or in previous end-of-year reports.

Fiscal Year 2008 (8290-00)

The State's Fiscal Year 2008 grant will expire on December 31, 2013. The State expects to spend \$2,141,867 in federal funds and provide an additional \$1,427,911 in non-federal match by the expiration date. A portion of this grant was used to fund the Nonpoint Source (NPS) and TMDL Intergovernmental Personnel Acts (IPAs), and an in-kind public outreach project with the EPA and its subcontractor, Tetra-Tech. Ten projects were to be funded under this grant, however one project was cancelled due to non-responsiveness by the awarded vendor. Of the remaining nine projects, six

have been satisfactorily completed and three remain on-going because they are partially funded by more recent grant funds. Approximately \$1,641,000 of federal funds has been expended or is currently encumbered for project implementation, IPA funding, and in-kind services, and \$500,200 spent to support the Program. There is approximately \$600 of remaining FY08 incremental funds that will be reconciled prior to the grant's expiration.

The following six FY08-funded projects, two IPA agreements, and one in-kind project have been completed:

- \$151,000 to draft a WBP for the Southwest Maui Watershed (partially funded, remainder of the \$194,400 project total from FY07);
- \$89,700 for an on-site stormwater retrofit at Ka'elepulu Stream;
- \$15,900 for an education and outreach program targeting elementary school children in priority watersheds;
- \$60,000 to draft a WBP for the Wailupe Stream Watershed;
- \$191,900 for the He'eia Stream riparian and water quality improvement project;
- \$201,000 to fund the Hawai'i Youth Conservation Corps;
- \$130,000 for one year of NPS IPA funding;
- \$90,000 for one-half year of TMDL IPA funding; and
- \$40,000 for an in-kind Outreach Project with EPA and Tetra-Tech.

The following three projects remain on-going:

- \$178,500 to develop a Watershed Monitoring Plan and install ungulate-control fencing in Maui (partially funded, remainder of the \$250,000 project total from FY09);
- \$413,600 to fund the State Conservation Specialists Program (partially funded, remainder of the \$975,7000 project total from FY10 and State special funds); and
- \$79,400 to fund Phase II of the He'eia Stream riparian and water quality improvement project (partially funded, remainder of the \$215,500 project total from FY10).

Fiscal Year 2009 (9290-00)

The Program's Fiscal Year 2009 grant will expire on September 30, 2014. The Program expects to expend \$1,503,626 in federal funds and provide an additional \$1,002,417 in non-federal match by the 2014 expiration date. Eight projects were contracted for funding under this grant. Approximately \$1,048,000 of federal funds has been expended or is currently encumbered for project implementation, and \$442,400 spent to support the Program. There is approximately \$13,300 of remaining FY09 incremental funds that will be used to fund projects that require increased cost adjustments or as partial funding for new projects awarded in the program's FY14 RFP.

The following four FY09 projects have been completed:

- \$516,100 to install BMPs on agricultural lands in the Honouliuli Watershed;

- \$118,300 to draft a WBP for the Hanalei Watershed;
- \$86,100 to install BMPs in private agricultural lands in Waimanalo (partially funded, remainder of the \$386,100 project total from FY06); and
- \$20,000 for an education and outreach program targeting elementary school children in the Ko'olaupoko Watershed.

The following four projects remain on-going:

- \$71,500 to develop a Watershed Monitoring Plan and install ungulate-control fencing in Maui (partially funded, remainder of the \$250,000 project total from FY08);
- \$25,000 for an education and outreach program targeting elementary school children in priority watersheds;
- \$106,000 for the installation of low-impact designs in a shopping center parking lot in the He'eia Watershed (partially funded, remainder of the \$222,200 project total from FY10); and
- \$105,000 to fund Phase II to install BMPs on agricultural lands in the Waimanalo Watershed (partially funded, remainder of the \$156,000 project total from FY10).

Fiscal Year 2010 (9290-10)

The Program's Fiscal Year 2010 grant will expire on September 30, 2015. The Program expects to spend \$1,596,304 in federal funds and provide an additional \$1,064,203 in non-federal match by the 2015 expiration date. There were a total of sixteen projects contracted for funding under this grant; however two projects were later cancelled due to issues outside of the awarded vendors' control. Approximately \$1,281,000 of federal funds has been expended or is currently encumbered for project implementation, and approximately \$315,300 spent on supporting the Program.

The following FY10 project has been completed:

- \$20,000 to fund a statewide children's play designed to educate students about nonpoint source pollution.

The following thirteen projects are new or remain on-going:

- \$107,100 to develop a Homeowner's Raingarden Installation Booklet, and install raingardens throughout the Ko'olaupoko Watershed;
- \$131,900 to install BMPs in the Wailupe Beach Park to reduce runoff;
- \$136,100 to fund Phase II of the He'eia Stream riparian and water quality improvement project (partially funded, remainder of the \$215,500 project total from FY08);
- \$57,000 to extend the State Conservation Specialists Program (partially funded, remainder of the \$975,7000 project total from FY10 and State special funds);
- \$140,000 to install BMPs and provide extensive community outreach in the He'eia Watershed (partially funded, remainder of the \$747,000 project total from FY11 & FY12);
- \$116,200 for the installation of low-impact designs in a shopping center parking lot in the He'eia Watershed (partially funded, remainder of the \$222,200 project total from FY09);

- \$84,400 to install BMPs in agricultural lands in the Wahikuli and Honokowai Watersheds (partially funded, remainder of the \$376,100 project total from FY11 & FY12);
- \$210,000 to develop a WBP in the Kaiaka Bay Watershed;
- \$85,000 to install BMPs in the Hakioawa Watershed (partially funded, remainder of the \$204,200 project total from FY11);
- \$68,000 to install curb inlet baskets in the Wahikuli and Honokowai Watersheds (partially funded, remainder of the \$237,600 project total from FY11);
- \$25,000 to stabilize and remediate stream banks in the Ala Wai Watershed (partially funded, remainder of the \$298,200 project total from FY11 & FY12);
- \$49,300 to update Hawai'i's Implementation Plan for Polluted Runoff Control; and
- \$51,000 to fund Phase II to install BMPs on agricultural lands in the Waimanalo Watershed (partially funded, remainder of the \$156,000 project total from FY09).

Fiscal Year 2011 (9290-11)

The Program was awarded an EPA CWA 319(h) grant for the Fiscal Year 2011 that will expire on September 30, 2016. The total federal award is \$1,355,490, with a State in-kind contribution of \$1,144,510. There are a total of five projects contracted for funding under this grant. Approximately \$840,000 of federal funds has been expended or is currently encumbered for project implementation, and approximately \$515,500 spent to support the Program.

The five new or on-going projects are:

- \$307,000 to install BMPs and provide extensive community outreach in the He'eia Watershed (partially funded, remainder of the \$747,000 project total from FY10 & FY12);
- \$119,200 to install BMPs in the Hakioawa Watershed (partially funded, remainder of the \$204,200 project total from FY10);
- \$191,700 to install BMPs in agricultural lands in the Wahikuli and Honokowai Watersheds (partially funded, remainder of the \$376,100 project total from FY10 & FY12);
- \$169,500 to install curb inlet baskets in the Wahikuli and Honokowai Watersheds (partially funded, remainder of the \$237,600 project total from FY10); and
- \$52,600 to stabilize and remediate stream banks in the Ala Wai Watershed (partially funded, remainder of the \$298,200 project total from FY10 & FY12).

Fiscal Year 2012 (9290-12)

The Program was awarded an EPA CWA 319(h) grant for the Fiscal Year 2012 that will expire on September 30, 2017. The total federal award is \$1,209,000, with a State in-kind contribution of \$808,000. Currently, there are a total of four projects contracted for funding under this grant. Approximately \$697,000 of federal funds has been expended or is currently encumbered for project implementation, and approximately \$419,400 spent to support the Program. Approximately \$44,500 of Base personnel funds remains unspent due to the vacant Planner IV and Public Participation Coordinator positions. There is also about \$48,200 of combined Base and Incremental

project funds unencumbered and available to spend on projects. The combined \$92,700 of unencumbered and unspent FY12 grant funds will be used to fund projects arising from the Program's FY14 RFP.

The four new or on-going projects are:

- \$300,000 to install BMPs and provide extensive community outreach in the He'eia Watershed (partially funded, remainder of the \$747,000 project total from FY10 & FY11);
- \$220,600 to stabilize and remediate stream banks in the Ala Wai Watershed (partially funded, remainder of the \$298,200 project total from FY10 & FY11);
- \$76,400 to install new and maintain existing sediment check dams, and maintain feral ungulate-proof fencing, in the Pelekane Bay Watershed; and
- \$100,000 to install BMPs in agricultural lands in the Wahikuli and Honokowai Watersheds (partially funded, remainder of the \$376,100 project total from FY10 & FY11).

Fiscal Year 2013 (9290-13)

The Program was awarded an EPA CWA 319(h) grant for the Fiscal Year 2013 that will expire on September 29, 2018. The total federal award is \$1,146,000, with a State in-kind contribution of \$764,000. Approximately \$459,400 of federal funds will be spent to support the Program. There is approximately \$686,600 available to spend on projects, and the Program anticipates that the FY14 RFP will yield projects that shall be funded under this FY13 grant. The Program anticipates releasing its FY14 RFP in November 2013, approximately seven months earlier than average, to encumber all FY13 Project funds in one year.

Grants Summary						
Fiscal Year	FY08	FY09	FY10	FY11	FY12	FY13
Budgeted Program Personnel & Overhead	\$500,233.00	\$442,418.00	\$315,263.82	\$515,476.63	\$463,834.49	\$459,409.00
On-going, Encumbered & Completed Projects	\$1,641,009.48	\$1,047,928.34	\$1,281,040.18	\$840,013.37	\$697,002.56	\$0.00
Available Project Funds	\$624.52	\$13,279.66	\$0.00	\$0.00	\$48,162.95	\$686,591.00
Total EPA Award	\$2,141,867.00	\$1,503,626.00	\$1,596,304.00	\$1,355,490.00	\$1,209,000.00	\$1,146,000.00

Non-Federal Match

The State primarily relies on general funded salaries for personnel supporting the Program to meet its EPA CWA 319(h) match obligation. General funded positions include: the Branch Chief of the CWB, a CWB Clerical employee, an IT Specialist, five outer-island Environmental Health Specialists (EHSs), and five Individual Wastewater System Engineers (IWSs). The EHSs are tasked with collecting marine surface water samples and investigating complaints related to both point- and nonpoint source pollution. Because of Program personnel limitations, these outer island employees effectively act as the Program's monitoring eyes and ears and provide a physical presence that the Program cannot provide. In FY12, the EHSs responded to approximately 14 complaints. Key issues raised include: illegal grading, illegal dumping and trash, and discharges due to a lack of installed BMPs. The CWB is currently in the process of converting its internal complaints tracking to an online database, and the above-reported figures are likely less than actual due to the switchover. The IWSs are responsible for the review and approval of plans and specifications for wastewater systems, inspection of wastewater systems construction, and regulating wastewater systems in the State,

under the aegis of the Coastal Zone Act Reauthorization Amendments of 1990 and the EPA's Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters. In FY13, the IWSs conducted 164 plan reviews on Kaua'i, 153 reviews on O'ahu, 255 reviews on Maui, and 784 reviews on the Island of Hawai'i (466 in Hilo and 318 in Kona).

In addition, all implementation project contractors are required to submit a \$1:0.25 grant/match proposal budget, which supplements the State's general funded salary match contribution. This match requirement assists the State with meeting its non-federal match requirement via pass-through to the EPA, while also demonstrating contractor commitment for its proposed project. The \$1:0.25 grant/match requirement is a significant reduction from the previously-required \$1:1 match requirement prior to FY11, and has been met with positive feedback from RFP applicants.

Monitoring

The Program requires both qualitative and quantitative water quality monitoring from its contractors for most projects; however the Program began water quality sampling in the He'eia Watershed on the Island of O'ahu to demonstrate the effectiveness of a targeted watershed approach.

Water Quality Monitoring

In Hawai'i, 319(h) projects are generally small in scale when compared to the watershed they are located in; this creates issues for smaller capacity contractors with little to no knowledge of water quality monitoring techniques. To address this, the Program meets with contractors to assist with the development of monitoring plans and monitoring approaches to demonstrate project effectiveness. Data provided by contractors to the Program is reviewed, analyzed, assessed, modeled, and submitted to the CWB's Monitoring and Analysis Section for use in the State's Water Quality Monitoring and Assessment Report.

The Program has developed and is implementing a monitoring plan that targets the He'eia Watershed on the Island of O'ahu. The Program's Environmental Health Specialist has been collecting stream samples for chemical analysis by the DOH State Laboratory from two sites in the watershed (upper and lower), twice a month, to gather in-situ water quality data. From late-January to October 2013, the Program collected and analyzed 26 samples from He'eia Stream. A small number of sampling opportunities were missed due to inclement weather, a lack of personnel, and the major molasses spill in Honolulu Harbor in September 2013. Due to the high volume of water quality sampling conducted during the molasses spill, many of the He'eia Stream chemistry samples have yet to be processed. The Program expects the DOH's State Laboratory to complete processing the samples by early 2014.

The primary goal of the Program's water quality monitoring efforts is to determine if He'eia Stream is responding positively to 319(h) implementation projects. The Program expects to receive all chemistry data after the sampling period is completed in June of 2014. When the chemistry samples are processed by the State Laboratory, the Program will review and analyze the data and recommend action regarding the impaired status of He'eia Stream.

319(h) Project Monitoring

All contractors receiving 319(h) funding are required to do some type of monitoring to indicate project efficacy. While most contractors conduct quantitative project monitoring, the methods vary from project type to project type and contractor to contractor. Water quality monitoring is also used to determine effectiveness in projects that have on-the-ground implementation (He'eia Stream Riparian and Water Quality Improvements). Other methods are employed in conjunction with water quality sampling include modeling, biological indicator surveys, and photo-points. Incorporating a

multi-faceted approach to monitoring allows the Program to have a greater understanding of results from each project.

Grant Reporting and Tracking System (GRTS) Load Reductions

Using water quality data and modeling, the Program has been able to approximate load reductions for each project it funds. Load reductions are the quantitative measuring stick for the Program and assist the DOH in determining the efficacy of each project. For FY13, the Program is proud to report the following load reduction estimates:

Nitrogen Load Reduction:	21,744 lbs.
Phosphorous Load Reduction:	1,304 lbs.
Sediment Load Reduction:	5,014 tons

Load reductions assist with watershed restoration by decreasing targeted nonpoint source pollutants. Progress is being made towards the Program's ultimate goal of significantly decreasing these pollutants and delisting impaired water bodies through on-the-ground project implementation.

Coastal Nonpoint Pollution Control Program (CNPCP)

The Program continued to coordinate its efforts with the Office of Planning to implement the CNPCP, established under Section 6217 of the CZARA. Hawai'i's CNPCP remains under conditional approval from the EPA and NOAA, with the following remaining conditions: 1) New Development; 2) New and Operating OSDS; 3) Roads, Highways, and Bridges; and 4) Monitoring and Tracking.

New Development

The Office of Planning continues to coordinate with the county planning departments to address the impacts of new development projects. NOAA and EPA previously agreed to approve the New Development condition if three of the four counties in the State have programs and policies consistent with the condition. To date, the CCH and the County of Hawai'i have met this condition. In 2012, the County of Maui adopted ordinances and administrative rules consistent with this condition. Therefore, the Office of Planning will prepare documentation to submit to NOAA and EPA for formal approval of the New Development condition.

New and Operating OSDS

The DOH continues to work with the Office of Planning to address the OSDS condition. According to the Findings for Hawai'i's CNPCP (1998), the State must address requirements for denitrifying OSDS, where applicable, and create a program that ensures inspection of OSDS at a frequency adequate to ascertain system failure. In response to the 1998 Findings, the DOH developed a memorandum committing to a coordinated approach to addressing the inspection of operating OSDS, among other State goals. According to the NOAA and EPA Interim Decision Document for Hawai'i's Coastal Nonpoint Pollution Control Program (March 2012), further development of the OSDS strategy is needed.

To aid in developing the OSDS strategy, the DOH has contracted with the UH Water Resources Research Center, to conduct OSDS surveys and assessments. The Program will use the finalized OSDS reports to aid in further program development.

In addition, in FY13, the DOH introduced a State legislative bill (H.B. No. 903, Relating to Water Pollution) aimed at better managing and reducing nonpoint source and OSDS pollution. The bill proposed the creation of a Nonpoint Source Pollution Management Plan Program, and an OSDS Maintenance and Inspection Program. Under the proposed OSDS Maintenance and Inspection

Program, the DOH would collect annual fees from OSDS owners to support regular OSDS inspections and discharge monitoring. The program also included an outreach component and a loan program to encourage individuals to upgrade from cesspools to septic systems, or other more environmentally sound systems.

The bill passed throughout most of the legislative session despite strong opposition from the agricultural community on the nonpoint source pollution management plan issue. However, after passing through the House and almost passing through its final reading at the Senate, the bill was eventually “held” by the Senate Committee on Ways and Means and carried over to the 2014 legislative session.

The DOH considered revising the bill and introducing it in a different form in the upcoming legislative session, but decided against it since a bill proposing fees would be difficult to pass in 2014, a State election year. Nevertheless, the DOH continues to consider how it might pursue the goals represented by the bill through the adoption of a grant and low-interest loan program for OSDS upgrades, or administrative rule amendments requiring OSDS upgrades upon the sale of property.

The Program will continue to work with the DOH Wastewater Branch and the Office of Planning to find ways to address the important OSDS issue and resolve this remaining condition. One of the greatest challenges ahead is to find a dedicated funding source to sustain the great effort needed to address the many failing OSDS currently in operation in the State.

Roads, Highways, and Bridges

According to the NOAA and EPA Interim Decision Document for Hawai'i's CNPCP (March 2012), the State “has not satisfied the conditions for operation and maintenance for State and local roads and planning, siting, and developing of local roads and highways as well as siting, designing, and maintaining local bridges.” All other Roads, Highways, and Bridges conditions have been met. The Office of Planning continues to work with the DOT on the strategy for addressing this final condition. The strategy includes outreach to the counties on use of the BMP guide developed by the DOT, and use of contract clauses requiring BMPs. In FY13, the Office of Planning contacted each of the counties to determine compliance with relevant laws and requirements, including construction ordinances and standards, inspection procedures, sediment control plans, State and county permits (National Pollutant Discharge Elimination System (NPDES), bridge, road, grading and grubbing, etc.), federal and State Environmental Assessments and Environmental Impact Statements, and other pollution control measures.

Monitoring and Tracking

The Program continues to work with the Office of Planning toward obtaining approval of the Monitoring and Tracking condition. The Program currently uses GRTS to track BMPs funded by the Program, and the DOH monitors urban BMPs under the NPDES and Water Quality Certification programs. In FY14, the Program will begin to make its monitoring data available on the existing DOH Environmental Health Warehouse, an online application providing the public access to location-based environmental health impact information. The Environmental Health Warehouse will include information from all CWB programs, and will provide a more organized and comprehensive presentation of monitoring data to better assist the State in tracking the extent to which management measures and pollutant loads are improving water quality over time, and linking the location of BMPs with DOH monitoring data. The Program will also continue to provide updates to The Conservation Registry, a repository of project specific data from various conservation-based agencies and organizations.

Education and Outreach

The Program revised its education and outreach efforts in FY13, to increase the effectiveness of its targeted watershed implementation strategy. Previously, the Program's education and outreach efforts were primarily composed of conducting school visits and sponsoring children's plays. The Program believes that introducing awareness of nonpoint source pollution at an early age is beneficial; however significant improvements in watershed water quality can be achieved more efficiently by meeting with community groups and interested individuals that are able to immediately implement WBP projects.

In April 2013, the Program met with two local community groups in Maui prior to releasing its FY13 RFP. The Program discussed State procurement procedures, and specifically the Program's RFP process; reviewed proposed projects arising from the respective WBPs; and visited potential site locations. Ultimately, one of the two groups did not submit a proposal, but two projects totaling approximately \$613,700 were awarded to the second group. The Program has identified the Big Island of Hawai'i, in particular the Pelekane Bay and Waikoloa/Waiulaula Watersheds, as its target for its FY14 RFP, and will be visiting various community groups to facilitate proposal submissions prior to releasing its RFP.

In order to increase awareness of specific projects, the Program requires all 319(h) contractors to draft and release two press releases describing their projects (one is released prior to on-the-ground implementation, and the second released at the project's completion). These press releases are designed to provide the public with basic information about nonpoint source pollution, and provide an opportunity for members of the community to become involved in watershed activities in their area.

The Program continues to work closely with the CWB TMDL Coordinator to target the next TMDL and to strategize on how the Program can use existing TMDLs to formulate WBP development. Even with a limited staff, the Program also continues to participate in various State and national committees with other agencies and organizations with the future goal of leveraging various funding sources to address water quality issues statewide.

The Apoha coloring book and Journey Home activity book, which is printed in both English and Hawaiian, continues to be in high demand at elementary schools and events statewide. These materials are available free to the public upon request. Approximately 7,500 books have been distributed by the DOH and our partners over the last year. They provide information on polluted runoff, and introduce children and their families to activities they can do to help prevent nonpoint source pollution.

Even with the loss of the Program's Public Participation Coordinator, the Program continues to participate in two annual Earth Day outreach events to increase awareness among the State's children and families. The first is an annual co-sponsorship (with the CCH) of the Waikiki Aquarium Mauka to Makai Earth Day. FY13 was the sixth year that this event has been held, which saw over 3,300 visitors to the Aquarium on that day. Approximately twenty federal, State, and local agencies, and community groups, participated in this event. FY13 was the second year that the Program also participated in the Earth Day event at Marine Corps Base Hawaii. Approximately one dozen federal, State and local agencies participated in this event, which hosted about 2,800 visitors. In both instances, specifically quantifying the impact these outreach projects aimed at children have on reducing nonpoint source pollution is a challenge and would be prohibitively expensive. However, the cost-to-benefit ratio is favorable to the Program: the Waikiki Aquarium event costs approximately \$12,000, and the Marine Corps event costs the Program staff time on a weekend and about 2,000 Apoha coloring books.

As with the Program itself, the education and outreach efforts are in a period of transition. The Program anticipates maintaining a continued presence in the above-mentioned Earth Day events, but has notably scaled down its individual school visits and sponsorship of other school-related outreach activities. Going forward, when fully staffed the Program intends to expand and build upon its outreach to stakeholders in targeted watersheds, and continue with just one or two large community outreach events targeted to children.

Fiscal Year 2014: Looking Ahead

FY13 may have been one of the most challenging years for the Program. As mentioned, the Program lost 50% of its staff. Failing to update the State's Implementation Plan as scheduled has culminated in the need to update it now. Only a select number of watersheds continue to be eligible for implementation project funding due to a lack of effective WBPs.

In spite of these challenges, the Program has made considerable strides to improve its effectiveness and performance. The Program continues to reduce the amount of unspent grant funds, and anticipates encumbering all FY13 Project funds in this upcoming fiscal year. The Program is addressing the challenge for its small contractors to demonstrate project effectiveness, by conducting water quality monitoring in one of its targeted watersheds. In addition, the Program is not only targeting watersheds to focus its funds more effectively, but also revamped its education and outreach approach to correlate with its targeted watershed RFPs to improve responses and generate better proposals.

In FY14, the Program anticipates being fully staffed. The Program will update its Implementation Plan, and gain EPA approval. The Program will also determine the feasibility of expanding its targeted watershed water quality monitoring to address projects on the neighbor islands. The Program will continue working with partners to update existing WBPs, and develop new WBPs where applicable. The Program will also continue with its existing educational activities, with a specific focus on cultivating relationships with stakeholders and potential contractors in targeted watersheds. In summary, the Program will build upon its FY13 successes and continue to make progress in addressing and reducing nonpoint source pollution in the State of Hawai'i.