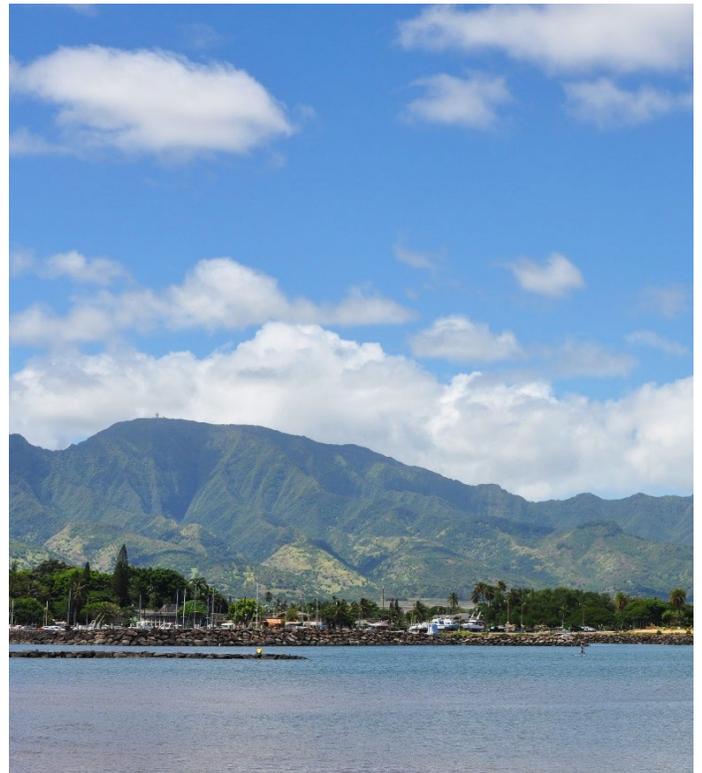


# Polluted Runoff Control Program



## 2018 End of Year Report October 1, 2017 – September 30, 2018



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## Polluted Runoff Control Program Fiscal Year 2018 (FY18) Highlights

Goal	Activities and Milestones	FY18 Status
<b>Goal 1:</b> Water Quality Monitoring and Assessment	Inland water quality monitoring and assessment	5 inland waters in priority watersheds monitored; water quality for 5 inland waterbodies assessed
	New CWA §303(d) delistings for inland waters	He'eia Stream: delisted for nitrate+nitrite-nitrogen in the 2018 Integrated Report
<b>Goal 2:</b> Planning	Number of watershed-based plans	14
	New watershed-based plans	1 ( <i>Kaiaka Bay Watershed-Based Plan</i> )
	Number of watersheds eligible for §319(h) funds	41
	New watersheds eligible for §319(h) funds	2 (Ki'iki'i, Paukauila)
	New strategies developed to address nonpoint source pollution	Protection of high quality waters; opportunities to reduce runoff from agricultural sources
<b>Goal 3:</b> Implementation	Request for Proposals released	3 (2 for projects in priority watersheds, 1 for a watershed coordinator)
	Number of projects implemented	14 (6 in priority watersheds)
	Number of projects implemented through State partnerships	5 (3 in priority watersheds)
	Pollutants addressed	4 (total nitrogen, total phosphorous, sediment, total suspended solids, enterococci)
	Number of active project partnerships	5 (DLNR-DOFAW, DLNR-DAR, UH Sea Grant, KIRC, City & County of Honolulu)
	Number of watersheds with CWA §319(h) projects	16 (including all 10 priority watersheds)
	Number of new projects awarded	5 (2 in priority watersheds)
<b>Goal 4:</b> Program Development	Coastal Nonpoint Pollution Control Program requirements completed	2 (Monitoring and Tracking, New Onsite Disposal Systems)
	New collaborations/partnerships for developing projects	2 (National Water Quality Initiative with NRCS and SDWB, soil management with UH College of Tropical Agriculture & Human Resources)
	Project/plan guidelines developed	4 (project proposal guidelines, alternative plan guidelines, pollutant load reduction toolkit, watershed plan evaluation criteria)
	Major outreach events	Waikiki Aquarium Mauka to Makai Earth Day Expo (4,326 visitors)
	Number of conference presentations	5 (Joint Government Water Conferences)
	Innovative approaches to address nonpoint source pollution	Nonpoint source pollution rules, alternative watershed planning

Acronym descriptions: CWA = Clean Water Act; DLNR = Dept. of Land and Natural Resources; DOFAW = Division of Forestry and Wildlife; DAR = Division of Aquatic Resources; UH = University of Hawai'i; KIRC = Kaho'olawe Island Reserve Commission; NRCS = Natural Resources Conservation Service, SDWB = Safe Drinking Water Branch

## Introduction



In 1987, Congress enacted Section 319(h) of the Clean Water Act (CWA), establishing a national program to control nonpoint source (NPS) pollution, also known as polluted runoff. Administered by the U.S. Environmental Protection Agency (EPA), the CWA §319(h) program provides funding to implement state NPS programs. The State of Hawai'i Department of Health (DOH) Clean Water Branch (CWB) Polluted Runoff Control Program (Program) administers the state's NPS program to protect and improve the quality of Hawai'i's water resources by preventing and reducing NPS pollution. The Program's tasks include developing strategies and implementing projects to reduce NPS pollution and improve water quality. The Program also is responsible for updating *Hawai'i's Nonpoint Source Management Plan (NPS Plan)* every five years to coordinate the State's efforts to reduce polluted runoff.

The purpose of the 2018 End of Year Report is to assess the progress the Program has made in implementing the *NPS Plan* in Fiscal Year (FY18; October 1, 2017 – September 30, 2018). This report will assess the Program's progress in achieving goals and objectives set forth in the *NPS Plan* as well as other administrative objectives that were included in the Program's FY18 Workplan.



## ***Hawai'i's Nonpoint Source Management Plan Implementation***

This section of the report will describe and assess the Program's progress this fiscal year implementing the *NPS Plan* by describing the various activities and milestones reached for each *NPS Plan* goal and objective.

### **Goal 1: Assessment - Identify water quality trends and waters and watersheds impaired or threatened by nonpoint source pollution**

Goal 1 of the *NPS Plan* sets forth the State's objectives and strategies for assessing water quality, including the development of monitoring plans and assessment methods (Objective 1) and monitoring and assessing waters to identify water quality impairments and trends (Objective 2).

#### ***Objective 1: Develop surface water quality assessment methods and monitoring plans to guide monitoring efforts***

Under Goal 1, the State set a goal to complete three monitoring plans by 2020. In 2017, the Program completed a draft of the *Water Quality Monitoring Plan/Quality Assurance Project Plan (QAPP) for Hanalei Bay Watersheds (Hanalei Bay Monitoring Plan/QAPP)*. The monitoring plan is still under EPA review, with approval and implementation expected in FY19.

With a new project in West Maui that started in January 2018 and an additional project scheduled to receive its Notice to Proceed (NTP) in FY19, the Program began discussing monitoring needs in West

Maui with the CWB Monitoring and Analysis Section (Monitoring Section). The Program plans to meet with the West Maui Watershed Coordinator, its contractors, and other partners and stakeholders in the area to discuss existing monitoring efforts and future monitoring activities in FY19. Development of a monitoring plan and QAPP for West Maui will begin in FY19 after the Program's Environmental Health Specialist (EHS) vacancy is filled and after the Program finalizes the *Hanalei Bay Monitoring Plan/QAPP*.

The Waikele monitoring plan was scheduled for development in 2018 after the completion of the Waikele Total Maximum Daily Load Implementation (TMDL+) Plan. However, because the TMDL+ Plan requires a monitoring component, the Waikele monitoring plan will be incorporated into the TMDL+ Plan to avoid duplicative planning efforts. The Program will begin TMDL+ Plan development in FY20, after the turbidity, sediment, and nutrient TMDLs for Waikele watershed are completed in FY19.

***Objective 2: Monitor and assess water quality to identify water quality impairments and improvements***

The CWB Monitoring Section continued to conduct beach monitoring under its Beaches Environmental Assessment and Coastal Health Act (BEACH Act) grant, which includes marine water quality sampling in all CWB priority watersheds. For priority watershed inland waters in Hanalei Bay, the Program's contractor, the Waipa Foundation, continued to monitor water quality for four inland waterbodies: Waikoko Stream, Waipa Stream, Waipa Estuary, and Waioli Stream. Data from monitoring will be used to demonstrate the effectiveness of the Waipa Foundation's §319(h)-funded restoration project in Waipa. In addition, once the Hanalei Bay Monitoring Plan/QAPP is approved by EPA, water quality data may be assessed for the 2020 Integrated Report. Because Waipa Foundation was recently awarded for a second (Phase 2) §319(h) project for 2019-2021, it will continue to conduct water quality monitoring through 2021 to assess project effectiveness. Marine waters in Hanalei Bay will continue to be monitored by the Monitoring Section's EHS on Kaua'i.

Because the Program's EHS was on leave from October 2017 through December 2017 and left the Program in January 2018, and because the EHS position has been vacant since January, the Program did not conduct water quality monitoring for He'eia Stream this fiscal year.

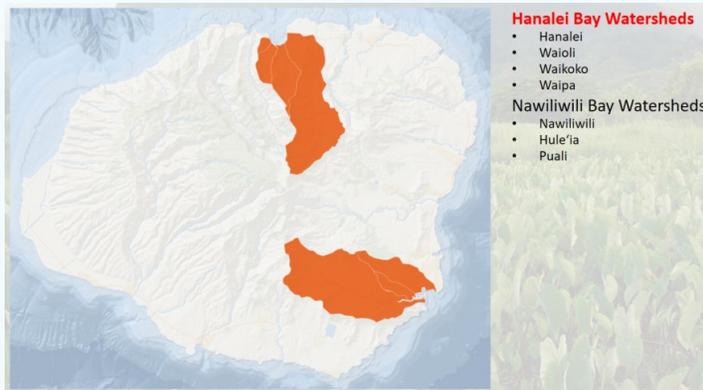
Water quality data was assessed for five inland waterbodies for the 2018 Integrated Report (IR). Four of these waterbodies are located in priority watersheds: He'eia Watershed: He'eia Stream; and Hanalei Bay watersheds: Waioli Stream (Waioli watershed), Hanalei River estuary (end of Weke Road, Hanalei watershed), and Waipa estuary (Waipa watershed). Waioli Stream is a new impairment listing in the 2018 IR and exceeds dry season water quality standards for turbidity and enterococci. He'eia Stream currently attains all wet season water quality standards, resulting in a delisting of nitrate+nitrite-nitrogen (NO<sub>3</sub>+NO<sub>2</sub>); however it continues to not attain for total nitrogen and NO<sub>3</sub>+NO<sub>2</sub> dry season water quality standards. Waipa estuary and Hanalei River (end of Weke Road) on Kaua'i continue to not meet water quality standards for turbidity and enterococci.

**Goal 2: Planning - Develop strategies, watershed-based plans, and TMDL+ plans to prevent and reduce NPS pollution**

Under Goal 2 of *Hawai'i's Nonpoint Source Management Plan*, the State aimed to prioritize watersheds for restoration and protection (Objective 1), develop strategies for protecting high quality waters (Objective 2), and prepare watershed plans and TMDL+ plans (Objective 2).

## Priority Watersheds

Priority watersheds are watersheds in which the Clean Water Branch focuses water quality monitoring efforts and Clean Water Act §319(h) activities, including polluted runoff control projects. The Clean Water Branch currently has ten priority watersheds, which are located in Hanalei Bay (Hanalei, Waioli, Waipa, and Waikoko watersheds), West Maui (Honolua, Honokahua, Kahana, Honokowai, and Wahikuli watersheds), and windward Oahu (He'ēia watershed).



## Hawai'i's Nonpoint Source Management Plan: Goal 1 Outcomes Checklist

- ✓ **Water quality monitoring plans and a standardized water quality assessment methodology are developed to guide consistent and comparable water quality monitoring efforts.**  
In FY16, the CWB completed a standardized assessment methodology for marine waters, which was implemented in the 2016 and 2018 Integrated Reports. In FY17, the Program completed a draft *Water Quality Monitoring Plan/Quality Assurance Project Plan for Hanalei Bay Watersheds*, which is under review by the EPA.
- ✓ **Coastal and inland waters are monitored and assessed every two years.**  
Coastal and inland waters were monitored in FY16, FY17, and FY18. The State's waters were assessed in the 2016 and 2018 Integrated Reports, which utilized the Program's monitoring data.
- ✓ **Two new inland waters are monitored and assessed.**  
In FY17, the Program began monitoring a new inland water, Waikoko Stream, which has not been previously assessed by CWB. The Program also began monitoring inland waters that had not been monitored for two or more years, including Waipa Stream, Waipa Estuary, Waioli Stream, and Hanalei Estuary (Hanalei River - end of Weke Road), which will continue to be monitored through FY21.
- ✓ **Waterbodies that meet water quality standards or have impairments are identified.**  
Waterbodies that were impaired or met water quality standards were identified in the 2016 and 2018 Integrated Reports.
- ✓ **Trends in water quality are identified.**  
Trends in water quality were identified for assessed waterbodies in the 2016 and 2018 Integrated Reports. He'ēia Stream was delisted for wet season total phosphorous and turbidity in 2016 and for wet season nitrate+nitrite-nitrogen in 2018, thereby attaining all wet season water quality standards. In 2018, Waioli Stream was impaired for dry season turbidity and enterococci, and Waipa Estuary and Hanalei Estuary continue to not meet water quality standards for turbidity and enterococci.

***Objective 1: Prioritize watersheds to focus water quality improvement and protection efforts***

Prioritizing watersheds will help the CWB focus its resources in specific areas to improve and protect water quality. Specifically, watershed prioritization will focus water quality monitoring efforts, §319(h) project implementation, TMDL+ Plan development, and the State's Coastal Nonpoint Pollution Control Program (CNPCP) monitoring and tracking efforts.

All CWB sections and programs worked together to develop the prioritization matrix and the prioritization flow chart in 2016. The prioritization matrix evaluates watersheds based on several criteria, including whether the watershed is impaired or pristine, whether there are existing and/or potential investments in the watershed to improve water quality, and the extent to which restoring or protecting the watershed will benefit the public.

The Program and CWB originally planned to update priority watersheds in 2017, but postponed re-prioritization to 2019 to have more time to implement and assess monitoring, restoration, and protection activities in current priority watersheds. In 2019, CWB sections and programs will identify three priority watersheds; one of these watersheds will be selected based on criteria for protecting unimpaired waters. In addition to identifying priority watersheds, the CWB will create a list of candidate watersheds for future water quality monitoring and assessment efforts. Strategies to address NPS problems in priority watersheds will be a major component of the *NPS Plan* update for 2020-2025.

***Objective 2: Develop strategies and measures of success for NPS protection***

Water quality protection is a relatively new priority for the CWB. This fiscal year, the Program completed its protection strategy to protect state waters from NPS pollution. The strategy has three goals: 1) Establish partnerships to identify and protect high quality waters; 2) Coordinate with partners to implement protection projects; 3) Increase the number of waterbodies and watersheds protected from polluted runoff. The strategy includes information on partners who already have water/watershed protection responsibilities (e.g., the Department of Land and Natural Resources (DLNR), the DOH Safe Drinking Water Branch (SDWB)), protection criteria, and measures of success. These measures include continuing to meet water quality standards and increasing the acreage of protection areas. The Program's protection strategy will be incorporated into the *NPS Plan* update in 2020.

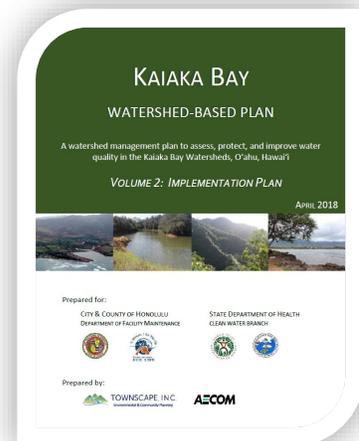
In January 2018, the Program began implementing a protection project with DLNR Division of Forestry and Wildlife (DLNR-DOFAW) in West Maui to protect relatively pristine forested areas from ungulates. The severe soil and vegetation disturbances caused by ungulates result in increased erosion, thereby increasing sediment delivery to streams and ultimately to coastal areas, with damaging effects on coral reefs. In September 2018, the Program, SDWB, and DLNR-DOFAW collaborated on an application for the Natural Resources Conservation Service's (NRCS) National Water Quality Initiative (NWQI) readiness phase and source water pilot in West Maui (see Goal 4 for more information on the NWQI), with the goal of combining efforts to protect waters in the region.

***Objective 3: Develop comprehensive watershed-based plans (WBPs)***

Watershed-based plans are the foundation for most §319(h)-funded on-the-ground water quality improvement projects. There are 14 approved WBPs covering 41 watersheds statewide. The State set a goal to have three additional WBPs approved by 2020, thereby increasing the number of watersheds eligible for §319(h) Project Funds.

This fiscal year, the Program approved the *Kaiaka Bay Watershed-Based Plan*, which guides water quality improvement efforts in the Ki'iki'i and Paukaiula watersheds on O'ahu. The plan was prepared by the City and County of Honolulu (CCH) over a four-year period and was built upon previous water quality planning efforts in the watershed, including the 2010 TMDLs for total nitrogen and turbidity in upper Kaukonahua Stream. The new plan will be implemented by the Program in FY19 to reduce sediment and nutrient runoff from agricultural lands in Kaiaka Bay watersheds.

With the approval of the *Kaiaka Bay WBP*, two new watersheds (Ki'iki'i and Paukaiula) became eligible for §319(h) Project Funds. These additional watersheds brought the total number of watersheds eligible for §319(h) Project Funds to 41 (Kauai County: 7; City and County of Honolulu: 25; Maui County: 7; Hawai'i County: 2).



The Program also has provided technical assistance and support to state and non-profit organizations in Southwest Maui and East Moloka'i who are in the process of developing or intend to develop WBPs. The Program reviewed Southwest Maui's watershed plan draft, provided feedback, and discussed the plan with the Central Maui Soil and Water Conservation District. The Program has also provided guidance on the development of an alternative watershed plan (alternative plan) in Moloka'i, where feral ungulates have created sediment problems along the southeast slope of the island. The Program has participated in two meetings held by the Nature Conservancy (TNC) and its U.S. Geological Survey (USGS) and University of Hawai'i (UH) partners to discuss the alternative plan's scope, goals, and expectations.

To clarify alternative plan eligibility and requirements for current and future alternative plan development, the Program drafted alternative plan guidelines based on EPA's alternative plan requirements. In addition, the Program developed watershed-based plan evaluation criteria and an evaluation scoresheet to better identify WBPs' strengths and deficiencies with respect to EPA's minimum requirements for watershed plans.

The West Maui WBP for all five watersheds is no longer being developed by the West Maui Ridge to Reef Initiative (R2R) partners. Instead, one of the partners, U.S. Army Corps of Engineers, is conducting extensive sediment studies in the region. This year the CWB's TMDL Coordinator filled in for the Program's EHS on the R2R Funding and Agency Support Team, since the EHS position has been vacant since January and because a TMDL in West Maui may be developed in the near future.

In FY18, the Program continued to support the development of the CWB's Waikele watershed TMDL+ Plan, which will meet the EPA's requirements for both a WBP and a TMDL. The TMDL+ Plan will define, prioritize, and locate implementation projects that address both point source and NPS pollution within the watershed and will guide the CWB's water quality monitoring and restoration efforts in Waikele once it is completed.

Turbidity, sediment, and nutrient TMDLs for Waikele watershed were determined in July 2018 by TetraTech, EPA's in-kind contractor. A TMDL discussion meeting for stakeholders in Waikele watershed was held in September. The TMDL will be completed in FY19. The implementation portion of the TMDL+ Plan will include required elements of a WBP, including identification of polluted runoff control projects and control measures, load reductions that will be achieved through project implementation, and

indicators for evaluating progress. The CWB plans to release a request for proposals (RFP) in FY19 to assist with the development of this implementation portion and complete the final TMDL+ Plan by FY21.

### Hawai'i's Nonpoint Source Management Plan: Goal 2 Outcomes Checklist

- ✓ **Priority watersheds for water quality protection and restoration are determined for 2020-2025.**

The Program currently is focusing its efforts on its three existing priority watersheds (Hanalei Bay, He'eia, and West Maui). New priority watersheds will be determined in FY19.

- ✓ **Strategies and goals for protecting high quality waters are developed.**

The Program included water quality protection in the CWB watershed prioritization matrix in FY16 to ensure that unimpaired waters were considered when new priority watersheds are determined. In FY17, the Program provided input on the Hawai'i Groundwater Protection Strategy (which SDWB implements) and began collaborating with DLNR-DOFAW to implement a watershed/water quality protection project in West Maui. In FY18, the Program completed a protection strategy to guide the Program's protection efforts.

- ✓ **A TMDL+ plan for Waikele watershed is developed.**

The Waikele TMDL for sediment and nutrients is currently being developed by the CWB. The draft TMDL was completed in FY18, and a stakeholder meeting was held. Based on comments from that meeting, the TMDL is under revision and will be completed in FY19. The CWB will begin development of the implementation/WBP portion of the TMDL+ plan in FY19.

- ✓ **Three new watershed-based plans are developed.**

The West Maui WBP for Kahana, Honokahua, and Honolulu was completed and approved in FY16. The Kaiaka Bay WBP, was completed and approved in FY18. The Program reviewed a draft of the Southwest Maui WBP and provided guidance to The Nature Conservancy on developing an alternative plan in FY18.

### Goal 3: Implementation - Implement NPS management strategies to restore impaired waters and protect high quality waters from NPS pollution

Implementation of NPS strategies is at the core of Hawai'i's §319(h) program. The State's main NPS implementation objective is to invest in projects to achieve measurable water quality improvements.

**Objective 1:** *Invest in projects to achieve and demonstrate water quality improvements through implementation of watershed-based plans and TMDL+ plans*

In FY18, the Program released RFPs targeting Hanalei Bay, West Maui, and Ko'olaupoko watersheds.

#### *Hanalei Bay RFP (October 2017)*

Prior to the release of the Hanalei Bay RFP, Program Staff conducted outreach in Kaua'i and met with a NRCS Conservation Specialist, the U.S. Fish and Wildlife Service, the DOH wastewater engineer, the Kaua'i CWB EHS, the Kaua'i county wastewater management engineer, and the Hanalei Watershed Hui.

The RFP targeted specific projects and sources of pollution identified in the *Hanalei Bay Watershed Management Plan* and solicited proposals for all watersheds with approved watershed-based plans. The Program received six proposals, including two for projects in Hanalei Bay. However, based on proposal evaluations by the Evaluation Committee (PRC Program and EPA staff), the Program awarded Oahu Resource Conservation and Development Council (O'ahu RC&D) for Phase 3 of its Waimanalo Stream Restoration and Community Outreach project. The Program also selected Kaho'olawe Island Reserve Commission's (KIRC) proposal for a Phase 2 project to reduce sediment runoff and restore habitat in Hakioawa watershed on Kaho'olawe. KIRC's project commenced in August (see Table 1 for more information), and Oahu RC&D's project will begin in FY19.

#### *West Maui RFP (May 2017)*

Prior to the release of the West Maui RFP, the Program went to West Maui to conduct outreach with the assistance of the R2R Watershed Coordinator, Tova Callender, whose position is funded jointly by the Program and DLNR Division of Aquatic Resources (DLNR-DAR). The Program discussed project ideas with stakeholders in the area, including West Maui Mountains Watershed Partnership, the Coral Reef Alliance, and Maui Land and Pineapple Company, Inc. (ML&P). The Program also viewed a project aimed at reducing sediment runoff from agricultural roads using vetiver grass. The RFP targeted specific projects identified by the R2R Watershed Coordinator and the two watershed plans for the West Maui watersheds. As with other Program RFPs, proposals were accepted for all watersheds with approved watershed-based plans.

The Program received eight proposals and selected three projects for funding in July: ML&P's proposal to use an ahupua'a approach to implement BMPs aimed at reducing sediment and nutrients in the West Maui watersheds; Waipa Foundation's proposal to continue watershed-scale restoration project aimed at reducing sediment, bacteria, and nutrients in Waipa, Waioli, and Waikoko Streams in the Hanalei Bay watersheds; and Oahu RC&D's proposal to restore riparian buffers and implement agricultural best management practices (BMPs) on the windward side of O'ahu. Contracts were drafted for two of the three projects, and the remaining contract will be drafted in early FY19. All projects will begin in FY19.

#### *Ko'olaupoko Moku Watersheds Coordinator RFP (August 2018)*

In FY17, the Program recognized the need for a watershed coordinator to assist in the planned (FY21) update of Koolauapoko Watershed Restoration Action Strategy (KWRAS), which was developed in 2007 and includes strategies to address polluted runoff in He'eia, a priority watershed. Because the Ko'olapuoko moku contains 18 watersheds, a watershed coordinator would be needed to conduct extensive outreach and track water quality and watershed restoration activities to provide data for and address community concerns in the KWRAS update. Therefore, in August, the Program released an RFP soliciting a watershed coordinator for the Ko'olaupoko moku watersheds. The Program received three proposals and will make its award decision in October 2018.

#### *Invest in priority watersheds*

In addition to the RFPs targeting priority watersheds previously mentioned and the new awarded projects in priority watersheds, the Program continued to invest in priority watersheds in FY18:

- The Program collaborated with DLNR-DOFAW on a fencing project in West Maui watersheds to reduce erosion and sediment loadings caused by feral ungulate activity. The project includes the installation, retrofit, and replacement of over 16,000 feet in ungulate fencing to protect upper

forested conservation lands from feral ungulate disturbance. The project received its NTP in January and will be completed in January 2021.

- In September, the Program extended the R2R Watershed Coordinator’s contract for an additional two years to assist with outreach and projects in West Maui. The coordinator’s position is funded through a collaboration between the Program and DLNR-DAR.
- The Program continues to implement the He’eia Fishpond Mangrove Island Removal project (March 2017-March 2019) to reduce total phosphorous (Figure 1). The project is funded through a collaboration between the Program and UH Sea Grant.
- The Program continues to implement the Watershed Implementation Project for the Ahupua’a of Waipa (February 2016 – August 2019), which aims to reduce total nitrogen, sediment, and bacteria (enterococci) through implementing BMPs and replacing cesspools.
- The Program completed the He’eia Watershed Restoration and Education project in October 2017. The project contractor, Hui O Ko’olaupoko, installed upland landslide erosion control measures, restored one acre of riparian areas in the lower part of the watershed, and conducted outreach and education activities.

The Program planned to target CWA and Safe Drinking Water Act funds for a protection project by the end of 2017, but instead collaborated with DLNR-DOFAW to implement a protection project in West Maui in 2018. The Program worked with the SDWB to target both the surface water and source water readiness phase applications for the NWQI in West Maui, with the potential to collaborate on projects in West Maui if the applications are approved. More on the NWQI readiness phase can be found under Goal 4.

The Program canceled one priority watershed project, Replacing Cesspools with Advanced Wastewater Systems in Hanalei Bay Watershed, in January 2018 because the contractor could not secure the minimum number of commitments required for cesspool replacements. See Table 1 for more information on this project and all §319(h)-funded projects.

*Invest in additional projects in non-priority watersheds with WBPs, with the goal of targeting runoff from cesspools, agriculture, and urban areas*

In FY18, the Program implemented two new projects that were located in non-priority watersheds. One of these projects, the Pelekane Grazing Improvement Project, targets runoff from agricultural (grazing) activities and aims to reduce total nitrogen, total phosphorous, and sediment loads in the Pelekane Bay



**Figure 1.** Photos showing mangrove removal from inside and on the perimeter of He’eia Fishpond for the He’eia Fishpond Mangrove Removal Project. The removal of this mangrove cattle egret habitat will result in reduced total phosphorous loads in the fishpond. Mangrove will be replaced with native plants.

(Kawaihae) watershed by 1) facilitating rotational grazing by repairing a damaged paddock fence and building an additional paddock fence to create a second paddock, and 2) moving a watering trough away from Mekeahua Stream. The project is a collaboration between the Program and DLNR-DOFAW and will be completed in FY20.

The Program continued to implement existing projects aimed at developing conservation plans and reducing nutrients and sediment on agricultural lands, including the Ka'alaea and Waiahole Stream Restoration Phase 2 and the Agricultural Stewardship in the Ma'ili'ili Watershed (Figure 2) projects. (See Table 1 for more information.) The Program also awarded two new O'ahu RC&D projects this fiscal year in the Ko'olaupoko moku watersheds that will address runoff from agricultural activities, as was described previously in the Hanalei Bay and West Maui RFP sections.

Tolentino Farm LLC: Cover Crops



**Figure 2.** The Agricultural Stewardship in the Ma'ili'ili Watershed project assists farmers with BMP implementation, such as cover cropping.

### Implementation of Best Management Practices (BMPs) in the Wai'ula'ula Watershed



In 2014, the University of Hawai'i (UH) Sea Grant Program received a \$319(h) grant award of approximately \$447,000 to implement BMPs to reduce NPS pollution and stormwater runoff at three locations along the Wai'ula'ula Stream within the Wai'ula'ula/Waikoloa watershed. The project's goal was to reduce total nitrogen, total phosphorous, and sediment by implementing BMPs, which included stream riparian corridor stabilization, erosion control, native plant restoration, and a rain garden. UH also held several community work days, workshops, stakeholder meetings, and service learning and educational opportunities to engage local residents. The project was completed in August 2018.



The Program continued to support its other active projects: Implementation of BMPs in the Wai'ula'ula Watershed (completed in August), which installed BMPs to reduce total nitrogen, total phosphorous, and sediment loads (see inset on page 12); the Manoa Watershed Improvement Project (completed in June), which restored 1800 feet of streambank to reduce sediment loads in the Ala Wai watershed; and the Ma'ili'ili Watershed Implementation Project, a supplemental environmental project which will restore a reservoir and improve wetlands to reduce total nitrogen, total phosphorous, and sediment in Ma'ili'ili watershed by 2019. One project, Windward Community College Low-Impact Retrofit Phase II, was canceled in December 2017 due to the college's revocation of permission to retrofit the parking lot. See Table 1 for more information on these projects.

### *Assess and document water quality trends and environmental results*

Trends in water quality were identified for assessed waterbodies in the 2016 and 2018 Integrated Reports. He'eia Stream was delisted for wet season total phosphorous and turbidity in 2016 and for wet season nitrate+nitrite-nitrogen in 2018, thereby attaining all wet season water quality standards. A WQ-10 success story for He'eia will be submitted to EPA in FY19.

### **Hawai'i's Nonpoint Source Management Plan: Goal 3 Outcomes Checklist**

- ✓ **At least ten new §319(h)-funded NPS projects implemented to reduce and prevent NPS pollution.**  
Four new §319(h) projects were implemented in FY16 and FY17: an agricultural runoff control project in Ka'alaea and Waiahole watersheds, a project in Ma'ili'ili watershed, a West Maui watershed coordinator, and a fishpond restoration project in He'eia watershed. In FY18, three new projects started: a feral ungulate fencing protection project in West Maui, an agricultural BMP project in Pelekane Bay commenced, and a restoration and sediment reduction project in Hakioawa watershed.
- ✓ **Measurable water quality improvement in at least one NPS-impaired waterbody, resulting in a delisting and a WQ-10 success story.**  
Water quality improvements were documented in He'eia Stream for FY16 (delistings for total phosphorus and and turbidity) and FY18 (delisting for nitrate+nitrite). A WQ-10 success story for He'eia will be submitted to EPA in FY19.
- ✓ **Improvement in water quality in an impaired watershed due to restoration activities, resulting in a SP-12 success story.**  
The Program continues to track all environmental results and water quality improvements for its §319(h) projects and hopes to achieve this outcome by FY20.
- ✓ **Measurable pollutant load reductions and water quality improvement in at least two additional NPS-impaired watersheds.**  
Pollutant load reductions for sediment and nutrients have been documented for over seven watersheds, and enterococci reductions in Hanalei Bay were reported in Hanalei Bay in FY17. Water quality improvements in additional watersheds will be identified in FY20 in the Integrated Report. The Program plans to identify improving trends in Waipa watershed and West Maui with continued restoration work and water quality monitoring.

The Program assessed and documented water quality trends and environmental results achieved by §319(h) projects through quarterly project status reports (QSRs), final project reports, and water quality monitoring assessments (the 2018 IR). All contractors receiving §319(h) funding are required to conduct monitoring to demonstrate project effectiveness and to report load reductions and environmental results in QSRs and final reports. The Program documented load reductions for each project and input them into the EPA's Grants Reporting and Tracking System (GRTS) in February. However, because of the EHS vacancy, the Program has not been able to continue to track load reductions in GRTS and therefore does not have the final load reductions achieved this fiscal year. GRTS load reductions will be updated and maintained regularly when the Program fills its EHS vacancy in FY19.

The Program also monitored the progress of its §319(h) projects through site visits, which were scheduled approximately once per year per project. The O'ahu (He'eia project) site visit was conducted in June. The Big Island site visit was conducted in July for the closeout of the Wai'ula'ula project. The Program had conducted a site visit in Kaua'i in September 2017 to check on the status of a project in Hanalei Bay. The Program did not conduct a site visit for the West Maui fencing project, since fence installation had not yet started when the Program went to West Maui to conduct outreach in April.

The Program made project and pollutant load reduction tracking easier through the continued development of its [PRC Viewer website](#), which was updated extensively this year. The Viewer includes project details and documents and watershed-based plans. The viewer is part of a larger CWB effort that includes data for permitted facilities, water quality monitoring, and beach and brown water advisories.

#### **Goal 4: Statewide NPS Program Development and Implementation - Develop and employ an effective statewide program to manage NPS pollution**

A critical component *Hawai'i's Nonpoint Source Management Plan* is developing and implementing a statewide approach to managing NPS pollution. To accomplish this goal, the State draws upon various programs and resources, including its NPS program, the CNPCP, and several departments that manage water resources. The State relies on cross-program coordination to monitor and assess water quality, prepare and implement plans for NPS-related efforts, and demonstrate water quality improvements. Partnerships are therefore critical to the success of NPS management in Hawai'i.

The State laid out four objectives under this goal in *Hawai'i's NPS Management Plan*. The status of these objectives is described in detail below.

##### ***Objective 1: Develop and implement the Coastal Nonpoint Pollution Control Program (CNPCP) to prevent and reduce coastal NPS pollution statewide***

Developing and implementing a statewide program to prevent and reduce coastal NPS pollution is a priority for the Office of Planning CZM Program (OP-CZM) and the Program, who jointly administer the State's CNPCP. Hawai'i's CNPCP remains under conditional approval from the EPA and NOAA. Management measures for Agriculture, Forestry, Hydromodifications, Marinas and Recreational Boating, and Wetlands have all been approved. However, the following six Urban Area management measures still require approval: 1) New Development; 2) New Onsite Disposal Systems (OSDS) 3) Operating OSDS; 4) Planning, Siting, and Developing Roads and Highways; 5) Operation and Maintenance of Roads and Highways; and 6) Bridges (siting, design, and maintenance). In addition, one CNPCP administrative element, Monitoring and Tracking, requires approval. Once the Program obtains approval of these management measures, it will be able to implement and assess the water quality impacts of the CNPCP.

This fiscal year, the Program made progress in developing management measures that meet the conditions stated in the EPA and NOAA's 2012 Interim Decision Document regarding Hawai'i's CNPCP. The Program revised and completed the New OSDS management measure. The Program also revised and completed the Monitoring and Tracking administrative element in May and is waiting for feedback from EPA. OP-CZM and the Program also began updating previously approved management measures, but continued to struggle with completing the Operation and Maintenance of Roads and Highways (and Bridges) and the Operating OSDS management measures. The Program and OP-CZM met with the EPA in May and identified alternative strategies to complete the management measures. See Appendix A for the status of management measures and the strategies to meet management measure requirements.

The Program also participated in OP-CZM's evaluation by NOAA in August. (The Program's participation was requested by the CZM Program Manager because the Planner responsible for the CNPCP left OP-CZM in July.) At the evaluation, NOAA, OP-CZM, and the PRC Program discussed the progress the two programs have made in developing the CNPCP over the past ten years, the current status of the CNPCP, challenges to meeting management measure requirements, and strategies for meeting remaining requirements (see Appendix A). NOAA, OP-CZM, and the Program also discussed the necessary action plan that OP-CZM will be required to complete within 18 months of NOAA's evaluation findings. The Program will assist OP-CZM on developing the necessary action plan in FY19 and FY20.

A new development for the CNPCP is the potential for using developing NPS administrative rules, which were last attempted fifteen years ago. For these rules, the CWB and the Deputies Attorney General will be incorporating the CNPCP management measures. Outstanding management measure requirements will be addressed in the new rules, with the expectation that the rules and previously approved management measures will meet all the requirements for the State's CNPCP. A schedule for the NPS rulemaking process has not been determined, since additional staff and/or consultants will be needed to complete the draft rules and hold public information meetings. Therefore, the proposed NPS rules will most likely not be finalized until 2020 or 2021.

***Objective 2: Develop and implement strategies to address the State's major NPS pollution concerns***

In FY16, the State began developing a statewide cesspool strategy to address pollution from the State's nearly 90,000 cesspools. The first step in developing the State's strategy was the creation of the Cesspool Workgroup, which is headed by the Wastewater Branch (WWB) Chief and consists of staff from the DOH CWB, SDWB, and EPA Region 9. The mission of the Cesspool Workgroup is to reduce the widespread use of cesspools in Hawai'i. To achieve this mission, the Workgroup set out to develop a collaborative strategy and framework to address the problem of cesspool pollution throughout the State. The Cesspool Workgroup began meeting in June 2016 and developed a general strategy for addressing cesspools in the State. Part of the cesspool strategy included hiring a cesspool coordinator, who was hired in March this fiscal year.

From November through December 2017, the Cesspool Workgroup developed a Report to the Legislature that prioritized areas where cesspools have the biggest impact on groundwater and surface water quality. The two top priority (Priority 1) areas identified in the plan are Kahalu'u, which had been an initial area of focus for the Workgroup, and upcountry Maui. The Program reviewed draft reports and provided feedback on them at Workgroup meetings. After the report was published, the Cesspool Workgroup conducted community informational meetings in Maui, Waimanalo, 'Ewa, Kona, Hilo, and Kaua'i County. The Workgroup also met with CCH to discuss eliminating cesspool use in certain areas of Kahalu'u that have the potential to be connected to sewer lines. Because CCH does not have funds to

connect Kahalu'u homes to sewer lines, the Workgroup and CCH discussed alternative funding mechanisms.

The Cesspool Workgroup meetings became irregular during the 2018 state legislative session and after the passage of a bill (SB2567; Act 132), which required the formation of a "Cesspool Conversion Working Group (CCWG)." Members of the CCWG from the following departments, organizations, and industries were identified in the act: DOH and DOH-WWB, County wastewater agencies, the wastewater industry, the financial/banking industry, the UH Hawai'i institute of Marine Biology (HIMB), the UH Water Resources Research Center (WRRRC), the Hawai'i Association of Realtors, Surfrider Foundation, the State House, and the State Senate. The State's comprehensive cesspool conversion strategy will be submitted to the Legislature in FY20. The original Cesspool Workgroup will meet approximately quarterly to discuss the cesspool conversion plan.

The Program continued to draft its agricultural runoff (ag NPS) strategy this fiscal year. The Program reviewed priority watershed WBPs, the KWRAS, and the Kaiaka Bay WBP to identify common, effective strategies and approaches to addressing agricultural NPS pollution. The Program also worked with potential agricultural partners, the NRCS and UH College of Tropical Agriculture and Human Resources (CTAHR), to develop project ideas and proposals. In September, the Program met with the NRCS, DLNR-DOFAW, the Hawai'i Association of Watershed Partnerships (HAWP), and the SDWB to discuss the NRCS's NWQI readiness phases for surface and source waters. The Program and its partners decided to focus its efforts in West Maui because of active partnerships and projects in the region and because of potential partners, including Maui County. In addition, because West Maui is a CWB priority watershed, inland water quality monitoring will likely begin in the region by FY20, and these water quality monitoring efforts could be used to measure the effectiveness of NWQI efforts. The Program provided watershed assessment information, water quality information, and cost estimates for the NWQI Readiness Phase application, with input from DLNR-DOFAW, who will assist with outreach efforts to producers and assist with determining producers' eligibility for NRCS funds. The West Maui Soil and Water Conservation District in Maui might also participate in the NWQI if the application is accepted.

The Program also provided a letter of support for an NRCS Conservation Innovation Grant application submitted by CTAHR in February. The goal of CTAHR's proposed project was to develop and implement soil health management systems on farms in Hawai'i. Although CTAHR did not receive the grant, the Program continued to discuss soil management projects with CTAHR faculty and Extension agents. In September, CTAHR proposed to implement soil health management practices on seven farms. The Program will continue to work with CTAHR to determine a potential project's scope and budget, and possibly fund a project with them in FY19.

The Program was actively involved in NPDES enforcement settlement discussions with the Hawai'i Department of Agriculture (HDOA) and assisted with developing a memorandum of understanding between HDOA and DOH regarding agricultural land practices on Kaua'i. The Program also discussed the ag NPS strategy this year with the HDOA Pesticides Branch, which participated with DOH in the 2018 Joint Government Water Conference held in each county. The CWB and HDOA previously partnered with the USGS to conduct a statewide pesticide sampling project. The Program plans to include similar partnership efforts in its final ag strategy, which will be incorporated into the *NPS Plan* update in FY20.

A substantial portion of the final ag NPS strategy will include the development of NPS rules, which started this fiscal year. In addition to the partnerships and projects discussed above, the agricultural management measures from Hawai'i's CNPCP and the Program's successful projects developing conservation plans and implementing BMPs will be included in the final ag NPS strategy.

**Objective 3:** *Build new partnerships and strengthen existing partnerships to facilitate program coordination and integration for NPS management*

For new partnerships this fiscal year, the Program focused on agriculture-related departments and organizations as it developed its ag NPS Strategy. Specifically, the Program discussed its agricultural runoff strategies and projects, submitted project applications, and developed project proposals, with NRCS, CTAHR, and the HDOA Pesticides Branch (see Goal 4, Objective 2 above).

In FY18, the Program continued to develop its relationships with existing partners. Within the CWB, the Program continued to work the all sections and programs to implement Blue Earth's recommendations to improve CWB. The Program Specialist participated in supervisor meetings and staff participated in quarterly Branch meetings to improve communication between the different CWB programs and sections. The Program also assisted with the CWB's Monitoring Plan implementation by contributing to the EPA's quarterly reports on implementation efforts and also provided feedback on the Monitoring Section's Integrated Report drafts in February.

Within the broader DOH Environmental Management Division, the Program continued to work with the DOH-WWB and DOH-SDWB as members of the Cesspool Working Group (see Goal 4, Objective 2 above for more information). The Program Specialist presented at all five of the SDWB-organized Joint Government Water Conferences in 2018, and the Contracts Specialist and Planner attended two of the conferences. The Program also met with SDWB several times to discuss and collaborate for the NWQI source water and surface water readiness phase applications.

The Program and the OP-CZM maintained a close relationship as they worked to obtain approval of the State's CNPCP. The OP-CZM and the Program regularly discussed management measure solutions, provided feedback on management measure write-ups, and updated each other on progress. The Program and OP-CZM met with the EPA (via conference call) in May to discuss CNPCP management measures and the CNPCP submission process. The Program also participated in the OP-CZM evaluation in August (see Goal 4, Objective 1 above). The two programs will continue to work together to complete the OP-CZM's necessary action plan and to complete the CNPCP for full approval.

The Program continued to partner with other State agencies on polluted runoff control projects. In January, the Program began implementing two projects—an ungulate fencing project in West Maui aimed at reducing sediment and nutrients, and a rotational grazing project in Pelekane Bay aimed at reducing sediment and nutrients—with DLNR-DOFAW. The Program continued to discuss project ideas with DLNR-DOFAW throughout the NWQI readiness phase application, with the Program offering to assist with water quality monitoring and watershed assessment components and DLNR-DOFAW offering to assist with outreach to agricultural producers. The Program also executed an MOA with KIRC to continue sediment control efforts in the Hakioawa watershed on Kaho'olawe this fiscal year (see Table 1 for more project information).

### *Outreach*

The Program believes that effective education and outreach rely heavily on partnerships. In April, the Program partnered with CCH and Waikiki Aquarium to hold the 11<sup>th</sup> annual Mauka to Makai Earth Day Environmental Expo at Waikiki Aquarium. Over 4,300 people attended the family-friendly event, whose goal was to promote the importance of keeping Hawai'i clean and free of pollution from the mountains to the sea. In October 2017, the Program met with stakeholders in Kaua'i to discuss its Hanalei Bay watersheds RFP, and in April the Program worked with the R2R Watershed Coordinator to hold a

meeting for West Maui stakeholders to learn about opportunities for polluted runoff control projects in West Maui.

The Program also required all §319(h) contractors to conduct outreach, including a minimum of two press releases describing their projects. These press releases are designed to provide the public with basic information about NPS pollution and provide an opportunity for members of the community to become involved in watershed activities in their area. In conversations with the Program's partners, the press releases have had the desired effect of generating local interest, specifically for attracting volunteers. Each awarded project also includes an education and outreach component to inform and engage residents in polluted runoff control efforts. Outreach events include volunteer work days, workshops, and field demonstrations (Figure 3).



**Figure 3.** Workshop attendees identify different pests at a field demonstration for the Agricultural Stewardship in the Ma'ili'ili Watershed project.

In addition to project outreach, the Program continued to distribute outreach materials to schools upon request, including 200 coloring books this fiscal year.

**Objective 4:** *Apply adaptive management to improve the State NPS Program and investigate innovative approaches to address NPS pollution in Hawai'i*

This objective covers several milestones, including program assessment, staff development, and investigating new ways to improve the Program and address NPS pollution problems in Hawai'i.

The Program assesses its progress twice a year – in October for its End of Year Report and semi-annual progress report and in March for its semi-annual progress report. The Program held a three-day “retreat” in March to review the Program's workplan, provide status updates on workplan tasks, propose amendments to the workplan, discuss tasks with the TMDL Coordinator and the QA/QC Officer, and develop the West Maui and Ko'olaupoko Moku Watersheds Coordinator RFPs. Program staff also participated in online and phone surveys to evaluate the Program and CWB for a branch-wide evaluation that was conducted by the environmental consulting firm Blue Earth. The final evaluation of the CWB was completed in June, and the Branch Chief and section/program supervisors met monthly to discuss implementation of its recommendations.

The Program participated in various trainings to develop skills, including procurement, ArcGIS, STEPL, GRTS, CAFO nutrient management planning, and enforcement. Program staff also attended webinars and conference calls hosted by the Association of Clean Water Administrators, the Coastal States Organization, and the Association of Safe Drinking Water Administrators to stay up to date with NPS programs and strategies. In addition, Program staff presented at and attended the 2018 Joint Government Water Conferences hosted by the SDWB. The conferences provided good opportunities to inform representatives from private, public, and nonprofit sectors about the §319(h) program and to network with other government agencies, researchers, consultants, planners, educators, and others involved in water resource management. The conference speakers' presentations also provided information on water quality status throughout the state and on projects and initiatives that are being implemented to assess and improve water quality.

The Program also explored ways to improve various aspects of project development and management. The Program recognized that several project proposals and WBPs lack pollutant load reduction estimates. Therefore, the Program included a “load reduction estimate toolkit” in its West Maui RFP that provided information on approaches to estimating loads and load reductions and included resources and models that are commonly used for load estimation. The Program also modified its RFP and proposal scoring criteria to reflect the importance of load reductions and water quality improvements for projects. Finally, because the Program plans to continue partnering with state and county government agencies, it developed project proposal guidelines for government agencies. The guidelines provide eligibility information, identify required proposal elements and provide sample templates (e.g., project budget and timeline), and describe project requirements and the Program’s expectations.

For project management, the Program continued to add functionality to its web platform, the [Polluted Runoff Control Viewer](#) (Figure 4), by including features such as deliverable tracking and project status reporting. Individual user accounts will be developed in FY19 to facilitate quarterly reporting. The Program continues to work with its contractor, Windsor Solutions, on improving and refining the PRC Viewer so that it can be utilized as a project management tool for both the Program and its contractors and to make it easier for public use for accessing WBPs, learning about NPS control projects, and finding watershed and water quality information.

The Program pursued new two innovative approaches to managing polluted runoff in FY18. The first approach involved exploring the development of the State’s first alternative plan, which was described earlier under Goal 2, Objective 3. In the spring, TNC, HAWP, USGS, and UH expressed interest in developing an alternative plan for Kawela watershed on Moloka’i. The Program and EPA discussed alternative plan requirements with the partners and reviewed a detailed outline of the proposed plan. The Program plans to continue working with TNC, who is writing the plan, and its partners on further alternative plan development in FY19.

The Program also began investigating an innovative approach to managing NPS pollution: administrative rules for NPS pollution. Since June, the DOH Director, Deputy Director, Deputies Attorney General, CWB

**POLLUTED RUNOFF PROJECTS**  
He'eia Fishpond Mangrove Island Removal Project

**ACTIVE**

ISLAND  
O'ahu

AWARD BALANCE  
\$101,368.13

MATCH BALANCE  
\$57,571.97

Details

GRTS >

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**He'eia Fishpond Mangrove Island Removal Project** ACTIVE

**DESCRIPTION**  
UH Sea Grant shall conduct a multi-phase mangrove (Rhizophora mangle) removal project that will eliminate cattle egret habitat and reduce total phosphorous. In Phase 1, UH Sea Grant will remove mangroves and non-native plants from the staging area along the southwestern wall of He'eia Fishpond and implement BMPs to reduce erosion and runoff from the staging area. In Phase 2, UH Sea Grant will remove mangroves from a "mangrove island" in He'eia Fishpond. In Phase 3, UH Sea Grant shall replant the staging area and mangrove island with native plants and implement erosion control measures. In Phase 4, UH Sea Grant will maintain the project sites for 12 months.

AWARDED ON	START DATE
Oct 25, 2016	Mar 14, 2017

END DATE	EXTENDED TO
Mar 13, 2019	—

ASO LOG NUMBER  
17-100

AWARD AMOUNT	MODIFIED AWARD	TOTAL AWARD
\$189,504.70	\$0.00	\$189,504.70

MATCH AMOUNT	MODIFIED MATCH	TOTAL MATCH
\$57,571.97	\$0.00	\$57,571.97

ISLAND  
O'ahu

WATERSHED BASED PLAN

LOCATIONS 1

CONTACTS 1

CONTRACTOR

Maya Walton  
University of Hawai'i Sea Grant College Program  
808/956-6992  
waltonm@hawaii.edu

VIEW ALL

**Figure 4.** Screenshot of project details from the Polluted Runoff Control Viewer

Enforcement Section supervisor, and the PRC Program Specialist have met biweekly to discuss the scope of the rules and initial drafting of the rules. The framework of the new rules is largely built upon CNPCP management measures to ensure that all categories of NPS pollution are covered in the rules and to facilitate approval of the State's CNPCP (see Goal 4, Objective 1). The Program and DOH leadership have also discussed organizational changes and funding that will be needed to implement the rules. The DOH has not set a timeline yet for the rulemaking process, but the Program anticipates that the rules will be ready for the governor's approval by 2021.

### Hawai'i's Nonpoint Source Management Plan: Goal 4 Outcomes Checklist

- ✓ **CNPCP receives full approval under CZARA.**  
The Program and OP-CZM have completed all outstanding measures except Operating OSDS and Operation and Maintenance for Roads, Highways and Bridges. The Program and OP-CZM plan to submit the final CNPCP to EPA and NOAA within five years.
- ✓ **Status of CNPCP management measure implementation is determined.**  
The Program will determine management measure implementation status after the CNPCP is approved.
- ✓ **At least three NPS restoration and protection projects are implemented through partnerships, including one funded through the DWSRF or CWSRF.**  
The Program began implementing a project with UH Sea Grant Program to restore He'eia Fishpond in FY17. In FY18, the Program implemented two projects through a collaboration with DLNR-DOFAW and a project through collaboration with KIRC. Since FY16, the Program has partnered with DLNR-DAR to fund the West Maui Ridge to Reef Watershed Coordinator position. The Program discussed funding opportunities with SDWB using the DWSRF but was unsuccessful; DWSRF set-aside funds were used for other SDWB projects. DOH's CWSRF focus is on large scale infrastructure projects that limit partnership opportunities.
- ✓ **Statewide approaches to managing NPS pollution from cesspools, urban areas, and agriculture are developed.**  
In FY16, the Cesspool Workgroup developed a framework for the State's approach to eliminating cesspools. Cesspool Workgroup efforts in FY17 and FY18 have gone towards prioritizing areas for cesspool replacements and conducting outreach in each county. A new Cesspool Conversion Working Group was established in FY18 by Act 132. This group will develop a more comprehensive strategy by FY20. The Program drafted agricultural runoff strategies and opportunities in FY18, which will be incorporated in the *NPS Plan* update.
- ✓ **Integration among DOH CWB, SDWB, and WWB programs is improved to more effectively target resources towards water quality improvements.**  
Since FY16, the CWB, SDWB, and WWB have worked together in the Cesspool Workgroup to create solutions for the State's cesspool problems. The Program continues to work with the CWB to monitor and assess water quality and develop monitoring plans and with the WWB to meet CNPCP requirements. The Program plays a role in the SDWB's Hawai'i Groundwater Protection Strategy, and in FY18 worked with SDWB to target West Maui for the NWQI readiness phases. The Program also participated and gave presentations at the 2018 Joint Government Water Conference, which was organized by the SDWB.

## Program Administration

The Program had one vacancy this fiscal year with the departure of its Environmental Health Specialist, Greg Takeshima, in January.

### *§319(h) Grant-Funded Staff:*

Program Specialist V	Michael Burke
Environmental Health Specialist IV	Vacant
Contracts Specialist	Joanna Yeh
Planner IV	Darcey Iwashita
Office Assistant III	Amy Kawai

Below is a summary of the Program's fiscal and administrative tasks and milestones for FY18.

Program Objective	Milestones	Tasks, Deliverables, and Progress
1. Obtain the 2018 CWA §319(h) grant	a. Develop the 2018 Workplan Table, Narrative, and Budget	The Workplan and Budget were completed and approved.
	b. Negotiate grant	The grant was negotiated in April. \$1,226,000 was awarded for FY19 with the State contributing \$817,500 in non-federal match.
2. Perform fiscal and program management to ensure successful and appropriate spending of §319(h) grant funds	a. Spend all awarded funds with no unobligated funds	The FY13 grant has been spent down.
	b. Reallocate unspent Personnel costs to contracts	Unspent personnel funds were identified, and reclassification paperwork was submitted to ASO in 2/2018. A revised SF 424A to amend the FY13 grant budget was sent to EPA on 9/2018; the Program will calculate and amend remaining grants in FY19.
	a. Oversee contracts	Contracts and contract deliverables were managed and uploaded to the PRC Viewer.
	b. Participate in End of Year meetings with the EPA and DOH	The Program participated in the End of Year meetings with EPA in December.
	c. Prepare semi-annual Workplan progress reports and the End of Year Reports	All reports were completed and approved by EPA.
3. Assess personnel status and needs	a. Fill all vacant positions	The Environmental Health Specialist IV position became vacant in January. Interviews for the position were held in April and August, but no applicant was selected. The Program has not received a list of applicants since July.

## Clean Water Act §319(h) Grants Management

In the past year, the Program managed five EPA CWA §319(h) grant awards (FY13, FY14, FY15, FY16, & FY17). At the end of September 2018, the FY13 grant closed and the Program was awarded a FY18 grant. Individual grant awards and §319(h)-funded projects are listed below by fiscal year:

### ***Fiscal Year 2013 (Federal C996978713-0/State 9290-13); 9/30/2013 to 9/29/2018***

The FY13 EPA CWA §319(h) grant is \$1,146,000 of federal funds with a State in-kind contribution of \$764,000. Approximately \$887,890 of federal funds were expended for project implementation, including \$125,000 of unspent personnel funds that were reclassified to project implementation due to vacancies. \$258,110 has been spent to support the Program.

### ***Fiscal Year 2014 (Federal C996978714-1/State 9290-14); 10/1/2014 to 9/30/2019***

The FY14 EPA CWA §319(h) grant is \$1,262,300 of federal funds with a State in-kind contribution of \$841,540. \$1,040,290 of federal funds were expended, is currently encumbered, or will shortly be encumbered for project implementation, including \$208,990 of unspent personnel funds that were reclassified to project implementation due to vacancies. \$222,010 was spent to support the Program.

### ***Fiscal Year 2015 (Federal C996978715-0/State 9290-15); 10/1/2015 to 9/30/2020***

The total FY15 EPA CWA §319(h) grant is \$1,161,300 of federal funds with a State in-kind contribution of \$774,200. Approximately \$788,780 of federal funds were expended, is currently encumbered, or will shortly be encumbered for project implementation, including \$69,500 of unspent personnel funds that were reclassified to project implementation due to vacancies. \$372,520 has been spent to support the Program.

### ***Fiscal Year 2016 (Federal C996978716-0/State 9290-16); 10/1/2016 to 9/30/2021***

The FY16 EPA CWA §319(h) grant is \$1,199,000 of federal funds with a State in-kind contribution of \$799,333. \$843,200 of federal funds were expended, is currently encumbered, or will shortly be encumbered for project implementation, including \$150,000 of unspent personnel funds that were reclassified to project implementation due to vacancies. \$355,800 was spent to support the Program.

### ***Fiscal Year 2017 (Federal C996978717-0/State 9290-17); 10/1/2017 to 9/30/2022***

The Program was awarded an EPA CWA §319(h) grant of \$1,240,000 of federal funds with a State in-kind contribution of \$830,000. Approximately \$546,640 of federal funds will be spent to support the Program and \$693,360 is available to fund implementation projects. \$415,000 in project funds will be encumbered shortly as awarded projects are currently under contract review with the Department's Administrative Services Office.

### ***Fiscal Year 2018 (Federal C996978718-0/State 9290-18); 10/1/2018 to 9/30/2023***

The Program was awarded an EPA CWA §319(h) grant of \$1,226,000 of federal funds with a State in-kind contribution of \$817,500. Approximately \$459,410 of federal funds will be spent to support the Program and \$766,590 is available to fund implementation projects. The Program anticipates that its 2018 procurement efforts will yield projects that can be funded by this grant and that all grant project funds will be encumbered in one year.

**Non-Federal Match**

The State relies on general funded salaries from personnel supporting the Program to meet its CWA §319(h) match obligation. General funded staff include the Clean Water Branch Chief, the Branch Secretary, an IT Specialist, a Quality Assurance/Quality Control Specialist, an Environmental Health Specialist (EHS) assigned to develop the State's Integrated Report, four outer-island EHSs, and five Individual Wastewater System Engineers (IWSs).

The neighbor island EHSs collect marine surface water samples and investigate complaints related to both point-source and NPS pollution. Because of Program personnel limitations, these neighbor island employees act as the Program's eyes and ears and provide a physical presence on the neighbor islands that the Program cannot provide. Due to vacancies and severe weather, which took away from regular duties, only one EHS reported responding to four complaints in FY18.

The IWSs are responsible for reviewing and approving plans and specifications for wastewater systems, inspecting wastewater system construction, and regulating wastewater systems in the State. In FY18, the IWSs conducted 215 IWS plan reviews, 29 follow-up plan inspections, and 38 other inspections on Kaua'i; 176 IWS plan reviews and 51 follow-up plan inspections on O'ahu; 306 IWS plan reviews, 64 follow-up plan inspections, and 7 other inspections on Maui, and 1,178 IWS plan reviews, approximately 196 follow-up plan inspections, and 41 other inspections on the Island of Hawai'i (774 reviews, 130 est. follow-ups, and 3 other inspections in Hilo and 404 reviews, 66 est. follow-ups, and 38 inspections in Kona).

Additionally, all implementation project contractors are required to contribute a minimum of \$0.25 for every \$1 in federal grant funds received from the State. This supplements the State's general funded salary match and assists the State with meeting its non-federal match requirement via pass-through to the EPA, while also demonstrating contractor commitment to their proposed project(s).

<b>Federal Fund Grants Summary</b>						
<b>Fiscal Year Grant</b>	<b>FY13</b>	<b>FY14</b>	<b>FY15</b>	<b>FY16</b>	<b>FY17</b>	<b>FY18</b>
<b>EPA Grant Award</b>	\$1,146,000	\$1,262,300	\$1,161,300	\$1,199,000	\$1,240,000	\$1,226,000
<b>Program Personnel &amp; Overhead</b>	\$258,110	\$222,010	\$372,520	\$355,800	\$546,640	\$459,410
<b>On-going, Encumbered &amp; Completed Projects</b>	\$887,890	\$986,460	\$739,520	\$796,340	\$415,000	\$0
<b>Project Funds Currently Available</b>	\$0	\$53,830	\$49,260	\$46,860	\$278,360	\$766,590
<b>Unspent Personnel Funds Reclassified for Projects</b>	\$125,000	\$208,990	\$69,500	\$150,000	\$0	\$0

**Table 1.** Clean Water Act §319(h) Project Information for Fiscal Year 2018

Project Title (Watershed), Contractor or Partner	Project Description & Status – September 30, 2018	Environmental Results and Pollutant Load Reductions	Start-End Dates and Funding
<b>He'eia Watershed Restoration and Education (He'eia)</b> , Hui O Ko'olaupoko (HOK)	The project has been completed. HOK stabilized erosion scarring by installing approximately 24,000 square feet of erosion control matting. Sedimentation basins measuring approximately 6,000 square feet were installed at the base of the scars to remove most of the visible erosional inputs. In upper He'eia, the contractor completed rain gardens with continued erosion pin monitoring by Hawai'i Pacific University through August 2017. The contractor completed mangrove removal in approximately 4.2 acres of wetland and replaced them with native and naturalized plants. The contractor continues to maintain the area to prevent mangroves from re-establishing.	<ul style="list-style-type: none"> <li>• Reductions in Total Phosphorus and Turbidity in He'eia Stream resulted in the removal of He'eia Stream for those pollutants from the CWA 303(d) list of impaired waters for 2016</li> <li>• Sediment reduced by 286 tons/year</li> <li>• Total nitrogen reduced by 2,200 lbs/year</li> <li>• Total phosphorus reduced by 800 lbs/year</li> <li>• Ground cover increased in the riparian areas, resulting in sediment load reductions and improved water quality</li> <li>• Revegetation with native plants increased native plant diversity in the streambank and stream mouth areas, increasing the probability that native flora and fauna will repopulate their natural habitats</li> </ul>	6/20/13 - 10/31/17 \$747,030 (§319(h)) \$284,370 (match)
<b>Manoa Watershed Improvement Project (Ala Wai)</b> , Ala Wai Watershed Association, Inc.	The project has been completed. The contractor restored approximately 1800 feet of riparian and streambank along the Kamoowaa Stream by replacing non-native plants with native species, trimming canopy, reducing brush, and installing erosion control matting. Though the contract has been completed, the contractor's volunteers continue to perform maintenance weeding continued along Kamoowaa Stream.	Estimated sediment load reduction is 198 ton/year.	6/5/14 - 6/30/18 \$298,180 (§319(h)) \$75,000 (match)
<b>Implementation of Best Management Practices in the Wai'ula'ula Watershed (Wai'ula'ula)</b> , University of Hawai'i Sea Grant College Program	This project has been completed. The contractor installed a rain garden at the Waimea Center (site 1) and removed invasive plants from the streambanks and installed coir logs and erosion matting at the Waimea Center Riparian corridor (site 2) and Ulu La'au Park (site 3). The contractor held its final public stakeholder event in July 2018 to showcase the installed BMPs at the Ulu La'au Park.	Estimated Load Reductions: <ul style="list-style-type: none"> <li>• Sediment: 1,200 ton/year</li> <li>• Total nitrogen: 1,200 lb/year</li> <li>• Total phosphorus: 220 lb/year</li> </ul>	12/15/14 - 8/31/18 \$423,530 (§319(h)) \$128,160 (match)
<b>Windward Community College Low-Impact Retrofit Phase II (Kea'ahala)</b> , Hui O Ko'olaupoko	The project was canceled due to a change in administration at Windward Community College, which rescinded permission to conduct project activities on the campus.	N/A	2/22/16 - 12/31/17 \$25,888 (§319(h)) \$11,634 (match)

Project Title (Watershed), Contractor or Partner	Project Description & Status – September 30, 2018	Environmental Results and Pollutant Load Reductions	Start-End Dates and Funding
<b>Watershed Implementation Project for the Ahupua'a of Waipa (Waipa),</b> Waipa Foundation	<p>The project is over 60% complete. The contractor will be replacing all three cesspools by the end of 2018. The contractor's feral ungulate control is ongoing is collecting effectiveness data. The constructed wetland and streambank restoration BMPs were installed, but suffered damage due to excessive flooding in April 2018. Since then, the contractor has been clearing the flood debris and repairing the damaged areas. The contractor continues to conduct water quality monitoring and routinely reports the results to DOH. The contractor also implemented the upland erosion control and revegetation BMP. A contract modification to extend the project for 12 months at no cost was executed on September 2018.</p>	<p>Estimated Load Reductions:</p> <ul style="list-style-type: none"> <li>• Sediment: 20 ton/year</li> <li>• Total nitrogen: 1,263 lb/year</li> <li>• Enterococci: <math>2.41 \times 10^{17}</math> CFU/year</li> <li>• Biological oxygen demand: 169 lb/year</li> <li>• Total suspended solids: 663 lb/year</li> </ul>	<p>2/22/16 - 8/21/19 \$386,290 (§319(h)) \$108,650 (match)</p>
<b>Ma'ili'ili Watershed Implementation Project (Ma'ili'ili),</b> Hui Ku Maoli Ola	<p>Restoration of the reservoir in Ma'ili'ili watershed includes improving wetland and wildlife habitat, trapping NPS pollutants before they are deposited into Ma'ili'ili Stream, and educating local school children about NPS prevention methods. Outreach and education will consist of activities in the community to encourage participation during scheduled workdays at the project site. Participants will assist in site preparation, plant native vegetation, and assist with maintenance. This is a SEP project (not funded by 319(h), but match is used).</p>	<p>Anticipated Load Reductions:</p> <ul style="list-style-type: none"> <li>• Total nitrogen: 1,000 lb/year</li> <li>• Total phosphorus: 200 lb/year</li> <li>• Sediment: 100 ton/year</li> </ul>	<p>2/29/16 - 2/28/19 Funded by a DOH and CCH SEP agreement \$727,080 (SEP) \$201,560 (match)</p>
<b>Replacing Small Capacity Cesspools with Advanced Wastewater Systems in Hanalei Bay Watershed (Hanalei),</b> Hanalei Watershed Hui	<p>The contractor contacted over forty homeowners, hosted a public stakeholder meeting, and published a press release to garner interest in replacing cesspools on 15 properties in the Hanalei watershed, but after over 18 months was only able to secure commitments to replace four cesspools. The project was canceled due to insufficient progress on the project.</p>	<p>N/A</p>	<p>4/15/16 - 1/20/18 \$63,431 (§319(h)) \$2,430 (match)</p>
<b>West Maui Ridge to Reef Priority Watershed Coordinator (West Maui),</b> Department of Land and Natural Resources, Division of Aquatic Resources	<p>The Watershed Coordinator conducts education and outreach and coordinates various water quality improvement projects among partners in the West Maui watersheds. The Watershed Coordinator will conduct a minimum of 40 outreach events, which may include community events and workshops. Other outreach will consist of press releases for events and water quality improvement projects, social media campaigns, targeted email announcements, and regular updates to the West Maui Ridge to Reef website.</p>	<p>N/A</p>	<p>11/14/16 - 11/13/20 \$192,400 (§319(h)) \$22,330 (match)</p>

Project Title (Watershed), Contractor or Partner	Project Description & Status – September 30, 2018	Environmental Results and Pollutant Load Reductions	Start-End Dates and Funding
<b>Ka'alaea and Waiahole Stream Restoration Phase 2 (Ka'alaea and Waiahole),</b> O'ahu Resource Conservation & Development Council	The O'ahu Resource Conservation & Development Council has assisted four out of a planned five local farmers with the development of conservation plans. Six farms are currently implementing BMPs designed to improve water quality. The contractor has conducted all of the three required field days in Ka'alaea and Waiahole watersheds.	Estimated Load Reductions: <ul style="list-style-type: none"> <li>• Sediment: 55 ton/year</li> <li>• Total nitrogen: 124 lb/year</li> <li>• Total phosphorus: 53 lb/year</li> </ul>	12/19/16 - 6/18/19 \$216,810 (§319(h)) \$95,400 (match)
<b>Agricultural Stewardship in the Ma'ili'ili Watershed (Ma'ili'ili),</b> O'ahu Resource Conservation & Development Council	The O'ahu Resource Conservation & Development Council has assisted five out of a planned ten agricultural producers with the development of conservation plans. Four farms are currently implementing BMPs arising from those plans to improve water quality. The contractor has conducted three out of the four required field days with KWON, Leihoku, and Ma'ili students, parents, community groups, and individuals at project sites.	Estimated Load Reductions: <ul style="list-style-type: none"> <li>• Sediment: 62 ton/year</li> <li>• Total nitrogen: 319 lb/year</li> <li>• Total phosphorus: 108 lb/year</li> </ul>	12/19/16 - 6/18/19 \$190,040 (§319(h)) \$61,680 (match)
<b>He'eia Fishpond Mangrove Island Removal Project (He'eia),</b> University of Hawai'i Sea Grant College Program	UH Sea Grant is conducting a multi-phase mangrove (Rhizophora mangle) removal project that will eliminate cattle egret habitat and reduce total phosphorous. The contractor has removed mangroves and non-native plants from the staging area along the southwestern wall of He'eia Fishpond, and 99% of the mangroves from "mangrove island". The contractor continues to replant the area with native plants and implement erosion control measures. The contractor has reported a decrease in cattle egret fecal bacteria. The contractor will be hosting a workshop for local stakeholders on mangrove removal, and it expects to reach and engage approximately 1,000 visitors to Paepae o He'eia, a local nonprofit that provides stewardship for He'eia Fishpond.	Estimated Load Reductions: <ul style="list-style-type: none"> <li>• Total nitrogen: 2 lb/year</li> <li>• Total phosphorus: 660 lb/year</li> </ul>	3/14/17 - 3/13/20 \$189,510 (§319(h)) \$57,570 (match)
<b>DLNR, Div. of Forestry and Wildlife: Polluted Runoff Control Project for West Maui (West Maui),</b> Department of Land and Natural Resources	DLNR will install an eight-foot high fence and retrofit an existing ungulate control fence to exclude feral ungulates from the Pu'u Kukui Watershed Preserve in Honolulu, Honokahua, and Kahana watersheds. DLNR will retrofit an existing ungulate control fence to exclude feral ungulates from the Kapunakea Preserve in Wahikuli and Honokowai watersheds.	Estimated Load Reductions: <ul style="list-style-type: none"> <li>• Sediment: 40 ton/year</li> </ul>	1/30/18 - 1/29/21 \$735,160 (§319(h)) \$184,000 (match)

Project Title (Watershed), Contractor	Project Description & Status – September 30, 2018	Environmental Results and Pollutant Load Reductions	Start-End Dates and Funding
<b>Pelekane Grazing Improvement Project (Kawaihae)</b> , Department of Land and Natural Resources	The Department of Land and Natural Resources (DLNR) will implement agricultural BMPs in Pelekane to reduce sediment, total nitrogen, and total phosphorous. Activities include 1) repairing an existing damaged paddock fence in Pelekane Bay to allow for controlled and rotational grazing in various paddocks; 2) installing a new paddock fence to create a lower paddock and upper paddock for rotational grazing; and 3) relocating a watering trough away from Mekeahua Stream to move cattle to desired areas for grazing.	Anticipated Load Reductions: <ul style="list-style-type: none"> <li>• Sediment: 10 ton/year</li> <li>• Total nitrogen: 1,467 lb/year</li> <li>• Total phosphorus: 1,833 lb/year</li> </ul>	1/31/18 - 1/30/20 \$90,000 (\$319(h)) \$22,500 (match)
<b>Reducing Excessive Sedimentation in the Hakioawa Watershed of Kaho'olawe Island -Phase 2 (Hakioawa)</b> , Kaho'olawe Island Reserve Commission	The objectives of this project will be to improve water quality by reducing erosion and sediment loads in the Hakioawa watershed by: 1) removing non-native vegetation and invasive alien species and replacing them with native plantings and 2) installing soil erosion control devices, including gabions, wattles, swales, and geotextiles.	Estimated Load Reductions: Sediment: 20% reduction in TSS for Hakioawa Stream	8/9/18 - 8/8/19 \$49,590 (\$319(h)) \$150,140 (match)

## CNCP Progress Over the Past 10 Years (2008 – 2017)

2008: Strategy for Addressing Remaining Management Measures (February 1, 2018)

**3 Agriculture management measures approved** (March 18, 2008 Interim Decision Document)

- Erosion & Sediment Control
- Grazing
- Nutrient

2009: Two CNPCP submissions to EPA/NOAA (April 22, 2009 and July 9, 2009)

2010: **Hawaii Watershed Guidance** (August 2010)

- Incorporated the management measures to ensure consideration of their implementation during the watershed planning process

CNCP submission to NOAA/EPA (November 22, 2010)

2011: CNCP submission to NOAA/EPA (March 23, 2011)

2012: **3 Urban Areas management measures approved** (March 27, 2012 Interim Decision Document)

- Existing Development
- Watershed Protection
- Road, Highway, and Bridge Runoff Systems

**2 Hydromodification management measures approved**

- Channelization/channel Modification
- Eroding Streambanks and Shorelines

**1 Wetland, Riparian Areas, and VTS management measure approved**

- Protection of Wetlands and Riparian Areas

**2 Administrative Elements approved**

- Critical Coastal Areas
- Additional Management Measures

2014: CNCP submission (New Development Management Measure) to NOAA/EPA

2015: **Hawaii's Nonpoint Source Management Plan: 2015 - 2020**

- Strategies to develop the CNCP for full approval, implement the CNCP, and report on the CNCP's effectiveness

2016: 2+ Management Measures and 1 Administrative Element submitted to EPA Region 9

- New Onsite Disposal Systems (OSDS)
- Planning, Siting, and Designing Roads and Highways (+ Bridges)
- Monitoring and Tracking

Strategy for Operating OSDS Management Measure submitted to EPA Region 9

2017: 1 Management Measure completed

- New Development

## CNPCP Status in 2018

From the 2012 Interim Decision Document (IDD):

- 6 outstanding Management Measures (MMs)
- 1 outstanding Administrative Element (AE)

Outstanding MM/AE	Details on MM conditions	Approval by EPA Region 9
New Development	Satisfies conditions in 2012 IDD: Three of four counties (CCH, Hawaii, and Kauai) have programs and policies consistent with the management measure's requirements.	May 2018
New Onsite Disposal Systems (OSDS)	Satisfies conditions in 2012 IDD: Hawaii Administrative Rules Chapter 11-62 gives the State (DOH) authority to require denitrifying OSDS; new aerobic treatment units must meet a 50% nitrogen removal standard (NSF 245).	May 2018
Operating OSDS	The OSDS inspection strategy has been revised periodically to take into account new legislation relating to wastewater systems (e.g., cesspool ban). Additional administrative rules will ultimately be required to meet the condition for this MM. DOH has discussed changing rules to include mandatory inspections or pump-outs or to codify the MMs. DOH also has another option of developing a strategy to use 319 funds to meet this measure's requirements if the rule changes take too long.	
Planning, Siting, and Developing Roads and Highways	Satisfies conditions in 2012 IDD: Addressed by Hawaii's environmental review process (Hawaii Revised Statutes Chapter 343 and Hawaii Administrative Rules Chapter 11-200).	May 2018
Operation and Maintenance	Has not been completed. Information on Hawaii County's road and bridge maintenance is needed. Potential to use available CZM funding could be used to adapt CCH's Municipal Field Guide for Hawaii County and coordinate with the county (and potentially other counties) to ensure buy-in and adoption.	
Bridges	Siting and designing conditions have been addressed by Hawaii's environmental review process. Maintenance is still being addressed (see Operation and Maintenance MM above).	
Monitoring and Tracking	Satisfies the conditions set forth in the 2012 IDD, but appears to involve more tracking than is required. EPA Region 9 NPS Coordinator Tina Yin plans to discuss with EPA headquarters whether the State needs to do such extensive tracking.	May 2018 (tentative)

## CNPCP: Next Steps

- Step 1 Complete outstanding management measures: Operation and Maintenance (Roads, Highways, and Bridges), and Operating Onsite Disposal Systems (12 - 36 months)
- ✓ Decide on approach to meeting outstanding management measures
  - ✓ Management measure approaches / strategies / updates included in annual CWA 319 workplans, semi-annual reports, and monthly calls with EPA Region 9
  - ✓ Complete management measure write-ups
  - ✓ Quarterly meetings between CZM and DOH
  - ✓ Monthly/Bimonthly CSO calls
- Step 2 Update approved management measures (9-12 months; concurrent with Step 1)
- ✓ Find and review all approved management measures previously submitted to EPA/NOAA
  - ✓ Determine extent to which management measures need to be updated (EPA recommendations)
  - ✓ Update management measures
- Step 3 Develop implementation strategy and schedule (3 months; concurrent with Step 1)
- ✓ Determine scope of implementation strategy (6217 guidance, approved states, EPA recommendations)
  - ✓ Complete strategy and schedule
- Step 4 Submit outstanding management measures and implementation strategy for EPA Region 9 to review and incorporate feedback (2-3 months)
- Step 5 Prepare final submission (1 month)
- Step 6 Submit CNPCP to NOAA/EPA for approval
- Step 7 Implement CNPCP (if approved)

<b>Step 1 Complete Outstanding Management Measures (MMs)</b>			
<b>Operation and Maintenance (Roads, Highways, and Bridges)</b>			
<b>Problem:</b> Hawaii County does not have or follow pollution prevention procedures (that aim to reduce pollutant loadings to surface waters) while operating and maintaining roads and bridges (i.e., Hawaii County neither has nor implements a BMP manual)			
<b>Approach</b>	<b>Details</b>	<b>Potential setbacks</b>	<b>Time (mo.)</b>
Use CZM funds (\$85K) to adapt a BMP manual for Hawaii County to adopt	Adapting the CCH Municipal Field Guide or the State DOT BMP guide, coordinating with Hawaii County DPW (and other counties) to ensure adoption	Hawaii County DPW may not adopt the manual	12 - 18
Use CWA 604(b) grant money (\$100K)	As a condition of Hawaii County receiving 604(b) funds, it must agree to adopt O & M practices that conform to the MM's requirements	Hawaii County Planning Dept. may not accept the grant funds; DPW may not adopt the manual	12 - 24
Use CWA 319 funds to establish a stormwater program on Hawaii County	CWA 319 funds will assist HI County (and potentially other counties) with developing/ adopting a stormwater program that includes O&M for roads and bridges – before stormwater permits are required	Managing stormwater on the neighbor islands (through permitting) is not a DOH-CWB priority; cuts into 319 Program funds	12 - 24
Codify State's strategy/approach to addressing this MM with counties	Amend Hawaii Admin. Rules (HAR) to include MM requirements	Amount of time involved in the rule-making process; potential for the governor to not sign rules into law	18 - 36
Question: Is a BMP manual necessary if Hawaii County Code has some pollution prevention measures in place for road/bridge O&M?			
<b>Operating Onsite Disposal Systems</b>			
<b>Problem:</b> The State needs to develop an inspection program for septic systems (now that cesspools will be eliminated by 2050)			
<b>Approach</b>	<b>Details</b>	<b>Potential setbacks</b>	<b>Time (mo.)</b>
Amend HAR 11-62 to require septic system owners to pump their septic systems once every 5 years	Potential to prioritize pump-outs or inspections based on priority areas in the DOH Report to Leg (e.g., require mandatory pump-outs only in priority areas 1 through 3) or areas identified in the DOH Risk Assessment Reports. For inspections, need to develop standardized checklist (adopt UH-WRRC's inspection procedures and certify inspectors)	Reporting and data management; certification of pumpers (if necessary); pushback from residents; rules not signed into law	12 - 24
Amend HAR to require point of sale inspection of septic systems		Pushback from home owners / realtors; certification process for inspectors; rules not signed into law	12 - 24
Use \$100K of CWA 319 funds annually over the implementation period of an EPA/NOAA approved strategy	Need to research NOAA/EPA expectations, look into other states' (ME, NC, FL, NY) strategies, and vet with Region 9. Update of NPS Plan in 2020 could include the strategy if it won't delay the final submission	Cuts into 319 Program or Project Funds	8 - 12
Codify State's strategy/approach to addressing this MM with counties	Amend Hawaii Admin. Rules to include management measure requirements	Amount of time involved in the rule-making process; potential for the governor to not sign rules into law	18 - 36