2020 End of Year Report

October 1, 2019 – September 30, 2020

Polluted Runoff Control Program

Hawai‘i State Department of Health Clean Water Branch

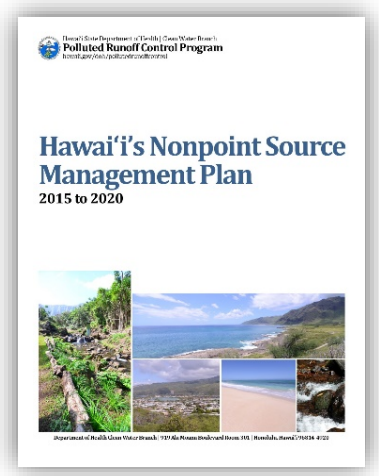
TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

APPENDICES

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 (PRC) 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 and its partners implement *Hawai'i's Nonpoint Source Management Plan* (*NPS Plan*), which includes implementation of NPS pollution control projects and watershed planning activities.

The purpose of this End of Year Report is to assess the progress the PRC Program made in implementing the *NPS Plan* in Fiscal Year 2020 (FY20; October 1, 2019 – September 30, 2020). 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 FY20 Workplan.

Clean Water Act §319(h) Grants Management

In the past year, the Program managed five EPA CWA §319(h) grants (FY15, FY16, FY17, FY18, & FY19) (Table 1). The Program received a one-year extension to spend the FY15 grant due to coronavirus-related delays. Project funding by grant and potential unliquidated obligations (ULOs) with planned encu7mbrances are attached as Appendix A and Appendix B, respectively. The Program received the FY20 grant of $1,265,000 with a State in-kind contribution of $843,333.

Table 1. Summary of CWA §319(h) grants managed in Fiscal Year 2020

Grant Year	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**
Federal Funds	$1,161,300	$1,199,000	$1,240,000	$1,226,000	$1,215,000
State Match	$774,200	$799,333	$830,000	$817,500	$810,000
PROGRAM FUNDS					
Personnel, Overhead, and Indirect (Spent)	$320,755	$326,017	$374,989	$469,341	$335,425
Reallocated to Projects	$51,767	$29,780	$171,651	$(33,327)	$272,075
PROJECT FUNDS					
Spent and Encumbered	$863,327	$881,512	$883,114	$520,936	$48,999
Potential ULO	$(74,550)	$(38,309)	$(189,754)	$269,050	$558,502
PROGRAM + PROJECT FUNDS					
Total Spent and Encumbered	$1,184,083	$1,207,529	$1,258,103	$990,277	$384,424
Revenue Adjustment	$(23,237)	$(8,547)	$(18,341)	-	-
Total Potential ULO	$454	$18	$238	$235,723	$830,576

Non-Federal Match

The State relies on general funded salaries of personnel supporting the Program to meet its CWA §319(h) match obligation. General funded staff include the CWB Chief, the Branch Secretary, an IT Specialist, a Quality Assurance/Quality Control Specialist, an Environmental Health Specialist (EHS) on Oʻahu, four neighbor island EHSs, and five Individual Wastewater System Engineers (IWSs) from the DOH Wastewater Branch (WWB) (Table 2). 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).

The neighbor island EHSs collect marine surface water samples and investigate complaints related to both point source and NPS pollution. Because the Program's personnel are based on Oʻahu, these neighbor island CWB employees provide a valuable resource due to their physical presence in the community. In addition to water quality monitoring and investigating complaints, they conduct outreach, introduce community groups to the Program, provide information about Program projects and partners, and keep the Program informed of activities in the CWA §319 watersheds.

The WWB IWSs are responsible for reviewing and approving plans and specifications for wastewater systems and inspecting wastewater system construction, and regulating wastewater systems in the State. In FY20, the IWSs conducted the following:

- Kauaʻi: 231 IWS plan reviews, 52 follow-up plan inspections, and 29 other inspections ;
- Oʻahu: 281 IWS plan reviews and 43 follow-up plan inspections;
- Maui: 325 IWS plan reviews, 62 follow-up plan inspections, and 10 inspections;
- Big Island (Hilo): 659 IWS plan reviews, 106 follow-up plan inspections, and 5 other inspections; and
- Big Island (Kona): 355 IWS plan reviews, 53 follow-up plan inspections, and 12 other inspections.

Program Administration

In December, the Program Specialist V (PSV) left the Program. The position has been vacant since then, with the Contracts Specialist, EHS, and Planner temporarily assigned as the Program Specialist on a rotating monthly basis.

CWA §319(h) Grant-Funded Staff:

Contracts Specialist	Joanna Yeh
Environmental Health Specialist IV	Jennifer Doi
Office Assistant III	Amy Kawai
Planner IV	Darcey Iwashita
Program Specialist V (supervisor)	Michael Burke; vacant since December 2019

The Program was largely without its PSV supervisor this fiscal year, but continued to administer the CWA §319 grant as planned. Jennifer Doi took over managing the grants, Joanna Yeh oversaw project deliverables and assisted with branch procurement, and Darcey Iwashita took over the CWA §319 grant application. In September, the Program / CWB sent a letter to the director requesting that the PSV position be filled. (Because of the economic impact of the coronavirus on Hawaiʻi, the State requires that vacant, federally funded positions obtain the department director's approval.)

Table 2. Department of Health personnel for Fiscal Year 2020	
Clean Water Act §319(h)-Funded Positions	
Position (full time equivalent in months)	Name, Branch
Contracts Specialist (12)	Joanna Yeh, CWB
Environmental Health Specialist (12)	Jennifer Doi, CWB
Office Assistant (12)	Amy Kawai, CWB
Planner (12)	Darcey Iwashita, CWB
Program Specialist (12)	Michael Burke, CWB (vacant since Dec.)
Accountant (1)	Gordon Yamaguchi, ERO
Administrative Specialist (1)	Lareitha Santiago, ERO (vacant since Nov.)
State General Funded Positions (Match)	
Position	Name, Branch
Clean Water Branch Chief (3)	Alec Wong, CWB
Environmental Health Specialist (3)	Scott Murakawa, CWB
Environmental Health Specialist (3)	Meghan Dailer, CWB
Environmental Health Specialist (3)	Gary Uenten, CWB
Environmental Health Specialist (3)	Neil Mukai, CWB
Environmental Health Specialist (QA/QC) (3)	Vacant, CWB
Secretary (3)	Madeleen Ledda, CWB
IT Specialist (3)	Brent Sugita, CWB
Individual Wastewater System Engineer (8)	Shawn Sakoda, WWB
Individual Wastewater System Engineer (8)	Amy Cook, WWB
Individual Wastewater System Engineer (8)	Dane Hiromasa, WWB
Individual Wastewater System Engineer (8)	Lori Vetter, WWB
Individual Wastewater System Engineer (8)	Roland Tejano, WWB
CWB = Clean Water Branch, ERO = Environmental Resources Office, WWB = Wastewater Branch	

In addition to the absence of the Program Specialist, the Planner went unexpectedly on leave for a family emergency for over two months which, combined with the Planner filling in for the Program Specialist for about four months' temporary assignment, resulted in a delay in the completion of the *NPS Plan* update. The Program requested and received a six-month extension (now due March 31, 2021) from the EPA and have established a new schedule for public comment and review of the revised plan.

The Program's fiscal and administrative tasks were completed, including financial reports and the CWA §319 grant application, can be found in the Program's FY20 semi-annual Workplan Progress Report (Appendix C).

Hawai'i's Nonpoint Source Management Plan Implementation

This section provides details on the Program's progress implementing the *NPS Plan* this fiscal year, organized by *NPS Plan* goals and objectives.

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 FY19, the monitoring plan for Hanalei Bay watersheds was completed. The monitoring plan includes 20 inland monitoring locations and four marine locations spanning four watersheds in the Hanalei Bay, including sampling locations for 319(h)-funded projects in the Waipa watershed (Watershed Implementation Project in the Ahupua'a of Waipa, Phases 1 and 2) selected to demonstrate project effectiveness. Parameters being monitoring include physical and chemistry parameters, as well as fecal indicator bacteria (*Enterococcus* and *Clostridium perfringens*). The monitoring plan also identifies TMDL sampling locations for the Hanalei Bay area. Data collected from implementation of this plan were used to assess two inland waters (Waipa Estuary and Waioli Estuary) in the 2020 Integrated Report (IR).

The second monitoring plan, which is for the West Maui watersheds, was not developed. This milestone was created when the CWB planned to develop a regional monitoring plan (and potentially a TMDL) in the region but has since changed its priorities for monitoring. CWB continues to conduct beach monitoring in West Maui and coordinates monitoring with Hui O Ka Wai Ola (HOKWO), non-profit water quality monitoring organization based in Maui. HOKWO has a DOH-approved QAPP and collects samples from locations that DOH does not sample (Figure 1). Data collected by HOKWO are assessed in the Integrated Report. Monitoring plans for CWA §319-funded projects in West Maui are also implemented as part of the projects' effectiveness monitoring requirement. Combined, these water quality monitoring efforts sufficiently identify marine water quality trends in the region. In addition, the West Maui West Ridge to Reef Watershed Coordinator, who is supported by CWA §319 funds, has access to additional data from DOH partners (e.g., USACE, USGS) in the area that can be used to evaluate the effect of watershed plan implementation on water quality in West Maui.

The third monitoring plan to be developed will be a required element of the Waikele Watershed and TMDL Implementation Plan, which will be completed in FY22. The plan is currently being prepared for PRC by PG Environmental, who received their NTP in May 2020. The monitoring component of the watershed plan will meet the EPA's requirements for the monitoring component of watershed plans, and it will help the CWB determine whether implementation of the sediment and nutrient load allocation/NPS component of the Waikele TMDL is improving water quality.

Other water quality monitoring plans completed by the CWB Monitoring and Analysis Section this fiscal year include the statewide inland waters QAPP to prepare for the Kaelepulu Stream TMDL. Additional waterbodies can be added to the QAPP as appendices. CWB also completed its Comprehensive Monitoring Strategy (CMS) for water quality monitoring in April 2020.

Figure 1. Hui O Ka Wai Ola (HOKWO) sampling locations in West and Southwest Maui supplement CWB beach sampling in this region. Data collected by HOKWO were assessed in the Integrated Report.

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) grant, which includes marine water quality sampling in most CWB/PRC priority watersheds. For priority watershed inland waters in Hanalei Bay, the Program's contractor, the Waipa Foundation, continued to monitor water quality at 11 sampling locations in Waipa Stream, Waipa Estuary, and Waioli Estuary. Physical, chemical, and biological (fecal indicator bacteria) parameters were monitored at various intervals (weekly, biweekly, and/or monthly, depending on the parameter). Marine waters in Hanalei Bay were monitored at four sampling locations by the Monitoring Section's EHS. Data from these monitoring efforts were assessed in the 2020 Integrated Report and will be used to evaluate the effectiveness of the Waipa Foundation's CWA §319(h)-funded restoration projects through 2021.

CWB also continued to attempt monthly monitoring of Kawela Stream, where an alternative plan was completed and approved in FY20. Parameters monitored were ammonia, nitrate + nitrite, total nitrogen, total phosphorous, chlorophyll-*a*, TSS, turbidity, pH, dissolved oxygen, salinity, and temperature. Only one sample was collected between October 2019 and March 2020 because the stream is intermittent and was dry when most sampling attempts were made. Sampling was not attempted after March 2020 because of coronavirus-related travel concerns (there are no EHSs located on Moloka'i).

The University of Hawai'i Sea Grant College Program (UH Sea Grant), PRC's partner on two jointly funded projects in 2020, conducted water quality monitoring in He'eia Fishpond to provide data on water pollutant sources and concentrations (Figure 2). Sampling for nutrients has been conducted by UH Sea Grant since 2017 and will continue through 2021. In addition, as part of its second phase project that began in March 2020, UH Sea Grant is conducting microbial source tracking to address wastewater pollution in the fishpond.

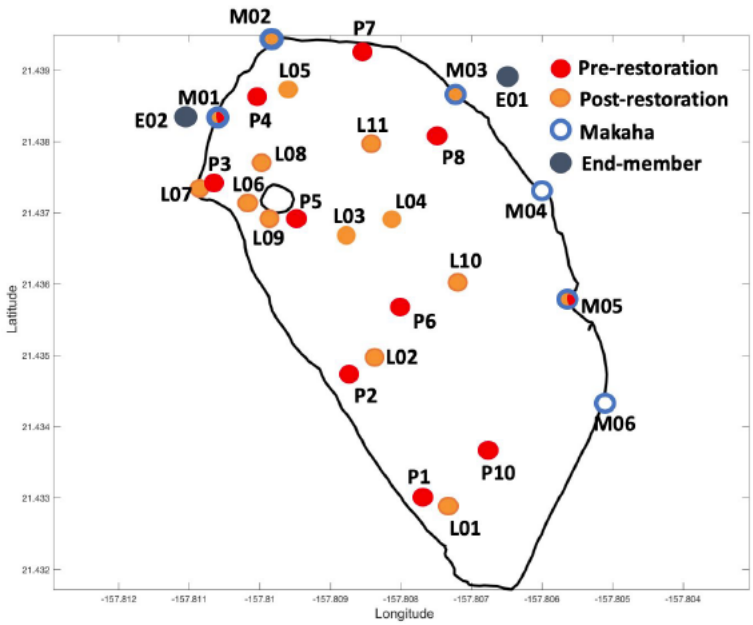


Figure 2. Water quality monitoring stations in He'eia Fishpond for the UH Sea Grant He'eia Mangrove Island Removal Project (completed in September 2020). These sites were monitored for nutrients and microbial indicator species in the water column.

In FY20, the Program developed a partnership with County of Maui to fund HOKWO to conduct water quality sampling at nine locations near 319-funded projects in West Maui and Southwest Maui for one year. The purpose is to track water quality improvement progress resulting from implementing watershed plans in these watersheds. The contract is still in development and will be executed in FY21. Data collected by HOKWO will be assessed in the 2022 Integrated Report.

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).

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

Prioritizing watersheds will help the CWB and the State focus its resources, including CWA §319(h)-funded projects and water quality monitoring, in specific areas to improve and protect water quality. As part of the *NPS Plan* update, the Program met with partners and potential partners, including NRCS, Department of Land and Natural Resources Division of Aquatic Resources (DLNR-DAR) and Division of Forestry and Wildlife (DLNR-DOFAW), Hawai'i Association of Watershed Partnerships (HAWP), University of Hawai'i (UH), Soil and Water Conservation Districts (SWCDs), and the DOH Safe Drinking Water branch (SDWB), to discuss priorities and goals in current and potential watersheds. Selection of priority watersheds was based largely on the strength of partnerships in the area – collaborative projects reflecting multi-agency/organization investment and support are more likely to have lasting water quality benefits. In addition, the Program considered its and CWB's existing investments in watersheds.

West Maui and He‘eia will continue to be priority watersheds. In West Maui, the Program is a member of the West Maui Ridge 2 Reef Initiative, which is headed by nine agencies—at the federal level, by USACE, NOAA, EPA, USGS, NRCS, and USFWS; at the state level, by DLNR and DOH; and by one non-profit, the National Fish and Wildlife Foundation. Other partners in the region include the Mauna Kahalawai Watershed Partnership and The Nature Conservancy (TNC). DOH and DLNR-DAR fund a watershed coordinator, Tova Callendar, to provide outreach and coordinate water quality improvement related activities in West Maui and will continue to retain a West Maui watershed coordinator through 2025. The Program also partners with DLNR-DOFAW on a fencing project across the five watersheds of West Maui to prevent erosion and degradation of native forests caused by feral ungulates. Two additional CWA §319(h)-funded sediment reduction projects are being implemented by Maui Land and Pineapple Co. and the Coral Reef Alliance. Finally, CWB/PRC coordinates water quality monitoring in West Maui with HOKWO, which is receiving CWA §319(h) funds to collect samples from waters near CWA §319 projects.

Over the past ten years, the Program has been active in He‘eia watershed for three phases of restoration projects along He‘eia Stream as well as other projects in urban and conservation areas within the watershed, which resulted in a Success Story this fiscal year. The most recent CWA §319(h)-funded projects in He‘eia have been through partnerships with UH Sea Grant. From 2017-2020, the Program and UH Sea Grant implemented a mangrove island removal project that resulted in a reduction of nutrient inputs into the fishpond (Figure 3). To address total nitrogen and nitrate+nitrite dry season impairments, the Program is continuing to work with to capture runoff from storm drains and to monitor water quality within the fishpond. Additionally in He‘eia, the Program is funding a project led by TNC to manage ungulates and reduce sediment and nutrient runoff, which will begin in FY21.

Figure 3. He‘eia Mangrove Island Removal Project site visit with UH Sea Grant and Paepae O He‘eia in February 2020. This photo is a view of the fishpond from across the highway to look at the extent of mangrove removal completed as part of the project.

Other agencies and organizations in He‘eia are active in monitoring and improving water quality in the watershed. In 2017, NOAA designated He‘eia as a National Estuarine Research Reserve (NERR), and a management plan was developed within the watershed’s estuarine boundary that engaged all stakeholders in the area. UH is responsible for coordinating the NERR’s activities and has installed a network of monitoring stations/gauges that will provide data on water quality trends in the area. The

Program will continue to work with partners in the watershed to address remaining dry season listings for total nitrogen and nitrate + nitrite.

The new designated priority watershed area is South Kohala on the Big Island, specifically Kawaihae (Pelekane) and Waikoloa (Wai‘ula‘ula) watersheds (Figure 4). In FY20, NRCS designated Pelekane as an NWQI watershed for the readiness phase, with DOH to assist with water quality monitoring during the implementation phase. The Program recently became a partner in the South Kohala Coastal Partnership (SKCP), which includes over 30 organizations and government agencies. The Program has been active in these watersheds with UH Sea Grant, DOFAW, and the Kohala Center/Kohala Watershed Partnership; activity includes implementing a four-year project with UH Sea Grant as part of the SKCP’s Conservation Action Plan from 2014-2018. The Program has also collaborated with DOFAW to implement a grazing management project in the watershed, which is still active. The Program is currently developing a project with DOFAW to fund a source water protection project in South Kohala, and will work with SKCP partners to implement projects over the next five years.

Watersheds for protection and restoration were not prioritized separately. Instead, the Program plans to implement a mauka to makai approach that protects high quality waters in mauka watershed areas that are generally located in conservation districts, and restore water quality in lower elevations where more diverse and concentrated sources of pollutants tend to be located based on land use, land cover, and population density.

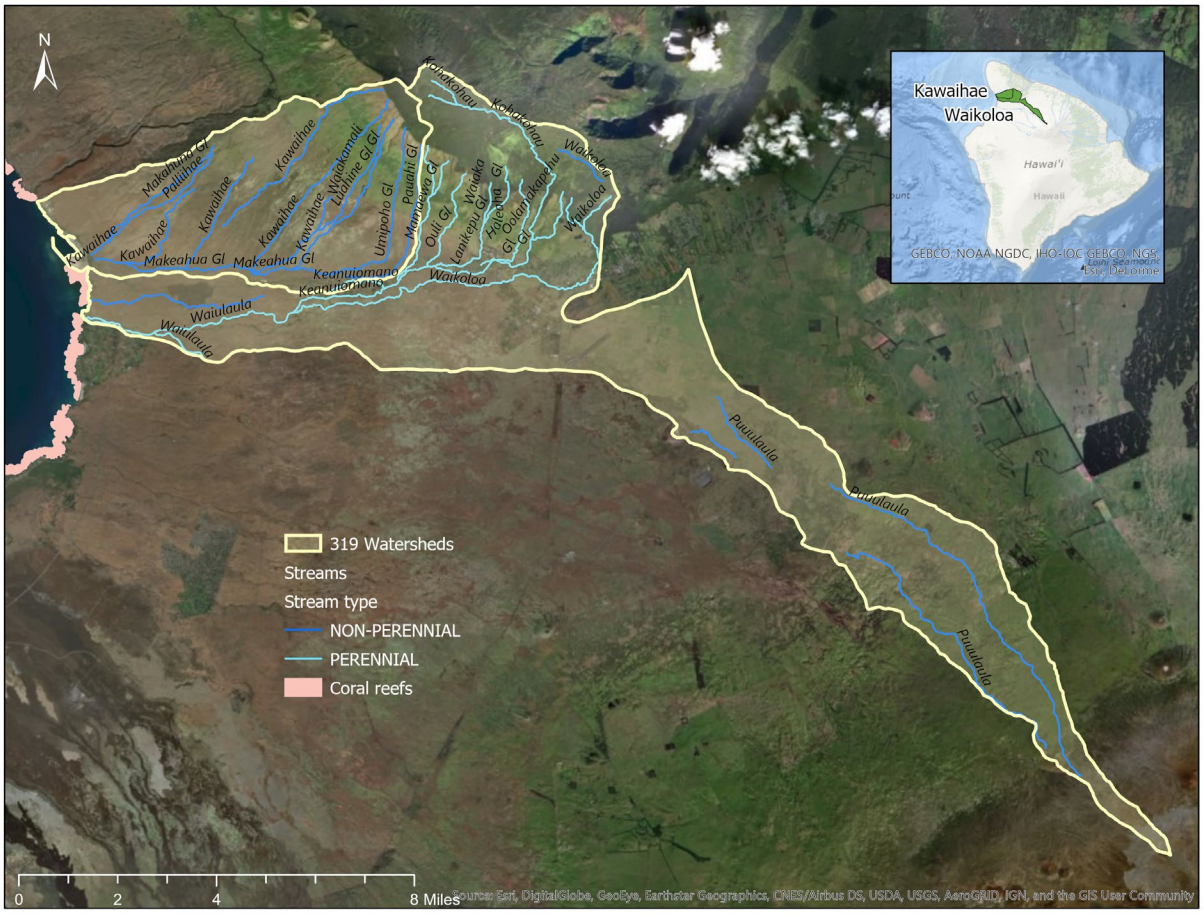


Figure 4. South Kohala (Kawaihae and Waikoloa) priority watersheds

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

While protection criteria have largely been determined in the protection strategy from FY18, prioritization has shifted criteria to reflect active partnerships in watersheds that are most likely to effectively protect water resources in watershed areas. In addition, the Program is adopting protection criteria from DLNR-DOFAW, who prioritizes watershed areas for protection/restoration and manages a significant portion of the mauka conservation lands in the State. The Program's strategy for funding protection projects will be largely through collaboration with DLNR-DOFAW during its Watershed Partnerships Program (WPP) grant RFP process held every two years. The Program will work with DOFAW to provide approximately $200,000 every two years to watershed protection projects – ideally projects in priority watersheds. Other protection projects may be funded through RFPs, although the focus will be on collaborating with DOFAW because of over overlapping protection priorities and DOFAW's more extensive watershed protection resources.

The Program continued to implement a three-year protection project with DOFAW in West Maui to protect relatively pristine forested areas from feral ungulates. The severe soil and vegetation disturbances caused by ungulates have resulted in significant erosion in high elevation forested areas of West Maui, which in turn has increased sediment delivery to streams and coastal areas and has negatively impacted coral reefs. The Program also began working with DOFAW to develop a source water protection project in Pelekane Bay watersheds, which should be underway in FY21. For more information on this and other CWA §319 projects, see Appendix D.

The Program reviewed the CWA-SDWA Coordination Toolkit after attending an ASDWA-sponsored webinar on the topics in the fall. The Program met with the SDWB to discuss source water protection areas and potential for including more source water / groundwater strategies in a new watershed plan. That could be funded with CWA §319 Program Funds and the DWSRF 15% set-aside. The Program and SDWB discussed potential watersheds for planning but did not decide on one, because the surface water systems that were discussed already have watershed plans. The Program may revisit the possibility of a combined CWA/SDWA watershed plan when it is fully staffed and has more available Program funds for watershed planning.

Objective 3: Develop comprehensive watershed-based plans

Watershed-based plans (WBPs) are the foundation for most §319(h)-funded on-the-ground water quality improvement projects. There are 15 approved watershed plans covering 44 watersheds statewide (Kaua'i County: 7; City and County of Honolulu: 25; Maui County: 8; Hawai'i County: 2). In December, the Program approved the Central Maui SWCD's Southwest Maui Watershed Plan, which covers three watersheds in the region and is already being implemented by both agencies. The Program also approved an alternative plan for Kawela watershed on Molokai, which was written by TNC. EPA approved the use of CWA §319 funds to implement the alternative plan as part of the Program's FY21 workplan. The Program also reviewed two drafts of KIRC's watershed plan for Kamohio watershed on Kaho'olawe. Finally, in May the Program began the watershed planning / TMDL implementation planning process for Waikele watershed, which is being carried out by PG Environmental.

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

Implementation of NPS pollution control projects is the main focus of the State's CWA §319(h) program. The State's main NPS implementation objective is to invest in projects to achieve measurable water quality improvements. Detailed project information for all FY20 projects can be found in Appendix D.

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

Invest in priority watersheds

In FY20, the Program continued to invest in new projects in priority watersheds, with three new projects developed in priority watershed this fiscal year – two in West Maui and one in the new priority watershed of Kawaihae in South Kohala. One of the West Maui projects is a collaboration with a new partner, the County of Maui, and involves water quality monitoring at sites near CWA §319 projects. The new projects are all partnerships with government agencies and are still in various stages of contract development and review. In addition, two projects in He'eia and West Maui that were awarded in FY19 and that will address sediment and nutrients are still awaiting their NTP. The Program completed a project co-funded by UH Sea Grant in He'eia watershed this FY, which resulted in a reduction of nutrients in He'eia Fishpond.

In FY20 there were six active 319 projects in priority watersheds (including Hanalei Bay) that are still in progress (Appendix D). Some of the notable projects that involve partnerships with other agencies include:

- 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 is being jointly funded with DLNR-DOFAW, began in January 2018, and will end in January 2021.
- Expanding Water Quality Improvement Projects in He'eia Fishpond (March 2020- March 2022) is another collaborative project with UH Sea Grant, building off of the fishpond project that ended in FY20. The new project aims to reduce total nitrogen, total phosphorous, and TSS by installing raingardens in strategic locations. Removal of invasive mangroves will also increase circulation in the fishpond. Water quality monitoring will be conducted as part of this project.
- The West Maui Ridge 2 Reef Watershed Coordinator, who is funded through 2020 via a collaboration between the Program and DLNR-DAR. Since 2016, Tova Callendar, the Watershed Coordinator, has been planning and coordinating water quality improvement projects with stakeholders in the watershed and holding outreach events. In FY20, the Program began working with DLNR-DAR on a new contract for the watershed coordinator, which will include conducting site visits and submitting progress reports on CWA §319 projects in West Maui.

The Program also supported a watershed coordinator for Ko'olaupoko Moku, which includes He'eia watershed and 17 additional watersheds in windward O'ahu. The watershed coordinator has conducted surveys of stakeholders in the region, provided information on water quality monitoring and water quality improvement / restoration projects in the moku, and will be developing and implementing an

outreach plan in FY21. These activities will help with the update of Koʻolaupoko Watershed Restoration Action Strategy, which has not been updated since 2007.

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

In FY20, the Program focused on implementing the following agricultural runoff control projects, which aimed to reduce sediment, total phosphorous, and total nitrogen in non-priority watersheds:

- New project: Keokea Riparian Rehabilitation (Southwest Maui; establishment of a protected riparian corridor using ungulate fencing and native plant restoration to reduce the amount of sediment discharged to Keokea Gulch);
- Pelekane Grazing Improvement Project (Kawaihae; fence repair to allow for rotational grazing);
- Waimanalo Stream Restoration and Community Outreach (Waimanalo; conservation planning, BMP implementation, education, and outreach);
- Buffers and BMPs for Windward Oʻahu (Kahaluʻu, Waiheʻe, and Haiamoa; conservation planning, BMP implementation, outreach events) (Figure 5); and
- Implementing Soil Management Strategies on Oʻahu (Honouliuli, Maʻiliʻili, and Kaiaka Bay; soil nitrate and phosphate testing, fertilizer application reduction strategies; farmer training and outreach; only nutrients targeted).

Figure 5. Oʻahu RC&D's "Buffers and BMPs for Windward Oʻahu" project shows progress, with plant cover successfully established over 7,000 square feet of the project area, creating a vegetative buffer between a former piggery operation and a stream channel.

The Program also plans to continue to support restoration work in Hakioawa watershed being conducted by Kahoʻolawe Island Reserve Commission (KIRC). The Phase 2 project in Hakioawa was completed in FY19, and the new project will maintain irrigation infrastructure and structural BMPs as well as install more native plants to control erosion.

Assess effectiveness of 319(h) projects and document water quality trends and environmental results

The Program assessed project effectiveness and environmental results achieved by CWA §319(h) projects through quarterly project status reports (QSRs), final project reports, and the Integrated Report. All contractors receiving CWA §319(h) funds 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 Grants Reporting and Tracking System (GRTS). The total approximate load reductions achieved for this FY are:

- Sediment: 3,086 tons/yr, of which 2,560 were in priority watersheds;
- Total Nitrogen: 10,171 lb/yr, of which 725 were in priority watersheds;
- Total Phosphorous: 9,704 lb/yr, of which 953 were in priority watersheds; and
- TSS: 40,000 lb/yr, of which 40,000 were in priority watersheds.

The Program used the 2020 IR to assess water quality improvements for waterbodies or watersheds targeted by CWA §319 projects, specifically for its 2015-2020 priority watersheds (Heʻeia, Hanalei Bay, West Maui). The only project completed this fiscal year was in a priority watershed (Heʻeia). Heʻeia Stream continued to attain water quality standards (WQS) for all wet season criteria (which was accomplished in the 2018 Integrated Report), and has the same impairments (total nitrogen, nitrate+nitrite) for the dry season as it did in 2018. The Program hopes to address these impairments with two new CWA §319 projects being conducted by UH Sea Grant and TNC.

In Hanalei Bay watersheds, the Waipa Foundation has been monitoring water quality in inland waters that were assessed in the 2020 IR. Unfortunately, despite two phases of CWA §319(h)-funded watershed-wide restoration work and replacement of cesspools, water quality in Waipa estuary and Waioli Stream is still impaired. Waipa estuary was initially listed as impaired for turbidity in the 2008 IR and for enterococci in the 2014 IR. Newly assessed numerical data from the 2020 IR indicate this water body continues to not attain WQS for enterococci and turbidity. Waioli Stream was previously assessed for enterococci and turbidity in the 2018 IR and did not meet the WQS for either. In the 2020 IR, newly assessed numerical data indicate that Waioli Stream continues to not attain WQS for enterococci and turbidity.

In West Maui, only marine waters were assessed in the 2020 IR. West Maui's streams tend to be intermittent, which makes regular stream monitoring in the region difficult. All assessed marine waters have turbidity and nitrate-nitrite impairments. The 2020 IR indicates that four waterbodies have overall improvements (i.e., had new attainments of WQS without any new impairments), two other waterbodies worsened overall (i.e., were newly impaired and had no new attainments of WQS), while three water bodies had a mix of improved water quality (i.e., new attainments of WQS) and new impairments in FY20.

The CWA §319 projects funded in West Maui primarily target sediment, with nutrients also being a concern. However, because none of these projects have been completed, with only one nearing completion in 2021, it is too early to determine the water quality impacts of these projects. Water

quality trends will most likely will not be discernable until the CWA §319 projects are further along in implementation.

In addition, coastal water quality data may not demonstrate a project's effectiveness because of pollution from other sources that end up in coastal waters. This is particularly true of projects furthest from the receiving waters, where stream monitoring is difficult because of the intermittent, flashy nature of streams in West Maui. Because of this reason, and because the West Maui projects have not yet been completed, the Program assessed project monitoring data (i.e., load reductions achieved) to determine water quality benefits. The total FY20 load reductions in West Maui for the two open CWA §319 projects were:

- Sediment: 218 tons/yr;
- Total Nitrogen: 516 lb/yr; and
- Total Phosphorous: 864 lb/yr.

PRC also monitored the progress of its CWA §319(h) projects through site visits, meetings, and/or phone calls, depending on the location of the project and the project's status. Because of restrictions on travel and risks posed by site meetings due to coronavirus, only one site visit was conducted in February for the He'eia Fishpond project.

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 and other agencies and programs that manage water resources. Partnerships are therefore critical to the success of NPS management in Hawai'i.

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, with the following five Urban Area management measures still requiring approval: 1) New Development; 2) Operating Onsite Disposal Systems (OSDS) 3) Planning, Siting, and Developing Roads and Highways; 4) Operation and Maintenance of Roads and Highways; and 5) Bridges (siting, design, and maintenance). In addition, one CNPCP administrative element, Monitoring and Tracking, requires approval. To stay on track for obtaining approval of the CNPCP, the State is implementing the Five-Year CNPCP Workplan, which was submitted to NOAA and EPA on Dec. 2, 2019 and approved by NOAA and EPA on Jan. 15, 2020. The plan is being implemented by OP-CZM and PRC.

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 New OSDS measure was approved formally on Nov. 15, 2019. The Program requested and received clarification from NOAA and EPA regarding Operating OSDS measure requirements and comments in December 2019. Several OSDS-related bills were proposed in the 2020 State Legislative session, some of

which included inspections for OSDS. During the session, the Program and OP-CZM met with Rep. David Tarnas to discuss OSDS bills and how the State could meet the requirements for an approvable CNPCP. Unfortunately, despite testimony from DOH and OP-CZM, and support from Rep. Tarnas, the bills requiring inspections of existing OSDS did not pass. The Program also met with the State's Cesspool Workgroup coordinator (who is based at UH) to discuss inspections and research being conducted on financial mechanisms for replacing cesspools and inspecting their replacements. The Program and Enforcement also discussed including OSDS inspections in future amendments to the proposed Chapter 11-56, Hawai'i Administrative Rules (HAR).

This year, the New Development management measure was significantly revised after feedback from EPA and NOAA to show how Kaua'i County's ordinances and stormwater manual meet the conditions of the management measure. PRC has assisted with three New Development management measure submissions (main submission and two supplemental submissions in August and September) and has participated in NOAA/EPA and OP-CZM/DOH strategy meetings to discuss the management measure. The State anticipates the submittal of the final New Development Management Measure in FY21.

The Program has has also provided feedback on Roads, Highways, and Bridges BMP manual and field guide for Hawai'i County developed by OP-CZM's contractor, AECOM, to meet the requirements for the Roads, Highways, and Bridges operation and maintenance management measure (Figure 6). The final version will be completed in FY21, and a training on the manual and field guide for Hawai'i County Department of Public Works staff will also be conducted in FY21 (or when it is safe to hold in-person trainings).

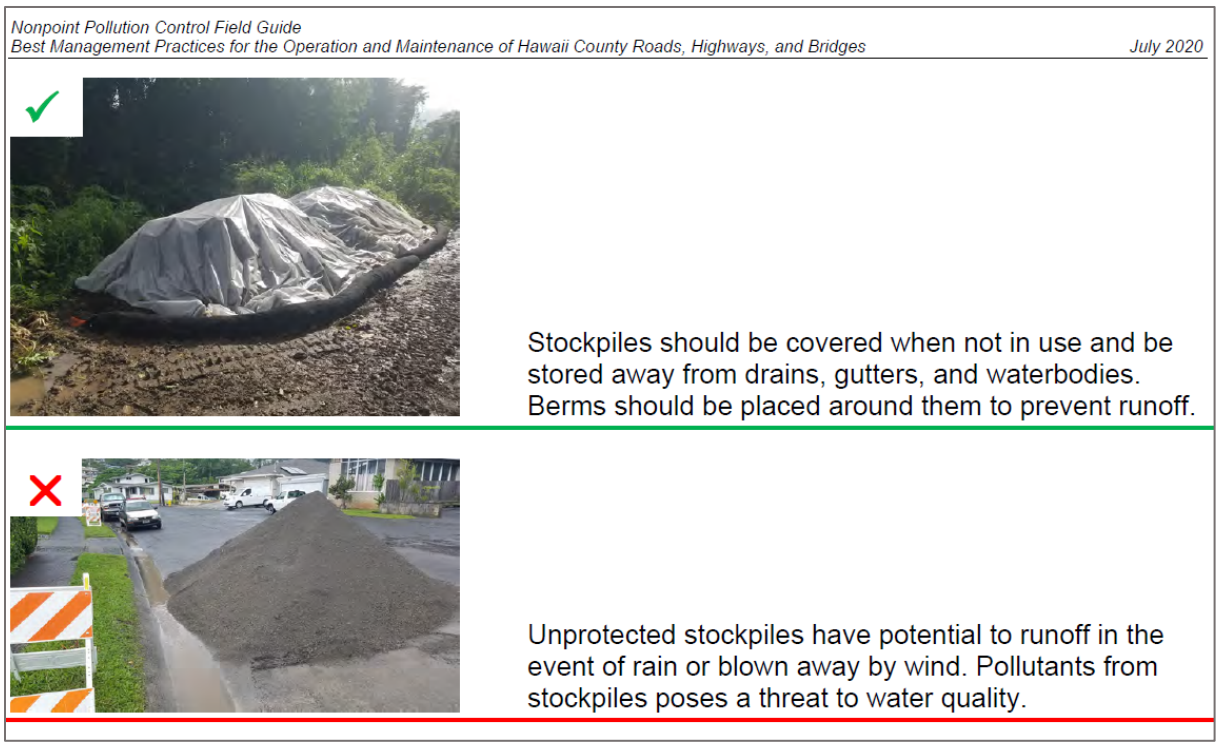


Figure 6. Example from Hawai'i County's Roads, Highways, and Bridges BMP field guide developed to meet the Coastal Nonpoint Pollution Control Program management measure for Operation and Maintenance of Roads, Highways, and Bridges.

Most of the Program's efforts this year involved drafting and revising the HAR Chapter 11-56 rules package for approval. HAR Chapter 11-56 (NPS Pollution Control) incorporates management measures from three CNPCP categories: Agriculture, Forestry, and Marinas and Recreational Boating. The rules so far apply to public lands, but private lands may be subject to the rules at the director's discretion. The rules and rationale were completed and were submitted to the Small Business Regulatory Review Board (SBRRB) for review in June. The CWB, SBRRB, and the Deputy Attorney General held a meeting in July to discuss HAR Chapter 11-56 along with amendments to Chapters 11-54 and 11-55. The SBRRB recommended to the Governor to grant approval to hold a public hearings for the new NPS rules and the rule amendments. In September, after receiving comments from the Legislative Review Board, DOH sent a letter to the governor to request preliminary approval to hold public hearing for the rules.

The Program planned to finish the monitoring and tracking administrative element this fiscal year and was awaiting the final CWB "Comprehensive Monitoring Strategy," which was completed in April. Unfortunately, due to the Planner's unexpected leave from April to June, the write-up was not revised to reflect the CWB's comprehensive monitoring strategy. The administrative element will be revised and submitted to EPA and NOAA in FY21.

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

Cesspools

Cesspools are being tackled by the Cesspool Conversion Working Group (CCWG), which consists of the Wastewater (WWB) Chief, SDWB, county wastewater agencies, the wastewater industry, the financial/banking industry, UH Hawaiʻi Institute of Marine Biology, the UH Water Resources Research Center, the Hawaiʻi 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 2021. The Program met with the CCWG coordinator in February to discuss cesspool/OSDS bills and progress towards meeting the tasks mandated in Act 132.

Agriculture

The Program's agricultural runoff strategy is taking a regulatory approach, based on the completion of HAR Chapter 11-56, whose Appendix A will require applicable parties (primarily public landowners) to implement management practices to meet most of the requirements of the six CNPCP agriculture management measures. These management practices are primarily BMPs for nutrient, sediment, irrigation, and pest management.

In addition, the Program will continue with funding CWA §319 projects on farms/ag lands that develop conservation plans, implement BMPs, manage soil health, and conduct outreach to local farmers. This includes education and training of local farmers through the expertise of the UH College of Tropical Agriculture and Human Resources (CTAHR) Cooperative Extension. As part of completed and current CWA §319 projects, CTAHR Extension Agents work one-on-one with farmers, make educational demonstration videos, and hold training events for farmers.

The Program is still trying to create a successful NWQI partnership with NRCS. While the two programs collaborated to identify West Maui for the NWQI readiness phase in 2018, NRCS was not sure there were enough eligible cooperators in the region due to AGI restrictions. The Program met with NCRS in November to discuss implementing the NWQI in South Kohala, which is currently in the NWQI readiness phase and will be a CWA §319 priority watershed for FY21-2025. As part of the readiness phase, the

Program is supporting TNC's development of a plan for Honokoa watershed (north-adjacent to Kawaihae watershed) that satisfies the NRCS's watershed assessment requirements and incorporates the EPA's nine elements of a watershed plan.

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

In FY20, the Program continued to develop its relationships with existing partners to coordinate and integrate NPS management efforts.

With CWB

- **Monitoring Section**: PRC met with the Monitoring Section to discuss priorities for the *NPS Plan*, and identified potential streams / watersheds, including Hilo Bay and Kaiaka Bay, where future TMDLs could be developed. The Program and Monitoring Section also discussed the TMDL prioritization process and the comprehensive monitoring strategy. PRC also provided feedback on the Integrated Report drafts and coordinate water quality monitoring data management with the Monitoring Section.
- **Enforcement Section**: PRC worked with the Enforcement Section to draft the HAR Chapter 11-56 rules and rationale and to develop the new DOH Surface Water Protection Branch (SWPB), which will regulate NPS pollution, provide watershed planning support, and administer the CWA §319 grant program. The Enforcement Section and PRC also conducted outreach together to other State agencies regarding the rules and rationale.
- PRC assisted the CWB with strategic planning and programmatic support. PRC provided assistance with the Master Contract and other branch procurement activities. In addition, PRC has been assisting DOH with the establishment of the SWPB.

With DOH

- **WWB**: In January, the Program coordinated testimony for legislative bills concerning OSDS with the WWB.
- **SDWB**: PRC met twice with SDWB (in Nov. and Jan.) to discuss joint projects and plans that could be funded through the DWSRF 15% set-aside and CWA §319(h). So far, the only surface water system of interest that overlaps with other partner priorities is in Waimea (Wai'ula'ula watershed), which already has an existing watershed plan; therefore PRC is looking into other options from the CWA + SDWA toolkit and will potentially propose a joint watershed plan or project that can address both drinking water and surface water pollutants for the next update to the DWSRF business plan in 2022.
- **Environmental Resources Office (ERO)**: The Program, along with CWB Enforcement Section, worked with ERO to draft and manage the administrative tasks necessary to create the new SWPB within DOH's Environmental Management Division. Much of the focus this fiscal year was submitting the request to reorganize EMD to add the new branch and to move PRC to the new branch.

State Agencies and Organizations

- **Central Maui SWCD**: Central Maui SWCD and the Program established an MOA this fiscal year to implement a riparian restoration project. The Program also worked with Central Maui SWCD to coordinate water quality monitoring locations for the water quality monitoring project the Program is conducting with County of Maui.

- **DLNR-DAR**: The Program and DAR continued to support the West Maui Ridge to Reef Watershed Coordinator, who conducts outreach and coordinates partner activities and potential projects. The Program and DAR are currently developing another contract for the watershed coordinator. DAR also shared information on their coral reef strategy update during NPS Plan development and contributed towards prioritizing South Kohala watershed.
- **DLNR-DOFAW**: The Program continued to implement its joint fencing project with DOFAW in West Maui to reduce erosion and sediment runoff in conservation lands. In addition, the Program developed a protection project with DOFAW in South Kohala to manage ungulates in areas near the headwaters of Kawaihae watershed. The Program met with DLNR-DOFAW to discuss watershed priorities and have worked out a way to streamline WPP and CWA §319 grant funding for watershed protection projects.
- **HAWP**: The Program met with HAWP in November to discuss priority watersheds for protecting water resources.
- **KIRC**: The Program began to develop another project with KIRC to implement a jointly funded project to reduce sediment runoff in Hakioawa watershed by maintaining BMPs and infrastructure. The project will most likely begin implementation in FY20.
- **OP-CZM**: The Program continued to work closely with OP-CZM to strategize on meeting CNPCP management measure requirements and to develop and revise management measures to submit to EPA and NOAA for approval.
- **UH Sea Grant**: The Program and UH Sea Grant completed a three-year mangrove removal project in He‘eia watershed and will began a new project together in He‘eia this FY, which will remove additional mangroves and install raingardens at storm drain outfalls to retain nutrients. In addition, the Program continued to discuss updating boating outreach materials for the CNPCP and will be working with Sea Grant and DLNR Division of Boating and Ocean Recreation (DOBOR) in FY21/FY22 to develop and publish these materials.
- **UH CTAHR**: The Program continued to partner with UH CTAHR on a jointly funded project aiming to reduce nitrogen and phosphorous on six farms on O‘ahu by implementing soil health strategies.

Local Agencies

- **City and County of Honolulu (CCH)**: The Program met with the CCH Department of Facilities Maintenance to discuss its stormwater utility study and potential ways the Program could be involved in its implementation. The Program and CCH also co-sponsored the Waikiki Aquarium’s annual Earth Day Mauka to Makai event, which was planned for April but was postponed to October due to the coronavirus.
- **County of Maui**: The Program partnered with Maui County to develop a project to conduct water quality monitoring to assess the effectiveness of CWA §319 projects and watershed plan implementation in West Maui and Southwest Maui. The one-year project will begin in FY21.
- **Hawai‘i County Dept. of Public Works (DPW)**: OP-CZM and DOH are working with Hawai‘i DPW to develop a BMP Manual and Field Guide for Roads and Highways for Hawai‘i County as part of the State’s efforts to meet CNPCP requirements. PRC has reviewed and provided feedback on the manual and field guide.

Federal Agencies

- **NRCS**: The Program is trying to create a successful NWQI partnership with NRCS. The Program met with NCRS in November to discuss implementing the NWQI in South Kohala, which is currently in the NWQI readiness phase and will be a CWA §319 priority watershed.

The Program also continued to provide outreach via all of its CWA §319 implementation projects (see Appendix D for information on outreach conducted as part of each project), West Maui and Koolaupoko moku watershed coordinators, and distribution of educational materials, including 150 coloring books, 300 NPS brochures, and 250 PRC pencils to schools and for World Fish Migration Day in May 2020. The Program ran out of coloring books and will be ordering more in FY21.

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.

Investigate innovative approaches and develop new strategies to address NPS pollution

The HAR Chapter 11-56 (NPS Pollution Control) rules and the rationale were completed this FY. The rules are now awaiting the governor's approval for public hearing. PRC continues to work with Enforcement and ERO to organize the Surface Water Protection Branch, which will include PRC, a regulatory section, and a watershed planning support section. After it is established, the Surface Water Protection Branch will administer HAR Chapter 11-56. The Program had hoped the new branch, including new positions, would have been approved and established this year and operational in FY21. However, with significant delays and funding issues caused by the coronavirus, the Program anticipates that the new branch will not be operational until 2023 at the earliest.

The Program also approved the alternative plan for Kawela watershed, the first alternative plan approved in the State. The alternative plan, which was written by TNC, aims to address the primary cause of sediment runoff that threatens South Molokai's coral reef – feral ungulates. By addressing feral ungulates through fencing and management, denuded areas will be restored with native vegetation and will prevent the severe erosion that has historically caused water quality problems in this watershed.

The Program also developed a new funding strategy for protection projects, in conjunction with DLNR-DOFAW (Goal 2, Objective 2). Streamlining funding mechanisms for protection projects with DLNR-DOFAW will be more efficient and guarantee that well-planned protection projects with water quality benefits will be funded. The Program also amended its watershed prioritization process to better align its priorities with existing partners in the watersheds, with the aim of leveraging resources and implementing more effective projects supported by multiple stakeholders. For this reason, South Kohala, which has two active partnerships (Kohala Watershed Partnership, South Kohala Coastal Partnership), and in which the Program has an existing partnership with NRCS for the NWQI , was chosen as a new priority watershed.

Determine progress implementing the NPS Management Plan

The Program determines progress in implementing the *NPS Plan* twice a year through its semi-annual progress reports submitted to EPA in October and April and through this End of Year Report. The *NPS Plan's* milestones are through 2020, and the updated plan's milestones will begin in 2021. The Program and its partners were able to achieve almost all the outcomes it set out to achieve, with the exception of a second NPS success story and the full approval of the CNPCP. Table 3 provides a checklist of outcomes the Program set out to achieve for each *NPS Plan* goal.

Attend relevant training workshops and conferences

The Program staff attended the State of Hawaiʻi State Procurement Office Conference (October), DOH/EPA Hawaiʻi Infrastructure Funding Forum (January), NOAA OpenNSPECT training (February), and GRTS Success Story Training (June). At the Hawaiʻi Infrastructure Funding Forum, the Program learned of additional watershed planning / project activities provided by the Department of the Interior and met with other partners, including DLNR-DAR and the WWB, to discuss various water quality concerns and legislative bills pertaining to water quality.

Evaluate PRC Program / Update the NPS Management Plan

The Program planned to have the updated *NPS Plan* approved by September 2020, but there were extenuating circumstances that prevented this from happening. The Program requested an extension of the *NPS Plan* deadline until March 31, 2021, which was granted by EPA. The new schedule includes the release of the draft in December for public comment.

The draft of the *NPS Plan* is nearing completion; the final chapter that includes milestones however has not been completed, and partnership priorities need a minor update after additional recent partner meetings. Appendices, figures, maps, and overall formatting also need to be completed.

Table 4 provides a summary of what the Program felt was successful about the implementation of the *NPS Plan* as well as elements of the plan that did not work and what was changed in the updated plan and/or in the Program's approach to working with partners, planning, and implementing projects.

Table 3. *Hawai'i's Nonpoint Source Management Plan:* Outcomes by goal

Goal 1 (Monitoring & Assessment) 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 Integrated Reports. In FY19, the Program completed the Quality Assurance Project Plan for Monitoring Kawela Stream, Moloka'i. In FY19, the Program completed the Water Quality Monitoring Plan for Hanalei Bay Watersheds. In FY20, the CWB completed a statewide inland water quality assurance project plan, updated its BEACH program, and completed its Comprehensive Monitoring Strategy.

- ✓ **Coastal and inland waters are monitored and assessed every two years.**
  Coastal and inland waters were monitored in FY16-FY29. The State's waters were assessed in the 2016, 2018, and 2020 Integrated Reports, which utilized the Program's monitoring data.

- ✓ **Two new inland waters are monitored and assessed.**
  In 2017, the CWB began monitoring inland waters that had not been monitored or assessed in two or more years, including Waipa Stream, Waipa Estuary, and Waioli Estuary on Kaua'i. In FY19-FY20, the CWB monitored a new inland waterbody, Kawela Stream on Molokai.

- ✓ **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. Based on these impairments, development of a TMDL for Kaelepulu began in FY19. The 2020 Integrated Report, which identified impaired waterbodies, was submitted to EPA for approval in FY20.

- ✓ **Trends in water quality are identified.**
  Trends were identified for assessed waterbodies in the 2016, 2018, and 2020 Integrated Reports. In a CWB priority watershed (He'eia), He'eia Stream was delisted for wet season total phosphorous and turbidity in 2016 and for wet season nitrate+nitrite-nitrogen in 2018, thereby meeting all wet season WQS as well as the *NPS Plan*'s objectives. He'eia Stream water quality improvements achieved through implementation of CWA §319(h)-funded projects were recognized by the EPA as a Nonpoint Source Success Story in FY20. In the Hanalei Bay watershed area, Waioli Stream continues to exceed dry season WQS for turbidity and enterococci, and Waipa Estuary continues to not meet WQS for turbidity and enterococci. In West Maui, Honokowai Stream and Kahana Stream remain on the 303(d) list for turbidity, but these listings were prior to 2016; no new inland waters in West Maui were assessed in recent Integrated Reports. In FY20, all assessed marine water bodies in West Maui continue to be impaired for turbidity and nitrate+nitrite, and all but one waterbody is impaired for chlorophyll-a (Oneloa Bay Beach in Honokahua watershed attained water quality standards for chlorophyll-a in 2020). In FY20, five waterbodies in West Maui achieved WQS for total phosphorous, which only leaves two assessed waterbodies in the region still impaired by total phosphorous.

Goal 2 (Planning) Outcomes Checklist

- ✓ **Priority watersheds for WQ protection and restoration are determined for 2020-2025.**
  The Program's priority watersheds are South Kohala, West Maui, and He'eia watersheds. Prioritization was based primarily on partnership commitment to improving water quality and conserving natural resources in these watersheds, DOH's existing and planned investments (e.g., CWA §319 projects, water quality monitoring, and the NWQI) in these watersheds.

- ✓ **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 were 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. In FY20, the Program's updated strategy for protecting high quality waters was included in the draft of the updated *NPS Plan,* and the Program began working with DOFAW to implement another protection project in South Kohala.

- ✓ **A TMDL+ plan for Waikele watershed is developed.**
  The Waikele TMDL for sediment and nutrients was completed in 2019. Development of the Waikele Watershed and TMDL Implementation Plan began in May 2020 and will be completed in 2022.

- ✓ **Three new watershed-based plans are developed.**
  The West Maui WBP for Kahana, Honokahua, and Honolua was completed and approved in FY16. The Kaiaka Bay WBP was completed and approved in FY18. The Program also approved the Southwest Maui Watershed Plan in FY20 and approved an alternative plan for Kawela watershed in FY20.

Goal 3 (Implementation) Outcomes Checklist

- ✓ **At least ten new §319(h)-funded NPS projects implemented to reduce and prevent NPS pollution.**
  Four new CWA §319(h) projects were implemented in FY16 and FY17: phase two of an agricultural runoff control project in Ka'alaea and Waiahole watersheds, an agricultural runoff control 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 project in West Maui, an agricultural BMP project in Pelekane Bay, and a restoration and sediment reduction project in Hakioawa watershed. In FY19, five new projects started: phase two of a cesspool replacement, ungulate control, and riparian restoration project in Waipa watershed, Kaua'i; two agricultural runoff control projects in four watersheds in windward O'ahu; a watershed-scale project employing several BMPS to reduce sediment and nutrients in West Maui; and a soil management project on six farms on O'ahu aimed at reducing nutrients. In FY19, the State satisfied its target number of projects implemented in priority watersheds and the total number of new projects it set out to

implement with partners and through RFPs. In FY20, four new projects were implemented and contracts for six new projects were developed.

- ✓ **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 turbidity) and FY18 (delisting for nitrate+nitrite). A NPS success story for He‘eia Stream was submitted to EPA and published in FY20.

- ✓ **Improvement in water quality in an impaired watershed due to restoration activities, resulting in a SP-12 success story.**
  The Program tracked environmental results and water quality improvements for its CWA §319 projects, but it did not meet this milestone.

- ✓ **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 annually for 14 watersheds, and *Enterococcus* reductions in Hanalei Bay were reported in FY17 and FY19. In addition, turbidity and nutrient concentrations decreased in three inland waters in Hanalei Bay in FY19. In FY20, five marine waterbodies in West Maui achieved WQS for total phosphorous, which only leaves two assessed waterbodies in the region still impaired by total phosphorous.

Goal 4 (NPS Program Development) Outcomes Checklist

- ✓ **CNPCP receives full approval under CZARA.**
  The State received approval for the New OSDS Management Measure in 2019. In 2020, the New Development Management Measure was submitted but was not approved and is currently being revised based on NOAA and EPA comments. Management measure submission will be based on five-year NOAA- and EPA-approved CNPCP plan being implemented by OP-CZM and DOH to obtain full approval of the CNPCP by 2024.

- ✓ **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 the UH Sea Grant Program to restore He‘eia Fishpond in FY17, which was completed in FY20. In FY18, the Program implemented two projects through a collaboration with DLNR-DOFAW and a project through collaboration with KIRC. In FY19, the Program began implementing a project with UH CTAHR to implement soil health management strategies on several farms on O‘ahu. In FY20, the Program partnered with UH Sea Grant to implement additional water quality improvement measures in He‘eia. In FY20, the Program also partnered with Central Maui SWCD to implement a riparian restoration project from the revised Southwest Maui Watershed Plan. 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, including funding watershed plans that address groundwater quality problems, but did not pursue any projects or plans. 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. In FY18, the Cesspool Workgroup prioritized areas for cesspool replacements and conducted outreach in each county. A Cesspool Conversion Working Group was established by Act 132 in FY18. This group has published reports concerning technical and financial considerations for the cesspool replacement strategy. The comprehensive cesspool replacement strategy will be completed in 2021. From FY19-FY20, the Program drafted rules to regulate NPS runoff from publicly owned agricultural lands and continued to implement agricultural runoff control projects. The focus of urban runoff strategies has been on obtaining federal approval of the CNPCP Urban Areas management measures.

- ✓ **Integration among DOH CWB, SDWB, and WWB programs is improved to target resources more effectively towards water quality improvements.**
  From FY16-FY19, the CWB, SDWB, and WWB 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 TMDL implementation plans. The Program works with WWB to meet CNPCP requirements for OSDS and uses WWB staff tasked with OSDS plan reviews and inspections as match. The Program implements the Hawai'i Groundwater Protection Strategy (developed by SDWB), 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 and 2020 Joint Government Water Conference, which was organized by the SDWB. In FY20, the Program and SDWB discussed potential uses of the DWSRF 15% set-aside and CWA 319 funds for source water/surface water related watershed planning and projects.

Table 4. Hawai'i's Nonpoint Source Management Plan (2015-2020): Evaluation Summary		
What Worked	**Why**	**NPS Plan Update**
Collaborative Projects and Strategic Partnerships	Projects can be tailored to meet needs/goals of partners, more flexibility with project development, high level of confidence in partners implementing projects effectively.	• Continue to focus on partnership opportunities, especially in priority watersheds. • Plan projects in well in advance to clarify expectations (e.g., water quality improvement objectives) and to give time to project development. • Potential to ask for additional match to demonstrate more buy-in from partners (current requirement is 25% match).
Watershed Coordinators	The West Maui Watershed Coordinator is extremely effective in bringing agencies and organization together to dialogue and strengthen partnerships. Also extremely helpful: the coordinator keeps track of watershed plan implementation and keeps a list of water quality related projects (both active and potential) in the watersheds. In addition, the watershed coordinator provides information on 319 project implementation and has good working relationships with 319 contractors.	• Work with DAR and other agencies and organizations to fund more watershed coordinators, particularly in priority watersheds • On neighbor islands, where travel by PRC staff occurs infrequently, the watershed coordinator will assist with 319 project implementation, such as conducting site visits and checking on the status of projects.
RFPs	RFPs have been successful, with high quality proposals submitted. The amount of grant funds available is the limiting factor, not the number of good proposals. Projects also tend to be diverse, reflecting the diversity of applicants.	Release the annual RFP in August – this will ensure that the grant (received in October for the new FFY) is encumbered in time.
Priority Watersheds	Focusing on priority watersheds, particularly with the assistance of partner agencies, enabled the State to achieve water quality improvements, including delistings for He'eia Stream.	Continue to target priority watersheds and work more closely with partners to plan and target specific waterbodies where meeting water quality standards or other water quality objectives are the most feasible.

What Didn't Work	Why	NPS Plan Update
Non-strategic partnerships	Too many different partnerships, or attempts to establish these partnerships, for different strategies and watersheds proved to be difficult, particularly when there was little interest in supporting 319 efforts or poor communication, and particularly when the Program was understaffed (four out of the past five years)	• Focus on strategic partnerships in priority watersheds, where partners are requesting Program participation, rather than try to build partnerships to check boxes. • Ensure the Program continues to work with the Monitoring Section on water quality monitoring and assessments, data management and stays updated on TMDL development. This will be especially important when the SWPB is established and the Program leaves CWB.
Watershed Planning	• Older watershed plans are often not specific enough to guide project implementation, most likely because they were developed prior to the EPA's nine elements. • The cost of watershed plans limits the number of watershed plans that can be funded by PRC.	• The SWPB, when established, will have a watershed planning support system that will increase the State's capacity to develop watershed plans. • Coordinate nine element watershed plan development with other programs' watershed or water quality related management plans: NRCS watershed assessments, Board of Water Supply watershed management plans, Watershed Partnership management plans, etc. • Explore alternative plans for watersheds with one primary land use and only one source of pollution. • Explore more funding opportunities for watershed planning outside the 319 program, such as the Bureau of Reclamations WaterSMART program.
Developing statewide strategies beyond scope of Program	• Statewide strategies addressing urban and agricultural runoff are already part of the CNPCP, with over a dozen management measures in place and already being implemented to control runoff from these sources. • Addressing these sources of pollution, at least for the Program, is limited to areas	• Target sources of NPS pollution where State/partner priorities are, not based on categories of pollution. • The Program is adopting a mauka to makai approach, where it provides assistance for protection projects in conservation lands and for projects lower in elevation on agricultural lands and urban areas in the same watershed, as prescribed by each

What Didn't Work	Why	NPS Plan Update
	with approved watershed plans, complicating the implementation of broad strategies if there is not a robust partnership for implementation in non-319 watersheds. • The cesspool strategy was largely out of the Program's control and is currently now in the hands of State and County departments. • Approved watershed plans ideally have sound strategies to address pollution from these sources.	watershed's management plan and other partnership plans in the area (e.g., Watershed Partnership management plans, soil conservation plans). This approach will likely have a greater impact on water quality. • For agriculture, work more closely with NRCS and implement the NWQI in priority watersheds.
Water quality monitoring and assessment not always aligned with 319 activities	• Less than a handful of streams are monitored and assessed by CWB, and therefore it is difficult to demonstrate the effectiveness of 319 projects via the Integrated Report.	• Coordinate inland WQ monitoring with 319 activities, as was conducted in Hanalei Bay. • Coordinate watershed plan development where TMDLs are planned and where CWB will conduct monitoring. • Provide 319 assistance for water quality monitoring in priority watersheds. • Sponsor local water quality monitoring organizations and huis to collect data where the CWB/319 programs do not monitor.

Hawaii State Department of Health Polluted Runoff Control Program *Updated: 8/17/20*

Project Funding by Grant

ASO#	Contractor	Project Title	Status	Start	End	Budget	Grant	Type	Expended	Balance
N/A	Central Maui Soil & Water Conservation District	Southwest Maui Watershed-Based Plan Finalization	C	N/A	N/A	11,500.00	C9-96978714-1	Prog	11,500.00	0.00
						2,500.00	C9-96978716-0	Prog	2,500.00	0.00
					Total:	14,000.00			14,000.00	0.00
TBD	Central Maui Soil & Water Conservation District	Keokea Riparian Rehabilitation	E	7/9/20	1/8/22	1,000.00	C9-96978717-0	Proj	0.00	1,000.00
						48,999.00	C9-96978719-0	Proj	0.00	48,999.00
					Total:	49,999.00			0.00	49,999.00
TBD	County of Maui	West Maui and Southwest Maui Water Quality Sampling (HOKWO)	D	N/A	N/A	40,000.00	C9-96978719-0	Proj	0.00	40,000.00
					Total:	40,000.00			0.00	40,000.00
20-166	Coral Reef Alliance	Improve Coastal Water Quality and Coral Reef Health by Expanding Stream Gulch Restoration Actions in Wahikuli, West Maui	R	N/A	N/A	47,000.00	C9-96978718-0	Proj	0.00	47,000.00
						168,010.50	C9-96978719-0	Proj	0.00	168,010.50
					Total:	215,010.50			0.00	215,010.50
17-061	Dept. of Land & Natural Resources (DAR)	West Maui Ridge to Reef Priority Watershed Coordinator	E	11/14/16	11/13/20	100,000.00	C9-96978713-0	Proj	100,000.00	0.00
						92,402.42	C9-96978714-1	Proj	92,402.42	0.00
					Total:	192,402.42			192,402.42	0.00
TBD	Dept. of Land & Natural Resources (DAR)	West Maui Ridge to Reef Priority Watershed Coordinator	D	N/A	N/A	46,292.35	C9-96978719-0	Proj	0.00	46,292.35
						57,707.65	C9-96978720-0	Proj	0.00	57,707.65
					Total:	104,000.00			0.00	104,000.00
18-146	Dept. of Land & Natural Resources (DOFAW)	Pelekane Grazing Improvement Project	E	1/31/18	1/31/21	90,000.00	C9-96978716-0	Proj	90,000.00	0.00
					Total:	90,000.00			90,000.00	0.00
17-195	Dept. of Land & Natural Resources (DOFAW)	DLNR, Div. of Forestry and Wildlife: Polluted Runoff Control Project for West Maui	E	1/30/18	1/29/21	160,000.00	C9-96978713-0	Proj	160,000.00	0.00
						84,510.92	C9-96978714-1	Proj	84,510.92	0.00
						164,149.26	C9-96978715-0	Proj	164,149.26	0.00
						326,500.79	C9-96978716-0	Proj	203,430.74	123,070.05
					Total:	735,160.97			612,090.92	123,070.05
TBD	Dept. of Land & Natural Resources (DOFAW)	Sustaining the Source Waters of Kawaihae Watershed	D	N/A	N/A	234,000.00	C9-96978719-0	Proj	0.00	234,000.00
					Total:	234,000.00			0.00	234,000.00
16-050	Hui ku Maoli Ola	Ma'ili'ili Watershed Implementation Project	E	2/29/16	2/28/21	727,082.45	SEP	N/A	38,542.39	688,540.06
19-206	Hui o Ko'olaupoko	Ko'olaupoko Moku Watersheds Coordinator	E	12/24/19	6/23/22	10,559.33	C9-96978715-0	Proj	10,559.33	0.00
						140,000.00	C9-96978718-0	Proj	980.64	139,019.36
					Total:	150,559.33			11,539.97	139,019.36
TBD	Kaho'olawe Island Reserve Commission	Hakioawa O&M	D	N/A	N/A	11,000.00	C9-96978718-0	Proj	0.00	11,000.00
						69,665.12	C9-96978719-0	Proj	0.00	69,665.12
					Total:	80,665.12			0.00	80,665.12
19-156	Maui Land & Pineapple Co., Inc.	Treatment Train: An Ahupua'a Approach to Watershed Best Management Practices in West Maui	E	5/1/19	5/1/22	212,510.92	C9-96978716-0	Proj	90,011.43	122,499.49
						387,488.07	C9-96978717-0	Proj	0.00	387,488.07
					Total:	599,998.99			90,011.43	509,987.56
20-165	The Nature Conservancy	He'eia Watershed Ungulate-Exclusion Fencing and Erosion Control	R	N/A	N/A	210,934.10	C9-96978718-0	Proj	0.00	210,934.10
					Total:	210,934.10			0.00	210,934.10
17-060	O'ahu Resource Conservation & Development Council	Ka'alaea and Waiahole Stream Restoration/Phase 2	C	12/19/16	9/19/19	216,811.20	C9-96978715-0	Proj	216,811.20	0.00
					Total:	216,811.20			216,811.20	0.00
17-059	O'ahu Resource Conservation & Development Council	Agricultural Stewardship in the Ma'ili'ili Watershed	C	12/19/16	6/18/19	43,732.63	SEP	N/A	43,732.63	0.00
						146,302.88	C9-96978715-0	Proj	146,302.88	0.00
					Total:	190,035.51			190,035.51	0.00
18-209	O'ahu Resource Conservation & Development Council	Waimanalo Stream Restoration and Community Outreach - Phase 3	E	12/4/18	12/3/20	147,716.49	C9-96978714-1	Proj	147,716.49	0.00
						100,000.00	C9-96978716-0	Proj	19,116.38	80,883.62
					Total:	247,716.49			166,832.87	80,883.62
19-154	O'ahu Resource Conservation & Development Council	Buffers and BMPs for Windward O'ahu	E	4/11/19	10/10/21	150,000.00	C9-96978714-1	Proj	150,000.00	0.00
						125,000.00	C9-96978715-0	Proj	25,163.37	99,836.63
						29,726.24	C9-96978717-0	Proj	0.00	29,726.24
					Total:	304,726.24			175,163.37	129,562.87
20-143	PG Environmental	Waikele Watershed and Total Maximum Daily Load Implementation Plan	E	5/15/20	5/14/22	11,000.00	C9-96978715-0	Prog	0.00	11,000.00
						138,984.79	C9-96978718-0	Prog	0.00	138,984.79
					Total:	149,984.79			0.00	149,984.79
20-123	University of Hawai'i (CTAHR)	Implementing Soil Management Strategies and Soil Testing Technologies	E	8/12/19	8/12/22	349,922.86	C9-96978717-0	Proj	63,722.42	286,200.44
					Total:	349,922.86			63,722.42	286,200.44

Status
C: Completed
E: Contract Executed/Project in Progress
R: Contract Under Review (ASO/Attorney General/Etc.)
D: Contract Development (PRC)

*These funds were originally encumbered for the respective projects but were ultimately unspent by the contractors. This unspent balance was unencumbered and used for other PRC projects.

ASO#	Contractor	Project Title	Status	Start	End	Budget	Grant	Type	Expended	Balance
17-100	University of Hawai'i (Sea Grant)	He'eia Fishpond Mangrove Island Removal Project	E	3/14/17	9/13/20	189,504.70	C9-96978715-0	Proj	188,566.97	937.73
					Total:	189,504.70			188,566.97	937.73
20-139	University of Hawai'i (Sea Grant)	Expanding Water Quality Improvement Projects at He'eia Fishpond	E	3/31/20	6/29/22	64,510.92	C9-96978717-0	Proj	0.00	64,510.92
						241,951.06	C9-96978718-0	Proj	0.00	241,951.06
					Total:	306,461.98			0.00	306,461.98
19-155	The Waipa Foundation	Watershed Implementation Project for the Ahupua'a of Waipa - Phase 2	E	3/20/19	3/19/21	150,997.60	C9-96978714-1	Proj	150,997.60	0.00
						150,000.00	C9-96978716-0	Proj	35,744.12	114,255.88
						50,000.00	C9-96978717-0	Proj	0.00	50,000.00
					Total:	350,997.60			186,741.72	164,255.88

Status
C: Completed
E: Contract Executed/Project in Progress
R: Contract Under Review (ASO/Attorney General/Etc.)
D: Contract Development (PRC)

*These funds were originally encumbered for the respective projects but were ultimately unspent by the contractors. This unspent balance was unencumbered and used for other PRC projects.

Hawaii State Department of Health Polluted Runoff Control Program *Updated: 8/17/20*

Potential Unliquidated Obligations

FY15 C996978715-0 (S-16-201/9290-15)			**10/1/15 - 9/30/21**
Category	Budget	Spent/Encumbered	Balance
Payroll	312,279.10	258,507.77	53,771.33
B-Costs (Spent)	15,575.00	18,680.82	(3,105.82)
B-Costs (Encumbered)		0.00	0.00
Contracts (Spent)	788,777.75	751,553.01	37,224.74
Contracts (Encumbered)		111,774.36	(111,774.36)
Indirect	44,668.15	43,566.61	1,101.54
Balance			(22,782.57)
Revenue Adjustment			(23,236.54)
Potential FY15 Unliquidated Obligations			**453.97**

FY16 C996978716-0 (S-17-201/9290-16)			**10/1/16 - 9/30/21**
Category	Budget	Spent/Encumbered	Balance
Payroll	271,552.84	266,921.54	4,631.30
B-Costs (Spent)	19,325.00	18,227.07	1,097.93
B-Costs (Encumbered)		0.00	0.00
Contracts (Spent)	843,203.02	440,802.67	402,400.35
Contracts (Encumbered)		440,709.04	(440,709.04)
Indirect	64,919.14	40,868.60	24,050.54
Balance			(8,528.92)
Revenue Adjustment			(8,546.93)
Potential FY16 Unliquidated Obligations			**18.01**

FY17 C996978717-0 (S-18-201/9290-17)			**10/1/17 - 9/30/22**
Category	Budget	Spent/Encumbered	Balance
Payroll	425,562.21	315,851.80	109,710.41
B-Costs (Spent)	42,775.00	1,908.64	40,866.36
B-Costs (Encumbered)		0.00	0.00
Contracts (Spent)	693,359.34	64,187.91	629,171.43
Contracts (Encumbered)		818,925.67	(818,925.67)
Indirect	78,303.45	57,228.75	21,074.70
Balance			(18,102.77)
Revenue Adjustment			(18,341.03)
Potential FY17 Unliquidated Obligations			**238.26**

FY18 C996978718-0 (S-19-201/9290-18)			**9/30/18 - 9/29/23**
Category	Budget	Spent/Encumbered	Balance
Payroll	339,137.54	374,203.67	(35,066.13)
B-Costs (Spent)	34,475.00	25,608.01	8,866.99
B-Costs (Encumbered)		0.00	0.00
Contracts (Spent)	789,986.15	980.64	789,005.51
Contracts (Encumbered)		519,955.21	(519,955.21)
Indirect	62,401.31	69,529.62	(7,128.31)
Balance			235,722.85
Revenue Adjustment			0.00
Potential FY18 Unliquidated Obligations			**269,050.30**

FY19 C996978719-0 (S-20-201/9290-19)			**10/1/19 - 9/30/24**
Category	Budget	Spent/Encumbered	Balance
Payroll	451,076.63	287,177.37	163,899.26
B-Costs (Spent)	64,854.82	15,523.21	49,331.61
B-Costs (Encumbered)		0.00	0.00
Contracts (Spent)	607,500.00	0.00	607,500.00
Contracts (Encumbered)		48,998.50	(48,998.50)
Indirect	91,568.55	32,724.48	58,844.07
Balance			830,576.44
Revenue Adjustment			0.00
Potential FY19 Unliquidated Obligations			**558,501.50**

Total Potential 319(h) Unliquidated Obligations	**828,262.04**

Planned Encumbrances & RFPs

FY15 C996978715-0 (S-16-201/9290-15)			10/1/15 - 9/30/21
Category	Amount	Cost	Balance
Projected FY15 ULO	453.97		453.97
Awarded Contracts Under Development/Review			
Planned RFPs		0.00	
Other Potential Program Expenditures			
Subtotal		0.00	
FY15 Final Estimated ULO			**453.97**

FY16 C996978716-0 (S-17-201/9290-16)			10/1/16 - 9/30/21
Category	Amount	Cost	Balance
Projected FY16 ULO	18.01		18.01
Awarded Contracts Under Development/Review			
Planned RFPs		0.00	
Other Potential Program Expenditures		0.00	
Subtotal		0.00	
FY16 Final Estimated ULO			**18.01**

FY17 C996978717-0 (S-18-201/9290-17)			10/1/17 - 9/30/22
Category	Amount	Cost	Balance
Projected FY17 ULO	238.26		238.26
Awarded Contracts Under Development/Review			
Planned RFPs			
Other Potential Program Expenditures			
Subtotal		0.00	
FY17 Final Estimated ULO			**238.26**

FY18 C996978718-0 (S-19-201/9290-18)			9/30/18 - 9/29/23
Category	Amount	Cost	Balance
Projected FY18 ULO	269,050.30		269,050.30
Awarded Contracts Under Development/Review			
- TNC He'eia Watershed Ungulate Fencing & Erosion Control		210,934.10	
- Coral Reef Alliance Stream Gulch Restoration Actions in West Maui		47,000.00	
Planned RFPs			
Other Potential Program Expenditures			
- KIRC Hakioawa O&M		11,000.00	
Subtotal		268,934.10	
FY18 Final Estimated ULO			**116.20**

FY19 C996978719-0 (S-20-201/9290-19)			10/1/19 - 9/30/24
Category	Amount	Cost	Balance
Projected FY19 ULO	558,501.50		558,501.50
Awarded Contracts Under Development/Review			
- Coral Reef Alliance Stream Gulch Restoration Actions in West Maui		168,010.50	
Planned RFPs			
Other Potential Program Expenditures			
- KIRC Hakioawa O&M		69,665.12	
- County of Maui - HOKWO		40,000.00	
- DOFAW - Kohala Eke		234,000.00	
- DAR West Maui Watershed Coordinator		46,292.35	
Subtotal		557,967.97	
FY19 Final Estimated ULO			**533.53**

FY20 C996978720-0 (S-21-201/9290-20)			10/1/20 - 9/30/25
Category	Amount	Cost	Balance
Projected FY19 ULO	632,500.00		632,500.00
Awarded Contracts Under Development/Review			
Planned RFPs			
- PRC FY20 Implementation RFP (summer2020)		500,000.00	
Other Potential Program Expenditures			
- DAR West Maui Watershed Coordinator		57,707.65	
Subtotal		557,707.65	
FY20 Final Estimated ULO			**74,792.35**

Total Potential 319(h) Unliquidated Obligations (not including FY20)			**1,359.97**

Potential Projects & Future RFPs			
- PRC FY20 Implementation RFP (summer 2020)		500,000.00	
- Ko'olaupoko Moku WBP Update		250,000.00	

Goal 1: Identify water quality trends and waters and watersheds impaired or threatened by NPS pollution			
Objective	**Milestones**	**Tasks & Deliverables**	**9/30/2020 Status**
1. Develop surface water quality (WQ) assessment methods & monitoring plans to guide monitoring efforts	a. Develop West Maui Regional Water Quality Monitoring Plan	Q1: Identify relevant pollutants, stations, equipment, including current water quality monitoring efforts.	This is a relic milestone -- a regional monitoring plan is not being developed for W. Maui by PRC/CWB. Monitoring plans are being drafted as part of 319 projects. PRC is waiting for MLP to submit a revised monitoring plan, which once approved will be implemented in FY 2021.
		Q2-Q3: Draft West Maui regional monitoring plan, outreach	
		Q3: Final West Maui regional monitoring plan	N/A
		Q4: Begin implementation of the monitoring plan (identify relevant organizations to implement, determine funding, etc.)	There is already a monitoring arrangement between CWB and Hui O Ka Wai Ola (HOKWO). PRC and the County of Maui are developing a contract to fund year-long WQ monitoring in W. Maui and SW Maui to monitor 319 project effectiveness in the region (there are currently 2 projects being implemented in W. Maui and 1 being implemented in SW Maui).
	b. Investigate developing a statewide inland water QAPP	Q3: Determine CWB's capacity to develop a statewide inland waters QAPP as part of the Comprehensive Monitoring Strategy	Completed by Monitoring Section to prepare for the Kaelepulu Stream TMDL. Additional waterbodies can be added as appendices to the QAPP.
	c. Investigate WQ monitoring opportunities in new priority watersheds	Q1: Identify potential monitoring locations and monitoring plan needs; potentially include monitoring strategies in priority watersheds as milestones for the NPS Management Plan update	Completed as part of the NPS Plan update -- in addition to monitoring in Maui watersheds, Kaiaka Bay and Hilo watersheds may be targeted as part of TMDL development efforts. PRC is also investigating monitoring in Pelekane Bay.
2. Monitor and assess water quality (WQ) to identify water quality impairments and improvements	a. Target chemistry monitoring at priority sites	Ongoing: Chemistry monitoring targeted at Hanalei Bay	Ongoing monthly chemistry monitoring in Hanalei Bay to assess project effectiveness and water quality improvements. Includes sites along Waipa Stream and 3 stream mouths.
	b. Implement Hanalei Bay WQ monitoring plan	Coordinate implementation efforts with CWB and contractor (Waipa Foundation); water quality sampling weekly by Monitoring EHS, biweekly by contractor (Waipa Foundation)	Weekly physical monitoring, bi-weekly FIB sample collection, monthly chemistry sample collection

Objective	Milestones	Tasks & Deliverables	9/30/2020 Status
	c. Monitor Kawela Stream	Continue water quality sampling at Kawela Stream once a month & assess stream for Program purposes	Only 1 sample was collected between Oct-March; although monthly visits are made, stream is usually dry. Due to COVID-19, neighbor island travel has been on hold since March, so no sampling attempts have been made in Kawela since March.
	d. Assist with water quality monitoring	Assist with implementation of the Comprehensive Monitoring Strategy for Surface Waters	Monitoring Section has collected feedback and info from PRC; the final CMS was completed in April.
	e. Document WQ data	Continue uploading WQ monitoring data to WQX	Completed
	f. Evaluate WQ monitoring efforts	Q1: Include WQ monitoring assessment and evaluation in the PRC End of Year Report	Completed in October 2019
Goal 2: Develop strategies, watershed-based plans, and TMDL+ plans to prevent and reduce NPS pollution			
Objective	**Milestones**	**Tasks & Deliverables**	**9/30/2020 Status**
1. Prioritize watersheds to focus WQ improvement and protection efforts statewide	a. Develop goals, strategies & schedule to address water quality in priority watersheds	Q1-Q2: Goals, strategies, and implementation schedule for priority watersheds will be a focus of the NPS Management Plan update.	Completed; priority watersheds determined with partners -- West Maui (continuous), Heeia (continuous), and Pelekane Bay (new)
2. Develop strategies and measures of success for NPS protection	a. Update protection goals, priorities, and measures of success	Q1: Update NPS Management Plan with protection goals, priorities, and measures of success with a focus on the priority watershed selected for protection efforts	There is no watershed exclusively for protection, but goals and milestones for protected areas within priority watersheds were set with partners. Prioritization process for protection was finalized for the plan to overlap with DOFAW's protection priorities and protected watershed areas.
3. Develop watershed-based plans (WBPs) and TMDL+ plans	a. Manage Waikele Watershed/TMDL Implementation Plan development	Bimonthly meetings with contractor to discuss plan progress	In progress. Since the June kickoff meeting, there has been one status meeting (9/2020) discussing the outreach plan.
		Ensure deliverables are received pursuant to Project Timeline	Completed
		Review and provide feedback on draft sections of the plan/deliverables	Completed
		Schedule and hold kick-off meeting (at NTP)	Completed in June 2020

Objective	Milestones	Tasks & Deliverables	9/30/2020 Status
	b. Assist in the development of new WBPs	Ongoing: Review and approve WBPs and provide technical assistance as needed	Met with Central Maui Soil and Water Conservation District (CMSWCD) in Nov. to review and discuss draft Southwest Maui Watershed Plan (SMWP). Final draft was approved in December. PRC has reviewed and provided feedback on a draft watershed plan for Kamohio watershed on Kaho'olawe.
		Ongoing: Assist in Kawela alternative plan and Southwest Maui watershed plan development -- coordinate meetings to discuss drafts, review drafts	Draft of alternative plan submitted by TNC in Dec. and approved by DOH. EPA approved use of 319 funds to implement the plan as part of PRC's FY21 workplan.
Goal 3: Implement NPS management strategies to restore impaired waters and protect high quality waters from NPS pollution			
Objective	**Milestones**	**Tasks & Deliverables**	
1. Invest in projects to achieve and demonstrate water quality improvements through implementation of WBPs	a. FY20 RFP	Q1: Determine focus of RFP (specific project types, pollutants, etc.)	Completed. The RFP was open to all watersheds with additional weight given to priority watersheds. Pollutants of focus will be sediment and nutrients or any other IR-documented impairments.
		Q2: RFP outreach	RFP outreach was planned but was canceled due to coronavirus concerns and travel restrictions.
		Q2: RFP development & release (30-day RFP) (1/2020)	RFP was released on 8/3/2020 and closed on 9/22/2020. Four proposals were submitted.
		Q2: Evaluate proposals and BAFOs; meetings	In progress. The evaluation committee will meet in October and the award notification will be announced by November.
		Q3: Award notification	
		Q3: Draft contract and submit to DOH-ASO	

Objective	Milestones	Tasks & Deliverables	9/30/2020 Status
	b. Investigate potential projects in priority watersheds with other government agencies outside of the RFP	Continue to meet with UH, DOFAW, and other agencies to discuss potential projects; identify one project that could be implemented in FY21 and/or included in the NPS Plan update	PRC has planned projects with other government agencies and is in the contract development phase for the following projects in priority watersheds: (1) Water quality monitoring in W Maui and SW Maui with County of Maui, (2) the West Maui Ridge 2 Reef Watershed Coordinator for 2 years (starting in early FY 2021 and co-funded with DLNR-DAR). In addition PRC is also co-funding new projects with the following state agencies in non-priority watersheds in FY 2021: KIRC, CMSWCD, DLNR-DOFAW. (See projects list for more information on these projects.) PRC has also discussed streamlining procurement for protection projects with DOFAW, to be implemented in 2021.
	c. Draft and execute contracts & contract modifications; procurement for contracts	As required by State procurement law and as necessary for the Program	Completed/ongoing -- see attached spreadsheet for projects for which contracts have been / are being developed.
	d. Support open CWA 319(h) projects and oversee contracts	See attached Projects List for project information	See attached Projects List for project information
		Quarterly: Ensure all contract deliverables are received	Completed
		Quarterly: Update Projects List	Completed -- see attached.
		Ongoing: Track project progress, load reductions, and input data into GRTS and PRC Viewer	All open projects are in GRTS and PRC Viewer, including (as best info as received) load reductions, BMPs, and quarterly status updates.
		Q1-Q2: Finish entering/updating project data from 10/2017 - 2/2019 into GRTS.	Completed in FY 2019
		Ongoing: Provide feedback on QSRs and technical assistance to contractors	Completed
	e. Conduct project status checks to measure contractor progress and ensure contractors are on target to achieve load reductions	Q1: Site visit/inspections for O'ahu projects	Site visit and project status meeting conducted in February at Heeia Fishpond with UH Sea Grant and Paepae O Heeia.
		Q2: Site visit/inspections for Big Island projects	Communication with DLNR-DOFAW and Kohala Center over phone and email regarding their projects; no site visit was conducted due to coronavirus-related concerns and travel restrictions.

Objective	Milestones	Tasks & Deliverables	9/30/2020 Status
		Q3: Site visit/inspections for Maui projects	No site visit was conducted due to coronavirus-related concerns and travel restrictions. PRC discussed updates with Tova, the W. Maui Watershed Coordinator, over email and phone, and received updates from its other contractors throughout regarding COVID-related concerns/delays.
		Q4: Site visit/inspections for Kaua'i	No site visit was conducted due to coronavirus-related concerns and travel restrictions. PRC discussed updates with the Waipa Foundation over email and phone
Goal 4: Develop and employ an effective statewide program to manage NPS pollution			
Objective	**Milestones**	**Tasks & Deliverables**	**9/30/2020 Status**
1. Develop and implement the Coastal Nonpoint Pollution Control Program (CNPCP) to prevent and reduce coastal NPS pollution statewide	a. Obtain approval of remaining conditions for CNPCP	Continue to work with CWB Enforcement, AG, and AG's contractor to draft 11-56 NPS rules with a focus on codifying outstanding management measures, particularly OSDS (including drafting OSDS / Developed areas rules, revising previously drafted appendices based on feedback from other agencies and stakeholders, meeting with stakeholders, and revising rules repeatedly). Participate in CSO calls and contribute materials to the workgroup; review materials/approved submissions in CSO repository.	The 11-56 rules and rationale were completed and were submitted to the Small Business Regulatory Review Board (SBRRB) for review. CWB, SBRRB, and the DAG held a meeting in July to discuss 11-56 along with 11-54 and 11-55 amendments. SBRRB recommended to the Governor to grant approval to hold a public hearing for our rules. In September, after receiving comments from the Legislative Review Board, DOH sent a letter to the governor to request preliminary approval to hold public hearing for the rules (see attached). PRC has participated in 2 CSO workgroup calls about relevant CNPCP topics this year.

Objective	Milestones	Tasks & Deliverables	9/30/2020 Status
		Continue to assist OP in development of 312 Necessary Action Plan, establishing specific tasks and timelines related to outstanding measures. The final Necessary Action Plan must be submitted by OP-CZM to NOAA by Q2 (2/2020).	The 312 Necessary Action Plan (5-Year CNPCP Workplan) was submitted to NOAA/EPA on Dec. 2, 2019 and approved by NOAA/EPA on Jan. 15, 2020. The plan is being implemented by OP-CZM and PRC. PRC has assisted with New Development submissions (main submission with 2 supplemental submissions in August and September) and has participated in NOAA/EPA and OPZ-CM/DOH meetings to discuss the management measure. PRC has also provided feedback on the Roads, Highways, and Bridges deliverables provided by the OP-CZM's contractor, AECOM, who developed a field guide and manual for Roads, Highways, and Bridges operation and maintenance for Hawaii County.
		Update previously approved measures as rules are being developed; Continue to track down previous CNPCP submissions; request assistance from EPA	PRC requested assistance from EPA/NOAA regarding Operating OSDS in November and received clarification from them in December.
		Revise New OSDS, Operating OSDS, management measures and Monitoring & Tracking and submit these measures for EPA approval	New OSDS was approved formally on Nov 15, 2019. Operating OSDS is still being developed and was awaiting the status of legislative bills that may have required inspections, none of which passed. There is some controversy about whether OSDS will be considered point sources due to the Supreme Court ruling in April regarding injection wells in Maui, and whether that decision will make amendments to HAR 11-62 requiring OSDS inspections a more viable option than widespread permitting. In addition, 11-56 rules, when amended after the establishment of the NPS Branch, will eventually capture all OSDS and require inspections.
		Monitoring and Tracking Administrative Element preparation and comments	Monitoring and tracking write-up was drafted the previous fiscal year and was going to be revised based on the CMS. The CMS was completed in April, but Planner was on leave and the final deliverable has been delayed. The Monitoring and Tracking write-up will be revised to reflect the CMS, reviewed by OP-CZM, and submitted to the EPA and NOAA in FY 2021.

Objective	Milestones	Tasks & Deliverables	9/30/2020 Status
		Q2-Q4: Implement Necessary Action Plan, which may give a specific timeline for some of the tasks above	In progress; see above for current milestones.
2. Develop and implement strategies to address the State's major NPS pollution concerns	a. Develop a statewide strategy to address runoff from cesspools	Attend quarterly Cesspool Workgroup meetings; assist with cesspool conversion workgroup tasks (as requested by DOH representative) needed for the statewide plan (final plan estimated to be completed by 12/2020)	The DOH Cesspool WG meetings have not been held. PRC met with the Cesspool Conversion WG outreach specialist in Feb. to discuss cesspool-related updates, legislative bills, and plans for conversions moving forward.
	b. Implement statewide strategy to address runoff from agriculture	Q1: Work with NRCS and other partners on NWQI implementation phase in West Maui (if application submitted in FY19 is approved) or work on application for the NWQI implementation phase (if the watershed assessment for West Maui has been completed by NRCS and major partners (as identified by NRCS in FY19) are on board; continue to assist in 11-56 rule development targeting Ag (see Goal 4, Objective 1).	PRC and NRCS have continued to meet to discuss NWQI watersheds in Pelekane Bay, Hilo, and West Maui. So far there has been no progress in West Maui with respect to recruiting eligible producers, so the focus has been on Pelekane and Hilo. The 11-56 appendix to regulate NPS pollution from agriculture has been completed. In addition, PRC has been assisting DOH with the establishment of the Surface Water Protection Branch (NPS Branch) which will manage NPS pollution from agriculture and other sources. The NPS Branch is still going through the "reorganization" proposal process as of August 2020. The approval process experienced significant delays with the shut down, and because the positions requested for the Branch are state-funded, most likely will not be created until the State's hiring freeze ends.
3. Build new partnerships and strengthen existing partnerships to facilitate program coordination and integration for NPS management	a. Identify potential partnerships and NPS-related projects that would benefit from cross-program coordination	Potential partnerships and opportunities will be identified as part of the NPS Plan update process and will be included in the NPS Plan update. PRC will continue to meet with partners to discuss potential projects (see Goal 3) and to update the NPS Plan.	Partners and potential partners have been identified via meetings with various agencies and organizations. Potential new partners include: DAR/MKSWCD in South Kohala, a new priority watershed areas for PRC. In addition, new partnerships with County of Maui (COM) and CMSWCD were formed this year to implement smaller scale projects (riparian protection project in Southwest Maui, and a one year WQ monitoring project with COM. The State continues to partner with DOFAW, DAR, KIRC, and UH Sea Grant and CTAHR on NPS control projects on Oahu, West Maui, and the Big Island.

Objective	Milestones	Tasks & Deliverables	9/30/2020 Status
	b. Improve 303(d) and 319(h) integration	Assist with Kaelepulu TMDL development; identify objectives and milestones for TMDL/WBP integration for the NPS Management Plan update	PRC met with the Monitoring Section regarding TMDL development and other monitoring activities (e.g., CMS) in January, and provided feedback/comments on the draft Integrated Report in March and July. The PRC has discussed TMDL updates with the Monitoring Section supervisor due to interest in eventually updating a watershed-based plan in the area (Koolaupoko Moku) in approx. three years.
	c. Improve 319(h) and WWB coordination to address NPS pollution from OSDS	Quarterly: Meet with the WWB to discuss the cesspool strategy going forward for the NPS Plan update and 11-56 (or 11-62) draft rules on OSDS. PRC will continue to work with the WWB as part of the DOH/EPA Cesspool Workgroup.	PRC discussed legislative bills with the WWB in Jan. and March that would affect the CNPCP and provided testimony. The DOH Cesspool WG is no longer holding meetings because the statewide cesspool conversion group has taken over cesspool efforts.
	d. Improve 319(h) and SDWB coordination to protect source waters from NPS pollution	PRC and SDWB will work together on the NWQI in West Maui and will continue to implement the Hawaii Groundwater Protection Strategy.	PRC met twice with SDWB (Nov and Jan) to discuss joint projects and plans that could be funded through the DWSRF 15% set-aside and CWA 319. Because SDWB does not need additional plans or implementation projects at the time, and because PRC already has plans for its priority watersheds and doesn't currently have the capacity to develop a source water focused watershed plan within a 2-year funding cycle, it did not request DWSRF 15% set aside funds. PRC will contine to assist in implementing the Hawaii Groundwater Protection Strategy by funding protection projects in source water areas with 319 grant funds.
	e. Provide outreach through partnerships	Q3: Co-Sponsor Waikiki Aquarium Earth Day event (~4,000 visitors)	The event was supposed to take place on April 4, and was postponed to October 24 due to coronavirus-related concerns.
		Participate in a local conference/symposium (e.g., Hawaii Conservation Conference, Joint Government Water Conference) to conduct outreach and develop and maintain partnerships	Hawaii Infrastructure Funding Forum -- Jan 2020. Learned of additional watershed planning / project activities provided by DOI and met with other partners (DAR).

Objective	Milestones	Tasks & Deliverables	9/30/2020 Status
		Continue to distribute outreach materials and manuals (Hawaii Watershed Guidance and NPS coloring books) to stakeholders and other interested groups	100 coloring books to Pohakea Elementary; 50 coloring books, 300 NPS brochures, and 200 pencils to MCBH for STEM night (March) and Earth Day; 50 coloring books, 50, sticker books, 50 NPS illustrated brochures, and 50 PRC pencils were donated to World Fish Migration Day (May 2020) in Heeia. PRC is out of coloring books and will be ordering more in FY 2021.
4. Apply adaptive management to improve the State NPS Program and investigate approaches to address NPS pollution	a. Determine progress implementing the NPS Management Plan	10/30/19: Submit End of Year Report to EPA	Completed
	b. Assess effectiveness of 319(h) projects	Quarterly: Analyze project data from QSRs (final QSR from contractor for FY19 due Q1) and GRTS	Completed
		Assessments and load reductions included in PRC End of Year Report and PRC Viewer	Completed
		10/30/19: Submit PRC End of Year Report	Completed
		Q4: Determine whether He'eia watershed or another 319 project watershed is on track to qualify for a success story	Heeia Stream Success Story was submitted in November 2019 and approved in August 2020. The success story was based on He‘eia Stream's removal from the impaired waters list in 2016 for TP and turbidity and in 2018 for NO3+NO2. He‘eia Stream is currently attaining all uses for the Wet Season.
		Q4: Develop success story in conjunction with End of Year Report	
4. Apply adaptive management to improve the State NPS Program and investigate approaches to address NPS pollution (cont.)	c. Investigate innovative approaches and develop new strategies to address NPS pollution	PRC will continue to develop NPS rules (11-56) and assist with the potential NPS branch establishment as part of a DOH-designated special project. A summary report of NPS enforcement opportunities will be included in the End of Year Report (Q1). Additional new approaches will be identified in the NPS Plan update.	The HAR 11-56 (NPS Pollution Control) rules and the rationale were completed. The rules are not awaiting governor's approval for public hearing. PRC continues to work with Enforcement and ERO to organize the NPS Branch, which will include PRC, a regulatory section, and a watershed planning support section. In addition new approaches to more efficiently work with partners will be included in the NPS Plan update. PRC has completed the task for the End of Year Report.
	d. Attend relevant training workshops and conferences	Q4: Attend the Joint Government Water Conference	N/A

Objective	Milestones	Tasks & Deliverables	9/30/2020 Status
	to learn additional knowledge and skills for implementing the program	Participate in webinars (e.g. ACWA) and national training, national conference, or local trainings on relevant topics	State of Hawaii State Procurement Office Conference (Oct); DOH/EPA Hawaii Infrastructure Funding Forum (Jan); NOAA OpenNSPECT training (Feb), GRTS Success Story Training (June)
	e. Hold PRC "retreat/boot camp"	Q1: Conduct End of Year assessment: discuss progress in implementing the NPS Management Plan and workplan, identify unmet goals and objectives in NPS Plan; discuss and prepare for FY20 workplan tasks (including the Q2 RFP); NPS Management Plan update discussion	Completed
		Q2-Q3: Review FY20 workplan progress, develop FY21 workplan priorities and tasks, discuss NPS Management Plan draft and feedback, plan for RFPs and projects, address program needs, meet with CWB staff to discuss various workplan related tasks	Completed
	f. Update Hawai'i's NPS Management Plan	Q1-Q2: Revision of goals, objectives, strategies, and milestones; meeting with partners to discuss revisions; updates of maps, tables, appendices, and photos	All but milestones (implementation schedule), appendices, and graphics have been completed.
		3/16/2020: Draft submission to EPA Region 9; public comment period (30 days)	Submisssion extended to 3/2020 due to COVID-19 shut down, absence of Planner for 2+ months, and PRC staff rotating on temporary assignment for the supervisor poisition (Program Specialist; vacant since Dec). New schedule will involve release of draft in 12/2020 for public comment and final draft submission to EPA by 3/2020. Draft is almost completed but has been on hold temporarily as Planner has been on temporary assignment for supervisor January, April, August,and September.
		Q3-Q4: Revisions, public comment responses; additional revised draft sections to EPA as needed	
		8/1/2020: Submit final plan for EPA approval	
Perform fiscal, reporting, and administrative duties to ensure the PRC Program continues to achieve its mission			
Objective	**Milestones**	**Tasks & Deliverables**	**9/30/2020 Status**

Polluted Runoff Control Program - Federal Fiscal Year 2020 Workplan Progress Report - September 30, 2020

Objective	Milestones	Tasks & Deliverables	9/30/2020 Status
1. Obtain the FY 2020 319(h) grant	a. Develop Workplan Table, Narrative, and Budget	Q3: Draft FY21 Workplan and PRC Budget submitted to CWB Chief and EPA for review	Completed
	b. Negotiate and submit grant	4/2020 or 5/2020: EPA & DOH grant negotiations meeting in SF	Completed
		7/2020: Submit grant application to EPA	Completed
2. Perform fiscal management to ensure successful and appropriate spending of 319(h) grant funds	a. Spend all awarded funds with no unobligated funds	Fiscal administration of open grants	Completed -- see FY 2020 End Of Year Report for grant information
	b. Reallocate unspent Personnel costs to contracts	Q1: Identify unspent personnel funds (if applicable) and reallocate towards contracts	In progress. PRC worked with ERO to reallocate funds from personnel to contracts for S-16, S-17, and S-18 and will work on reallocation for S-19 and S-20 grants next fiscal year.
3. Perform reporting activities for projects, budget, and PRC assessments	a. Identify potential partnerships and NPS-related projects that would benefit from cross-program coordination	Potential partnerships will have been identified in FY19 as part of the NPS Plan update.	Completed in FY 2019
	b. Participate in End of Year meetings with the EPA	Q1: Discuss agenda and materials with EPA for PRC session	Completed
		Q1: Participate in meetings	Completed in Jan 2020
	c. Prepare workplan progress reports and End of Year Report on progress implementing the NPS Management Plan	10/30/2019: FY19 final workplan progress report	Completed
		10/30/2019: EOY Report submitted to EPA	Completed
		4/2020: Semi-annual FY 2020 workplan progress report	Completed
		Bimonthly: PRC & EPA meet to discuss technical issues and review workplan progress	Completed
	d. Submit quarterly fiscal progress reports	Quarterly fiscal reports (Nov, Feb, May, Aug) submitted to EPA	Completed in November and December
	e. Close out 2014 CWA 319(h) grant	Q1: Interim FFRs	Completed
		Q2: Final 2014 FFR	Completed

Objective	Milestones	Tasks & Deliverables	9/30/2020 Status
	f. Update Viewer and create additional functionality	Continue working with Windsor on developing Viewer's reporting functions (e.g., final reports from contractors, workplans, etc.) and testing and evaluating reporting functions	Contract with Windsor is currently active but they have not worked on PRC Viewer functions yet.
4. Administer 319(h) Program	a. Manage 319(h) program	Ensure the NPS Management Plan and FY20 Workplan are being implemented (review progress and end of year reports, QSRs, GRTS, contracts; hold PRC staff meetings; serve as liaison for PRC and CWB with other agencies, attend contractor outreach events; oversee administrative and accounting activities, etc.)	Completed
	b. Assist with CWB strategic planning and programmatic support	Assist CWB with procurement and contract development	Completed. Assisted CWB in developing the 3-year master contract for support services and modifying existing contracts. Master contract was executed in September. Provided procurement and contract development guidance and assistance to other CWB sections.
		Assist CWB with other programmatic support, including strategic planning for CWB (e.g., NPS Branch); participate in supervisor meetings	Most of the assistance has been through procurement, 11-56 rules, WQ monitoring QA/QC, and NPS Branch development.
	c. Administrative support	Provide administrative support for all PRC activities	Completed

Clean Water Act §319(h) Projects for Fiscal Year 2020

Project Title (Watershed), Contractor	Project Description & Status	Environmental Results and Pollutant Load Reductions	Start-End Dates and Funding
	COMPLETED		
He‘eia Fishpond Mangrove Island Removal Project (He‘eia), University of Hawai‘i Sea Grant College Program	This is a multi-phase mangrove (Rhizophora mangle) removal project that will eliminate cattle egret habitat and reduce total phosphorous. In Phase 1, UH Sea Grant removed 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 removed mangroves from a "mangrove island" in He'eia Fishpond. In Phase 3, UH Sea Grant replanted the staging area and mangrove island with native plants and implemented erosion control measures. In Phase 4, UH Sea Grant maintained the project sites. UH Sea Grant also hosted a workshop for local stakeholders on mangrove removal with its project partner, Paepae o He‘eia, a local nonprofit that provides stewardship for He‘eia Fishpond. Due to inclement weather delays, the project was extended for an additional 12 months from 9/13/19 to 9/13/20. The project was successfully completed on 9/13/20 and the contractor is finalizing the total load reductions.	Estimated Load Reductions: • Total nitrogen: 2 lb/year • Total phosphorus: 660 lb/year	3/14/17 – 9/13/20 $189,505 (§319(h)) $57,572 (match)
	IN PROGRESS (CHRONOLOGICAL BY NTP)		
Ma‘ili‘ili Reservoir Mitigation Project (Ma‘ili‘ili), Hui Ku Maoli Ola	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. (Due to the COVID-19 pandemic restrictions, the education and outreach portion of the project may be modified to comply with State and County orders.) This is a SEP project (not funded by 319(h), but match is used). The contractor has received a 12-month access permit from the landowner, Department of Hawaiian Homelands (DHHL) and is in the process of obtaining a NPDES permit from DOH’s Clean Water Branch. Due to delays in the issuance of permits by government agencies and the challenges and restrictions associated with the COVID-19 pandemic, the Contractor has requested a 6-month no-cost extension.	Estimated Load Reductions: • Total nitrogen: 1,000 lb/year • Total phosphorus: 200 lb/year • Sediment: 100 ton/year	2/29/16 - 2/28/21 Funded by a DOH and CCH SEP agreement $727,080 (SEP) $201,560 (match)
West Maui Ridge to Reef Priority Watershed Coordinator (West Maui),	The Watershed Coordinator continues to conduct education and outreach and coordinate various water quality improvement projects among partners in the West Maui watersheds. The Watershed Coordinator is conducting at least 40 outreach events, including	N/A	11/14/16 - 11/13/20 $192,400 (§319(h)) $22,330 (match)

Project Title (Watershed), Contractor	Project Description & Status	Environmental Results and Pollutant Load Reductions	Start-End Dates and Funding
Department of Land and Natural Resources (DLNR)	community events and workshops. Other outreach consists of press releases for events and water quality improvement projects, social media campaigns, targeted email announcements, regular updates to the West Maui Ridge to Reef website, and assisting PRC with coordinating implementation projects in West Maui.		
DLNR, Div. of Forestry and Wildlife: Polluted Runoff Control Project for West Maui (West Maui), DLNR	DLNR will installing new ungulate control fence and retrofit existing fencing to exclude feral ungulates in Pu'u Kukui Watershed Preserve in Honolua, Honokahua, and Kahana watersheds. DLNR will also retrofit an existing ungulate control fence to exclude feral ungulates from the Kapunakea Preserve in Wahikuli and Honokowai watersheds. All fencing materials in the steepest regions of the project area (PKW Sections #4 and 5) have been procured and dropped along the fence installation line. The contractor is currently working on installing and retrofitting the fence this area.	Estimated Load Reductions: • Sediment: 40 ton/year	1/30/18 – 1/29/21 $735,161 (§319(h)) $184,000 (match)
Pelekane Grazing Improvement Project (Kawaihae), DLNR	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. The project was extended by an additional 12 months at no-cost due to staffing changes with the sub-contractor. (The new staff members required additional time to become familiar with the project requirements and deliverables.)	Estimated Load Reductions: • Sediment: 10 ton/year • Total nitrogen: 1,467 lb/year • Total phosphorus: 1,833 lb/year	1/31/18 – 1/30/21 $90,000 (§319(h)) $22,500 (match)
Waimanalo Stream Restoration and Community Outreach - Phase 3 (Waimanalo), O'ahu Resource Conservation & Development Council (ORCD)	ORCD has developed 5 of the required 5 new conservation plans and has established a BMP Investment Fund to administer cost-share grants to at least 5 farms. ORCD will also evaluate the long-term effectiveness of BMPs previously implemented (in Phases I and II) and provide updated load reductions. ORCD hosted a field day in November 2019 that featured agricultural BMPs designed to reduce NPS pollution. The contractor will conduct additional education and outreach activities throughout the watersheds. The contractor requested a no-cost 6-month extension as they needed additional time to implement its education and outreach activities due to COVID-19 pandemic challenges and restrictions. DOH has approved its request for extension.	Estimated Load Reductions: • Sediment: 100 ton/year • Total nitrogen: 87.5 lb/year • Total phosphorous: 32.5 lb/year	12/4/18-6/3/21 $247,716 (§319(h)) $73,587 (match)
Watershed Implementation Project for the Ahupua'a of	The Waipa Foundation will build upon the progress made in the Waipa Phase 1 project by: 1) replacing 5 existing cesspools along the	Estimated Load Reductions: • TSS: >40,000 lbs/year	3/20/19 – 3/19/21 $350,998 (§319(h))

Project Title (Watershed), Contractor	Project Description & Status	Environmental Results and Pollutant Load Reductions	Start-End Dates and Funding
Waipa – Phase 2 (Waipa), The Waipa Foundation	Waipa, Waioli, and Waikoko Stream watersheds with alternative Individual Wastewater Systems (IWS); 2) continuing the feral ungulate removal program implemented in Waipa Phase 1; 3) restoring 1 acre of the lower Waipa Stream riparian corridor and re-treating the areas of the Waipa Stream that were damaged by the April 2018 floods; 4) implementing taro lo‘i management practices; and 5) maintaining BMPs installed in Waipa Phase 1. The contractor has requested a 12-month no-cost extension	• Fecal Coliform: ~$2x10^{15}$ CFU/year	$110,375 (match)
Buffers and BMPs for Windward O‘ahu (Kahalu‘u, Waihe‘e, and Haiamoa), ORCD	ORCD has developed and obtained approval for 2 of 5 new conservation plans for local farmers in the Kahalu‘u, Waihe‘e, and Haiamoa watersheds and will assist the farmers in implementing BMPs that improve water quality from the conservation plans. The contractor is in the process of developing 3 more new conservation plans. The contractor will also restore 300 feet of riparian buffer along the Kahalu‘u and Waihe‘e streams. ORCD co-sponsored a field day with the Ko‘olau Mountains Watershed Partnership in November 2019 in Waihe‘e valley to demonstrate successful riparian restoration techniques.	Estimated Load Reductions: • Sediment: 162 tons/year • Nitrogen: 300 lbs/year • Phosphorus: 150 lbs/year	4/11/19 – 10/10/21 $304,726 (§319(h)) $78,770 (match)
Treatment Train: An Ahupua‘a Approach to Watershed Best Management Practice in West Maui (West Maui), Maui Land & Pineapple Company, Inc. (MLP)	MLP will implement a series of treatment measures and BMPs strategically placed for a sequential, multi-layered approach (Treatment Train) to reduce nonpoint source pollution in the Pu‘u Kukui Watershed Preserve located within the Honolua, Honokahua, Kahana, and Honokowai watersheds of West Maui. The Treatment Train will include the following BMPs: push pile stabilization, establishment of a native plant nursery and seed bank, landscape restoration, stream and gulch restoration, lo‘i restoration, conservation fence maintenance, feral ungulate management, and invasive plant management.	Estimated Load Reductions: • Sediment: 178.05 tons/year • Phosphorus: 205.90 lbs/year • Nitrogen: 515.90 lbs/year	5/1/19 – 5/1/22 $599,999 (§319(h)) $549,557 (match)
Implementing Soil Management Strategies on O‘ahu (Honouliuli, Ma‘ili‘ili, and Kaiaka Bay), University of Hawai‘i College of Tropical Agriculture and Human Resources	This project will improve water quality by implementing nutrient and soil management strategies. The contractor will work with participating farmers to utilize nitrate and phosphate technologies to reduce the amount of fertilizer applied and apply appropriate soil amendments on six farms in the Honouliuli, Ma‘ili‘ili, and Kaiaka Bay watersheds. The contractor will also conduct education and outreach on soil and nutrient management by providing one-to-one training to participating farmers, conducting training workshops to interested farmers, and developing two training video presentations.	Estimated Load Reductions: • TP: 6,450 lbs/year • TN: 6,181.25 lbs/year	8/12/19-8/11/22 $349,923 (§319(h)) $94,461 (match)

Project Title (Watershed), Contractor	Project Description & Status	Environmental Results and Pollutant Load Reductions	Start-End Dates and Funding
Koʻolaupoko Moku Watersheds Coordinator (Koʻolaupoko Moku), Hui o Koʻolaupoko	The Watersheds Coordinator will collect data and complete reports on past and current monitoring projects, implementation projects, and outreach efforts/projects in the Koʻolaupoko Moku Watersheds. The Watersheds Coordinator will also develop and implement an outreach plan to establish stakeholder support for the planned update to the Koʻolaupoko Watershed Restoration Action Strategy (KWRAS).	N/A	12/24/19-6/23/22 $150,559 (§319(h)) $48,126 (match)
Expanding Water Quality Improvement Projects in Heʻeia Fishpond (Heʻeia), UH Sea Grant College Program	UH Sea Grant, in partnership with Paepae o Heʻeia and Hui Kū Maoli Ola, will remove 5.25 acres of invasive red mangrove and hau from Heʻeia Fishpond and install rain gardens in front of two storm drain outlets to reduce nutrient and sediment concentrations in Heʻeia fishpond. In addition, UH Sea Grant will monitor water quality and circulation to determine the project's impact on pollution reduction in Heʻeia's waterways. Outreach efforts will educate local stakeholders and community members on the connection between a healthy invasive-free ahupuaʻa system and improved water quality.	Estimated Load Reductions: • TP: 8.69 lbs/year • TN: 47.74 lbs/year • TSS: 2,341.68 lbs/year	3/31/20-3/30/22 Extension to 6/30/22 pending $301,600 (§319(h)) $71,105 (match)
Waikele Watershed TMDL Implementation Plan (Waikele), PG Environmental, LLC	This hybrid TMDL implementation/watershed-based plan is being developed to integrate the Waikele TMDL load allocations for sediment and nutrients and the nine elements of a watershed-based plan.	N/A	5/15/20-5/14/22 $149,985 (§319(h)) $0 (match)
Keokea Riparian Rehabilitation (Central Maui) Central Maui Soil and Water Conservation District	This project will establish a protected riparian corridor to reduce the amount of sediment discharged from Keokea Gulch. The Central Maui Soil and Water Conservation District will install approximately 373 feet of ungulate fencing to complete a 7.28-acre ungulate-free pen that will act as a sediment filter for sheet flow from adjacent lands into Keokea Gulch, remove non-native plants, and install approximately 6,400 native plants such as Aʻalii, Pili Grass, and Mao.	Estimated Load Reductions: • Sediment: 154 tons/year • Nitrogen: 1,323 pounds/year • Phosphate: 253 pounds/year	7/9/20-1/8/22 $49,999 (§319(h)) $12,500 (match)
CONTRACTS WITH ANTICIPATED NOTICE TO PROCEED AND CONTRACTS IN DEVELOPMENT			
Expanding Stream Gulch Restoration Actions in Wahikuli, West Maui (West Maui) The Coral Reef Alliance	The Coral Reef Alliance will implement a multi-phase BMP installation project along a steep and highly erosive gulch in the Wahikuli watershed to reduce sediment. The planned BMPs include: vetiver sediment traps, native grass sediment traps, check dams, and coconut coir corridors.	Estimated Load Reductions: • Sediment: 45 tons/year	Anticipated NTP: 10/2020 $215,010 (§319(h)) $76,970 (match)
Heʻeia Watershed Ungulate-Exclusion Fencing and Erosion Control (Heʻeia) The Nature Conservancy	This project will focus on reducing sediment, total nitrogen, and total suspended solids in the Heʻeia watershed by installing an ungulate fence in the 22-acre sub-watershed above the Heʻeia estuary and coordinating with community partners/groups to remove feral ungulates in the fenced area and restore native vegetation.	Estimated Load Reductions: • Nitrogen: 160 lbs/year • Sediment: 540 tons/year	Anticipated NTP: 10/2020 $210,930 (§319(h)) $52,730 (match)

Clean Water Act §319(h) Projects for Fiscal Year 2020

Project Title (Watershed), Contractor	Project Description & Status	Environmental Results and Pollutant Load Reductions	Start-End Dates and Funding
Sustaining the Source Waters of Kawaiahae Watershed (Kawaihae) DLNR	DLNR will institute an ungulate removal program and vegetation and water quality monitoring in the ʻEke Unit (an area located in the upper region of the Kawaiahae Watershed) to determine the impacts of ungulate fencing and feral pig removal on vegetation ground cover and sediment load reduction in streams that feed into Pelekane Bay. (Funding has already been secured by the contractor through another grant to construct an ungulate fence around the ʻEke Unit.) The contractor will also work with the landowner to develop a long-term ungulate removal plan to include public hunting period and living trapping and snaring in the ʻEke Unit to protect the intact native forest.	Estimated Load Reductions: TBD (Monitoring Component)	Anticipated NTP: 10/2020 $234,000 (§319(h)) $98,007 (match)
Coastal Water Quality Monitoring in West Maui and Southwest Maui Watersheds County of Maui	The County of Maui will provide coastal water quality monitoring in support of watershed management activities in seven (7) DOH approved watersheds in West Maui and Southwest Maui. The County of Maui will regularly collect and analyze water samples to collect data, assess trends, and monitor the effectiveness of current implementation projects in the watersheds on water quality.	Estimated Load Reductions: N/A; water quality data will be available	Anticipated NTP: 12/2020 $38,529 (§319(h)) $10,038 (match)
Operation and Maintenance Plan for Hakioawa Watershed (Kahoʻolawe) Kahoʻolawe Island Reserve Commission	In this project, the Kahoʻolawe Island Reserve Commission will maintain the infrastructure and BMPs installed during its previous §319(h) project – *Reducing Excessive Sedimentation and Habitat Restoration in the Hakioawa Watershed – Phase 2* and install additional approximately 5,000 native plants in previously established corridors.	Estimated Load Reductions: • Sediment: 0.6 tons/year	Anticipated NTP: 12/2020 $80,665 (§319(h)) $30,042 (match)
West Maui Watershed Coordinator (West Maui), DLNR	The Watershed Coordinator will conduct education and outreach and coordinate various water quality improvement projects among partners in the West Maui watersheds, particularly those that are part of the West Maui Ridge 2 Reef Initiative. The details of the scope are being finalized by DAR. This project is essentially an extension of the existing Watershed Coordinator position funded through November 2020; due to State procurement laws, the existing contract could not be extended and a new contract has to be developed.	N/A	Anticipated NTP: 1/2021 Cost TBD