

Department of Health Clean Water Branch Polluted Runoff Control Program

Quarterly Status Reporting Form  
Clean Water Act 319(h) NPS Implementation Program

Quarterly Status Reports are required per contract terms. If no work was done during the reporting period, the CONTRACTOR must provide an explanation of the circumstances.

This Quarterly Status Report is for the period indicated below (**check only one and insert year**):

January 1 – March 31, \_\_\_\_\_ (Due April 15<sup>th</sup>)  
 April 1- June 30, 2021 \_\_\_\_\_ (Due July 15<sup>th</sup>)  
**X July 1 – September 30, \_\_\_\_\_ (Due October 15<sup>th</sup>)**  
 October 1 – December 31, \_\_\_\_\_ (Due January 15<sup>th</sup>)

Project Title: *Improve Coastal Water Quality and Coral Reef Health by Expanding Stream Gulch Restoration Actions in Wahikuli, West Maui*

Project Start/Completion Date: \_\_\_ April 3, 2020 – April 2, 2023

Estimated % of Project Completed: \_\_\_ 27 \_\_\_ %

Estimated % of Grant Funds Previously Requested: \_\_\_ 22 \_\_\_ %

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Please provide the following information for this reporting period. Additional sheets may be attached:

1. Progress/tasks started and/or completed as defined in the Contract's Scope of Services during **current** reporting period.

Summary of work completed (list all tasks and deliverables)

Task/Deliverable	Due Date	Date Task Completed/ Deliverable Submitted
Transport equipment to site	9/30/2021	7/10/2021, 8/12/2021,
Set up irrigation system	9/30/2021	7/24/2021
Prepare land	9/30/2021	7/21-23/2021, 8/6, 8//11, 8/142021,

		9/2, 9/10, 9/16, 9/21/2021
Coordinate volunteers and contractors to implement Phase 1 BMPs	on-going	on going
Install sediment posts		N/A during this reporting period
Data collection (Site 7c)	9/30/2021	8/31/2021
Install turbidity boom equipment	8/11/21	5/6/21
Conducted data collection on estimated ground coverage for hydromulch	11/11/21	5/21/21

A. GRTS Load Reductions

Pollutant	Estimated Load Reduction
Nitrogen (lbs/yr)	N/A
Phosphorous (lbs/yr)	N/A
Sediment (tons/yr)	10 Tons per Year

B. Narrative Progress Report

The Coral Reef Alliance (CORAL) is incredibly grateful for support from the Hawai'i Department of Health (DOH) to save coral reefs in West Maui, a habitat that is critically important to Hawai'i as coral larvae exported from here helps replenish other reefs across several islands. This support has advanced our shared mission of improving the health of coral reefs in Maui and significantly reducing runoff impacting coastal waters.

With the support of the DOH Clean Water Branch Polluted Runoff Control Program, CORAL is implementing 30 highly effective best management practices (BMPs) and installing native plant rows behind these BMPs along a 1,000-foot long and 150-foot wide, steep and highly erosive, stretch of stream gulch in the Wahikuli Watershed. The BMPs include installation of vetiver grass rows, native kawelu and pili grass rows, coconut coirs, sandbag corridors, and a series of check dams and living check dams. We use a native forest structure of native plants in our native plant rows, including native grasses, shrubs, groundcovers, and trees. We monitor the amount of retained sediment (on land) to quantify BMP effectiveness. For the duration of this project, we also monitor turbidity in the stream and nearshore environment and share our results with practitioners and local decision makers.

Below, we outline our progress to date by objective, identify any problems, and identify tasks that will be completed in the next reporting period.

***Objective 1: Stabilize a highly erosive site in Wahikuli Watershed by installing a minimum of 30 sediment-reduction Best Management Practices (BMPs) within a 1,000-foot stream gulch area.***

The activities for this project are guided by the seasons to ensure we are restoring the land in a way that is most effective and sustainable. During the hot summer months, the CORAL team planned BMP implementation activities and waited for enough rain to fill our catchment tanks to supply sufficient water to seedlings. Due to the excessive heat, we paused BMP installation and instead shifted our focus to working with our volunteers at the greenhouse space donated to us by Pacific Biodiesel. During these volunteer events, we were able to plant 1,298 native plant seedlings that will be used in the BMPs during the rainy season.

Over the last few months we were also able to determine the logistics for our BMPs, including consideration of the type of BMP installed and location, and identifying where hydroseeding or hydromulching will be most effective. We conducted successful hydromulching tests with newly purchased supplies to ensure our hydroseeding mixes were correct and that our equipment functions properly. Two hydroseeding test sites were installed and additional seeds are being purchased and gathered from our project sites. This testing was important as it informed our strategy to use this technique in areas that are shaded by larger plants. We have altered our plans to include native tree and shrub plantings within most of the hydroseeded areas we are planning.

With the COVID-19 pandemic still ongoing, CORAL continues to monitor local regulations to ensure we adhere to group size restrictions for our fieldwork and volunteer programs. Unfortunately, while Maui's regulations increased gatherings from 5 to 10 people, there has also been an increase in COVID cases on the island. As a result we adjusted the requirements for our volunteer days and require participants to be fully vaccinated to participate. The regulations, however, continue to limit full program participation and slightly reduce the amount of work we were able to accomplish during this reporting period. CORAL continues to rely on our paid contractor(s) to help clear the restoration site so that we can continue our work and stay on our timeline. Fortunately, we were able to remove invasive species, expand our catchment field, and install irrigation systems from July through September. We were also able to install a new water catchment field in Location 7b in order to collect water from this location. This is important because Location 7b receives dramatically more rainfall than Location 5.

***Objective 2: Inform future restoration efforts by quantifying the effectiveness of stream gulch restoration in West Maui and communicating monitoring results to key stakeholders.***

Monitoring

To get a more accurate picture of the accumulated sediment behind each BMP row, we are planning on expanding our monitoring efforts. In addition to collecting data from our sediment posts, we are planning on expanding how we calculate the sediment footprint to include a larger area (approximately 1×2m). We have drafted these methods and incorporated the sediment footprint into our monitoring plan, which will be shared with partners for feedback during the next reporting period. We plan to do this twice a year, once after the dry season and once after the rainy season to compare sediment footprint trapping rates. The end result will give us a more accurate picture of how much sediment the BMP rows are accumulating over time.

Stream turbidity is an important indicator of the efficiency of our restoration efforts. As our project advances, we expect stream turbidity at the mouth of the Wahikuli Stream Gulch to decrease. To monitor this, we installed a turbidity probe at the mouth of the Wahikuli Stream Gulch. Partnering with the Commission of Water Resource Management, our data can be found within their online system. To further collect comparative data, we installed another turbidity boom higher up in the stream junction where the road crosses, at the bottom of Location 6 and top of Location 5. Working with The Nature Conservancy (TNC), the boom, solar power portion of the turbidity probe, and HOB0 was installed. The same water sensor for the turbidity boom as our below site is no longer available, so we are in discussion with TNC as to what they recommend as a replacement that will be compatible with other systems currently in use. We are still working with our partners to determine the best turbidity monitor to use for this station.

Volunteer Engagement

CORAL hosted two very successful volunteer days at our greenhouse during this reporting period. The first, on August 12, 2021, resulted in transplantation of 107 kawelu and 41 pili as well as planting of 40 ma'o seeds. We had a total of 49 volunteers watering, fertilizing, planting seeds, and transplanting plants that were outgrowing their current pots. During these events, we planted a total of 200 kawelu, 200 uki uki, 650 pili, 15 wili wili, 15 koai'a and 30 ma'o seeds, along with transplanting kawelu, pili, ma'o, aweoweo and a'alii plants into larger pots. When these plants are larger, we will plant them at our restoration site, resulting in project cost savings because we won't have to purchase plants.

Our shift to engage volunteers remotely during COVID-19 restrictions with our "At home planting kits" continues to be a success with volunteers growing seedlings for our project.

During this reporting period we completed an inventory of our plants, planned out a timeline for return seedlings to be outplanted, and conducted an inventory of our supplies. During our next reporting period we are planning another push for the "At-home planting kits" and encouraging more of our volunteer base to grow a tree for a year. These trees will then be used in phase two of this project.

CORAL staff and contractors held an additional Lead Volunteer training at our greenhouse. Volunteers interested in advancing their knowledge of land restoration practices were able to participate in an in-field training day. They learned how to clean pots, prepare soil, prepare seeds, and the proper planting depth for each native plant. Volunteers were also able to help collect slope data and map out the areas between the BMPs where we will conduct hydroseeding. These volunteers helped measure the length and width of these areas as well as record the average slope within that area. This was critical information used in our planning and will help us determine how size and slope of areas hydroseeded correlate to the successful establishment of native seedlings. Volunteers also helped us collect stream erosion pin data on July 3, 2021 to help us determine the difference in stream bank erosion rates from the dry season compared to those during the rainy season. These data will also be useful in estimating the contribution of stream bank erosion to stream water turbidity and help guide future restoration efforts.

### Information Sharing

During this reporting period, CORAL staff were contacted by a potential partner who purchased land in Honolua. This partner is designing an organization with programs to restore and protect the area of land along the mouth of the stream; we think there is potential in this partnership because we have shared interests and values. Maui staff conducted a site visit, and shared the lessons learned from our restoration efforts. We also reviewed potential BMPs for their future restoration work. CORAL staff plan to visit the land they purchased in the upcoming reporting period.

### Meetings and Workshops

CORAL participated in several virtual meetings, webinars and presentations over the last several months. The Sr Program Manager attended the quarterly West Maui Ridge to Reef Initiative meeting to share updates with partners as well as learning about our partners current work and upcoming opportunities.

Maui staff is again focusing on engagement with local schools for our volunteer events and activities. To encourage more youth in pursuing conservation careers and actively participate in conservation, Maui staff presented to 2 school groups and conducted an interview with one student. The student, Hanna Lee, was in the process of making a

documentary on the importance of reef safe sunscreen and coral biology to submit to a local field festival in her community in Texas. CORAL's research officer overviewed basic coral biology and explained why the chemicals in sunscreens can cause corals to bleach.

We are excited to share that Montessori Schools are now participating in our planting kit project. CORAL provided the students a 1 hour presentation and later provided 20 planting kits. It is our hope that this will yield approximately 1000 seedlings. Through this partnership we plan to expand to other Montessori classes and increase the participation of local students in restoration projects. As a follow-up to our visit, we provided teachers with a presentation of a Blue Endeavors Deep Discussion, an annual lecture on coral biology and conservation, so that they are able to continue the education.

CORAL's Sr. Program Manager was interviewed by Island Environmental 360 Radio. During this interview the CORAL team discussed the importance of coral reefs, the major threats they face, the need for watershed restoration, the benefits of protecting and restoring our island ecosystems for our communities as well as ways for local residents to get involved in conservation efforts.

CORAL staff also attended the following webinars:

- Tracking White Sharks! An Update on Population Changes off the West Coast of North America (1hr)
- Saving a Species: Rehabilitation as a Conservation Tool (1 hr)
- Education vs. Enforcement: Going Beyond the Enactment of Hawaii's Sunscreen Law to Truly Benefit Local Coral Reefs (1hr)

2. Description of any major issues/problems encountered and/or resolved that may affect the CONTRACTOR's ability to complete the project as required (i.e., weather, personnel, equipment, etc.). If there is a change in the project timeline or budget, provide an explanation, revised timeline, budget, and completion schedule. (Please note that no-cost extensions must be applied for through the Department, and will only be granted when the CONTRACTOR has demonstrated unforeseeable setbacks.)

The biggest challenge that CORAL continues to experience is related to the motorcycle and dirt bike traffic as well as removal and/or damage to our equipment. To address these issues, we continue to educate visitors and bikers about the importance of our work and we now distribute flyers to discourage these negative actions at our restoration sites.

COVID-19 still presents challenges related to our volunteer engagement work but we anticipate this to improve over time and the increase from groups of 5 to 10 has already made a considerable difference.

3. Description of any significant findings, results, or conclusions. If none, please indicate so.

None found during this reporting period.

4. Based on the Scope of Services, a description of tasks expected to be completed in the next reporting period.

CORAL will begin the installation of BMPs during the next reporting period (**Oct 1, 2021 – Dec 31, 2021**) and we plan to conduct the following tasks:

- Continue to transport equipment to and prepare the restoration site
- Maintain irrigation system
- Coordinate volunteers and contractors to implement Phase 1 BMPs
- Conduct monitoring and gather data to inform progress on current and future project activities

● **Project Funds Summary, QSR #2, Reporting Period: July 1 – September 30, 2021**

Grant Funds

**Summary- Grant Funds**

No.	Description	Original Contract Amount	Contract Amounts from Preceding QSRs	Expenditures during this Quarterly Reporting Period	Current Contract Amount (Remaining Funds)
A.	Personnel Services	\$ 118,719.00	\$ 35,336.05	\$ 4,790.01	\$ 78,592.94
B.	Travel	\$ 22,155.00	\$ -	\$ 1,393.51	\$ 20,761.49
C.	Operating Expenses	\$ 1,500.00	\$ 187.25	\$ 215.23	\$ 1,097.52
D.	Equipment	\$ -		\$ -	\$ -
E.	Professional Services	\$ 43,000.00	\$ 6,528.60	\$ -	\$ 36,471.40
F.	Construction Materials & Supplies	\$ 13,355.00	\$ 155.00	\$ 4,473.95	\$ 8,726.05
G.	Other Miscellaneous Expenses	\$ 16,281.50	\$ 4,220.70	\$ 991.67	\$ 11,069.13
<b>TOTALS :</b>		<b>\$ 215,010.50</b>	<b>\$ 46,427.60</b>	<b>\$ 11,864.37</b>	<b>\$ 156,718.53</b>

In-Kind Contributions (Matching Funds)

**Summary- Match Funds**

No.	Description	Original Contract Amount	Contract Amounts from Preceding QSRs	Expenditures during this Quarterly Reporting Period	Current Contract Amount (Remaining Funds)
A.	Personnel Services	\$ 44,393.70	\$ 11,784.66	\$ 5,549.20	\$ 27,059.84
B.	Travel	\$ 16,095.00	\$ 1,640.85	\$ -	\$ 14,454.15
C.	Operating Expenses	\$ 1,237.50	\$ 140.61	\$ -	\$ 1,096.89
D.	Equipment	\$ -	\$ -	\$ -	\$ -
E.	Professional Services	\$ 10,000.00	\$ -	\$ -	\$ 10,000.00
F.	Construction Materials & Supplies	\$ -	\$ -	\$ -	\$ -
G.	Other Miscellaneous Expenses	\$ 3,940.69	\$ 1,221.62	\$ 484.92	\$ 2,234.15
<b>TOTALS :</b>		<b>\$ 75,666.89</b>	<b>\$ 14,787.73</b>	<b>\$ 6,034.12</b>	<b>\$ 54,845.03</b>

**Financial Report** – *Beyond the excel spreadsheet, please briefly describe, if relevant, any significant variances between approved budget and actual spending by outcome/output and by expense category (personnel, contractors/consultants, sub-grants, other direct, equipment, etc.) :*

We are under budget on our expenses this quarter. The main reason for this is the seasonality of our work. During the dry season, we don't plant seedlings as they are unlikely to survive. This has resulted in a reduction in consultant and personnel expenses this quarter as compared to last. The secondary reason is that this project is co-funded through a NOAA grant that is due to end in April 2022. We have been able to cover some of the costs of this project with that co-funding. Finally, COVID-19 continues to hamper inter-island travel, meaning that the travel budget is under-spent. Now that the wet season has started, our teams will be spending more time in the field and therefore we anticipate a return to expenses as budgeted.