

Project Period	09/01/2012 - 08/31/2013
Award Amount	\$55,523.92
Matching Contributions	\$69,000.00
Project Location Description (from Proposal)	The KHfMA is located off north Ka'anapali on Maui and has a boundary of 1.9 miles running north to south. The encompassing Wahikuli and Honokowai watersheds run adjacent to the KHfMA.
Project Summary (from Proposal)	Perform targeted outreach to assess the demand for reclaimed water by West Maui Hotels and to engage this industry in watershed management planning.
Summary of Accomplishments	<p>With support from NFWF, CORAL engaged 60+ West Maui hotels to educate them about current water issues and possible solutions. CORAL also evaluated eleven Ka'anapali hotels' current water use and readiness for future reductions, and synthesized and communicated this information in a report to facilitate watershed planning. As a result of this project, hotels in the region are becoming very eager to learn about water reclamation: A majority of our 14 target hotels participated in a Water Reuse Readiness workshop CORAL organized in April 2013 to prepare them to shift to reclaimed water for irrigation. Overall, hotels are demonstrating an understanding that using reclaimed water is in their best interests, and that they have an ongoing role to play in influencing county infrastructure projects.</p> <p>One of the key products developed through this project was the "Recycled Water For Reefs: A Guide for West Maui's Resort and Condominium Properties." CORAL has created a companion webpage to host the guide and provide links to additional resources. The guide was distributed in hard copy to Option I and II properties, and electronically to our mailing list of 61 West Maui properties. CORAL received positive feedback from partners about the guide and its content as well as user-friendly presentation, and within hours of distributing hard copies of the guide, two property managers had asked for additional copies for their board members.</p>
Lessons Learned	<p>When we originally planned the project and the activities, we knew we would need high-touch engagement with each hotel, but the extent to which that would be the case surpassed our expectations. Building relationships is absolutely crucial to move ideas from paper to fruition, and this project required engaging with a new subset of hotel employees—the landscapers and engineers. CORAL spent more time than anticipated dealing with the procedures necessary to engage the right people at some of the large chain hotels. Several of our contacts left their positions during the project, causing us to lose traction or having to start all over again with their successors. However, while we had initially wanted to target high numbers of staff at the different properties, we learned that building individual relationships with a few key people resulted in better outcomes.</p> <p>Our original vision for the recycled water guide was for a smaller scale product. Once the project was underway, however, we realized that there was a much bigger demand and interest by hotel representatives and support by County personnel. CORAL adapted to this by spending more time and resources on the guide, which has strengthened our</p>

project overall as we continue to engage with key stakeholders toward larger-term objectives and broader scale impacts. Ultimately, we see this more comprehensive guide as a product that has the potential to be used in other project sites in Hawai'i and beyond.

Conservation Activities water issues and possible solutions. Progress Measures Value at Grant Completion	Engage major hotels along West Maui coast to educate them about current Other (# hotels informed on water issues in region) 61
Conservation Activities accessing reclaimed water for their businesses. Progress Measures Value at Grant Completion	Conduct workshop for hotel managers to exchange experiences using and Other (# workshops completed) 1
Conservation Activities reclaimed water for appropriate uses. Progress Measures Value at Grant Completion	Develop a lessons learned report to help hotels shift from potable to Other (Publication synthesizing lessons learned for water reclamation) 1 publication completed; distributed to 61 hotels
Conservation Activities to facilitate watershed planning. Progress Measures Value at Grant Completion	Document water use by hotels, and synthesize and communicate information Other (Report documenting current practices and opportunities to reduce future use of potable water.) 1 report completed; communicated to watershed mgrs
Conservation Activities facilitate watershed planning. Progress Measures Value at Grant Completion	Identify priority sites for expanding reclaimed water provisioning and Other (Map and report documenting priority expansion sites) 1 map and report completed; distributed
Conservation Outcome(s) Conservation Indicator Metric(s) Baseline Metric Value Metric Value at Grant Completion Long-term Goal Metric Value Year in which Long Term Metric Value is Anticipated	Ka'anapali hotels demonstrate support for increasing reclaimed water use. Other (% hotels demonstrating support for increasing reclaimed water efforts.) ~0 57% (13 of 23) 100% of target hotels 2015
Conservation Outcome(s) Conservation Indicator Metric(s) Baseline Metric Value Metric Value at Grant Completion Long-term Goal Metric Value Year in which Long Term Metric Value is Anticipated	Watershed management plan benefits from detailed information on hotel water use in region. Other (Report (incl. charts & maps) completed and communicated) ~0 1 report completed and distributed Information improves watershed planning efforts 2013

Final Programmatic Report Narrative

Instructions: Save this document on your computer and complete the narrative in the format provided. The final narrative should not exceed ten (10) pages; do not delete the text provided below. Once complete, upload this document into the on-line final programmatic report task as instructed.

1. Summary of Accomplishments

In four to five sentences, provide a brief summary of the project's key accomplishments and outcomes that were observed or measured.

Our key activities over the course of this grant were to: (1) engage all West Maui hotels to educate them about current water issues and possible solutions; and (2) evaluate Ka'anapali hotels' current water use and readiness for future reductions, and synthesize and communicate this information to facilitate watershed planning. As a result of this project, hotels in the region are becoming very eager to learn about water reclamation: A majority of our 14 target hotels participated in a Water Reuse Readiness workshop CORAL organized in April to prepare them to shift to reclaimed water for irrigation. Overall, hotels are demonstrating an understanding that using reclaimed water is in their best interests, and that they have an ongoing role to play in influencing county infrastructure projects.

One of the key products developed through this project was the "Recycled Water For Reefs: A Guide for West Maui's Resort and Condominium Properties." CORAL has created a companion webpage to host the guide and provide links to additional resources. The guide was distributed in hard copy to Option I and II properties, and electronically to our mailing list of 61 West Maui properties.

2. Project Activities & Outcomes

Activities

- *Describe the primary activities conducted during this grant and explain any discrepancies between the activities conducted from those that were proposed.*

During the course of this grant, CORAL:

- Developed and hosted a workshop for the hotels along the Ka'anapali coast to learn about the process and requirements for accessing and using R1, and for hotels to share their experiences using reclaimed water for landscaping.
- Consulted with the Lahaina Wastewater Reclamation Facility director to understand permitting requirements and fee structure for R1 water so that these could be highlighted in a user's guide.
- Worked with leaders in reclaimed water use, such as managers of the Honua Kai Resort & Spa, the Ka'anapali Beach Resort Association golf courses, and other facilities outside of West Maui, who are already demonstrating successful water reclamation and reuse projects, to draw from their experience in accessing and developing best practices for recycled water.
- Worked with Water Quality Consulting, Inc., and coordinated with the West Maui Ridge to Reef Initiative Coordinator, Tova Callender, and the Lahaina Water Recycling Program Coordinator with the County of Maui Department of Environmental Management Wastewater Reclamation Division, Steve Parabolicoli, to develop appropriate questions for a water use survey.
- Set up one-on-one meetings with hotels to administer the survey to ensure all questions were understood and answered thoroughly.

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- Synthesized information collected from the above activities and published and distributed a resource guide for recycled water access and use to all 61 hotels and condominium properties along the Ka‘anapali coast; we also provided it for use in the West Maui Ridge to Reef Initiative planning efforts and to the Lahaina Wastewater Reclamation Facility. The guide is now available electronically and is hosted on CORAL’s website.¹
- Synthesized data and provided a report to the watershed management planning team.

Outcomes

- *Describe progress towards achieving the project outcomes as proposed and briefly explain any discrepancies between your results compared to what was anticipated.*
- *Provide any further information (such as unexpected outcomes) important for understanding project activities and outcome results.*

During the term of this grant, our desired outcomes were for hotel managers in West Maui to become enthusiastic supporters of shifting from potable to reclaimed water for landscaping and other appropriate uses, and for the West Maui Ridge to Reef Initiative to benefit from detailed information about hotel water use.

We evaluated our progress against these targets:

- **Engage Hotels: 60% (14 of 23) Ka‘anapali hotels demonstrate support for increasing reclaimed water use by one or more of the following:**
 - Evaluating and providing positive feedback on collateral materials.
 - Attending stakeholder watershed planning meetings.
 - Attending workshop to exchanging information about accessing and using reclaimed water.
 - Participating in water use survey.
 - In addition, a broader population of West Maui hotels is engaged via a printed and an electronic lessons learned report. These materials will also be provided to key agencies, organizations and other entities involved in the West Maui watershed planning efforts, such as NFWF, USACE, DLNR, EPA, DOH, and NOAA. The report will also be available to any interested person in electronic format.

Our project strategy has been to position specific West Maui hotels to play a leadership role in driving new county infrastructure, as we begin to prepare them for transitioning from potable to reclaimed irrigation water—from plumbing to practices to permits. During the course of this grant, we engaged 57 percent (13 of 23) of Ka‘anapali hotels through our workshop and survey. These 23 hotels are comprised of Option I, Option II, and Option III properties. We are also pleased to report that 11 of the Option I and Option II property managers were engaged through this project.² This is significant as they are the property managers closest to having to make the recommended transitions. We will continue to target the remaining hotels in the region as it becomes more appropriate to deepen engagement on water use efforts.

Over the last year, we reached out to 61 West Maui resorts and condominium property managers to better understand their current wastewater practices and needs via an e-newsletter, in-person meetings, a workshop, and a water use survey; communicated with county representatives to stay apprised of certain infrastructure projects; and promoted actions hotel managers can take to ensure that the necessary infrastructure is funded and construction stays on track. Through our water use survey and educational outreach strategies, we have also educated hotel managers about how to reduce water use and pollution. Our broader scale outreach conveys

¹ The “Recycled Water For Reefs: A Guide for West Maui’s Resort and Condominium Properties” guide can be found here: <http://coral.org/hawaiiwater>

² For more information about these Option I, II, and III properties, please see page 14 of the *Recycled Water For Reefs: A Guide for West Maui’s Resort and Condominium Properties*, which can be accessed here: http://coral.org/files/pdf/recycled_water_for_reefs_v1-web.pdf

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strategic messages about coral reefs, research findings, water quality, and how hotel managers can play a role in local watershed stewardship efforts, specifically, the West Maui Ridge to Reef Initiative.

Hotel managers in the region are eager to learn about water reclamation; nearly every one of our 14 targeted hotel managers participated in the Water Reuse Readiness workshop we organized in April to prepare them for shifting to reclaimed water for irrigation (see “31007_CORAL_Pic-1”). In addition, since the project launched, Liz Foote has received an increased number of inquiries from hotel and condo property managers about water reuse and the transitioning requirements. These have resulted in advancing property managers’ knowledge and awareness and facilitating introductions between them and the County. One hotel management team (Westin Ka’anapali Ocean Resort Villas) sought our guidance in determining the requirements, as well as best practices for the marine environment regardless of rules, when investigating how to dispose of pool water. They wanted to go “above and beyond” and document these practices in a specially-designed Pollution Prevention Plan for their property. Management at another partner property (the Aston Maui Ka’anapali Villas) was eager to share their experiences with other properties as they make the transition, and sought our help in enlisting Steve Parabolicoli (County of Maui Wastewater Superintendent) to give a site-specific presentation for them. We have also been contacted by a representative from a property that wants access to R1 water but is on private water service, and by a member of the Ma’alaea Community Association who was seeking advice on improving their systems. In another encouraging development, when reviewing our recycled water guide, the Resort Manager of the Honua Kai learned that R1 has potential uses other than irrigation (such as fire control), and is interested in pursuing that further.

The hotel managers are demonstrating an understanding that using reclaimed water is in their best interests, and that they have a role to play in influencing county infrastructure projects. We met with the Executive Director of the Maui Hotel & Lodging Association, Lisa Paulson, who underscored how important it is for hotels to use reclaimed water to save money, protect their brand, guard against water scarcity, and protect coastal resources that draw guests. Lisa and other hotel contacts are reinforcing our assumptions that the hotels need our support to make this transition, and that they can and should advocate for new water reclamation infrastructure.

In conjunction with our hotel outreach, we have attended West Maui Ridge to Reef Working Group meetings and co-facilitated two public meetings. At the official public launch in December, more than 60 community, NGO, and business stakeholders participated, including representatives from DLNR, NOAA, USDA, and Maui County. Meetings, watershed stewardship trainings, and other volunteer opportunities continue to be presented to engage the community in Ridge to Reef initiatives. The Ridge to Reef Initiative is also sending out periodic newsletters to a broader group of community stakeholders, while CORAL has distributed five targeted e-newsletters to hotels and condo representatives. CORAL is working closely with Tova Callender—the West Maui Watershed and Coastal Management Coordinator, and Kristen Maize of SeaWeb Asia Pacific, coordinator of the West Maui Kumuwai social marketing campaign—to align newsletter content and communication strategies; through this coordinated approach we deliver a broad message about the initiative and educate hotel and property managers about the scientific data available, and activities that will be coming up in the near future.

In November 2012, Liz Foote attended the Hawai‘i Water Environment Association’s water reuse conference in Kona, which provided an excellent gateway to connect with experts and managers and learn about other projects in Hawai‘i and beyond. The conference also included a tour of the Waikoloa Wastewater Treatment Facility, providing another valuable learning and networking opportunity (see “31007_CORAL_Pic-2”). Liz also attended the Hawai‘i Water Environment Association’s annual conference on Oahu in February.

In December, Liz and Robin Knox of Water Quality Consulting, Inc. (technical consultant for this project.) met with Steve Parabolicoli to begin documenting the R1 permitting process and technical aspects relevant to hotels. Throughout this project, Steve has been instrumental in translating the technical requirements and providing support and feedback on our workshops and publications (see “31007_CORAL_Pic-3”). Other key individuals who assisted us were Lance Gilliland of the Honua Kai Condominium Association and Stephen Crowell of SGS

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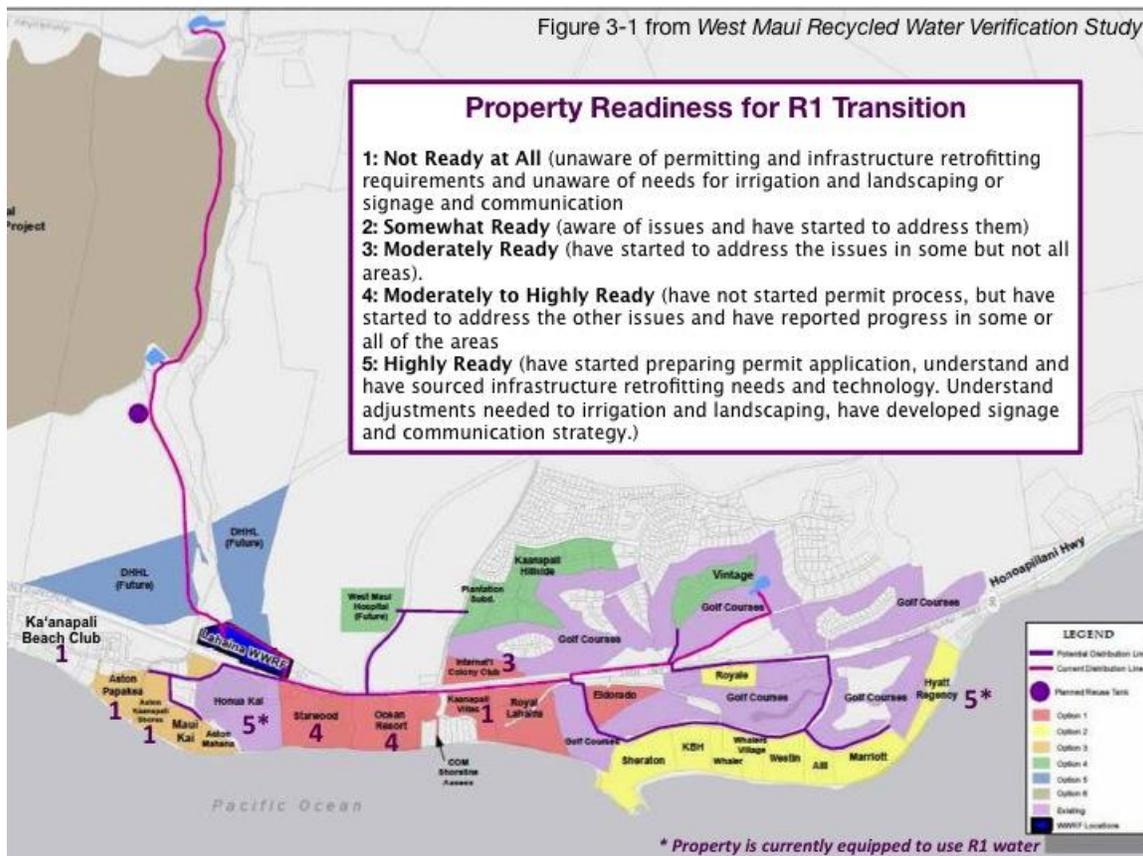
Hawaii Landscaping, who provided technical expertise and guidance concerning irrigation and landscaping. Developing the recycled water guide, a "how to" guide for hotels and condominiums transitioning from potable water to R1 water for landscape irrigation, also involved a team of reviewers. The guide is a living document and will be updated as new information becomes relevant. It has been distributed in hard copy to all Option 1 and 2 properties, and by PDF to all hotels and property managers along the Ka'anapali coast, and is freely available in PDF format online (www.coral.org/hawaiiwater).

Finally, our interactions and outreach with hotel and condo representatives—as well as the broader community—were designed to empower and enlist them in helping implement the Ridge to Reef Initiative, which focuses on reducing land-based pollution. CORAL also promoted the State of Hawai'i's Green Business Program, which includes a suite of performance measures for resorts that address water conservation and pollution prevention, through our *West Maui Watershed News* e-newsletter (see attached "e-newsletter" PDFs) and by integrating key sections from the program's checklist into the water use survey.

To evaluate progress toward achieving our second outcome (to see the West Maui Watershed Management Plan benefit from detailed information about hotel water use), we set these evaluation parameters:

- **Document Water Use: Watershed management plan benefits from detailed information on hotel water use in region**
 - Technical report and map completed that synthesizes survey results and identifies priority sites for use in the West Maui Watershed Planning effort.

With the assistance of Water Quality Consulting, Inc., CORAL produced a report on the results of the water use survey, and included key details on outcomes and economic valuations in the Recycled Water for Reefs resource guide. The full report on the water use survey is attached with this project final report (attachment: *31007_CORAL_Hotel Water Use Report*). CORAL also developed a map to demonstrate the readiness of hotels to transition to R1 water, a visual representation of use to resource managers. The image below is also attached to this report (see "31007_CORAL_Pic-4").



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3. Lessons Learned

Describe the key lessons learned from this project, such as the least and most effective conservation practices or notable aspects of the project's methods, monitoring, or results. How could other conservation organizations adapt similar strategies to build upon some of these key lessons about what worked best and what did not?

While we had worked with hotels in the past, the associated objectives of this grant were still new territory for us as an organization. When we originally planned the project and the activities, we knew we would need “high touch” engagement with each hotel, but the extent to which that would be the case surpassed our expectations. Building relationships is absolutely crucial to move ideas from paper to fruition, and this project required engaging with a new subset of hotel employees—the landscapers and engineers. CORAL spent more time than anticipated dealing with the procedures necessary to engage the right people at some of the large chain hotels. Several of our contacts left their positions during the project, causing us to lose traction or having to start all over again with their successors.

Another significant challenge we faced was staffing capacity to assist with the water use survey administration and data management. We enlisted and trained one individual, an enthusiastic student in the UH Maui College Sustainable Business Management Program, but just as he was beginning work on his contract with us, he was offered a full-time position with the Kihei Wastewater Reclamation Facility and left CORAL. The next person we enlisted and trained had to remove himself from the project due to a medical issue. These setbacks cost us a great deal of time, and also affected the timeframe for the recycled water guide's completion, which incorporated results from the water use survey.

Finally, with regard to the recycled water guide, our original vision was for a smaller scale product than the end product. Once the project was underway, however, we realized that there was a much bigger demand and interest by hotel representatives and support by County personnel for this product. CORAL adapted to this by spending more time and resources on the guide, which will strengthen our project overall as we continue to engage with key stakeholders toward larger-term objectives and broader scale impacts. Ultimately, we see this more comprehensive guide as a product that has the potential to be used in other project sites in Hawai'i and beyond.

One way we could improve this effort in the future is by providing more staff power at our end to divide the leads and action items and ensure momentum and follow-through. Additional consistent staffing would have most likely resulted in an individual who was ready to assist with the survey as soon as it was developed, and would have stayed on the project to completion. Furthermore, we initially wanted to target high numbers of staff at the different properties but learned that building individual relationships with key people results in better outcomes.

4. Dissemination

Briefly identify any dissemination of project results and/or lessons learned to external audiences, such as the public or other conservation organizations. Specifically outline any management uptake and/or actions resulting from the project and describe the direct impacts of any capacity building activities.

One of the key products developed through this project was the *Recycled Water For Reefs: A Guide for West Maui's Resort and Condominium Properties*. CORAL has created a companion webpage to host the guide and provide links to additional resources. The guide was distributed in hard copy to Option 1 and 2 properties, and electronically to our mailing list of 61 West Maui properties. CORAL received positive feedback from partners about the guide and its content as well as user-friendly presentation, and within hours of distributing hard copies of the guide, two property managers had asked for additional copies for their board members.

Looking back on the past year, we can clearly see the significant groundwork we have laid, and the progress we have made, as well as areas where we are now well positioned to ramp up our efforts as we plan our future work, both within and outside of Hawai'i. Our engagement with hotels on wastewater and water quality issues is off to a successful start. We anticipate that the properties in West Maui that we have worked with will continue to partner with us on these initiatives at a wider scale, and that additional properties in the region and beyond will seek our expertise in this arena, as well as in our general efforts to promote and facilitate coral reef conservation. This project has allowed us to align many of our broader objectives and activities, such as our Makai Watch program focused on Ka'anapali, to incorporate the key themes

of watershed stewardship and the reduction of land-based pollution, and begin socializing these concepts in a new way for this new audience (the accommodations sector).

Furthermore, the success of this project has allowed us to leverage NFWF's support to secure matching funding for the next year of our activities, and we have been able to begin the process of replicating this project in other locations, namely Hawai'i Island.

5. Project Documents

Include in your final programmatic report, via the Uploads section of this task, the following:

- *2-10 representative photos from the project. Photos need to have a minimum resolution of 300 dpi;*
- *Report publications, Power Point (or other) presentations, GIS data, brochures, videos, outreach tools, press releases, media coverage;*
- *Any project deliverables per the terms of your grant agreement.*

Project Products:

- *Recycled Water For Reefs: A Guide for West Maui's Resort and Condominium Properties* can be accessed here: http://coral.org/files/pdf/recycled_water_for_reefs_v1-web.pdf
- *Engaging West Maui Businesses in Watershed Management Planning: Water Resource Use Survey for Hotels, Resorts and Condominiums*
- *West Maui Watershed News* (November 2012 and March 2013 editions)

Photos

- *31007_CORAL_Pic-1: Hotel staff participate in CORAL's Water Reuse Readiness workshop (April 2013)*
- *31007_CORAL_Pic-2: Hawai'i Water Environment Association's sewage treatment plant tour in Kona (November 2012)*
- *31007_CORAL_Pic-3: Steve Parabolicoli shows an example of a completed permit application for a property to access R1*
- *31007_CORAL_Pic-4: A map to demonstrate the readiness of hotels to transition to R1 water*

Media Coverage & Presentations

- May 2013, *West Maui Water Reuse Readiness Workshop*: <http://mauiocceanbloggers.blogspot.com/2013/05/west-maui-water-reuse-readiness-workshop.html>
- April 2013, Steve Parabolicoli's presentation: <http://www.youtube.com/watch?v=vxc9xTEY78E&feature=youtu.be>

POSTING OF FINAL REPORT: *This report and attached project documents may be shared by the Foundation and any Funding Source for the Project via their respective websites. In the event that the Recipient intends to claim that its final report or project documents contains material that does not have to be posted on such websites because it is protected from disclosure by statutory or regulatory provisions, the Recipient shall clearly mark all such potentially protected materials as "PROTECTED" and provide an explanation and complete citation to the statutory or regulatory source for such protection.*