

# Division of Coastal Resources Management

BUREAU OF ENVIRONMENTAL & COASTAL QUALITY

CITIZEN CENTRIC REPORT | FISCAL YEAR 2021

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## About DCRM

### PROGRAMS

Permitting  
Enforcement  
Coastal Planning  
Education & Outreach  
Coral Reef Initiative  
Marine Monitoring  
Watershed Management  
Climate Change Adaptation



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### CONTACT US

[WWW.DCRM.GOV.MP](http://WWW.DCRM.GOV.MP)

Tel.: (670) 664 8300 | Fax: (670) 664 8315  
P.O. Box 501304 Saipan, MP 96950



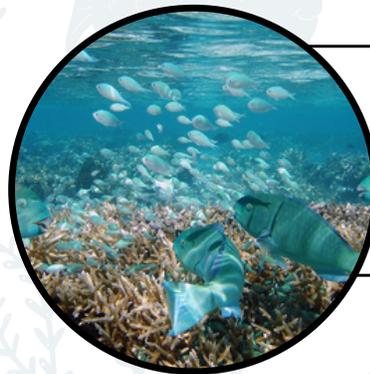
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## Our Vision

An informed CNMI actively protects and maintains a clean and healthy environment and makes decisions that balance cultural values, environmental integrity, and economic prosperity.



## Our Mission

To protect and enhance the CNMI's coastal resources for residents and visitors through effective and adaptive resource management, inter-agency collaboration, and stakeholder engagement, in a manner that builds and sustains community resilience and well-being.

## DCRM Permitting and Enforcement

DCRM's Permitting Section is responsible for permitting minor and major developments and/or projects that are situated within and around DCRM's designated Areas of Particular Concern (APCs).

### During FY2022, DCRM's Permitting Section:



received and reviewed  
**528** permit applications



of the 528 permits reviewed,  
**498** projects were approved/cleared



conducted  
**134** project inspections



issued  
**47** citations; 43 of which have been resolved

In an effort to further close the communication gap between the general public and DCRM's programs, the DCRM Enforcement Section is working closely with DCRM Permitting and the GIS Specialist to expand their Enforcement App to include all permitted projects and activities. This will provide the general public the basic information on permitted projects such as the name of the permittee (project owner), a short description of the permitted project, anticipated completion date of construction or activity, and when and what type of permit was issued. DCRM will regularly update the app to ensure all information is current.

## Watershed Warriors



The Watershed Warriors program was developed to provide 4th grade students with hands-on, place-based natural science lessons as a complement to existing science public school curriculum. Most recently, Watershed Warriors programming has shifted to the Achugao watershed, with focus on sedimentation and other land-based sources of pollution. Over the last two years, students at Gregorio T. Camacho (GTC) Elementary School in San Roque, Saipan participated as Watershed Warriors, learning a number of topics including the water cycle, local biodiversity, pollution and solutions. Students demonstrated improved understanding across all Watershed Warrior topics, particularly in identifying their home watershed. Next year, DCRM aims to expand this curriculum at GTC Elementary School, providing further place-based learning and engagement. With COVID conditions improving, we hope to bring more local natural resource managers into the classroom to provide engaging lessons about CNMI's watersheds and natural resources, while practicing safe practices considerate of students' health and safety.

*This project works towards DCRM's Strategic Goal Plan 4: Strengthen communication of DCRM program activities and outcomes to increase environmental stewardship and promote a resilient and sustainable CNMI.*

## Achugao Reforestation & Monitoring

Within the CNMI, the Achugao watershed is our most recently selected "priority watershed", with land-based sources of pollution (LBSP)—including sedimentation, excess nutrients, and storm water runoff—being a key threat to freshwater and marine ecosystems. To address this issue, DCRM is working towards addressing the root causes of LBSP in Achugao: wildfire, deforestation, and grasslands expansion. Working with local partners—including DLNR Forestry, Department of Fire & Emergency Services (DFEMS), and the Mariana Islands Nature Alliance (MINA)—the watershed is being monitored from ridge-to-reef to detect threats of fire, and reforesting degraded slopes through conversion of nonnative grasslands into native limestone forest. In the uplands of Achugao, six (6) acres have been selected for reforestation with native trees and shrubs. DLNR Forestry is propagating native trees for out-planting while MINA's Tasi Watch Rangers continue to monitor the watershed for potential threats and opportunities. With the increase in forest cover in the grassland areas, soil will be stabilized and erosion reduced, while also creating habitat for Saipan's terrestrial biodiversity.



*This project works towards DCRM's Strategic Goal Plan 1: Public access and use of coastal resources are enhanced, protected, and restored.*

## Shoreline Monitoring Enhancement



DCRM surveys sandy shorelines on Saipan, Mañagaha, Tinian, and Rota twice a year to study seasonal sand shifts. To conduct these surveys, a total station and Berger level are used to measure elevation differences along a transect line to capture the shorelines contour. The end products are beach profiles, which allow us to detect erosion and accretion patterns over a period of time. Micro Beach through Crowne Plaza (formerly known as Fiesta Resort & Spa) has lost over 60 feet of backshore area since 2017, including seaward side of the drive path. Other beaches have shown temporary accretion during gentle wave conditions. The beach profile data before and after photos are accessible at the 'Shoreline Trends' tab of the Climate Impact Viewer on the DCRM website. The data informs management actions, such as relocation of concessions, and supporting potential projects for enhancement.

*This project works towards DCRM's Strategic Goal Plan 3: Management of coastal resources are improved through monitoring and research.*

## International Coastal Cleanup

The International Coastal Cleanup (ICC) is the world's largest single-day cleanup event where over 100 countries worldwide come together with the single goal of ridding our coastlines and waterways of marine debris. Globally led by the Ocean Conservancy and locally led by DCRM, the 2022 ICC was held on September 16th on Tinian and Rota and on September 17th on Saipan. Overall, 1,725 volunteers collected a total of 5,915 pounds of trash at 95 different locations across all three islands. Volunteers were also asked to collect data on the types of debris that were collected during the cleanup - this is what distinguishes the ICC from everyday cleanup events. Data on the Top 10 most collected items in the CNMI will be published on the DCRM website within the next month,



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# Revenues and Expenses

## Federal Awards

CFDA No.	Award
CFDA 11.419	Coastal Zone Management \$ 1,162,000.00
CFDA 11.482	Coral Reef Conservation Program \$ 617,529.00
CFDA 11.419	Program Income Permit Fees \$ 38,427.00
	Enforcement Fines \$ 800.00



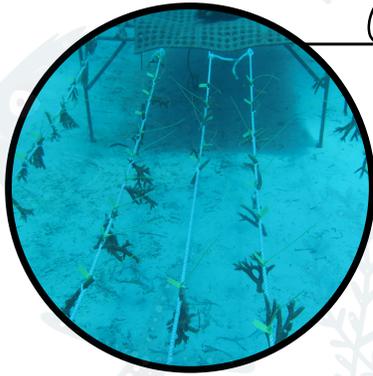
## Expenditures

<b>CFDA 11.419</b>	Salary & Fringe	\$ 775,042.00
	Travel	\$ 30,250.00
	Supplies	\$ 8,400.00
	Contractual	\$ 1,415.00
	Other	\$ 95,658.00
	<b>Total Expenditure</b>	<b>\$ 911,765.00</b>

<b>CFDA 11.482</b>	Salary & Fringe	\$ 297,647.00
	Travel	\$ 37,221.00
	Supplies	\$ 17,187.00
	Contractual	\$ 2,547.00
	Other	\$ 45,420.00
	<b>Total Expenditure</b>	<b>\$ 400,022.00</b>



## Coral Restoration

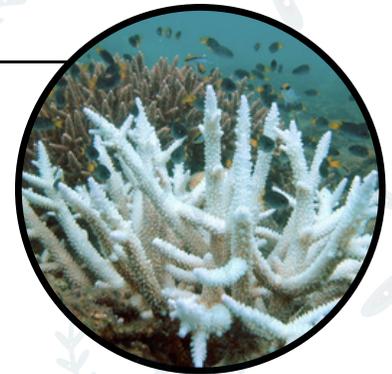


Within the past year, the number of coral fragments in the coral nursery has doubled, with a total of 300 pieces consisting of 9 different species. DCRM's Coral Restoration Team hopes to continue expanding the nursery with additional trees, tables, and rope structures in the next year. Out-planting of coral fragments from the nursery onto degraded reef ecosystems will begin in Spring of 2023. Additional plans are underway to send coral fragments out for genetic testing. Genetic diversity is important in coral restoration because certain genotypes may be less susceptible to stressors such as increased temperatures, disease, or ocean acidification. A genetically diverse reef means the entire reef system will be more resilient in the face of threats from climate change. The team hopes to apply newly learned techniques and technology such as creating a photomosaic of outplant sites, 3D printing various substrates and structures for coral fragments, and utilizing a number of outplanting techniques.

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## Coral Bleaching Response Plan

DCRM is currently working to develop a CNMI-wide Coral Bleaching Response Plan (CBRP), which will be incorporated into the CNMI-wide disturbance response plan. The CBRP will outline strategies for prediction, assessment and communication about coral bleaching events. This includes a consistent monitoring protocol to assess long and short-term impacts, an updated volunteer program to assist in an early warning for bleaching and a communication strategy to raise stakeholder awareness and stewardship of climate change on CNMI's reefs. In addition, the plan will serve as an essential framework for producing data-driven, adaptive management recommendations for conserving the CNMI's coral reef resources. In the next coming months, DCRM will be holding a coral bleaching community workshop. This event will bring together passionate community members and local scientific experts to discuss and learn about the issue of coral bleaching, and hopefully facilitate conservation about what we all can do to help.



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## Mangrove Propagation and Restoration



Due to their unique ecology and location between land and sea, mangrove forests provide many ecosystem services—benefits to humans, directly or indirectly, such as regulating natural cycles, providing food, or cultural values like traditional medicines and recreation. Presently, mangrove forests are only present on Saipan, ranging from Garapan up north as far as San Roque, and comprise of a single species: *Bruguiera gymnorhiza*. With funding through NOAA's Coral Reef Conservation Program (CRCP), and working closely with National Park Service (NPS), DCRM will be establishing an *in situ* mangrove nursery within American Memorial Park (AMP); additionally, three locally extinct (or "extirpated") species—*Lumnitzera littorea*, *Rhizophora apiculata*, and *R. mucronata*—will be imported from Guam for propagation at the nursery and later out-planting within the existing mangrove range on Saipan. With the addition of these species, facilitated by targeted reforestation of degraded mangroves along Saipan Lagoon, we intend to restore and enhance mangrove function on Saipan, providing valuable habitat for imperiled species and shoreline protection for vulnerable coastal communities.

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## Tinian and Rota SASEA

In 2023, DCRM plans to assess and identify site-specific shoreline enhancement opportunities in Tinian and Rota as part of the Tinian and Rota Shoreline Access and Shoreline Enhancement Assessment (SASEA). To carry out this project task for both islands, a Request for Proposal (RFP) will be developed based on the feedback and suggestions provided by the Tinian and Rota Municipalities, its stakeholders, and the community. The report will include an assessment of beach conditions, historical shoreline changes, issues and recommendations.

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