

The Watershed Working Group is a network of partners involved in watersheds planning, project implementation, research, and education.

Includes members from local and federal government agencies, NGOs, community groups, and other interested parties.

Typically meets quarterly to discuss issues relating to watersheds, in order to pool knowledge and networks towards better management and collaboration.

<https://dcrm.gov.mp/our-programs/water-quality-and-watershed-management/watershed-working-group/>



Meeting Agenda

Zak Williams (BECQ-DCRM)

- Watershed Updates

Mary Fem Urena (BECQ-DCRM)

- Better Buildings Update

Larry Maurin (BECQ-DEQ)

- Proposed Amendments to CNMI Water Quality Standards

Robbie Greene (Pacific Coastal Research & Planning)

- Updated 2020–2030 CNMI Forest Action Plan
- Updated USFS CNMI Forest Inventory & Analysis
- Updated Micronesia Challenge Terrestrial Measures

James Manglona & Pedro Tudela (DLNR-Forestry)

- Reforestation Updates

Roundtable Discussion

- Member updates, concerns, opportunities, etc.

Closing

3













13



14





Wireless Ridge Revegetation

DOI grant has provided funding for native reforestation in Achugao watershed

- Selected ~140 acre public land parcel on the western slope of Wireless Ridge.
 - Project objective is at least 6 acres planted.

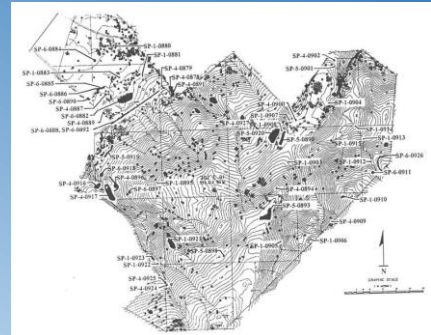


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Current need is to narrow the site to 6 acres, with consideration of Areas of Particular Concern (APC), historical sites, critical habitat, public use (e.g. grazing, hunting), etc.



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Project partners include:

- Forestry providing technical assistance, native plant selection and propagation.
- MINA contracted to assist with site preparation, monitoring, tree out-planting and maintenance.

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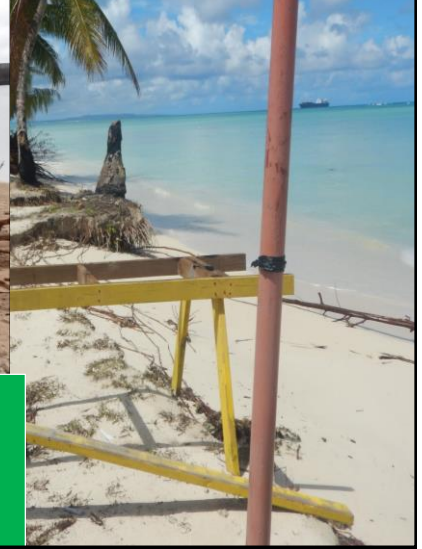
Project partners include:

- Forestry providing technical assistance, native plant selection and propagation.
- MINA contracted to assist with site preparation, monitoring, tree out-planting and maintenance.

Delays in siting due to a variety of factors, but if you are from HPO or DFW, expect a call soon!



Better Buildings Updates

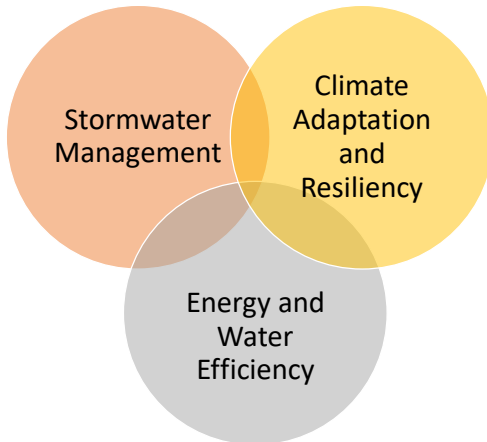


Planning Section
BECQ – Division of Coastal Resources
Management
WWG – August 2021



GREEN INFRASTRUCTURE, OR
NATURE BASED SOLUTIONS

NEW INCENTIVES TO MINIMIZE COASTAL HAZARDS



- Implements and maintains on-site stormwater management practices that collect from off-site source and treat or contain at least an additional 10% of projects total stormwater runoff volume based on the 25-year 24-hour duration storm event
- Implements and maintains at least 30% of pervious surface area or green infrastructure elements
- Renewable energy source supplying 20% or more of a project's electricity
- Evaluation of current and future risks must consider best available science (DCRM-adopted coastal flood scenarios) when available

CONCLUDING MESSAGE

- Incorporating Better Building practices, including GI and NBS, into current and future development through design and retrofit can prepare us for worsening climate impacts
- Identifying green infrastructure as a mitigation activity under the hazard mitigation plan can improve this effort
- Increasing our own agencies' technical capacity through education to implement Better Buildings practices for sustainable development



Everyone Benefits!

DCRM Planning Section:
planning@dcrm.gov.mp
 664-8300

NATURE-BASED SOLUTIONS FOR COASTAL HAZARDS 101 VIRTUAL WORKSHOP



Course description:

This course is a starting point in preparing local entities involved in natural resources management, planning, disaster mitigation, and development to plan and implement green (natural) infrastructure projects to reduce natural coastal hazards in their community.

The course consists of the following two parts:

Part 1: Self-Guided Online Module (1 hour)

- Covers foundational concepts prior to attending a virtual webinar.

Part 2: 101 Virtual Training (2 hours)

- A training webinar where participants interact with their peers and experts to learn more about green infrastructure implementation and overcoming challenges.

After completing the course, participants will be able to describe the green infrastructure practices that can reduce hazard impacts and build resilience in their community. Participants will connect with experts and colleagues who can provide additional information and guidance on implementing green infrastructure and learn about resources and future opportunities for learning.

Guest speakers: Kelsey McClellan, Pacific Coastal Research and Planning, and Lauren Roth Venu, Roth Ecological Design

Hosted by: NOAA's Office for Coastal Management and CNMI Division of Coastal Resources Management

When: Virtual webinar August 25, 2021 from 9:00-11:00 AM ChST

To register, visit <https://forms.gle/1ksPDPbdx7K6Rz5D7>

For questions, please contact: Lauren.Long@noaa.gov





2021 Triennial Review

Proposed Amendments to CNMI Water Quality Standards

BECQ is required by the federal Clean Water Act to conduct a comprehensive review of the Water Quality Standards at least once every three years.

BECQ must engage with the public to determine appropriate revisions to Water Quality Standards.

Highlights of Proposed Amendments for 2021 include:

- Increasing clarity and consistency with federal programs
- Clarifying anti-degradation requirements
- Clarifying certain water quality criteria when ambient conditions exceed numeric criteria
- Extending nitrate criteria to fresh surface waters
- Clarify work stoppage periods during coral spawning
- Establishing water quality criteria for radioactivity
- Revising procedures for 401 Water Quality Certifications
- Expanding enforcement procedures

See full Proposed Amendments published in an addendum to the June 2021 edition of the Commonwealth Register

<https://cnmilaw.org/reg.php>



Public Engagement Process

BECQ is now accepting public comments on the Proposed Amendments to the CNMI Water Quality Standards

Comments are due by 5pm ChST on Friday, September 3rd.

Submit comments to Larry Maurin, DEQ Water Quality Surveillance/Nonpoint Source Branch Manager, to the following address, fax, or email address with the subject line "Proposed Amendment to the Water Quality Standards"

BUREAU OF ENVIRONMENTAL AND COASTAL QUALITY

PO Box 501304, Saipan, MP 96950

Fax: (670) 664-8540

Email: larry.maurin@becq.gov.mp

A public hearing will be held at 5pm ChST on Thursday, September 2nd in BECQ's main conference room on the second floor of the Gualo Rai Center in Gualo Rai, Saipan.

The public hearing will be accessible online via GoogleMeet at the following link:

<https://meet.google.com/nwe-qkyw-jco>



News from the Forest

**Micronesia Forest Inventory, Micronesia
Challenge Terrestrial Measures, and CNMI
Action Plan**

**CNMI Watershed
Working Group
Meeting**



August 3rd, 2021



Robbie Greene
www.PacificCRP.org

Robbie G. @ PCR

What's on Tap?

- Update to Pacific Islands Forest Inventory & Analysis (FIA)
- Update to Micronesia Challenge Terrestrial Measures
- Update to CNMI Forest Action Plan

GENUS	SPECIES	% of Total Trees
Leucaena	leucocephala	42.9
Pandanus	tectorius	7.7
Maytenus	thompsonii	7.5
Cynometra	ramiflora	7.1
Guania	marianae	6.9
Ficus	tinctoria	4.2
Annona	squamosa	2.7
Melaleuca	multiglandulosa	1.9
Premna	obtusifolia	1.9
Albizia	lebeck	1.6
Hibiscus	tiliaceus	1.4
Ficus	prolixa	1.3
Aglaia	marianensis	1.1
Delonix	regia	1.0
Psychotria	mariana	1.0
Eugenia	palumbis	1.0
Pandanus	dubius	0.9
Eugenia	reinwardiana	0.8
Spathodea	campanulata	0.8
Pouteria	obovata	0.8
Intsia	bijuga	0.7
Intsia	marianensis	0.6



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Pacific Islands Forest Inventory & Analysis – Update!

- 37 Forest Plots inventoried in 2015
- Metrics regarding structure, composition, disturbance, etc...
- FIA Database can be downloaded (*not* user friendly!)
- Goal to increase frequency of monitoring (& possible plot additions)
 - Potential for other agencies to contribute?



BioSum (Bioregional Inventory Originated Simulation Under Management)

Potts, Larry, Fried, Jeremy S.

Bioregional Inventory Originated Simulation Under Management

Biosum provides simulation-based analytical tools that leverage data from FIA — the nation's forest census — to predict, and statistically summarize over multi...

Post Date: October 25, 2017



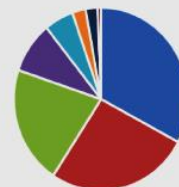
PNW-FIA Pacific Islands Database

Johnson, Vicki

Forest Inventory and Analysis conducts resource inventories for the U.S. affiliated Pacific Islands of American Samoa, Guam, the Republic of Palau, the Commonwealth of the Northern Mariana Islands, the Federated States of Micronesia, and the...

Post Date: June 27, 2017

% of Total Forest Area Disturbed in CNMI



■ Tree Disease ■ Undisturbed ■ Vegetation Suppression
 ■ Livestock ■ Human Disturbance ■ Insect Damage
 ■ Crown Fire Damage ■ Unknown Disturbance



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Pacific Islands Forest Inventory & Analysis – Update!

AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW		
P2VEG	SA	P2VEG	SA	PRECIPITATION	PUBUSECCQA	STATLRDGD	RDDISTCD	RDUSECD	REUSECD1	REUSECD2	REUSECD3	SAMP	MESUBP	EXA	WATERCD	CYCLE	SUBCYCLE	P2PANEL	SUBPANEL
1	2		104	0	1	3	4	0	0	0	0	1	4	0	2	1	1	1	1
1	2		115	2	1	4	3	0	0	0	0	1	4	0	2	1	1	1	1
1	2		92	9	1	2	4	0	0	0	0	1	4	0	2	1	1	1	1
1	2		75	0	1	1	2	0	0	0	0	1	4	0	2	1	1	1	1
1	2		82	0	1	4	1	0	0	0	0	1	4	0	2	1	1	1	1
1	2		76	0	1	1	2	0	0	0	0	1	4	0	2	1	1	1	1
1	2		72	0	1	2	5	0	0	0	0	1	4	0	2	1	1	1	1
1	2		79	0	1	1	1	0	0	0	0	1	4	0	2	1	1	1	1
1	2		70	0	1	1	1	0	0	0	0	1	4	0	2	1	1	1	1
1	2		70	0	1	4	5	0	0	0	0	1	4	0	2	1	1	1	1
1	2		75	0	1	1	2	0	9	0	0	1	4	0	2	1	1	1	1
1	2		72	0	1	4	1	0	0	0	0	1	4	0	2	1	1	1	1
1	2		77	0	1	3	5	0	0	0	0	1	4	0	2	1	1	1	1
1	2		80	0	1	1	5	0	0	0	0	1	4	0	2	1	1	1	1
1	2		76	1	1	4	6	1	0	0	0	1	4	0	2	1	1	1	1
1	2		77	0	1	1	3	0	0	0	0	1	4	0	2	1	1	1	1
1	2		88	0	1	3	3	0	0	0	0	1	4	0	2	1	1	1	1
1	2		85	0	1	3	4	0	0	0	0	1	4	0	2	1	1	1	1
1	2		75	0	1	4	5	0	0	0	0	1	4	0	2	1	1	1	1
1	2		76	0	1	4	3	0	0	0	0	1	4	0	2	1	1	1	1
1	2		79	0	1	1	2	0	0	0	0	1	4	0	2	1	1	1	1
1	2		75	0	1	4	1	1	0	0	0	1	4	0	2	1	1	1	1
1	2		79	0	1	1	5	0	5	0	0	1	4	0	2	1	1	1	1
1	2		79	0	1	4	2	0	5	0	0	1	4	0	2	1	1	1	1
1	2		77	0	1	3	5	0	0	0	0	1	4	0	2	1	1	1	1
1	2		73	0	1	2	2	0	0	0	0	1	4	0	2	1	1	1	1
1	2		81	0	1	3	1	0	0	0	0	1	4	0	2	1	1	1	1
1	2		83	0	1	3	1	0	0	0	0	1	4	0	2	1	1	1	1
1	2		83	0	1	2	4	0	0	0	0	1	4	0	2	1	1	1	1
1	2		79		1							2	1		2	1	1		



Robbie Greene
www.PacificCRP.org

MC Measures & FIA Interface

MC Terrestrial Measure	FIA Data Used	Area or # of Trees	% of Forest or % of Trees
<i>Human disturbance</i>	Disturbance (human and fire)	Acreage	% of Forest area
<i>Species diversity</i>	Tree species per plot	N/A	N/A
	Dominant vascular plant species per plot	N/A	N/A
	Tree species: relative dominance	Square feet per acre	BA/BA of All Trees
	% Cover of understory species	Acreage	% of Forest Area
<i>Forest structure</i>	Tree DBH (diameter at breast height)	# of Trees	% by DBH class
	Tree height	# of Trees	% by Height class
	Basal area	Square feet per acre	N/A
	Stem density (per plot and per acre)	# of Trees per plot/acre	N/A
<i>Invasive species</i>	Tree species	# of Trees	% of All trees
	Invasive vegetation subplot cover	Acreage	% of Forest area
<i>Forest cover</i>	% Live canopy cover	Acreage	% of Forest area
<i>Tree abundance</i>	Tree species	# of Trees	% of All trees
	Tree rank order: endemics and invasives	# of Trees	% of All trees
<i>Mangrove stem density</i>	Stem density (per acre)	# of Trees per acre	N/A
<i>Mangrove basal area</i>	Basal area	Square feet per acre	Relative dominance
<i>Forest community</i>	Forest community	Acreage	% of Forest area



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MC Measures & FIA Interface – Check out Dendy et.al summary in *Micronesica*

Micronesica 2020-02: 1–15

Forest Status Across Micronesia from an Assessment of Micronesia Challenge Terrestrial Measures and Forest Inventory and Analysis Data¹

JULIAN DENDY*

Coral Reef Research Foundation, PO Box 1765, Koror, Palau, 96940
jdendy@hawaii.edu

OLAF KUEGLER

U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station, 620 SW Main Street, Suite 502, Portland, OR, 97205, olaf.kuegler@usda.gov

ASHLEY D. LEHMAN

U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station, 161 E. 1st Ave., Door 8, Anchorage, AK 99508, ashley.d.lehman@usda.gov

WENDOLIN ROSEO MARQUEZ

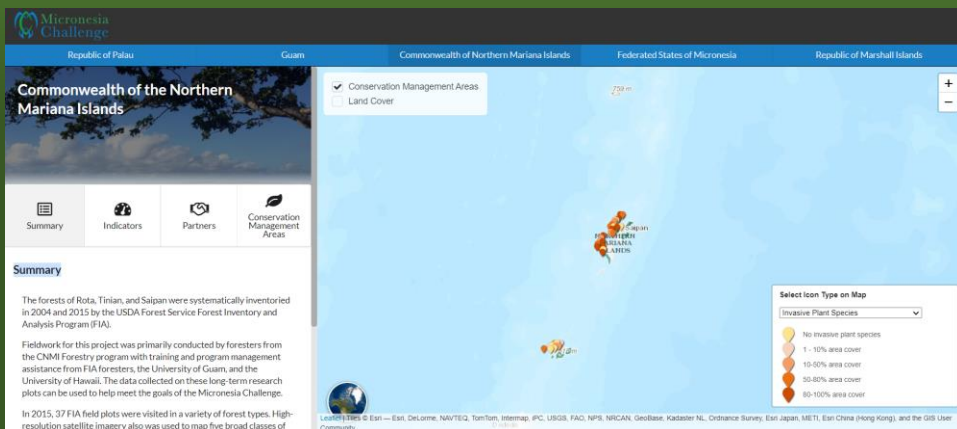
Micronesia Conservation Trust, PO Box 2177, Pohnpei, Federated States of Micronesia, 96941, sgo@ourmicronesia.org

Abstract— The Micronesia Challenge (MC) is an agreement initiated in 2006 by the region's political jurisdictions to conserve both marine and terrestrial natural resources. To



Robbie Greene
www.PacificCRP.org

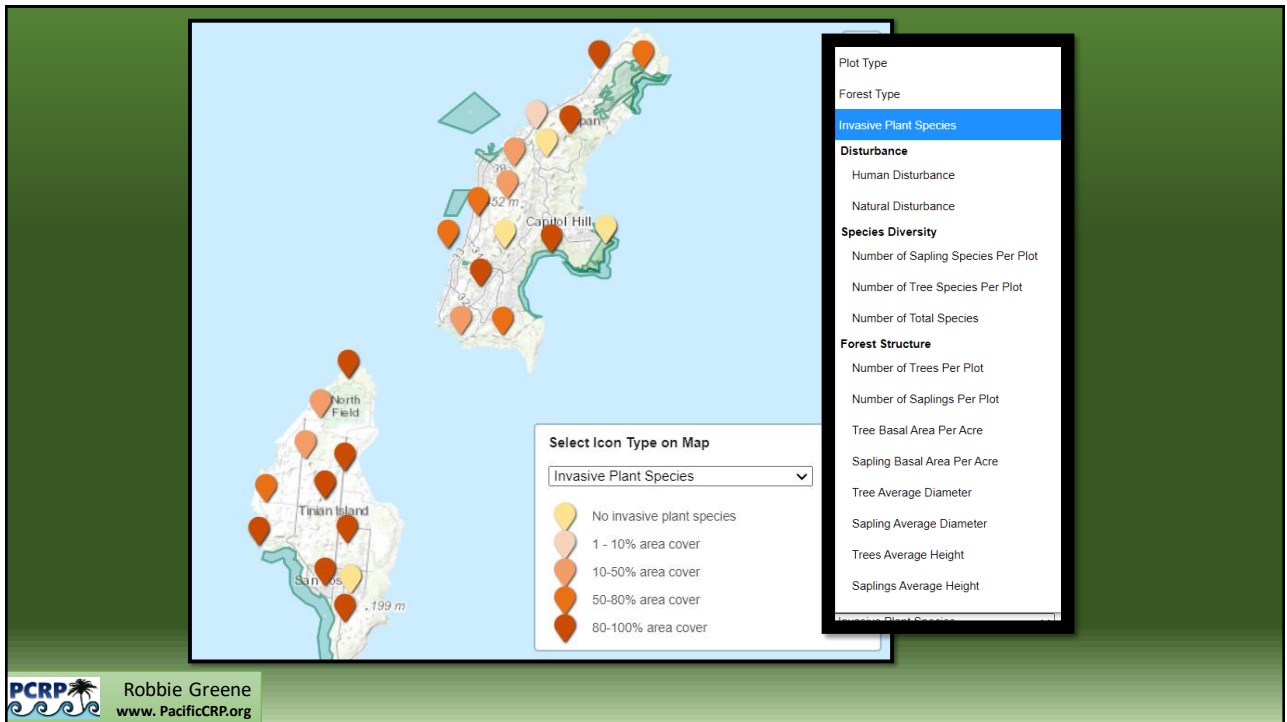
Micronesia Challenge: Terrestrial Measures Update



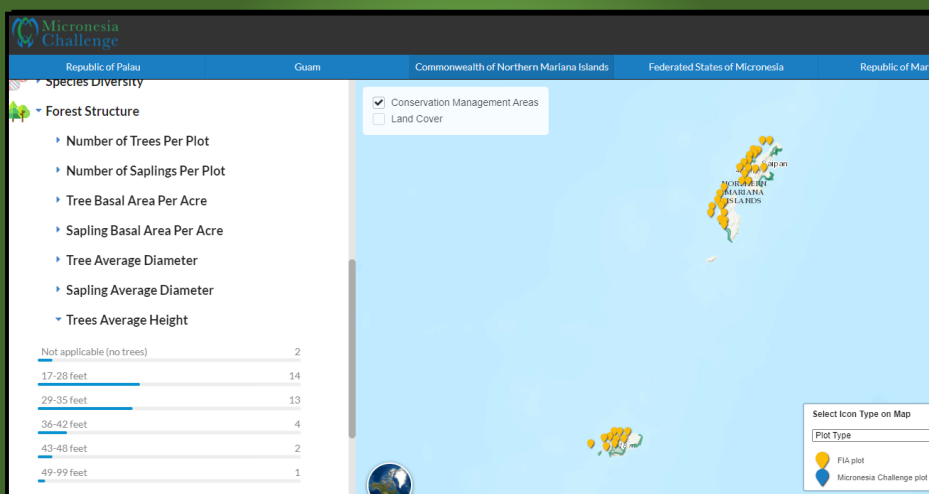
<https://mcterrestrialmeasures.org/#/mariana>



Robbie Greene
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MC Terrestrial Measures – Update!



CNMI Forest Action Plan: 2020-2030

Status, Trends, Threats

Priority Issues:

- Urban Forest Sustainability
- Coral Reef Protection
- Wetland Conservation
- Freshwater Quality
- Native Flora & Fauna

Can you have a copy?

- Almost not yet

DLNR Forestry is primary contact!



Commonwealth of the
Northern Mariana Islands
FOREST ACTION PLAN
2020 – 2030



Robbie Greene
www.PacificCRP.org

Thanks!
Upcoming Local Outreach
throughout August &
September!



The Micronesia Conservation Trust USFS UAS University of Guam College of Micronesia The Nature Conservancy



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Roundtable

Updates, concerns, opportunities?

- DCRM hiring for CRI Communications Coordinator
 - Conduct coral reef related educational and information campaigns.
 - <https://dcrm.gov.mp/about-dcrm/rfp-itb-employment/>
- DFW hiring for Wetland Biologist
 - Management and conservation of wetlands in the CNMI.
 - <https://opd.gov.mp/news/announcements/job-post/job-announcement-wetland-biologist/>
- Department of the Interior (DOI) Fish & Wildlife grant available
 - Coastal Program
 - “provides technical and financial assistance through cooperative agreements to coastal communities, conservation partners, and landowners to restore and protect fish and wildlife habitat on public and private lands... to conserve habitat for Federal trust species.”
 - ≤ \$500,000
 - Closes Sept. 30, 2021
 - <https://www.grants.gov/web/grants/search-grants.html?keywords=15.630>
 - More info: <https://www.fws.gov/pacificislands/articles.cfm?id=149489698>

Thank you!



Zachary B. Williams | Watershed Coordinator (BECQ-DCRM-CRI)
zwilliams@dcrm.gov.mp | (670) 664-8303

