

CNMI NONPOINT SOURCE 5-Yr. MANAGEMENT PLAN

Fiscal Year
2024-2028



Prepared by:
Olivia T. Tenorio
WQS/NPS Manager

WQS/Nonpoint Source Program

OVERVIEW

Established in 2013 in response to the EPA's growing water quality program requirements as specified in the Clean Water Act (CWA) Sections 106, 303, 305, and 319.

- ★ *Garapan and Achugao IWMPs has been published for finalization in 2023.*
- ★ IWMPs of the 5-yr. NPS Plan is incorporated by reference.
- ★ BECQ to focus efforts on implementing watershed projects within the IWMPs in Saipan and on other priority projects on Tinian, Rota, and other remote Northern Islands.
- ★ Objective and actions to achieve load reductions for watershed improvement.
- ★ To include estimation of funding requirements, partners and other technical assistance to achieve these outcomes.



Photo: Brian Bearden-Hidden Beach, Saipan

MISSION

Commonwealth of the Northern Mariana Islands (CNMI) Bureau of Environmental and Coastal Quality (BECQ)'s Nonpoint Source (NPS) Program is:

- ★ To achieve and maintain water quality standards (WQS) reducing NPS pollutant contributions to CNMI's surface and groundwater.
- ★ Planning for and adaptation to climate change by improving and expanding stormwater management to reduce flooding, sedimentation and other sources of pollution impacting coral reef health.
- ★ Supports agency and CNMI-wide efforts to achieve sustainable resource management are detailed further in the CNMI 2021-2030 Comprehensive Sustainable Development Plan (CSDP) Goal 6.
- ★ CNMI's Coastal Nonpoint Pollution Control Program (Federally approved in 2003) in line with the **Coastal Zone Act Reauthorization Amendments of 1990 (CZARA)**.



PRIORITY PROJECTS

The following assessment, protection, and restoration projects were selected to prevent further watershed degradation or to restore watershed integrity.

1. Tier II Heavy Metal Biota Study in 303(d) list of Impaired Watersheds
2. Paseo De Marianas Storm Drain Guard Pilot Project
3. Green Infrastructure to Reduce Nonpoint Source Pollution
4. Constructed Wetland at Navy Hill/AMP
5. Dogas Stream Restoration and Protection
6. Individual Wastewater System Infrastructure Repairs and Connection to Sewer
7. Water Quality Beach Sign Project in Tinian and Rota



Solutions

BECQ works with other agencies to address pollution issues in impaired waters:

- Use tracer dyes to locate sewage source
- Improving aging sewer infrastructure
- Hookup homes to sewer lines
- Keep streets, beaches, and storm drains clean
- Help farmers build sanitary pigsties
- Keep animals penned up
- Green infrastructure (rain gardens, permeable pavement, detention basins)

Tier II Heavy Metal Biota Study in 303(d) list of Impaired Watersheds

Goals and Objective

- ★ List watersheds in the 303(d) list where CNMI consumption of harvestable aquatic life would pose public health risk.
- ★ **Short-term** Conduct the study as first phase in TMDL development; Leverage resources with other jurisdictional agencies to:
 - Determine if the Fish and Shellfish Consumption Designated Use is attained for waterbodies previously suspected of being contaminated with heavy metals.
 - Finalize Draft Tier II Study work plan for approval
- ★ **Long-term** Remove watersheds from the 303(d) list where contamination was not found at levels at would pose a public health risk based on CNMI consumption levels.

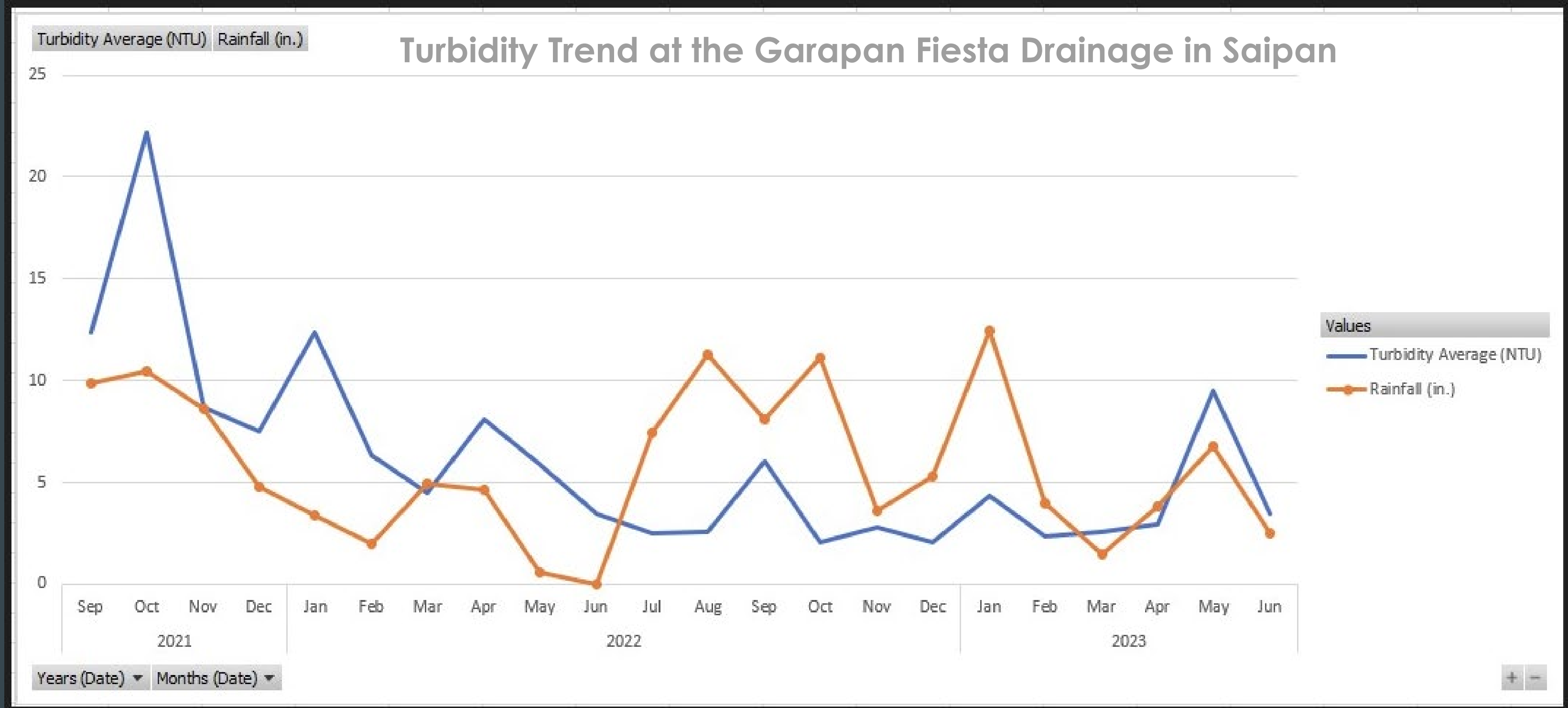


Paseo De Marianas Storm Drain Guard Pilot Project (Garapan IWMP)

Goals and Objectives

- ★ To conduct actions to achieve load reductions in receiving waters.
 - Increase public awareness of stormwater impacts on water quality
 - Support businesses and homeowners by protecting the storm drains and catchment basins.
- ★ Monitored and maintained by CNMI Department of Public Works (DPW) Roads and Grounds.
- ★ **Short-term** Install and maintain 20-25 storm drain guards at hotspots in Garapan.
- ★ **Long-term** By 2025, implement 20 BMP projects through a pilot program that provides funding and technical support to homeowners or businesses.





Storm Drain Guards
2021 = 3 at hotspots in
Garapan

Turbidity
2021 Dec. ~ 7 NTU
2023 Dec. ~ 3 NTU

Rainfall
2021 Dec. ~ 5 in.
2023 Dec. ~ 5 in.

Identify High Priority Individual Wastewater System Infrastructure Repairs and Connection to Sewer (Garapan IWMP)



Goals and Objective

- ★ By the end of 2025, all high-priority individual waste disposal systems in Garapan have been identified, and 10% of inspected sites have been repaired.

- ★ **Short-term** Address immediate wastewater violations in Garapan, Navy Hill and China Town 2024-2028
 - Address immediate wastewater violations 2024-2028.
 - Conduct On-site Disposal survey in Garapan, Navy Hill, and Chinatown in 2024-2028.

- ★ **Long Term** By the end of 2025, all high-priority individual waste disposal systems in Garapan have been identified, and 10% of inspected sites have been repaired.

Green Infrastructure to Reduce Nonpoint Source Pollution (Achugao IWMP)

Goals and Objective

★ To improve pollutant removal performance and aesthetics of the area's stormwater and parking lot improvements to protect and restore the Achugao watershed.

★ **Short-term** Implement green infrastructure on or adjacent to schools, hotels, industrial area and roads:

- Identify potential funding for green infrastructure design
- Identify project site/partner (schools, hotels, industrial area and roads)

★ **Long-term** By 2028, reduce 35-50% Total Suspended Solids of 12 acres and applying better land use controls on new development and maintaining green infrastructure

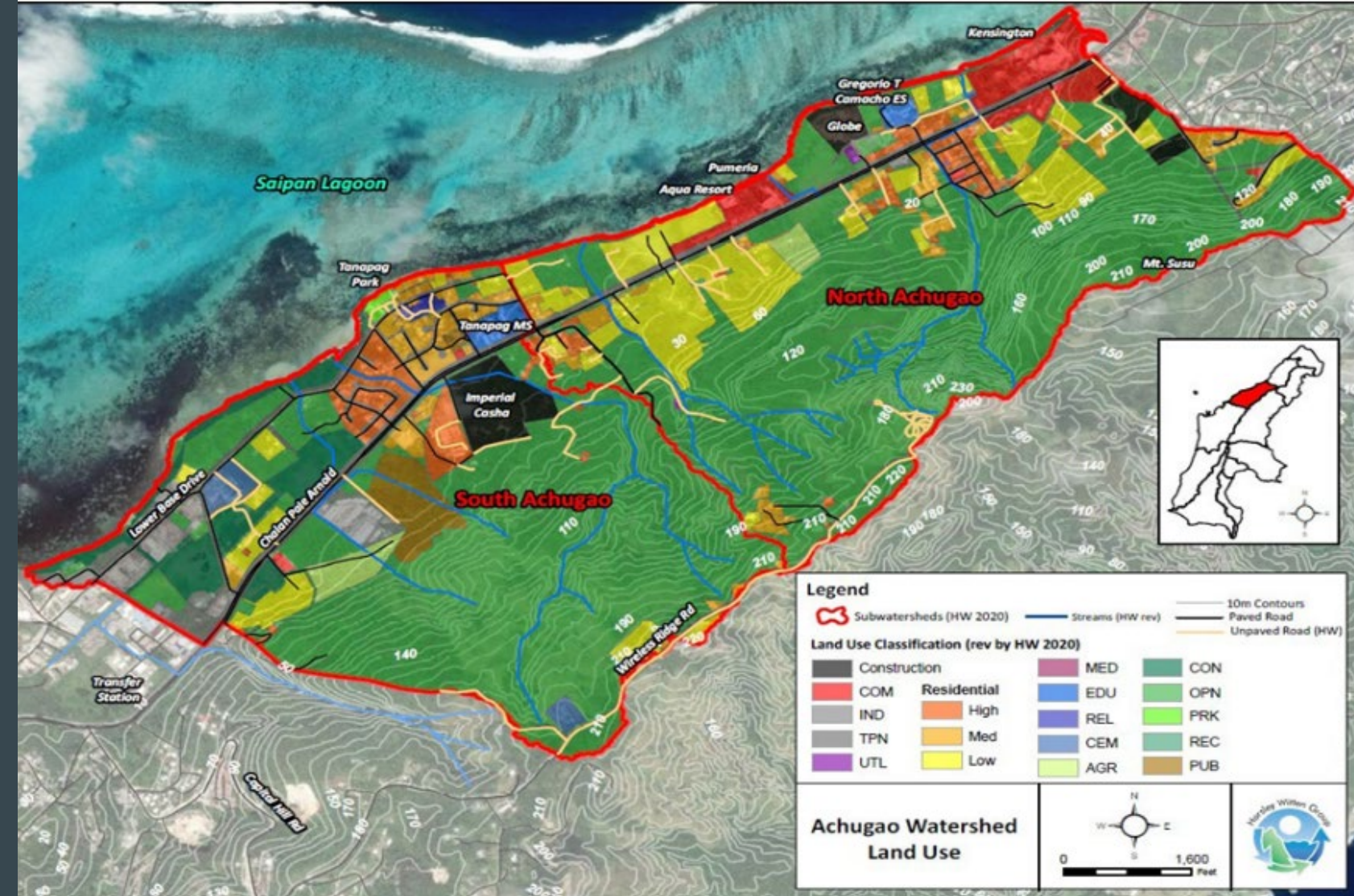


Photo: Achugao Watershed Land Use Map by Horsely Witten field assessments in 2020

Constructed Wetland at Navy Hill/AMP (Garapan IWMP)

Goals and Objectives

- ★ To implement a portion of top priority stormwater BMPs identified in the Garapan IWMP action plan components covering at least 134 acres by 2025 and aiming for 50 acres by 2030.
- ★ **Short Term** Identify load reduction model for specified restoration project and actions based on water quality data e.g. # of (septic systems, livestock estimates) etc.
 - Develop Wetland NPS outreach guide with AMP Rangers
 - Constructed wetland plans will be done in house w/ the assistance from Watershed Coordinator and BECQ Engineers
- ★ **Long Term** Decreased flooding in Garapan and sediments from Navy Hill runoff Improve water quality in receiving waters to attain water quality standards



Dogas Stream Restoration and Protection (Archugao IWMP)

Goals and Objective

- ★ Empower community-based watershed stewardship by conducting at least 30% engagement, advocacy and watershed educational outreach activities
- ★ **Short Term** Increase number of community stewardship activities in Tanapag and San Roque schools through Watershed Warrior Program and active members in stream restoration projects.
- ★ **Long Term** Manage stormwater of watershed practices and increase community stewardship concerning watershed protection in the Achugao Watershed and Tanapag lagoon, improving water quality.

Stewardship of watershed and human behavior change that lead to:

- Pollutant source control prevention
- Erosion/Sediment reduction
- Prevention of wildfires



Water Quality Beach Sign Project

Goals and Objectives

- ★ *To collect data on the physical and bacteriological status of CNMI waterbodies so they are impaired and in need of restoration on Tinian and Rota Beaches.*
- ★ *Short Term* Educate Tinian and Rota community about the importance of beach signs that connects to protecting the health of the waters and the effects of NPS contribution
 - Share information through social media accounts, QR code and drive multi-agency efforts to prevent pollution impacts, and restore impaired water bodies protected designated uses (DU)
- ★ *Long Term* Use awareness to Inform public that major contributing factors to NPS pollution.

Green Flag: public can safely swim/fish

Red Flag: public advised not to swim/fish

- sample exceeds CNMI WQS for Fecal Indicator Bacteria level
- DEQ suspects the beach is contaminated with fecal indicator bacteria following an event (sewage spill or heavy rainfall)
- expires 48 hours after issuance (a new Red Flag will be issued if necessary)



Continued Outreach and Education

Goals and Objectives

- ★ Continued education, training, and outreach activities as well as keeping government policy makers, BECQ staff, and the general public informed of the WQS/NPS branch's roles and responsibilities.
- ★ **Short Term** Participate in at least quarterly meetings with key officials, Watershed Action Groups, Coral Restoration Working Groups and Local Working Groups to discuss NPS updates.
- ★ **Long Term** Include changes in human behavior that lead to polluted runoff prevention, reduction, and control measures.



ACKNOWLEDGEMENTS

Merrill Ayuyu

Valerie Hofschneider

Joseph Ito

Shawn Masga

Ian Iriarte

John San Nicolas

Olivia Tenorio

Chat Bautista

Cassandra Mangarero

Melvin Piteg

Jaime Reyes

Kathy Yuknavage

Jared Vollmer

Avra Heller

Ken Bautista

Efraim Leon Guerrero

Zabrina Cruz

Brian Bearden

Rodney Camacho

Erin Derrington

Travis Spaeth

Richard Salas

Larry Maurin

