

The Commonwealth of the Northern Mariana Islands

Final Watershed Plan

APPENDIX F

Existing Reports and Studies

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**US Army Corps
of Engineers** ®
Honolulu District



A number of existing reports, studies, and data were reviewed by the U.S. Army Corps of Engineers team to better understand the issues and identify appropriate measures and recommendations. Figure 1 provides a summary of the key resources the team utilized in their research for the Commonwealth of the Northern Marianas (CNMI) post-disaster watershed assessment.

Figure 1. Summary of Existing Reports and Studies

| Project/Plan | Description | Agency | Year |
|--|---|---|--------------------------|
| Laolao Watershed Integrated Water Management Plan (Source: CNMI, DEQ, 2009) | Provides better understanding of the priority threats to Laolao Bay; continues the work that has been completed; and coordinates agency efforts to effectively share resources and improve management measures. | CNMI Bureau of Environmental and Coastal Quality (BEQC) Division of Environmental Quality (DEQ); BECQ- Division of Coastal Resources Management (DCRM); CNMI Department of Lands and Natural Resources (DLNR) Division of Fish and Wildlife (DFW); Micronesia Islands Nature Alliance; The Nature Conservancy | 2009 and 2012 (addendum) |
| CNMI Statewide Assessment and Resource Strategy (Source: CNMI SWARS Council, 2010) | Analysis of statewide forest resources and conditions with goals to protect and conserve forests and enhance public benefit from forest resources. Prioritizes upper Garapan watershed for vegetation work to decrease erosion. | CNMI DLNR | 2010-2015 |



| Project/Plan | Description | Agency | Year |
|---|--|------------------------------|------|
| Garapan Tourism District Stormwater Conceptual Study (Source: CNMI BECQ, 2015) | Develops a list of prioritized stormwater improvements for three main Garapan drainages and alternatives - this is the guidance document for stormwater-related engineering works and best management practices in the Garapan area. | Capital Improvement Projects | 2010 |
| Energy Action Plan (Source: Conrad and Ness, 2013) | Serves as a starting point for energy planning and builds upon various prior resource assessments. The goal is to create a sustainable energy future for the CNMI. | Office of Insular Affairs | 2013 |
| Garapan Integrated Watershed Management Plan (Source: CNMI BECQ, 2020) | Drafted for the West Takpochao Central sub watershed to preserve and enhance the natural resources within this area. | BECQ, Office of the Governor | 2020 |
| Drinking Water and Wastewater Master Plan (Saipan) (Source: Duenas Camacho DCA, 2015) | A comprehensive drinking water and wastewater master plan to address the drinking water and wastewater systems needs in the CNMI for the next 20 years. The Commonwealth Utilities Corporation's (CUC) overarching goal for these plans is to meet Stipulated Order requirements through a realistic implementation plan that also addresses real needs and promotes operational improvements. | Prepared for the CUC | 2015 |



| Project/Plan | Description | Agency | Year |
|---|--|---|-----------|
| Groundwater Management and Protection Plan (GWMPP), CNMI (Source: Duenas Camacho DCA, 2015) | Addresses development and implementation of a required Groundwater Management and Protection Plan over a 20-year planning horizon. The Master Plan shall include a section that addresses the development and implementation of a groundwater management and protection program by CUC. The GWMPP provides background information and evaluation of critical groundwater-related issues for the islands of Saipan, Tinian, and Rota. | Prepared for the CUC | 2015 |
| Tourism Feasibility and Sustainability Study (Source: Horwath HTL, 2017) | Reviews tourism development in the CNMI, identifies and analyzes key issues, looks at best practices in other resort destinations, and lastly, presents recommendations on items that need urgent attention and those that need to be addressed by a longer-term plan. | Mariana Visitors Authority | 2017 |
| State Standard Mitigation Plan (Source: CNMI HSEM, 2018) | Identifies the CNMI's goals, priorities, and commitment to reduce risks from natural hazards and to serve as a guide for State and local decision makers when they commit resources to reduce the potential impact of these identified hazards. | CNMI – Office of the Governor's Homeland Security and Emergency Management Program and Hazard Mitigation Grant Program (HSEM) | 2014-2019 |
| CNMI 303(d), 305(b), and 314 Water Quality Assessment Integrated Report (Source: Yuknavage, 2020) | Based on pertinent research data provided by various government and non-government agencies, and biological criteria and water quality data collected during fiscal years 2018-19. | BECQ- DEQ | 2020 |



| Project/Plan | Description | Agency | Year |
|--|--|--|------|
| Guidance Manual for Smart, Safe Growth in the CNMI (Source: Nimbus Environmental Services, 2018) | Provides a point of departure from prevailing planning and regulatory practices of Pacific Islands governments with intentions to usher in a sustainable approach to natural disaster preparation, response, and recovery. Smart, Safe Growth is a set of development strategies focused on improving the resiliency of the built environment. | Prepared for the Federal Emergency Management Agency and the Environmental Protection Agency | 2018 |
| Economic Valuation Study of CNMI Inland Wetlands (Source: Wolfs Company, 2019) | Analysis that set out to value, in economic terms, the benefits that our industries and communities receive from our wetland areas. This study was challenged to identify important ecosystem services provided by relevant wetlands on the islands of Saipan, Tinian and Rota. | Prepared for BECQ-DCRM | 2019 |
| Coral Reef Management Priorities 2019-2029 | Articulates a set of updated strategic coral reef management priorities developed in consensus by the coral reef managers in the CNMI. | BECQ-DCRM; BECQ-DEQ; CNMI DLNR DFW; National Oceanic and Atmospheric Administration (NOAA) | 2019 |
| Talakhaya Watershed Management Plan (TWMP) (Source: CNMI BECQ, 2020) | Aims to address growing community concerns with the future of Talakhaya based on the continued threats of erosion, potential development challenges, the existing political/enforcement concerns, and the ongoing risk of climate change. | CNMI BECQ-DCRM | 2020 |



| Project/Plan | Description | Agency | Year |
|---|--|---------------------------------|-------------|
| <p>Pacific Islands Regional Climate Assessment (PIRCA) (Source: NOAA, 2022)</p> | <p>A collaborative effort to assess climate change indicators, impacts, and adaptive capacity of the Hawaiian archipelago and the US-Affiliated Pacific Islands. PIRCA engages federal, state, and local government agencies, non-government organizations, academies, businesses, and community groups to inform and prioritize their activities in the face of a changing climate.</p> | <p>NOAA</p> | <p>2022</p> |
| <p>Climate Change Vulnerability Assessment for the Island of Saipan (Source: Greene, and Skeelee, 2014)</p> | <p>Conducted to identify the social, physical, and natural features in the CNMI that are most susceptible to the impacts of climate change. The assessment focuses on projected changes to sea level and rainfall patterns in the CNMI, the exposure and sensitivity of Saipan to these changes, and the Island's capacity to respond to possible impacts.</p> | <p>NOAA, CNMI BECQ-DCRM</p> | <p>2014</p> |
| <p>Climate Vulnerability Assessment for the Islands of Rota and Tinian (Source: CNMI BECQ-DCRM, 2015)</p> | <p>Conducted primarily in response to both observed and projected impacts from a changing climate, as well as an increasing focus in the CNMI on addressing locally significant effect from climate variability and extreme events. The hope is that this effort will establish a foundation for initial climate adaptation planning on Rota and Tinian.</p> | <p>CNMI BECQ-DCRM</p> | <p>2015</p> |



| Project/Plan | Description | Agency | Year |
|---|--|-------------------------------------|-----------|
| CNMI Comprehensive Sustainability Development Plan (Source: CNMI OPD, 2021) | Documents the ten-year growth visions, goals, and objectives of the CNMI’s leadership, agencies, and stakeholders to work towards the shared outcome of “sustainable development”. | OPD | 2021-2030 |
| U.S. National Climate Assessment (Source: U.S. Department of Commerce and NOAA, 2013) | Assesses the science of climate change and variability and its impacts across the United States, now and throughout this century. | U.S. Global Change Research Program | 2018 |



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