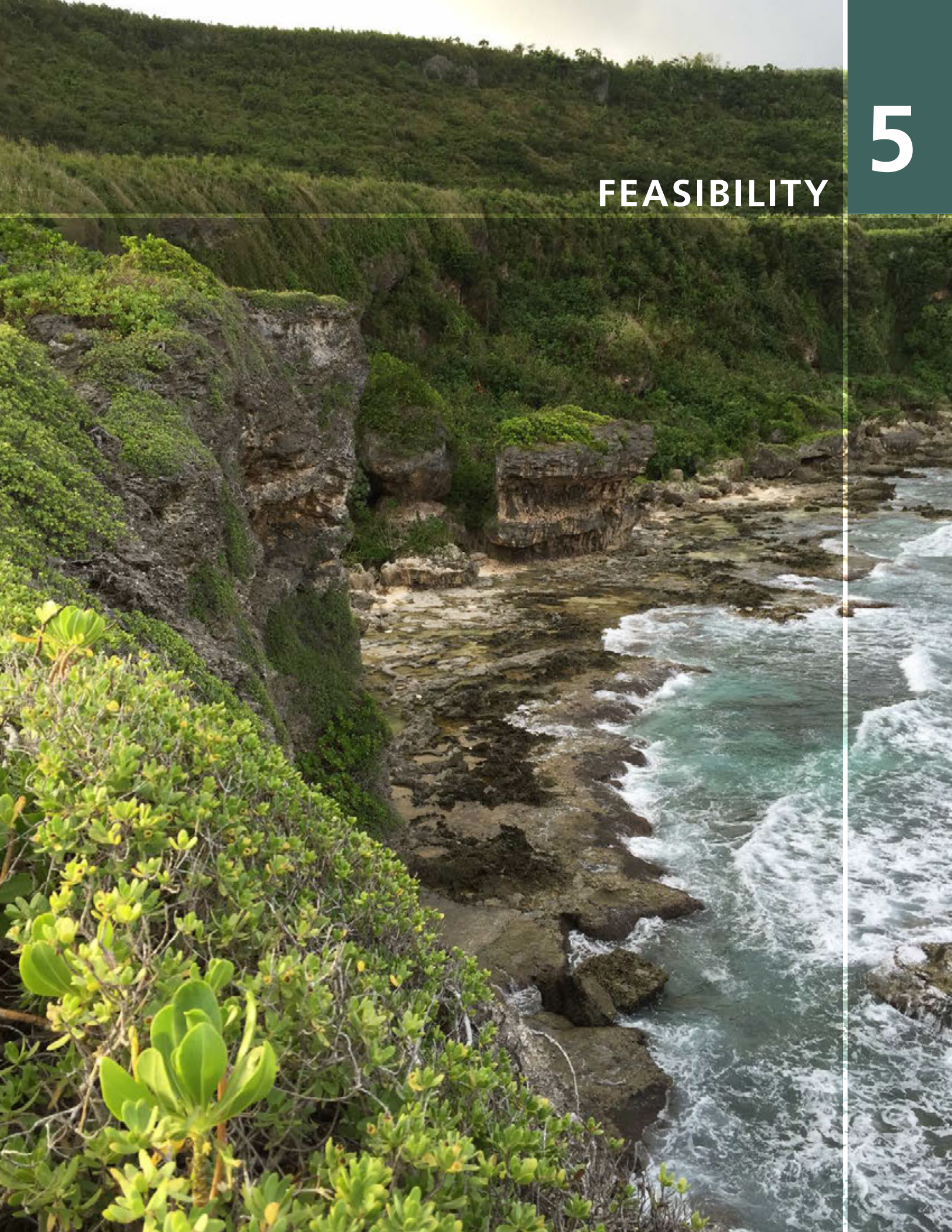


# ROTA SPECIAL RESOURCE STUDY

2023

## Chapters 5 – 7









Gagani Point, along Rota's south coastline downhill from the Sabana. Photo: NPS.



## CHAPTER 5: FEASIBILITY

*This chapter describes the National Park Service's analysis of whether nationally significant and suitable sites are feasible as a unit of the national park system.*

### INTRODUCTION

#### Feasibility

To be feasible as a new unit of the national park system, a resource must be 1) of sufficient size and appropriate configuration to ensure sustainable resource protection and visitor enjoyment, taking into account current and potential impacts from sources beyond proposed park boundaries, and 2) capable of efficient administration by the National Park Service (NPS) at a reasonable cost.

In evaluating feasibility, the NPS considers a variety of factors for a site, such as the following:

- Land use, ownership patterns, planning, and zoning
- Access and public enjoyment potential
- Boundary size and configuration
- Existing resource degradation and threats to resources
- Level of local and general public support
- Social and economic impact
- Costs associated with development, restoration, and operation

The feasibility evaluation also considers the ability of the NPS to undertake new management responsibilities in light of current and projected availability of funding and personnel. An overall evaluation of feasibility is made after taking into account all of the above factors. These evaluations, however, may sometimes identify concerns or conditions, rather than simply reaching a yes or no conclusion. For example, some sites may be feasible additions to the national park system only if landowners are willing to sell or lease, or if the boundary encompasses specific areas necessary for visitor access, or if local governments will provide appropriate

assurances that adjacent land uses will remain compatible with the site or sites' resources and values (NPS 2006).

### EVALUATION OF FEASIBILITY FACTORS

The NPS identified and studied the island of Rota's limestone forests and known precontact and historic sites for their potentially significant natural and cultural resources. This analysis of feasibility focuses on sites determined to be nationally significant and suitable for inclusion in the national park system, as described in Chapters 3 and 4. These sites include:

- **Rota's Limestone Forest**
- **Chamorro Archeological Sites**
  - Mochong Latte Village Complex
  - As Nieves Quarry
  - Alaguan Latte Village Complex
  - Complex of Coastal and Upland Latte Villages
    - North Coast Archeological Sites
    - Māya Latte Site
    - Dugi Archeological Site
    - Gampapa Latte Village
    - East and Southeast Coast Archeological Sites: As Dudo, Sagua Gahga, East Koridot, and West Koridot Villages
- **Rock Art Sites**
  - Chugai Cave
  - East and Southeast Coast Rock Art Caves: Sagua Gahga, Koridot Caves
- **World War II Japanese Defensive Complexes**
  - Ginalagan Japanese World War II Defensive Complex
  - Chudang Palii Japanese World War II Defensive Complex

The following evaluation explores the feasibility of these sites as potential units of the national park system.

### **Land Use, Ownership Patterns, Planning, and Zoning: Overall Study Area**

The majority of lands on Rota are in public ownership (72%, or 15,523 acres/6,282 hectares) compared with 28% in private ownership (5,960 acres/2,412 hectares). Lands in public ownership primarily fall into the Designated/In Use Public Land category (48%), comprising those lands that are actively managed for a specific use, and the Undesignated/Not In Use Public Land category (42%), which includes undeveloped lands for a which a use has not been designated. A small portion of Rota's public lands are classified as Grant of Public Domain Land (8%), which are given in fee simple without a specified use, and Leased Public Land (2%) (CNMI DPL 2019, 15). See Map 5: Land Use and Landownership.

Any future use of public lands on Rota is determined by the CNMI Department of Public Lands (DPL), through development and approval of a Comprehensive Public Land Use Plan. This plan encompasses all public lands in the CNMI and identifies areas that should be reserved to protect critical resources, sites that are suitable for homesteading, and lands that should be considered for exchange to improve manageability of existing public lands and/or otherwise serve the public good (CNMI P.L. 15-2 §105f). The plan is scheduled to be updated every five years, and the most recent update was completed in 2019. In addition to the land use plan for the CNMI, the Rota Mayor's Office is beginning the process of developing a 20-year master plan for the island itself, which is not yet available (CNMI DPL 2019, 289).

The land use and landownership analysis in this chapter is based on GIS data received from DPL in 2017 and cross-checked against the 2019 Comprehensive Public Land Use Plan. Additional parcel-level research is needed

to fully confirm land use and landownership designations (Bubb, pers. comm., 2022).

### **CURRENT AND HISTORIC LAND USES**

A significant portion of Rota's lands (10,943 acres/4,428 hectares, or 52% of the island) are covered by limestone forest, and approximately 5,750 acres (2,327 hectares) of habitat area are protected by shoreline and wildlife conservation areas (USFS 2006). Limited urban development exists primarily in the villages of Sinapalo and Songsong and includes the airport, schools, community parks, and a small marine port. Commercial uses on the island are limited and consist of a few small hotels, convenience stores, and restaurants. The Rota Resort & Country Club on the north coast is the only resort on the island and features a hotel, three restaurants, and a golf course. There are many small-scale subsistence farms and grazing areas throughout Rota, and some larger-scale farms and ranches exist, especially on the eastern part of the island. Community farms are present on the highest plateau of the Sabana, although farming has been largely discontinued over the years due to concerns about adverse impacts to the domestic water supply (NPS 2005).

Throughout Rota's history, most of the development and farming activities have taken place on the more level and lower-elevation portions of the island. As noted in Chapter 2: Context and Resource Description, Rota was almost completely forested historically, with only small areas of land cleared for subsistence agriculture. Large-scale clearing did not occur until the early 20th century, when the Japanese converted much of the island's arable land to sugarcane production. The planting occurred mainly in lower-elevation areas with gentler slopes. However, Rota's lands proved unsuitable for large-scale farming due to the shallowness of the soil, infertility, rapid draining, and an abundance of rock outcrops. In addition to planting sugarcane, the Japanese mined phosphate on the Sabana in the years before World War II and built a narrow-gauge railroad system and network of roads (Higuchi 2003; Dixon 2002, 2014).

# Rota Special Resource Study Map 4: Existing Conservation Areas

National Park Service  
U.S. Department of the Interior



## Data Sources:

CNMI: Conservation Areas, I'Chenchon Park  
CNMI/DPL/NPS: Public Land  
U.S. Census Bureau: Roads  
NPS: Basemap

Produced by National Park Service, DOI Regions 8, 9,  
10 and 12 GIS Group  
Date: March 2022

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# Rota Special Resource Study Map 5: Land Use and Landownership

National Park Service  
U.S. Department of the Interior



**Data Sources:**  
 CNMI/DPL/NPS: Parcels  
 US Fish and Wildlife Service: Mariana Crow Critical Habitat  
 U.S. Census Bureau: Roads  
 NPS: Basemap  
 Produced by National Park Service, DOI Regions 8, 9, 10 and 12 GIS Group  
 Date: March 2022

- USFWS Mariana Crow Critical Habitat
- Leased Public Land
- Undesignated/Not In Use Public Land
- Grant of Public Domain Public Land
- Designated/In Use Public Land (includes Existing and Proposed Homesteads)
- Private Land

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## DESIGNATED/IN USE PUBLIC LANDS

### Conservation Areas

Major portions of Rota's public lands are currently protected under Rota Local Laws 9-1, 9-3, and 15-8. See Map 4: Existing Conservation Areas. Lands are protected as watersheds or for natural resource values, such as sea bird sanctuaries or as conservation areas for forests and wildlife. The CNMI Department of Land and Natural Resources, Division of Fish and Wildlife (DFW) manages those public lands designated as conservation areas, which constitute 22% of the island (Liske-Clarke 2015, 2-4). The largest of these is the 3,759-acre (1,521-hectare) Sabana Protected Area (or Sabana Heights), established in 1994 under [Rota Local Law 9-1](#). This high plateau in the southwestern portion of the island constitutes over a third of Rota's area and was established to provide watershed protection and wildlife and forest conservation. In 2007, [Rota Local Law 15-8](#) amended Local Law 9-1 to include the 220-acre (89-hectare) Talakhaya Watershed Conservation Area in the Sabana Protected Area to safeguard wildlife, vegetation, soils, and marine resources. For more detail on Talakhaya watershed management efforts, see the "Summary of Existing Management" section below.

Rota Local Law 9-1 also created the 610-acre (247-hectare) I'Chenchon Park Wildlife Conservation Area (or I'Chenchon Bird Sanctuary), along the eastern side of the island. This area consists primarily of steep cliffs above the shoreline, interspersed with narrow benches and covered with high-quality limestone forest. The sanctuary provides habitat for the largest colony of nesting sea birds in the archipelago, a Mariana fruit bat (*fanihi*, *Pteropus mariannus mariannus*) roosting area, and important habitat for the endangered Mariana crow (aga, *Corvus kubaryi*). In 2014, the Mariana Crow Conservation Area (MCCA) was established by the CNMI Department of Land and Natural Resources to protect critical habitat for the Mariana crow. At 1,136 acres (460 hectares), the MCCA covers much of the same area the I'Chenchon Park Wildlife Conservation Area and includes areas of

limestone forest habitat extending onto the plateau above the sea cliffs. As stated by the CNMI Administrative Code (Subchapter 85-30.4), the area is managed by DFW to "insure appropriate use of the MCCA for the enjoyment and general welfare of the public while protecting the area in its natural state to serve as a refuge for native wildlife, with emphasis on the Mariana Crow." The MCCA protects a portion of the 6,033-acre (2,441-hectare) Mariana crow critical habitat area designated by the U.S. Fish and Wildlife Service in 2004.

The other conservation areas on Rota are the Liyo Conservation Area, at the western tip of the island, and the Sasanhaya Bay Fish Reserve, also known as the Coral Gardens Marine Protected Area, on the eastern edge of Sasanhaya Bay. The 280.5-acre (113.5-hectare) Liyo Conservation Area encompasses Taipingot, or Wedding Cake Mountain, and was established in 1994 under [Rota Local Law 9-3](#) to conserve the indigenous wildlife and forest vegetation that exists on and around Mt. Taipingot. The Sasanhaya Bay Fish Reserve was set aside by [Rota Local Law 9-2](#) in 1994 and became the first marine protected area in the CNMI.

Rota's terrestrial conservation areas—the Sabana Protected Area, I'Chenchon/MCCA, and the Liyo Conservation Area—were established for species and habitat protection and do not allow activities that would disrupt wildlife within the area or destroy plant life or soils. These conservation areas are no-take zones for plants and animals, with the exception of medicinal plants. The collection of plants "through normal agricultural activities" is additionally allowed in the Sabana Protected Area, as specified in Rota Local Laws 9-1 and 15-8. The "no-take" provision in Rota Local Laws 9-1 and 15-8 specifically refers to hunting, fishing, trapping, harvesting, logging, and gathering in such a way that disrupts the normal patterns of behavior of wildlife or results in the destruction of plant life or soils. The laws' definition of "take" does not explicitly include the collection of specimens for scientific or other educational purposes, and the CNMI regularly grants access to conservation areas to universities and



agencies for research. However, both laws give the Department of Natural Resources and the Division of Fish and Wildlife the discretion to prohibit other activities deemed detrimental to the aquifer in the Sabana area.

### Other Locally Protected Public Lands

In addition to the conservation areas, there are several public park and precontact and historic sites located throughout the island. All of these protected areas and parks are under the jurisdiction of the CNMI Department of Public Lands (DPL). The CNMI Department of Community and Cultural Affairs' Historic Preservation Office (HPO) maintains the precontact and historic sites that are located on publicly owned land. The HPO is responsible for implementing [Public Law 3-39](#), known as the Commonwealth Historic Preservation Act of 1982. The law directs the agency to “promote the preservation of the historic and cultural heritage of the Northern Mariana Islands” and “to prohibit the taking of historic properties and artifacts from the Northern Mariana Islands.” As part of the public engagement conducted for the 2019 update to the CNMI Comprehensive Public Land Use Plan, many of Rota's residents expressed strong support for the preservation of historically and culturally important sites on the island (CNMI DPL 2019, 38).

### Homestead Program

The Department of Public Lands is required to set aside a portion of public land for a homestead program, which allows an individual to receive up to one agricultural and one village homestead site (CNMI P.L. 15-2, Public Lands Act of 2006). Landownership data received from DPL in 2017, in the form of GIS parcel layers, illustrates the current distribution of homestead sites on Rota. See Map 6: Existing Management. Additional parcel-level research and analysis is recommended to fully confirm the homestead designations (Bubb, pers. comm., 2022). Agricultural homestead parcels are located primarily in the eastern portion of the island, on the Sinapalo Plateau, with a few designated homestead sites east of the Sabana. Village homestead sites are predominately clustered in Sinapalo Village.

## LANDOWNERSHIP IN THE CNMI

The CNMI was established as a U.S. territory through the 1975 *Covenant to Establish a Commonwealth of the Northern Mariana Islands in Political Union with the United States of America* (Covenant). The Covenant is the fundamental agreement between the CNMI and the United States, and its provisions determine U.S. landownership authority in the CNMI. The CNMI Constitution, first drafted in 1976, is the means by which the CNMI establishes its local system of government and includes provisions mandated by the Covenant.

Section 805 of Article VIII of the Covenant, on Property, provides the CNMI government with the authority to restrict land acquisition to persons of Northern Marianas descent, “notwithstanding the other provisions of [the] Covenant, or those of the Constitution, treaties or laws of the United States applicable to the Northern Mariana Islands.” Section 806(a) of Article VIII states that:

The United States will continue to recognize and respect the scarcity and special importance of land in the Northern Mariana Islands. If the United States must acquire any interest in real property not transferred to it under this Covenant, it will follow the policy of seeking to acquire only the minimum area necessary to accomplish the public purpose for which the real property is required, of seeking only the minimum interest in real property necessary to support such public purpose, acquiring title only if the public purpose cannot be accomplished if a lesser interest is obtained, and of seeking first to satisfy its requirement by acquiring an interest in public rather than private real property.

In addition, §3.2 of *NPS Management Policies 2006* states that if land acquisition is proposed for a national park unit, the National Park Service's preferred practice is to acquire lands or interests in lands only from willing sellers.

The CNMI is the primary landowner of the sites evaluated in the study area. In view of NPS policy and the landownership restrictions described above in the Covenant, significant cooperation and a management agreement between the CNMI government and the NPS would be necessary for a national park unit on Rota to be feasible. The agreement would need to include a partnership arrangement for management, and/or long-term leases, and/or limited acquisition of lands from willing sellers, consistent with Section 806(a) of Article VIII of the Covenant.

## **Access and Public Enjoyment Potential: Overall Study Area**

### **ACCESS**

The island of Rota can currently be accessed by commercial flights from Guam and Saipan provided by the airline STAR Marianas. The frequency of airline service to Rota has changed over time according to demand and tourism levels, and it will likely continue to shift in the future to respond to evolving market conditions. While the number of flights has decreased in recent years, especially in response to the global COVID-19 pandemic, it can reasonably be expected that flight frequency could increase again to support additional visitation to the island. Typhoons are also a common occurrence in the Mariana Islands and have historically disrupted flight frequency and caused a decrease in tourism.

Once on Rota, visitors have the opportunity to rent a car and travel a mix of paved and dirt or coral roads to access the archeological sites and the limestone forest setting. Rota currently does not have a fixed route public transportation system; however, taxis and hotel shuttles are sometimes available, and the CNMI Commonwealth Office Transit Authority operates an on-demand system that will soon be expanded with ADA-accessible transit vans (CNMI COTA 2020). Despite these additional transportation options, the vast majority of visitors will likely travel to sites using a rental car, which can be reserved at the airport. Although rental car availability is somewhat limited at present, it could be

expected to increase with additional demand from visitors.

Many of the sites in the study area already welcome visitors, including the Mochong Latte Village Complex, As Nieves Quarry, and I'Chenchon Park Wildlife Conservation Area. Other sites, such as Alaguan, Gampapa, and Dugi, are currently not served by trails, parking areas, or other visitor facilities. Rota has long been an internationally recognized destination for scuba diving, and the island has marketed itself as a haven for ecotourism, welcoming tour groups (Mariana Visitors Authority 2019, 10; Sabuco 2004).

Per the CNMI Constitution Article XIV: Natural Resources, Section 3, "Places of importance to the culture, traditions and history of the people of the Northern Mariana Islands shall be protected and preserved and public access to these places shall be maintained as provided by law." Public access for a potential NPS unit on Rota would need to be provided in accordance with CNMI law and policy, including the 1975 Covenant and the CNMI Constitution.

### **PUBLIC ENJOYMENT POTENTIAL**

Rota's limestone forest and archeological resources offer opportunities for visitors to be immersed in the largely undeveloped landscape of the island and its 3,500 years of human habitation and Chamorro culture. Rota offers visitors the chance to interact with a highly intact and extensive complex of Chamorro latte sites within their original coastal and limestone forest settings. Standing in these sites, it is possible to imagine what they were like when they were first established. For many Chamorros, these sites afford a powerful spiritual connection to their ancestors. Chamorro people have described latte sites as a sacred living link to their cultural identity, symbolizing not only the technical innovation of their ancestors but also their connection to the natural world and the resilience of their culture (Bevacqua 2018, Kurashina et al. 1999).

Within Rota's forest and coastal settings, visitors can be surrounded by the sounds



of birds and of the ocean below, see large fanihi (fruit bats) flying through the sky or encounter enormous ayuyu (coconut crabs), and experience stands of mature limestone forest with its towering trees. The location of defensive fortifications in Rota's rugged cliffs convey in a very palpable manner the in-depth Japanese military strategy during the later years of World War II, providing unique opportunities to interpret the evolution of the war in the Pacific and its impact on local civilians.

## **Site by Site Analysis: Land Use, Ownership Patterns, Access, and Public Enjoyment Potential**

### **LIMESTONE FOREST**

Because development on the island was historically concentrated in areas with gentler slopes, native limestone forests remain relatively intact on Rota's steeper terrain, the coastal cliffs, and portions of the Sabana. Approximately 20% of Rota is still covered by large-tree limestone forest. A more open-canopy, small-diameter limestone forest mixed with secondary vegetation covers an additional 30 to 35% of Rota (NPS 2005, USFS 2006).

Due to the island's high proportion of public landownership, most of Rota's limestone

forest is located on publicly owned land. The areas of forest considered to be highest quality, with mature large trees, are found primarily along the east and southeast coast, as well as along the north and east slopes of the Sabana. High-elevation, or montane limestone forest is located along the steep cliffs below the Sabana. See Map 3: Limestone Forest Resources. As noted above, these areas of the island are either part of or adjacent to established conservation areas, which are managed to protect limestone forest resources in addition to wildlife.

Agricultural homesteads border the limestone forest that is located south and east of the Sinapalo Plateau. Portions of the Sabana have also historically been used by the community for informal subsistence farming. However, as noted above this use has been largely discontinued and recent guidance in the 2018 Sabana Land Use Management Plan calls for additional regulation of agricultural activity and the development of more sustainable economic activities in the area, including ecotourism (CNMI BECQ 2020). The 2019 CNMI Comprehensive Public Land Use Plan proposes future agricultural and village homestead sites east of the Sabana, in areas that overlap partially with limestone forest (CNMI DPL 2019, figure R-9).



Limestone forest along the steep cliffs in the I'Chenchon Park Wildlife Conservation Area. While many areas of the cliffs are inaccessible, public access is possible to key locations. Photo: NPS.





**1.** [Top] Limestone forest area on Rota and existing two-track unpaved road. **2.** [Bottom] Existing public facilities at the I'Chenchon Park Wildlife Conservation Area. Photos: NPS.





owned land to the south of Mochong is classified as Undesignated/Not in Use and extends east around the privately owned lands to encompass the Māya Latte Site.

Site maintenance and interpretation at the Mochong Latte Village is currently provided by the CNMI HPO. In addition to experiencing the 53 extant latte sets, visitors have the chance to enjoy the large pristine beach adjacent to the site and understand the settlement's reliance on nearby marine resources. Access to Mochong is provided from the unnamed road that parallels the beach and leads east to As Mātmos from Highway 102 (the Coconut Village Road). The 2009 CNMI Highway Master Plan calls for upgrading and paving Highway 102 in its list of long-range roadway improvements for Rota (CNMI DPW 2009).

#### **As Nieves Quarry**

The As Nieves Quarry is located within a lightly populated area east of the airport, surrounded by agricultural homesteads with privately owned lands nearby. The quarry has been cared for by the people of Rota for generations. The CNMI HPO currently maintains the site, ensuring that it retains its integrity and a strong sense of place. The 2.5-acre (1-hectare) quarry site itself is located within a larger publicly owned parcel of about 6.3 acres (2.5 hectares), approximately half of which is covered in vegetation buffering the quarry on its eastern side. Currently the viewshed around the site is compatible with the cultural landscape, however future development on privately owned lands or agricultural homesteads could impact the visual integrity of the setting.

The quarry is open to the public for visitation and is accessed via Monsignor Louis Antonelli Road. Informal parking currently occurs along the roadside. The CNMI HPO maintains and interprets the site, which features a large contemporary statue of Chief Taga in proximity to the megalithic stones still extant in the quarry. Walking amid the giant latte in the quarry inspires a sense of wonder in visitors and appreciation for the technological feats accomplished by the ancient Chamorro.

#### **Alaguan Latte Village Complex**

The Alaguan Latte Village Complex covers approximately 25 acres (10 hectares) on publicly owned land classified as Undesignated/Not in Use. The archeological site is located 300 feet (91.4 meters) below the Pali'e Road (Highway 100) and at present can only be reached by hiking a steep, winding trail that crosses private land (Craib 1990b). A public overlook is provided above the site, just off the road, and there is a tract of publicly owned land that is contiguous to the site as well as to the roadway. This publicly owned area currently does not have a trail, although trail development in this location could be feasible, assuming that appropriate design measures to address slope conditions are possible. The feasibility of access from the ocean would require additional analysis: access from the ocean may be possible but is likely difficult due to the rocky shoreline and tidal action.

In its list of long-range improvement projects, the 2009 CNMI Highway Master Plan identifies the need to widen and pave Highway 100 from Songsong to the airport, which would enhance public access to the area (CNMI DPW 2009). The 2019 CNMI Comprehensive Public Land Use Plan proposes that a wedge-shaped parcel of publicly owned land uphill from the village site and adjacent to the road be considered for future agricultural homestead properties (CNMI DPL 2019, figure R-9).

The Alaguan Village and limestone forest is remarkably intact, in large part due to its isolation. The valley is surrounded by high cliffs on all sides, except to the east, where it meets the ocean. Visitors reaching the site would be surrounded by some of the best mature limestone forest on the island and would be able to explore the largest-known latte complex in the Marianas (NPS 2005, Craib 1990b).



## **Complex of Coastal and Upland Latte Villages**

### **North Coast Archeological Sites**

The four North Coast Archeological Sites are coastal villages dating to the pre-latte period, located along 2 miles (3.2 kilometers) of coastline near what are today the U.S. Memorial Beach Park, Teteto Beach, and Guata Beach Park. The four villages are named Salug-Songton, Unginao-Uyulan, Teteto-Guata, and Tatgua. Like Mochong and Måya, the villages are an example of north coast habitation sites in proximity to marine areas traditionally used for fishing and resource gathering. However, the North Coast sites are located on privately owned lands, in proximity to one of the island's major roads (Highway 10). Due to their private ownership, the North Coast sites are not accessible to the public at this time.

### **Måya Latte Site**

The Måya Latte Site is located on public land that is categorized as Undesignated/Not in Use. The 1.3-acre (0.5-hectare) Måya site is currently open to the public, and as at Mochong, the CNMI HPO maintains and interprets the site. The public lands on which Måya is located are bounded by privately owned parcels to the west and one private inholding within the public land boundary to the east of the site. Also similar to Mochong, adjacent private land uses are well-screened from the Måya site by strand and limestone forest vegetation. Måya is reached by visitors via the same unnamed road that connects Mochong to As Måtmos. A long, unpaved driveway lined with coconut palms leads to the site from the road.

### **Dugi Archeological Site**

Dugi is located on the northern edge of the Sinapalo Plateau just above the As Måtmos coastal area. While the approximately 25-acre (10-hectare) archeological site is in public ownership, portions of the site are located in areas designated for village homestead sites by the CNMI DPL. Dugi is also bordered to the south by agricultural homestead sites.

An unmaintained two-track road currently leads to the area's archeological features, which are spread across the upland plane and are not readily visible because of dense vegetation. Highway 103 (or the Gampapa Road), which leads toward Dugi, has been slated for upgrading and paving in the 2009 CNMI Highway Master Plan's list of long-range improvements. In addition, the list of long-range projects in the plan includes an expansion of roadway infrastructure to the Dugi area from Highway 103 (CNMI DPW 2009).

Dugi offers potential for public enjoyment as an example of an inland Chamorro settlement in a challenging location, without access to the ocean or fertile soil. Public access to Dugi could also allow visitors to make a tangible comparison between coastal and upland villages as they experience views of Mochong on the north coast.

### **Gampapa Latte Village**

The 25-acre (10-acre) inland latte site at Gampapa extends across a valley, with latte sets and other archeological features distributed over publicly owned lands (Undesignated/Not in Use), agricultural homestead sites, and privately owned parcels. Portions of the site also overlap with I'Chenchon Park Wildlife Conservation Area and the MCCA. One of the large publicly owned parcels (Undesignated/Not in Use) to the west of Gampapa is proposed as a potential future solar farm site in the 2019 CNMI Comprehensive Public Land Use Plan (CNMI DPL 2019, figure R-9). This is located to the south and east of the extant archeological features.

Access to the publicly owned, non-homestead portions of Gampapa is provided by the unnamed road that leads southeast from Highway 103 to the Chugai Cave trail. This roadway was a former narrow-gauge railroad established by the Japanese to transport sugarcane from Dugi and Gampapa to the mill in Songsong (Butler 1997, 166; Pantaleo 1993, 86). The gentle topography in the area could allow development of trails and trailheads to access the dispersed habitation sites, with

trail alignments located to avoid impacts to archeological resources. There is high potential for public enjoyment in this location, given that it is an excellent illustration of an extensive inland settlement in an area with productive soils. Gampapa's proximity to present-day agricultural homesteading sites could enhance interpretation opportunities and illustrate the environmental history of this portion of the Sinapalo Plateau.

#### **East and Southeast Coast Archeological Sites: As Dudo, Sagua Gahga, East Koridot, and West Koridot Villages**

Chamorro archeological sites along the east and southeast coasts of Rota include As Dudo, Sagua Gahga, East Koridot, and West Koridot Villages. Together these settlement locations cover more than 563 acres (228 hectares), encompassing 36 sites with four latte villages and several lesser sites. All of the villages are located on public land along the coastal terraces below high cliffs, and all are located within the I'Chenchon Park Wildlife Conservation Area.

Butler notes that these Chamorro villages were sited in effectively the only locations along the east and southeast coasts that provide connectivity to both the sea and the upland terraces. When Butler conducted his survey in 1995, each of the four sites possessed a trail leading up the cliffs, though he notes that the trails from East and particularly West Koridot are especially challenging. Of the West Koridot trail, he states that it is "so difficult that one marvels that anyone would put a settlement there at all" (Butler 1997, 318). West Koridot and East Koridot are accessible from one another, although the trail up out of East Koridot is considered almost as difficult and dangerous as its western neighbor (Butler 1997, 103). By comparison, the trail connecting the Sagua Gahga village to its upland terrace is considered comparatively safe, crossing a talus slope and climbing up through an eroded notch in the cliff (Butler 1997, 69). The trail to As Dudo is obscured by vegetation and difficult to find, but it follows the stepped character of the cliff and as a result is relatively safe as well (Butler 1997, 130).

## **Rock Art Sites**

### **Chugai Cave**

Chugai Cave is also located within I'Chenchon Park, on the rim of a plateau immediately above the second terrace inland from the coast. A short trail and rock stairway currently provide access to the pictograph cave, and most of the trail and the associated parking area are located outside the conservation area, on Undesignated/Not in Use public land that is part of the MCCA. The parking area connects to a road following the former railroad alignment leading through Gampapa.

The cave consists of a single passageway about 185 feet (56.3 meters) in length and averaging about 15 feet (4.6 meters) in width (NPS 2005). Public access to the cave is currently allowed through advanced coordination with the CNMI HPO. Chugai Cave affords visitors the opportunity to experience one of the largest rock art sites in the Marianas and see distinctive pictographs illustrating unique geometric and zoomorphic motifs. Little is known about the meanings of pictographs in the Marianas, and Chugai Cave provides an excellent opportunity for research and interpretation of Chamorro rock art.

### **East and Southeast Coast Rock Art Caves: Sagua Gahga, Koridot Caves**

The Sagua Gahga and Koridot rock art caves that are found along the east and southeast coast of the island are in comparatively close proximity to the Chamorro village sites in the same area. Sagua Gahga Cave is located about 250 feet (76.2 meters) west of the Sagua Gahga latte village, and Koridot Cave is less than 500 feet (152.4 meters) to the east-northeast of the West Koridot village site (Butler 1997). Therefore, they are similarly sited on publicly owned land, all within I'Chenchon Park.





Existing access drive to Māya Latte Site. Photo: NPS.





1. [Top left] and 2. [Top right] Existing interpretive waysides at Mochong and Måya. 3. [Middle] As Nieves Quarry and its proximity to Monsignor Louis Antonelli Road. 4. [Bottom] As Nieves Quarry, also known as Taga Quarry, showing the adjacent road, current signage, and informal parking areas. Photos: NPS.





**1.** [Top] View from Dugi area to the north coast, toward Māya Latte Site. Photo: NPS. **2.** [Middle] Clearing vegetation from latte at Gampapa Latte Village. Located on the Sinapalo Plateau, Gampapa and Dugi are characterized by gentle slopes. Photo: NPS. **3.** [Bottom] In contrast, the terrain at Alaguan Latte Village Complex consists of steep cliffs sloping down to the ocean. Photo: Dave Lotz.





1. [Top left] Hikers descending into Alaguan. Photo: Dave Lotz. 2. [Top right] Entrance to Chugai Cave. Photo: NPS. 3. [Bottom] Trail to Chugai Cave. Photo: NPS.



## **WORLD WAR II JAPANESE DEFENSIVE COMPLEXES**

### **Ginalagan Japanese World War II Defensive Complex**

The 62-acre (25-hectare) Ginalagan defensive complex extends almost a mile (1.6 kilometers) northwest from the site of the Alaguan overlook, adjacent to the Pali'e Road (Highway 100). Although the complex is located on publicly owned land (both Designated/In Use and Undesignated/Not in Use), access to the tunnels, caves, terraces, and other archeological features is provided from the lands below and to the east, which are privately owned. The 2019 CNMI Comprehensive Public Land Use Plan proposes village and agricultural homestead sites in the more gently sloping lands both above and below the cliffs (CNMI DPL 2019, figure R-9).

Moore and Hunter-Anderson surveyed the site in 1988 and described the “extremely difficult” conditions they encountered in the southern portion of the area and at the top of the cliff, due to “deep fissures and sinkholes and thick limestone forest” (Moore and Hunter-Anderson 1988, 3). Despite these challenges, the overall complex at Ginalagan seems to be more stable than that at Chudang Palii, inspiring Moore and Hunter-Anderson to recommend that the central portion of the site be developed as a park with interpretive trails (Moore and Hunter-Anderson 1988, 128).

### **Chudang Palii Japanese World War II Defensive Complex**

The 31-acre (12.5-hectare) Chudang Palii complex extends 0.6 miles (1 kilometer) east to west along the north side of Mount Sabana. The eastern edge of the complex begins near the road to the Sabana (Highway 11), where it is easy to access an extant 120-mm Japanese naval gun, signed “Japanese Cannon” from the roadside. From here the complex extends west in a steep network of fortifications. The complex is located on public land, a mix of the Sabana Protected Area, Undesignated/Not in Use lands, and agricultural homestead sites.

Although access to the site is possible over public lands, it requires crossing exceptionally steep and rugged terrain, as well as unstable

unreinforced concrete and loose dry-stacked stone features. Loose rocks are easily dislodged from the stacked-rock fortifications, as they were built without mortar. After their archeological survey of the site in 2011, Mohlman et al. concluded that public access to the complex, whether guided or self-guided, is not advisable due to the safety concerns posed by the terrain and unstable features. They did suggest that more active interpretation of the complex take place from the site of the 120-mm gun, with an additional wayside linking to a podcast and interpretation on the HPO website (Mohlman et al. 2011, 171–72).

## **Conclusion: Land Use, Ownership Patterns, Access, and Public Enjoyment Potential**

Current land use and ownership patterns associated with the limestone forest, Chamorro archeological sites, and World War II Japanese defensive complexes could generally support the management of a national park unit on Rota. However, the establishment of an NPS unit within the study area is conditionally feasible, dependent on support from the CNMI government and the development of a management agreement for park lands. This is due to the landownership restrictions of the 1975 Covenant as well as NPS policy, as described above in the “Landownership in the CNMI” section.

The North Coast Archeological Sites and portions of the Gampapa Archeological Site would not be compatible with use as a national park unit at this time, due to their location on private lands. Access to the Ginalagan Defensive Complex would also require crossing private land, which would not be feasible for a national park unit, unless willing landowners were to grant permission through an easement or other means. Due to their partial overlap with village homestead sites, the Dugi Archeological Site and Gampapa Latte Village could only be feasible as a unit of the national park system in areas of public land that are not designated for homesteading use. If these privately owned and homestead sites were to become available for a national park unit, additional analysis would be needed

to determine the feasibility of management options, public enjoyment potential, and associated costs.

The predominant land uses in the rest of the study area include agriculture, conservation, tourism and recreation, and public lands with currently undesignated uses. All these land use types could support establishment of a national park unit. The existing regulations associated with Rota's conservation areas—the Sabana Protected Area, I'Chenchon Park Wildlife Conservation Area, and the Mariana Crow Conservation Area—could be compatible with management of a potential future national park unit. Although the harvesting of plants and animals is prohibited by CNMI in these conservation areas, the collection of medicinal plants for traditional healing practices is allowed and would need to be specifically permitted by any possible legislation authorizing a national park unit or by an agreement between the CNMI and the NPS for management of a national park unit.

The local community engages in a variety of traditional practices on public lands that are outside the conservation areas. These practices include hunting, fishing, traditional horticulture, crafts, and medicinal plant collection, and their cultural importance to the people of Rota cannot be overstated. A management approach for a potential national park unit would need to take into consideration the location and type of traditional use to be allowed in each area, with careful evaluation for higher-visitation sites, such as the latte villages, where certain uses such as hunting might be incompatible. Legislation authorizing a national park unit could allow traditional uses (including hunting) to occur within the park boundary.

Many of the sites in the study area are already open for public visitation and would require only minimal development of facilities, such as formalized parking areas and additional interpretation, to support public enjoyment. These sites include Mochong, As Nieves, Māya, Chugai Cave, and the limestone forest areas within the I'Chenchon Park Wildlife Conservation Area. Other sites would require more extensive facilities, specifically trails

and trailheads, to facilitate public enjoyment opportunities. Sites in this category include Alaguan, Dugi, and Gampapa. Access to these sites would only be considered feasible if trails and trailheads can be located on public land in proximity to existing roads, and in locations where slope and other site conditions allow development.

Public access to limestone forest areas along the Sabana cliffs, the East and Southeast Coast Archeological Sites and Rock Art Caves, and Chudang Palii is not feasible due to the challenge of reaching the sites and significant safety concerns posed by their rugged terrain. An exception is the Japanese naval gun currently located below Chudang Palii and near Highway 11, which could be enhanced with additional interpretation about the defensive complex.

In addition to public access to significant sites, facilities could be needed on the island to provide visitor contact/interpretation and office space, and to support unit maintenance and operations. Existing buildings on Rota could be used by the NPS to provide these functions through existing authorities, such as leases and agreements. These types of facilities could align with the local community's interest in establishing a visitor and cultural center, as proposed in the 2019 CNMI Comprehensive Public Land Use Plan (CNMI DPL 2019, 40) and during public outreach for this study in fall 2020 (see Chapter 7: Consultation and Coordination).

A national park unit on Rota could enhance the visitor opportunities that are currently provided on the island by increasing interpretation and educational programming, offering additional potential for research, and providing access to areas that are currently not open to the public. Site developments such as trails, trailheads, signage, restrooms, and small-scale interpretive facilities could allow visitors to be immersed in the island's unique ecosystems and explore its exceptional archeological resources, while complementing the local community's goals to promote ecotourism.





**1.** [Top] View of a portion of the Ginalagan cliffs from the east. Photo: NPS. **2.** [Bottom] Access to Chudang Palii Japanese World War II Defensive Complex is challenging due to the rugged terrain and unstable fortifications built without mortar. Photo: Dave Lotz.



## Boundary Size and Configuration

An acceptable boundary configuration for a potential national park unit on Rota would need to include and effectively protect the island's nationally significant resources, while considering the other feasibility factors analyzed in this chapter. In the case of cultural resources, such as the Chamorro archeological sites and World War II Japanese defensive complexes, a suitable boundary might include the site itself as well as sufficient surrounding area to provide a proper setting for the resources.

In the case of Rota's limestone forest, effective protection of the resource would require that a boundary encompass continuous limestone forest areas rather than remnants of forest. Rota's limestone forest has been identified as nationally significant because it remains highly intact, covers a comparatively large area, and provides sufficient habitat for endemic species. To protect the aspects of the limestone forest that make it nationally significant, a national park boundary would therefore need to include continuous areas of limestone forest and would not be feasible if forest areas were fragmented.

Additional considerations include whether there is an opportunity to interrelate a group of resources through a boundary configuration and whether a potential boundary includes sufficient land for appropriate use and facility development.

### BOUNDARY SIZE AND CONFIGURATION: LIMESTONE FOREST

A suitable national park unit boundary to encompass Rota's limestone forest resources could include areas of the forest that represent both the high-elevation (montane) and low-elevation limestone forest types, as well as areas containing mature, large-diameter trees. These areas of forest are found along Rota's east and southeast coast and along the cliffs that border the Sabana to the north and east. See Map: 3 Limestone Forest Resources. Regardless of maturity, limestone forest areas that surround Rota's nationally significant archeological sites could also be suitable for inclusion in the boundary, to protect the

integrity of the cultural landscape settings (including viewsheds).

To effectively protect limestone forest resources, as noted above, a potential park unit boundary would need to include continuous areas of forest. This would serve to provide habitat connectivity and to support the suitability finding that Rota's limestone forests are an unusually extensive and intact resource that is not adequately represented in the national park system. The areas protected would additionally need to be expansive enough to allow for the development of hiking trails that can be accessed by existing roads, in order to provide an immersive visitor experience.

A suitable boundary configuration around the limestone forest resources would include only publicly owned lands and follow existing parcel boundaries. Limestone forest boundaries would exclude those public lands that are currently designated for homesteading, unless the CNMI and Rota governments were to decide to make those lands available for use as a national park. To complement existing land uses, regulations, and resource protection goals, it would be appropriate to include limestone forest areas that are already within existing conservation areas, including the I'Chenchon Park Wildlife Conservation Area and the Mariana Crow Conservation Area.

Although much of the limestone forest encircling the Sabana is of high quality and is protected by a conservation area, it would not be feasible for inclusion because of challenges with public access and managing a linear strip of land along the cliffs.

### BOUNDARY SIZE AND CONFIGURATION: CHAMORRO ARCHEOLOGICAL SITES

Unlike the limestone forest area, a suitable boundary for the Chamorro archeological sites could feasibly include disparate locations. This is because many of the sites are in comparatively close proximity to one another (less than 5 miles, or 8 kilometers, apart at the most) and in similar conditions that don't



require substantially different management approaches. In general, a suitable national park unit boundary would include National Register district boundaries, where they exist and where they are located on publicly owned land. In all cases, a boundary would be of sufficient size and configuration to ensure resource protection. This could include encompassing enough of the site's coastal, limestone forest, and/or agricultural setting to protect the integrity of the cultural landscape.

A suitable national park unit boundary could comprise not only the individually nationally significant sites (Mochong, As Nieves, Alaguan) but could additionally protect the coastal and upland villages and the rock art sites that lend complexity and richness to the resources protected on Rota. Boundary configurations for the Chamorro Archeological Sites would only include publicly owned lands.

#### **Mochong Latte Village Complex**

A suitable boundary around the Mochong complex could encompass the existing National Register of Historic Places archeological district boundary. A suitable boundary could also include publicly owned lands to the south to maintain the site's limestone forest setting and provide a connection to the Måya coastal site to the east.

#### **As Nieves Quarry**

The National Register boundary could be a suitable boundary for the quarry site. The boundary would not include adjacent public lands that are currently designated for agricultural homesteads. However, if such lands were no longer needed for homesteading, they could potentially be included later through a boundary expansion if the CNMI and Rota governments were to agree. In its current configuration, the boundary around the As Nieves site is of sufficient size to ensure resource protection.

#### **Alaguan Latte Village Complex**

A feasible boundary for the Alaguan complex would need to contain the 25-acre (10-hectare) valley and provide a contiguous expanse of public land from the site up to the Pali'e Road (Highway 100), to ensure public access across publicly owned land. To provide

a contiguous expanse of the area's exceptional limestone forest, the boundary would also encompass the publicly owned lands to the east where West Koridot and East Koridot and the other East and Southeast Coast Archeological Sites are located, within the I'Chenchon Park Wildlife Conservation Area.

### **Complex of Coastal and Upland Latte Villages**

#### **North Coast Archeological Sites**

The four North Coast Archeological Sites are not feasible for inclusion in the national park system, due to their private landownership, and they are therefore not appropriate for inclusion in a national park unit boundary at this time.

#### **Måya Latte Site**

As noted above, a suitable boundary encompassing Måya could connect the site with the Mochong Latte Village Complex. Including public lands to the south of Måya could maintain the site's limestone forest setting, and extending the boundary to the east would connect the sites to high-quality stands of forest along the island's northeast coast.

#### **Dugi Archeological Site**

As noted above, portions of Dugi fall within homesteading lands and portions fall within undesignated public lands. The area of the site described in Dugi's National Register nomination has boundaries between the 100-meter contour line to the north and the 120-meter contour to the south (NPS 1985). The area described in the nomination is currently within a designated village homestead site and is therefore not suitable for inclusion in an NPS unit boundary at this time. However, the northwest section of the site could feasibly be included in a boundary that protects the coastal sites of Mochong and Måya, along with their landscape settings. If the CNMI and Rota governments were to determine that homestead sites at Dugi were no longer needed, additional analysis could be undertaken to identify an appropriate location for a larger boundary around the full archeological site.

### **Gampapa Latte Village**

As noted above, Gampapa includes latte sets and other archeological features located on publicly as well as privately owned lands. A suitable boundary for Gampapa could encompass publicly owned lands that are not designated for homesteading and could connect to the I'Chenchon Park Wildlife Conservation Area to the east, where Chugai Cave is located. The configuration of the boundary around Gampapa, like other boundaries, would need to be determined in partnership with the CNMI government and avoid designated future public land uses, such as the proposed solar farm to the west (CNMI DPL 2019, figure R-9). It is therefore anticipated that a boundary configuration would have no or limited effects on the authorization, construction, operation, maintenance or improvement of energy production and transmission or other infrastructure associated with the proposed solar farm.

### **East and Southeast Coast Archeological Sites: As Dudo, Sagua Gahga, East Koridot, and West Koridot Villages**

While the East and Southeast Coast Archeological Sites themselves are not safely accessible by the public, they are located within the existing I'Chenchon Park Wildlife Conservation Area. At a minimum, a suitable boundary around these sites could encompass all four of them and extend as far north as the prominent notch in the cliffs at Finá Atkos, thereby including the surveyed archeological sites of the area. As noted above, a suitable boundary could also extend far enough to the west to include the nearby Chugai Cave and the inland sites at Gampapa, in order to illustrate the relationship between coastal and inland latte settlements.

### **Rock Art Sites**

#### **Chugai Cave**

Chugai Cave itself is within the I'Chenchon Park Wildlife Conservation Area, although most of the trail accessing the cave is located on Undesignated/Not in Use public land immediately to the west. As noted above, I'Chenchon could be included in a boundary

for the limestone forest areas on Rota. A suitable boundary around Chugai Cave could include I'Chenchon as well as the lands to the west on which the trail and the parking area are sited. These public parcels could also be included in the boundary configuration proposed for the Gampapa Latte Village.

### **East and Southeast Coast Rock Art Caves: Sagua Gahga, Koridot Caves**

A suitable boundary for the East and Southeast Coast Rock Art Caves could be the same as the boundary for the archeological sites in the same area. At a minimum, the boundary could extend north to Finá Atkos and west to connect with Chugai Cave and Gampapa.

### **BOUNDARY SIZE AND CONFIGURATION: WORLD WAR II JAPANESE DEFENSIVE COMPLEXES**

#### **Ginalagan Japanese World War II Defensive Complex**

Public access to Ginalagan is not currently feasible because it requires crossing privately owned land. If public access were to be provided in the future, additional analysis would be needed to identify a suitable boundary configuration. Moore and Hunter-Anderson's 1988 archeological survey proposed a National Register district boundary that extends 0.9 miles (1.5 kilometers) northwest from the Alaguan overlook site, following the curve of the cliff line (Moore and Hunter-Anderson 1988, 33).

#### **Chudang Palii Japanese World War II Defensive Complex**

A suitable boundary for Chudang Palii could conform at a minimum to the National Register district boundary described in the nomination for the site: located between the 300-meter and 400-meter contour line along the north side of Mount Sabana, and partially bounded on the north and east side by the road to the Sabana (Highway 11). The limestone escarpment of Chudang Palii defines the district with a cliff rising 65 to almost 300 feet tall (19.8 to 91.4 meters) at its upper portion (Mohlman et al. 2011, National Register Nomination Form 6). However, public access to this site is not



feasible due to safety concerns associated with the extremely rugged terrain and unstable archeological features.

## **Conclusion: Boundary Size and Configuration**

Rota's limestone forest sites and most of the Chamorro archeological sites are of sufficient size to include and protect their primary resources, in this case limestone forest ecosystems and a diverse archeological site complex that outstandingly illustrates the Chamorro way of life during the latte period. Notably these sites are characterized by their proximity and connectivity within a well-preserved coastal and limestone forest setting. The sites additionally include adequate surrounding area to protect this setting for the resources, and sufficient land is available for appropriate use and development of visitor facilities.

Boundary configurations are not proposed for sites that are in private ownership, that are currently designated for homesteading use, or where public access is not feasible.

These include limestone forest areas along the Sabana cliffs, the North Coast Archeological Sites, portions of Dugi and Gampapa, Ginalagan, and Chudang Palii. If changes in landownership or land use occur that would allow these sites to be compatible with a national park unit, additional analysis could be undertaken to determine acceptable boundary configurations. Existing and proposed National Register boundaries are available to inform future analysis of Dugi, Ginalagan, and Chudang Palii if appropriate. Latte village sites and rock art caves along the east and southeast coast are located within the limestone forest boundary configuration around I'Chenchon Park, even though NPS analysis indicates that public access to these areas is likely infeasible.

## **Existing Resource Degradation and Threats to Resources**

The nationally significant sites and resources on Rota are generally of high quality and have a high degree of integrity. Nevertheless, the introduction of invasive species and unmanaged visitor use may pose a threat to some of these resources.



Members of the U.S. House Committee on Natural Resources tour the As Nieves Quarry, February 2017. Photo: NPS.

## EXISTING RESOURCE DEGRADATION AND THREATS TO RESOURCES: LIMESTONE FOREST

### Nonnative and/or Invasive Species

Rota's limestone forest was spared much of the destruction that occurred to forests on Guam, Saipan, and Tinian during World War II. To date, it has also been spared the devastating impacts of the brown tree snake (*Boiga irregularis*), which has had such a calamitous influence on forest ecosystems in Guam (see Chapter 2: Context and Resource Description). Due to their evolutionary history, ecosystems in the Marianas are notable for their high rates of endemism and are especially vulnerable to introduced species. Given the sensitivity of Rota's limestone forests and the isolation and careful management that have historically protected them, any additional visitation to the island as well as the shipment of goods and materials increases the risk of introducing nonnative and/or invasive species. These include the brown tree snake; other invasive plants, animals, and insects; and fungal diseases. The potential introduction of these species poses the most serious threat to Rota's fragile limestone forest ecosystem and to the ongoing cultural practices that it sustains.

The invasive coconut rhinoceros beetle (*Oryctes rhinoceros*) was detected on Rota in 2017. Since discovery, the CNMI DLNR has been actively engaged in detecting and trapping the beetles with support from the U.S. Department of Agriculture (OIA 2021). The coconut rhinoceros beetle is of particular concern because it attacks coconut trees, which are both culturally and economically important to communities in the Marianas. The beetle has destroyed 20 percent of Guam's coconut trees, and DLNR staff on Rota are working rigorously to limit its spread and control infestations on the island (OIA 2021).

Nonnative ungulates (pigs and especially the Philippine deer, *Rusa marianna*) currently on the island already pose a significant risk to high-quality limestone forest areas, due to herbivory. Rota's residents value the deer as a food source, reducing some of its impacts by subsistence hunting. Although hunting

invasive species such as deer does limit their population, it doesn't eliminate the problem if they can continue to access susceptible vegetation for browsing. In addition to grazing, feral ungulates can also increase the risk of invasive species and erosion through hoof action, rooting, or wallowing (Liske-Clark 2015, 4-23). Fencing is required in addition to animal control to adequately protect forest resources.

While debate exists about whether the monitor lizard (*Varanus indicus*) is indigenous or a precontact introduction (Weijola et al. 2020), monitor lizards are considered a threat to the Mariana crow, or aga (*Corvus kubaryi*), because they prey on aga eggs (Camacho, pers. comm. 2021). Aga population decline is also due to predation by feral cats, habitat degradation, and the brown tree snake on Guam.

The CNMI Division of Fish and Wildlife (DFW) recognizes the grave threat posed by invasive species. DFW has established both regulations and programs to minimize risk, in particular to prevent the arrival of devastating species already present on Guam, such as the brown tree snake and little fire ant (*Wasmannia auropunctata*). The Office of Insular Affairs, within the Department of the Interior, coordinates the Brown Tree Snake Control Program, which provides grant funding to support prevention, detection, and rapid response efforts in the CNMI. The 2015–2025 Wildlife Action Plan for the CNMI calls on DFW to continue these efforts while developing a comprehensive biosecurity program with new regulations and protocols (Liske-Clark 2015, 7-2). On Rota, the CNMI Forestry program (under the Division of Agriculture) is currently tasked with invasive species control and is replanting native limestone forest species that are listed as threatened or endangered. The Division of Forestry is also working with private landowners, the non-profit Micronesia Islands Nature Alliance, and the U.S. Fish and Wildlife Service to collect seeds, raise, and outplant endangered native species such as *Serianthes nelsonii* and *Osmoxylon mariannense* (USFWS 2021).



Increased visitation to Rota could increase the risk of invasive species spread. Other economic or tourism development activities on the island would carry the same risk. Future monitoring, prevention, education and interpretation, and response efforts could reduce potential impacts.

### **Storm Damage and Climate Change**

Although Rota's existing limestone forest has been largely protected due to its location on steep rugged terrain, areas that are protected from development are highly vulnerable to typhoon damage because of their elevation and exposure. The strongest typhoon to hit Rota in recent years was Typhoon Mangkhut, in September 2018 followed in October 2018 by Super Typhoon Yutu, the strongest typhoon ever recorded in the Marianas. However, storms of lesser intensity strike the islands fairly regularly.

Typhoon damage to limestone forest is a concern because areas of mature native forest tend to convert to thickets of *Pandanus tectorius* as canopy trees are destroyed. This is exacerbated by clearing on the Sabana, which increases the area of forest that is exposed to high winds (Liske-Clark 2015, 4-10). Typhoons may also adversely impact animal species, such as fanihi, by destroying the trees that provide their food (Liske-Clark 2015, 6-9).

Climate change is expected to impact the frequency and intensity of tropical cyclones (including tropical storms, typhoons, and tropical depressions). While it is anticipated that tropical cyclones will decrease in frequency, those that do hit the Marianas are more likely to be intense (Grecni et al. 2021, 21). Additionally, climate change is likely to have a ripple effect on the limestone forest ecosystem and its food webs, although impacts are difficult to predict at this time. Expected changes in precipitation patterns and increased typhoon intensity will likely alter forest structure and composition (Liske-Clark 2015, 6-6). The frequency of typhoons and their damage to forests and other impacts from climate change would occur regardless of whether a national park unit were established on Rota.

### **Human Activities**

Current human activities that pose a threat to limestone forest resources on Rota include unrestricted grazing in agricultural areas adjacent to forests, clearing of forest areas for agriculture, fire-setting to attract game, and illegal hunting of protected species (fanihi and aga). The CNMI DFW enforces regulations that prohibit these activities in designated conservation areas, and the agency's Wildlife Action Plan calls for additional funding to support enforcement and improved communication around conservation area boundaries and allowable uses (Liske-Clark 2015, 7-2). The recently completed Talakhaya Integrated Watershed Management Plan identifies intentionally set fires as one of the primary threats facing the watershed. The plan provides strategies to increase monitoring and raise awareness about the damaging effects of fire to the watershed and to general forest health (CNMI BECQ 2020).

The presence of a national park unit could increase the risk of damage to limestone forest resources by attracting additional visitation and foot traffic. This could be mitigated by the development of trails in appropriate locations, with minimal impact to resources. Trails have been identified as a key strategy to increase public support for conservation in the CNMI Wildlife Action Plan (Liske-Clark 2015, 7-2).

### **EXISTING RESOURCE DEGRADATION AND THREATS TO RESOURCES: CHAMORRO ARCHEOLOGICAL SITES**

The Chamorro archeological sites on Rota have been carefully maintained by the local community for generations and continue to provide a tangible and powerful connection to Chamorro cultural heritage. As a result, the sites in general possess a high degree of integrity. Some of the sites experienced damage from agricultural activities during the Japanese period and from the construction of defensive structures during World War II, however the occurrence of such damage is minimal, especially because Rota was not invaded during the war.

Current threats to Chamorro archeological resources include overgrown vegetation,

which can cause latte to crack, as well as damage from natural disasters, such as typhoons and earthquakes. Sea-level rise due to climate change also poses a risk to those resources adjacent to the coast in low-lying areas. While development pressure on Rota is comparatively low, the increasing pressure for homesteads may threaten the settings of the archeological sites, in particular those that are located on more gently sloping, arable land. However, due to the cultural significance of these sites, any loss of features connected with Rota's Chamorro heritage could likewise be an issue of concern to island residents and to residents throughout the CNMI.

The establishment of a national park unit on Rota could increase the risk to Chamorro archeological sites due to increased visitation and a greater likelihood of damage to or theft of exposed resources. The NPS could help mitigate this risk by assisting the HPO with visitor use management, documentation, and interpretation, though any on-site NPS staff capacity for resource protection would be limited.

#### **EXISTING RESOURCE DEGRADATION AND THREATS TO RESOURCES: WORLD WAR II JAPANESE DEFENSIVE COMPLEXES**

The integrity of the Ginalagan and Chudang Palii defensive complexes is threatened by natural disasters, such as typhoons and earthquakes, weathering from rain and microorganisms, and vegetation growth, which can break apart both the limestone cliffs and concrete and dry-stone structures (Moore and Hunter-Anderson 1988). The loose-stone features at Chudang Palii are susceptible to erosion, which is exacerbated by visitation to the site. Complex 4 at Ginalagan and the Japanese naval gun at Chudang Palii are in close proximity to roads and are therefore vulnerable to vandalism. Over the years exposed archeological artifacts have been moved from their original locations by visitors to the sites (Moore and Hunter-Anderson 1988, Mohlman et al. 2011). The establishment of a national park unit on Rota could increase visitation to the island overall, which would likely increase visitation to other resources

on Rota, including the World War II Japanese defensive complexes. Formal public access to the two defensive complexes is infeasible at this time.

#### **HAZARDOUS MATERIALS**

The presence of hazardous materials within a study area could make it infeasible to adequately protect the area's resources or accommodate public use in a reasonable way. The 2019 CNMI Comprehensive Public Land Use Plan included an analysis of sites on Rota where hazardous materials or unexploded ordnance (UXO) may be present. The analysis identified three potential Formerly Used Defense Sites (FUDS) on the island, which were used for military training and weaponry testing and storage.

FUDS are the responsibility of the Department of Defense, which is required to both investigate and environmentally restore the sites. The public land use plan reports that one of the sites (property number H09CN0401), located in the vicinity of Chudang Palii, was restored in 2011 (CNMI DPL 2019, Appendix B). The other two sites (numbers H09CN0009 and H09CN0090) have been identified by the Department of Defense as ineligible for FUDS restoration, because they were contaminated by the Japanese military through an act of war (CNMI DPL 2019, USGAO 2021). The U.S. Army Corps of Engineers is responsible for FUDS clean-up and maintains a GIS database of eligible and ineligible projects. The GIS database identifies the location of one of the ineligible sites, which appears to be located in or near the Ginalagan Defensive Complex (USACE 2022). The other site is not yet mapped; however it is reasonable to expect that it could be located in an area with a concentration of Japanese military structures.

In general, the presence of unexploded ordnance would be expected in lands occupied by military forces during World War II. The NPS has considerable experience managing visitor use within national park units where unexploded ordnance is present, including at War in the Pacific National Historical Park and American Memorial Park. In such situations, the NPS could



partner with local agencies and emergency services to reduce the public risk of UXOs and establish response protocols in the event military munitions are discovered. In addition, World War II hazards are likely concentrated within defensive structures in areas of the island that are inherently challenging for the public to access. Therefore, the presence of hazardous materials on Rota would not prevent reasonable public use or adequate resource protection.

### **Conclusion: Existing Resource Degradation and Threats to Resources**

The study area contains resources of high integrity, sufficient for NPS designation, that are currently managed by local agencies on public land in a community that values their conservation. Due to the island location, Rota's limestone forests and Chamorro and

World War II archeological resources face ongoing risk from natural disasters and climate change. In the event that an NPS unit were established on Rota, the NPS and CNMI agencies could partner to leverage NPS fund sources to mitigate impacts and adaptively manage resources, though accessing such funding is highly competitive and uncertain.

Visitation to the sites is low at this time, and development pressure on the island is minimal. Designation of a NPS unit on Rota could increase visitation and need for resource protection. The presence of hazardous materials is not likely to impede public access or resource protection. The study area will therefore be able to retain its significant values.



Staff from the CNMI Historic Preservation Office and the NPS visit Måya Latte Site. Photo: NPS.

## **Level of Local and General Public Support**

The National Park Service conducted public outreach for the Rota Special Resource Study in 2017 and 2020. More detailed information about public outreach efforts and comments received is included in Chapter 7: Consultation and Coordination.

Based on comments received on the NPS preliminary findings in 2020, public support for establishing a unit of the national park system on Rota is varied. Approximately half the comments received favored the establishment of a unit. There were also a substantial number of comments submitted in opposition to a unit (a little over a quarter of all comments received), and another quarter requested more information about what an NPS unit on Rota could entail before forming an opinion. Individuals requesting more information asked for additional detail about local use and access, the management approaches for a potential unit and the level of involvement of the CNMI government, and the potential economic impacts of a unit.

Many people voiced their strong desire that the residents of Rota and the CNMI have a say in whether a unit is established and the contents of any agreement between the NPS and CNMI. A few members of the public recommended specific elements that should be addressed in a land management agreement if one is created. These elements include provisions for traditional use and local access, the ability to hunt and to gather culturally important plants in lands outside conservation areas, an administrative structure that provides the Chamorro people with a priority voice in management decisions, and a hiring preference for Rota and CNMI residents.

## **Conclusion: Level of Local and General Public Support**

There are varying opinions among the public and elected officials regarding the idea of including Rota's nationally significant resources in the national park system. The level of public support is dependent on the National Park Service's intent and ability

to preserve the local community's access to public lands for traditional uses. Public support for an NPS unit is also contingent on maintaining the local agencies' active role in land and resource management. This modest level of support diminishes the feasibility of an NPS unit on Rota.

## **Social and Economic Impact**

### **ROTA AND CNMI SOCIOECONOMIC SETTING**

#### **Population**

As reported in the 2020 Census, Rota has a population of 1,893, or about 4% of the total population of the CNMI. It is the third-most populated island in the archipelago, following Saipan, with a population of 43,385, and Tinian, with a population of 2,044 (USCB 2021). Between the 2010 and 2020 Census, the CNMI population as a whole declined 12.2%. Rota experienced a more marked decline in population over this ten-year period, at 25.1%. This represents the continuation of a downward trend in population in the islands, which began in the early 2000s with the departure of the garment production industry due to changes in international trade rules. In contrast, in the 1990s the CNMI and Rota experienced significant population increases, peaking in the year 2000 at 62,392 and 3,283 people, respectively. This represented a nearly 60% increase since 1990 (USDHHS 2021). Much of this increase was driven by the growth of garment production in this period, especially on Saipan, which was home to 34 factories before the industry left the CNMI (Erediano 2008).

Compared with Saipan and Tinian, Rota's population includes a higher percentage of people of Northern Marianas descent, or "NMD," which includes Chamorro and/or Carolinian people. In 2016, Rota's population of NMD residents was 1,395, or 51%, compared with 33% on Saipan and 37% on Tinian (CNMI DPL 2019, 3-10-3-15). Forecasts conducted for the 2019 Comprehensive Public Land Use Plan predict that Rota's total population could range from between 2,284 to 3,577 people by 2028. The variability in projected population reflects



different tourism growth scenarios for the CNMI (CNMI DPL, 37). When compared with other groups, population levels of NMD residents have tended to remain more stable on the islands despite changes in economic conditions (CNMI DPL, 3-39). Therefore, Rota's population is currently projected to be somewhat sheltered from large population shifts that may result from the islands' economic situation.

In 2016, 37.8% of Rota's residents spoke Chamorro at home, 32.6% spoke only English at home, and 26.3% spoke a Filipino language at home, reflecting an increasing proportion of CNMI residents who were born in the Philippines (CNMI DOC 2016).

### Employment and Income

The CNMI Department of Commerce's Household Income and Expenditure Survey reported that the median income on Rota in 2016 was \$18,911, compared with \$19,201 in the CNMI as a whole. In 2016, 36.8% of Rota's residents were employed by the CNMI government, whereas 56.3% worked for private companies. On Rota, 28.1% of people worked in service occupations. Department of Commerce records state that 74.9% of Rota's population was in the labor force in 2016 (compared with 70.0% in the CNMI), a figure that does not include people who are practicing only subsistence activities. Only 2.0% of Rota's population is documented as unemployed but looking for work. Employment statistics for the Marianas have varied over time in response to economic factors, declining with the closure of the garment factories in the 2000s and beginning to rise again with the growth of tourism (CNMI DOC 2016).

According to the CNMI Department of Commerce, 47.5% of Rota's population was living in poverty in 2016, based on the U.S. Census Bureau official measure, compared with 55.7% in the CNMI. The Department of Commerce notes that these poverty rates are higher than they would be if residents' access to traditional lands and housing were monetized (CNMI DOC 2016). As reported by the community during public outreach, traditional subsistence uses are an extremely

important cultural practice for Rota's residents. Homesteading opportunities for people of Northern Marianas descent are also important to the local community. On Rota, there is strong demand for both agricultural and village homestead sites, currently exceeding available homesteading lands. To help meet this demand, the Department of Public Lands and the 2019 Comprehensive Public Land Use Plan have identified areas suitable for future homesteads (CNMI DPL 2019, 39-40).

### Tourism

Tourism in the CNMI has fluctuated over the years, as a result of changing international economic and recreational trends, U.S. visa policies, typhoon damage, and most recently the global coronavirus pandemic. The Marianas Visitors Authority (MVA) reports that the islands hosted 424,838 visitors in fiscal year 2019 (October 2018–September 2019), which represented a 30% decrease in arrivals from the previous year (MVA 2019). Since then, COVID-19 travel restrictions have had a large and damaging impact on CNMI tourism, as reflected in MVA statistics from 2020 and 2021. In fiscal year 2020, the Marianas received 215,125 visitors, which plunged to 5,365 visitors in fiscal year 2021 (MVA 2021a). However, pre-pandemic tourism was comparatively strong. MVA records indicate that tourism in the islands significantly increased between the early 1980s and the late 2000s, with a peak visitation of more than 700,000 occurring in the mid- to late-1990s. Annual visitation neared these high levels again in 2017 and 2018, with 653,150 and 607,593 visitors respectively. Over the years, Japan, Korea, and China have been the islands' largest tourism markets, with Korea and China cited as leading visitation in 2019 (MVA 2019).

The majority of CNMI visitors stay on the island of Saipan, which is served by international airlines and offers additional tourism amenities. Although the MVA does not publish separate visitation statistics for Rota, visitation levels for Rota appear to be significantly smaller than for Saipan and vary according to commercial flight availability and tourism trends. The MVA's 2021–2031 Strategic Plan Toward Sustainable Tourism

highlights the need to promote Rota as a unique Marianas destination to attract additional visitation (MVA 2021b). Rota's natural beauty and cultural resources have inspired the local community's interest in promoting ecotourism (Sabuco 2004; CNMI DPL 2019, 11). Yet ecotourism has been slow to develop on Rota, where commercial uses are currently limited to several small hotels, restaurants, and convenience stores. Nature-based tourism is considered one of the most promising market opportunities for the CNMI, however, and is a focus of a 2017 feasibility and sustainability study for tourism commissioned by the MVA (CNMI OGM 2020, 45). The establishment of a potential national park unit on Rota could be compatible with and could support the local community's focus on ecotourism development.

## POTENTIAL IMPACTS

Nationwide, visitors to NPS units purchase goods and services in local gateway communities, and these expenditures generate and support economic activity within those local economies. Sectors that are directly affected typically include lodging, restaurants, retail, recreation industries, and transportation. According to the 2020 *National Park Visitor Spending Effects* report, park visitors spent an estimated \$14.5 billion in local gateway regions while visiting NPS lands across the country in 2020. This was down 31% from 2019 numbers, largely due to the impact of temporary park closures and restrictions during the COVID-19 pandemic. Despite reductions, these expenditures supported an estimated 234,000 jobs, \$9.7 billion in labor income, and \$28.6 billion in economic output in the national economy (Cullinane Thomas and Koontz 2021, v, 1).

While data is available to describe the economic benefits of established national parks throughout the U.S., it is important to recognize that the economic impacts of a new unit are typically modest at first. This is even more likely to be true of parks in remote locations that may be challenging to access. Social and economic impacts of unit designation could vary widely, depending

on the size and scope of the new park, management approach, staffing levels, and especially visitation. Any impacts would be expected to accumulate over time as a new unit became better associated with the national park system.

## Case Studies

Due to these variables, it is not possible to predict with certainty the specific economic impacts that a national park on Rota is likely to have. However, it is possible to analyze the impacts of existing parks in similar situations in order to have a better understanding of the potential effects a new unit might have on the island economy and community over the long term. The following analysis therefore evaluates three parks as case studies: War in the Pacific National Historical Park on Guam, the National Park of American Samoa, and Honouliuli National Historic Site on O'ahu. The first two parks are examples of established units in remote locations, and the third park is newly designated and illustrates the current conditions faced by a new unit in the system. It is important to note in reviewing these case studies that the geographic, economic, cultural, and political context of Rota is unique and is not directly comparable to other Pacific Islands where NPS units exist.

Economic impact is determined based on visitation levels, visitation patterns (i.e., day trips vs. overnight stays), and regional economic multipliers, which help understand the economic impact of visitation in a given area (Cullinane Thomas and Koontz 2021, 38). Therefore, economic benefit is directly connected to visitation levels and typically increases over time as visitation to a unit increases. Additionally, NPS staffing in a local area may have negligible to moderate impacts to the local economy, dependent on the number of staff and size of the local community.

### War in the Pacific National Historical Park, Guam

War in the Pacific National Historical Park (NHP) was established in 1978, and the park received little funding during its earliest years. Staffing levels ranged from one to



four employees in the park's first five years of existence, increasing to six employees by 1993 (NPS 2004, 132, 160). By the year 2000, the park staff included 10 full-time equivalent employees; this rose to 13 full-time equivalent employees by 2020 (NPS 2002, NPS 2022). The enabling legislation for the park includes the provision that the residents of Guam and the Northern Mariana Islands should be employed "to the maximum extent feasible" to develop, maintain, and administer the park (P.L. 95-348 §6i).

Visitation levels have increased from 51,000 in 1986 to more than 432,000 in 2019 (NPS 2021b). Like many other national park units, visitation to War in the Pacific dropped in 2020 to 318,711, primarily due to the effects of the global coronavirus pandemic. According to the 2020 *National Park Visitor Spending Effects* report, visitor spending at War in the Pacific NHP totaled more than \$19 million in 2020, with 95.6% of spending by non-local visitors. These 2020 expenditures supported 214 jobs in the local area and provided a cumulative benefit to the local economy calculated at \$24.8 million (Cullinane Thomas and Koontz 2021, 38). In 2019 by contrast, park visitors spent a total of \$25.7 million (Cullinane Thomas and Koontz 2020, 33).

Although Guam is part of the Mariana archipelago, it differs from Rota in that it is larger, more developed, and more regularly serviced by commercial airlines. Visitation numbers for a potential national park unit on Rota would likely be significantly lower, especially in the early years of a park establishment.

### **National Park of American Samoa, American Samoa**

The National Park of American Samoa is another NPS unit located in the Pacific Islands, within a U.S. territory. Due to its highly remote character, it provides another valuable case study for the impacts of NPS unit designation on a local economy. The park was authorized in 1988 but not established until 1993, upon the signing of a lease agreement between the Governor of American Samoa and the NPS to manage and use the lands

within the authorized boundary as a national park (NPS 1994).

Staffing levels for the National Park of American Samoa have increased slowly over time. The park's 1997 general management plan reported a total of four full-time employees (NPS 1997, 17). By the year 2000, there were seven full-time employees, rising to 14 by 2020 (NPS 2002, NPS 2022). The enabling legislation for the National Park of American Samoa also states a preference for hiring Native American Samoan staff "to the extent practicable," and it additionally calls for a program to train American Samoan staff to serve as NPS employees (P.L. 100-571 §3e).

Visitation to the park has ranged from nearly 2,000 visitors in 2002 to more than 60,000 in 2019 (NPS 2021b). In 2020 visitation dropped precipitously to 4,819, impacted by COVID-19 travel restrictions. These lower visitation rates contributed \$289,000 in visitor spending in 2020, compared with more than \$3.5 million in 2019 (Cullinane Thomas and Koontz 2021, 2020). Forty jobs in the local area were supported by visitor spending in 2019, with a cumulative benefit to the local economy of more than \$4.5 million (Cullinane Thomas and Koontz 2020, 28). National Park of American Samoa is a particularly relevant case study for Rota because of its isolation from mainland population centers and its cooperative management structure. Although the park's economic contribution to American Samoa has been beneficial, the scale of its beneficial economic impacts has fluctuated over the years due to varied visitation levels.

### **Honouliuli National Historic Site, O'ahu, Hawai'i**

Honouliuli National Historic Site was first designated as a national monument in 2015 by presidential proclamation and was redesignated a national historic site in 2019 by Congress (P.L. 116-9). Staffing for Honouliuli has been minimal in the years immediately following its designation. In 2021 the unit's first superintendent was named, who is currently the only staff member at the historic site, although it receives administrative support from the nearby Pearl Harbor National

Memorial. The operating budget for the unit is \$354,000 in 2021 (NPS 2022). Funding and staffing are expected to rise slowly over time, as the unit prepares for public visitation.

Honouliuli is not yet open to the public, as the NPS works in partnership with technical experts and community stakeholders to prepare the site, including addressing logistical access challenges. Therefore, there are currently no visitation or economic figures to report for this unit. Honouliuli faces unique access challenges that are not directly comparable to those on Rota, where many of the nationally significant sites are already open to public visitation. However, it is a useful recent case study to understand that the process of establishing and staffing a new park can move slowly, with minimal economic contributions at first.

## **Conclusion—Social and Economic Impact**

The social and economic impacts of a national park designation on Rota appear to be largely beneficial and would support the feasibility of NPS designation. Social and economic impacts would vary based on the size and purpose of the unit, management approach and allowable land uses, staffing levels, and visitation. Unlike national parks on the U.S. mainland, Rota's visitation patterns are likely to be heavily influenced by economic and tourism trends in Asia, as well as by the availability of commercial airline flights. Beneficial economic effects would likely be minimal to begin with and would increase gradually over time.

Establishing a national park unit on Rota would be consistent with the local government's goal to promote ecotourism and would complement efforts to increase tourism throughout the CNMI. Designation of a unit could raise awareness of Rota as a destination, which could spur increased visitation to the island, resulting in the long term in development of additional lodging and dining options, increased commercial tour opportunities, more regular airline service, tax revenues, and other visitor-related expenditures on the island. There are no

existing commercial activities that would be negatively impacted by park unit designation.

## **Costs Associated with Development and Operation**

Costs associated with a potential national park unit on Rota could include development of facilities, resource management, and annual operations costs. The full costs to develop and sustain a unit of the national park system on Rota are not known at present and would be affected by the size and purpose of the unit, the management approach identified with the CNMI, the level of visitation, resource preservation needs, the desired level of facility development, and future congressional appropriations. Costs would also be impacted by location and the increased expense of shipping goods and materials to a remote Pacific island. Any costs associated with a land use agreement, long-term leases, or limited acquisition of lands from willing sellers (consistent with the Covenant), would need to be negotiated between the CNMI and the NPS and are unknown at this time.

### **DEVELOPMENT COSTS**

Development costs of new national park units vary widely, depending on existing and desired conditions and facilities. New national park system units frequently require investment in both facility-related and non-facility-related costs to get the unit up and running. One-time facility costs include developing and improving facilities for visitors and park operations, including facilities that would meet legislative requirements for accessibility. These costs would vary with the specific facility and the size and purpose of the park (see "One-Time Facility Costs" section below).

Non-facility costs include projects related to natural and cultural resource management as well as visitor use. These would be costs associated with inventorying and documenting resources in the unit, developing management or treatment plans for those resources, developing educational and interpretative plans and materials, and preparing environmental compliance documents.



In the case of Rota, the CNMI Department of Lands and Natural Resources manages natural resources on the island and conducts some inventory and monitoring work, as does the U.S. Fish and Wildlife Service. Some documentation of Chamorro archeological sites also exists, however the CNMI HPO staff who are currently managing the archeological sites have limited capacity to expand resource documentation efforts. If a national park unit were established on Rota, it is assumed that local agencies would continue their management responsibilities for certain areas within the unit and NPS management responsibilities and costs would be supplemental.

### One-Time Facility Costs

If a new unit of the national park system were established on Rota, facility improvements would be limited and would need to be carefully sited and designed with the goal of preserving natural and cultural resources. Wherever possible, the NPS would seek to use existing buildings and infrastructure. Buildings would be used for park operations including visitor services, administration, and maintenance. This approach could result in annual lease costs based on fair market value for existing structures.

Needs for new facilities would likely include trails, signage and interpretive waysides, roadway improvements in select locations, and parking areas. The existing restroom at I'Chenchon could be upgraded for additional visitor use. The cost of these developments would vary with the level of implementation and the size and purpose of the unit. As noted in the "Access and Public Enjoyment Potential" section, steep slopes throughout the island pose challenges to trail development, and trails would likely only be considered feasible in areas that are in proximity to existing roads, where public access can reasonably be provided to sites across public land, and where slope and other site conditions (including resources) allow. Vegetation removal in addition to ongoing vegetation management would likely be required for the development of new trails, trailheads, and parking areas.

## OPERATIONAL COSTS

Operational costs of national park units vary widely, depending on the site management approach, partnership opportunities, the amount and type of resources managed, number of visitors, level of programs offered, and many other factors. Typically, a newly established park would be partially supported by staff from a nearby, existing park. For Rota, sharing of resources with other national park sites would be very challenging due to the island's remote location and access challenges. The closest National Park Service sites on Guam and Saipan have limited capacity, as well as staffing and operational challenges, and are not able to provide significant support. Consequently, a new unit on Rota would only be feasible with adequate operational funding. If the CNMI or other entities were to partner with the NPS and participate in a co-stewardship model, a new park unit would not be solely reliant on NPS operational funds.

The designation of a new unit in the national park system does not automatically guarantee that funding or staffing to administer that new unit would be appropriated by Congress. Any newly designated national park unit would have to compete with the more than 400 existing park units for limited funding and resources within a current fiscally constrained environment. Until a budget is provided, the site would receive limited support, and most services would be supplied remotely from the mainland and Hawai'i. Operating budgets would generally begin 2 to 5 years after establishment and initially remain small. Onsite NPS staffing would be added as funding became available.

Table 5-1 compares the expected budgetary needs of newly established units throughout the United States with those of fully established units on remote Pacific Islands. It is important to recognize that the initial operating budgets of new parks are more likely to begin in the range of approximately \$110,000 to \$180,000 a year, based on a review of recently designated units including Honouliuli, Mill Springs Battlefield National Monument, and Harriet Tubman National Historical Park (NPS 2017b, NPS 2021a, NPS

**TABLE 5-1: OPERATING BUDGETS FOR RELEVANT NEW AND ESTABLISHED NPS UNITS – 2021\***

PARK UNIT	FULL-TIME EQUIVALENT EMPLOYEES (FY20)	ACRES (FY20)	ANNUAL VISITATION (FY20**)	OPERATING BUDGET (FY21)	YEAR ESTABLISHED
<b>RECENTLY ESTABLISHED UNITS</b>					
Mill Springs Battlefield National Monument	0	1,459	N/A	\$472,000	2020
Harriet Tubman National Historical Park	1	512	N/A	\$628,000	2017
Honouliuli National Historic Site	0	155	N/A	\$354,000	2015
Waco Mammoth National Monument	3	107	55,110	\$395,000	2015
<b>PACIFIC ISLAND PARKS</b>					
National Park of American Samoa	14	8,257	21,419	\$1,452,000	1993
War in the Pacific National Historical Park	13	2,031	351,211	\$1,688,000	1978
American Memorial Park (Affiliated Area) <sup>1</sup>	9	133	39,191	\$1,651,000	1978

\* Information from the Department of Interior National Park Service Fiscal Year 2022 Budget Justifications (NPS 2022).

\*\* FY 2020 data reflects visitation from October 1, 2019 through September 30, 2020. The NPS also reports “Annual Visitation,” which reflects visitation from January 1, 2020 through December 31, 2020. Annual visitation figures are reported in the “Social and Economic Impact” section. Visitation counts will differ between these ranges.

<sup>1</sup> American Memorial Park on Saipan is an affiliated area of the national park system, however, unlike most affiliated areas, it is directly managed by the National Park Service and receives an annual operating budget from the NPS.

2022). Rota presents unique operational challenges related to staffing and maintaining a national park unit on a remote Pacific island. Existing units in Pacific Island territories are included to understand the operating costs that might be required for a unit in the long term. Operations would primarily include park administration, interpretation/education, trail maintenance, vegetation control, and potential costs associated with agreements the NPS might hold with the CNMI government.

Based on evaluation of comparable new park units, the annual NPS operating base budget on Rota ten years after designation could range from \$350,000 to \$650,000 in 2021 dollars. More specific operational costs would be identified through completion of a management plan for the site.



## Conclusion—Costs

One-time development costs for a potential national park unit on Rota appear to be feasible if limited in scope. The level of facility development required for a potential national park unit on Rota would be minimal in comparison to larger, more developed units of the national park system. In identifying future facility developments, a management plan for the unit would need to consider the increased cost of construction in the Pacific Islands, as well as the need for typhoon-resilient design, both of which suggest a minimal facility footprint.

Operational costs would be dependent on the management agreement with the CNMI and the level of support provided by other NPS units or offices. A typical NPS operating budget for a new unit on its own may not be sufficient to meet the unique operational needs of a park in a remote location such as Rota. If the CNMI or other entities were to partner with the NPS and participate in a co-stewardship model, however, a new park unit would not be solely reliant on NPS operational funds. The operational costs of a national park unit on Rota could be conditionally feasible dependent on adequate funding.



Existing walking path at I'Chenchon Park Wildlife Conservation Area. Photo: NPS.

## FEASIBILITY CONCLUSION

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To be considered feasible for addition to the national park system, an area's natural systems or historic settings must be of sufficient size and configuration to ensure long-term protection of resources and accommodate public use. The area must also have potential for efficient administration at a reasonable cost.

To be feasible, a national park unit on Rota would need to be supported by the CNMI government, as the CNMI is the primary landowner of the sites evaluated in the study area. For a unit to be feasible, the NPS would need to have some level of management authority over lands within the potential unit: this could be achieved through a management agreement with the CNMI government. The agreement would need to include a partnership or co-stewardship arrangement for management, and/or long-term leases, and/or limited acquisition of lands from willing sellers, consistent with Section 806(a) the 1975 Covenant.

To be feasible, a national park unit would be dependent on support from residents on Rota and in the CNMI. At this time, public support for a potential national park unit on Rota is varied. Further description of an NPS unit proposal could address public questions and clarify the level of public support.

To be feasible, the budget for a national park unit on Rota would need to meet the operational requirements of a new park in a remote location. Rota presents unique logistical challenges related to staffing and maintaining a national park unit on a remote Pacific island. Typically, a newly established park would be partially supported by staff from a nearby, existing park. For Rota, sharing resources with other national park sites would be difficult due to the isolated location and access challenges of the Mariana Islands. If the CNMI or other entities were to partner with the NPS and participate in a co-stewardship model, however, a new park unit would not be solely reliant on NPS operational funds. The operational costs of a national park unit on Rota could therefore be conditionally feasible dependent on adequate funding.

One-time development costs for establishing a national park unit on Rota could be reasonable, provided the facility footprint is limited—such as for trails, small parking lot and trailhead improvements, and a small leased, administrative space. Additionally, the social and economic impacts of NPS designation appear to be largely beneficial and would support the conditional feasibility of NPS designation.

There are exceptional opportunities for public enjoyment of the sites on Rota if safe public access can be provided. However, the limestone forest areas along the Sabana cliffs and the World War II Japanese defensive complex at Chudang Palii are not feasible for public access due to safety concerns associated with their challenging locations and rugged terrain. The defensive complex at Ginalagan is not feasible for public access due to the need to cross private lands.

An appropriate boundary configuration for a potential national park unit on Rota would encompass the limestone forest and Chamorro archeological sites listed below and surrounding area sufficient for resource protection and visitor facilities.

The following sites include resources with integrity sufficient for national park unit designation, and no current threats would preclude their management as a unit of the national park system: limestone forest along the south and east coasts, including the I'Chenchon Park Wildlife Conservation Area; Mochong Latte Village Complex; As Nieves Quarry; Alaguan Latte Village Complex; Måya Latte Site; Dugi Archeological Site (portions not designated as homesteads); Gampapa Latte Village (portions not privately owned or designated as homesteads); and Chugai Cave.

Based on the feasibility analysis, select limestone forest and Chamorro archeological sites are conditionally feasible as an addition to the national park system, dependent upon support from the CNMI government and the development of a management agreement, support from Rota and CNMI residents, and sufficient funding for park operations.





Māya Latte Site. Photo: NPS.



# NEED FOR NPS MANAGEMENT AND STUDY CONCLUSIONS

6







Detailed view of the sea turtle pictographs in Chugai Cave. Photo: NPS.



## CHAPTER 6: NEED FOR NPS MANAGEMENT AND STUDY CONCLUSIONS

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*This chapter describes whether direct NPS management is optimal when compared with other management options. This chapter also includes the overall conclusions from the special resource study process.*

### DETERMINATION OF NEED FOR NPS MANAGEMENT

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The need for direct NPS management is the final criterion for evaluating resources for potential designation as a new unit of the national park system. In this section, management by public and private entities is evaluated to determine if these entities can effectively and efficiently provide long-term resource protection and visitor services or if direct NPS management is the optimal approach. If other entities can provide an equivalent or superior level of resource protection and visitor services, the National Park Service will determine that establishment of a national park unit is not needed, and other organization(s) should manage the area.

Evaluation of the need for NPS management pertains to those resources that are determined to be nationally significant, suitable, and feasible for inclusion in the national park system. Based on these findings, the need for NPS management focuses on the following sites on Rota:

- **Rota's Limestone Forest:** South and East Coasts, including the I'Chenchon Park Wildlife Conservation Area
- **Chamorro Archeological Sites**
  - Mochong Latte Village Complex
  - As Nieves Quarry
  - Alaguan Latte Village Complex
  - Complex of Coastal and Upland Latte Villages
    - Måya Latte Site
    - Dugi Archeological Site (portions not designated as homesteads)
    - Gampapa Latte Village (portions not privately owned or designated as homesteads)
  - Rock Art Sites
    - Chugai Cave

### Summary of Existing Management

Rota's nationally significant limestone forest resources and Chamorro archeological sites are managed by the CNMI Department of Lands and Natural Resources (DLNR) and the Historic Preservation Office (HPO), respectively. Rota's residents have carefully protected the island's resources for generations. In this way, Rota's community provides an excellent example of the stewardship traditions described by Kelly G. Marsh and Tiara R. Na'puti in the NPS *Asian American Pacific Islander National Historic Landmarks Theme Study*:

For centuries, Pacific Islanders have developed, practiced, and refined forms of managing their environments, cultures, histories, and heritages. These forms were integrated into everyday living. From generation to generation, knowledge, skills, oral narratives, as well as approaches, practices, and traditions relating to care of the environs and cultural heritage were passed down and adapted. Over time, these forms have blended with modern cultural heritage management concepts and institutions (Marsh and Na'puti 2017).

### EXISTING MANAGEMENT OF LIMESTONE FOREST

The south and east coast limestone forest areas are actively managed by the DLNR Division of Fish and Wildlife and the Forestry Section of the Division of Agriculture. Limestone forest located within existing conservation areas is protected by the provisions of Rota Local Laws [9-1](#), [9-3](#), and [15-8](#). Traditional subsistence uses, including hunting and gathering, are permitted on publicly owned lands outside conservation areas. Over the years, CNMI agencies have leveraged funds



from federal programs (for example, from the U.S. Forest Service) to support their resource management efforts in Rota's limestone forests. The CNMI and Rota governments regularly grant access to limestone forest areas for research by university programs focused on conservation and ecology.

In recent years the CNMI has focused resource management and restoration efforts in the Sabana and Talakhaya areas. These efforts have recognized the importance of the Sabana and Talakhaya for habitat and species conservation, water resources and watershed health, ongoing cultural significance and traditional practices, and the protection of marine areas and coral reefs. In 2018, the DLNR completed a Sabana Land Use Management Plan focused on increased reforestation efforts, control of invasive species, and restrictions on agricultural activities, along with strategies to enhance sustainable economic development (CNMI BECQ 2020).

In 2020, the CNMI Division of Coastal Resources Management released an updated plan for the Talakhaya area, the Talakhaya Integrated Watershed Management Plan. The Talakhaya plan provides an integrated approach to managing the terraced cliffs below and to the south of the Sabana. The area includes high-quality limestone forest with culturally significant plant species and ancient Chamorro settlement sites, and it protects Rota's primary source of freshwater as well as the health of the coral reefs below by reducing erosion and sedimentation. The Talakhaya area has been identified as an important watershed for ridge-to-reef management by both the CNMI and the National Oceanic and Atmospheric Administration (NOAA) Coral Reef Conservation Program. The CNMI Forestry Section of the Division of Agriculture and NOAA have supported active watershed restoration efforts in recent years, which have included community volunteers in revegetation efforts, notably through the Luta Livelihoods project (CNMI BECQ 2020, NOAA 2022). CNMI agencies have also been actively involved with many fire reduction efforts throughout Rota's limestone forest areas (Bubb, pers. comm., 2021).

The U.S. Fish and Wildlife Service (USFWS) also conducts resource management and monitoring activities on Rota in partnership with DLNR, with a specific focus on promoting the survival of threatened and endangered plant and animal species, such as the tree *Serianthes nelsonii* and the aga, or Mariana crow (*Corvus kubaryi*). In 2004, the USFWS designated approximately 6,033 acres (2,441 hectares) on Rota as a critical habitat unit for the Mariana crow, to protect areas that support existing crows and provide high-priority habitat components. The USFWS-designated Mariana Crow Critical Habitat Unit includes both the CNMI-designated I'Chenchon Park and the Mariana Crow Conservation Area and extends around the northeast coast of the island as well as around the cliffs below the Sabana. Although the critical habitat unit covers both CNMI- and privately owned land, the critical habitat designation only regulates activities that are sponsored by federal agencies. Critical habitat designation does not affect activities on CNMI or private lands unless a federal permit, license, or funding is involved (USFWS 2004).

Opportunities exist to increase visitor enjoyment and interpretation of the ecological and cultural importance of limestone forests. Many forest areas are currently not accessible to visitors and are not being interpreted. Although there are existing visitor facilities and interpretation provided within the I'Chenchon Park Wildlife Conservation Area, these visitor amenities serve only a small portion of the limestone forest resources on Rota.

## EXISTING MANAGEMENT OF CHAMORRO ARCHEOLOGICAL SITES

CNMI Historic Preservation Office (HPO) staff maintain the Chamorro archeological sites on Rota, according to the regulations set forth in [CNMI Public Law 3-39](#), the Commonwealth Historic Preservation Act of 1982. HPO staff undertake activities such as mowing, vegetation removal, and monitoring of the resources. Limited documentation for the sites exists in the form of National Register nominations and archeological surveys conducted by university research teams.

The HPO augments their historic preservation efforts through federal grant funding: sites currently listed in the National Register of Historic Places, such as Mochong, As Nieves, Dugi, and Chugai Cave are eligible for technical assistance and grants for preservation. Recently the CNMI Department of Community and Cultural Affairs, within which the HPO is located, received a technical assistance grant from the Office of Insular Affairs to support maintenance and additional interpretation of several of Rota's historic sites, including Chamorro archeological sites. The NPS is currently supporting a national historic landmark nomination for the As Nieves Quarry.

While some interpretation is provided at select sites (Mochong, Måya, and As Nieves) in the form of wayside exhibits, many more

opportunities exist to enhance interpretation of pre-latte-and latte-period resources and their ongoing cultural importance to Chamorro people. In addition, visitor access to sites could be increased by providing facilities such as trails and trailheads in locations that are currently inaccessible. Sites such as the Alaguan Latte Village Complex, Dugi Archeological Site, and Gampapa Latte Village are largely inaccessible to visitors, and Chugai Cave is accessible only by appointment with the HPO. Partnerships with interested organizations could provide the HPO with additional capacity for research, interpretation, education, and visitor service activities, and could expand the range of sites that are preserved and interpreted.

**TABLE 6-1: EXISTING MANAGEMENT OF LIMESTONE FOREST AND CHAMORRO ARCHEOLOGICAL SITES**

<b>SITE</b>	<b>OWNERSHIP AND MANAGEMENT</b>	<b>CURRENT VISITOR OPPORTUNITIES OR INTERPRETATION</b>
<b>Limestone Forest</b>	Public, CNMI DLNR; some privately owned	In general, not publicly accessible; lacking interpretation
<b>I'Chenchon Park Wildlife Conservation Area</b>	Public, CNMI DLNR	Trail and overlook open to the public with interpretive waysides
<b>Mochong Latte Village Complex</b>	Public, CNMI HPO	Open to the public with interpretive waysides
<b>As Nieves Quarry</b>	Public, CNMI HPO	Open to the public
<b>Alaguan Latte Village Complex</b>	Public, CNMI DLNR, CNMI HPO	Currently not accessible to the public
<b>Måya Latte Site</b>	Public, CNMI HPO	Currently open to the public with interpretive waysides
<b>Dugi Archeological Site</b>	Public, CNMI Department of Public Lands	Currently not accessible to the public
<b>Gampapa Latte Village</b>	Public, CNMI Department of Public Lands; some portions of the site are privately owned	Currently not accessible to the public
<b>Chugai Cave</b>	Public, CNMI DLNR, CNMI HPO	Accessible by appointment with HPO



# Rota Special Resource Study Map 6: Existing Management

National Park Service  
U.S. Department of the Interior



## Conservation Selected Cultural Resources

Data Sources:  
CNMI: Conservation Areas  
NPS: Cultural Resources, Places, Basemap  
CNMI/DPL/NPS: Public Land, Homesteads  
U.S. Census Bureau: Roads

Produced by National Park Service, DOI Regions 8, 9,  
10 and 12 GIS Group  
Date: March 2022

- Conservation Areas
  - Public Land
  - Homesteads:
    - Existing and Proposed
- Prehistoric Chamorro sites
- WWII sites (1940s)

The data on this map is derived from the CNMI government and other agencies. The National Park Service gives no warranty, expressed or implied, as to the accuracy, reliability, or completeness of the maps and is not liable for positioning inaccuracies, subsequent updates, errors, or unintentional omissions of data. These graphics are not legal documents and are not intended to be used as such.

## Potential Management Frameworks

To make the determination of whether NPS management is needed for the Rota study area, the NPS has compared existing management of Rota's significant sites with several additional management frameworks.

### CONTINUED MANAGEMENT WITH ADDITIONAL FEDERAL FUNDING

During public outreach for the study in 2020, several commenters suggested that the NPS consider directing additional U.S. government funds to CNMI agencies to support local management in the study area and provide additional visitor enjoyment opportunities. The NPS offers limited grant funding for the acquisition and development of local parks throughout the country, including in the CNMI, through the Land and Water Conservation Fund (LWCF). Local governments in the CNMI, including Rota, are able to apply for LWCF State Assistance Program grants every two years and compete against other local projects. The CNMI develops criteria and standards for LWCF grant selection based on its priority needs for outdoor recreation, as outlined in its Statewide Outdoor Comprehensive Recreation Plan (CNMI OGM 2020).

Other federal agencies have grant programs that may address some park and land management needs on Rota. For example, the Office of Insular Affairs (OIA) within the Department of the Interior provides Technical Assistance Program (TAP) grants for short-term, non-capital projects in the U.S. territories, provided such grants are not directed toward routine operating expenses. Other available grant programs through the OIA include the Maintenance Assistance Program, a matching grant designed to promote and develop infrastructure maintenance capabilities, as well as grants to protect natural resources. In addition, the CNMI HPO annually receives funding appropriated by Congress through its Historic Preservation Fund, which is given to historic preservation offices in all U.S. states and territories, as well as tribal historic

preservation offices. The Historic Preservation Fund also supports several competitive grants administered by the National Park Service that local governments and organizations may apply for.

Existing federal fund sources, including grants, provide valuable support for CNMI public lands and resources, and the CNMI currently makes use of many of these opportunities. However, the majority of these fund sources are designed to cover one-time costs related to planning, design, capital investments, and discrete management activities rather than ongoing resource management and park operations.

### WORLD HERITAGE SITE DESIGNATION

World Heritage designation is a program of the United Nations Educational, Scientific, and Cultural Organization (UNESCO) to recognize sites of outstanding universal value for their natural or cultural resources. Universal value is defined as cultural and/or natural significance that is so exceptional that it transcends national boundaries and is of importance to present and future generations of all humanity. Nominations to the World Heritage List are first added to a Tentative List by the country in which the property is located. The final decision on nominations is made by the UNESCO World Heritage Committee based on an evaluation of each site against selection criteria. Inclusion on the Tentative List does not guarantee future designation, however, and the process of inscription on the World Heritage List can take many years.

Designation does not come with funding, although some grant funds are available on a competitive basis for specific projects. Additionally, inscription on the World Heritage List does not place management restrictions or regulations on a site; authority over individual properties remains with the organization that owns and manages the land. Many designated world heritage sites in the U.S. are on publicly owned lands, and several are also national parks, such as Hawai'i Volcanoes National Park. World heritage site designation would likely raise international



awareness of Rota's resources and lead to increased visitation to the island.

## NATIONAL HERITAGE AREA DESIGNATION

National heritage areas (NHAs) are designated by Congress as places where natural, cultural, and historic sites combine to form a cohesive, nationally important landscape. There are 55 existing NHAs, all of which are located on the U.S. mainland, although several areas in Hawai'i have explored heritage area options, and a bill proposing a suitability and feasibility study for a national heritage area on Guam was introduced in April 2021 (H.R. 2899, 117th Congress). NHAs operate through locally based public-private partnerships, with a limited amount of matching federal funds, to support historic preservation, natural resource conservation, recreation, heritage tourism, and educational projects.

The national heritage area is not a unit of the national park system, nor is any land owned or managed by the NPS. Individual sites are managed independently within a regional framework of related sites, but benefit from NPS brand recognition, as well as opportunities for technical support or financial aid from the National Park Service through the NHA program. Federal financial support is limited, however. For example, annual federal funding for newly designated NHAs along the west coast totaled \$154,000 per area in fiscal year 2020 and \$157,000 in fiscal year 2021, according to the National Heritage Areas Program for Interior Regions 8, 9, 10, and 12. Most NHAs also have matching funds requirements specified in their enabling legislation that require the non-federal coordinating entity to provide at least 50% of the total annual budget. In addition, the legislation establishing the NHA typically authorizes federal funding for a specific time period only, with the goal of encouraging long-term self-sufficiency of the heritage area. Although funding can be extended through subsequent legislation, Congress is not required to do so (CRS 2021, 8).

Suitability and feasibility studies for proposed national heritage areas may be conducted

by the NPS, when directed by Congress, or by a nonfederal entity. The studies evaluate the area's resources and whether they merit national recognition, conservation, and interpretation; whether they are connected to ongoing cultural traditions; and whether an organization exists that has the financial and organizational capacity to coordinate heritage area activities. Also key to the evaluation is whether there is a community of residents, businesses, nonprofit organizations, and local agencies who have the willingness and capacity to support a heritage area.

National heritage areas provide an opportunity to preserve local ownership and management of lands while fostering cultural tourism and economic development through a small investment of federal funds. The NHA model has historically been successful in situations where a robust local coordinating entity and public-private partnership already exist, along with capacity to raise matching funds.

## NPS AFFILIATED AREA DESIGNATION

National Park Service affiliated areas are designated by Congress or by the Secretary of the Interior to preserve significant properties in affiliation with the national park system. Similar to NHAs, these sites are not federally owned or directly managed by the National Park Service but benefit from NPS brand recognition, as well as technical or financial aid from the National Park Service. American Memorial Park on Saipan,<sup>1</sup> the Aleutian World War II National Historic Area in Alaska, and the Wing Luke Museum of the Asian Pacific American Experience in Seattle, Washington are a few examples. To be eligible for affiliated area status, the area's resources must (1) meet the same standards for significance and suitability that apply to units

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<sup>1</sup> Unlike other affiliated areas, American Memorial Park is directly managed by the National Park Service and receives an annual operating budget from the NPS. This unique arrangement is guided by the CNMI Constitution and the Covenant (P.L. 94-241), in addition to the park's enabling legislation (P.L. 95-348). American Memorial Park is therefore not a traditional or typical model of an NPS affiliated area.

of the national park system; (2) require some special recognition or technical assistance beyond what is available through existing NPS programs; (3) be managed in accordance with the policies and standards that apply to units of the national park system; and (4) be assured of sustained resource protection, as documented in a formal agreement between the park service and the nonfederal management entity.

Rota's cultural and natural resources are significant and suitable for inclusion in the national park system and thereby meet the first criterion. An affiliated area can benefit from NPS site branding and technical assistance available through NPS program staff. However, affiliated area status does not provide additional NPS site management assistance or ongoing operational funding. If Rota were designated an NPS affiliated area, the CNMI agencies that are currently managing the island's resources would be expected to adhere to federal mandates and standards specified in NPS management policies.

## CNMI AND NPS CO-STEWARDSHIP OF A NATIONAL PARK UNIT

Under this model, the NPS and the CNMI could partner to preserve Rota's significant sites and limestone forest areas. The NPS and CNMI could also collaborate to provide interpretation and educational opportunities and operate the unit of the national park system. The intention behind a co-stewardship approach would be to enhance existing CNMI management efforts where NPS responsibilities and expertise would be complementary.

Operational funding for the unit would be provided both by the NPS and by the CNMI or other entities. The unit would need to be authorized by congressional legislation and could be implemented between the CNMI and the NPS through a management agreement that would identify lands to be included in a potential park, and outline management responsibilities and a management structure. For a more detailed description of this model, see Appendix B: National Park Unit Alternative.



View of protected limestone forest in the I'Chenchon Park Wildlife Conservation Area. Photo: NPS.



## Need for NPS Management Conclusion

The people of Rota have protected their resources for generations through community stewardship, cultural practices, local laws, federal financial assistance, and the dedicated efforts of CNMI agencies. At likely NPS funding and staffing levels, the NPS contributions to existing management of Rota's significant resources would be limited.

Given the robust stewardship that is already in place for Rota's limestone forest, the study finds that the National Park Service would have limited support to offer for natural resource management for a potential park unit at this time. While opportunities exist to enhance visitor enjoyment and interpretation of limestone forests in partnership with the CNMI, NPS capacity to provide visitor services and facilities, interpretation, and educational programming would be limited given the expected budget and staffing levels of a new park unit.

For management of cultural resources, the study has identified the need for additional documentation and interpretation of

Chamorro cultural sites, to build on the long-term efforts of the CNMI HPO. However, this support could be effectively achieved through partnerships with interested organizations. NPS capacity to partner with the CNMI to enhance management of Rota's Chamorro archeological sites would be limited given expected NPS budget and staffing levels. Partnerships with interested organizations could provide additional capacity for research, interpretation, education, and visitor services for Rota's significant sites under both NPS and non-NPS management.

The incorporation of Rota's significant sites into the national park system would provide an opportunity to represent the histories and heritage of the Chamorro people within a rare limestone forest ecosystem, which are underrepresented in the national park system. However, when compared against current management and other potential management frameworks, in light of the limited NPS financial capacity and the modest level of interest in NPS designation among the people and elected officials of Rota and the CNMI, NPS management is not needed at this time.



Seedlings of native limestone forest plants raised for outplanting by the CNMI DLNR Division of Fish and Wildlife and the Forestry Section of the Division of Agriculture. Photo: NPS.



Visitors to Mochong Latte Village Complex. Photo: NPS.

## **SPECIAL RESOURCE STUDY CONCLUSIONS**

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Based on the analysis performed through this special resource study, the National Park Service finds that the Rota study area does not meet all four criteria for inclusion in the national park system at this time. Resources within the study area meet established criteria for national significance and suitability, and a portion of the area is conditionally feasible for inclusion in the national park system, dependent on support from the CNMI government and the development of a management agreement, support from

Rota and CNMI residents, and sufficient funding for park operations. However, analysis of existing management and several additional management frameworks does not demonstrate a clear need for direct NPS management at this time. The CNMI government is continuing a centuries-long tradition of resource stewardship while also providing visitor access and information about Rota's significant sites. Therefore, this special resource study concludes that Rota does not meet all criteria necessary to be considered eligible for designation as a new unit of the national park system.





Mochong Latte Village Complex. Photo: NPS.



## CONSULTATION AND COORDINATION







Staff from the CNMI Department of Lands and Natural Resources and the NPS visiting limestone forest areas. Photo: NPS.



## CHAPTER 7: CONSULTATION AND COORDINATION

*This chapter provides an overview of public and stakeholder outreach conducted as part of the study process.*

### PUBLIC INVOLVEMENT

The National Park Service provided opportunities for elected officials, local government agencies, organizations, Rota residents, and the general public to learn about and contribute to the Rota Special Resource Study through public and stakeholder meetings, newsletters, and the study website. The NPS conducted two rounds of public engagement for the study: a 2017 public scoping effort and a 2020 public review of the study's preliminary findings and alternative concepts. These outreach opportunities allowed the NPS to inform members of the public about the special resource study process, collect additional information, and gather opinions and comments about a potential NPS unit on Rota. As part of the study process the NPS also consulted with CNMI agencies, local government entities, and other interested parties. The NPS reviewed and analyzed the comments received during each public engagement effort. The comments informed the development of this report and helped refine the study's findings.

### Scoping

Public scoping for this study began in January 2017. The NPS produced and distributed a [newsletter](#) to the media, individuals, organizations, and government officials. The purpose of the newsletter was to introduce the study, explain the process to community members, and solicit comments on resources and issues the study should address. The newsletter was written in English and Chamorro and provided the schedule of public scoping meetings as well as a public comment form. Press releases announcing the beginning of the study process and the public meeting schedule were distributed to local media. Numerous articles about the study appeared in area newspapers. The National Park Service's Planning, Environment and Public Comment (PEPC) website, [parkplanning.nps.gov/rotastudy](http://parkplanning.nps.gov/rotastudy), provided the public with information about the study and was used to accept public comments. The comment period extended to mid-April 2017, and comments received after the closing date were also accepted.



Public scoping meeting held on February 22, 2017 at the Rota Mayor's Office. Photo: NPS.



In February and March 2017, the NPS held five public scoping meetings on Rota, Saipan, and Guam, one meeting with the CNMI legislature on Saipan, and two online public meetings (see Table 7-1). The public scoping meetings on Rota coincided with a visit from members of the U.S. House of Representatives Committee on Natural Resources, including Congressman Gregorio Kilili Camacho Sablan. During this visit of the committee to Rota, the delegates toured many of the sites evaluated for the study.

The meetings included a presentation overview of the study purpose and process, identification of the resources evaluated in the study, and potential management outcomes. After the presentation, NPS staff facilitated group discussions to capture comments related to the study. Twenty-five written comments were received via letter, comment form, PEPC website, and e-mail.

The NPS met with the following entities or their representatives during scoping:

- Rota Mayor's Office
- Rota Municipal Council
- CNMI Governor's Office
- Members of the CNMI Legislature (House and Senate)
- Office of Congressman Gregorio Kilili Camacho Sablan
- CNMI Historic Preservation Office
- CNMI Department of Lands and Natural Resources, Divisions of Fish and Wildlife and Forestry
- CNMI Department of Commerce
- CNMI Bureau of Environmental and Coastal Quality
- CNMI Division of Coastal Resources Management
- U.S. Fish and Wildlife Service

**TABLE 7-1: PUBLIC SCOPING MEETINGS, 2017**

LOCATION	DATE	ATTENDANCE
Saipan, CNMI Legislature	February 21, 2017	17
Saipan, American Memorial Park Visitor Center	February 21, 2017	11
Rota Mayor's Office	February 22, 2017	68
Rota Mayor's Office	February 23, 2017	28
Sinapalo, Rota: Man Amko' Center	February 23, 2017	25
Hagåtña, Guam: Guam Museum	February 27, 2017	50
Online public meeting 1	March 8, 2017	2
Online public meeting 2	March 9, 2017	2
<b>Total</b>		<b>203</b>

## SUMMARY OF PUBLIC SCOPING COMMENTS

Public scoping comments predominantly expressed a desire to preserve Rota's important cultural and natural resources. Many people emphasized the need to respect and protect the special places on the island. Several of the comments highlighted the deep meaning and value that Rota's resources hold for community members. Comments also expressed concern about changes in access or other restrictions that might occur with a potential NPS unit on the island. While many participants had questions about what NPS management might entail, many also described their interest in enhancing educational and visitor opportunities at Rota's significant sites.

### Cultural and Natural Resources

When asked which pre-contact sites and resources on Rota are considered the most important, respondents identified the Mochong Latte Village Complex, Māya Latte Site, As Nieves Quarry, Dugi Archeological Site, and Chugai Cave. These sites were described as essential resources because they represent the ancestral Chamorro culture of the Mariana Islands and are still sacred or important to the community today. Commenters additionally identified the importance of the Japanese World War II fortifications and artifacts, remnants from past industrial activities on the island, and structures from the Spanish, German, and Japanese periods of colonization.

Concerns were expressed about increased visitation to sites and how to protect archeological features from theft and vandalism. Commenters on this topic suggested a variety of approaches to protect important sites, including establishing opening and closing times, increasing enforcement of resource protection laws, erecting barriers to safeguard sensitive resources, and embracing traditional cultural practices, such as requesting permission of the *taotaomo'na* (or ancestral spirits) to enter archeological and limestone forest areas. Several participants also highlighted the importance of sharing the sites more widely with visitors and the need to educate future generations. Commenters

additionally stressed the importance of culturally significant species and the need to protect traditional medicinal plants and subsistence activities in addition to archeological sites.

Rota's limestone forests were described as fragile and pristine and were considered by most commenters to be the most significant natural resources on the island. Participants highlighted certain locations and features within the limestone forest as being especially culturally significant for the Chamorro people: these included caves, waterfalls, and the Taipingot Peninsula (Wedding Cake). The important wildlife habitat provided by the I'Chenchon Park Wildlife Conservation Area and the publicly owned land on the Sabana and at Talakhaya were also described as highly valued resource areas for their role in supporting endangered species, medicinal plants, and water quality.

Some participants emphasized the overarching cultural importance of Rota's marine resources and offshore areas and strongly encouraged the NPS to evaluate them in addition to land-based sites. A few commenters also suggested that other islands in the Marianas would merit study by the NPS and additional resource protection, especially from military activities. The islands most frequently recommended for further study were Pagan and Tinian.

A few participants observed that weather damage, especially from typhoons, is a concern for cultural and natural resources. A small number of these commenters questioned how the NPS would respond to such natural disasters, were there to be a national park unit on Rota. Several people emphasized that Rota's residents have carefully protected their resources for generations through community stewardship, cultural practices, local laws, and the dedicated efforts of CNMI agencies. Many of these commenters questioned whether a national park unit would improve current resource management activities.

### Management and Access

Many of the individuals who commented on the topics of management and access were concerned about potential restrictions that



might be imposed on Rota's lands as a result of NPS involvement. These commenters were opposed to regulations that could limit local access to lands for important cultural and subsistence practices such as hunting, medicinal plant gathering, and farming. Some of these individuals expressed support for a possible national park unit but only if hunting and gathering were permitted. A few participants were worried that a potential NPS unit could result in entrance fees being charged to community members for access to sites.

A few respondents cited past experiences with federal government agencies and initiatives, including the ongoing military buildup in the Marianas, the 2004 designation of Mariana crow critical habitat area by the U.S. Fish and Wildlife Service, and the 2009 establishment of the Marianas Trench Marine National Monument. Some commenters strongly asserted that such federal actions have negatively impacted CNMI residents' livelihoods, cultural practices, and other important activities on their lands. Many commenters in this group viewed a potential national park as a federal takeover of local lands. Other participants wished to ensure that ongoing conservation projects in partnership with universities would be allowed to continue on lands within a potential national park.

Many people expressed the desire for local management of Rota's resources with additional support from the federal government. Several commenters on this topic requested that the NPS analyze a variety of management models for Rota's natural and cultural resources.

#### **Land Use, Landownership, and Boundaries**

The majority of comments on the topics of land use, landownership, and boundaries focused on the size of a potential park unit and its impact on Rota's other land uses. Respondents sought to ensure that the NPS would evaluate only publicly owned lands and that agricultural lands, including homesteads, would not be considered for inclusion within a possible boundary. One commenter recommended that a potential national park

unit be created in phases over time, to avoid having too large an impact on existing land uses. The NPS was asked how a national park unit designation could be accomplished in the CNMI, given the landownership restrictions in the CNMI Covenant and Constitution.

Several commenters observed that Rota is a small island with important sites that are widely distributed. These individuals questioned whether a park boundary could be identified that did not cover a significant portion of the island. In general, commenters on this topic were concerned that a national park unit might cover too large an area given the island's size.

#### **Economic Development and Tourism**

The NPS received multiple comments about economic development, and whether a potential national park unit would be likely to have a beneficial impact on Rota's economy. Many of those who commented on this topic expressed an interest in an economic impact study for a possible NPS unit on Rota. A few respondents cautioned that the NPS and the community should be careful not to overestimate potential economic benefits, noting that they may materialize slowly if at all.

A few members of the public emphasized that economic activity on Rota has declined over the past few decades and relies primarily on tourism. A small number of respondents noted that it is important to keep options open for future economic development, including jobs that will allow residents to remain on the island. Some of these commenters noted that a national park unit might provide local jobs, while others expressed concern that a national park unit might limit other economic development opportunities.

#### **Education, Interpretation, and Visitor Opportunities**

A large majority of commenters supported the preservation of significant cultural and natural resources for educational purposes. Many people noted that the most valuable contribution a national park unit could make would be to provide additional education, interpretation, and visitor opportunities at Rota's important sites.

Commenters emphasized the importance of offering educational activities and outdoor recreation for youth.

Multiple comments were submitted describing possible recreational experiences that visitors could have on Rota. Suggestions for recreation included a children's camp, a zipline, a water park, rental facilities for beach and water equipment, and rock-climbing opportunities, among others. Respondents highlighted the need for activities that would involve the entire community and create opportunities for future generations to enjoy.

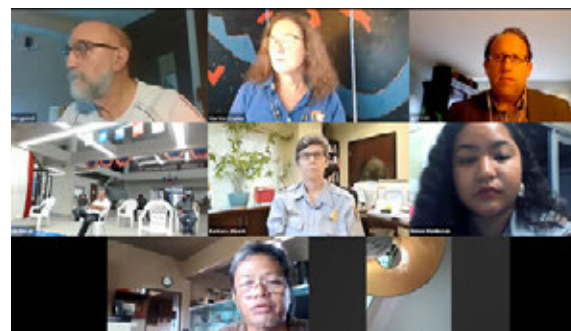
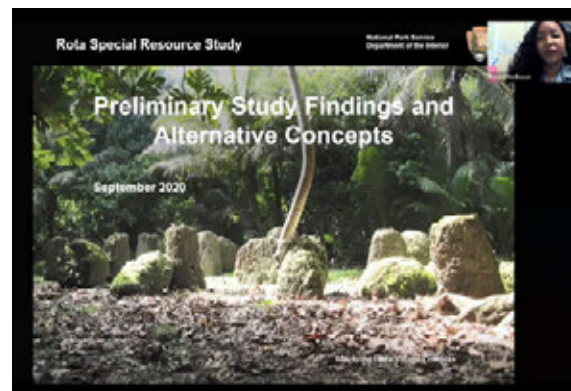
In general, commenters expressed support for facility improvements that might accompany a potential national park on Rota. Comments highlighted an interest in additional visitor access and circulation facilities, such as pathways or trails, as well as increased signage to provide information about sites and resources, and viewpoints to enjoy Rota's scenery. One respondent noted that it would be important to preserve Rota's natural character and requested that any potential development remain limited and be sensitively located.

## Public Review of Preliminary Findings and Alternative Concepts

In August 2020, the NPS initiated a public review of the study's preliminary findings and a set of initial alternative management concepts. While most study processes do not include a review of the preliminary findings and initial alternatives, for the Rota SRS this was determined necessary to fully evaluate the feasibility criterion, in particular the level of CNMI and public support for a potential national park unit, and the need for NPS management, given the engagement of the CNMI government that would be needed for a national park unit to be feasible. The findings and concepts were distributed through a [newsletter](#) and were posted on the National Park Service's Planning, Environment and Public Comment (PEPC) website. The comment period extended until November 20, 2020.

The preliminary findings indicated that Rota's cultural and natural resources are nationally significant, that areas of the island are suitable for inclusion in the national park system, and that NPS management could fill an important need. However, the preliminary feasibility finding was conditional upon the establishment of appropriate land and resource management agreements with the CNMI and Rota governments, support from the CNMI government, and further analysis of the costs. The alternative concepts presented to the public included a no-action alternative; a 1,300-acre (526-hectare) historical park managed collaboratively with the CNMI and focused on Chamorro archeological sites; and a 4,400-acre (1,781-hectare) national monument, also managed collaboratively with the CNMI and encompassing archeological sites, historic World War II fortifications, and limestone forests.

To solicit public input on the preliminary findings and alternative concepts, in September 2020 the NPS held two public meetings and one meeting each with Rota and CNMI elected officials and local agency staff (see Table 7-2). All of the meetings in



Virtual public meetings, September 2020. Photos: NPS.



**TABLE 7-2: PUBLIC MEETINGS TO SHARE PRELIMINARY FINDINGS AND ALTERNATIVE CONCEPTS, 2020**

LOCATION	DATE	ATTENDANCE
Online public meeting 1	September 17, 2020	58
Online public meeting 2	September 19, 2020	39
<b>Total</b>		<b>97</b>

2020 were conducted in a virtual format due to restrictions on travel and in-person gathering imposed by the COVID-19 pandemic. Close to 100 people attended the online public meetings.

The meetings held with elected officials and agencies included the following entities or their representatives:

- Rota Mayor's Office
- Members of the CNMI Legislature (House and Senate)
- Office of Congressman Gregorio Kilili Camacho Sablan
- CNMI Indigenous Affairs Office
- CNMI Department of Lands and Natural Resources, Division of Fish and Wildlife
- CNMI Department of Public Lands
- CNMI Bureau of Environmental and Coastal Quality
- CNMI Division of Coastal Resources Management
- Mariana Visitors Authority
- U.S. Fish and Wildlife Service

The CNMI Indigenous Affairs Office hosted four village forums on Rota in October 2020 to solicit input from residents who were unable to participate in the virtual meetings or who preferred to share their thoughts in person. The hybrid in-person/virtual village forums were socially distanced and organized in accordance with public health guidelines to reduce the spread of COVID-19. The NPS appreciates the additional engagement opportunities provided by the Indigenous

Affairs Office, as well as the comments received from the village forums.

In addition to comments from the virtual meetings and village forums, the NPS also received about 50 written comments through the project website and email.

#### **SUMMARY OF PUBLIC COMMENTS ON PRELIMINARY FINDINGS AND ALTERNATIVE CONCEPTS**

The following summary represents the full range of comments received on the preliminary findings and alternative concepts.

##### **Comments on a Potential NPS Presence**

Among those who commented, support for a potential national park unit on Rota is mixed. Close to half of respondents favor the establishment of a unit, but the majority of these commenters would like to see access to lands preserved for the local community, in particular for cultural and subsistence uses such as hunting and gathering. A little over a quarter of respondents stated their opposition to a national park unit on Rota. The remaining group of commenters (a little over a quarter) requested more information about what an NPS unit on Rota would entail before forming an opinion.

Many people were concerned that a national park unit on Rota could fundamentally change the character of the island's undeveloped, scenic landscape. Some commenters, however, expressed equally strong concerns that Rota's landscapes and resources could be lost to development without the additional protection of a national park unit. Those worried about potential development were most concerned

about changes in land use that could damage the character of valued cultural and natural areas. A few people noted that they would like to see a park unit established in phases, where the gradual addition of new lands to the park would happen over time, allowing the community a chance to understand the impacts of a possible unit.

Some participants expressed interest in alternative management concepts that would not involve direct NPS management of Rota's lands, such as inclusion in a national heritage area or designation as an NPS affiliated area or world heritage site. Commenters on this topic also suggested that additional U.S. government funds could be directed to CNMI agencies to support resource protection efforts and visitor enjoyment opportunities. See the "Potential Management Frameworks" section of Chapter 6 for analysis of these concepts. A small number of people offered ideas to ensure that the local community would have a voice in management, were an NPS unit to be established on Rota. These ideas included the creation of a board or commission composed of local representatives, which could provide Rota's residents with a priority role in management decisions.

Several commenters indicated that the Rota and CNMI governments and people are best suited to care for their resources. Within this group of respondents, some observed that local agencies and organizations need additional support and funding for management activities. A few people expressed concern about the local government's capacity to manage resources and maintain facilities.

### **Support for Specific Alternative Concepts**

While commenters expressed general support or opposition to a potential NPS unit, as described above, few people noted their support for a specific alternative concept. Among those in favor of an NPS presence, there was greater support for a smaller unit, as illustrated by the historical park concept, because it would allow more flexibility for current land uses and practices to continue. In contrast, a few respondents stated a preference for the larger alternative concept, the national

monument, citing the need to protect additional natural and cultural resources and include World War II sites.

Some participants were concerned that both alternative concepts would encompass too much of the island. A few respondents wished to see additional areas included in the alternative concepts, such as the Sabana Protected Area, the Liyo Conservation Area (Taipingot/Wedding Cake), and coastal and offshore resources.

### **Cultural and Natural Resources**

Many of the comments submitted on Rota's cultural and natural resources echoed public input that was shared with the NPS during scoping. Rota's resources are cherished by the community and are an integral part of day-to-day life. People overwhelmingly agree that the Chamorro sites and their limestone forest settings are special, significant, and should be protected. A small number of commenters highlighted the importance of preserving and interpreting the island's World War II sites. In describing Rota's resources, many participants stressed the importance of traditional subsistence activities and expressed a strong desire to protect community access to resources for cultural uses, such as hunting and gathering medicinal plants.

Several respondents observed that the people of Rota and the CNMI are doing an excellent job managing the resources on the island without assistance from the National Park Service. A few people highlighted Rota Local Laws [9-1](#), [9-2](#), and [9-3](#), which already preserve significant conservation areas on the island (see the "Conservation Areas" section of Chapter 5 for additional detail). However, some commenters highlighted the need for additional resource management capacity, to help protect sensitive and rare limestone forest ecosystems and support endangered species in the face of climate change. One commenter also suggested that the NPS could assist with needed maintenance for the island's World War II fortifications.

Some participants described their concerns about invasive species and the likelihood that they could spread more easily to the



island with the increased visitation that might accompany a national park unit. These commenters were interested in measures that the NPS could take to protect against invasive species.

A few people requested that the NPS evaluate additional resources on Rota as part of the study process, including other important natural resource areas, such as the Sabana; inshore waters and reefs; submerged shipwrecks; and sites that reveal the history of colonization on the island.

### **Management and Access**

Comments on the topics of management and access clearly stated the importance of community access to Rota's lands for traditional and subsistence practices. Many emphasized that this access is critically important for Chamorro residents to maintain their culture and their way of life. Several commenters remarked that hunting invasive ungulates such as deer, feral pigs, and goats is beneficial for island ecosystems in that it reduces impacts from herbivory. However, one participant cautioned that fencing would be needed around pristine areas of limestone forest to adequately protect threatened plants from ungulate browsing, which could preclude hunting within the area that was fenced.

Among those who supported a potential NPS unit on Rota, there was strong interest in having the NPS collaborate closely with the local community and CNMI agencies to manage resources. Many people asked how cooperative management might work between the CNMI and the NPS and wanted to know how the roles and responsibilities might be shared between each entity. Some individuals asked how much funding the NPS would be able to provide for a potential unit on Rota. A small number of commenters wished to see NPS management of a possible park based fully in the CNMI, rather than shared management with War in the Pacific National Historical Park on Guam and American Memorial Park on Saipan. One respondent noted that an NPS unit on Rota could attract worldwide attention, which could increase the success of current local conservation efforts by

attracting assistance from other agencies and nongovernmental organizations.

### **Land Use, Landownership, and Boundaries**

Many people observed that Rota is a very small island and requested that the NPS take its size into account when considering a potential national park unit boundary. Some commenters also stressed that community access to agricultural and village homesteads is very important to residents' livelihoods. These individuals stated that homesteads on the island should be preserved and that an NPS unit should not result in removal of homesteading opportunities. A few respondents asked whether lands included in the USFWS-designated Mariana cove critical habitat could be removed in exchange for other lands protected by a potential national park unit.

Several participants requested that the NPS carefully review landownership information when identifying potential unit boundaries to ensure that proposed boundaries only include public lands that are publicly accessible. A few community members expressed concerns that the GIS data presented by the NPS did not reflect current landownership status. A small number of respondents noted that they were worried about impacts that a possible NPS unit could have on adjacent private lands.

Some of those commenting stressed that Rota's residents should be compensated for any lands included in a potential national park to adequately reflect the land's profound cultural, historical, and personal value to the community. Many of these individuals asked whether the NPS would create a lease agreement to provide this compensation directly to the Municipality of Rota.

### **Economic Development and Tourism**

The NPS received numerous comments on the topics of economic development and tourism, and views on these subjects were mixed. Many people were interested in understanding the impacts of a national park designation on the local economy. Those supporting the establishment of a potential national park unit cited the benefits that a unit could confer in

terms of job creation, tourism, and general economic development in the community, including private sector opportunities. Several people highlighted Rota's potential as an ecotourism destination. Although access to Rota by air is currently limited, respondents suggested that travel options would increase with an increase in visitor demand. A few commenters noted that a national park unit could provide additional training and resources that would allow residents to lead stewardship and interpretation efforts.

In contrast, other comments cautioned that a national park on Rota may not result in very many jobs, given the size of the island and the smaller size of a potential unit. These respondents noted that a possible NPS unit might not be able to revitalize Rota's economy on its own, citing the impact of American Memorial Park on Saipan as an example. Some commenters in this group expressed concern that a potential unit might hinder the development of other economic opportunities on the island and stated that the community did not want to see a park established if it couldn't help the economy.

Some commenting on tourism felt that an NPS unit would be beneficial to resource protection, by attracting attention and assistance from other organizations worldwide and reducing costs to local agencies. Others were concerned that additional tourism could result in damage to resources. A small number of commenters were worried that NPS regulations might limit access to sites in such a way that could reduce their appeal for tourists.

### **Education, Interpretation, and Visitor Opportunities and Facilities**

In general, there was interest in providing additional educational opportunities on Rota, in particular for today's youth as well as for future generations. Commenters emphasized the importance of raising awareness of and appreciation for Rota's special sites and resources and allowing immersive opportunities for visitors to access them via land (through trails and signage) or sea (through kayaking and diving).

A small number of commenters expressed strong concerns about the NPS representing Chamorro culture, were a national park unit to be established. These commenters emphasized that the Chamorro people should tell the story of their own sites and resources on Rota, rather than allowing the NPS to do so. These respondents worried that the NPS would be biased toward a U.S. mainland perspective and could not adequately convey the experiences of Rota's people, given the successive waves of colonization and war that have been imposed on the Marianas over the past 500 years.

Some participants stated their support for additional facilities or amenities that the NPS might provide on the island to serve a possible national park unit. One individual suggested that a cultural center be developed, which could be used to display Chamorro archeological artifacts. Others expressed a strong interest in having additional trails to explore Rota's limestone forest. A small number of commenters asked whether an NPS presence on the island could assist with improving roadway and utility infrastructure.

### **Study Process**

The NPS received a large number of comments focused on the special resource study process. The majority of commenters on Rota and in the CNMI want to make sure they would have a voice in decision-making related to a potential national park unit designation of their lands and heritage. Some commenters expressed profound concern that an NPS unit might be established without adequate participation from the CNMI and from Rota's people. A few individuals suggested that the residents of Rota should have the opportunity to vote on whether or not a national park should be designated.

Several respondents wished to learn more about how a national park unit might be established on CNMI-owned land, and how a possible agreement might be developed between the CNMI and the NPS for management of a park. These individuals asked about the terms and conditions of such an agreement, whether it could include terms for a lease, and whether the CNMI would be able to withdraw from or revise



the agreement in the future if needed. Some commenters suggested elements to include in a potential agreement or legislation authorizing a park, such as a local hiring preference and access to lands for hunting, gathering, community events, and other cultural and subsistence practices.

Many of those who submitted comments on the study process requested additional opportunities for public engagement and additional information from the NPS. Several commenters expressed frustration and disappointment with the virtual public outreach conducted by the NPS in 2020, when the COVID-19 pandemic prevented in-person gatherings. Community members asked the NPS to consider delaying the study process to provide additional face-to-face opportunities for Rota's residents to participate, given cultural protocols for gathering public input, barriers to internet access, and differing levels of comfort and familiarity with online meeting platforms. Several participants requested a copy of the draft study for review before transmittal to Congress.

## **AGENCY CONSULTATION**

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### **Section 106 of the National Historic Preservation Act**

In January 2017, the NPS notified the CNMI Historic Preservation Office (HPO) by letter about the Rota Special Resource Study. This letter informed the CNMI HPO of the NPS determination that this study is an activity that does not have the potential to cause effects on historic properties, because the final product of the undertaking is a study transmitted to Congress. This study is therefore part of "nondestructive project planning" for prospective actions and as such does not "restrict the subsequent consideration of alternatives to avoid, minimize, or mitigate [a specific] undertaking's adverse effects on historic properties" in accordance with 36 CFR 800.1(c). On February 28, 2017, the CNMI Historic Preservation Officer provided a letter concurring with the NPS finding of "No Potential to Cause Effects." The CNMI HPO was invited to participate in public

scoping, the review of preliminary findings and alternative concepts, and the fall 2021 technical review (see "Contributions and Technical Review" section below).

### **Section 7 of the Endangered Species Act**

In January 2017, the NPS submitted a letter to the Pacific Islands field office of the U.S. Fish and Wildlife Service (USFWS) announcing the beginning of the Rota Special Resource Study. The letter indicated that the study itself would have no effect on species listed or proposed for listing under the Endangered Species Act. This assessment of "no effect" is due to the nature of such a study, which may have implications for potential future NPS actions but will not itself result in any action or environmental impacts. During a meeting on Guam on February 27, 2017, USFWS staff determined that a letter of concurrence would not be necessary, because the study would not include any field work or agency action. The USFWS expressed interest in continuing their engagement with the study and participated in public scoping and the review of preliminary findings and alternative concepts.

## **CONTRIBUTIONS AND TECHNICAL REVIEW**

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To determine the significance of Rota's natural resources, the NPS conducted numerous interviews and field visits with resource managers and researchers with knowledge of the island's native limestone forests. Those who contributed their time and expertise include David Calvo, Lainie Berry, and James Manglona of the CNMI Department of Lands and Natural Resources (DLNR); Manny Pangelinan, Bethany Chagnon, Jill Liske-Clark, and Robert Uchoa of the CNMI DLNR Division of Fish and Wildlife; Frank Rabauliman of the CNMI Bureau of Environmental and Coastal Quality; Fred Amidon, Jackie Flores, Peter McBride, and Tyler Willsey of the U.S. Fish and Wildlife Service; Marjorie Falanruw of the U.S. Forest Service; and Haldre Rogers and Ann Marie Gawel of Iowa State University, among others.

The significance evaluation for Rota's cultural resources was primarily conducted by Micronesian Archaeological Research Services (MARS) on behalf of the NPS in 2016 and 2017. The NPS additionally discussed Rota's cultural resources through interviews and field visits with the CNMI Historic Preservation Office (HPO) staff, including Eloy Ayuyu, Antonelli Rosario, and Vincent Mesngon. Stephen Haller of Golden Gate National Recreation Area (NPS) contributed to the analysis of World War II resources.

Peer reviews were conducted for the resource description and preliminary significance evaluation for Rota's natural and cultural resources. Peer reviewers contributing comments included biologists Fred Amidon and Haldre Rogers for the limestone forest resources, and archeologists Brian Butler and Rosalind Hunter-Anderson for the Chamorro archeological sites and World War II defensive complexes.

To ensure the accuracy of the study, in November 2021 the NPS initiated a technical review of key portions of the study with CNMI agencies. Invited agencies included the CNMI HPO, Indigenous Affairs Office, DLNR (including the Divisions of Fish and Wildlife and Forestry), Department of Public Lands, and Office of Planning and Development. Elected officials were notified of the technical review process and also invited to participate. Invited officials included the Rota Mayor's Office and Rota Municipal Council; members of the CNMI Legislature; CNMI Governor Torres and Lieutenant Governor Palacios; and the office of U.S. Representative for the CNMI, Gregorio Kilili Camacho Sablan.

The NPS would like to thank all those who contributed their time, comments, and valuable information to the study. A detailed list of contributors can be found in the "Preparers" section of this report.



Staff from the CNMI Historic Preservation Office and the NPS clear vegetation from latte at Gampapa Latte Village. Photo: NPS.





Staff from the CNMI Historic Preservation Office and the NPS clear vegetation from a lusong at Gampapa Latte Village. Photo: NPS.