DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R1–ES–2024–0194; FXES1111090FEDR–267–FF09E21000]

RIN 1018–BI17

Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for 22 Species in the Commonwealth of the Northern Mariana Islands and the Territory of Guam

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), propose to designate critical habitat for 9 animal species and 13 plant species from the Mariana Islands (the U.S. Territory of Guam and the Commonwealth of Northern Mariana Islands) under the Endangered Species Act (Act). In total across both the Territory and Commonwealth, approximately 59,886 acres (24,235 hectares) on the islands of Aguiguan, Alamagan, Asunción, Guam (including the island of Cocos), Pagan, Rota, Saipan, Sarigan, and Tinian fall within the boundaries of the proposed critical habitat designation. We also announce the availability of an economic analysis of the proposed designation of critical habitat for these species.

DATES: We will accept comments received or postmarked on or before June 22, 2026. Comments submitted electronically using the Federal eRulemaking Portal (see **ADDRESSES**, below) must be received by 11:59 p.m. eastern time on the closing date.

We must receive requests for a public hearing, in writing, at the address shown in **FOR FURTHER INFORMATION CONTACT** by May 8, 2026.

ADDRESSES:

Comment Submission: You may submit comments by one of the following methods:

(1) *Electronically:* Go to the Federal eRulemaking Portal: *https://www.regulations.gov.* In the Search box, enter FWS–R1–ES–2024–0194, which is the docket number for this rulemaking. Then, click on the Search button. On the resulting page, in the panel on the left side of the screen, under the Document Type heading, check the Proposed Rule box to locate this document. You may submit a comment by clicking on ''Comment.''

(2) *By hard copy:* Submit by U.S. mail to: Public Comments Processing, Attn: FWS–R1–ES–2024–0194, U.S. Fish and Wildlife Service, MS: PRB/3W, 5275 Leesburg Pike, Falls Church, VA 22041–3803.

We request that you send comments only by the methods described above. We will post all comments on *https://www.regulations.gov.* This generally means that we will post any personal information you provide us (see Information Requested, below, for more information).

Availability of supporting materials: Supporting materials, such as the economic analysis, are available on the Service's website at *https://www.fws.gov/project/critical-habitat-mariana-islands,* at *https://www.regulations.gov* at Docket No. FWS–R1–ES–2024–0194, or both. If we finalize the critical habitat designation, we will make the coordinates or plot points or both from which the maps are generated available at *https://www.regulations.gov* at Docket No. FWS–R1–ES–2024–0194 and on the Service's website at *https://www.fws.gov/project/critical-habitat-mariana-islands.*

FOR FURTHER INFORMATION CONTACT: Earl W. Campbell, Project Leader, U.S. Fish and Wildlife Service, Pacific Islands Fish and Wildlife Office, 300 Ala Moana Boulevard, Room 3–122, Honolulu, HI 96850; by telephone 808–792–9400. Individuals in the United States who are deaf, deafblind, hard of hearing, or have a speech disability may dial 711 (TTY, TDD, or TeleBraille) to access telecommunications relay services. Individuals outside the United States should use the relay services offered within their country to make international calls to the point-of-contact in the United States. Please see Docket No. FWS–R1–ES–2024–0194 on *https://www.regulations.gov* for a document that summarizes this proposed rule.

SUPPLEMENTARY INFORMATION:

Executive Summary

Why we need to publish a rule. Under the Act (16 U.S.C. 1531 *et seq.*), when we determine that any species is an endangered or threatened species, we are required to designate critical habitat, to the maximum extent prudent and determinable. Designations and revisions of critical habitat can be completed only by issuing a rule through the Administrative Procedure Act rulemaking process (5 U.S.C. 551 *et seq.*). We are proposing a designation of critical habitat for 22 Mariana Islands species, totaling 59,886 acres (ac) (24,235 hectares (ha)). We have also identified lands that meet the definition of critical habitat for another Mariana Island species, an endangered plant species, *Solanum guamense* (birenghenas hålom tåno', biringhenas halumtånu', birengenas hålomtåno'), but that does not have a proposed critical habitat designation in this proposed rule because the identified lands are exempt from being designated as critical habitat in accordance with section 4(a)(3)(B)(i) of the Act.

For the sake of brevity, throughout this document we collectively refer to these species as the ''Mariana Islands species, also including/noting reference to *Solanum guamense,* when applicable.'' Sixteen of the Mariana Islands species were previously listed as endangered species (80 FR 59424; October 1, 2015): seven plants—*Eugenia bryanii* (no common name), *Hedyotis megalantha* (pao de'do', påode'du', pao doodu), *Heritiera longipetiolata* (ufa hålumtåno', ufa halumtånu', ufa hålomtåno'), *Phyllanthus saffordii* (maigo' lålo'), *Psychotria malaspinae* (åplohkåteng palao'an, åpplok hatting palao'an, aplokkating palåo'an), *Solanum guamense,* and *Tinospora homosepala* (no common name); and nine animals—the Pacific sheath-tailed bat (Mariana subspecies, *Emballonura semicaudata rotensis;* paye'ye', payesyes, fanihen gånas, paye'yi', payesyis, fanihin gånas, paischeey), Slevin's skink (*Emoia slevini;* Marianas Emoia, Mariana skink, guåli'ek hålomtåno', gholuuf, guali'ik halumtånu'), Mariana eight-spot butterfly (*Hypolimnas octocula marianensis;* ababang, ababbang, libweibwogh), Mariana wandering butterfly (*Vagrans egistina;* ababang, ababbang, libweibwogh), Rota blue damselfly (*Ischnura luta;* dulalas Luta), fragile tree snail (*Samoana fragilis;* dengdeng, dengding, akaleha', denden), Guam tree snail (*Partula radiolata;* dengdeng, dengding, akaleha', denden), humped tree snail (*Partula gibba;* dengdeng, dengding, akaleha', denden), and Langford's tree snail (*Partula langfordi;* dengdeng, dengding, akaleha', denden). Seven of the 23 Mariana Islands species, all plants, were previously listed as threatened species (80 FR 59424; October 1, 2015): *Bulbophyllum guamense* (wild onion, siboyas hålomtåno', siboyas halumtånu', siboyan hålomtåno'), *Dendrobium guamense* (no common name), *Cycas micronesica* (fadang, faadang), *Maesa walkeri* (no common name), *Nervilia jacksoniae* (no common name), *Tabernaemontana rotensis* (no common name), and *Tuberolabium guamense* (no common name).

Additionally, we note that a 5-year status review for *Tuberolabium*

guamense was completed on August 4, 2025, recommending we remove the species from the Federal List of Endangered and Threatened Plants. Recommendations in 5-year reviews are not final agency decisions and we have not initiated work on a proposed delisting rule as of publication of this proposed critical habitat designation; however, if we finalize a delisting rule for *Tuberolabium guamense,* the conservation measures provided by the Act (*e.g.,* through sections 7 and 9) would no longer apply to *Tuberolabium guamense,* and we would also remove critical habitat for the species.

What this document does. We propose the designation of critical habitat for 22 wildlife and plant species that occur on islands within the Territory of Guam and the Commonwealth of the Northern Mariana Islands.

The basis for our action.

Under section 4(a)(3) of the Act, if we determine that a species is an endangered or threatened species we must, to the maximum extent prudent and determinable, designate critical habitat.

Section 3(5)(A) of the Act defines critical habitat as (i) the specific areas within the geographical area occupied by the species, at the time it is listed, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protections; and (ii) specific areas outside the geographical area occupied by the species at the time it is listed, upon a determination by the Secretary that such areas are essential for the conservation of the species. Section 4(b)(2) of the Act states that the Secretary must make the designation on the basis of the best scientific and commercial data available and after taking into consideration the economic impact, the impact on national security, and any other relevant impacts of specifying any particular area as critical habitat.

Acronyms and Abbreviations Used in This Proposed Rule

For the convenience of the reader, listed below are some of the acronyms and abbreviations used in this proposed rule:

Act = Endangered Species Act
AFB = Air Force Base
CBA = Conservation Benefit Agreement
CFR = Code of Federal Regulations
CNMI = Commonwealth of the Northern Mariana Islands
CNMI BECQ = CNMI Bureau of Environmental and Coastal Quality
CNMI BTS Program = CNMI Division of Fish and Wildlife Brown Tree Snake Interdiction Program
CNMI DEQ = CNMI Division of Environmental Quality
CNMI DFW = CNMI Division of Fish and Wildlife
CNMI DPL = CNMI Department of Public Lands
CNMI FDoA = CNMI Forestry Division of Agriculture—Department of Lands and Natural Resources
CNMI OPD = CNMI Office of the Governor, Office of Planning and Development
CNMI SWARS = CNMI's Statewide Assessment and Resource Strategy Council
DHS = Department of Homeland Security
DoD = Department of Defense
DoN = U.S. Department of Navy
GDAWR = Guam Division of Aquatic and Wildlife Resources
GDPR = Guam Department of Parks and Recreation
GPEPP = Guam Plant Extinction Prevention Program
IEM = Incremental Effects Memorandum
INRMP = Integrated Natural Resources Management Plan
JRM = Joint Region Marianas
MOA = Memorandum of Agreement
MCB = Marine Corps Base
NHP = National Historical Park
NMFS = National Marine Fisheries Service
NPS = U.S. National Park Service
NWR = National Wildlife Refuge
PBF = Physical or Biological Feature
RFA = Regulatory Flexibility Act
Service = U.S. Fish and Wildlife Service
SSP = Socio-Economic Pathway
USDA WS = U.S. Department of Agriculture Wildlife Services
USGS = U.S. Geological Survey
UOG = University of Guam

Information Requested

We intend that any final action resulting from this proposed rule will be based on the best scientific and commercial data available and be as accurate and as effective as possible. Therefore, we request comments or information from other governmental agencies, the indigenous community, the scientific community, industry, or any other interested parties concerning this proposed rule. We particularly seek comments concerning:

(1) Specific information on:

(a) The amount and distribution of habitat for the Mariana Islands species;

(b) Any additional areas occurring within the range of the Mariana Islands species that should be included in the designation because they (i) are occupied at the time of listing and contain the physical or biological features that are essential to the conservation of the species and that may require special management considerations or protection, or (ii) are unoccupied at the time of listing and are essential for the conservation of the species;

(c) Modifications that may be necessary for different types of projects to ensure protection of physical or biological features for a given species;

(d) Special management considerations or protection that may be needed in critical habitat areas we are proposing, including managing for the potential effects of climate change; and

(e) For the Pacific sheath-tailed bat, whether areas not occupied at the time of listing qualify as habitat for the species and are essential for the conservation of the species.

(2) Land use designations and current or planned activities in the subject areas and their possible impacts on proposed critical habitat.

(3) Information on any specific areas that we have identified as ''uncategorized'' land ownership.

(4) Any probable economic, national security, or other relevant impacts of designating any area that may be included in the final designation, and the related benefits of including or excluding specific areas.

(5) Information on the extent to which the description of probable economic impacts in the economic analysis is a reasonable estimate of the likely economic impacts and any additional information regarding probable economic impacts that we should consider, particularly the impact on land values of private lands included in the critical habitat designation.

(6) Information on how project modifications may impact affected areas—especially considering the remoteness of some islands and the role of Federal funding in local economies.

(7) Whether any specific areas we are proposing for critical habitat designation should be considered for exclusion under section 4(b)(2) of the Act, and whether the benefits of potentially excluding any specific area outweigh the benefits of including that area under section 4(b)(2) of the Act, in particular for those that we are considering for exclusion, including the Memorandum of Agreement (MOA) for the Mariana Crow (åga or *Corvus kubaryi*) Conservation Area (includes a 684–ac (277–ha) portion of the I'Chenchon Bird Sanctuary), Rota Local Law No. 9–1 for the Sabana Protected Area (Commonwealth of Northern Mariana Islands (CNMI) 1994, entire), and the Talakhaya Integrated Watershed Management Plan (CNMI DEQ 2012, entire). If you think we should exclude any additional areas, such as the areas under consideration within the draft Guam Habitat Conservation Plan that is in an early stage of development, or the Anao, Bolanos, and Cotal Conservation

Areas, please provide information supporting a benefit of exclusion.

(8) Whether we could improve or modify our approach to designating critical habitat in any way to provide for greater public participation and understanding, or to better accommodate public concerns and comments.

Please include sufficient information with your submission (such as scientific journal articles or other publications) to allow us to verify any scientific or commercial information you include.

Please note that submissions merely stating support for, or opposition to, the action under consideration without providing supporting information, although noted, do not provide substantial information necessary to support a determination. Section 4(b)(2) of the Act directs that the Secretary shall designate critical habitat on the basis of the best scientific data available.

You may submit your comments and materials concerning this proposed rule by one of the methods listed in **ADDRESSES**. We request that you send comments only by the methods described in **ADDRESSES**.

If you submit information via *https://www.regulations.gov,* your entire submission—including any personal identifying information—will be posted on the website. If your submission is made via a hardcopy that includes personal identifying information, you may request at the top of your document that we withhold this information from public review. However, we cannot guarantee that we will be able to do so. We will post all hardcopy submissions on *https://www.regulations.gov.*

Comments and materials we receive, as well as supporting documentation we used in preparing this proposed rule, will be available for public inspection on *https://www.regulations.gov.*

Our final designation may differ from this proposal because we will consider all comments we receive during the comment period as well as any information that may become available after this proposal. Based on the new information we receive (and, if relevant, any comments on that new information), our final designation may not include all areas proposed, may include additional areas that meet the definition of critical habitat, or may exclude areas if we find the benefits of exclusion outweigh the benefits of inclusion and exclusion will not result in the extinction of the species. In our final rule, we will clearly explain our rationale and the basis for our final decision, including why we made changes, if any, that differ from this proposal.

Public Hearings

Section 4(b)(5) of the Act provides for a public hearing on this proposal, if requested. Requests must be received by the date specified in **DATES**. Such requests must be sent to the address shown in **FOR FURTHER INFORMATION CONTACT**. We will schedule a public hearing on this proposal, if requested, and announce the date, time, and place of the hearing, as well as how to obtain reasonable accommodations, in the **Federal Register** and local newspapers at least 15 days before the hearing. We may hold the public hearing in person or virtually via webinar. We will announce any public hearing on our website, in addition to the **Federal Register**. The use of virtual public hearings is consistent with our regulations at 50 CFR 424.16(c)(3).

Previous Federal Actions

It is our intent to discuss in this document only those topics directly relevant to the proposed designation of critical habitat for the 22 Mariana Islands species. For more information on the taxonomy, biology, and ecology of the Mariana Islands species addressed in this proposed rule, refer to the final listing rule that published in the **Federal Register** on October 1, 2015 (80 FR 59424), available online at *https://www.regulations.gov* (at Docket No. FWS–R1–ES–2014–0038).

On July 20, 2021, the Center for Biological Diversity (Plaintiff) filed a complaint (Case No. 21–CV–00017) alleging that the Service violated the Act by failing to comply with the statutory deadline for designating critical habitat for 23 Mariana Islands species listed on October 1, 2015 (80 FR 59424). On April 18, 2022, the parties entered into a stipulated settlement agreement, which was subsequently approved by the Court, whereby the Service agreed to submit to the **Federal Register** proposed critical habitat designations for the species in the complaint on or before June 26, 2025. In compliance with the settlement agreement, this document constitutes the proposed critical habitat designation for 22 of the species where the Service has jurisdiction to designate critical habitat. For one of the species (*i.e., Solanum guamense*), the areas that meet the definition of critical habitat are exempt under section 4(a)(3)(B)(i) of the Act (see Exemptions, below). Therefore, there is no critical habitat designation proposed for *Solanum guamense.*

Peer Review

In accordance with our joint policy on peer review published in the **Federal Register** on July 1, 1994 (59 FR 34270), and our August 22, 2016, memorandum updating and clarifying the role of peer review in listing and recovery actions under the Act, we are soliciting independent scientific review of this proposed critical habitat designation to ensure that this proposal is based on scientifically sound data and analysis. We have invited peer reviewers to comment on our specific assumptions, methodology, and science used in this proposed rule, and we will consider any comments received, as appropriate, before a final agency determination.

The Mariana Islands

The Mariana Islands are a longitudinally arranged archipelago consisting of 15 main islands and various smaller islets located in western Micronesia between latitudes 21° and 13° N and longitudes 144° and 146° E. The primarily volcanic northern islands include Farallon de Medinilla, Anatahan, Sarigan, Guguan, Alamagan, Pagan, Agrihan, Asuncion, Maug, and Uracas, while the limestone and volcanic southern islands include Guam, Rota, Aguiguan, Tinian, and Saipan. The northern islands of Anatahan, Guguan, Alamagan, Asuncion, Pagan, and Uracas are still volcanically active. Only the southern islands of Guam (including Cocos Island), Rota, Tinian, and Saipan are regularly inhabited by humans; all the other Mariana Islands are considered uninhabited, although some (*e.g.,* Aguiguan, Pagan) may be visited on occasion. Please see the proposed listing rule (79 FR 59364 at 59367–59377, October 1, 2014) for more background information on the Mariana Islands' geography, vegetation, hydrology, climate, biogeography, historical and current human impacts, political division, island-specific descriptions, and details regarding the ecosystems upon which the species addressed in this proposed rulemaking action depend.

Common Name Changes

Following publication of the final listing rule (80 FR 59424; October 1, 2015), we have identified new common names for some of the Mariana Islands species. Table 1 is a list of the species' Latin names, and updated common names, including corrected versions (the column ''Common name(s) updated'' includes all currently known common names). Common names are not regulatory and may be updated without a rulemaking action; these names are included here for transparency. Diacritical marks are included in table 1 but not in the proposed regulations.

TABLE 1—23 MARIANA ISLANDS SPECIES: LATIN NAMES AND NEW COMMON NAMES

[ChG = Chamorro name in Guam's spelling, ChCNMI = Chamorro name in CNMI's spelling, Ca = Carolinian name, NCN = no common name]

Latin name	Common name(s) updated
Emballonura semicaudata rotensis	Pacific sheath-tailed bat, paye'ye' ChG, payesyes ChG, fanihen gånas ChG, paye'yi' ChCNMI, payesyis ChCNMI, fanihin gånas ChCNMI, paischeey Ca.
Emoia slevini	Slevin's skink, Marianas Emoia, Mariana skink, guåli'ek hålomtåno' ChG, gholuuf Ca, guali'ik halumtånu' ChCNMI.
Samoana fragilis	fragile tree snail, dengdeng ChG, dengding ChCNMI, akaleha' ChG,&ChCNMI, denden Ca.
Partula radiolata	Guam tree snail, dengdeng ChG, dengding ChCNMI, akaleha' ChG,&ChCNMI, denden Ca.
Partula gibba	humped tree snail, dengdeng ChG, dengding ChCNMI, akaleha' ChG,&ChCNMI, denden Ca.
Partula langfordi	Langford's tree snail, dengdeng ChG, dengding ChCNMI, akaleha' ChG & ChCNMI, denden Ca.
Hypolimnas octocula marianensis	Mariana eight-spot butterfly, ababang ChG, ababbang ChCNMI, libweibwogh Ca.
Vagrans egistina	Mariana wandering butterfly, ababang ChG, ababbang ChCNMI, libweibwogh Ca.
Ischnura luta	Rota blue damselfly, dulalas Luta ChG, ChCNMI, and Ca.
Bulbophyllum guamense	wild onion, siboyas hålomtåno' ChG, siboyas halumtånu' ChCNMI, siboyan hålomtåno' Ca.
Cycas micronesica	fadang ChG & ChCNMI, faadang Ca.
Dendrobium guamense	NCN.
Eugenia bryanii	NCN.
Hedyotis megalantha	pao de'do' ChG, påode'du' ChCNMI, pao doodu Ca.
Heritiera longipetiolata	ufa hålomtåno' ChG, ufa halumtånu' ChCNMI, ufa hålomtåno' Ca.
Maesa walkeri	NCN.
Nervilia jacksoniae	NCN.
Phyllanthus saffordii	maigo' lålo' ChG.
Psychotria malaspinae	aplohkåteng palao'an ChG, åpplok hatting palao'an ChG aplokkating palåo'an ChCNMI.
Solanum guamense	birenghenas hålomtåno' ChG, biringhenas halumtånu' ChCNMI, birengenas hålomtåno' Ca.
Tabernaemontana rotensis	NCN.
Tinospora homosepala	NCN.
Tuberolabium guamense	NCN.

Background

Regulatory Framework

Section 4(a)(3) of the Act requires that, to the maximum extent prudent and determinable, we designate a species' critical habitat concurrently with listing the species. Critical habitat is defined in section 3(5)(A) of the Act as:

(1) The specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the Act, on which are found those physical or biological features

(a) Essential to the conservation of the species, and

(b) Which may require special management considerations or protection; and

(2) Specific areas outside the geographical area occupied by the species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Our regulations at 50 CFR 424.02 define the geographical area occupied by the species as an area that may generally be delineated around species' occurrences, as determined by the Secretary (*i.e.,* range). Such areas may include those areas used throughout all or part of the species' life cycle, even if not used on a regular basis (*e.g.,* migratory corridors, seasonal habitats, and habitats used periodically, but not solely by vagrant individuals).

Conservation, as defined under section 3(3) of the Act, means to use and the use of all methods and procedures that are necessary to bring an endangered or threatened species to the point at which the measures provided pursuant to the Act are no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transplantation, and, in the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, may include regulated taking.

Critical habitat receives protection under section 7 of the Act through the requirement that each Federal action agency ensure, in consultation with the Service, that any action they authorize, fund, or carry out is not likely to result in the destruction or adverse modification of designated critical habitat. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. Such designation also does not allow the government or public to access private lands. Such designation does not require implementation of restoration, recovery, or enhancement measures by non-Federal landowners. Rather, designation requires that, where a landowner requests Federal agency funding or authorization for an action that may affect an area designated as critical habitat, the Federal agency consult with the Service under section 7(a)(2) of the Act. If the action may affect the listed species itself (such as for occupied critical habitat), the Federal agency would have already been required to consult with the Service

even absent the designation because of the requirement to ensure that the action is not likely to jeopardize the continued existence of the species. Even if the Service were to conclude after consultation that the proposed activity is likely to result in destruction or adverse modification of the critical habitat, the Federal action agency and the landowner are not required to abandon the proposed activity, or to restore or recover the species; instead, they must implement ''reasonable and prudent alternatives'' to avoid destruction or adverse modification of critical habitat.

Under the first prong of the Act's definition of critical habitat, areas within the geographical area occupied by the species at the time it was listed are included in a critical habitat designation if they contain physical or biological features (1) which are essential to the conservation of the species and (2) which may require special management considerations or protection. For these areas, critical habitat designations identify, to the extent known using the best scientific data available, those physical or biological features that are essential to the conservation of the species (such as space, food, cover, and protected habitat).

Under the second prong of the Act's definition of critical habitat, we can designate critical habitat in areas outside the geographical area occupied by the species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Section 4(b)(2) of the Act requires that we designate critical habitat on the basis of the best scientific data available. Further, our Policy on Information Standards Under the Endangered Species Act (published in the **Federal Register** on July 1, 1994 (59 FR 34271)), the Information Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Pub. L. 106–554; H.R. 5658)), and our associated Information Quality Guidelines provide criteria, establish procedures, and provide guidance to ensure that our decisions are based on the best scientific data available. They require our biologists, to the extent consistent with the Act and with the use of the best scientific data available, to use primary and original sources of information as the basis for recommendations to designate critical habitat.

When we are determining which areas should be designated as critical habitat, our primary source of information is generally the information compiled in the Species Status Assessment report and information developed during the listing process for the species. A Species Status Assessment was not available for this proposed rule; however, additional information sources are used that may include any generalized conservation strategy, criteria, or outline that may have been developed for the species; the recovery plan for the species; articles in peer-reviewed journals; conservation plans developed by States and counties; scientific status surveys and studies; biological assessments; other unpublished materials; or experts' opinions or personal knowledge.

Habitat is dynamic, and species may move from one area to another over time. We recognize that critical habitat designated at a particular point in time may not include all of the habitat areas that we may later determine are necessary for the recovery of the species. For these reasons, a critical habitat designation does not signal that habitat outside the designated area is unimportant or may not be needed for recovery of the species. Areas that are important to the conservation of the species, both inside and outside the critical habitat designation, will continue to be subject to: (1) Conservation actions implemented under section 7(a)(1) of the Act; (2) regulatory protections afforded by the requirement in section 7(a)(2) of the Act for Federal agencies to ensure their actions are not likely to jeopardize the continued existence of any endangered or threatened species; and (3) the prohibitions found in section 9 of the Act *for the endangered species* and the 4(d) rule *for the threatened species.* Federally funded or permitted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. These protections and conservation tools will continue to contribute to recovery of the species. Similarly, critical habitat designations made on the basis of the best scientific data available at the time of designation will not control the direction and substance of future recovery plans, habitat conservation plans (HCPs), or other species conservation planning efforts if new information available at the time of those planning efforts calls for a different outcome.

Physical or Biological Features Essential to the Conservation of the Species

In accordance with section 3(5)(A)(i) of the Act and regulations at 50 CFR 424.12(b), in determining which areas we will designate as critical habitat from within the geographical area occupied by the species at the time of listing, we consider the physical or biological features that are essential to the conservation of the species, and which may require special management considerations or protection. The regulations at 50 CFR 424.02 define ''physical or biological features essential to the conservation of the species'' as the features that occur in specific areas and that are essential to support the life-history needs of the species, including, but not limited to, water characteristics, soil type, geological features, sites, prey, vegetation, symbiotic species, or other features. A feature may be a single habitat characteristic or a more complex combination of habitat characteristics. Features may include habitat characteristics that support ephemeral or dynamic habitat conditions. Features may also be expressed in terms relating to principles of conservation biology, such as patch size, distribution distances, and connectivity. For example, physical features essential to the conservation of the species might include gravel of a particular size required for spawning, alkaline soil for seed germination, protective cover for migration, or susceptibility to flooding or fire that maintains necessary early-successional habitat characteristics. Biological features might include prey species, forage grasses, specific kinds or ages of trees for roosting or nesting, symbiotic fungi, or absence of a particular level of nonnative species consistent with conservation needs of the listed species. The features may also be combinations of habitat characteristics and may encompass the relationship between characteristics or the necessary amount of a characteristic essential to support the life history of the species.

In considering whether features are essential to the conservation of the species, we may consider an appropriate quality, quantity, and spatial and temporal arrangement of habitat characteristics in the context of the life-history needs, condition, and status of the species. These characteristics include, but are not limited to, space for individual and population growth and for normal behavior; food, water, air, light, minerals, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, or rearing (or development) of offspring; and habitats that are protected from disturbance.

Rationales and Summary Lists of Physical or Biological Features for Each Species or Grouping of Species

We derive the following specific physical or biological features (PBFs)

essential to the conservation of the Mariana Islands species from studies of the species' habitat, ecology, and life history as described below. Additional information can be found in the 5-year reviews (Service 2020a–2020s, entire; Service 2021, entire; Service 2024a–b, entire), species reports (Service 2020t–2020ao, entire; 2023b–x, entire), and the recovery plan (Service 2023a, entire); other sources of information as cited, available on *https://www.regulations.gov* under Docket No. FWS–R1–ES–2024–0194). We have determined that the following PBFs are essential to the conservation of the Mariana Islands species:

Mammals

(1) Pacific Sheath-Tailed Bat (Subspecies, *Emballonura semicaudata rotensis*) PBFs

a. *Pacific sheath-tailed bat PBF 1:* Limestone caves, lava tubes, overhanging cliffs, and crevasses for roosting.

b. *Pacific sheath-tailed bat PBF 2:* Intact, contiguous forests near and surrounding suitable roosting sites.

c. *Pacific sheath-tailed bat PBF 3:* Prey insects such as ants, bees, wasps (Hymenoptera), moths (Lepidoptera), and beetles (Coleoptera) and vegetation to support them.

The last known surviving population of Pacific sheath-tailed bat, subspecies *rotensis* (hereafter referred to as ''Pacific sheath-tailed bat'' unless referring to another subspecies), roosts in a few caves on Aguiguan (Lemke 1986, entire; Service 2020b, p. 5; Service 2023h, pp. 3, 29), although the species formerly occupied Guam, Rota, and Tinian (Wiles et al. 2011, pp. 299–300). The species spends more than half its life in roost caves, which are near forests with well-developed tree canopy close to cave entrances; the forests maintain relatively stable cave microclimates, provide food, and allow flight passage (Esselstyn et al. 2004, p. 307; Gorresen et al. 2009, pp. 337–339; O'Shea and Valdez 2009, pp. 77–78; Service 2020u, p. 13; Service 2023h, p. 12). Pacific sheath-tailed bats depend on caves because they roost as lone adults next to lone young on ceilings or upper walls in caves, overhangs, lava tubes, or crevasses where limestone karst is present (Wiles et al. 2011, p. 303; Service 2020b, pp. 4, 6–8; Service 2020u, p. 5; Service 2023h, pp. 11–12). On Aguiguan, the bats are primarily detected in native forests, occasionally in nonnative forest, and are not detected in non-forested habitats (Esselstyn et al. 2004, pp. 306–307), showing a clear association of the bat with forests on Aguiguan; non-forest habitats are largely avoided by the species (Esselstyn et al. 2004, p. 307).

Although the species appears to prefer relatively large caves (Wiles et al. 2011, pp. 299, 302), on Aguiguan, the species is observed in multiple cave shapes and structures, including the following: small (less than 49 ft (15 m) long and 538 square feet (ft^2) (50 square meters (m^2)) in floor area), with low rock overhangs, narrow vertical crevices, various cavities at the base of cliffs or under large boulders; medium (538 ft^2 to 1,076 ft^2 (50 to 100 m^2) in floor area), with wider rooms; and large (over 1,076 ft^2 (100 m^2) in floor area), with ceiling heights reaching 16 to 98 ft (5 to 30 m) (Wiles and Brooke 2009, pp. 432–433; Wiles et al. 2011, p. 301; Service 2023h, p. 14). It is possible that the species may use even smaller caves. For example, on Palau where the closely related Pacific sheath-tailed bat, subspecies *palauensis* (also insectivorous) is known to occur, approximately 150 individuals of this subspecies were flushed from a cave-like formation on a forested hill that was even smaller, at 16 to 32 ft (5 to 10 m) long with a 6.5 ft (2 m) diameter opening (possibly a World War II tunnel) (Wiles et al. 1997, p. 221), while another colony, with several hundred bats and a few Mariana swiftlets (yåyaguak; *Aerodramus bartschi*), was found in a cave 32 ft (10 m) wide and 26 ft (8 m) tall (Wiles et al. 1997, p. 221). Thermal characteristics of Aguiguan cave interiors vary little; temperature highs range 79 to 86 °F (26 to 30 °C), relative humidity ranges 74 to 96 percent, and there is little air movement (O'Shea and Valdez 2009, pp. 77–78; Service 2020u, p. 9; Service 2023h, p. 13); however, thermal characteristics of caves on Aguiguan do not limit use by this species, and it seems unlikely that humidity variations among caves is a limiting factor (Wiles et al. 2011, p. 305).

Forests are the most important foraging habitat for the Pacific sheath-tailed bat (Esselstyn et al. 2004, p. 307). The species is insectivorous, foraging on small insects such as ants, bees, wasps, moths, and beetles supported by forested habitat (O'Shea and Valdez 2009, pp. 63–65; Valdez et al. 2011, pp. 301–307; Service 2023h, p. 10). On Aguiguan, the bats were regularly seen in the forest understory to within 3 ft (1 m) of the ground, with some activity at tree-top level (Esselstyn et al. 2004, p. 306). Canopy heights on Aguiguan are 23–49 ft (7–15 m) tall, which are shorter than forested areas outside the Mariana Islands partially from frequent intense tropical cyclones (Wiles et al. 2011, pp. 300, 306; Service 2023h, p. 12). Tropical cyclones damage and remove trees, leading to a lower canopy level from defoliation, branch breakage, and tree uprooting from high winds and heavy rain. Average canopy heights were less than 4.25 ft (1.3 m) in 2016 surveys, indicating canopy cover was absent at most survey points (CNMI DFW 2016, p. 42). Suitable caves need to be in or near mature, well-structured, native or nonnative forests to provide attainable food sources because this species forages almost exclusively in native and nonnative forests near their roosts, but especially native forests, and avoids non-forested habitats (Esselstyn et al. 2004, p. 307; Palmeirim et al. 2005, pp. 7–8; Gorresen et al. 2009, pp. 336–339; O'Shea and Valdez 2009, p. 44; Wiles et al. 2009, p. 10; Wiles et al. 2011, p. 307; Service 2020u, pp. 6, 11).

On the islands (archipelago) of Palau, which is approximately 113,280 ac (45,843 ha) in size and where the closely related *palauensis* subspecies of Pacific sheath-tailed bat exists, at least one of these individuals has been documented to fly at least 3.1 mi (5 km) from known roosts (Wiles et al. 1997, p. 221). For comparison, on the small Aguiguan Island (1,750 ac (4,324 ha) or 2.74 mi^2 in size), we anticipate the bats on Aguiguan rely heavily on the forests adjacent to roosting habitat, depending on prey availability. Suitable foraging habitat is mature, well-structured forests with a high and dense canopy near suitable roosting sites. This is necessary to maintain a stable or growing bat population (Kalko 1995, pp. 262–265; Esselstyn et al. 2004, p. 307; Palmeirim et al. 2005, pp. 3–5, 7–8; Gorresen et al. 2009, pp. 336–339; Valdez et al. 2011, pp. 306–307; Marques et al. 2016, pp. 481–484; Service 2023a, p. 25).

Previous disturbance by human occupation and warfare during World War II and ongoing disturbance of roosting caves by human and feral goats contribute to the decline of this species (Wiles et al. 2011, p. 306; Service 2020u, p. 10) by affecting mating, rearing young, social interactions, protection from inclement weather, and causing elevated energetic costs, physiological stress, and increased risk of depredation (Palmeirim et al. 2005, p. 7; Kunz and Lumsden 2003, pp. 4, 43, 66; Service 2020u, p. 10). Historical warfare and ongoing disturbances have contributed to roost abandonment for the Pacific sheath-tailed bat. The degree and frequency of disturbance resulting in cave abandonment by the species is not well understood; however, inhabitation of roosting caves near and/or within suitable foraging habitat may occur again after physical disturbances have been alleviated. Feral goats take shelter in caves, disrupt colonies of the

federally endangered Mariana swiftlet, and likely disturb the Pacific sheath-tailed bat (Wiles and Worthington 2002, p. 17; Cruz et al. 2008, p. 243; Scanlon 2015, in litt., entire; Service 2023h, pp. 14–15). Suitable caves are found unoccupied by this species and were occupied by goats (GDAWR 1995, p. 95).

Reptiles

(2) Slevin's skink (*Emoia slevini*) PBFs

a. *Slevin's skink PBF 1:* Forests such as native limestone forests, volcanic forests, mixed-nonnative forests, *Casuarina equisetifolia* (gågu, gågo, weighu, beach sheoak, or common ironwood) and *Cocos nucifera* (niyok, coconut) dominant forests.

b. *Slevin's skink PBF 2:* Forest understory and leaf litter and debris.

c. *Slevin's skink PBF 3:* Invertebrate prey and vegetation to support them.

Slevin's skink is the only lizard endemic to the Mariana Islands and has had a 99 percent decline in its distribution. It is known to occur only on Alamagan, Asuncion, Cocos Island (which is part of Guam), and Sarigan, and possibly Pagan, but it is thought to be extinct or undetected on Guam, Rota, Tinian, and Aguiguan (Service 2023j, p. 3). Threats to this species include loss and degradation of habitat due to impacts from feral ungulates, nonnative plants, and development; predation by invasive species (*e.g.,* rats, brown tree snake); and competition from nonnative lizards (Service 2023j, pp. 3, 16–38).

The skinks are often seen on forest floors containing leaf litter and tree debris, and observed on trees, within low hollows of tree trunks, under logs, within palm fronds, and near abandoned buildings, but rarely observed in open or sunlit areas (Brown and Falanruw 1972, p. 110; Rodda et al. 1991, p. 205; CNMI DFW 2000, in litt., pp. 21–26; GDAWR 2006, p. 107; Vogt 2007, pp. 5–1 to 5–2; Lardner 2013, in litt., p. 4). Recorded forest types inhabited by Slevin's skink include ravine, native, mixed-native, mixed secondary, and forests of *Casuarina equisetifolia* and *Cocos nucifera* (Brown and Falanruw 1972, p. 110; McCoid et al. 1995, p. 72; CNMI DFW 2005, p. 175; Vogt 2007, in litt., pp. 5–1 to 5–2). The species also likely uses forests with habitat complexity, typical of the Mariana Islands, comprised of limestone or volcanic substrates and native tree canopy species, such as *Elaeocarpus joga, Pisonia grandis, Hernandia labyrinthica, Hernandia sonora, Ficus prolixa, Macaranga thompsonii, Pandanus* spp., and *Intsia bijuga* for limestone forests; and *Pisonia grandis, Hernandia sonora, Barringtonia asiatica, Pandanus tectorius,* and *Terminalia catappa* for volcanic forests (Service 2023j, p. 15).

Females carry eggs internally, birth live young and require understory of leaf litter and tree debris to hide from predators and to stalk prey (insectivorous) (Harrington et al. 2020, p. 14). Like all insectivorous skinks, individuals require a sufficient abundance of insects and small invertebrates to complete their development and life cycle, including mating and breeding (Harrington et al. 2020, p. 15; Service 2023j, p. 15). Males of many other skink species are aggressively territorial, and we expect the Slevin's skink to also be territorial (Service 2023j, p. 15). The territory area necessary for Slevin's skink is unknown; however, wherever suitable habitat remains within their historic range, we expect they may be present, just undetected, because they were undetected on Guam's Cocos Island for almost two decades (Cocos is approximately 95 ac, or 38 ha) (Service 2020c, p. 4; Service 2023j, p. 16).

Snails

(3) Tree Snails: Fragile tree snail (*Samoana fragilis*), Guam tree snail (*Partula radiolata*), humped tree snail (*Partula gibba*), and Langford's tree snail (*Partula langfordi*) PBFs

a. *Tree snail PBF 1:* Contiguous closed-canopy limestone, volcanic, riverine, riparian, ravine, or secondary/mixed forests, or backstrand beach vegetation, providing relatively stable climatic conditions such as shade, moisture, high humidity, and low air movement.

b. *Tree snail PBF 2:* Dense mid-canopy vegetation such as large leaves, branches, vines, or other structures.

c. *Tree snail PBF 3:* Understory such as ground cover composed of short herbs, shrubs, ferns, and small trees.

d. *Tree snail PBF 4:* Food sources such as dead and decaying plant material, leaf litter, and tree debris.

The tree snails require sufficiently dense forests that are cool, shaded, and have high humidity and stable environmental factors including temperature, relative humidity, and light to prevent excessive moisture loss to their bodies, and to provide conditions conducive to growth of fungi and microalgae (Crampton 1925, p. 14; Cowie 1992, p. 175; Service 2020w, p. 6; Service 2023b, p. 12; Service 2023c, p. 3; Service 2023d, pp. 3, 6; Service 2023e, p. 10). Excessive light and unstable temperatures and humidity have detrimental impacts on juvenile survival (Gouveia 2011, pp. 68, 76–78; Service 2023d, p. 12; Service 2023e, p. 10; Service 2023c, p. 10; Service 2023b, p. 12). The tree snails require forest understory containing live and decaying leaves and branches, suggesting a diet of fungus or microalgae (Service 2023d, p. 12; Service 2023e, pp. 10–11; Service 2023c, p. 10; Service 2023b, p. 12). Threats to tree snails include loss and degradation of habitat due to impacts from development, wildfire, invasive plants, typhoons, and climate change (*e.g.,* increasing temperatures, changes in precipitation patterns); and predation from invasive animals (Service 2023a, pp. 17–24).

The tree snails are most likely found on broad-leafed plants in places with canopy and ground cover (Fiedler 2019, pp. 10–11). The species are commonly observed in forests with a mid-canopy of less than or equal to 13 ft (4 m), ground cover of short herbaceous plants and small shrubs (Fiedler 2019, p. 10), and contiguous suitable habitat (Service 2020t, p. 9; Service 2020w, p. 7; Service 2020v, p. 14). Partulid snails can be found high in trees, depending on the tree and location. Tree snails were observed on leaves higher than 26 ft (8 m) from the ground (Fiedler 2019, p. 13). The snails are not known to have specific host plant requirements, except a preference for large leaves (to take refuge under), and they are found on the underside of leaves of a variety of native and nonnative vegetation. However, based on limited observational studies, population densities are lower on nonnative vegetation than those on native vegetation for the fragile tree snail on Guam and the humped tree snail on Sarigan, CNMI (CNMI DFW 2008, p. 8–4; Fiedler 2019, p. 7; Service 2020v, pp. 6, 12).

Observations of the tree snails on native vegetation most commonly occur on (but are not limited to) *Piper guahamense, Mammea odorata* (chopak, chopag), and *Merrilliodendron megacarpum* (no common name) (observed for humped tree snail); *Aglaia* spp. (observed for Langford's tree snail); *Alocasia macrorrhizos* (giant taro), *Artocarpus* spp., *Cocos nucifera, Epipremnum aureum, Merrilliodendron megacarpum* (observed for Guam tree snail); and *Arterocarpus* spp. and *Merrilliodendron megacarpum* (observed for fragile tree snail) (Service 2023b, pp. 16–17; Service 2023c, p. 14; Service 2023d, pp. 11–12; Service 2023e, pp. 10, 15). The tree snails are also observed in backstrand beach vegetation—plant communities near or directly adjacent to the ocean, where the salinity is higher and the vegetation is more salt-tolerant and that may contain volcanic or limestone substrates (CNMI

DFW 2015a, pp. 4–6; Service 2023d, pp. 16–18).

The snails have both male and female reproductive organs and birth live young, but juvenile mortality rates are very high (Pearce-Kelly et al. 1995, p. 660; Service 2023d, p. 13; Service 2023e, pp. 11–12; Service 2023c, p. 11; Service 2023b, p. 13). Another primary threat to the snails is depredation by the nonnative New Guinea flatworm, a ground-dwelling flatworm that climbs wet trees and locates snails via scent (Sugiura and Yamaura 2009, pp. 739–741; Service 2020x, p. 3; Service 2023d, pp. 3, 14; Service 2023e, pp. 3, 12; Service 2023c, p. 3; Service 2023b, p. 14). Other predators include the nonnative rosy wolf snail (Hopper and Smith 1992, p. 82; Service 2023c, p. 12) and the nonnative, invasive yellow crazy ant (Service 2023d, p. 14; Service 2023e, p. 12; Service 2023b, p. 14). Habitat loss and degradation have contributed substantially to population declines of the tree snails (Service 2023d, p. 14; Service 2023e, p. 13; Service 2023c, p. 12; Service 2023b, p. 14).

Insects

(4) Mariana eight-spot butterfly *(Hypolimnas octocula marianensis)* PBFs

a. *Mariana eight-spot butterfly PBF 1:* Interconnected native, closed-canopy limestone forests.

b. *Mariana eight-spot butterfly PBF 2:* Larval host plants such as *Procris pedunculata* (no common name) or *Elatostema calcareum* (tapun ayuyu).

c. *Mariana eight-spot butterfly PBF 3:* Food resources from day-flowering plants or decaying organic matter (*e.g.,* rotten fruits or animals).

The Mariana eight-spot butterfly (Nymphalidae family) once occurred across a much larger range of habitat than its current distribution on Guam, likely formerly occupying Rota and Tinian (which lie between currently occupied Guam and formerly occupied Saipan), and host plants are present on all islands (Schreiner and Nafus 1996, p. 2; Moore 2013, p. 2; Rubinoff and Holland 2018, p. 221; Service 2023f, pp. 3, 26, 27). The butterfly historically occupied Guam and Saipan, and on Saipan it had a range of approximately 21,600 ac (8,741 ha) (70 percent of the island); however, 99 percent of the native forest ecosystem habitat on Saipan is gone (Service 2023m, p. 28) and the species not been detected during anecdotal surveys performed for purposes other than detecting this species (Schreiner and Nafus 1996, p. 10; Moore 2013, p. 2; Rubinoff and Holland 2018, pp. 218–220, 222; Service 2023f, p. 27). Additionally, it is important to note for this and other species that pollinators and birds are almost entirely absent from Guam due to depredation by the invasive brown tree snake; the lack of pollinators and seed dispersers inhibits the reproduction of plant communities that support these listed species (Egerer et al. 2018, p. 655; Service 2020ak, pp. 2, 14).

Mariana eight-spot butterflies occupy habitat in limestone forest over karst spires, boulders, and small cliffs where the host plants are protected from ungulate grazing (Schreiner and Nafus 1996, p. 1; Rubinoff and Holland 2018, p. 222). Known larval host plants include *Procris pedunculata* and *Elatostema calcareum* (vine-like forest herbs growing on rocky and karst substrate in native limestone forests) (Schreiner and Nafus 1996, p. 1; Service 2023f, pp. 12, 14). Adults rely on ephemeral food sources including rotting fruit and nectar from day-blooming flowers in limestone forests, and dead animals, mostly available after the wet season, when plants bloom and fruiting occurs (Service 2020z, p. 12; Service 2021, p. 5; Service 2023f, pp. 3, 12). Larvae need safety during pupation and abundant food resources to grow; caterpillars eat the native host plants (Schreiner and Nafus 1996, p. 1; Service 2023f, pp. 12, 14). Like all butterflies, Mariana eight-spot butterflies require sufficient host plant material to eat as caterpillars, a safe place to pupate, and abundant food resources as adults (Service 2023g, p. 14). The adults require close proximity to larval host plants; moreover, tropical butterflies, including nymphalid species (*i.e.,* brush-footed butterflies in the Nymphalidae family), are less likely to fly through open areas, so forest habitat connectivity between the specific Mariana eight-spot butterfly larval stage host plant sites is required (Rubinoff and Kawahara 2011, in litt., entire; Rubinoff 2013, in litt., p. 1; Rubinoff and Holland 2018, pp. 223, 224; Scriven et al. 2015, p. 420; Scriven et al. 2017, pp. 206, 212; Service 2023f, p. 15). Threats to this species include loss and degradation of habitat due to impacts from feral ungulates, nonnative plants, and herbivory by slugs; and predation from native and nonnative insects including ants and parasitic wasps (Service 2023f, pp. 3, 16–24).

(5) Mariana wandering butterfly *(Vagrans egistina)* PBFs

a. *Mariana wandering butterfly PBF 1:* Interconnected native limestone forest.

b. *Mariana wandering butterfly PBF 2:* Native limestone forest understory vegetation.

c. *Mariana wandering butterfly PBF 3:* Larval host plants, such as *Maytenus thompsonii* (luluhut).

d. *Mariana wandering butterfly PBF 4:* Food resources from day-flowering plants or decaying organic matter (*e.g.,* rotten fruits or animals).

The Mariana wandering butterfly is endemic to Guam and Rota and likely occurred across a much larger range of habitat than its current habitat distribution on Guam and Rota (Swezey 1942 p. 35; Schreiner and Nafus 1997, p. 36; Rubinoff and Holland 2018, p. 218; Service 2020f, pp. 5–6; Service 2023g, p. 3). The butterfly is in the Nymphalidae family and is one of seven nymphalid species found in the Mariana Islands, including the Mariana eight-spot butterfly, from which we infer much because so little is known of the Mariana wandering butterfly (Service 2023g, p. 3). The Mariana wandering butterfly likely relies on camouflage for protection, as the cryptic coloring of the bottom of the wings, visible when folded up, appear much duller and leaf-like in color and mimic the surrounding vegetation (Service 2023g, p. 10). The species is likely very difficult to detect and there have been no consistent survey efforts (Rubinoff 2024, pers. comm.). Threats to the species include habitat loss and degradation due to impacts from feral ungulates and nonnative plants, and predation from native and nonnative insects (*e.g.,* ants, parasitic wasps) (Service 2023g., pp. 3, 17–22).

Like most nymphalid butterflies, the adults use a long proboscis to feed on a variety of ephemeral food sources including nectar of day-blooming flowers, rotting fruit, and occasionally dead animals (Service 2023g, p. 12). The Mariana wandering butterfly is known to rear successfully on the native plant *Maytenus thompsonii,* a small shrub-like tree endemic to the Mariana Islands and found primarily in the understory of native limestone forests (Swezey 1942, p. 35; Service 2023g, pp. 11–12). *Maytenus thompsonii* can grow to heights over 13 ft (4 m), and thickets of the trees can grow impenetrably dense (Rubinoff and Holland 2018, pp. 222–223), potentially offering protection of eggs and larvae. Although the species typically occurs within limestone forests, it is not restricted to rugged karst terrain like the host plants of the related Mariana eight-spot butterfly (Rubinoff and Holland 2018, p. 221). Like all butterflies, Mariana wandering butterflies require sufficient host plant material to eat as caterpillars, a safe

place to pupate, and abundant food resources as adults (Service 2023g, p. 14). Like the Mariana eight-spot, the Mariana wandering butterfly likely requires high-density host plant distribution within interconnected native limestone forest (Service 2020ah, pp. 15, 17; Service 2020z, pp. 14–15; Service 2023g, p. 14); all remaining suitable limestone forest may be a species need (Service 2020ah, p. 17).

(6) Rota blue damselfly (*Ischnura luta*) PBFs

a. *Rota blue damselfly PBF 1:* Contiguous closed-canopy forest habitats surrounding streams and their tributaries with adequate cool, clean, clear, moving water.

b. *Rota blue damselfly PBF 2:* Riparian vegetation adjacent to streams and their tributaries.

c. *Rota blue damselfly PBF 3:* Small prey such as water fleas, larvae, or other small invertebrate or aquatic organisms.

The Rota blue damselfly is endemic to Rota where it inhabits a single confirmed stream system, the Okgok Stream, in the Talakhaya watershed (Polhemus et al. 2000, p. 8; Service 2020g, p. 3; Service 2023i, p. 3). Adult damselflies require large areas of high-quality forest habitat connected to streams because breeding pairs are territorial, they fly long ranges seeking prey before maturing and returning to their selected breeding sites, and they have strong breeding site fidelity and remain relatively close to the aquatic environment where they lived as naiads (larvae) (Finke 1992, p. 449; Polhemus and Asquith 1996, p. 7; Service 2020aa, p. 16; Service 2023i, p. 15). The forest habitat must have sufficient density and distribution to maintain shaded forest understory conditions along streams to keep stream temperatures cool and provide refuge, shelter, adequate area for breeding individuals to expand into, and habitat for prey (Service 2020aa, pp. 3, 19). Threats to this species include loss and degradation of habitat due to impacts from feral ungulates, wildfire, typhoons, nonnative plants, development, and extraction of water from the steam systems; and predation (*i.e.,* nonnative fish and amphibians) (Service 2020aa, pp. 4, 32–46).

The species requires streams and tributaries for breeding and sufficient stream flow for larvae (naiad) development (Service 2020aa, pp. 3, 19; Service 2023i, p. 14). A primary direct stressor to the damselfly is water withdrawal from the island's streams necessary for damselfly use (Service 2023i, p. 4). Female damselflies lay eggs by inserting them into small slits in aquatic vegetation below the water surface and by laying eggs on rocks, algal mats, moss, or vegetation either below or above the water line (Williams 1936, pp. 302–309; Guillermo-Ferreira and Del-Claro 2011, pp. 275, 278–279). The larval stage is aquatic and requires clean, oxygenated water with low silt concentrations because the larvae breathe underwater and eat small aquatic insects and invertebrates (Polhemus and Asquith 1996, p. 4; Service 2023i, p. 3). The species is generally intolerant of high temperatures, pollutants, hypoxic conditions, and silted water, factors long identified as indicators of poor water quality (Moore 1997, p. 10; Solimini et al. 1997, pp. 21, 30–31). Rota blue damselfly larvae eat small aquatic insects and other invertebrates, such as water fleas, mosquito larvae, and other small aquatic organisms (Polhemus and Asquith 1996, p. 4; Service 2020aa, p. 17). Adults eat small flying insects, such as midges and small flies (Polhemus and Asquith 1996, p. 7; Service 2020aa, p. 15).

Epiphytic Orchids

(7) Epiphytic orchids: *Bulbophyllum guamense, Dendrobium guamense,* and *Tuberolabium guamense* PBFs

a. *Epiphytic orchids PBF 1:* Native limestone or volcanic forests with native host vegetation such as trees and tall shrubs, including forests along clifflines, forest edges, mountainous slopes and secondary/mixed and native volcanic ravine forests providing suitable host vegetation.

b. *Epiphytic orchids PBF 2:* Pollinators such as flies, wasps, and bees, and native vegetation to support them.

Host trees for the orchids are not species specific, but *Bulbophyllum guamense* primarily grows on native vegetation and most individuals (greater than 76 percent) of *Dendrobium guamense* and *Tuberolabium guamense* are found on native vegetation associated with primary limestone and volcanic, and secondary/mixed forests (Service 2023k, p. 9; Service 2023m, pp. 12, 17; Service 2023x, p. 14). The orchids are also found on trees and tall shrubs in secondary limestone and volcanic substrate forests, high in the canopy, in ravine secondary forests, under the canopy along forest edges and clifflines, and on the slopes within intact native volcanic forest ecosystems or habitats (Stone 1970, pp. 27, 38, 155; Falanruw et al. 1989, pp. 6–9; Raulerson and Rinehart 1991, pp. 61, 73, 96; Mueller-Dombois and Fosberg 1998, pp. 218, 268; CNMI DFW 2015b, pp. 4–7; Service 2020ab, pp. 17–18, 29; Service 2020ad, pp. 4, 6–8; Service 2020an, pp. 9, 12; Service 2023m, pp. 11–13). Most of the native forest ecosystem for these species has been lost due to natural and anthropogenic disturbance, including invasive species, development, volcanic eruptions, typhoons, and fire (Willsey et al. 2019, pp. 2, 13–18, 28); Guam lost 83 percent, Rota lost 53 percent, Saipan lost 99 percent, Tinian lost 96 percent, Aguiguan lost 45 percent, and Agrihan lost 32 percent (Service 2023m, pp. 28–29).

These three epiphytic orchid species reproduce vegetatively and sexually, and require diverse populations with all age classes present (seeds, seedlings, juveniles, and adults), and must be distributed across sufficient quality forest habitat with high levels of habitat connectivity between populations (Service 2023k, p. 19; Service 2023m, p. 11 Service 2023x, p. 13). Reproduction requires moss or other debris on tree trunks or branches that the three orchid species can root into or cling to (Service 2023k, p. 16; Service 2023m, p. 9; Service 2023x, p. 10). Mother plants disperse seeds onto a host plant surface where they require microbial partners, such as mycorrhizal fungi, to germinate and grow to adults (Alghamdi 2019, p. 502; Service 2020h, p. 7; Service 2020l, p. 8; Service 2020ab, pp. 10, 17). Flies are the most likely pollinator for *Bulbophyllum guamense,* but the three orchid species may also be pollinated by wasps and bees (Borba et al. 1999, p. 205; Humeau et al. 2011, p. 591; Service 2023k, p. 18; Stpiczynska et al. 2018, p. 565). Seed dispersal likely occurs with wind and rain (Service 2023k, p. 17).

Invasive species are the primary driver of island extinctions and are a primary factor underlying the alteration and degradation of native plant communities and habitats in the Mariana Islands (Service 2023a, p. 12; Spatz et al. 2017, p. 1). Steady ongoing habitat degradation and loss occurs from the following sources: ungulates eat native vegetation, prevent native vegetation growth, spread invasive species, and cause severe erosion; rodents eat seeds and plants and affect regeneration; reptiles eat seed-dispersing birds; and invertebrates kill the plants or change the ecosystem that supports them (Service 2023a, pp. 21–22; Willsey et al. 2019, pp. 15–16). Small population abundance and distribution of these epiphytic orchid species increases their vulnerability to threats (Service 2023a, p. 17).

Bulbophyllum guamense is endemic to Guam and Rota, growing on trunks and branches of tall trees and shrubs in native, secondary/mixed forests, and native volcanic ravine forests containing

exact amounts of moisture, light, and wind (the species derives moisture from the atmosphere and moisture and nutrients from host vegetation) (Service 2023k, pp. 3, 16). Historically, this species was likely widely distributed in the native forest habitat along the clifflines and mountainous slopes of the southern Mariana Islands of Guam and Rota (Service 2023k pp. 27, 32). Common host vegetation for the orchids includes *Hernandia labyrinthica, Elaeocarpus joga, Pisonia umbellifera* (birdlime tree or bird-catcher tree), *Artocarpus* spp., *Persea americana* (avocado), and *Areca catechu* (betel nut) (Stone 1970, p. 158; CNMI DFW 2015b, pp. 2, 4–7; Service 2023k, p. 16). *Bulbophyllum guamense* are found along slopes at relatively high elevations in native limestone and secondary forest habitats, which appears to protect them from stochastic events (*e.g.,* hurricanes) (Service 2020ab, pp. 3, 6–7, 9, 29).

Dendrobium guamense is endemic to Guam, Rota, Saipan, Tinian, Aguiguan, and Agrihan, growing predominately on native (93 percent) tree trunks and branches of trees in the top of the tree canopy (Service 2023m, pp. 3, 5, 12), but also terrestrially under the canopy where it is found along forest edges and clifflines (CNMI DFW 2015b, pp. 3–5). *Dendrobium guamense* are mostly (76 percent) found on native trees, such as (but not limited to) *Elaeocarpus joga, Glochidion marianum* (chosgô), and *Pandanus tectorius* (Service 2023m, p. 12).

Tuberolabium guamense is endemic to forest ecosystems of Guam and Rota with limestone and volcanic substrata, growing in low sunlight, low in the tree canopy, on tree trunks or shrubs of primarily native species (Service 2023x, p. 3; Stone 1970, pp. 14, 18–24). Known host vegetation includes (but is not limited to) *Aglaia mariannensis* (mapunyao, mapuñao, fischil liyoos), *Eugenia reinwardtiana* (cedar bay cherry), and *Merrilliodendron megacarpum* (see Service 2023x, pp. 14, 16 for full list). *Tuberolabium guamense* has little apparent specificity for precipitation within the current ranges recorded on Guam and Rota; it occupies sites across gradients in space spanning large differences in rainfall, temperature, and elevation (Service 2023x, p. 17).

Forest Plants

Historically, forest plant communities in the Mariana Islands were described as a diverse ecosystem where 10 or more species grew side by side in approximately equal abundance; these communities were represented by a diverse group of families and species, and none were dominated by any single species or by small groups of species (Glassman 1948, p. 177). The forests were not matted with undergrowth except where trees were few, and the ground cover species were usually confined to the forests (Glassman 1948, p. 179). Less than 17 percent of native forests remain on Guam, less than 47 percent remain on Rota (Willsey et al. 2019, p. 4), and less than 2 percent of native coastal habitats remain on any island in the Mariana Islands (Service 2023a, p. 21). Invasive species are the primary driver of island extinctions and are a primary factor underlying the alteration and degradation of native plant communities and habitats in the Mariana Islands (Service 2023a, p. 12; Spatz et al. 2017, p. 1) and for all of the forest plants. And as stated above, it is important to note that pollinators and birds are almost entirely absent from Guam due to depredation by the invasive brown tree snake, which can severely inhibit a plant's ability to reproduce (pollinators) and distribute (seed dispersers) (Egerer et al. 2018, p. 655; Service 2020ak, pp. 2, 14). Overall, we know very little about these rare forest plants as surveys and reports are few; therefore, we relied on the best available scientific information to identify their essential PBFs.

Forests in the Mariana Islands are characterized by a closed canopy of broadleaf trees with an understory of younger trees, vines, epiphytic ferns, and orchids (Willsey et al. 2019, p. 3). Present day limestone forests are largely (but not limited to) *Hibiscus tiliaceus, Morinda citrifolia* (lada', noni, Indian mulberry), *Psychotria mariana* (åpplok hating, aplohkateng, aplu kati, gathemach, aploghating, åplokhating), *Aidia cochinchinensis* (sumak), *Aglaia mariannensis, Ficus prolixa, Melanolepis multiglandulosa* (ålom), *Pandanus tectorius,* and *Pipturus* spp. The undergrowth is sparse, except for young trees of the above species and vines such as (but not limited to) *Abrus* spp., *Freycinetia* spp., and *Operculina* spp.*;* very common are *Asplenium nidus* (gålak, fedda', bird's nest fern) and *Phymatosorus scolopendria* (monarch fern, kåhlao) (Mueller-Dombois and Fosberg 1998, pp. 216–217; Harrington et al. 2012, entire).

Coastal strand forests comprise the following components: They contain sandy soils, coastal strand vegetation, mangroves, and bare sand, rock, and karst; are contained within near-shore areas that are bounded by the ocean on one side and have a less distinct inland border; are found only in older and larger southern islands (*i.e.,* Guam and Rota); and support a narrow plant community along the shore from loose sand just above the high tide line extending to increasingly less saline volcanic or limestone soil conditions inland (Fosberg 1960, pp. 15–17; Plentovich et al. 2020, p. 186; Service 2020ac, p. 9; Service 2023l, pp. 11–12). Present-day coastal strand vegetation in the Marianas includes (but is not limited to) *Barringtonia asiatica, Bikkia tetrandra, Cassytha filiformis, Casuarina equisetifolia, Cordia subcordata, Heliotropium foertherianum, Hernandia nymphaeifolia, Hibiscus tiliaceus, Ipomoea pes-caprae* (halaihai, goats foot morning glory, bayhops, beach morning glory, railroad vine), *Lepturus repens, Mammea odorata, Ochrosia mariannensis, Pandanus tectorius, Pemphis acidula, Scaevola taccada* (nanåsu, beach naupaka, beach cabbage), Sesuvium *portulacastrum, Sporobolus virginicus, Thespesia populnea, Thuarea involuta,* and *Vigna marina* (akankang manulasa, akangkang malolusa, nanea, beach pea) (Plentovich et al. 2020, p. 187).

(8) Cycas micronesica PBFs

a. *Cycas micronesica PBF 1:* Closed-canopy native limestone or volcanic forests with native vegetation such as (but not limited to) *Hibiscus tiliaceus, Morinda citrifolia, Psychotria mariana, Aidia* spp., *Aglaia* spp., *Ficus* spp., *Melanolepis multiglandulosa, Pandanus* spp., and *Pipturus* spp.

b. *Cycas micronesica PBF 2:* Closed-canopy native coastal strand forest with sandy soils and native vegetation such as *Barringtonia asiatica, Bikkia tetrandra* (torchwood, gausåli), *Casuarina equisetifolia, Cocos nucifera, Hernandia nymphaeifolia* (doko, Hernandia, Jack-in-the-box, lantern tree, nonak), *Hibiscus tiliaceus, Ipomoea pes-caprae, Mammea odorata, Pemphis acidula* (bantigue, nigas), *Scaevola taccada, Sesuvium portulacastrum* (sea purselane), *Sporobolus virginicus* (banalo, binalo, Pacific rosewood, Portia tree), *Thespesia populnea* (banalo, binalo, Pacific rosewood, Portia tree), *Thuarea involuta* (kuroiwa grass, tropical beachgrass, bird's beak grass), and *Vigna marina.*

c. *Cycas micronesica PBF 3:* Native pollinators such as moths and beetles, and native vegetation to support them.

d. *Cycas micronesica PBF 4:* Native seed dispersers such as birds and fruit bats.

Cycas micronesica is a rare gymnosperm (usually an unbranched tree with a thick trunk) native to Guam, Rota, and possibly Pagan, where it is found in the limestone and volcanic forests and coastal (strand) habitats

(Service 2020ac, p. 9; Service 2023l, pp. 3, 11–12). Populations were continuous across Guam as recently as 2002, but fragmented after the cycad aulacaspis scale (*Aulacaspis yasumatsui*) was first detected in 2003. Once established, infestations spread rapidly and are extremely difficult to control, and there is no chemical or biological control method effective at a landscape scale. This invasive armored scale insect infests leaves, stems, and roots of *Cycas micronesica,* causing extensive tissue damage, defoliation, and eventually death. Since its introduction, *Aulacaspis yasumatsui* has caused declines in *Cycas micronesica* populations throughout its range, with mortality rates of up to 93 percent across all life stages, from seedlings to mature plants (Marler 2013, pers. comm). The continued presence of the cycad scale as a primary threat to *Cycas micronesica* increases its risk of extinction throughout its range.

Cycas micronesica is unique among Mariana Islands species as the only native gymnosperm (seed producer), has nitrogen-fixing root symbionts (organisms living in symbiosis with another), lives up to 40 years (Bösenberg 2022, p. 8), and hosts the specialist native beetle *Dihammus marianarum* that feeds on stem tissue and a specialist native moth pollinator (*Anatrachyntis* sp.) that feeds on dispensable male cone tissue (Marler and Dongol 2016, p. 4; Service 2020i, p. 7; Service 2023l, p. 10). *Cycas micronesica* is food for the Mariana fruit bat and was historically used by humans as food after much processing. Threats to this species include loss and degradation of habitat due to impacts from invasive animal and plant species, development, wildfire, and climate change (*e.g.,* changes in precipitation patterns); herbivory from nonnative invertebrates and ungulates; and catastrophic events such as typhoons (Service 2023l, pp. 3, 17–19).

Cycas micronesica reproduces vegetatively and sexually and requires pollinators (Service 2023l, p. 12) such as moths and beetles (*Carpophilus* spp. beetles, Nitidulidae family), it hosts native insect pollinator species, and pollen is dispersed by wind from April to August during the dry season (Hamada et al. 2015, entire; Schneider et al. 2002, p. 282; Service 2020i, p. 7; Service 2020m, p. 7; Terry et al. 2009, pp. 83, 96). Males create very strongly scented cones when pollen matures, and females produce a cone-like structure that opens outward to receive fertilization by pollen (Service 2023l, p. 9). Specialist pollinators are attracted to the cones' chemical cues (Schneider et al. 2002, p. 282; Terry et al. 2009, pp. 83, 96). Seeds require 3 to 6 months to germinate (Raulerson and Rinehart 1991, p. 4; Service 2023l, p. 9).

(9) Eugenia bryanii PBFs

a. *Eugenia bryanii PBF 1:* Limestone forests with moisture, including (but not limited to) forest edge perimeters, exposed limestone cliffs, and limestone forests with karst as the primary substrate.

b. *Eugenia bryanii PBF 2:* Native seed dispersers such as birds and fruit bats.

c. *Eugenia bryanii PBF 3:* Native pollinators and native vegetation to support them.

Eugenia bryanii are small-to-medium-sized shrubs in the Myrtaceae family and are endemic to Guam, where they comprise part of the shrub community in limestone forest habitats, where limestone karst is the primary substrate; the species occupies a relatively narrow habitat niche along the perimeter of forest edges and exposed limestone cliffs (Costion and Lorence 2012, pp. 54, 82; Service 2020ae, p. 3; Service 2023n, pp. 3, 11). The species occurs in limestone forests where limestone karst is the primary substrate. However, it is unknown whether the species has any habitat requirements or limitations besides needing limestone soils or limestone karst, and it may previously have been more widely distributed; fewer ungulates can traverse karst substrates, potentially explaining why the species is only found along these edges (Service 2020k, pp. 7–8; Service 2023n, p. 11). Like other forest plants on Guam, the species likely requires pollinators, seed dispersers, water availability and vegetation communities consistent with native limestone forests, sunlight levels consistent with limestone karst forest edge habitat, limestone substrates, seasonal precipitation fluctuations, and relatively constant temperatures (Service 2023n, p. 12). Threats to this species include loss and degradation of habitat due to impacts from human activity and development, invasive species (*e.g.,* invertebrates and grazing by ungulates), and climate change (*i.e.,* increasing variability in temperatures, more severe alternating periods of droughts and floods, stronger typhoons) (Service 2023n, pp. 14–15).

Seeds require undisturbed substrates and moisture to survive. They are sensitive to desiccation, which affects seed germination and survival (Andrade et al. 2003, p. 131; Maluf et al. 2003, p. 471), and are dispersed by seed-eating birds and fruit bats (Gawel et al. 2018, p. 8). Habitats free from invasive pests are required for seed survival. Seed survival can be reduced by these factors: rats eat plants and seeds (possibly dispersing seeds as well); ungulates eat and crush plants and prevent regeneration; snakes remove plant-pollinating and seed-dispersing birds; and invasive plants outcompete native plants and overgrow native vegetation communities.

(10) Heritiera longipetiolata PBFs

a. *Heritiera longipetiolata PBF 1:* Closed-canopy native limestone forests where there are substrates of karsts, clifflines, and outcroppings.

b. *Heritiera longipetiolata PBF 2:* Sufficient space within limestone vegetation communities composed of plants such as (but not limited to) *Asplenium nidus, Hibiscus tiliaceus, Morinda citrifolia, Phymatosorus scolopendria, Psychotria mariana,* and *Abrus* spp., *Aidia* spp., *Aglaia* spp., *Ficus* spp., *Freycinetia* spp., *Melanolepis* spp., *Operculina* spp., *Pandanus* spp., and *Pipturus* spp.

c. *Heritiera longipetiolata PBF 3:* Individuals in close proximity to each other and adequate access by native seed dispersers such as birds and fruit bats.

d. *Heritiera longipetiolata PBF 4:* Native pollinators and native vegetation to support them.

Heritiera longipetiolata, a medium to large hibiscus tree in the Malvaceae family, is found in the limestone forest habitats of Guam, Tinian, Saipan, and Rota where there are substrates of karst, clifflines, or outcroppings (Service 2023p, p. 10; Willsey et al. 2019, p. 4). Tree roots grow into rough limestone crevices, especially on cliffs and plateaus (Raulerson and Rinehart 1991, p. 94). On Tinian, *Heritiera longipetiolata* are observed only in karsts within native limestone forest (Stone 1970, p. 420; Service 2020m, pp. 7–8; DoN 2018, in litt., entire). The species is restricted to native limestone forest habitats where they are considered a canopy tree (University of Guam (UOG) 2018, in litt., pp. 5, 11, 40) comprising a closed-canopy system of broadleaf trees with an understory of younger trees, vines, epiphytic ferns, and orchids (Stone 1970, pp. 419–420; Vogt and Williams 2018, p. 66; Willsey et al. 2019, p. 3). Specifically, these forests contain upper canopy tall trees (33 ft; 10 m or taller), mid-story small to mid-size trees (10 to 33 ft (3 to 10 m)), and an understory of shrubs and herbs (Falanruw et al. 1989, pp. 6, 8). The vegetation community comprises species commonly associated with limestone forests including (but not limited to) *Asplenium nidus, Hibiscus tiliaceus, Morinda citrifolia,*

Phymatosorus scolopendria, Psychotria mariana, Abrus spp., *Aidia* spp., *Aglaia* spp., *Ficus* spp., *Freycinetia* spp., *Melanolepis* spp., *Operculina* spp., *Pandanus* spp., and *Pipturus* spp. (Willsey et al. 2019, pp. 5–6; Service 2023p, p. 12). Threats to this species include loss and degradation of habitat due to impacts from invasive animal and plant species, development, and climate change (*i.e.,* increased precipitation and increased typhoon intensity and severity); loss of pollinators due to brown tree snake; herbivory by pigs, deer, rodents, invasive invertebrates, and leaf miners; and plant pathogens (Service 2023p, pp. 17–19).

Heritiera longipetiolata requires sufficient space for sexual and vegetative reproduction because individuals grow in clusters and compete for sunlight and space (Service 2020m, p. 7). Sexual reproduction requires close proximity to other conspecifics where pollinators and seed dispersers can access individuals (Service 2020ag, p. 9; Hawaii and Pacific Plants Recovery Coordinating Committee (HPPRCC) 2011, p. 1). Seed dispersers, such as fruit-eating animals like native birds and fruit bats, are necessary for population growth and maintaining genetic diversity (Service 2023p, p. 13). Mutualists (*i.e.,* an organism that associates with a different species and both benefit), such as *H. longipetiolata,* require abundant and reliable sources of nectar, pollen, and fruits, and absence or low abundance of invasive animals such as the brown tree snake and rodents (Service 2023p, pp. 12–13).

(11) Maesa walkeri PBFs

a. *Maesa walkeri PBF 1:* Native limestone forest and forest edge habitats ranging in elevation between 656–1,312 ft (200–400 m).

b. *Maesa walkeri PBF 2:* Adequate sunlight, variable amounts of moisture, and relatively constant temperatures.

c. *Maesa walkeri PBF 3:* Native vegetation such as *Pandanus* spp., and *Hernandia-Elaeocarpus.*

d. *Maesa walkeri PBF 4:* Native seed dispersers such as birds and fruit bats.

e. *Maesa walkeri PBF 5:* Native pollinators such as insects and native vegetation to support them.

Maesa walkeri are small to medium shrubs (family Myrsinaceae) endemic to Guam and Rota limestone forests; they are most common along sunny edges of *Pandanus* spp. forests in limestone substrate or karsts, at 656–1312 ft (200–400 m) elevation, where there are variable amounts of moisture and relatively constant temperatures (Fosberg and Sachet, 1979, pp. 368–369; Fosberg 1960, pp. 22, 42; Raulerson and Rinehart 1991, p. 67; Costion and Lorence 2012, p. 84; Service 2020n; p. 6; Service 2020ai, p. 7; Service 2023q, pp. 3, 5, 10, 11). *Maesa walkeri* are strongly tied to the extent and amount of limestone forest habitat (Service 2023q, p. 13). Survival of the species depends on a number of genetically well-maintained populations that can exchange genes. This requires population distributions across a variety of habitat types (Service 2020ai, pp. 7–8). *Maesa walkeri* is most abundant in grassland/*Pandanus* spp. forest edges, lesser in forest/abandoned pasture edges and species in the *Hernandia* and *Elaeocarpus* family (referred to as *Hernandia-Elaeocarpus*) canopy with *Pandanus tectorius* understory, and least abundant in *Pandanus* spp. forest/road edges (Service 2023q, pp. 10–11). Threats to this species include loss and degradation of habitat due to impacts from development, feral ungulates, and brown tree snakes; predation by rats, and climate change (*i.e.,* increased periods of drought and severe storm frequency) (Service 2023q, pp. 3, 14–15).

Maesa walkeri produces fruit and is assumed to be pollinated by insects (Service 2023q, p. 10). The species reproduces sexually and vegetatively (Service 2023q, pp. 6, 10). Seeds are likely dispersed by native fruit-eating birds fruit bat (Gawel et al. 2018, p. 8; Service 2023q, pp. 10, 11), and seed dispersers are required for recruitment and maintaining genetic diversity (Service 2023q, pp. 11, 14, 16; Wandrag et al. 2015, p. 1).

(12) Nervilia jacksoniae PBFs

a. *Nervilia jacksoniae PBF 1:* Connected closed-canopy native limestone, volcanic ravine, and mixed forests with leaf-littered humus or sandy forest floors, shade, minor to moderate light, and moisture.

b. *Nervilia jacksoniae PBF 2:* Native limestone forest understory with plants such as (but not limited to) *Elaeocarpus joga, Hernandia labyrinthica, Pandanus dubius* (påhong, bakong, or knob-fruited screwpine), *Pandanus tectorius, Pisonia umbellifera,* and *Psychotria malaspinae.*

c. *Nervilia jacksoniae PBF 3:* Native volcanic forest understory with plants such as (but not limited to) *Barringtonia asiatica, Hernandia sonora, Pandanus tectorius, Pisonia grandis,* and *Terminalia catappa.*

d. *Nervilia jacksoniae PBF 4:* Pollinators including insects, such as small bees and wasps, and native vegetation to support them.

This ground orchid is a small terrestrial herb in the Orchidaceae family that grows in canopy-covered, shady, moist, leaf-littered humus or sand on forest floors of Guam and Rota; the orchids are found only in native limestone and mixed-forest subtypes and native volcanic forests of ravines in southern Guam (Service 2020o, p. 8; Service 2023r, pp. 5, 14). The species requires soils with sand or humus (Service 2020aj, p. 14) for its subterranean reproductive tuber to grow; it then rises to produce a flower and seed pods that are dispersed by wind (Service 2023r, p. 8). *Nervilia jacksoniae* occur only where there is minor to moderate moisture because all life stages require precipitation during both rainy and dry seasons (Service 2020aj, p. 14; Service 2023r, pp. 9, 14).

Nervilia jacksoniae requires plant genera and substrates typical of native limestone or volcanic forests in the Mariana Islands, growing under native plants in limestone substrates such as *Pandanus tectorius, Pandanus dubius, Hernandia labyrinthica, Elaeocarpus joga, Pisonia umbellifera,* and the federally endangered *Psychotria malaspinae* (Service 2020aj, pp. 9, 14) and growing under native plants in volcanic substrates such as *Pisonia grandis, Hernandia sonora, Barringtonia asiatica, Pandanus tectorius,* and *Terminalia catappa* (Willsey et al. 2019, pp. 5–6). Species observations are limited to areas containing shade with minor to moderate filtered light (Service 2020aj, p. 14; Service 2023r, p. 9). Substrate required for volcanic forests are volcanic soils and associated plant species that may include *Pisonia grandis, Hernandia sonora, Barringtonia asiatica, Pandanus tectorius,* and *Terminalia catappa* (Willsey et al. 2019, pp. 5–6).

Reproduction requires wind and rain for seed dispersal (Service 2020aj, p. 15; Service 2023r, pp. 5, 17) and pollination by insects, such as small bees and wasps (Pettersson 1991, p. 19; Service 2020aj, p. 16). The flowers of the plant evolved to attach pollen masses to the stigma of the flower (Johnson and Edwards 2000, pp. 243, 255; Mosquera-Mosquera et al. 2019, pp. 363, 365–366). However, if there is an inadequate number of individual plants present, they are unlikely to attract pollinators (Gale 2007, p. 59). Germination rates are likely very low on forest floors (0 to 12 percent) compared to in vitro cultured seeds (76 to 99 percent) (Gale et al. 2010, p. 166), possibly caused by a lack of mycorrhizal fungi for seed development, and sometimes bacteria, which many orchid species require (Alghamdi 2019, p. 502; Gale et al. 2010,

pp. 166, 175; Ray and Vadramne 2015, p. 2; Tsavkelova et al. 2007, pp. 69, 75). Fungi play an important role in overcoming light inhibition of seed germination (Alghamdi 2019, p. 495). Reproduction also occurs by vegetative growth through multiple tuber development (Service 2023r, p. 8) requiring adequate space in humus and sand to allow new tubers to develop (Service 2020aj, pp. 14–15). *Nervilia jacksoniae* reproduction and survival requires minimal disturbance. However, habitat disturbance is frequent on Guam and caused by nonnative pigs, water buffalo (*Bubalus bubalis*), deer, rats, reptiles (*e.g.,* brown tree snakes), invertebrates (*e.g.,* cycad scale, slugs (*e.g.,* pancake slug (*Veronicella sloanii*)), and snails (*e.g.,* giant African land snail) (80 FR 59424 at 59437 and 59449, October 1, 2015; Willsey et al. 2019, p. 16). On Rota, reproduction and survival can be inhibited by deer, rats, and invertebrates (*e.g.,* cycad scale, slugs, and snails) because they eat, trample, or otherwise destroy seeds and plants (80 FR 59424 at 59437 and 59449, October 1, 2015; Willsey et al. 2019, p. 16). In addition to the habitat-based threats from invasive, nonnative animals, *N. jacksoniae* experiences loss and degradation of habitat due to impacts from invasive plants, development, wildfire, and climate change (*i.e.,* increased precipitation, typhoon intensity, and frequency) (Service 2023r, pp. 20–25).

(13) Psychotria malaspinae PBFs

a. *Psychotria malaspinae PBF 1:* Interconnected native limestone forest habitat.

b. *Psychotria malaspinae PBF 2:* Sufficient space within a vegetation community where there is closed canopy or where partial to full sunlight is available with plants such as (but not limited to) *Abrus* spp., *Aglaia mariannensis, Aidia cochinchinensis, Asplenium nidus, Ficus* spp., *Freycinetia* spp., *Hibiscus tiliaceus, Melanolepis multiglandulosa, Morinda citrifolia, Operculina* spp., *Pandanus* spp., *Phymatosorus scolopendria, Pipturus argenteus* (amahåyan, atmahåyan, amahadyan, ghasooso, native mulberry), and *Psychotria mariana.*

c. *Psychotria malaspinae PBF 3:* Native seed dispersers such as birds and fruit bats.

d. *Psychotria malaspinae PBF 4:* Native pollinators and native vegetation to support them.

Psychotria malaspinae, a rare endemic shrub or small tree in the Rubiaceae family, is found only in undisturbed, connected, native limestone forests with limestone soils and karsts on Guam (Service 2020ak, pp. 8, 9, 13, 16; Service 2023t, pp. 9–10; Stone 1970, pp. 554–555). The species requires predominantly native vegetation typical of limestone forests in the Mariana Islands that provide for their reproduction and recruitment (for specific vegetation species see Raulerson and Rinehart 1991, p. 83; Service 2020ak, p. 9; Service 2023t, p. 10; Stone 1970, pp. 554–555; Willsey et al. 2019, pp. 5–6), including closed canopy of broadleaf trees with an understory of younger trees, vines, epiphytic ferns, and orchids (Stone 1970, pp. 554–555; Vogt and Williams 2018, p. 66); tall trees (32 ft (10 m)) comprising the upper canopy, small to mid-size trees (10 to 33 ft (3 to 10 m)) as mid-story, and shrubs and herbs that form the understory (Falanruw et al. 1989, pp. 6, 8).

Population connectivity results when seeds are dispersed across contiguous limestone forests, and this is necessary to maintain genetic diversity in multiple populations (Service 2020p, pp. 8–9; Service 2023t, p. 14). More than 83 percent of Guam's native forests are gone or have severely impaired habitat connectivity (Service 2020an, p. 3), but this species' persistence has been attributed to its distribution in native limestone forests (Service 2023t, p. 15). Fruits and flowers are eaten and dispersed by birds (Service 2023t, p. 9), which may account for the current scattered distribution of the remaining populations within the forest ecosystems on the northeast and southeast sides of Guam (Stone 1970, pp. 554–555; Raulerson and Rinehart 1991, p. 83; Costion and Lorence 2012, pp. 54, 85–86, 96).

Seed dispersers are required to ensure seeds are moved farther away from conspecifics allowing for increased recruitment to grow the populations and to maintain genetic diversity (Service 2023t, p. 14; Service 2020p, p. 9). Deposited seeds have low germination rates and sow themselves nearby and produce seedlings (Service 2023t, p. 9). Invasive ungulates and rodents cause significant rates of mortality to seedlings and immature plants (*i.e.,* by eating the seeds or disturbing soils and substrates, exposing the seeds and ultimately killing them) (Kessler 2011, p. 320; Rubinoff and Holland 2018, pp. 222–224). The species requires pollination and seed dispersal by native species, including birds. As stated previously, pollinators and birds are almost entirely absent from Guam (Egerer et al. 2018, p. 655; Service 2020ak, pp. 2, 14). Threats to this species include loss and degradation of habitat due to impacts from invasive animal (*e.g.,* brown tree snake) and plant (*e.g.,* vines) species, development, and increasing typhoon intensity; loss of pollinators due to brown tree snake and rodents; herbivory by pigs, Philippine deer, and rodents (Service 2023t, pp. 3, 15–16).

(14) *Tabernaemontana rotensis* PBFs

a. *Tabernaemontana rotensis PBF 1:* Interconnected native limestone forests, open patches, and forest edges providing moderate to full sunlight.

b. *Tabernaemontana rotensis PBF 2:* Native limestone forest habitat vegetation such as (but not limited to) *Abrus* spp., *Aidia* spp., *Aglaia* spp., *Aglaia mariannensis, Aidia cochinchinensis, Asplenium nidus, Elaeocarpus* spp., *Ficus* spp., *Freycinetia* spp., *Guamia* spp., *Hernandia* spp., *Hibiscus tiliaceus, Intsia bijuga, Macaranga thompsonii, Melanolepis* spp., *Morinda citrifolia, Operculina* spp., *Pandanus* spp., *Phymatosorus scolopendria, Pipturus* spp., *Pisonia grandis, Pouteria* spp., *Premna* spp., *Psychotria mariana,* and *Trema* spp.

c. *Tabernaemontana rotensis PBF 3:* Native seed dispersers such as birds and fruit bats.

d. *Tabernaemontana rotensis PBF 4:* Native pollinators, such as butterflies and other generalist pollinators, and native vegetation to support them.

Tabernaemontana rotensis is a medium-sized tree (approximately 30 ft (9 m) tall) in the Apocynaceae family that requires interconnected limestone forest habitat dominated by native vegetation (Service 2020al, pp. 10–11; UOG 2007, in litt., pp. 4, 11), which is found only in the limestone forest habitat of Guam and Rota (Stone 1970, p. 485). The species requires sufficient limestone forests with limestone soils and karst for reproduction and recruitment, pollinators, and plant species typical of a native limestone forest in the Mariana Islands, which may include the species noted above in PBF 2 (Service 2020al, p. 11; Willsey et al. 2019, pp. 5–6). Sufficient space is needed for the species to reproduce sexually or vegetatively (Service 2020al, p. 10), preferably in open patches or forest edges where partial to full sunlight is available (Service 2020al, p. 10; UOG 2007, in litt., pp. 4, 14–15). Germination and seedling emergence are maximized in partial to full sunlight conditions if an adequate seed bank is available (UOG 2007, pp. 4, 14–15). Threats to this species include loss and degradation of habitat due to impacts from invasive animal (*e.g.,* brown tree snake) and plant (*e.g.,* vines) species, development, fire, and climate change

(*i.e.,* typhoons with intense winds); loss of pollinators from brown tree snake and rodents; herbivory by invasive invertebrates and rodents; and trampling by ungulates (*i.e.,* pigs and Philippine deer) (Service 2023t, pp. 3, 15–17).

Tabernaemontana rotensis population distribution is clustered because seedling establishment is restricted to the vicinity of the parent tree due to the loss of frugivorous bird species on Guam (from being depredated by brown tree snakes) (UOG 2007, pp. 4–5, 9, 28; Service 2017, pp. 80–82). The species requires seed dispersers and contiguous limestone forest for population growth, maintaining genetic diversity (Service 2020al, p. 11), aiding recruitment, and ensuring seeds are dispersed away from conspecifics to increase recruitment (Service 2023v, p. 16). Without dispersal from the parent, the seeds develop in extreme competition with each other, and almost complete mortality occurs (Rogers et al. 2017, p. 2; Service 2023v, p. 16; UOG 2007, pp. 22, 73). Fruit-eating animals benefit plant recruitment by increasing germination during gut passage and moving seeds away from the parent plants, consequently increasing distribution and resiliency of the species (Service 2020al, p. 11). The pollinators are sustained by abundant, diverse, and reliable sources of native nectar and pollen plants, and stable habitats that are sufficiently free of nonnative plants and animals (*i.e.,* invertebrates, brown tree snake, rodents, and ungulates) (Service 2020q, pp. 6–7, 9, 12, 20; Service 2020al, p. 11; Service 2023v, p. 3).

(15) Tinospora homosepala PBFs

a. *Tinospora homosepala PBF 1:* Tall-canopy native limestone forests with limestone soils and karst substrates.

b. *Tinospora homosepala PBF 2:* Native pollinators and native vegetation to support them.

c. *Tinospora homosepala PBF 3:* Native seed dispersers such as native birds and fruit bats.

Tinospora homosepala is a woody, climbing vine in the Menispermaceae family that comprises the shrub or herbaceous components of the limestone forest ecosystem of central Guam (Service 2023w, p. 5). The species requires limestone soils to limestone karst, its primary substrate, and can inhabit backstrand habitat. It is most likely found where there are tall trees that it can climb, likely to obtain levels of sunlight consistent with limestone karst forest edge habitat (GPEPP 2024, in litt., entire; Service 2020am, pp. 9–10). Seasonal fluctuations (wet and dry season) typical of the Mariana Islands may be necessary for completion of its life cycle (Service 2020am, p. 6), as are relatively constant temperature ranges and precipitation requirements consistent with native limestone forests (Ohba 1994, pp. 13–16; Mueller-Dombois and Fosberg 1998, p. 241; Service 2023w, p. 9).

Tinospora homosepala reproduces both sexually and vegetatively and is limited by the very low population abundance of 150 individuals spread across only 4 locations; 120 of the plants are from 1 population, and the sexes of the plants are unknown (Service 2023w, p. 13). Sexual reproduction requires male and female plants and pollination from insects (Service 2020am, pp. 6–7). Reproduction also occurs via cloning (unisexual), in which severed vines send new roots into the ground (Stone 1970, p. 277; Service 2023w, p. 9). Seed-dispersing vertebrates, such as Mariana fruit bat, Mariana crow (*Corvus kubaryi*), and Micronesian megapode (*Megapodius laperouse*) are also likely necessary, because otherwise the plants would deposit their seeds directly below themselves with little successful reproduction due to low light, competition with more established plants, and high seed density (Willsey et al. 2019, p. 3).

Nonnative animals have severely degraded the habitat and life history requirements of *Tinospora homosepala.* The invasive brown tree snake decimated the avian and small animal community that likely functioned as seed dispersers (Service 2020r, pp. 8–9). Rodents eliminated native plant species by eating the plants and their seeds (although they possibly disperse seeds as well) (Service 2020r, pp. 8–9). Nonnative invertebrates kill and otherwise reduce the abundance of native invertebrates that likely serve as pollinators and provide other functions supporting a healthy ecosystem (Service 2020r, pp. 8–9). In addition to the nonnative brown tree snake, rodents, and other invertebrates previously discussed, the fruit-piercing moth (*Eudocima fullonia*) is an especially damaging invasive invertebrate that severely reduces the female vines' fruit production by puncturing it, causing the fruit to rot and decay (only female vines' fruit), with only male plants remaining (Service 2023w, p. 14). Other threats include loss and degradation of habitat due to development, feral ungulates, and climate change (*i.e.,* increased period of droughts and severe storm frequency) (Service 2023w, pp. 3, 11–12).

Savanna Plants

This rare Guam savanna habitat rises from highly weathered volcanic clay soils, and its distribution is associated with volcanic clay substratum (Service 2020af, p. 11; Service 2023o, p. 10). The volcanic clay soils are highly acidic in most places from the abundance of aluminum in the soil (Mueller-Dombois and Fosberg, 1998, pp. 269–270; Carroll and Hathaway 1963, pp. 29–30) and are characterized as nutrient deficient (Bojórquez-Quintal et al. 2017, pp. 1–4). Soils containing aqueous aluminum may stimulate plant growth by promoting nutrient intake depending on the environmental conditions, concentration of the aluminum, and the plant species (Bojórquez-Quintal et al. 2017, pp. 2–10). This savanna habitat has a uniquely stable climate with daily temperatures ranging between 73 and 86 °F (22 and 30 °C), 6 to 8 hours of sunlight, distinct dry and wet seasons averaging 96 in (218 centimeters (cm)) of rain annually, and underlying volcanic substratum with very low porosity causing most rainwater to run off into streams and the ocean (Service 2020af, p. 15; Service 2023o, p. 14). There are five plant communities in the savanna habitat, including (1) *Miscanthus* (silver grass or maiden grass), (2) *Dimeria* spp. (a type of woody/herbaceous grass), (3) erosion scar (pioneer species of grasses, ferns, and shrubs within heavily eroded savanna areas), (4) *Phragmites* (common reed), and (5) the weed community which follows disturbance (Fosberg 1960, pp. 64–66).

(16) *Hedyotis megalantha PBFs*

a. *Hedyotis megalantha PBF 1:* Native savanna habitats with volcanic soils.

b. *Hedyotis megalantha PBF 2:* Grasses, ferns, shrubs, and other savanna vegetation such as (but not limited to) *Decaspermum fruticosum* (no common name), *Dicranopteris linearis* (Old World forked fern, uluhe, chacha), *Dimeria* spp., *Fimbristylis* spp., *Geniostoma micranthum* (no common name), *Lycopodium cernuum* (påtas ngånga', staghorn clubmoss, nodding clubmoss), *Machaerina mariscoides* (tropical twigrush), *Melastoma malabathricum* var. *mariannum* (melastoma, gafao, gafau), *Myrtella benningseniana* (no common name), *Phyllanthus saffordii,* and *Rhynchospora rubra* (sweet broom, macao tea).

c. *Hedyotis megalantha PBF 3:* Native pollinators, such as butterflies and other generalist pollinators, and native vegetation to support them.

Hedyotis megalantha is a long-lived woody herb in the coffee family Rubiaceae and is endemic to Guam savanna (Global Biodiversity Information Facility 2024, website; Mueller-Dombois and Fosberg 1998, pp. 269–270; UOG 2018, in litt., pp. 10–11; Service 2020af, p. 7; Service 2023o, pp. 3, 10, 13). *Hedyotis megalantha* may require acidic soils for optimal growth, but research on other *Hedyotis* species indicates a preference for acidic soils, not confinement to them (Fosberg 1960, pp. 22–23, 31–32, 34–35; Service 2020af, p. 15). The species may require only minimal nutrients for survival or may have an enhanced ability to absorb soil nutrients (Service 2023o, p. 14). *Hedyotis megalantha* benefits from the presence of aqueous aluminum and may have other biological mechanisms allowing its survival in low-nutrient environments, including a symbiotic relationship with the microbial community or through commensalism (where a species receives benefits but there are no effects on the other organism) (Service 2020l, p. 7; Service 2023o, p. 14). Threats to this species include loss and degradation of habitat due to impacts from development, nonnative animals and plants, wildfire, erosion, off-road vehicle use, and possibly changes in frequency and intensity of precipitation and typhoon events (Service 2023o, pp. 3, 18–25).

Hedyotis megalantha is limited primarily to high-quality native savanna habitat with little human disturbance, often found growing in clusters with native ferns including *Dicranopteris linearis,* in *Dimeria* spp. plant communities, and in erosion scar communities (Frager et al. 2019, p. 4; Demeulenaere 2020, in litt., entire; Service 2020l, pp. 6–7; Service 2023o, pp. 10, 14). *Dimeria* spp. communities are dominated by *Dimeria chloridiformis* (no common name), a low-growing grass, with *Hedyotis megalantha* and *Phyllanthus saffordii* scattered throughout (Demeulenaere 2020, in litt., entire). Erosion scar communities contain *Hedyotis megalantha* growing in between low-growing shrubs such as *Melastoma malabathricum* var. *mariannum, Decaspermum fruticosum, Myrtella benningseniana, Phyllanthus saffordii,* and *Geniostoma micranthum;* low-growing sedges such as *Rhynchospora rubra, Fimbristylis* spp., and *Machaerina mariscoides* (relatively taller than *Hedyotis megalantha*); and ferns such as *Lycopodium cernuum,* and *Dicranopteris linearis* (Demeulenaere 2020, in litt., entire; Service 2020l, pp. 6–7; Service 2023o, p. 14).

Hedyotis megalantha reproduction may include self-pollination, inability to self-pollinate, and sexual reproduction; no studies have yet determined the breeding system (Service 2023o, p. 15). Pollinators are undocumented but the species likely requires cross-pollination for optimal breeding success, with pollinators likely consisting of a variety of insects similar to other species within the genus *Hedyotis* (Service 2020l, p. 7). The white flowers with purple anthers of *Hedyotis megalantha* may attract butterflies and other generalist insect pollinator species. Seed dispersal for *Hedyotis megalantha* likely occurs via abiotic factors such as wind, gravity, or water (Service 2020af, p. 17; Service 2023o, p. 16). Seeding likely occurs during the wet season, maturing occurs into the dry season, and the species may require dry seasons to set fruit and for seed germination (Service 2023o, pp. 15–16). Prolonged hours of sunlight may be needed for both seed germination and for seedlings to mature, including production of the next generation of seeds (Service 2020af, p. 15; Service 2023o, p. 14).

(17) Phyllanthus saffordii PBFs

a. *Phyllanthus saffordii PBF 1:* Savanna habitats with volcanic substrates containing lateritic soils, including (but not limited to) *Dimeria* spp. communities and erosion scar communities.

b. *Phyllanthus saffordii PBF 2:* Forest edges, steep slopes, and eroded soils on volcanic substrates containing lateritic soils.

c. *Phyllanthus saffordii PBF 3:* Savanna vegetation such as (but not limited to) *Decaspermum fruticosum, Dicranopteris linearis, Dimeria chloridiformis, Fimbristylis* spp., *Geniostoma micranthum, Melastoma malabathricum* var. *mariannum, Myrtella benningseniana, Machaerina mariscoides, Lycopodium cernuum, Phyllanthus saffordii,* and *Rhynchospora rubra.*

d. *Phyllanthus saffordii PBF 4:* Native pollinators, such as bees, ants, moths, butterflies, and other generalist pollinators, and native vegetation to support them.

e. *Phyllanthus saffordii PBF 5:* Native seed dispersers such as birds and fruit bats.

Phyllanthus saffordii is a short-stature and short-lived woody shrub in the Phyllanthaceae family and persists only in southern Guam in the savanna habitats with deeply weathered volcanic substrates that contain lateritic soils (high iron and aluminum content, red clay, and highly acidic), including erosion scar and *Dimeria* spp. communities, and the plants are also found along forest edges, steep slopes, and severely eroded soils; the species does not occur in alkaline soils of northern Guam (Service 2020s, p. 5; Service 2023s, pp. 2, 15). The species most commonly occurs among other low-growing plants including the native grass *Dimeria chloridiformis,* and among the native scar community, consisting of the low-growing shrubs, low-growing sedges, and fern species identified above (Demeulenaere 2020, in litt., entire). Both *Phyllanthus saffordii* and *Hedyotis megalantha* can be found growing between grass, sedges, shrubs, and ferns (Demeulenaere 2020, in litt., entire; Service 2023s, p. 4). Threats to this species include loss and degradation of habitat due to impacts from development, invasive animals (*e.g.,* ungulates) and plants (*e.g.,* nonnative grasses), erosion, wildfire, and climate change (*i.e.,* increased precipitation and increased typhoon intensity and frequency) (Service 2023s, pp. 16–23).

Like other species within the *Phyllanthus* genus, *Phyllanthus saffordii* likely relies on bees, ants, moths, butterflies, and other generalist pollinators rather than avian or fruit bat or wind for pollination (Kawakita 2010, p. 13; Service 2020y, p. 13). *Phyllanthus saffordii* is not known to be capable of self-pollinating or reproducing without fertilization (Service 2023s, p. 14; Sharma et al. 2009, p. 286). *Phyllanthus saffordii* likely depends on dry seasons for fruiting and seed germination, and seed dispersal likely involves fruit-eating avian species that distribute seeds (Prasad et al. 2004, entire; Service 2020y, p. 13; Service 2023s, p. 14). Prolonged hours of sunlight are likely needed for seed germination and for seedlings to mature, including the production of the next generation of seeds (Service 2020y, pp. 12–13).

Special Management Considerations or Protection

When designating critical habitat, we assess whether the specific areas within the geographical area occupied by the species at the time of listing contain features that are essential to the conservation of the species, and which may require special management considerations or protection. The specific PBFs essential to the conservation of the Mariana Islands species may require special management considerations or protection to reduce the threats affecting those features. Threats to the Mariana Islands species are described in the final listing rule (80 FR 59424; October 1, 2015) and summarized in this proposed

rule; noting that some information, descriptions, and references used herein are new since the final listing determination. The threats and associated special management considerations or protection addressed in this document are specific to the PBFs and grouped into six threat categories based on the primary threats to the PBFs. Each of these threats and associated special management considerations or protection are summarized below.

(1) Development—includes agricultural, military, urban, and commercial development, as well as activities associated with construction, repair, and maintenance of roads, bridges, and utilities (*e.g.,* power plants and renewable energy facilities).

Habitat clearing for development is among the greatest threats to the recovery of the Mariana Islands species. Development causes habitat loss and degradation by reducing the available habitat and foraging, breeding, and sheltering sites for the species (Service 2023a, p. 17). This may lead to habitat fragmentation, which separates populations, limits pollination, and can be deleterious to plant-pollinator mutualisms, especially invertebrates (Newman et al. 2013, p. 16). Many sites that species once occupied have been developed on several islands, thus reducing the amount of suitable habitat available for the species (80 FR 59424 at 59429–59430, October 1, 2015). Agricultural development can include land clearing to grow a wide range of agricultural products, including livestock (grazing), vegetable farms, and plant nurseries for commercial sale. Military development can include construction of housing and a wide variety of military activities, such as the placement and removal of objects, and unexploded ordnance management (although areas where this may occur are exempt under section 4(a)(3) of the Act (see Exemptions, below). Urban and commercial development can include the construction of residential homes and various commercial buildings, including parking lots.

Activities associated with development can include limestone rock quarrying; construction or maintenance of renewable power plants; and construction, repair, and maintenance of roads, bridges, and utilities including renewable energy. Actions associated with development also include stream diversions for municipal water supply that directly reduce the amount of available stream habitat annually (Service 2020aa, p. 4). For example, on the island of Rota, the reduction of and changes to forest landscape due to urban or agricultural development have changed the quantity and quality of the groundwater that the aquifer feeds to the island's streams. Additional/future impacts may also further degrade or reduce forest habitat and the capacity for the Sabana Plateau to replenish the aquifer water available for stream habitat (Service 2020aa, p. 50). Examples of special management and considerations or protections that could reduce the threat of development may include (but are not limited to):

- Use best management practices to limit or reduce erosion/stream sedimentation, retain natural barriers/culverts, or construct barriers that prevent erosion of the stream edge;
- Minimize the destruction of native forest vegetation, especially large-growth trees and species-specific host plants;
- Require qualified and experienced surveyors to conduct preconstruction surveys to locate and avoid listed species and PBFs;
- Conduct habitat restoration;
- Limit ground-disturbing activities;
- Cover open trenches and excavated pits and visually inspect excavated areas before backfilling;
- Implement stream stabilization and erosion control protocols;
- Create riparian buffers if land abuts streams to reduce soil erosion and filter water flowing from croplands;
- Restore disturbed areas using native plants once projects are completed;
- Avoid or limit vegetation and soil disturbance;
- Protect sensitive areas where they abut project boundaries by installing and maintaining plastic construction fencing or brightly colored flagging around these areas; and
- Use dust abatement techniques along roadways to minimize dust to vegetation.

(2) Invasive species—includes animals (ungulates, rodents, brown tree snake, ants, slugs) and nonnative plants.

Invasive animals (*e.g.,* ungulates, rodents, brown tree snake, ants, and slugs) degrade native forest, savanna, and stream habitats that are required by the Mariana Islands species. Ungulates damage mature vegetation and clear forest understory through grazing and trampling, contributing to erosion, and preventing the regeneration of seeds or seedlings by eating or damaging them (Service 2023a, pp. 17–18). They also contribute to the spread of invasive plants by transporting seeds and plant parts (Cuddihy and Stone 1990, p. 65). For Langford's tree snail, suitable habitat has been severely impacted on Aguiguan as nonnative goats have destroyed much of the forest on the island (Service 2020d, p. 5). Rodents reduce native plant reproduction and vigor by eating fruits, seeds, flowers, stems, roots, and other plant parts (Atkinson and Atkinson 2000, p. 23).

Forest degradation from invasive species is associated with declines in Slevin's skink populations, and skink populations increased following forest regeneration from ungulate removal on Sarigan and rodent eradication on Guam's Cocos Island (Kessler 2011, p. 320; Richmond et al. 2021, p. 69). Tree snails also increased in abundance within forested areas following ungulate removal on Sarigan (CNMI DFW 2008, p. 8–5). The ungulate removal on Sarigan Island was a mitigation measure that the U.S. Department of Navy (DoN) implemented to improve habitat and population sizes of the federally endangered Micronesian megapode (*Megapodius laperouse*) to offset the impacts of military bombing activities that occurred on Farallon de Medinilla.

Host plants for the Mariana eight-spot butterfly have become restricted to cliff edges and pinnacle karst terrain where they are less accessible to ungulates. Where brown tree snakes occur, they have caused the extirpation of most of the forest birds (and fruit bat) that were pollinators or seed dispersers (Fritts and Rodda 1998, p. 129). Invasive ants prey on vertebrate and invertebrate eggs, pupae, larvae, and adults as well as transport plant pests such as aphids, white flies, and scale insects, affecting the pollinators and seed dispersers required to maintain and grow native forests (Wild 2014, in litt., entire; Hawaii Invasive Species Council 2021, in litt., entire). Ants also exert direct predatory pressure on tree snails. Slugs damage both host plants of the Mariana eight-spot butterfly and other native forest plants, causing mortality and altering native forests (Service 2023a, p. 22). Invasive plants (*e.g., Spathodea campanulata* (African tulip tree), *Areca catechu, Citrus* sp., *Cocos nucifera, Delonix regia* (flame tree), *Casuarina equisetifolia, Pithecellobium dulce* (kamachile), *Mangifera* sp. (mango), *Acacia confusa* (sosugi), *Leucaena leucocephala* (tangantångan), *Samanea saman* (trongkon-mames or monkeypod), and *Vitex parviflora* (vitex) forests degrade native forests by modifying light availability, soil–water regimes, nutrient cycling, fire regimes, and converting plant communities from native to nonnative (Willsey et al. 2019, pp. 5–6, 16–17). Invasive plants and ungulates may reduce water input into the aquifer feeding the streams (Service 2020aa, p. 34). Examples of special management considerations and protections that could reduce the threat

of invasive animals and nonnative vegetation may include (but are not limited to):

- Implement biosecurity protocols to prevent the introduction or movement of invasive species in or out of the project area;
- Conduct habitat restoration;
- Control or remove/eradicate ungulates, rodents, brown tree snakes, invasive invertebrates (*e.g.,* New Guinea flatworm, parasitic wasps, and ants), and significant habitat-modifying invasive plants; and
- Install and monitor exclusion fencing to prevent reintroduction of invasive species into project areas after eradication.

(3) Wildfire—Wildfire is not a part of the ecosystem in the Mariana Islands, and natural fires in the Mariana Islands are uncommon due to moist environmental conditions; however, hunters and poachers are known to intentionally ignite fires to encourage new plant growth to attract prey animals (Guam Department of Agriculture 2021, p. 67). These intentionally ignited fires can spread out of control to become a wildfire. Wildfires destroy individual plants and alter suitable habitat conditions, allowing nonnative plants to dominate plant communities after the fire. Fires in the forest and savanna can convert these habitats to bare ground or grasslands, leading to either colonization by invasive plants or conversion to bare ground that cannot support plant growth due to severe erosion (Willsey et al. 2019, p. 18). Fires in these habitats may also lead to erosion and deposits of silt into streams and the ocean (Guam Department of Agriculture 2021, p. 55). Areas converted to grass facilitate the spread of future fires and reduce the area of remaining suitable forest and savanna habitats each successive dry season (Tunison et al. 2001, p. 126). Examples of special management considerations or protection may include (but are not limited to):

- Restrict activities that entail the use of extreme heat to areas that are kept bare of vegetation, such as paved or maintained gravel areas;
- Limit activities that are potential fire risks to the wet season (July–December);
- Create and maintain a system of firebreak roads between action areas and suitable habitat for listed species;
- Prescribe burning, mowing, vegetation removal, or planting native vegetation that is more fire resistant; and
- Minimize destruction of forest vegetation when implementing fire management actions such as firebreaks, vegetation removal, or prescribed burning, especially large-growth trees and species-specific host trees/plants.

(4) Climate change—includes increase in typhoon frequency and changes to precipitation seasonality and temperature.

Potential impacts of climate change to the Mariana Islands species include an increase in typhoon intensity and alteration to normal ranges for precipitation and temperature due to extreme El Niño events. Ocean surface temperature increases are expected to result in increased typhoon intensity in the Mariana Islands and may result in changes to habitat by defoliating or uprooting trees or breaking primary branches and creating space for invasive, disturbance-tolerant species to dominate (Emanuel 2013, p. 12,219; Camargo 2013, p. 9,896; Grecni et al. 2021, p. 5). Typhoons exacerbate other threats and adversely affect habitat and food resources and pose a particular threat to small and isolated populations, such as the Pacific sheath-tailed bat population on Aguiguan (Service 2023a, pp. 17–24; Service 2020u, p. 12). Typhoons can also cause landslides or flooding. An increase in extreme El Niño events can change normal precipitation and temperature ranges that may exacerbate the wildfire threat, alter stream flows, and change microclimate and suitability of habitats that support the Mariana Islands species (Grecni et al. 2021, p. 23). Anticipated sea level rise and coastal erosion are expected to remove low-lying and coastal sites from future terrestrial species conservation use, coupled with the effects of typhoons (Grecni et al. 2021, pp. 27, 32–33).

Examples of special management considerations or protections that could reduce the negative effects of climate change may include (but are not limited to):

- Conduct habitat restoration and debris cleanup after typhoons;
- Implement erosion control protocols to protect coastal strand areas from sea level rise;
- Implement watershed management plans to maintain waterflow and decrease the effects of flooding; and
- Ensure communication with external partners on preferred response methodologies, such as post-typhoon debris cleanup to prevent the spread of invasive species and consultations with local partners on the typhoon recovery actions to protect or restore degraded habitat after typhoons.

(5) Recreational land use—includes the use of essential and nonessential off-roading vehicles and recreational access/use, such as hiking and camping.

Land use for recreational purposes may have an impact to the Mariana Islands species and their habitats. Off-road vehicle use through savanna and forest habitats reduces suitable habitat by increasing erosion. For example, within savanna habitat on the island of Rota, vehicles tend to consistently follow the same paths causing soil trails to deepen and worsen erosion, which deposits silt into streams and the ocean, altering the water quality of streams and ponds occupied by the Rota damselfly. Off-road vehicle use also compacts the soil, decreasing the soil porosity, which is already low for volcanic clay soils of the savanna, and increasing soil erosion (Swaddell 2024, in litt., entire). Recreational access to caves and forests occupied by the Pacific sheath-tailed bat may lead to roost abandonment and alter food availability for the bat (Service 2023a, p. 24). An increase in human activity may also lead to movement of invasive plants and animals in and out of recreational areas. Examples of special management considerations or protections that could reduce threats related to recreational land use may include (but are not limited to):

- Implement and enforce policies that restrict access to highly weathered off-road trails during the wet season when the possibility of soil erosion is higher;
- Implement habitat restoration projects to help contain sediments during the wet season;
- Plant native vegetation to stabilize highly weathered savanna habitat;
- Implement biosecurity protocols within conservation areas and educate the public on their use and effectiveness;
- Avoid or reroute off-road trails away from stream crossings or prioritize closure of these routes;
- Restore the areas where high levels of erosion occur;
- Conduct micropropagation and develop ex situ populations of federally listed plants; and
- Implement wildfire prevention protocols and educate the public on the prevention of wildfires in areas where hiking and camping occur.

(6) Pesticides—includes herbicides and insecticides.

This threat may injure or kill listed plants and animals or harm their habitat. Pesticides alter foraging habitat for listed animal species addressed in this proposed rule by disrupting the life cycle of forest vegetation through decreasing or removing pollinators and reducing the availability of food sources (*e.g.,* insect prey for the Pacific sheath-tailed bat and the Slevin's skink) (Kearns et al. 1998, entire; Service

2020u, pp. 11–12; Harrington et al. 2020, p. 14). Examples of special management considerations or protections that could reduce the threat of pesticides may include (but are not limited to):

- Limit use of insecticides, herbicides, or fungicides and follow labeled instructions, or use natural predators or remedies to reduce pests;
- Avoid applying pesticides during the wet season (July–December) or if rainfall is expected within 24 hours to decrease the likelihood that pesticides will wash into streams and rivers;
- Avoid applying pesticides when wind speed is greater than 12 mph and direction may cause it to drift to sensitive sites;
- Protect nontargeted species (vegetation, vertebrates, or invertebrates) by monitoring for drift or accidental application and using a spotter to monitor application;
- Flag or otherwise identify native or listed plants and use plant guards to protect these plants in the application area; and
- For herbicides, cut or mow target vegetation first and subsequently treat cut stems or resprouting vegetation to reduce potential drift to nontargeted plants.

(7) Inadequate regulatory mechanisms—In addition to the six primary threats identified above, the listing rule and recovery plan identified inadequate regulatory mechanisms or failure to enforce these regulations as a factor affecting the status of all the Mariana Islands species (80 FR 59424 at 59467–59468, October 1, 2015; Service 2023a, p. 23). To date, these mechanisms do not address all of the species in this proposed rule:

- Existing Commonwealth and Territorial laws including Fish, Game, and Endangered Species Act (Public Law 2–51) and the Wildlife Conservation Act (CNMI 1994, entire) within the Sabana Heights and I'Chenchon Bird Sanctuary areas, Mariana Crow Conservation Area, and Sabana Protected Area;
- Memorandum of agreement between the Service's Pacific Islands Fish and Wildlife Office and the CNMI Department of Public Lands, with the Northern Mariana Islands Department of Land and Natural Resources, for the Mariana Crow Conservation Area (Service 2011, entire); and
- Management and action plans including CNMI Forest Action Plan 2020–2030 (CNMI Forestry Division of Agriculture—Department of Lands and Natural Resources (CNMI FDoA 2020, entire), CNMI Wildlife Action Plan 2015–2025 (CNMI Division of Fish and Wildlife 2015a, entire), MAC Plan (MAC Working Group 2014, entire), CNMI Comprehensive Public Land Use Plan Update for Rota, Tinian, Saipan, and the Northern Islands (CNMI Department of Public Lands (CNMI DPL) 2019, entire), and CNMI's Comprehensive Sustainable Development Plan 2021–2030 (CNMI OPD 2021, entire).

Inadequate regulatory mechanisms threaten the Mariana Islands species and their habitats by allowing development that degrades and destroys suitable habitat and allows spread of invasive/nonnative species by not employing biosecurity measures (Service 2023a, p. 23). The laws do not prohibit or address the intentional introduction of ungulates or intentional ignition of wildfires, except for Public Law 35–134, which extends the definition of arson to include destruction or damage to forest lands (Territory of Guam 2020, entire). Local laws in the Territory of Guam and the CNMI have not been updated to include all of the federally endangered and threatened species addressed in this proposed rule. As a result, ''take'' of endangered or threatened wildlife is not prohibited under local law during development and other activities, nor are endangered or threatened plants considered. This limits protection of these species and their habitats to projects with a Federal nexus (Service 2023a, p. 23). Examples of special management considerations or protection that could address inadequate regulatory mechanisms or failure to enforce these regulations may include (but are not limited to):

- Locally list federally listed species and ensure local laws are updated;
- Encourage the passage and enforcement of laws, ordinances, and codes that protect federally endangered and threatened species and their habitat, where applicable;
- Encourage Territorial and Commonwealth governments to adopt policies that support less development, address biosecurity inadequacies, prevent the intentional introduction of ungulates, and prevent the intentional ignition of wildfires; and
- Employ full-time enforcement officers that can educate the public about regulations and have the power to prosecute violations of local laws, ordinances, and codes.

Criteria Used To Identify Critical Habitat

As required by section 4(b)(2) of the Act, we use the best scientific data available to designate critical habitat. In accordance with the Act and our implementing regulations at 50 CFR 424.12(b), we review available information pertaining to the habitat requirements of the species and identify specific areas within the geographical area occupied by the species at the time of listing and any specific areas outside the geographical area occupied by the species to be considered for designation as critical habitat.

- For 9 animal species (Pacific sheath-tailed bat, Slevin's skink, Mariana eight-spot butterfly, Mariana wandering butterfly, Rota blue damselfly, fragile tree snail, Guam tree snail, humped tree snail, and Langford's tree snail) and 13 plant species (*Bulbophyllum guamense, Cycas micronesica, Dendrobium guamense, Eugenia bryanii, Hedyotis megalantha, Heritiera longipetiolata, Maesa walkeri, Nervilia jacksoniae, Phyllanthus saffordii, Psychotria malaspinae, Tabernaemontana rotensis, Tinospora homosepala,* and *Tuberolabium guamense*), we are proposing to designate critical habitat in areas within the geographical area that these species occupied at the time of listing (see tables 3–24 and descriptions for Areas 1–41, below). We are not proposing to designate any areas outside the geographical area occupied by the species because we have not identified any unoccupied areas that meet the definition of critical habitat. These occupied areas encompass the varying habitat types and distribution of these Mariana Islands species and provide sufficient habitat to allow for maintaining and potentially expanding their distributions, areas of which are essential to the species' conservation.
- For one plant species, *Solanum guamense,* we are not proposing critical habitat because the area that meets the definition of critical habitat is exempt under section 4(a)(3)(B)(i) of the Act (see Exemptions, below). We are also not proposing to designate any areas outside the geographical area occupied by *Solanum guamense* because we have not identified any unoccupied areas that meet the definition of critical habitat. This species was last seen in 1994 on DoD lands within the exempted area, and most other locations with historical records of this species have been developed or converted to unsuitable habitat (Service 2023u, p. i).
- For the Mariana subspecies of the Pacific sheath-tailed bat, we are proposing to designate critical habitat in one location that is within the geographical area occupied by the species at the time of listing (the island of Aguiguan) and also one location that is outside the geographical area occupied by the species at the time of listing (the island of Rota) because we

have determined the unoccupied area is essential for the conservation of the species (see table 2 and descriptions for Areas 9 and 14, below).

The Mariana subspecies of Pacific sheath-tailed bat occurs only on Aguiguan Island, but historically occupied seven islands within the Marianas (Service 2023a, p. 10). The bat is highly susceptible to stochastic and catastrophic events, especially considering the threats it faces, such as depredation by nonnative animals, disturbance at roost caves, and habitat loss from deforestation and overgrazing by ungulates (Service 2023a, pp. 10, 41–43, 63). Therefore, we have determined that the area currently occupied by this subspecies, on Aguiguan, is insufficient to support the species' representation, redundancy, and resiliency. We anticipate that recovery will require continued protection of the existing population and its habitat, and reintroduction of the Mariana subspecies of the Pacific sheath-tailed bat into other areas, ensuring there are adequate numbers of the bats in multiple locations. The delisting criteria specified in the species' recovery plan includes a minimum of six stable or increasing populations with consistently occupied roosts on three or more islands (noting that stable populations have at least 500 individuals over a 10-year period (Service 2023a, pp. 41–43)). Therefore, we have identified three locations necessary to recover the Mariana subspecies of Pacific sheath-tailed bat: the occupied island of Aguiguan (see Proposed Critical Habitat Designation, Area 9, below) and the unoccupied islands of Rota (see Proposed Critical Habitat Designation, Area 14, below) and Guam (on DoD lands that are exempt under section 4(a)(3) (see Exemptions, below)).

The Pacific sheath-tailed bat was historically found on Guam and Rota, and the caves and foraging habitat present on the islands provide the resources (*i.e.,* PBFs) needed by the species. At this time for Guam, the U.S. Department of Defense (DoD) has a contract with the U.S. Geological Survey (USGS) to survey for Pacific sheath-tailed bats using acoustic monitors and cameras in caves on DoD lands that are currently or were historically occupied by the endangered Mariana swiftlet, which is known to co-occur with the Pacific sheath-tailed bat (Duenas 2024, pers. comm.; Lemke 1986, p. 744). This roosting and foraging habitat meets the definition of critical habitat and occurs on DoD lands; therefore, in accordance with section 4(a)(3)(B)(i) of the Act, we have determined that the identified lands on Guam are subject to the Joint Region Marianas (JRM) INRMP and that conservation efforts identified in the JRM INRMP will provide a benefit to the Pacific sheath-tailed bat (see Exemptions, below).

At this time on Rota, communications are underway with CNMI Division of Fish and Wildlife and Biodiversity Research Institute to plan for potential future translocations of Pacific sheath-tailed bat from Aguiguan to Rota (Guilbert et al. 2024, pers. comm.). With the best available scientific information, we identified the unoccupied area on Rota as containing one or more of the PBFs that support the life history requirements of the subspecies and meeting the definition of critical habitat. Designating this unoccupied area as critical habitat for this subspecies also promotes conservation actions to restore the historical, geographical, and ecological representation that is important for its recovery (Service 2023a, p. 42). In general, this species, and others occupying CNMI and Guam, are so rare in the wild that they are at a high risk of extirpation or even extinction from various catastrophic events, such as typhoons. Therefore, supporting resiliency and redundancy for the Pacific sheath-tailed bat through the establishment of multiple, robust populations is a key component of conservation of the species (Service 2023a, p. 42). A designation limited to the single occupied area on Aguiguan is inadequate to ensure the conservation of this subspecies. Areas that may have been unoccupied at the time of listing, together with the area occupied at the time of listing, are reasonably certain to provide some or all of the habitat necessary for the expansion of existing wild populations and reestablishment of wild populations within the historical range of the subspecies to support viability.

For all of the Mariana Islands species addressed in this proposed rule, we evaluated the following information to determine and select appropriate areas occupied at the time of listing that also contain the PBFs essential to the conservation of each species: (1) the 2015 listing rule (80 FR 59424; October 1, 2015), (2) 5-year reviews (Service 2020a–u, entire; Service 2021, entire; Service 2024a–b, entire), (3) species reports (Service 2020t–ao, entire; Service 2023b–x, entire), (4) habitat status assessments (Frager et al. 2019, entire; Plentovich et al. 2020, entire; Polhemus and Richardson 2020, entire; Willsey et al. 2019, entire), (5) the recovery plan for the 23 species in the Marianas (Service 2023a, entire), (6) section 7 consultations and technical assistance requests, (7) multiple published and unpublished reports included in the literature cited section, and (8) our database information relevant to species presence and suitable habitat.

All of the species in this proposed rule had not been thoroughly surveyed prior to the time of listing in 2015, which required our consideration of and reliance on updated species occurrence data from our Federal and local partner agencies. Therefore, to determine if an area was occupied at the time of listing, either: (1) individuals were observed prior to listing; or (2) if surveys were not conducted until after listing, an area was considered occupied if the habitat had not changed since listing and the best available information indicated that the area was likely occupied at the time of listing (*e.g.,* individuals of a species were observed within adjacent and/or connected suitable habitat areas that have no barriers to dispersal). In some of these instances, recent surveys have confirmed individuals within these new areas.

In this proposed rule, we propose critical habitat for 22 species in CNMI and Guam that include 122 critical habitat units. Each proposed critical habitat unit contains all or some of the PBFs essential to the conservation of the species that occupy their respective units. In some instances, limited data sources were available on the species itself or surrogates to provide specificity for features such as food, water quality parameters, nutritional or physiological requirements, reproduction requirements, and the specific amount of space necessary for individual and population growth. Therefore, in some instances we use general descriptions of the PBFs based on the best scientific information available. The proposed critical habitat includes the soil substrate, vegetation, and (if applicable) cave or stream system that supports the life history requirements for each of the species. Some species may require more than one type of substrate and vegetation (*e.g., Cycas micronesica* occurs on volcanic, limestone, or coastal strand substrates, each with the associated forest plant communities typical of their respective substrates).

Because multiple species within this proposed rule have similar life history requirements, the species are grouped together within this preamble based on these related requirements. The eight species groups include:

(1) mammals (1 species—Pacific sheath-tailed bat);

(2) reptiles (1 species—Slevin's skink);

(3) tree snails (4 species—fragile tree snail, Guam tree snail, humped tree snail, and Langford's tree snail);

(4) butterflies (2 species—Mariana eight-spot butterfly, Mariana wandering butterfly);

(5) damselflies (1 species—Rota blue damselfly);

(6) epiphytic orchids (3 species—*Bulbophyllum guamense, Dendrobium guamense,* and *Tuberolabium guamense*);

(7) forest plants (9 species—*Eugenia bryanii, Heritiera longipetiolata, Maesa walkeri, Psychotria malaspinae, Tabernaemontana rotensis, Nervilia jacksoniae, Cycas micronesica,* and *Tinospora homosepala*); this grouping also included our evaluation of information for *Solanum guamense* (see Exemptions, below); and

(8) savanna plants (2 species—*Hedyotis megalantha* and *Phyllanthus saffordii*).

We used similar methods to identify critical habitat unit boundaries for each of the species and species groups. The species groups were considered together because spatial data used for delineating critical habitat are similar among the species in each group, and these species all occur within similar habitat types, such as limestone forests or savannas. When delineating critical habitat, we considered each species separately to determine the respective unit boundaries and subsequently overlapped units to determine if there were shared boundaries to also be able to report the total proposed critical habitat on each island and within geographic locations (*i.e.,* area descriptions). Critical habitat boundaries for all species were delineated to clearly depict and promote conservation of these species by identifying habitats that contain features on which each species depends. For units consisting of multiple habitat types, such as the cave and forest habitats for the Pacific sheath-tailed bat, the proposed critical habitat designation includes the entire suitable habitat area for the species because both habitat types contain the roosting and foraging features essential to the conservation of the species.

To delineate proposed critical habitat units, we relied on a conservation strategy in which each of the species was considered separately using a common approach for each grouping. The goal of the conservation strategy was to identify the specific areas for each species that provide essential PBFs while also taking into account range-wide resiliency, redundancy, and representation (Species Reports) (Service 2020t–ao, entire; Service 2023b–x, entire).

In general, we completed the following four basic steps for each species to delineate critical habitat: (a) We compiled the best scientific data available on observations and distributions of the Mariana Islands species that were extant at the time of listing or assumed extant at the time of listing; (b) we compiled the best available location and landcover data within the range of all the species, including soil substrate, vegetation, elevation, temperature, and precipitation, and identified areas containing the PBFs that may require special management considerations or protection; (c) we circumscribed boundaries of potential critical habitat units based on the above information specific to the resource needs of each species; and (d) we removed, to the extent practicable, areas that did not have the specific PBF components.

In summary, for areas within the geographical area occupied by the species at the time of listing, we delineated critical habitat unit boundaries using the following criteria:

(1) *Obtain and evaluate species observation and distribution data sources*—We obtained and evaluated observation and distribution data to include in our Geographic Information System (GIS) database for each of the species, including our Pacific Islands Fish and Wildlife Office's threatened and endangered species database, which contains current and historical species observation and distribution survey report data from Federal and local partners. We also obtained recent biological surveys and reports and discussed that information with experts familiar with the species and their habitats. We used historical and current species distribution information to understand occupancy at the time of listing and to develop initial critical habitat boundaries within the habitats occupied by each of the species. The initial boundaries were superimposed over digital topographical maps of each of the islands that one or more of the species occupied and further evaluated to (a) remove locations identified as highly degraded or developed, and (b) use natural or constructed features (*e.g.,* ridge lines, valleys, streams, coastlines, roads, etc.) to refine the proposed critical habitat boundaries.

(2) *Identify areas containing PBFs*—Data layers defining map units were created using Environmental Systems Research Institute ArcGIS Pro World Imagery (2021). We obtained and compiled temperature (Fick and Hijmans 2017, entire), precipitation (Fick and Hijmans 2017, entire), elevation (USGS 2013), soil substrate (Guam Bureau of Statistics and Plans 2013, entire; Natural Resources Conservation Service 2019, entire), landcover (Amidon et al. 2017, entire), and cave or stream system data sources for each island within the Mariana archipelago. We evaluated areas to ensure each unit for each species contained one or more of the PBFs essential to the conservation of the species and which may require species management considerations or protection.

Areas that were known to be occupied at the time of listing and containing one or more of the PBFs were evaluated and included as proposed critical habitat. These areas include the contiguous habitat surrounding survey points that were known at the time of listing, all of which contain one of more of the PBFs and where there were no barriers to dispersal (*e.g.,* no changes in landcover from forest to grassland or developed areas since 2015); recent surveys have confirmed occupancy in some of these contiguous habitat areas. We considered the degree to which the PBFs were present or absent in areas as an indication of habitat suitability for each species and removed areas lacking the identified PBFs. Areas within proposed critical habitat units that contained obvious unsuitable habitat (*e.g.,* grasslands, bare rock, agricultural lands) were removed from the unit boundaries because they do not contain one or more of the PBFs needed by the species.

(3) *Circumscribe boundaries of potential critical habitat units*—We considered several features in the selection of specific boundaries for critical habitat units, including occupancy of the area at the time of listing (*i.e.,* consideration of historical and current location data, as described above), the Service's landcover information, and the presence of adequate habitat to allow for increases in numbers of individuals and for the expansion of populations necessary for recovery (Service 2023a, entire). For example, if data layers indicated that substrate and vegetation type were present on small or disjunct parcels within developed communities, these areas were not included as proposed critical habitat. Areas of contiguous suitable habitat were included within a unit boundary if data layers indicated that substrate and vegetation were similar to that of the occupied areas, there were no barriers to dispersal to allow for future population expansion, and the areas contained one or more of the PBFs. Critical habitat boundaries for all species were delineated to promote

the conservation of these species by identifying the PBFs essential to the conservation of each species (*i.e.,* the resources on which each species depends).

(4) *For the unoccupied unit for the Mariana subspecies of Pacific sheath-tailed bat*—For the one unit on the island of Rota for the Mariana subspecies of Pacific sheath-tailed bat, which is outside the geographic area occupied by the subspecies at the time of listing, we delineated critical habitat unit boundaries using the following criteria:

First, we obtained and evaluated the historical observation and distribution data for the subspecies and superimposed the data layers over topographical maps. We identified areas containing the PBFs using information including temperature, precipitation, elevation, soil substrate, land cover, and cave system maps, which we inferred from information known from the occupied unit on Aguiguan. Similar to the occupied unit on Aguiguan, we considered historically occupied areas, the Service's landcover information, and habitat to allow for the expansion of populations. Finally, we removed areas that did not include the PBFs required by the subspecies (*e.g.,* coastlines or bare rock).

Then, to ensure the unit boundary of the unoccupied unit on Rota is based on the best available science, we examined all known sources of relevant information. Many potentially suitable roosting caves occur in southern Rota (Duenas 2024, pers. comm.). Cave system data layers were used to identify suitable bat roosting habitat while the landcover data layer was used to identify suitable foraging habitat (Keel et al. 2005, entire; Taborosi 2006, entire). We considered data on the current or historical locations of the Mariana swiftlet because the species is known to co-locate with the Pacific sheath-tailed bat in the same caves on Aguiguan (Lemke 1986, p. 744; Service 1991, pp. 8, 10–11; Wiles et al. 1997, p. 221). On Rota, the unit boundaries extend 3.1 mi (5 km) around roosting caves within the adjacent forested area to provide adequate adjacent foraging habitat. This distance is based on data from the Pacific sheath-tailed bat subspecies *Emballonura semicaudata palauensis,* a species also co-occurring with a cave-dwelling swiftlet on the island of Palau in the Pacific. The best available information indicates that the *palauensis* subspecies bats flew up to 3.1 mi (5 km) from caves to forage (Wiles et al. 1997, p. 221). Contiguous forested habitat surrounding or very near suitable roosting sites is necessary for the species (the whole of *Emballonura semicaudata*) because they avoid non-forest habitats (Esselstyn et al. 2004, p. 307).

When determining proposed critical habitat boundaries, we made every effort to avoid including developed areas such as lands covered by buildings, pavement, and other structures because such lands lack PBFs necessary for the Mariana Islands species. The scale of the maps we prepared under the parameters for publication within the Code of Federal Regulations may not reflect the exclusion of such developed lands. Any such lands inadvertently left inside critical habitat boundaries shown on the maps of this proposed rule have been excluded by text in the proposed rule and are not proposed for designation as critical habitat. Therefore, if the critical habitat is finalized as proposed, a Federal action involving these lands (and not affecting the designated critical habitat) would not trigger section 7 consultation with respect to critical habitat and the requirement of no adverse modification unless the specific action would affect the PBFs in the adjacent critical habitat.

The proposed critical habitat designation is defined by the map or maps, as modified by any accompanying regulatory text, presented at the end of this document under Proposed Regulation Promulgation.

Proposed Critical Habitat Designation

We are proposing approximately 59,886 ac (24,235 ha) as critical habitat in 41 distinct geographic areas that include 122 critical habitat units for 22 Mariana Islands species, including 9 animals (the Mariana subspecies of the Pacific sheath-tailed bat, Slevin's skink, fragile tree snail, Guam tree snail, humped tree snail, Langford's tree snail, Mariana eight-spot butterfly, Mariana wandering butterfly, and Rota blue damselfly) and 13 plants (*Bulbophyllum guamense, Cycas micronesica, Dendrobium guamense, Eugenia bryanii, Hedyotis megalantha, Heritiera longipetiolata, Maesa walkeri, Nervilia jacksoniae, Phyllanthus saffordii, Psychotria malaspinae, Tabernaemontana rotensis, Tinospora homosepala,* and *Tuberolabium guamense*). Critical habitat is not proposed for one plant, *Solanum guamense,* because we have determined that the area identified that meets the definition of critical habitat is exempt from designation under section 4(a)(3)(B) of the Act (see Exemptions, below). The critical habitat areas we describe below constitute our current best assessment of areas that meet the definition of critical habitat for each species. The 122 units we propose as critical habitat are presented in the following tables for each species. All units are occupied with the exception of one unit on the island of Rota for the Pacific sheath-tailed bat. A second unit for the Pacific sheath-tailed bat that was identified on Guam meets the definition of critical habitat but is exempt from critical habitat designation under section 4(a)(3)(B) of the Act (see Exemptions, below). Many of the units and acreage for a given species overlap in part or whole with units for other species in this proposed rule on most of the islands; additional overlap with existing critical habitat designations also occurs on the Islands of Rota and Guam. The landownership in many (but not all) of the proposed critical habitat units also include a category called ''uncategorized lands.'' For the purposes of this analysis and the proposed critical habitat designation, this category refers to lands where we were unable to determine local government or private ownership.

To ensure clarity for the public and landowners managing for multiple species in a given area, Table 2 identifies the 41 individual areas across CNMI and the Territory of Guam, as well as all species with proposed critical habitat units in each of those areas. Table 3 identifies the total number of areas, species, and acreage proposed as critical habitat on each island. Tables 4–26 show the proposed critical habitat units, land ownership, acreage size, and occupancy status for each of the 22 species. Unit names correspond to the specific species and island where they occur, with additional numbers or letters corresponding to the locations/areas, thereby providing the ability to cross reference to situations with overlapping units.

The islands of Asuncion, Pagan, Alamagan, Sarigan, Saipan, Tinian, and Aguiguan do not have any existing designated critical habitat; thus, there is no overlapping designated critical habitat on these islands and all proposed critical habitat in this rule is new to these islands. On the islands of Rota (Areas 10–14) and Guam (Areas 15–41), there are existing designated critical habitat units that overlap with critical habitat proposed in this rule. For Rota, this proposed rule includes 13,023 ac (5,270 ha) of proposed critical habitat for 13 of the 22 Mariana Islands species (Table 3), of which 63 percent (8,244 ac (3,336 ha)) overlap with existing critical habitat; thus, 37 percent (4,779 ac (1,934 ha)) of proposed critical habitat is new to this island. For Guam (which

includes Cocos Island), this proposed rule includes 36,473 ac (14,760 ha) of proposed critical habitat for 19 of the 22 Mariana Islands species (Table 3), of which 0.7 percent (257 ac (104 ha)) overlap with existing critical habitat; thus, 99 percent (36,216 ac (14,656 ha)) of proposed critical habitat is new to this island.

TABLE 2—PROPOSED CRITICAL HABITAT FOR EACH OF THE 41 AREAS AND THE SPECIES REPRESENTED WITHIN EACH AREA

[Area estimates reflect the total proposed critical habitat acres within each geographical area. The total acreage for each area does not double-count any acres of overlapping units, where applicable.]

Geographic area	Species represented	Total proposed critical habitat in acres (hectares)
Area 1—Asunción, CNMI	Slevin's skink	750 (304)
Area 2—Pagan, CNMI	Slevin's skink humped tree snail.	1,846 (747)
Area 3—Alamagan, CNMI	Slevin's skink humped tree snail.	1,420 (574)
Area 4—Sarigan, CNMI	Slevin's skink humped tree snail.	402 (163)
Area 5—Tapochau, Saipan, CNMI	humped tree snail	3,290 (1,332)
Area 6—American Memorial Park, Saipan, CNMI.	humped tree snail	35 (14)
Area 7—I'Naftan, Saipan, CNMI	*Heritiera longipetiolata*	779 (315)
Area 8—Kastiyu, Tinian, CNMI	*Heritiera longipetiolata*	651 (263)
Area 9—Aguiguan, CNMI	Pacific sheath-tailed bat Langford's tree snail. *Dendrobium guamense.*	1,217 (492)
Area 10—Mochong, Rota, CNMI	*Bulbophyllum guamense* *Tabernaemontana rotensis.*	*3,497 (1,415)
Area 11—Sabana, Rota, CNMI	*Bulbophyllum guamense* *Cycas micronesica.* *Dendrobium guamense.* *Maesa walkeri.* *Nervilia jacksoniae.* *Tabernaemontana rotensis.* *Tuberolabium guamense.*	*6,875 (2,782)
Area 12—Rota, CNMI	fragile tree snail humped tree snail. Mariana wandering butterfly.	12,282 (4,970)
Area 13—Talakhaya, Rota, CNMI	Rota blue damselfly	1,133 (459)
Area 14—Southern Rota, CNMI	Pacific sheath-tailed bat	*+7,632 (3,089)
Area 15—Ritidian, Guam	fragile tree snail Guam tree snail. humped tree snail. Mariana eight-spot butterfly. *Bulbophyllum guamense.* *Cycas micronesica.* *Dendrobium guamense.* *Eugenia bryanii.* *Heritiera longipetiolata.* *Tabernaemontana rotensis.* *Tuberolabium guamense.*	856 (346)
Area 16—Two Lovers' Point, Guam	fragile tree snail Guam tree snail. humped tree snail. Mariana eight-spot butterfly. *Bulbophyllum guamense.* *Cycas micronesica.* *Dendrobium guamense.* *Eugenia bryanii.* *Heritiera longipetiolata.* *Tabernaemontana rotensis.* *Tuberolabium guamense.*	1,245 (504)
Area 17—Anao, Guam	fragile tree snail Guam tree snail. humped tree snail. Mariana eight-spot butterfly. *Bulbophyllum guamense.* *Cycas micronesica.* *Dendrobium guamense.* *Eugenia bryanii.* *Heritiera longipetiolata.* *Psychotria malaspinae.* *Tabernaemontana rotensis.* *Tuberolabium guamense.*	2,166 (877)

TABLE 2—PROPOSED CRITICAL HABITAT FOR EACH OF THE 41 AREAS AND THE SPECIES REPRESENTED WITHIN EACH AREA—Continued

[Area estimates reflect the total proposed critical habitat acres within each geographical area. The total acreage for each area does not double-count any acres of overlapping units, where applicable.]

Geographic area	Species represented	Total proposed critical habitat in acres (hectares)
Area 18—Tre Vista, Guam	fragile tree snail Guam tree snail.	445 (180)
Area 19—Yigo, Guam	Guam tree snail	147 (59)
Area 20—Barrigada, Guam	Guam tree snail *Bulbophyllum guamense.*	267 (108)
Area 21—Taguan, Guam	Mariana eight-spot butterfly	242 (98)
Area 22—Anigua Cliffline, Guam	*Tinospora homosepala*	11 (5)
Area 23—Asan Ridge, Guam	*Tinospora homosepala*	12 (5)
Area 24—Asan Hillside, Guam	*Tinospora homosepala*	** 124 (50)
Area 25—Nimitz Hill Savanna, Guam	*Phyllanthus saffordii*	236 (95)
Area 26—Piti Savanna, Guam	*Phyllanthus saffordii*	82 (33)
Area 27—Sasa Valley, Guam	*Tinospora homosepala*	2 (1)
Area 28—Central Guam	fragile tree snail Guam tree snail.	4,313 (1,745)
Area 29—Fadi'an, Guam	Guam tree snail	61 (25)
Area 30—Piti, Guam	fragile tree snail Guam tree snail.	1,965 (795)
Area 31—Yoña, Guam	*Bulbophyllum guamense* *Hedyotis megalantha.* *Phyllanthus saffordii.*	5,938 (2,403)
Area 32—Mangilao, Guam	*Eugenia bryanii* *Heritiera longipetiolata.*	195 (79)
Area 33—Ylig, Guam	fragile tree snail Guam tree snail.	1,863 (754)
Area 34—Cross Island, Guam	*Bulbophyllum guamense* *Cycas micronesica.* *Dendrobium guamense.* *Hedyotis megalantha.* *Heritiera longipetiolata.* *Phyllanthus saffordii.* *Tuberolabium guamense.*	2,377 (962)
Area 35—Hågat, Guam	fragile tree snail Guam tree snail. *Bulbophyllum guamense.* *Cycas micronesica.* *Dendrobium guamense.* *Heritiera longipetiolata.* *Maesa walkeri.* *Nervilia jacksoniae.* *Phyllanthus saffordii.* *Psychotria malaspinae.* *Tabernaemontana rotensis.* *Tuberolabium guamense.*	720 (291)
Area 36—Talo'fo'fo', Guam	fragile tree snail Guam tree snail.	5,697 (2,306)
Area 37—Sella Bay, Guam	fragile tree snail Guam tree snail.	64 (26)
Area 38—Cetti Bay, Guam	Guam tree snail	102 (41)
Area 39—Bolanos, Guam	Guam tree snail *Bulbophyllum guamense.* *Cycas micronesica.* *Dendrobium guamense.* *Eugenia bryanii.* *Hedyotis megalantha.* *Phyllanthus saffordii.* *Tabernaemontana rotensis.* *Tuberolabium guamense.*	10,874 (4,400)
Area 40—Inalåhan, Guam	fragile tree snail Guam tree snail.	457 (185)
Area 41—Cocos Island (Islan Dåno'), Guam.	Slevin's skink	63 (25)
Total		59,886 ac (24,235 ha)

Note: Area sizes may not sum due to rounding. Additionally, the forest plant *Solanum guamense* also occurs in the vicinity of Area 15 and 17 on DoD lands (but not within any proposed critical habitat units); the range of this species resides solely on DoD lands and is exempt under section 4(a)(3) of the Act (see Exemptions, below).

* Areas 10, 11, and 14 lie within/overlap Areas 12 and 13; in addition, there is some overlap between Areas 12 and 13; therefore, only acres for Area 12 and 13 minus the overlap are included to prevent double counting in the overall total acreage of the proposed critical habitat designation.

** Area 24 lies within/overlaps Area 28; therefore, only acres for Area 28 are included to prevent double counting in the overall total acreage of the proposed critical habitat designation. Additionally, there is partial overlap between Areas 28 and 31, Areas 34 and 36, and Areas 36 and 39.

+ The Pacific sheath-tailed bat is not present at this time, but critical habitat is proposed within Area 14, which is the only unoccupied unit within this proposed critical habitat designation.

TABLE 3—AREAS, NUMBER OF SPECIES, AND TOTAL ACRES (HECTARES) PROPOSED AS CRITICAL HABITAT FOR EACH ISLAND

[Area estimates reflect all land within critical habitat units combined.]

Island	Area names	# of species	Acres	Hectares
Asuncion	Area 1	1	750	304
Pagan	Area 2	2	1,846	747
Alamagan	Area 3	2	1,420	574
Sarigan	Area 4	2	402	163
Saipan	Areas 5, 6, and 7	2	4,104	1,661
Tinian	Area 8	2	651	263
Aguiguan	Area 9	3	1,217	492
Rota	Areas 10–14	13	13,023	5,270
Guam	Areas 15–41	19	36,473	14,760
Total			59,886	24,235

Note: Area sizes may not sum due to rounding.

TABLE 4—PROPOSED CRITICAL HABITAT UNITS FOR PACIFIC SHEATH-TAILED BAT

[Area estimates reflect all land within critical habitat unit boundaries.]

Critical habitat unit	Area #	Landownership by type in acres (hectares)	Size of unit in acres (hectares)	Occupied?
1. Pacific Sheath-tailed Bat–1, Aguiguan	9	Federal 0 Commonwealth 589 (238). Private 0. Uncategorized 0.	589 ac (238 ha).	Yes.
2. Pacific Sheath-tailed Bat–1, Rota	14	Federal 0 Commonwealth 6,178 (2,500). Private 1,418 (574). Uncategorized 36 (15).	7,633 ac (3,089 ha).	No.
Total		Federal 0 Commonwealth 6,767 (2,738). Private 1,418 (574). Uncategorized 36 (15).	8,221 ac (3,327 ha).	

Note: Area sizes may not sum due to rounding. Within Area 9, the unit acreages presented for this species overlap proposed critical habitat units in full or in part for Langford's tree snail and *Dendrobium guamense.* For Area 14, the unit acreage presented is a full unit only for the Pacific sheath-tailed bat.

TABLE 5—PROPOSED CRITICAL HABITAT UNITS FOR SLEVIN'S SKINK

[Area estimates reflect all land within critical habitat unit boundaries.]

Critical habitat unit	Area #	Landownership by type in acres (hectares)	Size of unit in acres (hectares)	Occupied?
1. Slevin's Skink–1, Asuncion	1	Federal 0 Commonwealth 750 (304). Private 0. Uncategorized 0.	750 ac (304 ha).	Yes.
2. Slevin's Skink–1, Pagan	2	Federal 0 Commonwealth 1,846 (747). Private 0. Uncategorized 0.	1,846 ac (747 ha).	Yes.
3. Slevin's Skink–1, Alamagan	3	Federal 0 Commonwealth 1,420 (574). Private 0. Uncategorized 0.	1,420 ac (574 ha).	Yes.
4. Slevin's Skink–1, Sarigan	4	Federal 0 Commonwealth 402 (163). Private 0. Uncategorized 0.	402 ac (163 ha).	Yes.

TABLE 5—PROPOSED CRITICAL HABITAT UNITS FOR SLEVIN'S SKINK—Continued

[Area estimates reflect all land within critical habitat unit boundaries.]

Critical habitat unit	Area #	Landownership by type in acres (hectares)	Size of unit in acres (hectares)	Occupied?
5. Slevin's Skink–1, Cocos Island (Guam)	41	Federal 0 ..... Territory 0. Private 30 (12). Uncategorized 33 (13).	63 ac ..... (25 ha).	Yes.
Total	.....	Federal 0 ..... Commonwealth or Territory 4,418 (1,788). Private 30 (12). Uncategorized 33 (13).	4,481 ac ..... (1,813 ha).	

Note: Area sizes may not sum due to rounding. Within Areas 2, 3, and 4, the unit acreages presented for this species overlap proposed critical habitat units in full or in part for the humped tree snail and multiple plant species in this proposed rule. For Areas 1 and 41, the unit acreage presented is a full unit only for Slevin's skink.

TABLE 6—PROPOSED CRITICAL HABITAT UNITS FOR FRAGILE TREE SNAIL

[Area estimates reflect all land within critical habitat unit boundaries.]

Critical habitat unit	Area #	Landownership by type in acres (hectares)	Size of unit in acres (hectares)	Occupied?
1. Fragile Tree Snail–1, Rota	12	Federal 0 ..... Commonwealth 9,294 (3,761). Private 2,954 (1,195). Uncategorized 34 (14).	12,282 ac ..... (4,970 ha).	Yes.
2. Fragile Tree Snail–1, Guam	15	Federal 262 (106) ..... Territory 68 (27). Private 408 (165). Uncategorized 118 (48).	856 ac ..... (346 ha).	Yes.
3. Fragile Tree Snail–2, Guam	16	Federal 0 ..... Territory 1,081 (437). Private 108 (44). Uncategorized 56 (23).	1,245 ac ..... (504 ha).	Yes.
4. Fragile Tree Snail–3, Guam	17	Federal 0 ..... Territory 1,549 (627). Private 270 (109). Uncategorized 347 (141).	2,166 ac ..... (877 ha).	Yes.
5. Fragile Tree Snail–4, Guam	18	Federal 0 ..... Territory 0. Private 361 (146). Uncategorized 84 (34).	445 ac ..... (180 ha).	Yes.
6. Fragile Tree Snail–5, Guam	28	Federal 210 (85) ..... Territory 0. Private 1,954 (791). Uncategorized 2,149 (869).	4,313 ac ..... (1,745 ha).	Yes.
7. Fragile Tree Snail–6, Guam	30	Federal 102 (41) ..... Territory 0. Private 756 (396). Uncategorized 1,107 (448).	1,965 ac ..... (795 ha).	Yes.
8. Fragile Tree Snail–7, Guam	33	Federal 0 ..... Territory 0. Private 983 (398). Uncategorized 880 (356).	1,863 ac ..... (754 ha).	Yes.
9. Fragile Tree Snail–8, Guam	35	Federal 16 (6) ..... Territory 84 (34). Private 344 (139). Uncategorized 185 (75).	629 ac ..... (254 ha).	Yes.
10. Fragile Tree Snail–9, Guam	36	Federal 0 ..... Territory 142 (57). Private 3,915 (1,584). Uncategorized 1,640 (665).	5,697 ac ..... (2,306 ha).	Yes.
11. Fragile Tree Snail–10, Guam	37	Federal 0 ..... Territory 0. Private 57 (23). Uncategorized 7 (3).	64 ac ..... (26 ha).	Yes.

TABLE 6—PROPOSED CRITICAL HABITAT UNITS FOR FRAGILE TREE SNAIL—Continued

[Area estimates reflect all land within critical habitat unit boundaries.]

Critical habitat unit	Area #	Landownership by type in acres (hectares)	Size of unit in acres (hectares)	Occupied?
12. Fragile Tree Snail–11, Guam	40	Federal 0 Territory 0. Private 154 (62). Uncategorized 303 (123)	457 ac (185 ha).	Yes.
Total		Federal 590 (238) Commonwealth or Territory 12,218 (4,943). Private 12,264 (4,962). Uncategorized 6,910 (2,799).	31,982 ac (12,942 ha).	

Note: Area sizes may not sum due to rounding. For all areas, the unit acreages presented for this species overlap proposed critical habitat units in full or in part for multiple animal and plant species in this proposed rule.

TABLE 7—PROPOSED CRITICAL HABITAT UNITS FOR GUAM TREE SNAIL

[Area estimates reflect all land within critical habitat unit boundaries.]

Critical habitat unit	Area #	Landownership by type in acres (hectares)	Size of unit in acres (hectares)	Occupied?
1. Guam Tree Snail–1, Guam	15	Federal 262 (106) Territory 68 (27). Private 408 (165). Uncategorized 118 (48).	856 ac (346 ha).	Yes.
2. Guam Tree Snail–2, Guam	16	Federal 0 Territory 1,081 (437). Private 108 (44). Uncategorized 56 (23).	1,245 ac (504 ha).	Yes
3. Guam Tree Snail–3, Guam	17	Federal 0 Territory 1,549 (627). Private 270 (109). Uncategorized 347 (141).	2,166 ac (877 ha).	Yes.
4. Guam Tree Snail–4, Guam	18	Federal 0 Territory 0. Private 361 (146). Uncategorized 84 (34).	445 ac (180 ha).	Yes.
5. Guam Tree Snail–5, Guam	19	Federal 0 Territory 0. Private 110 (44). Uncategorized 37 (15)	147 ac (59 ha).	Yes.
6. Guam Tree Snail–6, Guam	20	Federal 0 Territory 0. Private 44 (18). Uncategorized 55 (22).	99 ac (40 ha).	Yes.
7. Guam Tree Snail–7, Guam	28	Federal 210 (85) Territory 0. Private 1,954 (791). Uncategorized 2,149 (869).	4,313 ac (1,745 ha).	Yes.
8. Guam Tree Snail–8, Guam	29	Federal 0 Territory 0. Private 61 (25). Uncategorized 0.	61 ac (25 ha).	Yes.
9. Guam Tree Snail–9, Guam	30	Federal 102 (41) Territory 0. Private 756 (306). Uncategorized 1,107 (448).	1,965 ac (795 ha).	Yes.
10. Guam Tree Snail–10, Guam	33	Federal 0 Territory 0. Private 983 (398). Uncategorized 880 (356).	1,863 ac (754 ha).	Yes.
11. Guam Tree Snail–11, Guam	35	Federal 16 (6) Territory 84 (34). Private 344 (139). Uncategorized 180 (73).	629 ac (254 ha).	Yes.
12. Guam Tree Snail–12, Guam	36	Federal 0 Territory 142 (57). Private 3,915 (1,584). Uncategorized 1,640 (665).	5,697 ac (2,306 ha).	Yes.

TABLE 7—PROPOSED CRITICAL HABITAT UNITS FOR GUAM TREE SNAIL—Continued

[Area estimates reflect all land within critical habitat unit boundaries.]

Critical habitat unit	Area #	Landownership by type in acres (hectares)	Size of unit in acres (hectares)	Occupied?
13. Guam Tree Snail–13, Guam	37	Federal 0 Territory 0. Private 57 (23). Uncategorized 7 (3).	64 ac (26 ha).	Yes.
14. Guam Tree Snail–14, Guam	38	Federal 0 Territory 0. Private 27 (11). Uncategorized 75 (30).	102 ac (41 ha).	Yes.
15. Guam Tree Snail–15, Guam	39	Federal 0.. Territory 19 (8). Private 31 (13). Uncategorized 134 (53).	184 ac (74 ha).	Yes.
16. Guam Tree Snail–16, Guam	40	Federal 0. Territory 0. Private 154 (62). Uncategorized 303 (123).	457 ac (185 ha).	Yes.
Total		Federal 590 (238). Territory 2,943 (1,190). Private 9,583 (3,878). Uncategorized 7,177 (2,905).	20,293 ac (8,211 ha).	

Note: Area sizes may not sum due to rounding. For Areas 19 and 38, the unit acreage presented are full units only for the Guam tree snail. Within all other areas, the unit acreages presented for this species overlap proposed critical habitat units in full or in part for multiple animal and plant species in this proposed rule.

TABLE 8—PROPOSED CRITICAL HABITAT UNITS FOR HUMPED TREE SNAIL

[Area estimates reflect all land within critical habitat unit boundaries.]

Critical habitat unit	Area #	Landownership by type in acres (hectares)	Size of unit in acres (hectares)	Occupied?
1. Humped Tree Snail–1, Pagan	2	Federal 0 Commonwealth 843 (341). Private 0. Uncategorized 0.	843 ac (341 ha).	Yes.
2. Humped Tree Snail–1, Alamagan	3	Federal 0 Commonwealth 1,420 (574). Private 0. Uncategorized 0.	1,420 ac (574 ha).	Yes.
3. Humped Tree Snail–1, Sarigan	4	Federal 0 Commonwealth 402 (163). Private 0. Uncategorized 0.	402 ac (163 ha).	Yes.
4. Humped Tree Snail–1, Saipan	5	Federal 0 Commonwealth 893 (361). Private 2,393 (969). Uncategorized 4 (2).	3,290 ac (1,332 ha).	Yes.
5. Humped Tree Snail–2, Saipan	6	Federal 35 (14) Commonwealth 0. Private 0. Uncategorized 0.	35 ac (14 ha).	Yes.
6. Humped Tree Snail–1, Rota	12	Federal 0 Commonwealth 9,294 (3,761). Private 2,954 (1,195). Uncategorized 34 (14).	12,282 ac (4,970 ha).	Yes.
7. Humped Tree Snail–1, Guam	15	Federal 262 (106) Territory 68 (27). Private 408 (165). Uncategorized 118 (48).	856 ac (346 ha).	Yes.
8. Humped Tree Snail–2, Guam	16	Federal 0 Territory 1,081 (437). Private 108 (44). Uncategorized 56 (23).	1,245 ac (504 ha).	Yes.

TABLE 8—PROPOSED CRITICAL HABITAT UNITS FOR HUMPED TREE SNAIL—Continued

[Area estimates reflect all land within critical habitat unit boundaries.]

Critical habitat unit	Area #	Landownership by type in acres (hectares)	Size of unit in acres (hectares)	Occupied?
9. Humped Tree Snail–3, Guam	17	Federal 0 Territory 1,549 (627). Private 270 (109). Uncategorized 347 (141).	2,166 ac. (877 ha).	Yes.
Total		Federal 297 (120) Commonwealth or Territory 15,550 (6,291). Private 6,133 (2,482). Uncategorized 559 (228).	22,539 ac (9,121 ha).	

Note: Area sizes may not sum due to rounding. Within Areas 2, 3, 4, 15, 16, and 17, the unit acreages presented for this species overlap proposed critical habitat units in full or in part for multiple animal and plant species in this proposed rule. For Areas 5 and 6, the unit acreage presented are full units only for the humped tree snail.

TABLE 9—PROPOSED CRITICAL HABITAT UNIT FOR LANGFORD'S TREE SNAIL

[Area estimates reflect all land within critical habitat unit boundaries.]

Critical habitat unit	Area #	Landownership by type in acres (hectares)	Size of unit in acres (hectares)	Occupied?
1. Langford's Tree Snail–1, Aguiguan	9	Federal 0 Commonwealth 1,217 (492). Private 0. Uncategorized 0.	1,217 ac (492 ha).	Yes.
Total		Federal 0 Commonwealth 1,217 (492). Private 0. Uncategorized 0.	1,217 ac (492 ha)	

Note: Area sizes may not sum due to rounding, and the unit acreage presented for this species partially overlaps proposed critical habitat units presented for the Pacific sheath-tailed bat and *Dendrobium guamense*.

TABLE 10—PROPOSED CRITICAL HABITAT UNITS FOR MARIANA EIGHT-SPOT BUTTERFLY

[Area estimates reflect all land within critical habitat unit boundaries.]

Critical habitat unit	Area #	Landownership by type in acres (hectares)	Size of unit in acres (hectares)	Occupied?
1. Mariana Eight-Spot Butterfly–1, Guam	15	Federal 262 (106) Territory 68 (27). Private 408 (165). Uncategorized 118 (48)	856 ac (346 ha).	Yes.
2. Mariana Eight-Spot Butterfly–2, Guam	16	Federal 0 Territory 1,081 (437). Private 108 (44). Uncategorized 56 (23).	1,245 ac (504 ha).	Yes.
3. Mariana Eight-Spot Butterfly–3, Guam	17	Federal 0 Territory 1,549 (627). Private 270 (109). Uncategorized 347 (141).	2,166 ac (877 ha).	Yes.
4. Mariana Eight-Spot Butterfly–4, Guam	21	Federal 0 Territory 0. Private 133 (54). Uncategorized 109 (44).	242 ac (98 ha).	Yes.
Total		Federal 262 (106) Territory 2,698 (1,091). Private 919 (372). Uncategorized 630 (256).	4,509 ac (1,825 ha).	

Note: Area sizes may not sum due to rounding. Within Areas 15, 16, and 17, the unit acreages presented for this species overlap proposed critical habitat units in full or in part for multiple animal and plant species in this proposed rule. For Area 21, the unit acreage presented is a full unit only for the Mariana eight-spot butterfly.

TABLE 11—PROPOSED CRITICAL HABITAT UNIT FOR MARIANA WANDERING BUTTERFLY

[Area estimates reflect all land within critical habitat unit boundaries.]

Critical habitat unit	Area #	Landownership by type in acres (hectares)	Size of unit in acres (hectares)	Occupied?
1. Mariana Wandering Butterfly–1, Rota	12	Federal 0 Commonwealth 9,294 (3,761). Private 2,954 (1,195). Uncategorized 34 (14).	12,282 ac (4,970 ha).	Yes.
Total		Federal 0 Commonwealth 9,294 (3,761). Private 2,954 (1,195). Uncategorized 34 (14).	12,282 ac (4,970 ha).	

Note: Area sizes may not sum due to rounding. The unit acreage presented for this species within this area fully overlaps proposed critical habitat units presented for the fragile tree snail and Langford tree snail within this proposed rule.

TABLE 12—PROPOSED CRITICAL HABITAT UNIT FOR ROTA BLUE DAMSELFLY

[Area estimates reflect all land within critical habitat unit boundaries.]

Critical habitat unit	Area #	Landownership by type in acres (hectares)	Size of unit in acres (hectares)	Occupied?
1. Rota Blue Damselfly–1, Rota	13	Federal 0 Commonwealth 671 (272). Private 433 (175). Uncategorized 29 (12).	1,133 ac (459 ha).	Yes.
Total		Federal 0 Commonwealth 671 (272). Private 433 (175). Uncategorized 29 (12).	1,133 ac (459 ha).	

Note: Area sizes may not sum due to rounding. The unit acreage presented for this species does not overlap proposed critical habitat units for other species in this proposed rule.

TABLE 13—PROPOSED CRITICAL HABITAT UNITS FOR *Bulbophyllum guamense*

[Area estimates reflect all land within critical habitat unit boundaries.]

Critical habitat unit	Area #	Landownership by type in acres (hectares)	Size of unit in acres (hectares)	Occupied?
1. Rota 1—*Bulbophyllum guamense*—a	10	Federal 0 Commonwealth 1,397 (565) Private 533 (216) Uncategorized 0	1,930 ac (781 ha)	Yes.
2. Rota 2—*Bulbophyllum guamense*—b	11	Federal 0 Commonwealth 5,806 (2,350) Private 1,039 (420) Uncategorized 30 (12)	6,875 ac (2,782 ha)	Yes.
3. Guam 1—*Bulbophyllum guamense*—a	15	Federal 257 (104) Territory 68 (27) Private 375 (152) Uncategorized 42 (17)	741 ac (300 ha)	Yes.
4. Guam 2—*Bulbophyllum guamense*— b	16	Federal 0 Territory 1,081 (437) Private 108 (44) Uncategorized 56 (23)	1,245 ac (504 ha)	Yes.
5. Guam 3—*Bulbophyllum guamense*—c	17	Federal 0 Territory 1,549 (627) Private 270 (109) Uncategorized 347 (141)	2,166 ac (877 ha)	Yes.
6. Guam 4—*Bulbophyllum guamense*—d	20	Federal 0 Territory 0 Private 171 (69) Uncategorized 96 (39)	267 ac (108 ha)	Yes.
7. Guam 11—*Bulbophyllum guamense*—e	31	Federal 0 Territory 0 Private 324 (131) Uncategorized 590 (239)	914 ac (370 ha)	Yes.

TABLE 13—PROPOSED CRITICAL HABITAT UNITS FOR *Bulbophyllum guamense*—Continued

[Area estimates reflect all land within critical habitat unit boundaries.]

Critical habitat unit	Area #	Landownership by type in acres (hectares)	Size of unit in acres (hectares)	Occupied?
8. Guam 13—*Bulbophyllum guamense*—f	34	Federal 0 Territory 142 (57) Private 859 (348) Uncategorized 725 (293)	1,726 ac (698 ha)	Yes.
9. Guam 14—*Bulbophyllum guamense*—g	35	Federal 16 (6) Territory 84 (34) Private 344 (139) Uncategorized 185 (75)	629 ac (254 ha)	Yes.
10. Guam 15—*Bulbophyllum guamense*—h	39	Federal 0 Territory 919 (372) Private 3,612 (1,462) Uncategorized 1,617 (654)	6,148 ac (2,488 ha)	Yes.
Total		Federal 273 (110) Commonwealth or Territory 11,046 (4,469) Private 7,635 (3,090) Uncategorized 3,688 (1,493)	22,642 ac (9,162 ha)	

Note: Area sizes may not sum due to rounding. Within all areas, the unit acreages presented for this species overlap proposed critical habitat units in full or in part for multiple animal and plant species in this proposed rule.

TABLE 14—PROPOSED CRITICAL HABITAT UNITS FOR *Cycas micronesica*

[Area estimates reflect all land within critical habitat unit boundaries.]

Critical habitat unit	Area #	Landownership by type in acres (hectares)	Size of unit in acres (hectares)	Occupied?
1. Rota 2–*Cycas micronesica*–a	11	Federal 0 Commonwealth 5,806 (2,350) Private 1,039 (420) Uncategorized 30 (12)	6,875 ac (2,782 ha)	Yes.
2. Guam 1–*Cycas micronesica*–a	15	Federal 262 (106) Territory 68 (27) Private 408 (165) Uncategorized 118 (48)	856 ac (346 ha)	Yes.
3. Guam 2–*Cycas micronesica*–b	16	Federal 0 Territory 1,081 (437) Private 108 (44) Uncategorized 56 (23)	1,245 ac (504)	Yes.
4. Guam 3–*Cycas micronesica*–c	17	Federal 0 Territory 1,549 (627) Private 270 (109) Uncategorized 347 (141)	2,166 ac (877 ha)	Yes.
5. Guam 13–*Cycas micronesica*–d	34	Federal 0 Territory 142 (57) Private 859 (348) Uncategorized 725 (293)	1,726 ac (698 ha)	Yes.
6. Guam 14–*Cycas micronesica*–e	35	Federal 16 (6) Territory 84 (34) Private 344 (139) Uncategorized 185 (75)	629 ac (254 ha)	Yes.
7. Guam 15–*Cycas micronesica*–f	39	Federal 0 Territory 919 (372) Private 3,612 (1,462) Uncategorized 1,617 (654)	6,148 ac (2,488 ha)	Yes.
Total		Federal 278 (112) Commonwealth or Territory 9,649 (3,904) Private 6,640 (2,687) Uncategorized 3,078 (1,246)	19,645 ac (7,949 ha)	

Note: Area sizes may not sum due to rounding. Within all areas, the unit acreages presented for this species overlap proposed critical habitat units in full or in part for multiple plant species in this proposed rule.

TABLE 15—PROPOSED CRITICAL HABITAT UNITS FOR *Dendrobium guamense*

[Area estimates reflect all land within critical habitat unit boundaries.]

Critical habitat unit	Area #	Landownership by type in acres (hectares)	Size of unit in acres (hectares)	Occupied?
1. Aguiguan 1–*Dendrobium guamense*–a	9	Federal 0 Commonwealth 1,094 (443) Private 0 Uncategorized 0	1,094 ac (443 ha)	Yes.
2. Rota 2–*Dendrobium guamense*–a	11	Federal 0 Commonwealth 5,806 (2,350) Private 1,039 (420) Uncategorized 30 (12)	6,875 ac (2,782 ha)	Yes.
3. Guam 1–*Dendrobium guamense*–a	15	Federal 257 (104) Territory 68 (27) Private 375 (152) Uncategorized 41 (17)	741 ac (300 ha)	Yes.
4. Guam 2–*Dendrobium guamense*–b	16	Federal 0 Territory 1,081 (437) Private 108 (44) Uncategorized 56 (23)	1,245 ac (504)	Yes.
5. Guam 3–*Dendrobium guamense*–c	17	Federal 0 Territory 1,488 (602) Private 198 (80) Uncategorized 300 (122)	1,986 ac (804)	Yes.
6. Guam 13–*Dendrobium guamense*–d	34	Federal 0 Territory 142 (57) Private 859 (348) Uncategorized 725 (293)	1,726 ac (698 ha)	Yes.
7. Guam 14–*Dendrobium guamense*–e	35	Federal 16 (6) Territory 84 (34) Private 344 (139) Uncategorized 185 (75)	629 ac (254 ha)	Yes.
8. Guam 15–*Dendrobium guamense*–f	39	Federal 0 Territory 919 (372) Private 3,612 (1,462) Uncategorized 1,617 (654)	6,148 ac (2,488 ha)	Yes.
Total		Federal 273 (110) Commonwealth or Territory 10,682 (4,322) Private 6,535 (2,645) Uncategorized 2,954 (1,196)	20,444 ac (8,273 ha)	

Note: Area sizes may not sum due to rounding. Within all areas, the unit acreages presented for this species overlap proposed critical habitat units in full or in part for multiple plant and animal species in this proposed rule.

TABLE 16—PROPOSED CRITICAL HABITAT UNITS FOR *Eugenia bryanii*

[Area estimates reflect all land within critical habitat unit boundaries.]

Critical habitat unit	Area #	Landownership by type in acres (hectares)	Size of unit in acres (hectares)	Occupied?
1. Guam 1–*Eugenia bryanii*–a	15	Federal 257 (104) Territory 68 (27) Private 375 (152) Uncategorized 41 (17)	741 ac (300 ha)	Yes.
2. Guam 2–*Eugenia bryanii*–b	16	Federal 0 Territory 159 (64) Private 0 Uncategorized 3 (1)	162 ac (65 ha)	Yes.
3. Guam 3–*Eugenia bryanii*–c	17	Federal 0 Territory 1,488 (602) Private 198 (80) Uncategorized 300 (122)	1,986 ac (804)	Yes.
4. Guam 12–*Eugenia bryanii*–d	32	Federal 0 Territory 0 Private 190 (77) Uncategorized 5 (2)	195 ac (79 ha)	Yes.

TABLE 16—PROPOSED CRITICAL HABITAT UNITS FOR *Eugenia bryanii*—Continued

[Area estimates reflect all land within critical habitat unit boundaries.]

Critical habitat unit	Area #	Landownership by type in acres (hectares)	Size of unit in acres (hectares)	Occupied?
5. Guam 15–*Eugenia bryanii*–e	39	Federal 0 Territory 181 (73) Private 253 (103) Uncategorized 36 (14)	470 ac (190 ha)	Yes.
Total		Federal 257 (104) Territory 1,896 (766) Private 1,016 (412) Uncategorized 385 (156)	3,554 ac (1,438 ha)	

Note: Area sizes may not sum due to rounding. Within all areas, the unit acreages presented for this species overlap proposed critical habitat units in full or in part for multiple plant and animal species in this proposed rule.

TABLE 17—PROPOSED CRITICAL HABITAT UNITS FOR *Hedyotis megalantha*

[Area estimates reflect all land within critical habitat unit boundaries.]

Critical habitat unit	Area #	Landownership by type in acres (hectares)	Size of unit in acres (hectares)	Occupied?
1. Guam 11–*Hedyotis megalantha*–a	31	Federal 45 (18) Territory 0 Private 3,031 (1,227) Uncategorized 1,948 (788)	5,024 ac (2,033 ha)	Yes.
2. Guam 13–*Hedyotis megalantha*–b	34	Federal 0 Territory 0 Private 651 (264) Uncategorized 1 (<1)	652 ac (264 ha)	Yes.
3. Guam 15–*Hedyotis megalantha*–c	39	Federal 0 Territory 510 (206) Private 334 (135) Uncategorized 201 (82)	1,045 ac (423 ha)	Yes.
Total		Federal 45 (18) Territory 510 (206) Private 4,016 (1,626) Uncategorized 2,150 (870)	6,721 ac (2,720 ha)	

Note: Area sizes may not sum due to rounding. Within all areas, the unit acreages presented for this species overlap proposed critical habitat units in full or in part for multiple plant species in this proposed rule, as well as with the Guam tree snail in Area 39.

TABLE 18—PROPOSED CRITICAL HABITAT UNITS FOR *Heritiera longipetiolata*

[Area estimates reflect all land within critical habitat unit boundaries.]

Critical habitat unit	Area #	Landownership by type in acres (hectares)	Size of unit in acres (hectares)	Occupied?
1. Saipan 1—*Heritiera longipetiolata*–a	7	Federal 0 Commonwealth 634 (257) Private 143 (58) Uncategorized 2 (<1)	779 ac (315 ha)	Yes.
2. Tinian 1—*Heritiera longipetiolata*–a	8	Federal 0 Commonwealth 639 (258) Private 3 (1) Uncategorized 9 (4)	651 ac (263 ha)	Yes.
3. Guam 1—*Heritiera longipetiolata*–a	15	Federal 262 (106) Territory 68 (27) Private 408 (165) Uncategorized 118 (48)	856 ac (346 ha)	Yes.
4. Guam 2—*Heritiera longipetiolata*–b	16	Federal 0 Territory 1,081 (437) Private 108 (44) Uncategorized 56 (23)	1,245 ac (504)	Yes.
5. Guam 3—*Heritiera longipetiolata*–c	17	Federal 0 Territory 1,488 (602) Private 198 (80) Uncategorized 300 (122)	1,986 ac (804)	Yes.

TABLE 18—PROPOSED CRITICAL HABITAT UNITS FOR *Heritiera longipetiolata*—Continued

[Area estimates reflect all land within critical habitat unit boundaries.]

Critical habitat unit	Area #	Landownership by type in acres (hectares)	Size of unit in acres (hectares)	Occupied?
6. Guam 12—*Heritiera longipetiolata*–d	32	Federal 0 Territory 0 Private 190 (77) Uncategorized 5 (2)	195 ac (79 ha)	Yes.
7. Guam 13—*Heritiera longipetiolata*–e	34	Federal 0 Territory 142 (57) Private 859 (348) Uncategorized 725 (293)	1,726 ac (698 ha)	Yes.
8. Guam 14—*Heritiera longipetiolata*–f	35	Federal 16 (6) Territory 84 (34) Private 344 (139) Uncategorized 185 (75)	629 ac (254 ha)	Yes.
Total		Federal 278 (112) Commonwealth or Territory 4,136 (1,672) Private 2,253 (912) Uncategorized 1,400 (567)	8,067 ac (3,263 ha)	

Note: Area sizes may not sum due to rounding. For Areas 1 and 8, the unit acreage presented are full units only for *Heritiera longipetiolata.* Within all other areas, the unit acreages presented for this species overlap proposed critical habitat units in full or in part for multiple animal and plant species in this proposed rule.

TABLE 19—PROPOSED CRITICAL HABITAT UNITS FOR *Maesa walkeri*

[Area estimates reflect all land within critical habitat unit boundaries.]

Critical habitat unit	Area #	Landownership by type in acres (hectares)	Size of unit in acres (hectares)	Occupied?
1. Rota 2—*Maesa walkeri*–a	11	Federal 0 Commonwealth 5,806 (2,350) Private 1,039 (420) Uncategorized 30 (12)	6,875 ac (2,782 ha)	Yes.
2. Guam 14—*Maesa walkeri*–a	35	Federal 16 (6) Territory 84 (34) Private 344 (139) Uncategorized 185 (75)	629 ac (254 ha)	Yes.
Total		Federal 16 (6) Commonwealth or Territory 5,890 (2,384) Private 1,383 (559) Uncategorized 215 (87)	7,504 ac (3,036 ha)	

Note: Area sizes may not sum due to rounding. Within both areas, the unit acreages presented for this species overlap proposed critical habitat units in full or in part for multiple animal and plant species in this proposed rule.

TABLE 20—PROPOSED CRITICAL HABITAT UNITS FOR *Nervilia jacksoniae*

[Area estimates reflect all land within critical habitat unit boundaries.]

Critical habitat unit	Area #	Landownership by type in acres (hectares)	Size of unit in acres (hectares)	Occupied?
1. Rota 2—*Nervilia jacksoniae*–a	11	Federal 0 Commonwealth 3,585 (1,451) Private 753 (305) Uncategorized 30 (12)	4,368 ac (1,768 ha)	Yes.
2. Guam 14—*Nervilia jacksoniae*–a	35	Federal 16 (6) Territory 84 (34) Private 344 (139) Uncategorized 185 (75)	629 ac (254 ha)	Yes.

TABLE 20—PROPOSED CRITICAL HABITAT UNITS FOR *Nervilia jacksoniae*—Continued

[Area estimates reflect all land within critical habitat unit boundaries.]

Critical habitat unit	Area #	Landownership by type in acres (hectares)	Size of unit in acres (hectares)	Occupied?
Total		Federal 16 (6) Commonwealth or Territory 3,669 (1,485) Private 1,097 (444) Uncategorized 215 (87)	4,997 ac (2,022 ha)	

Note: Area sizes may not sum due to rounding. Within both areas, the unit acreages presented for this species overlap proposed critical habitat units in full or in part for multiple animal and plant species in this proposed rule.

TABLE 21—PROPOSED CRITICAL HABITAT UNITS FOR *Phyllanthus saffordii*

[Area estimates reflect all land within critical habitat unit boundaries.]

Critical habitat unit	Area #	Landownership by type in acres (hectares)	Size of unit in acres (hectares)	Occupied?
1. Guam 8—*Phyllanthus saffordii*–a	25	Federal 169 (68) Territory 0 Private 55 (22) Uncategorized 12 (5)	236 ac (95 ha)	Yes.
2. Guam 9—*Phyllanthus saffordii*–b	26	Federal 2 (1) Territory 0 Private 18 (7) Uncategorized 62 (25)	82 ac (33 ha)	Yes.
3. Guam 11—*Phyllanthus saffordii*–c	31	Federal 45 (18) Territory 0 Private 3,031 (1,227) Uncategorized 1,948 (788)	5,024 ac (2,033 ha)	Yes.
4. Guam 13—*Phyllanthus saffordii*–d	34	Federal 0 Territory 0 Private 651 (264) Uncategorized 1 (<1)	652 ac (264 ha)	Yes.
5. Guam 14—*Phyllanthus saffordii*–e	35	Federal 73 (30) Territory 0 Private 17 (7) Uncategorized 1 (<1)	91 ac (37 ha)	Yes.
6. Guam 15—*Phyllanthus saffordii*–f	39	Federal 0 Territory 550 (223) Private 3,532 (1,429) Uncategorized 644 (260)	4,726 ac (1,912 ha)	Yes.
Total		Federal 289 (117) Territory 550 (223) Private 7,304 (2,956) Uncategorized 2,668 (1,078)	10,811 ac (4,374 ha)	

Note: Area sizes may not sum due to rounding. For Areas 25 and 26, the unit acreages presented are full units only for *Phyllanthus saffordii*. Within all other areas, the unit acreages presented for this species overlap proposed critical habitat units in full or in part for multiple animal and plant species in this proposed rule.

TABLE 22—PROPOSED CRITICAL HABITAT UNITS FOR *Psychotria malaspinae*

[Area estimates reflect all land within critical habitat unit boundaries.]

Critical habitat unit	Area #	Landownership by type in acres (hectares)	Size of unit in acres (hectares)	Occupied?
1. Guam 3—*Psychotria malaspinae*–a	17	Federal 0 Territory 468 (189) Private 79 (32) Uncategorized 164 (67)	711 ac (288 ha)	Yes.
2. Guam 14—*Psychotria malaspinae*–b	35	Federal 16 (6) Territory 84 (34) Private 344 (139) Uncategorized 185 (75)	629 ac (254 ha)	Yes.

TABLE 22—PROPOSED CRITICAL HABITAT UNITS FOR *Psychotria malaspinae*—Continued

[Area estimates reflect all land within critical habitat unit boundaries.]

Critical habitat unit	Area #	Landownership by type in acres (hectares)	Size of unit in acres (hectares)	Occupied?
Total		Federal 16 (6) Territory 552 (223) Private 423 (171) Uncategorized 349 (142)	1,340 ac (542 ha)	

Note: Area sizes may not sum due to rounding. Within all areas, the unit acreages presented for this species overlap proposed critical habitat units in full or in part for multiple plant and animal species in this proposed rule.

TABLE 23—PROPOSED CRITICAL HABITAT UNITS FOR *Tabernaemontana rotensis*

[Area estimates reflect all land within critical habitat unit boundaries.]

Critical habitat unit	Area #	Landownership by type in acres (hectares)	Size of unit in acres (hectares)	Occupied?
1. Rota 1—*Tabernaemontana rotensis*–a	10	Federal 0 Commonwealth 2,656 (1,075) Private 671 (272) Uncategorized <1 (<1)	3,327 ac (1,347 ha)	Yes.
2. Rota 2—*Tabernaemontana rotensis*–b	11	Federal 0 Commonwealth 5,806 (2,350) Private 1,039 (420) Uncategorized 30 (12)	6,875 ac (2,782 ha)	Yes.
3. Guam 1—*Tabernaemontana rotensis*–a	15	Federal 257 (104) Territory 68 (27) Private 375 (152) Uncategorized 41 (17)	741 ac (300 ha)	Yes.
4. Guam 2—*Tabernaemontana rotensis*–b	16	Federal 0 Territory 1,081 (437) Private 108 (44) Uncategorized 56 (23)	1,245 ac (504)	Yes.
5. Guam 3—*Tabernaemontana rotensis*–c	17	Federal 0 Territory 1,488 (602) Private 198 (80) Uncategorized 300 (122)	1,986 ac (804)	Yes.
6. Guam 14—*Tabernaemontana rotensis*–d	35	Federal 16 (6) Territory 84 (34) Private 344 (139) Uncategorized 185 (75)	629 ac (254 ha)	Yes.
7. Guam 15—*Tabernaemontana rotensis*–e	39	Federal 0 Territory 181 (73) Private 323 (131) Uncategorized 259 (105)	763 ac (309 ha)	Yes.
Total		Federal 273 (110) Commonwealth or Territory 11,364 (4,598) Private 3,058 (1,238) Uncategorized 871 (354)	15,566 ac (6,300 ha)	

Note: Area sizes may not sum due to rounding. Within all areas, the unit acreages presented for this species overlap proposed critical habitat units in full or in part for multiple animal and plant species in this proposed rule.

TABLE 24—PROPOSED CRITICAL HABITAT UNITS FOR *Tinospora homosepala*

[Area estimates reflect all land within critical habitat unit boundaries.]

Critical habitat unit	Area #	Landownership by type in acres (hectares)	Size of unit in acres (hectares)	Occupied?
1. Guam 5—*Tinospora homosepala*–a	22	Federal 0 Territory 0 Private 0 Uncategorized 11 (5)	11 ac (5 ha)	Yes.
2. Guam 6—*Tinospora homosepala*–b	23	Federal 11 4 Territory 0 Private 0 Uncategorized 1 (1)	12 ac (5 ha)	Yes.

TABLE 24—PROPOSED CRITICAL HABITAT UNITS FOR *Tinospora homosepala*—Continued

[Area estimates reflect all land within critical habitat unit boundaries.]

Critical habitat unit	Area #	Landownership by type in acres (hectares)	Size of unit in acres (hectares)	Occupied?
3. Guam 7—*Tinospora homosepala*–c	24	Federal 102 (41) Territory 0 Private 11 (4) Uncategorized 11 (5)	124 ac (50 ha)	Yes.
4. Guam 10—*Tinospora homosepala*–d	27	Federal 0 Territory 0 Private 0 Uncategorized 2 (1)	2 ac (1 ha)	Yes.
Total		Federal 113 (45) Territory 0 Private 11 (4) Uncategorized 25 (12)	149 ac (61 ha)	

Note: Area sizes may not sum due to rounding. The unit acreage presented for all four areas are full units only for *Tinospora homosepala.*

TABLE 25—PROPOSED CRITICAL HABITAT UNITS FOR *Tuberolabium guamense*

[Area estimates reflect all land within critical habitat unit boundaries.]

Critical habitat unit	Area #	Landownership by type in acres (hectares)	Size of unit in acres (hectares)	Occupied?
1. Rota 2—*Tuberolabium guamense*–a	11	Federal 0 Commonwealth 5,806 (2,350) Private 1,039 (420) Uncategorized 30 (12)	6,875 ac (2,782 ha)	Yes.
2. Guam 1—*Tuberolabium guamense*–a	15	Federal 257 (104) Territory 68 (27) Private 375 (152) Uncategorized 41 (17)	741 ac (300 ha)	Yes.
3. Guam 2—*Tuberolabium guamense*–b	16	Federal 0 Territory 1,081 (437) Private 108 (44) Uncategorized 56 (23)	1,245 ac (504 ha)	Yes.
4. Guam 3—*Tuberolabium guamense*–c	17	Federal 0 Territory 1,488 (602) Private 198 (80) Uncategorized 300 (122)	1,986 ac (804 ha)	Yes.
5. Guam 13—*Tuberolabium guamense*–d	34	Federal 0 Territory 142 (57) Private 859 (348) Uncategorized 725 (293)	1,726 ac (698 ha)	Yes.
6. Guam 14—*Tuberolabium guamense*–e	35	Federal 16 (6) Territory 84 (34) Private 344 (139) Uncategorized 185 (75)	629 ac (254 ha)	Yes.
7. Guam 15—*Tuberolabium guamense*–f	39	Federal 0 Territory 919 (372) Private 3,612 (1,462) Uncategorized 1,617 (654)	6,148 ac (2,488 ha)	Yes.
Total		Federal 273 (110) Commonwealth or Territory 9,588 (3,879) Private 6,535 (2,645) Uncategorized 2,954 (1,195)	19,350 ac (7,829 ha)	

Note: Area sizes may not sum due to rounding. Within all areas, the unit acreages presented for this species overlap proposed critical habitat units in full or in part for multiple animal and plant species in this proposed rule.

We present below brief descriptions of the 41 areas that encompass all units for the 22 species presented in tables 4 through 25, including the specific species and units that fall within these areas, and reasons why they meet the definition of critical habitat.

Area 1: Asunción, CNMI

Species: Slevin's skink

Unit: Slevin's Skink–1, Asunción

Area 1 consists of 750 ac (304 ha) (a single occupied unit) of forested lands on Asunción Island (an uninhabited volcano that last erupted in 1906 (Williams et al. 2009, p. 3)), occurring roughly along the north, west, and south sides of the volcano's slopes. All lands are owned by the CNMI Government. General land use for Area 1 is in natural resource conservation; the island was

designated as a conservation area in 1985 through the CNMI's Constitution (CNMI 1985, entire). This area contains one or more of the PBFs essential to the conservation of the species. The unit includes all volcanic forests on the island because they contain the PBFs identified for the species.

Threats to the PBFs within Area 1 include habitat loss or modification of forests from typhoons, volcanic eruptions, climate change, and invasive species. Additionally, rats can adversely affect the PBFs by eating fruits, seeds, flowers, stems, roots, and other plant parts thereby reducing the reproduction and vigor of native plant communities and altering the native habitats that Slevin's skink and other species rely on (Service 2023a, pp. 18–19). Special management considerations or protection measures to reduce or alleviate the threats may include restoring and managing habitat and developing and implementing biosecurity measures to remove and prevent the spread of invasive plants and animals (see Special Management Considerations or Protection, above).

Area 2: Pagan, CNMI

Species: Slevin's skink and humped tree snail

Units:

Slevin's Skink–1, Pagan

Humped Tree Snail–1, Pagan

Area 2 consists of two occupied units, including 1,846 ac (747 ha) for Slevin's skink and 843 ac (341 ha) for humped tree snail, the latter of which is included in the larger Slevin's skink unit boundary. The area is located from the isthmus to the southern portion of the island. The island of Pagan contains two active volcanos—Mount Pagan in the north and South Pagan in the south. Most recorded eruptions originated from the northern volcano, including the last eruption in 2021 (Global Volcanism Program 2022, entire). All lands are owned by the CNMI Government. General land use for Area 2 includes homesteading, and it is inhabited by a small human population year-round.

Both units in Area 2 contain one or more of the PBFs essential to the conservation of each species. For Slevin's skink, the unit includes the larger patches of volcanic forests on the southern half of the island because they contain the PBFs identified for the species. For the humped tree snail, the unit includes volcanic substrate and associated forest plant canopy with a dense mid-story and developed understory.

Threats to PBFs within Area 2 include habitat loss or modification of forests caused by typhoons, volcanic eruptions, and climate change. Habitat modification from invasive plants and animals including ungulates and rats also threatens the forests on Pagan, as these invasive species are known to alter native habitats that both species rely on by reducing native plant reproduction and vigor by damaging seedlings or eating fruits, seeds, flowers, stems, roots, and other plant parts (Service 2023a, pp. 17–18). Special management considerations or protection measures to reduce or alleviate the threats may include conducting habitat restoration, developing and implementing biosecurity plans and measures to prevent the spread of invasive plants and animals that alter habitat, and removing invasive plants, rodents, and ungulates (see Special Management Considerations or Protection, above).

Area 3: Alamagan, CNMI

Species: Slevin's skink and humped tree snail

Units:

Slevin's Skink–1, Alamagan

Humped Tree Snail–1, Alamagan

Area 3 consists of two occupied units that completely overlap and total 1,420 ac (574 ha) for both Slevin's skink and humped tree snail. This area is located roughly along portions of the northern, the entire western, and the southern slopes of the volcano on the island of Alamagan. The island contains one active volcano at the center of the island with no confirmed eruptions in recent history. All lands are owned by the CNMI Government. General land use for Area 3 includes homesteading, and it is inhabited by a small human population year-round.

The two units contain one or more of the PBFs essential to the conservation of each species. For Slevin's skink, the unit includes all volcanic forests on the island because they contain the PBFs identified for the species. For the humped tree snail, the unit includes volcanic substrate and associated forest plant canopy with a dense mid-story and developed understory.

Threats to PBFs within Area 3 include habitat loss or modification of forests caused by typhoons, volcanic eruptions, and climate change. Habitat modification from invasive plants and animals, including ungulates and rats, also threatens the forests on Alamagan, as these invasive species are known to alter native habitats that both species rely on by reducing native plant reproduction and vigor by damaging seedlings or eating fruits, seeds, flowers, stems, roots, and other plant parts (Service 2023a, pp. 17–18). Special management considerations or protection measures to reduce or alleviate the threats may include conducting habitat restoration, developing and implementing biosecurity plans and measures to prevent the spread of invasive plants and animals that alter habitat, and removing invasive plants, rodents, and ungulates (see Special Management Considerations or Protection, above).

Area 4: Sarigan, CNMI

Species: Slevin's skink and humped tree snail

Units:

Slevin's Skink–1, Sarigan

Humped Tree Snail–1, Sarigan

Area 4 consists of two occupied units that completely overlap and total 402 ac (163 ha) for both Slevin's skink and humped tree snail. This area is located across the northwestern portion of Sarigan, which is an uninhabited island due to volcanic activity (although there are no records of eruptions (Global Volcanism Program 2014, entire)). All lands are owned by the CNMI Government. General land use for Area 4 is conservation (a nature preserve).

The two units contain one or more of the PBFs essential to the conservation of each species. For Slevin's skink, the unit includes all volcanic forests on the island because they contain the PBFs identified for the species. For the humped tree snail, the unit includes volcanic substrate and associated forest plant canopy with a dense mid-story and developed understory because this area contains the PBFs identified for the species.

Threats to PBFs within Area 4 include habitat loss or modification of forests caused by typhoons, volcanic activity, and climate change. Habitat modification from invasive plants and animals (*e.g.,* rats) also threatens the forests on Sarigan, as these invasive species are known to alter native habitats by reducing native plant reproduction and vigor by eating fruits, seeds, flowers, stems, roots, and other plant parts (Service 2023a, pp. 17–18). Special management considerations or protection measures to reduce or alleviate the threats may include conducting habitat restoration, developing and implementing biosecurity plans and measures to prevent the spread of invasive plants and animals that alter habitat, and removing invasive plants and rodents (see Special Management Considerations or Protection, above).

Area 5: Tapochau, Saipan, CNMI

Species: Humped tree snail

Unit: Humped Tree Snail–1, Saipan

Area 5 consists of 3,290 ac (1,332 ha) (a single occupied unit) of forested lands in the central western part of Saipan, near Mount Tapochau. Landownership within this area consists of 893 ac (361 ha) of land owned by the CNMI Government, 2,393 ac (969 ha) of private land, and 4 ac (2 ha) that are uncategorized. General land use for Area 5 includes public facilities, urban or agricultural homesteads, and urban or agricultural development. Saipan is a densely populated island in the southern Marianas, and a majority of the native forest on these islands have undergone conversion to secondary or monoculture forests due to human activities such as development or agricultural land use and invasive plants or animals (Willsey et al. 2019, pp. 13–18, 26).

Area 5 contains one or more of the PBFs essential to the conservation of the species. The unit includes secondary forests and a limestone substrate with intrusions of exposed volcanic ridges and slopes (Harrington et al. 2020, p. 8). Boundaries for the unit were delineated to include all contiguous limestone forests on the island because they contain the PBFs identified for the species.

Threats to the PBFs within Area 5 include habitat loss or modification of forests caused by urban and agricultural development, wildfires, typhoons, and climate change. Habitat modification from invasive plants and animals (*e.g.,* rats) also threatens the forests on Saipan, as these invasive species are known to alter native habitats by reducing native plant reproduction and vigor by eating fruits, seeds, flowers, stems, roots, and other plant parts (Service 2023a, pp. 17–18). Special management considerations or protection measures to reduce or alleviate the threats may include conducting habitat restoration, developing and implementing biosecurity plans and measures to prevent the spread of habitat-altering invasive plants and animals; developing and implementing wildfire management plans to minimize the likelihood of wildfires; and removing invasive species, including plants and rodents (see Special Management Considerations or Protection, above).

Area 6: American Memorial Park, Saipan, CNMI

Species: Humped tree snail
Unit: Humped Tree Snail–2, Saipan

Area 6 consists of 35 acres (14 ha) (a single occupied unit) along the western coast of Saipan, in the vicinity of the village of Garapan and adjacent to the village of As Palacios. All lands are owned by the Federal Government (American Memorial Park). General land use for Area 6 is recreation (*i.e.,* tourism and environmental education).

Area 6 contains one or more of the PBFs essential to the conservation of the species. The unit includes secondary forests and all contiguous limestone forests on the island because they contain the PBFs identified for the species.

Threats to the PBFs within Area 6 includes habitat loss or modification of forests caused by urban and agricultural development, wildfires, typhoons, and climate change. Military training can also adversely affect the species and its habitat that occur in the vicinity of Area 6; however, these activities are confined to DoD lands, which are exempt under section 4(a)(3) of the Act (see Exemptions, below). Habitat modification from invasive plants and animals (*e.g.,* rats) also threatens the forests on Saipan, as these invasive species are known to alter native habitats by reducing native plant reproduction and vigor by eating fruits, seeds, flowers, stems, roots, and other plant parts (Service 2023a, pp. 17–18). Special management considerations or protection measures to reduce or alleviate the threats may include conducting habitat restoration, developing and implementing biosecurity plans and measures to prevent the spread of habitat-altering invasive plants and animals; developing and implementing wildfire management plans to minimize the likelihood that suitable habitat will burn; and removing invasive species, including plants and rodents (see Special Management Considerations or Protection, above). This area is managed by the National Park Service (NPS) as the American Memorial Park (NPS 2024a, entire).

Area 7: I'Naftan, Saipan, CNMI

Species: Heritiera longipetiolata
Unit: Saipan 1–*Heritiera longipetiolata*–a

Area 7 consists of 779 ac (315 ha) (a single occupied unit) in the southeast part of Saipan, within the Aslito area and adjacent to the village of I'Naftan. Landownership within this area consists of 634 ac (257 ha) of land owned by the CNMI Government, 143 ac (58 ha) of private land, and 2 ac (less than 1 ha) that are uncategorized. General land use for Area 7 is urban and agricultural development, including associated access roads, as well as conservation. Saipan is one of the southern islands in the Marianas that is densely populated, and a majority of the native forest on these islands have undergone conversion to secondary or monoculture forests due to human activities such as development or agricultural land use and invasive plants or animals (Willsey et al. 2019, pp. 13–18, 26).

Area 7 contains one or more of the PBFs essential to the conservation of the species. The unit includes limestone substrate with intrusions of exposed volcanic ridges and slopes (Harrington et al. 2020, p. 8). Boundaries for the unit were delineated to include all contiguous limestone forests on the island because they contain the PBFs identified for the species.

Threats to the PBFs within Area 7 include habitat loss or modification of forests caused by urban and agricultural development, wildfires, typhoons, and climate change. Military training can also adversely affect the species and its habitat that occur in the vicinity of Area 7; however, these activities are confined to DoD lands, which are exempt under section 4(a)(3) of the Act (see Exemptions, below). Habitat modification from invasive plants and animals (*e.g.,* rats) also threatens the forests as these invasive species are known to alter native habitats by reducing native plant reproduction and vigor by eating fruits, seeds, flowers, stems, roots, and other plant parts (Service 2023a, pp. 17–18). Special management considerations or protection measures to reduce or alleviate the threats may include conducting habitat restoration, developing and implementing biosecurity plans and measures to prevent the spread of habitat-altering invasive plants and animals; developing and implementing wildfire management plans to minimize the likelihood that suitable habitat will burn; and removing invasive species including plants and rodents (see Special Management Considerations or Protection, above).

Area 8: Kastiyu, Tinian, CNMI

Species: Heritiera longipetiolata
Unit: Tinian 1–*Heritiera longipetiolata*–a

Area 8 consists of 651 ac (263 ha) (a single occupied unit) in the southeastern part of Tinian. Landownership within this area consists of 639 ac (258 ha) of land owned by the CNMI Government, 3 ac (1 ha) of private land, and 9 ac (4 ha) that are uncategorized. General land use for Area 8 includes cattle ranching and urban and rural development, including associated access roads. It also contains several archaeological sites.

Area 8 contains one or more of the PBFs essential to the conservation of the species. The unit includes cliffs and limestone forests that are secondary forests comprising a mixture of native

and nonnative species generally dominated by nonnative species but may include components of other forest types (Willsey et al. 2019, pp. 5–6, 10). Boundaries for the unit were delineated to include all contiguous limestone forests on the island because they contain the PBFs identified for *Heritiera longipetiolata.*

Threats to PBFs within Area 8 include habitat loss or modification caused by urban and agricultural development, wildfires, typhoons, and climate change. Military training can also adversely affect the species and its habitat that occur in the vicinity of Area 9; however, these activities are confined to DoD lands, which are exempt under section 4(a)(3) of the Act (see Exemptions, below). Habitat modification from invasive plants and animals (*e.g.,* rats) also threatens the forests as these species are known to alter native habitats by reducing native plant reproduction and vigor by eating fruits, seeds, flowers, stems, roots, and other plant parts (Service 2023a, pp. 17–18). Special management considerations or protection measures to reduce or alleviate the threats may include conducting habitat restoration; developing and implementing biosecurity plans and measures to prevent the spread of habitat-altering invasive plants and animals; developing and implementing wildfire management plans to minimize the likelihood that suitable habitat will burn; and removing invasive species, including plants and rodents (see Special Management Considerations or Protection, above).

Area 9: Aguiguan, CNMI

Species: Pacific sheath-tailed bat, Langford's tree snail, and *Dendrobium guamense*

Units:

Pacific Sheath-tailed Bat–1, Aguiguan
Langford's Tree Snail–1, Aguiguan
Aguiguan 1–*Dendrobium guamense*–a

Area 9 consists of three occupied units that partially overlap, including 589 ac (238 ha) for the Pacific sheath-tailed bat, 1,217 ac (492 ha) for Langford's tree snail, and 1,094 ac (443 ha) for *Dendrobium guamense,* on the uninhabited island of Aguiguan, also known as Goat Island or Aguijan. All lands are owned by the CNMI Government. General land use for Area 9 is conservation, although no management plan exists for the island.

Each of the three units contain one or more of the PBFs essential to the conservation of each species. The island is composed of steep limestone cliffs and contains native limestone and secondary forests, including secondary forests that are composed of a mixture of native and nonnative species. Generally, the area is dominated by nonnative species but may include components of other forest types (Willsey et al. 2019, pp. 5–6, 10). For the Pacific sheath-tailed bat, the unit includes all contiguous limestone forests with known occupied/historically occupied caves, cliff overhangs, or crevasses for the species because this area contains the PBFs identified for the species. For Langford's tree snail, the unit includes limestone or volcanic substrate and associated forest plant canopy with a dense mid-story and developed understory because this area contains the PBFs identified for the species. For *Dendrobium guamense,* the unit includes limestone or volcanic substrate and associated native forest plant canopy and understory to maintain a stable microclimate for the epiphytic orchid because this area contains the PBFs identified for the species.

Threats to PBFs within Area 9 include habitat loss or modification caused by typhoons and climate change. Habitat modification from invasive plants and animals (*e.g.,* goats and rats) also threatens the forests on Aguiguan, as these species are known to alter native habitats by trampling seedlings or reducing native plant reproduction and vigor by eating fruits, seeds, flowers, stems, roots, and other plant parts (Service 2023a, pp. 17–18). Special management considerations or protection measures to reduce or alleviate the threats may include conducting habitat restoration; developing and implementing biosecurity plans and measures to prevent the spread of habitat-altering invasive plants and animals; and removing invasive species, including plants, rodents, and goats (see Special Management Considerations or Protection, above).

Area 10: Mochong, Rota, CNMI

Species: Bulbophyllum guamense and *Tabernaemontana rotensis*

Units: Rota 1–*Bulbophyllum guamense*–a

Rota 1—*Tabernaemontana rotensis*–a

Area 10, totaling 3,497 ac (1,415 ha), consists of two occupied units that partially overlap, including 1,930 ac (781 ha) for *Bulbophyllum guamense* and 3,327 ac (1,347 ha) for *Tabernaemontana rotensis,* in the northern part of Rota, from Mochong in the west to I'Chenchon Bird Sanctuary in the east. Additionally, Area 10 falls within the boundary of the larger Area 12 description, below. Landownership within the *Bulbophyllum guamense* unit consists of 1,397 ac (565 ha) of land owned by the CNMI Government and 533 ac (216 ha) of private lands. Landownership within the *Tabernaemontana rotensis* unit consists of 2,656 ac (1,075 ha) of land owned by the CNMI Government and 671 ac (272 ha) of private lands. General land use for Area 10 is urban and agricultural development, including associated access roads.

Each of the units contains one or more of the PBFs essential to the conservation of each species. Area 10 includes terraced limestone surrounding a volcanic core that protrudes from the topmost plateau, Mount Sabana (Harrington et al. 2020, p. 7), native limestone forest, and secondary forests, the latter of which comprises a mixture of native and nonnative species (generally dominated by nonnative species but may include components of other forest types (Willsey et al. 2019, pp. 5–6, 10)). For both species, the units include all limestone forests in this area as well as limestone substrate and associated forest plant canopy and understory because this area contains the PBFs identified for these species. Approximately 1,357 ac (549 ha; 70 percent) of the *Bulbophyllum guamense* unit and 2,526 ac (1,022 ha; 76 percent) of the *Tabernaemontana rotensis* unit overlap previously designated critical habitat for the Mariana crow (69 FR 62944; October 28, 2004).

Threats to PBFs within Area 10 include habitat loss or modification caused by urban and agricultural development, wildfires, typhoons, and climate change. Habitat modification from invasive plants and animals (*e.g.,* feral ungulates and rats) also threaten the forests on Rota, as these species are known to alter native habitats by damaging seedlings or reducing native plant reproduction and vigor by eating fruits, seeds, flowers, stems, roots, and other plant parts (Service 2023a, pp. 17–18). Special management considerations or protection measures to reduce or alleviate the threats may include conducting habitat restoration; developing and implementing biosecurity plans and measures to prevent the spread of invasive plants and animals; conducting wildfire risk management to prevent loss of suitable habitat; and removing invasive species including plants, rodents, and ungulates (see Special Management Considerations or Protection, above). Additionally, 2 ac (1 ha) of lands within the *Bulbophyllum guamense* unit and 654 ac (265 ha) of lands within the *Tabernaemontana rotensis* unit receive beneficial management under the Memorandum of Agreement for the Mariana Crow Conservation Area

(Service 2011, entire); these lands are considered for exclusion under section 4(b)(2) of the Act (see Consideration of Impacts Under Section 4(b)(2) of the Act, below).

Area 11: Sabana, Rota, CNMI

Species: Bulbophyllum guamense, Cycas micronesica, Dendrobium guamense, Maesa walkeri, Nervilia jacksoniae, Tabernaemontana rotensis, and *Tuberolabium guamense*
Units:
Rota 2—*Bulbophyllum guamense*–b
Rota 2—*Cycas micronesica*–a
Rota 2—*Dendrobium guamense*–a
Rota 2—*Maesa walkeri*–a
Rota 2—*Nervilia jacksoniae*–a
Rota 2—*Tabernaemontana rotensis*–b
Rota 2–*Tuberolabium guamense*–a

Area 11 consists of seven occupied units in the southern portion of Rota: six units completely overlap, totaling 6,875 ac (2,782 ha) for *Bulbophyllum guamense, Cycas micronesica, Dendrobium guamense, Maesa walkeri, Tabernaemontana rotensis,* and *Tuberolabium guamense;* and the seventh unit totals 4,368 ac (1,768 ha) for *Nervilia jacksoniae* and partially overlaps the larger area comprising the other six overlapping units. Additionally, Area 11 falls within the boundary of the larger Area 12 description, below. Landownership within the large 6-unit area consists of 5,806 ac (2,350 ha) of land owned by the CNMI Government, 1,039 ac (420 ha) of private land, and 30 ac (12 ha) that are uncategorized. Landownership within the single overlapping smaller 1-unit consists of 3,585 ac (1,451 ha) of land owned by the CNMI Government, 753 ac (305 ha) of private land, and 30 ac (12 ha) that are uncategorized. General land use for Area 11 is urban and agricultural development, including associated access roads.

Each of the units contains one or more of the PBFs essential to the conservation of each species. The area includes terraced limestone surrounding a volcanic core that protrudes from the topmost plateau, Mount Sabana (Harrington et. al. 2020, p. 7). Area 11 contains native limestone forests, a small patch of volcanic forest at Mount Sabana, and secondary forests that comprise a mixture of native and nonnative species (the latter generally dominated by nonnative species but may include components of other forest types (Willsey et al. 2019, pp. 5–6, 10)). Boundaries for the units were delineated to include all limestone and volcanic forests in this area because they contain the PBFs identified for *Bulbophyllum guamense, Cycas micronesica, Dendrobium guamense, Tuberolabium guamense, Tabernaemontana rotensis, Maesa walkeri,* and *Nervilia jacksoniae.* Approximately 5,365 ac (2,171 ha; 78 percent) of the following species units overlap previously designated critical habitat for the Mariana crow (69 FR 62944; October 28, 2004) and Rota bridled white-eye (*Zosterops rotensis*) (71 FR 26315; May 4, 2006): *Bulbophyllum guamense, Cycas micronesica, Dendrobium guamense, Maesa walkeri, Tabernaemontana rotensis, and Tuberolabium guamense.* Approximately 3,350 ac (1,356 ha; 77 percent) of the *Nervilia jacksoniae* unit overlap previously designated critical habitat for the Mariana crow (69 FR 62944; October 28, 2004) and Rota bridled white-eye (71 FR 26315; May 4, 2006).

Threats to PBFs within Area 11 include habitat loss or modification caused by urban and agricultural development, wildfires, typhoons, and climate change. Habitat modification from invasive plants and animals (*e.g.,* feral ungulates and rats) also threaten the forests on Rota, as these species are known to alter native habitats by damaging seedlings or reducing native plant reproduction and vigor by eating fruits, seeds, flowers, stems, roots, and other plant parts (Service 2023a, pp. 17–18). Special management considerations or protection measures to reduce or alleviate the threats may include conducting habitat restoration; developing and implementing biosecurity plans and measures to prevent the spread of habitat-altering invasive plants and animals; conducting wildfire risk management to avoid loss of suitable habitat; and removing invasive species, including plants and rodents (see Special Management Considerations or Protection, above). Additionally, 2,820 ac (1,141 ha) of lands within the large 6-unit area for *Bulbophyllum guamense, Cycas micronesica, Dendrobium guamense, Maesa walkeri, Tabernaemontana rotensis* and *Tuberolabium guamense* and 2,411 ac (976 ha) of lands within the smaller 1-unit area for *Nervilia jacksoniae* receive beneficial management under the Sabana Protected Area (Service 2011, entire; CNMI 1994, entire). The large 6-unit area also includes 233 ac (94 ha) that receive beneficial management under the Memorandum of Agreement for the Mariana Crow Conservation Area. All of these lands are considered for exclusion under section 4(b)(2) of the Act (see Consideration of Impacts Under Section 4(b)(2) of the Act, below).

Area 12: Rota, CNMI

Species: Fragile tree snail, Humped tree snail, and Mariana wandering butterfly
Units: Fragile Tree Snail–1, Rota
Humped Tree Snail–1, Rota
Mariana Wandering Butterfly–1, Rota

Area 12 consists of three completely overlapping occupied units throughout Rota totaling 12,282 ac (4,970 ha) for the fragile tree snail, Guam tree snail, and Mariana wandering butterfly. Additionally, Area 12 encompasses units within Areas 10 and 11, described previously. Landownership within Area 12 consists of 9,294 ac (3,761 ha) of land owned by the CNMI Government, 2,954 ac (1,195 ha) of private land, and 34 ac (14 ha) that are uncategorized. General land use for Area 12 is urban and agricultural development, including associated access roads.

All three of the overlapping units contain one or more of the PBFs essential to the conservation of each species. Area 12 includes native limestone forests, a small patch of volcanic forest at Mount Sabana, and secondary forests that comprise a mixture of native and nonnative species (the latter generally dominated by nonnative species but may include components of other forest types (Willsey et al. 2019, pp. 5–6, 10)). Boundaries for the units were delineated to include all limestone and volcanic forests because they contain the PBFs identified for each of the three species. Additionally, the area boundary includes limestone substrate, volcanic substrate, associated forest plant canopy with a dense mid-story and developed understory, and the presence of larval host plants (*i.e., Maytenus thompsonii)* for the butterfly because the area contains the PBFs identified for each of the three species. Approximately 7,933 ac (3,210 ha; 65 percent) of these units overlap previously designated critical habitat for the Mariana crow (69 FR 62944; October 28, 2004) and Rota bridled white-eye (71 FR 26315; May 4, 2006).

Threats to PBFs within Area 12 include habitat loss or modification caused by urban and agricultural development, wildfires, typhoons, and climate change. Habitat modification from invasive plants and animals (*e.g.,* feral ungulates and rats) also threaten the forests on Rota, as these species are known to alter native habitats by damaging seedlings or reducing native plant reproduction and vigor by eating fruits, seeds, flowers, stems, roots, and other plant parts (Service 2023a, pp. 17–18). Special management considerations or protection measures to reduce or

alleviate the threats may include conducting habitat restoration; developing and implementing biosecurity plans and measures to prevent the spread of habitat-altering invasive plants and animals; conducting wildfire risk management to avoid loss of suitable habitat; and removing invasive species including plants, rodents, and ungulates (see Special Management Considerations or Protection, above). Additionally, 2,820 ac (1,141 ha) of lands within the units for the fragile tree snail, humped tree snail, and Mariana wandering butterfly receive beneficial management under the Sabana Protected Area (CNMI DEQ 2012, entire; CNMI 1994, entire), and 887 ac (359 ha) receive beneficial management under the Memorandum of Agreement for the Mariana Crow Conservation Area. All of these lands are considered for exclusion under section 4(b)(2) of the Act (see Consideration of Impacts Under Section 4(b)(2) of the Act, below).

Area 13: Talakhaya, Rota, CNMI

Species: Rota blue damselfly
Unit: Rota Blue Damselfly–1, Rota

Area 13 consists of 1,133 ac (459 ha) (a single occupied unit) in the southern part of Rota. Landownership within this area consists of 671 ac (272 ha) of land owned by the CNMI Government, 433 ac (175 ha) of private land, and 29 ac (12 ha) that are uncategorized. General land use for Area 13 includes urban and agricultural development, including associated access roads.

Area 13 contains one or more of the PBFs essential to the conservation of the species. Area 13 includes terraced limestone surrounding a volcanic core that protrudes from the topmost plateau, Mount Sabana (Harrington et al. 2020, p. 7), as well as the only stream system on Rota and surrounding native limestone and secondary forests that comprise a mixture of native and nonnative species and are dominated by nonnative species but may include components of other forest types (Willsey et al. 2019, pp. 5–6, 10). Boundaries for the unit were delineated to include all limestone and secondary forests in this area because they contain the PBFs identified for the Rota blue damselfly. Approximately 570 ac (231 ha; 50 percent) of this unit overlap previously designated critical habitat for the Mariana crow (69 FR 62944; October 28, 2004) and Rota bridled white-eye (71 FR 26315; May 4, 2006).

Threats to PBFs within Area 13 include habitat loss or modification caused by urban and agricultural development, wildfires, typhoons, and climate change. Habitat modification from invasive plants and animals (*e.g.,* feral ungulates and rats) also threatens the damselfly's forested habitat, as these species are known to alter native habitats by damaging seedlings or reducing native plant reproduction and vigor by eating fruits, seeds, flowers, stems, roots, and other plant parts (Service 2023a, pp. 17–18). Special management considerations or protection measures to reduce or alleviate the threats may include conducting habitat restoration; developing and implementing biosecurity plans and measures to prevent the spread of invasive plants and animals; conducting wildfire risk management to avoid loss of suitable habitat; and removing invasive species, including plants, rodents, and ungulates (see Special Management Considerations or Protection, above). Additionally, 254 ac (103 ha) of this area/unit are beneficially managed under the Talakhaya Integrated Watershed Management Plan (CNMI BECQ 2020, entire), and an additional 289 ac (117 ha) of this area/unit, 152 ac (62 ha) of which overlap the Talakhaya Integrated Watershed Plan area, are beneficially managed under the Sabana Protected Area (Service 2011, entire; CNMI 1994, entire); these lands are considered for exclusion under section 4(b)(2) of the Act (see Consideration of Impacts Under Section 4(b)(2) of the Act, below).

Area 14: Southern Rota, CNMI

Species: Pacific sheath-tailed bat
Unit: Pacific Sheath-tailed Bat–1, Rota

Area 14 consists of 7,632 ac (3,089 ha) (a single unoccupied unit) in the southern part of Rota. Landownership within this area consists of 6,178 ac (2,500 ha) of land owned by the CNMI Government, 1,418 ac (574 ha) of private land, and 36 ac (15 ha) that are uncategorized. General land use for Area 14 is urban and agricultural development, including associated access roads.

Area 14 is an unoccupied unit for the Pacific sheath-tailed bat, but we have determined that this area contains one or more of the PBFs essential for the conservation of the species (see Criteria Used To Identify Critical Habitat, above). The unit includes terraced limestone surrounding a volcanic core that protrudes from the topmost plateau, Mount Sabana (Harrington et al. 2020, p. 7), including limestone caves and surrounding native limestone and secondary forests, which comprise a mixture of native and nonnative species, generally dominated by nonnative species but may include components of other forest types (Willsey et al. 2019, pp. 5–6, 10). Boundaries for the unit were delineated to include the largest number of limestone caves on Rota and limestone and secondary forests in this area because they contain the PBFs identified for the Pacific sheath-tailed bat. Approximately 5,676 ac (2,297 ha; 74 percent) of this unit overlaps previously designated critical habitat for the Mariana crow (69 FR 62944; October 28, 2004) and Rota bridled white-eye (71 FR 53589; September 12, 2006).

Threats to PBFs within Area 14 include habitat loss or modification caused by urban and agricultural development, pesticide use, wildfires, typhoons, and climate change. Habitat modification from invasive plants and animals (*e.g.,* feral ungulates and rats) also threatens the forests on Rota, as these species are known to alter native habitats by damaging seedlings or reducing native plant reproduction and vigor by eating fruits, seeds, flowers, stems, roots, and other plant parts (Service 2023a, pp. 17–18). Special management considerations or protection measures to reduce or alleviate the threats may include conducting habitat restoration; developing and implementing biosecurity plans and measures to prevent the spread of habitat-altering invasive plants and animals; conducting wildfire risk management to avoid loss of suitable habitat; removing invasive species including plants, rodents, and ungulates; and regulating pesticide use to avoid reducing availability of insect prey for the Pacific sheath-tailed bat (see Special Management Considerations or Protection, above). A total of 3,327 ac (1,347 ha) of this area receives beneficial management. The Memorandum of Agreement for the Mariana Crow Conservation Area covers 233 ac (94 ha), the Sabana Protected Area covers 2,840 ac (1,150 ha) (Service 2011, entire; CNMI 1994, entire), and the Talakhaya Integrated Watershed Management Plan covers 254 ac (103 ha) (CNMI BECQ 2020, entire). Approximately 152 ac (62 ha) of the Sabana Protected Area and Talakhaya Integrated Watershed Management Plan overlap. All of these lands are considered for exclusion under section 4(b)(2) of the Act (see Consideration of Impacts Under Section 4(b)(2) of the Act, below).

Area 15: Ritidian, Guam

Species: Fragile tree snail, Guam tree snail, humped tree snail, Mariana eight-spot butterfly, *Bulbophyllum guamense, Cycas micronesica, Dendrobium guamense, Eugenia bryanii, Heritiera longipetiolata, Tabernaemontana rotensis,* and *Tuberolabium guamense*

Units: Fragile Tree Snail–1, Guam
Guam Tree Snail–1, Guam
Humped Tree Snail–1, Guam
Mariana Eight-Spot Butterfly–1, Guam
Guam 1–*Bulbophyllum guamense*–a
Guam 1–*Cycas micronesica*–a
Guam 1–*Dendrobium guamense*–a
Guam 1–*Eugenia bryanii*–a
Guam 1–*Heritiera longipetiolata*–a
Guam 1–*Tabernaemontana rotensis*–a
Guam 1–*Tuberolabium guamense*–a

Area 15 consists of 11 occupied units in the northwestern part of the Territory of Guam, including the vicinities of Jinapsan and Ritidian along Route 3A in the villages of Dededo and Yigo. Six of the species, including the fragile tree snail, Guam tree snail, humped tree snail, Mariana eight-spot butterfly, *Cycas micronesica,* and *Heritiera longipetiolata,* have units that encompass the entire area as overlapping units that total 856 ac (346 ha) each. The other five species, *Bulbophyllum guamense, Dendrobium guamense, Eugenia bryanii, Tabernaemontana rotensis,* and *Tuberolabium guamense,* have units that overlap a smaller portion of Area 15, totaling 741 ac (300 ha) each. Landownership within the large 6-unit area consists of 262 ac (106 ha) of Federal lands (Guam National Wildlife Refuge (NWR)), 68 ac (27 ha) of land owned by the Territory of Guam, 408 ac (165 ha) of private land, and 118 ac (48 ha) that are uncategorized. Landownership within the five overlapping smaller units consists of 257 ac (104 ha) of Federal lands (Guam NWR), 68 ac (27 ha) of land owned by the Territory of Guam, 375 ac (152 ha) of private land, and 41 ac (17 ha) that are uncategorized. General land use for Area 15 includes conservation; recreation (*e.g.,* hiking, camping); and urban and agricultural development, including associated access roads.

Each of the units contain one or more of the PBFs essential to the conservation of each species. Area 15 includes limestone substrate, cliffs, and surrounding native limestone, secondary, and coastal strand forests. Secondary forests comprise a mixture of native and nonnative species, although generally dominated by nonnative species but may include components of other forest types (Willsey et al. 2019, p. 10). The southern extent of the area consists of volcanic soils and an extensive stream and drainage system (Harrington et al. 2020, p. 7). Boundaries for the units were delineated to include limestone and secondary forests in this area because they contain the PBFs identified for the 11 species. Approximately 257 ac (104 ha; 30 percent) of the following species units overlap previously designated critical habitat for the federally endangered Mariana crow and Guam kingfisher (*Todiramphus cinnamominus*) and the federally threatened Mariana fruit bat (69 FR 62944; October 28, 2004): *Hypolimnas octocula marianensis, Partula gibba, Partula radiolata, Samoana fragilis, Cycas micronesica, Heritiera longipetiolata.* Approximately 252 ac (102 ha; 34 percent) of the following species units overlap previously designated critical habitat for the Mariana crow, Guam kingfisher, and Mariana fruit bat (69 FR 62944; October 28, 2004): *Bulbophyllum guamense, Dendrobium guamense, Eugenia bryanii, Tabernaemontana rotensis,* and *Tuberolabium guamense.*

Threats to PBFs within Area 15 include habitat loss or modification caused by urban and agricultural development, recreational activities, wildfires, typhoons, and climate change. Military training that occurs in the vicinity of Area 15 can also adversely affect the species and its habitat; however, these activities are confined to DoD lands, which are exempt under section 4(a)(3) of the Act (see Exemptions, below). Habitat modification from invasive plants and nonnative animals (*e.g.,* ungulates, brown tree snakes, and rodents) also threaten the forests on Guam, as these species are known to alter and degrade native habitats by trampling, creating trails that damage vegetative cover or destabilize substrates causing erosion, and through the extirpation (via brown tree snake) of a large percentage of bird and small animal species that disperse seeds and pollinate native plants on Guam (Service 2023a, pp. 17–18). Special management considerations or protection measures to reduce or alleviate the threats may include conducting habitat restoration; developing and implementing biosecurity plans and measures to prevent the spread of habitat-altering invasive plants and animals; conducting wildfire risk management to avoid loss of suitable habitat; and removing invasive species, including plants, invertebrates, rodents, and ungulates (see Special Management Considerations or Protection, above). Approximately 258 ac (104 ha) of Guam NWR's lands within this area are managed under Guam NWR's Comprehensive Conservation Plan (Service 2009, entire).

Area 16: Two Lovers' Point, Guam

Species: Fragile tree snail, Guam tree snail, humped tree snail, Mariana eight-spot butterfly, *Bulbophyllum guamense, Cycas micronesica, Dendrobium guamense, Eugenia bryanii, Heritiera longipetiolata, Tabernaemontana rotensis,* and *Tuberolabium guamense*

Units: Fragile Tree Snail–1, Guam
Guam Tree Snail–1, Guam
Humped Tree Snail–1, Guam
Mariana Eight-Spot Butterfly–1, Guam
Guam 1–*Bulbophyllum guamense*–b
Guam 1–*Cycas micronesica*–b
Guam 1–*Dendrobium guamense*–b
Guam 1–*Eugenia bryanii*–b
Guam 1–*Heritiera longipetiolata*–b
Guam 1–*Tabernaemontana rotensis*–b
Guam 1–*Tuberolabium guamense*–b

Area 16 consists of 11 occupied units in the northwestern part of the Territory of Guam in the village of Dededo. Ten of the species, including the fragile tree snail, Guam tree snail, humped tree snail, Mariana eight-spot butterfly, *Bulbophyllum guamense, Cycas micronesica, Dendrobium guamense, Heritiera longipetiolata, Tuberolabium guamense,* and *Tabernaemontana rotensis,* encompass the entire area as overlapping units that total 1,245 ac (504 ha) each. Landownership within the large 10-unit area consists of 1,081 ac (437 ha) of land owned by the Territory of Guam, 108 ac (44 ha) of private land, and 56 ac (23 ha) that are uncategorized. The 11th unit totals 162 ac (65 ha) for *Eugenia bryanii* and partially overlaps the larger area comprising the other 10 overlapping units. Landownership within the overlapping smaller unit consists of 159 ac (64 ha) of land owned by the Territory of Guam and 3 ac (1 ha) that are uncategorized. General land use for Area 16 is urban and agricultural development, including associated access roads and utilities.

Each of the units contain one or more of the PBFs essential to the conservation of each species. Area 16 includes limestone plateaus in the north with a few low hills, two of which are volcanic and the others limestone. The south consists of volcanic soils and extensive stream and drainage systems (Harrington et. al. 2020, p. 7). Area 16 contains limestone substrate and cliffs and surrounding native limestone, secondary (mixed native and nonnative species, dominated by nonnative species but may include components of other forest types (Willsey et al. 2019, pp. 5–6)) and coastal strand forests (flowering plants, creeping vines, and salt-tolerant grasses (Plentovich et al. 2020, p. 186; Falanruw et al. 1989, p. 10)). Boundaries for the units were delineated to include limestone, secondary, and coastal strand forests in

this area because they contain the PBFs identified for the 11 species.

Threats to PBFs within Area 16 include habitat loss or modification caused by urban and agricultural development, wildfires, typhoons, and climate change. Military training that occurs in the vicinity of Area 16 can also adversely affect the species and its habitat; however, these activities are confined to DoD lands, which are exempt under section 4(a)(3) of the Act (see Exemptions, below). Habitat modification from invasive plants and nonnative animals (*e.g.,* ungulates, brown tree snakes, and rodents) also threaten the forest landscape on Guam, as these species are known to alter and degrade native habitats by trampling, creating trails that damage vegetative cover or destabilize substrates causing erosion, and through the extirpation (via brown tree snake) of a large percentage of bird and small animal species that disperse seeds and pollinate native plants on Guam. Special management considerations or protection measures to reduce or alleviate the threats may include conducting habitat restoration; developing and implementing biosecurity plans and measures to prevent the spread of habitat-altering invasive plants and animals; conducting wildfire risk management to avoid loss of suitable habitat; and removing invasive species, including plants, invertebrates, rodents, and ungulates (see Special Management Considerations or Protection, above). Approximately 2 ac (1 ha) is managed by the Guam Department of Agriculture as the Tumon Bay Marine Preserve established by Guam Public Law 24–21 (Territory of Guam 1997, pp. 10–13), although no management plan exists for this preserve.

Area 17: Anao, Guam

Species: Fragile tree snail, Guam tree snail, humped tree snail, Mariana eight-spot butterfly, *Bulbophyllum guamense, Cycas micronesica, Dendrobium guamense, Eugenia bryanii, Heritiera longipetiolata, Psychotria malaspinae, Tabernaemontana rotensis,* and *Tuberolabium guamense*

Units:

Fragile Tree Snail–1, *Guam*
Guam Tree Snail–1, Guam
Humped Tree Snail–1, Guam
Mariana Eight-spot Butterfly–1, Guam
Guam 1–*Bulbophyllum guamense*–a
Guam 1–*Cycas micronesica*–a
Guam 1–*Dendrobium guamense*–a
Guam 1–*Eugenia bryanii*–a
Guam 1–*Heritiera longipetiolata*–a
Guam 3–*Psychotria malaspinae*–a
Guam 1–*Tabernaemontana rotensis*–a
Guam 1–*Tuberolabium guamense*–a

Area 17 consists of 12 overlapping occupied units totaling 2,166 ac (877 ha) in the northeastern part of the Territory of Guam, including the Anao Nature Preserve and the Gayinero area along Route 15 in the village of Yigo. This area includes three different sizes of overlapping units for a total of 12 species, presented as follows in decreasing size. First, six of the species, including the fragile tree snail, Guam tree snail, humped tree snail, Mariana eight-spot butterfly, *Bulbophyllum guamense,* and *Cycas micronesica,* encompass the entire area as overlapping units that total 2,166 ac (877 ha) each. Landownership within the large 6-unit area consists of 1,549 ac (627 ha) of land owned by the Territory of Guam, 270 ac (109 ha) of private land, and 347 ac (141 ha) that are uncategorized. Second, five species, including *Dendrobium guamense, Eugenia bryanii, Heritiera longipetiolata, Tabernaemontana rotensis,* and *Tuberolabium guamense,* encompass a slightly smaller overlapping area of five units that total 1,986 ac (804 ha) each. Landownership within the 5-unit area consists of 1,488 ac (602 ha) of land owned by the Territory of Guam, 198 ac (80 ha) of private land, and 300 ac (122 ha) that are uncategorized. Third, one species, *Psychotria malaspinae,* occurs within a single partially overlapping unit that totals 711 ac (288 ha). Landownership within this single unit consists of 468 ac (189 ha) of land owned by the Territory of Guam, 79 ac (32 ha) of private land, and 164 ac (67 ha) that are uncategorized. General land use for Area 17 includes conservation and outdoor recreation (*e.g.,* hunting, hiking, and fishing), as well as urban and agricultural development, including associated access roads and utilities.

Each of the units contains one or more of the PBFs essential to the conservation of each species. Area 17 includes limestone substrate and cliffs, and surrounding native limestone, secondary, and coastal strand forests. Secondary forests comprise a mixture of native and nonnative species that are generally dominated by nonnative species but may include components of other forest types (Willsey et al. 2019, p. 10). Coastal strand forests include flowering plants, creeping vines, and salt-tolerant grasses (Plentovich et al. 2020, p. 186; Falanruw et al. 1989, p. 10). Boundaries for the units were delineated to include these substrates and forests because they contain the PBFs identified for the species.

Threats to PBFs within Area 17 include habitat loss or modification caused by urban and agricultural development, wildfires, typhoons, and climate change. Military training that occurs in the vicinity of Area 17 can also adversely affect the species and its habitat; however, these activities are confined to DoD lands, which are exempt under section 4(a)(3) of the Act (see Exemptions, below). Habitat modification from invasive plants and nonnative animals (*e.g.,* ungulates, brown tree snakes, and rodents) also threaten the forest landscape on Guam, as these species are known to alter and degrade native habitats by trampling, creating trails that damage vegetative cover or destabilize substrates causing erosion, and through the extirpation (via brown tree snake) of a large percentage of bird and small animal species that disperse seeds and pollinate native plants on Guam. Special management considerations or protection measures to reduce or alleviate the threats may include conducting habitat restoration; developing and implementing biosecurity plans and measures to prevent the spread of habitat-altering invasive plants and animals; conducting wildfire risk management to avoid loss of suitable habitat; and removing invasive species, including plants, rodents, invertebrates, and ungulates (see Special Management Considerations or Protection, above). Approximately 452 ac (183 ha) of Area 17 overlap the Anao Nature Preserve (created by the Territory of Guam, Executive Order No. 87–36 (Territory of Guam 1987, entire)), although no management plan exists for this preserve.

Area 18: Tre Vista, Guam

Species: Fragile tree snail and Guam tree snail

Units:

Fragile Tree Snail–1, Guam
Guam Tree Snail–1, Guam

Area 18 consists of two occupied units that completely overlap and total 445 ac (180 ha) in the northeastern part of the Territory of Guam, east of Route 1 in the village of Yigo. Landownership within this area consists of 361 ac (146 ha) of private land and 84 ac (34 ha) that are uncategorized. General land use for Area 18 is urban and agricultural development, including associated access roads and utilities.

The two units contain one or more of the PBFs essential to the conservation of each species. The units include limestone substrate and surrounding native limestone and secondary forests. The secondary forests comprise a mixture of native and nonnative species

that are generally dominated by nonnative species but may include components of other forest types (Willsey et al. 2019, p. 10). Boundaries for the unit were delineated to include limestone and secondary forests in this area because they contain the PBFs identified for the species.

Threats to PBFs within Area 18 include habitat loss or modification caused by urban and agricultural development, wildfires, typhoons, and climate change. Military training that occurs in the vicinity of Area 18 can also adversely affect the species and its habitat; however, these activities are confined to DoD lands, which are exempt under section 4(a)(3) of the Act (see Exemptions, below). Habitat modification from invasive plants and nonnative animals (*e.g.,* ungulates, brown tree snakes, and rodents) also threaten the forest landscape on Guam, as these species are known to alter and degrade native habitats by trampling, creating trails that damage vegetative cover or destabilize substrates causing erosion, and through the extirpation (via brown tree snake) of a large percentage of bird and small animal species that disperse seeds and pollinate native plants on Guam. Special management considerations or protection measures to reduce or alleviate the threats may include conducting habitat restoration or management; developing and implementing biosecurity plans and measures to prevent the spread of habitat-altering invasive plants and animals; conducting wildfire risk management to avoid loss of suitable habitat; and removing invasive species including plants, invertebrates, rodents, and ungulates (see Special Management Considerations or Protection, above).

Area 19: Yigo, Guam

Species: Guam tree snail
Unit: Guam Tree Snail–1, Guam

Area 19 consists of 147 ac (59 ha) (a single occupied unit) in the northeastern part of the Territory of Guam, along the east side of Route 1 in the village of Yigo. Landownership within the area consists of 110 ac (44 ha) of private land and 37 ac (15 ha) that are uncategorized. General land use for Area 19 is urban and agricultural development, including associated access roads and utilities.

Area 19 contains one or more of the PBFs essential to the conservation of the species. The unit includes secondary forests and a limestone substrate with intrusions of exposed volcanic ridges and slopes (Harrington et al. 2020, p. 7). Boundaries for the unit were delineated to include limestone and secondary forests in this area because they contain the PBFs identified for the species.

Threats to PBFs within Area 19 include habitat loss or modification caused by urban and agricultural development, wildfires, typhoons, and climate change. Military training that occurs in the vicinity of Area 19 can also adversely affect the species and its habitat; however, these activities are confined to DoD lands, which are exempt under section 4(a)(3) of the Act (see Exemptions, below). Habitat modification from invasive plants and animals (*e.g.,* feral ungulates and rodents) also threatens the forests on Guam, as these species are known to alter native habitats by trampling seedlings and reducing native plant reproduction and vigor by eating fruits, seeds, flowers, stems, roots, and other plant parts. Special management considerations or protection measures to reduce or alleviate the threats may include conducting habitat restoration; developing and implementing biosecurity plans and measures to prevent the spread of habitat-altering invasive plants and animals; conducting wildfire risk management to avoid loss of suitable habitat; and removing invasive species, including plants, rodents, and ungulates (see Special Management Considerations or Protection, above).

Area 20: Barrigada, Guam

Species: Guam tree snail and *Bulbophyllum guamense*
Units:
Guam Tree Snail–1, Guam
Guam 4–*Bulbophyllum guamense*–d

Area 20 consists of two occupied units that partially overlap, including 99 ac (40 ha) for the Guam tree snail and 267 ac (108 ha) for *Bulbophyllum guamense,* in the central part of the Territory of Guam, along the east side of Route 16 in the village of Barrigada. Landownership within the Guam tree snail unit consists of 44 ac (18 ha) of private land and 55 ac (22 ha) that are uncategorized. Landownership within the *Bulbophyllum guamense* unit consists of 171 ac (69 ha) of private land and 96 ac (39 ha) that are uncategorized. General land use for Area 20 is urban and agricultural development, including associated access roads and utilities.

Each of the units contain one or more of the PBFs essential to the conservation of each species. Area 20 includes limestone and volcanic substrates and surrounding native limestone and secondary forests, which were used to delineate the boundaries of these units because these areas contain the PBFs for each species.

Threats to PBFs within Area 20 include habitat loss or modification caused by urban and agricultural development, wildfires, typhoons, and climate change. Military training that occurs in the vicinity of Area 20 can also adversely affect the species and its habitat; however, these activities are confined to DoD lands, which are exempt under section 4(a)(3) of the Act (see Exemptions, below). Habitat modification from invasive plants and nonnative animals (*e.g.,* ungulates, brown tree snakes, and rodents) also threaten the forest landscape on Guam, as these species alter and degrade native habitats by trampling, creating trails that damage vegetative cover or destabilize substrates causing erosion, and through the extirpation (via brown tree snake) of a large percentage of bird and small animal species that disperse seeds and pollinate native plants. Special management considerations or protection measures to reduce or alleviate the threats may include conducting habitat restoration; developing and implementing biosecurity plans and measures to prevent the spread of habitat-altering invasive plants and animals; conducting wildfire risk management to avoid loss of suitable habitat; and removing invasive species, including plants, invertebrates, rodents, and ungulates (see Special Management Considerations or Protection, above).

Area 21: Taguan, Guam

Species: Mariana eight-spot butterfly
Unit: Mariana Eight-spot Butterfly–4, Guam

Area 21 consists of 242 ac (98 ha) (a single occupied unit) in the eastern part of the Territory of Guam, along the east side of Route 15 in the village of Mangilao. Landownership within the area consists of 133 ac (54 ha) of private land and 109 ac (44 ha) that are uncategorized. General land use for Area 21 is urban and agricultural development, including associated access roads and utilities.

Area 21 contains one or more of the PBFs essential to the conservation of the species. The unit includes limestone substrate and surrounding native limestone, secondary, and coastal strand forests. Boundaries for this unit were delineated to include these substrates and forest types, including the butterfly's larval host plant, because these areas contain the PBFs identified for the species.

Threats to the PBFs within Area 21 include habitat loss or modification from urban and agricultural development, wildfires, typhoons, and

climate change. Military training that occurs in the vicinity of Area 21 can also adversely affect the species and its habitat; however, these activities are confined to DoD lands, which are exempt under section 4(a)(3) of the Act (see Exemptions, below). Habitat modification from invasive plants and nonnative animals (*e.g.,* ungulates, brown tree snakes, and rodents) also threaten the forest landscape on Guam, as these species are known to alter and degrade native habitats by trampling, creating trails that damage vegetative cover or destabilize substrates causing erosion, and through the extirpation (via brown tree snake) of a large percentage of bird and small animal species that disperse seeds and pollinate native plants on Guam. Special management considerations or protection measures to reduce or alleviate the threats may include conducting habitat restoration; developing and implementing biosecurity plans and measures to prevent the spread of habitat-altering invasive plants and animals; conducting wildfire risk management to avoid loss of suitable habitat; and removing invasive species, including plants, invertebrates, rodents, and ungulates (see Special Management Considerations or Protection, above).

Area 22: Anigua Cliffline, Guam

Species: Tinospora homosepala Unit: Guam 5–*Tinospora homosepala*–a

Area 22 consists of 11 ac (5 ha) (a single occupied unit) in the central west part of the Territory of Guam, in the cliffline along West O'Brien Drive in the village of Hagåtña. Landownership within the entire area is uncategorized. General land use for Area 22 is urban and agricultural development, including associated access roads.

Area 22 contains one or more of the PBFs essential to the conservation of the species. The unit includes limestone, volcanic, or coastal strand substrates, cliffs, and surrounding secondary limestone forests. Boundaries for the unit were delineated to include these substrate types and forest in this area because they contain the PBFs identified for the species.

Threats to PBFs within Area 22 include habitat loss or modification caused by urban and agricultural development, wildfires, typhoons, and climate change. Military training that occurs in the vicinity of Area 22 can also adversely affect the species and its habitat; however, these activities are confined to DoD lands, which are exempt under section 4(a)(3) of the Act (see Exemptions, below). Habitat modification from invasive plants and nonnative animals (*e.g.,* ungulates, brown tree snakes, invertebrates, and rodents) also threaten the forest landscape on Guam, as these species are known to alter and degrade native habitats by trampling, creating trails that damage vegetative cover or destabilize substrates causing erosion, and through the extirpation (via brown tree snake) of a large percentage of bird and small animal species that disperse seeds and pollinate native plants on Guam. Special management considerations or protection measures to reduce or alleviate the threats may include conducting habitat restoration; developing and implementing biosecurity plans and measures to prevent the spread of habitat-altering invasive plants and animals; conducting wildfire risk management to avoid loss of suitable habitat; and removing invasive species, including plants, rodents, and ungulates (see Special Management Considerations or Protection, above).

Area 23: Asan Ridge, Guam

Species: Tinospora homosepala Unit: Guam 6–*Tinospora homosepala*–b

Area 23 consists of 12 ac (5 ha) (a single occupied unit) along the western coast in the central part of the Territory of Guam, on the north side of Route 1 in the village of Asan. Landownership within the area consists of 11 ac (4 ha) of Federal lands (War in the Pacific National Historical Park (NHP)), and 1 ac (1 ha) that are uncategorized. General land for Area 23 is conservation as well as recreation (*e.g.,* hiking, historic education).

Area 23 contains one or more of the PBFs essential to the conservation of the species. The unit includes limestone, volcanic, or coastal strand substrates, cliffs, and surrounding secondary limestone forests. Boundaries for the unit were delineated to include these substrate types and forest in this area because they contain the PBFs identified for the species.

Threats to PBFs within Area 23 include habitat loss or modification caused by urban and agricultural development, wildfires, typhoons, and climate change. Military training that occurs in the vicinity of Area 23 can also adversely affect the species and its habitat; however, these activities are confined to DoD lands, which are exempt under section 4(a)(3) of the Act (see Exemptions, below). Habitat modification from invasive plants and nonnative animals (*e.g.,* ungulates, brown tree snakes, and rodents) also threaten the forest landscape on Guam, as these species are known to alter and degrade native habitats by trampling, creating trails that damage vegetative cover or destabilize substrates causing erosion, and through the extirpation (via brown tree snake) of a large percentage of bird and small animal species that disperse seeds and pollinate native plants on Guam. Special management considerations or protection measures to reduce or alleviate the threats may include conducting habitat restoration; developing and implementing biosecurity plans and measures to prevent the spread of habitat-altering invasive plants and animals; conducting wildfire risk management to avoid loss of suitable habitat; and removing invasive species, including plants, invertebrates, rodents, and ungulates (see Special Management Considerations or Protection, above). Federal lands in this unit are managed under the War in the Pacific NHP's General Management Plan and Asan and Agat Units Management Plan (NPS 1983, entire; NPS 2024b, entire).

Area 24: Asan Hillside, Guam

Species: Tinospora homosepala Unit: Guam 7–*Tinospora homosepala*–c

Area 24 consists of 124 acres (50 ha) (a single occupied unit) in the central west part of the Territory of Guam, on the hillside south of Route 1 in the village of Asan. Landownership within the area consists of 102 ac (41 ha) of Federal lands (War in the Pacific NHP), 11 ac (4 ha) of private land, and 11 ac (5 ha) that are uncategorized. General land use for Area 24 is conservation and recreation (*e.g.,* hiking and historic education).

Area 24 contains one or more of the PBFs essential to the conservation of the species. The unit includes limestone substrates, cliffs, and surrounding secondary limestone forests that comprise a mixture of native and nonnative species. Generally, they are dominated by nonnative species but may include components of other forest types (Willsey et al. 2019, p. 10). Boundaries for the unit were delineated to include this substrate and secondary limestone forest in this area because they contain the PBFs identified for the species.

Threats to the PBFs within Area 24 include habitat loss or modification caused by urban and agricultural development, wildfires, typhoons, and climate change. Military training that occurs in the vicinity of Area 24 can also adversely affect the species and its habitat; however, these activities are confined to DoD lands, which are exempt under section 4(a)(3) of the Act (see Exemptions, below). Habitat modification from invasive plants and nonnative animals (*e.g.,* ungulates, brown tree snakes, and rodents) also

threaten the forest landscape on Guam, as these species are known to alter and degrade native habitats by trampling, creating trails that damage vegetative cover or destabilize substrates causing erosion, and through the extirpation (via brown tree snake) of a large percentage of bird and small animal species that disperse seeds and pollinate native plants on Guam. Special management considerations or protection measures to reduce or alleviate the threats may include conducting habitat restoration; developing and implementing biosecurity plans and measures to prevent the spread of habitat-altering invasive plants and animals; conducting wildfire risk management to avoid loss of suitable habitat; and removing invasive species, including plants, invertebrates, rodents, and ungulates (see Special Management Considerations or Protection, above). Federal lands in this unit are managed under the War in the Pacific NHP's General Management Plan and Asan and Agat Units Management Plan (NPS 1983, entire; NPS 2024b, entire).

Area 25: Nimitz Hill Savanna, Guam

Species: Phyllanthus saffordii
Unit: Guam 8–*Phyllanthus saffordii*–a

Area 25 consists of 236 ac (95 ha) (a single occupied unit) in the southern part of the Territory of Guam, north of Route 6 in Nimitz Hill in the village of Piti. Landownership within the area consists of 169 ac (68 ha) of Federal lands (War in the Pacific NHP), 55 ac (22 ha) of private land, and 12 ac (5 ha) that are uncategorized. General land use for Area 25 is tourism and recreation (*e.g.,* hiking) as well as urban and agricultural development, including associated access roads and utilities.

Area 25 contains one or more of the PBFs essential to the conservation of the species. The unit includes volcanic substrate and associated native plant savanna communities. Boundaries for this unit were delineated to include all volcanic substrates that support savanna plants in the area because they contain the PBFs identified for the species.

Threats to the PBFs within Area 25 include habitat loss or modification of habitat from urban and agricultural development, wildfires, typhoons, recreational off-road vehicles, and climate change. Military training that occurs in the vicinity of Area 25 can also adversely affect the species and its habitat; however, these activities are confined to DoD lands, which are exempt under section 4(a)(3) of the Act (see Exemptions, below). Habitat modification from invasive plants and nonnative animals (*e.g.,* feral ungulates, brown tree snakes, and rodents) also threaten the savanna landscape on Guam, as these species are known to alter and degrade native habitats by trampling, creating trails that damage vegetative cover or destabilize substrates causing erosion, and through the extirpation (via brown tree snake) of a large percentage of bird and small animal species that disperse seeds and pollinate native plants on Guam. Special management considerations or protection measures to reduce or alleviate the threats may include habitat restoration; developing and implementing biosecurity plans and measures to prevent the spread of habitat-altering invasive plants and animals; conducting wildfire management to avoid loss of suitable habitat; and removing invasive species, including plants, invertebrates, brown tree snakes, rodents, and ungulates (see Special Management Considerations or Protection, above). Federal lands in this unit are managed under the War in the Pacific NHP's General Management Plan and Asan and Agat Units Management Plan (NPS 1983, entire; NPS 2024b, entire).

Area 26: Piti Savanna, Guam

Species: Phyllanthus saffordii
Unit: Guam 9–*Phyllanthus saffordii*–b

Area 26 consists of 82 ac (33 ha) (a single occupied unit) in the central western part of the Territory of Guam, north of Route 6 in the village of Piti. Landownership within the area consists of 2 ac (1 ha) of Federal lands (War in the Pacific NHP), 18 ac (7 ha) of private land, and 62 ac (25 ha) that are uncategorized. General land use for Area 26 is recreation (*e.g.,* hiking) as well as urban and agricultural development, including associated access roads and utilities.

Area 26 contains one or more of the PBFs essential to the conservation of the species. The unit includes volcanic substrate and associated native plant savanna communities. Boundaries for this unit were delineated to include all volcanic substrates that support savanna plants in the area because they contain the PBFs identified for the species.

Threats to the PBFs within Area 26 include habitat loss or modification caused by urban and agricultural development, wildfires, typhoons, recreational off-road vehicles, and climate change. Military training that occurs in the vicinity of Area 26 can also adversely affect the species and its habitat; however, these activities are confined to DoD lands, which are exempt under section 4(a)(3) of the Act (see Exemptions, below). Habitat modification from invasive plants and nonnative animals (*e.g.,* ungulates, brown tree snakes, and rodents) also threaten the savanna landscape on Guam, as these species are known to alter and degrade native habitats by trampling, creating trails that damage vegetative cover or destabilize substrates causing erosion, and through the extirpation (via brown tree snake) of a large percentage of bird and small animal species that disperse seeds and pollinate native plants on Guam. Special management considerations or protection measures to reduce or alleviate the threats may include restoration or habitat management; developing and implementing biosecurity plans and measures to prevent the spread of habitat-altering invasive plants and animals; conducting wildfire risk management to avoid loss of suitable habitat; and removing invasive species, including plants, invertebrates, brown tree snakes, rodents, and ungulates (see Special Management Considerations or Protection, above). Federal lands in this unit are managed under the War in the Pacific NHP's General Management Plan (NPS 1983, entire).

Area 27: Sasa Valley, Guam

Species: Tinospora homosepala
Unit: Guam 10–*Tinospora homosepala*–d

Area 27 consists of 2 ac (1 ha) (a single occupied unit) in the central west part of the Territory of Guam, on the eastern side of Route 1 in the village of Piti. All lands are uncategorized.

Area 27 contains one or more of the PBFs essential to the conservation of the species. Boundaries for this unit were delineated to include limestone substrate and surrounding limestone and secondary forests because they contain the PBFs identified for the species.

Threats to PBFs within Area 27 include habitat loss or modification caused by wildfires, typhoons, and climate change. Habitat modification from invasive plants and nonnative animals (*e.g.,* ungulates, brown tree snakes, and rodents) also threaten the forest landscape on Guam, as these species are known to alter and degrade native habitats by trampling, creating trails that damage vegetative cover or destabilize substrates causing erosion, and through the extirpation (via brown tree snake) of a large percentage of bird and small animal species that disperse seeds and pollinate native plants on Guam. Special management considerations or protection measures to reduce or alleviate the threats may include conducting habitat restoration; developing and implementing biosecurity plans and measures to

prevent the spread of habitat-altering invasive plants and animals; conducting wildfire risk management to avoid loss of suitable habitat; and removing invasive species, including plants, invertebrates, rodents, and ungulates (see Special Management Considerations or Protection, above).

Area 28: Central Guam

Species: Fragile tree snail and Guam tree snail
Units:
Fragile Tree Snail–7, Guam
Guam Tree Snail–5, Guam

Area 28 consists of two occupied units that completely overlap and total 4,313 ac (1,745 ha) in the central part of the Territory of Guam, within the villages of Asan, Yoña, and Ordot-Chalan Pago. Landownership within the area consists of 210 ac (85 ha) of Federal lands (War in the Pacific NHP–Asan Inland Unit and Fonte Plateau Unit), 1,954 ac (791 ha) of private land, and 2,149 ac (869 ha) that are uncategorized. General land use for Area 28 includes recreation (*e.g.,* hiking), as well as urban and agricultural development, including associated access roads and utilities.

The two overlapping units contain one or more of the PBFs essential to the conservation of each species. Area 28 includes limestone substrate and surrounding native limestone and secondary forests. Secondary forests comprise a mixture of native and nonnative species that are generally dominated by nonnative species but may include components of other forest types (Willsey et al. 2019, pp. 10–12). Boundaries for the unit were delineated to include all contiguous limestone and secondary forests in this area because they contain the PBFs identified for the species.

Threats to the PBFs within Area 28 include habitat loss or modification caused by urban and agricultural development, wildfires, typhoons, and climate change. Military training can also adversely affect the species and its habitat that occur in the vicinity of Area 28; however, these activities are confined to DoD lands, which are exempt under section 4(a)(3) of the Act (see Exemptions, below). Habitat modification from invasive plants and nonnative animals (*e.g.,* ungulates, brown tree snakes, and rodents) also threaten the forest landscape on Guam, as these species are known to alter and degrade native habitats by trampling, creating trails that damage vegetative cover or destabilize substrates causing erosion, and through the extirpation (via brown tree snake) of a large percentage of bird and small animal species that disperse seeds and pollinate native plants on Guam. Special management considerations or protection measures to reduce or alleviate the threats may include conducting habitat restoration; developing and implementing biosecurity plans and measures to prevent the spread of habitat-altering invasive plants and animals; conducting wildfire risk management to avoid loss of suitable habitat; and removing invasive species, including plants, invertebrates, rodents, and ungulates (see Special Management Considerations or Protection, above). Federal lands in this unit are managed under the War in the Pacific NHP's General Management Plan and Asan and Agat Units Management Plan (NPS 1983, entire; NPS 2024b, entire).

Area 29: Fadi'an, Guam

Species: Guam tree snail
Unit:
Guam Tree Snail–8, Guam

Area 29 consists of 61 ac (25 ha) (a single occupied unit) in the eastern part of the Territory of Guam, south of Route 15 in the village of Mangilao. All lands are under private ownership. General land use for Area 29 is urban and agricultural development, including associated access roads and utilities.

Area 29 contains one or more of the PBFs essential to the conservation of the species. The unit includes both limestone and secondary forests with a limestone substrate (Harrington et al. 2020, p. 7). Boundaries for the unit were delineated to include limestone and secondary forests in this area because they contain the PBFs identified for the species.

Threats to the PBFs within Area 29 include habitat loss or modification caused by urban and agricultural development, wildfires, typhoons, and climate change. Military training that occurs in the vicinity of Area 29 can also adversely affect the species and its habitat; however, these activities are confined to DoD lands, which are exempt under section 4(a)(3) of the Act (see Exemptions, below). Habitat modification from invasive plants and nonnative animals (*e.g.,* ungulates, brown tree snakes, and rodents) also threaten the forest landscape on Guam, as these species are known to alter and degrade native habitats by trampling, creating trails that damage vegetative cover or destabilize substrates causing erosion, and through the extirpation (via brown tree snake) of a large percentage of bird and small animal species that disperse seeds and pollinate native plants on Guam. Special management considerations or protection measures to reduce or alleviate the threats may include conducting habitat restoration; developing and implementing biosecurity plans and measures to prevent the spread of habitat-altering invasive plants and animals; conducting wildfire risk management to avoid loss of suitable habitat; and removing invasive species, including plants, invertebrates, rodents, and ungulates (see Special Management Considerations or Protection, above).

Area 30: Piti, Guam

Species: Fragile tree snail and Guam tree snail
Units: Fragile Tree Snail–6, Guam
Guam Tree Snail–8, Guam

Area 30 consists of two occupied units that completely overlap and total 1,965 ac (795 ha) in the central western coast of the Territory of Guam along the eastern side of Route 1 in the village of Piti, which is located along the coastline between the villages of Asan-Maina in the north and Sånta Rita-Sumai in the south. Landownership within the area consists of 102 ac (41 ha) of Federal lands (War in the Pacific NHP), 756 ac (306 ha) of private land, and 1,107 ac (448 ha) that are uncategorized. General land use for Area 30 includes conservation as well as urban and agricultural development, including associated access roads and utilities.

The two overlapping units contain one or more of the PBFs essential to the conservation of each species. Boundaries for these overlapping units were delineated to include all volcanic and secondary forests in the area because they contain the PBFs identified for the two species.

Threats to PBFs within Area 30 include habitat loss or modification from urban and agricultural development, wildfires, typhoons, and climate change. Military training that occurs in the vicinity of Area 30 can also adversely affect the species and its habitat; however, these activities are confined to DoD lands, which are exempt under section 4(a)(3) of the Act (see Exemptions, below). Habitat modification from invasive plants and animals (*e.g.,* feral ungulates and rats) also threaten the forests on Guam, as these species are known to alter native habitats by damaging seedlings or reducing native plant reproduction and vigor by eating fruits, seeds, flowers, stems, roots, and other plant parts (Service 2023a, pp. 17–18). Special management considerations or protection measures to reduce or alleviate the threats may include surveys and inventories to inform invasive species removal; conducting habitat restoration; conducting wildfire risk management to avoid loss of suitable habitat; and invasive species

control, including eradicating little fire ants (see Special Management Considerations or Protection, above). Federal lands in these units are managed under the War in the Pacific NHP's General Management Plan and Asan and Agat Units Management Plan (NPS 1983, entire; NPS 2024b, entire). Additionally, 134 ac (54 ha) are managed by the Guam Department of Agriculture as the Sasa Bay Marine Preserve established by Guam Public Law 24–21 (Territory of Guam 1997, pp. 10–13), although no management plan exists for the preserve.

Area 31: Yoña, Guam

Species: *Bulbophyllum guamense, Hedyotis megalantha,* and *Phyllanthus saffordii*
Units:
Guam 11–*Bulbophyllum guamense*–e
Guam 11–*Hedyotis megalantha*–a
Guam 11–*Phyllanthus saffordii*–c

Area 31 consists of three occupied units encompassing a total of 5,938 ac (2,403 ha) in the southcentral part of the Territory of Guam, with parts of the units located within the villages of Yoña, Asan, Piti, Sånta Rita-Sumai, and Ordot-Chalan Pago. Two of the species, *Hedyotis megalantha* and *Phyllanthus saffordii,* encompass two overlapping units that total 5,024 ac (2,033 ha) each. Landownership within the large 2-unit area consists of 45 ac (18 ha) of Federal lands (War in the Pacific NHP), 3,031 (1,227 ha) of private land, and 1,948 ac (788 ha) that are uncategorized. The third unit totals 914 ac (370 ha) for *Bulbophyllum guamense.* Landownership within the third, smaller unit consists of 324 ac (131 ha) of private land and 590 ac (239 ha) that are uncategorized. General land use for Area 31 includes tourism/recreation (*e.g.,* hiking) as well as urban and agricultural development, including associated access roads and utilities.

Each of the units contain one or more of the PBFs essential to the conservation of each species. Area 31 contains volcanic or limestone substrates, and surrounding native limestone and secondary forests, or native savanna plant communities. Boundaries of the units were delineated to include these substrates and forests because they contain the PBFs identified for these species.

Threats to the PBFs within Area 31 include habitat loss or modification caused by urban and agricultural development, wildfires, typhoons, recreational off-road vehicles, and climate change. Military training that occurs in the vicinity of Area 31 can also adversely affect the species and its habitat; however, these activities are confined to DoD lands, which are exempt under section 4(a)(3) of the Act (see Exemptions, below). Habitat modification from invasive plants and nonnative animals (*e.g.,* ungulates, brown tree snakes, and rodents) also threaten the forest and savanna landscapes on Guam, as these species are known to alter and degrade native habitats by trampling, creating trails that damage vegetative cover or destabilize substrates causing erosion, and through the extirpation (via brown tree snake) of a large percentage of bird and small animal species that disperse seeds and pollinate native plants on Guam. Special management considerations or protection measures to reduce or alleviate the threats may include conducting habitat restoration; developing and implementing biosecurity plans and measures to prevent the spread of habitat-altering invasive plants and animals; conducting wildfire risk management to avoid loss of suitable habitat; and removing invasive species, including plants, invertebrates, rodents, and ungulates (see Special Management Considerations or Protection, above). Federal lands in these units are managed under the War in the Pacific NHP's General Management Plan (NPS 1983, entire). Additionally, 1 ac (less than 1 ha) of the *Hedyotis megalantha* and *Phyllanthus saffordii* units are managed by the Guam Department of Agriculture as part of the Cotal Conservation Area and owned by the Government of Guam (GDAWR 2019, p. 46), although no management plan exists for the conservation area.

Area 32: Mangilao, Guam

Species: Eugenia bryanii and *Heritiera longipetiolata*
Units:
Guam 12–*Eugenia bryanii*–d
Guam 12–*Heritiera longipetiolata*–d

Area 32 consists of two occupied units that completely overlap and total 195 ac (79 ha) in the central eastern part of the Territory of Guam in the village of Mangilao. Landownership within the area consists of 190 ac (77 ha) of private land and 5 ac (2 ha) that are uncategorized. General land use for Area 32 is urban and agricultural development, including associated access roads and utilities.

The two overlapping units contain one or more of the PBFs essential to the conservation of each species. Boundaries for these overlapping units were delineated to include limestone substrate and surrounding native limestone and secondary forests because they contain the PBFs identified for the two species.

Threats to the PBFs within Area 32 include habitat loss or modification from urban and agricultural development, wildfires, typhoons, and climate change. Military training that occurs in the vicinity of Area 32 can also adversely affect the species and its habitat; however, these activities are confined to DoD lands, which are exempt under section 4(a)(3) of the Act (see Exemptions, below). Habitat modification from invasive plants and nonnative animals (*e.g.,* ungulates, brown tree snakes, and rodents) also threaten the forest landscape on Guam, as these species are known to alter and degrade native habitats by trampling, creating trails that damage vegetative cover or destabilize substrates causing erosion, and through the extirpation (via brown tree snake) of a large percentage of bird and small animal species that disperse seeds and pollinate native plants on Guam. Special management considerations or protection measures to reduce or alleviate the threats may include conducting habitat restoration; developing and implementing biosecurity plans and measures to prevent the spread of habitat-altering invasive plants and animals; conducting wildfire risk management to avoid loss of suitable habitat, and removing invasive species, including plants, invertebrates, rodents, and ungulates (see Special Management Considerations or Protection, above).

Area 33: Ylig, Guam

Species: Fragile tree snail and Guam tree snail
Units:
Fragile Tree Snail–7, Guam
Guam Tree Snail–10, Guam

Area 33 consists of two occupied units that completely overlap and total 1,863 ac (754 ha) in southeastern Guam, along Route 4 in the village of Yoña; Ylig is on GU–17 (highway) and overlaps with a small portion of the southeast corner of Area 33. Landownership within the area consists of 983 ac (398 ha) of private land and 880 ac (356 ha) that are uncategorized. General land use for Area 33 is urban and agricultural development, including associated access roads and utilities.

The two overlapping units contain one or more of the PBFs essential to the conservation of each species. Boundaries for these overlapping units were delineated to include all volcanic and limestone substrates and associated native forests in the area because they contain the PBFs identified for the two species.

Threats to the PBFs within Area 33 include habitat loss or modification from urban and agricultural

development, wildfires, typhoons, and climate change. Guam forest habitats are threatened by severe alterations resulting from invasive plants and animals; invasive plants outcompete native plants and invasive animals reduce native plant reproduction and vigor by eating and trampling them. Special management considerations or protection measures to reduce or alleviate the threats may include surveys and inventories; translocations; conducting habitat restoration; and controlling invasive species, including eradication of little fire ants (see Special Management Considerations or Protection, above).

Area 34: Cross Island, Guam

Species: Bulbophyllum guamense, Cycas micronesica, Dendrobium guamense, Hedyotis megalantha, Heritiera longipetiolata, Phyllanthus saffordii, and *Tuberolabium guamense*

Units:

Guam 13–*Bulbophyllum guamense*–f
Guam 13–*Cycas micronesica*–d
Guam 13–*Dendrobium guamense*–d
Guam 13–*Hedyotis megalantha*–b
Guam 13–*Heritiera longipetiolata*–e
Guam 13–*Phyllanthus saffordii*–d
Guam 13–*Tuberolabium guamense*–d

Area 34 consists of seven occupied units, totaling 2,377 ac (962 ha) in the southern part of the Territory of Guam, along the eastern section of Cross Island Road (Route 17) in the villages of Yoña and Talo'fo'fo. Five of the units completely overlap, each totaling 1,726 ac (698 ha) for *Bulbophyllum guamense, Cycas micronesica, Dendrobium guamense, Heritiera longipetiolata,* and *Tuberolabium guamense.* Landownership within the large 5-unit area consists of 142 ac (57 ha) of land owned by the Territory of Guam, 859 ac (348 ha) of private land, and 725 ac (293 ha) that are uncategorized. The remaining, smaller two units total 652 ac (264 ha) each for *Hedyotis megalantha* and *Phyllanthus saffordii* and completely overlap with each other and partially intersect the larger units/area. These two units include 651 ac (264 ha) of private and 1 ac (less than 1 ha) of uncategorized lands. General land use for Area 34 includes conservation, recreation (*e.g.,* hunting and hiking), and urban and agricultural development, including associated access roads and utilities.

Each of the units contain one or more of the PBFs essential to the conservation of each species. Area 34 includes limestone and volcanic forests and mixed nonnative forest subtypes (Willsey et al. 2019, pp. 5–6) as well as nonnative trees and tall shrubs for the three epiphytic orchids and two forest plants, and volcanic substrate and associated savanna communities for the two savanna plants. Boundaries for these units were delineated to include all limestone and volcanic forests, as well as volcanic substrates for the two savanna plants, because these areas contain the PBFs identified for the species.

Threats to the PBFs within Area 34 include habitat loss or modification from agricultural development, wildfires, typhoons, recreational off-road vehicles, and climate change. Military training that occurs in the vicinity of Area 34 can also adversely affect the species and its habitat; however, these activities are confined to DoD lands, which are exempt under section 4(a)(3) of the Act (see Exemptions, below). Habitat modification from invasive plants and nonnative animals (*e.g.,* feral ungulates, brown tree snakes, rodents, and ants) also threaten the forest and savanna landscapes on Guam, as these species are known to alter and degrade native habitats by trampling seedlings, creating trails that damage vegetative cover or destabilize substrates causing erosion, reducing native plant reproduction and vigor by eating fruits, seeds, flowers, stems, roots, and other plant parts, and through extirpation (via brown tree snake) of a large percentage of bird and small animal species that disperse seeds and pollinate native plants on Guam. Special management considerations or protection measures to reduce or alleviate the threats may include habitat restoration; developing and implementing biosecurity plans and measures to prevent the spread of habitat-altering invasive plants and animals; conducting wildfire risk management to avoid loss of suitable habitat; and removing invasive species, including invertebrates, plants, brown tree snakes, rodents, and ungulates (see Special Management Considerations or Protection, above). The Guam Department of Agriculture manages 73 ac (30 ha) in the larger area/units as part of the Bolanos Conservation Area and 16 ac (6 ha) in the smaller area/units as part of the Cotal Conservation Area, although no management plans exist for either conservation area.

Area 35: Hågat, Guam

Species: Fragile tree snail, Guam tree snail, *Bulbophyllum guamense, Cycas micronesica, Dendrobium guamense, Heritiera longipetiolata, Maesa walkeri, Nervilia jacksoniae, Phyllanthus saffordii, Psychotria malaspinae, Tabernaemontana rotensis,* and *Tuberolabium guamense*

Units:

Fragile Tree Snail–8, Guam
Guam Tree Snail–11, Guam
Guam 14–*Bulbophyllum guamense*–g
Guam 14–*Cycas micronesica*–e
Guam 14–*Dendrobium guamense*–e
Guam 14–*Heritiera longipetiolata*–f
Guam 14–*Maesa walkeri*–a
Guam 14–*Nervilia jacksoniae*–a
Guam 14–*Phyllanthus saffordii*–e
Guam 14–*Psychotria malaspinae*–b
Guam 14–*Tabernaemontana rotensis*–d
Guam 14–*Tuberolabium guamense*–e

Area 35 consists of 12 occupied units, totaling 720 ac (291 ha), in the southern part of the Territory of Guam, east of Route 2 in the village of Hågat. Eleven of the units completely overlap, each totaling 629 ac (254 ha) for *Bulbophyllum guamense, Cycas micronesica, Dendrobium guamense,* fragile tree snail, Guam tree snail, *Heritiera longipetiolata, Maesa walkeri, Nervilia jacksoniae, Psychotria malaspinae, Tabernaemontana rotensis,* and *Tuberolabium guamense.* Landownership in the larger 11-unit area consists of 16 ac (6 ha) of Federal lands (War in the Pacific NHP), 84 ac (34 ha) of land owned by the Territory of Guam, 344 ac (139 ha) of private lands, and 185 ac (75 ha) of uncategorized lands. The smaller *Phyllanthus saffordii* unit totals 91 ac (37 ha), and landownership consists of 73 ac (30 ha) of Federal lands (War in the Pacific NHP), 17 ac (7 ha) of private lands, and 1 ac (less than 1 ha) of uncategorized lands. General land use for Area 35 is recreation, as well as urban and agricultural development, including associated access roads and utilities.

Each of the units contain one or more of the PBFs essential to the conservation of each species. Boundaries for these units were delineated to include habitat in native limestone forests and mixed nonnative forests, as well as volcanic substrate and (for *Phyllanthus saffordii*) associated native plant savanna communities because these areas contain the PBFs identified for the species.

Threats to PBFs within Area 35 include habitat loss or modification caused by urban and agricultural development, wildfires, typhoons, recreational off-road vehicles, and climate change. Military training activities are restricted to DoD lands and are exempt under section 4(a)(3) of the Act (see Exemptions, below). However, when military activities have impacts that extend outside DoD areas, they can adversely affect the species and habitats within or in the vicinity of Area 35.

Military activities that may affect adjacent areas, including Area 35, include habitat modification from invasive plants and nonnative animals (*e.g.,* ungulates, brown tree snakes, and rodents), which also threaten the savanna landscape on Guam. These species are known to alter and degrade native habitats by trampling seeds and plants, creating trails that damage vegetative cover or destabilize substrates causing erosion, and through the extirpation (via brown tree snake) of a large percentage of bird and small animal species that disperse seeds and pollinate native plants on Guam. Special management considerations or protection measures to reduce or alleviate the threats may include habitat restoration; developing and implementing biosecurity plans and measures to prevent the spread of habitat-altering invasive plants and animals; conducting wildfire risk management to avoid loss of suitable habitat; and removing invasive species, including plants, invertebrates, brown tree snakes, rodents, and ungulates (see Special Management Considerations or Protection, above). Federal lands in these units are managed under the War in the Pacific NHP's General Management Plan (NPS 1983, entire). Additionally, the Guam Department of Parks and Recreation (GDPR) manages 285 ac (115 ha) of the larger 11-unit area under the Guam Territorial Seashore Park's Master Plan (GDPR 1979, entire).

Area 36: Talo'fo'fo', Guam

Species: Fragile tree snail and Guam tree snail

Units:

Fragile Tree Snail–9, Guam

Guam Tree Snail–12, Guam

Area 36 consists of two occupied units that completely overlap and total 5,697 ac (2,306 ha) in the southern part of the Territory of Guam, south of Route 4A in the village of Talo'fo'fo'. Landownership within the area consists of 142 ac (57 ha) of land owned by the Territory of Guam, 3,915 ac (1,584 ha) of private land, and 1,640 ac (665 ha) that are uncategorized. General land use of Area 36 is urban and agricultural development, including associated access roads and utilities, as well as hunting and outdoor recreation.

The two overlapping units contain one or more of the PBFs essential to the conservation of each species. Boundaries for these overlapping units were delineated to include all volcanic and limestone substrates and associated native forests in the area because they contain the PBFs identified for the two species.

Threats to PBFs within Area 36 include habitat loss or modification from urban and agricultural development, wildfires, typhoons, and climate change. Military training activities are restricted to DoD lands and are exempt under section 4(a)(3) of the Act (see Exemptions, below). However, when military activities have impacts that extend outside DoD areas they can adversely affect the species and habitats within or in the vicinity of Area 36. Military activities that may affect adjacent areas, including Area 36, include habitat modification from invasive plants and animals (*e.g.,* feral ungulates, brown tree snakes, and rats), which threaten the habitat and forests on Guam. These species are known to alter and degrade native habitats by trampling seeds and plants, creating trails that damage vegetative cover or destabilize substrates causing erosion, and through the extirpation (via brown tree snake) of a large percentage of bird and small animal species that disperse seeds and pollinate native plants on Guam. Special management considerations or protection measures to reduce or alleviate the threats may include habitat restoration; developing and implementing biosecurity plans and measures to prevent the spread of habitat-altering invasive plants and animals; conducting wildfire risk management to avoid loss of suitable habitat; and removing invasive species, including plants, brown tree snakes, rodents, invertebrates, and ungulates (see Special Management Considerations or Protection, above). Approximately 73 ac (30 ha) of these units are managed by the Guam Department of Agriculture as the Bolanos Conservation Area, although no management plan exists for this area.

Area 37: Sella Bay, Guam

Species: Fragile tree snail and Guam tree snail

Units:

Fragile Tree Snail–10, Guam

Guam Tree Snail–13, Guam

Area 37 consists of two occupied units that completely overlap and total 64 ac (26 ha) in the southwest part of the Territory of Guam, west of Route 2 in the village of Humåtak. Landownership within the area consists of 57 ac (23 ha) of private land and 7 ac (3 ha) that are uncategorized. General land use of Area 37 is urban and agricultural development, including associated access roads and utilities, as well as outdoor recreation such as fishing.

The two overlapping units contain one or more of the PBFs essential to the conservation of each species. Boundaries for these overlapping units were delineated to include all volcanic and limestone substrates and associated native forests in the area because they contain the PBFs identified for the two species.

Threats to the PBFs within Area 37 include habitat loss or modification from urban and agricultural development, wildfires, typhoons, and climate change. Military training that occurs in the vicinity of Area 37 can also adversely affect the species and its habitat; however, these activities are confined to DoD lands, which are exempt under section 4(a)(3) of the Act (see Exemptions, below). Guam forest habitats are threatened by severe alterations resulting from invasive plants and animals; invasive plants outcompete native plants and invasive animals reduce native plant reproduction and vigor by eating and trampling them. Special management considerations or protection measures to reduce or alleviate the threats may include conducting habitat restoration; developing and implementing biosecurity plans and measures to prevent the spread of habitat-altering invasive plants and animals; conducting wildfire risk management to avoid loss of suitable habitat; and removing invasive species, including plants, rodents and invertebrates (see Special Management Considerations or Protection, above). The Guam Department of Parks and Recreation manages the entirety of the lands under the Guam Territorial Seashore Park's Master Plan (GDPR 1979, entire).

Area 38: Cetti Bay, Guam

Species: Guam tree snail

Unit: Guam Tree Snail–14, Guam

Area 38 consists of 102 ac (41 ha) (a single occupied unit) on the southwest part of the Territory of Guam, west of Route 2 in the village of Humåtak. Landownership within the area consists of 27 ac (11 ha) of private land and 75 ac (30 ha) that are uncategorized. General land use for Area 38 is conservation and outdoor recreation (*e.g.,* fishing), as well as urban and agricultural development, including associated access roads and utilities.

Area 38 contains one or more of the PBFs essential to the conservation of the species. The unit includes secondary forests and a limestone substrate with intrusions of exposed volcanic ridges and slopes (Harrington et al. 2020, p. 7). Boundaries for the unit were delineated to include a limestone substrate with limestone and secondary forests because they contain the PBFs identified for the species.

Threats to the PBFs within Area 38 include habitat loss or modification caused by urban and agricultural development, wildfires, typhoons, and climate change. Military training that occurs in the vicinity of Area 38 can also adversely affect the species and its habitat; however, these activities are confined to DoD lands, which are exempt under section 4(a)(3) of the Act (see Exemptions, below). Guam forest habitats are threatened by severe alterations resulting from invasive plants and animals; invasive plants outcompete native plants and invasive animals reduce native plant reproduction and vigor by eating and trampling them. Special management considerations or protection measures to reduce or alleviate the threats may include conducting habitat restoration; developing and implementing biosecurity plans and measures to prevent the spread of habitat-altering invasive plants and animals; conducting wildfire risk management to avoid loss of suitable habitat; and removing invasive species, including plants, rodents, and invertebrates (see Special Management Considerations or Protection, above). The Guam Department of Parks and Recreation manages the entirety of the lands under the Guam Territorial Seashore Park's Master Plan (GDPR 1979, entire).

Area 39: Bolanos, Guam

Species: Guam tree snail, *Bulbophyllum guamense, Cycas micronesica, Dendrobium guamense, Eugenia bryanii, Hedyotis megalantha, Phyllanthus saffordii, Tabernaemontana rotensis,* and *Tuberolabium guamense*

Units:

Guam Tree Snail–15, Guam

Guam 15–*Bulbophyllum guamense*–h

Guam 15–*Cycas micronesica*–f

Guam 15–*Dendrobium guamense*–f

Guam 15–*Eugenia bryanii*–e

Guam 15–*Hedyotis megalantha*–c

Guam 15–*Phyllanthus saffordii*–f

Guam 15–*Tabernaemontana rotensis*–e

Guam 15–*Tuberolabium guamense*–f

Area 39 consists of nine occupied units, totaling 10,874 ac (4,400 ha) in the southern part of the Territory of Guam in the villages of Malesso', Humåtak, Talo'fo'fo, and Inalåhan. Four of the units completely overlap, each totaling 6,148 ac (2,488 ha) for *Bulbophyllum guamense, Cycas micronesica, Dendrobium guamense,* and *Tuberolabium guamense.* Landownership within the large 4-unit area consists of 919 ac (372 ha) of land owned by the Territory of Guam, 3,612 ac (1,462 ha) of private land, and 1,617 ac (654 ha) that are uncategorized. A fifth unit partially overlaps the larger 4-unit area totaling 4,726 ac (1,912 ha) for *Phyllanthus saffordii.* Landownership within this fifth unit consists of 550 ac (223 ha) of land owned by the Territory of Guam, 3,532 ac (1,429 ha) of private land, and 644 ac (260 ha) that are uncategorized. A sixth unit partially overlaps the larger units/areas totaling 1,045 ac (423 ha) for *Hedyotis megalantha.* Landownership within the sixth unit consists of 510 ac (206 ha) of land owned by the Territory of Guam, 334 (135 ha) of private land, and 201 ac (82 ha) that are uncategorized. A seventh unit for *Tabernaemontana rotensis* totals 763 ac (309 ha) and overlaps a portion of the larger area/units. Landownership within the seventh unit consists of 181 ac (73 ha) of land owned by the Territory of Guam, 323 ac (131 ha) of private land, and 259 ac (105 ha) that are uncategorized. An eighth unit for *Eugenia bryanii* totals 470 ac (190 ha) and overlaps a portion of the larger area/units. Landownership within the eighth unit consists of 181 ac (73 ha) of land owned by the Territory of Guam, 253 ac (103 ha) of private land, and 36 ac (14 ha) that are uncategorized. Finally, the ninth and smallest unit overlaps a portion of the larger area/units, encompassing 184 ac (74 ha) for the Guam tree snail. Landownership for this smallest area consists of 19 ac (8 ha) of land owned by the Territory of Guam, 31 ac (13 ha) of private land, and 134 ac (53 ha) that are uncategorized. General land use of Area 39 includes conservation, recreation (*e.g.,* hunting, hiking, and fishing), and urban and agricultural development, including associated access roads and utilities.

Each of the units contains one or more of the PBFs essential to the conservation of each species. Boundaries for the units were delineated to include limestone, secondary, and coastal strand forests in this area because they contain the PBFs identified for the nine species. The unit boundaries include one or more of limestone or volcanic substrates, native volcanic or secondary forests, and/or native plant savanna communities because these areas contain the PBFs identified for the species.

Threats to the PBFs within Area 39 include habitat loss or modification caused by urban and agricultural development, wildfires, typhoons, recreational off-road vehicles, and climate change. Military training that occurs in the vicinity of Area 39 can also adversely affect the species and its habitat; however, these activities are confined to DoD lands, which are exempt under section 4(a)(3) of the Act (see Exemptions, below). Habitat modification from invasive plants and nonnative animals (*e.g.,* ungulates, brown tree snakes, and rodents) also threaten the forest landscape on Guam. These species are known to alter and degrade native habitats by trampling, creating trails that damage vegetative cover or destabilize substrates causing erosion, and through the extirpation (via brown tree snake) of a large percentage of bird and small animal species that disperse seeds and pollinate native plants on Guam. Special management considerations or protection measures to reduce or alleviate the threats may include conducting habitat restoration; developing and implementing biosecurity plans and measures to prevent the spread of habitat-altering invasive plants and animals; conducting wildfire risk management to avoid loss of suitable habitat; and removing invasive species, including plants, rodents, and invertebrates (see Special Management Considerations or Protection, above). The Guam Department of Agriculture manages 1,493 ac (604 ha) of the large 4-unit area, 798 ac (323 ha) of the *Phyllanthus saffordii* unit, 763 ac (309 ha) of the *Hedyotis megalantha* unit, 381 ac (154 ha) of the *Tabernaemontana rotensis* unit, 376 ac (152 ha) of the *Eugenia bryanii* unit, and 15 ac (6 ha) of the Guam tree snail unit (smallest unit) under the Bolanos Conservation Area, for which no management plan currently exists. The Guam Department of Parks and Recreation manages 617 ac (250 ha) of the large 4-unit area, 687 ac (278 ha) of the *Phyllanthus saffordii* unit, 152 ac (61 ha) of the *Hedyotis megalantha* unit, 382 ac (155 ha) of the *Tabernaemontana rotensis* unit, 94 ac (38 ha) of the *Eugenia bryanii* unit, and 169 ac (68 ha) of the Guam tree snail unit (smallest unit) under the Guam Territorial Seashore Park's Master Plan (GDPR 1979, entire).

Area 40: Inalåhan, Guam

Species: Fragile tree snail and Guam tree snail

Units:

Fragile Tree Snail–11, Guam

Guam Tree Snail–16, Guam

Area 40 consists of two occupied units that completely overlap and total 457 ac (185 ha) in the southeastern part of the Territory of Guam, along Route 4 in the village of Inalåhan. Landownership within the area consists of 154 ac (62 ha) of private land and 303 ac (123 ha) that are uncategorized. General land use of Area 40 is urban and agricultural development, including associated access roads and utilities.

The two overlapping units contain one or more of the PBFs essential to the

conservation of each species. Boundaries for these overlapping units were delineated to include all limestone substrates and associated native limestone forests in the area because they contain the PBFs identified for the two species.

Threats to the PBFs within Area 40 include habitat loss or modification from urban and agricultural development, wildfires, typhoons, and climate change. Military training that occurs in the vicinity of Area 40 can also adversely affect the species and its habitat; however, these activities are confined to DoD lands, which are exempt under section 4(a)(3) of the Act (see Exemptions, below). Guam forest habitats are threatened by severe alterations resulting from invasive plants and animals; invasive plants outcompete native plants and invasive animals reduce native plant reproduction and vigor by eating and trampling them. Special management considerations or protection measures to reduce or alleviate the threats may include conducting habitat restoration; developing and implementing biosecurity plans and measures to prevent the spread of habitat-altering invasive plants and animals; conducting wildfire risk management to avoid loss of suitable habitat; and removing invasive species, including plants, rodents, and invertebrates (see Special Management Considerations or Protection, above).

Area 41: Cocos Island (Islan Dˊno'), Guam

Species: Slevin's skink
Unit: Slevin's Skink–1, Cocos Island

Area 41 consists of 63 ac (25 ha) (a single occupied unit) on Cocos Island, an uninhabited island within the political jurisdiction of the Territory of Guam, a part of the municipality of the village of Malesso'. Landownership within this area consists of 30 ac (12 ha) of private land and 33 ac (13 ha) that are uncategorized. General land use for Area 41 is conservation and recreation, including frequent visitation by the public through private boats for fishing or recreation (*e.g.,* day visits or camping).

Area 41 contains one or more of the PBFs essential to the conservation of the species. The unit includes all limestone or coastal strand substrates and associated forests because they contain the PBFs identified for the species.

Threats to the PBFs within Area 41 include habitat loss or modification caused by urban development, wildfires, typhoons, and climate change. Habitat modification from invasive plants and animals (*e.g.,* brown tree snakes and rodents) also threaten the forest landscape on Cocos Island. These species are known to alter native habitats by damaging seedlings and reducing native plant reproduction and vigor by eating fruits, seeds, flowers, stems, roots, and other plant parts and through the extirpation (via brown tree snake) of a large percentage of bird and small animal species that disperse seeds and pollinate native plants on Guam (Service 2023a, pp. 17–18). Special management considerations or protection measures to reduce or alleviate the threats may include habitat restoration; recreational activities; developing and implementing biosecurity plans and measures to prevent the spread of habitat-altering invasive plants and animals; conducting wildfire risk management to avoid loss of suitable habitat; and removing invasive species, including plants, brown tree snakes, and rodents (see Special Management Considerations or Protection, above). The Guam Department of Parks and Recreation manages the entirety of this unit under the Guam Territorial Seashore Park's Master Plan (GDPR 1979, entire).

Effects of Critical Habitat Designation

Section 7 Consultation

Section 7(a)(2) of the Act requires Federal agencies, including the Service, to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of designated critical habitat of such species. In addition, section 7(a)(4) of the Act requires Federal agencies to confer with the Service on any agency action which is likely to jeopardize the continued existence of any species proposed to be listed under the Act or result in the destruction or adverse modification of proposed critical habitat.

Destruction or adverse modification means a direct or indirect alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species (50 CFR 402.02).

Compliance with the requirements of section 7(a)(2) is documented through our issuance of:

(1) A concurrence letter for Federal actions that may affect, but are not likely to adversely affect, listed species or critical habitat; or

(2) A biological opinion for Federal actions that may affect, and are likely to adversely affect, listed species or critical habitat.

When we issue a biological opinion concluding that a project is likely to jeopardize the continued existence of a listed species and/or destroy or adversely modify critical habitat, we provide reasonable and prudent alternatives to the project, if any are identifiable, that would avoid the likelihood of jeopardy and/or destruction or adverse modification of critical habitat. We define ''reasonable and prudent alternatives'' (at 50 CFR 402.02) as alternative actions identified during formal consultation that:

(1) Can be implemented in a manner consistent with the intended purpose of the action,

(2) Can be implemented consistent with the scope of the Federal agency's legal authority and jurisdiction,

(3) Are economically and technologically feasible, and

(4) Would, in the Service Director's opinion, avoid the likelihood of jeopardizing the continued existence of the listed species or avoid the likelihood of destroying or adversely modifying critical habitat.

Reasonable and prudent alternatives can vary from slight project modifications to extensive redesign or relocation of the project. Costs associated with implementing a reasonable and prudent alternative are similarly variable.

Regulations at 50 CFR 402.16 set forth requirements for Federal agencies to reinitiate consultation. Reinitiation of consultation is required and shall be requested by the Federal agency, where discretionary Federal involvement or control over the action has been retained or is authorized by law and: (1) If the amount or extent of taking specified in the incidental take statement is exceeded; (2) if new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (3) if the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion or written concurrence; or (4) if a new species is listed or critical habitat designated that may be affected by the identified action. As provided in 50 CFR 402.16, the requirement to reinitiate consultations for new species listings or critical habitat designation does not apply to certain agency actions (*e.g.,* land management plans issued by the Bureau of Land Management in certain circumstances).

Destruction or Adverse Modification of Critical Habitat

The key factor related to the destruction or adverse modification determination is whether implementation of the proposed Federal action directly or indirectly alters the designated critical habitat in a way that appreciably diminishes the value of the critical habitat for the conservation of the listed species. As discussed above, the role of critical habitat is to support PBFs essential to the conservation of a listed species and provide for the conservation of the species.

Section 4(b)(8) of the Act requires that our **Federal Register** documents ''shall, to the maximum extent practicable also include a brief description and evaluation of those activities (whether public or private) which, in the opinion of the Secretary, if undertaken may adversely modify [critical] habitat, or may be affected by such designation.'' Activities that may be affected by designation of critical habitat for the Mariana Islands species include those that may affect the PBFs of the Mariana Island species' critical habitat (see Physical or Biological Features Essential to the Conservation of the Species).

Exemptions

Application of Section 4(a)(3) of the Act

The Sikes Act Improvement Act of 1997 (Sikes Act) (16 U.S.C. 670a) requires each military installation that includes land and water suitable for the conservation and management of natural resources to complete an INRMP by November 17, 2001. An INRMP integrates implementation of the military mission of the installation with stewardship of the natural resources found on the base. Each INRMP includes:

(1) An assessment of the ecological needs on the installation, including the need to provide for the conservation of listed species;

(2) A statement of goals and priorities;

(3) A detailed description of management actions to be implemented to provide for these ecological needs; and

(4) A monitoring and adaptive management plan.

Among other things, each INRMP must, to the extent appropriate and applicable, provide for fish and wildlife management; fish and wildlife habitat enhancement or modification; wetland protection, enhancement, and restoration where necessary to support fish and wildlife; and enforcement of applicable natural resource laws.

The National Defense Authorization Act for Fiscal Year 2004 (Pub. L. 108–136) amended the Act to limit areas eligible for designation as critical habitat. Specifically, section 4(a)(3)(B)(i) of the Act provides that the Secretary shall not designate as critical habitat any lands or other geographical areas owned or controlled by the Department of Defense, or designated for its use, that are subject to an INRMP prepared under section 101 of the Sikes Act, if the Secretary determines in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation.

We consult with the military on the development and implementation of INRMPs for installations with listed species. We analyzed INRMPs developed by military installations located within the range of the proposed critical habitat designation for the Mariana Islands species to determine if they meet the criteria for exemption from critical habitat under section 4(a)(3) of the Act. The following areas are DoD lands with completed, Service-approved INRMPs within the proposed critical habitat designation.

Approved INRMPs

Joint Region Marianas (JRM)—Dump Coke, Tinian; Andersen AFB, Guam; Marine Corps Base Camp Blaz, Guam; Naval Base Guam, Guam; 18,549 ac (7,506 ha)

Naval Base Guam, Marine Corps Base (MCB) Camp Blaz, Andersen AFB, and Tinian Military Lease Area's Dump Coke site are 4 of 13 DoN holdings on Guam and Department-leased lands on Tinian that are part of Joint Region Marianas (under Commander, DoN Installations Command) (DoD 2024, Table 1–1 and Figure 1–2). The mission of the JRM is providing executive-level installation management support to all 13 DoD components and tenants through assigned regional installations on Guam and the CMNI in support of training in the Marianas; acting as the interface between the military and the civilian community; ensuring compliance with all environmental laws and regulations, safety procedures, and equal opportunity policy; and performing other functions and tasks as may be assigned (DoD 2024, p. 2–1).

Naval Base Guam Main Base, which is primarily located around Apra Harbor and on the Orote Peninsula along the central west side of Guam, consists of several locations on Guam that are controlled by the military, including the Naval Magazine and the Dandan sites that overlap multiple species/ranges addressed in this proposed rule. The Naval Base Guam Main Base supports Commander Naval Forces Marianas, Submarine Squadron 15, Coast Guard Sector Guam, Naval Special Warfare Unit One, and 28 other tenant commands, and it is the home base of three Los Angeles class submarines and dozens of units operating in support of U.S. Indo-Pacific Command, U.S. Pacific Fleet, Seventh Fleet, and Fifth Fleet (DoD 2024, p. 2–7). The primary function of the Base is to support fleet units and operational forces of the 5th and 7th Fleets, and it serves as a forward deployment base and logistics hub that includes a distribution center for material, personnel, and munitions that support sea, land, and air forces operating in Asia and the Western Pacific (DoD 2024, p. 5–1).

The Naval Magazine (also known as the Naval Munitions Site and the Munitions Annex) is approximately 8,645 ac (3,499 ha) and is in a mountainous region of south-central Guam. It provides support to units of the Pacific Fleet that operate in the western Pacific Ocean through receiving, renovating, maintaining, storing, and issuing ammunition, explosives, and expendable ordnance materials (DoD 2024, p. 6–1). The area also includes munitions-handling buildings, motor pools, mess halls, and related support buildings. The majority of the Naval Magazine is not fenced or marked with signage; thus, unauthorized access occurs through these unsecured areas (DoD 2024, p. 6–1).

MCB Camp Blaz Main Cantonment area is located on the northwest coast of Guam and includes approximately 11,241 ac (4,549 ha) of JRM submerged land and 2,949 ac (1,193 ha) of terrestrial land, the latter of which includes 2,604 ac (1,054 ha) of Guam NWR lands (*i.e.,* overlay refuge, to include the 252-ac (101-ha) Haputo Ecological Reserve) that the DoD manages (DoD 2024, p. 9–1). Outlying from the main cantonment, MCB Camp Blaz South (formerly South Finegayan and located southwest of the cantonment area) includes another 290 ac (117 ha) of terrestrial land and 5,388 ac (2,180 ha) of JRM submerged lands (DoD 2024, p. 9–1). Additionally, two training complexes, the Mason Live-Fire Training Range Complex includes 753 ac (304 ha) and the Urban Training Complex includes 2,032 ac (822 ha), are used primarily as training range complexes. DoD lands in both the cantonment and outlying areas are hereafter referred to collectively as MCB Camp Blaz (DoD 2024, p. 9–1).

Andersen AFB is located in Yigo at the northern tip of Guam and includes approximately 15,400 ac (6,232 ha) of land, including (but not limited to) an

active airfield and an extensive assemblage of operations, maintenance, and community services and support facilities. Andersen AFB supports operations in the Asia and South Pacific regions and is expanding in the near future to support the defense strategy mandated by Congress that allows the military to successfully execute its full range of missions within the strategy (DoD 2024, p. 8–1). This expansion includes development of additional training capabilities for unit, combined, and joint forces in the Western Pacific that assure readiness of U.S. forces to carry out military operations, provide humanitarian assistance, support disaster relief, and provide maritime security to maintain regional stability (DoD 2024, p. 8–1). Andersen AFB is home to the Pacific Air Forces' 13th Air Force and the 36th Wing, Air Mobility Command's 634th Air Mobility Support Squadron, 36th Contingency Response 30 Group, 36th Maintenance Group, 36th Medical Group, 36th Mission Support Group, and 36th Operations 31 Group.

The northern two-thirds of Tinian is leased to the DoD from the CNMI and is known as the Military Lease Area on the island. It is controlled and managed by the DoN and comprises approximately 15,355 ac (6,213 ha) north of the Tinian International Airport, and it is further divided into an Exclusive Military Use Area and a Lease Back Area. There are no permanent military facilities in this Lease Back Area, but it does include agricultural activities (*i.e.,* cattle grazing) and resident/human occupation, all of which are not allowed in the Exclusive Military Use Area. The 15,355–ac (6,213–ha) Military Lease Area is open to public access and recreational use (*e.g.,* fishing, swimming, camping) except when military training activities may require closures of some or all of the area (DoD 2024, p. 11–1). A small portion of the lease area known as Dump Coke (along Lamanibot Bay) includes limestone native forest that is occupied by the endangered humped tree snail; this area is covered under the JRM INRMP. The Military Lease Area supports medium- and small-scale military training activities annually, while large-scale training activities occur infrequently; exercises include combat search and rescue, amphibious assault, amphibious raid, personnel insertion and extraction, airfield seizure, and humanitarian assistance/disaster relief operations (DoD 2024, p. 11–3). Urban warfare training, Intelligence/Surveillance/Reconnaissance, and combat close quarters training are conducted only in association with historic structures (DoD 2024, p. 11–3).

The 2024 JRM INRMP guides the management and conservation of natural resources on the Mariana Islands at Naval Base Guam Main Base (all sites), MCB Camp Blaz, Andersen AFB, and the Tinian Military Lease Area, providing important habitat for federally listed species (DoD 2024, Table 1–1, p. 1–2). These installations include approximately 18,549 ac (7,506 ha) of habitat essential to the conservation for 19 species addressed within this proposed rule. The DoD engages in a variety of general conservation measures to benefit the animal and plant species addressed in this proposed rule (*e.g.,* terrestrial habitat management, terrestrial invasive species management, a regional biosecurity plan to reduce the risk of spreading nonnative species), as well as species-specific conservation measures. Figure 1, below, and the following paragraphs identify the areas containing the essential PBFs for 19 species addressed within this proposed rule that occur on lands owned, leased, and/or managed by the DoD in compliance with the JRM INRMP (DoD 2024, entire):

(1) Approximately 8,554 ac (3,462 ha) that overlap Naval Base Guam (which also includes the following areas: Naval Computer and Telecommunications Site Barrigada, Finnegayan South, Harmon Tank Farms, Apra Heights, Naval Hospital, Naval Magazine, Nimitz Hill, Sasa Valley Tank Farm, Tenjo Vista Tank Farm, and Dandan). These lands include occupied areas and habitat (some of which meet the definition of critical habitat) for the Pacific-sheath tailed bat, Mariana eight-spot butterfly, humped tree snail, Guam tree snail, fragile tree snail, and the following plants: *Bulbophyllum guamense, Cycas micronesica, Dendrobium guamense, Eugenia bryanii, Hedyotis megalantha, Heritiera longipetiolata, Maesa walkeri, Nervilia jacksoniae, Psychotria malaspinae, Phyllanthus saffordii, Tabernaemontana rotensis, Tinospora homosepala,* and *Tuberolabium guamense.*

(2) Approximately 2,454 ac (993 ha) overlap MCB Camp Blaz lands in northwestern Guam (also called Andersen South previously), of which 875 ac (354 ha) are the refuge overlay lands managed under the JRM INRMP. These lands include occupied areas that meet the definition of critical habitat for Mariana eight-spot butterfly, fragile tree snail, Guam tree snail, humped tree snail, and the following seven plants: *Bulbophyllum guamense, Cycas micronesica, Dendrobium guamense, Eugenia bryanii, Heritiera longipetiolata, Tabernaemontana rotensis,* and *Tuberolabium guamense.*

(3) Approximately 7,531 ac (3,048 ha) overlap Andersen AFB in Northern Guam; this area includes approximately 6,336 ac (2,564 ha) of Guam NWR that are DoD-managed lands. These lands include occupied areas and habitat (some of which meet the definition of critical habitat) for Mariana eight-spot butterfly, fragile tree snail, Guam tree snail, humped tree snail, and the following eight plants: *Bulbophyllum guamense, Cycas micronesica, Dendrobium guamense, Eugenia bryanii, Heritiera longipetiolata, Solanum guamense, Tabernaemontana rotensis,* and *Tuberolabium guamense.*

(4) Approximately 10 ac (4 ha) near Dump Coke on the northwestern side of Tinian overlap Military Lease Area lands in western Tinian. These lands include occupied areas and habitat for the humped tree snail.

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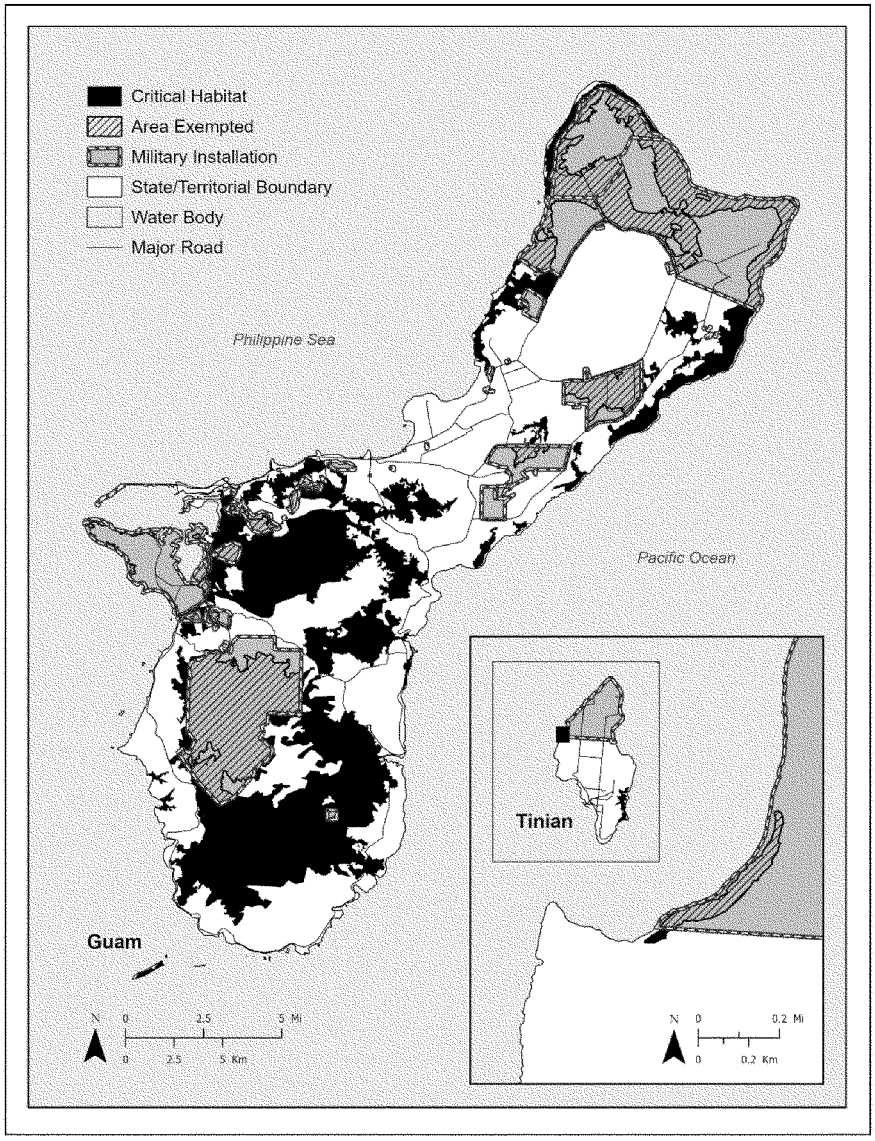
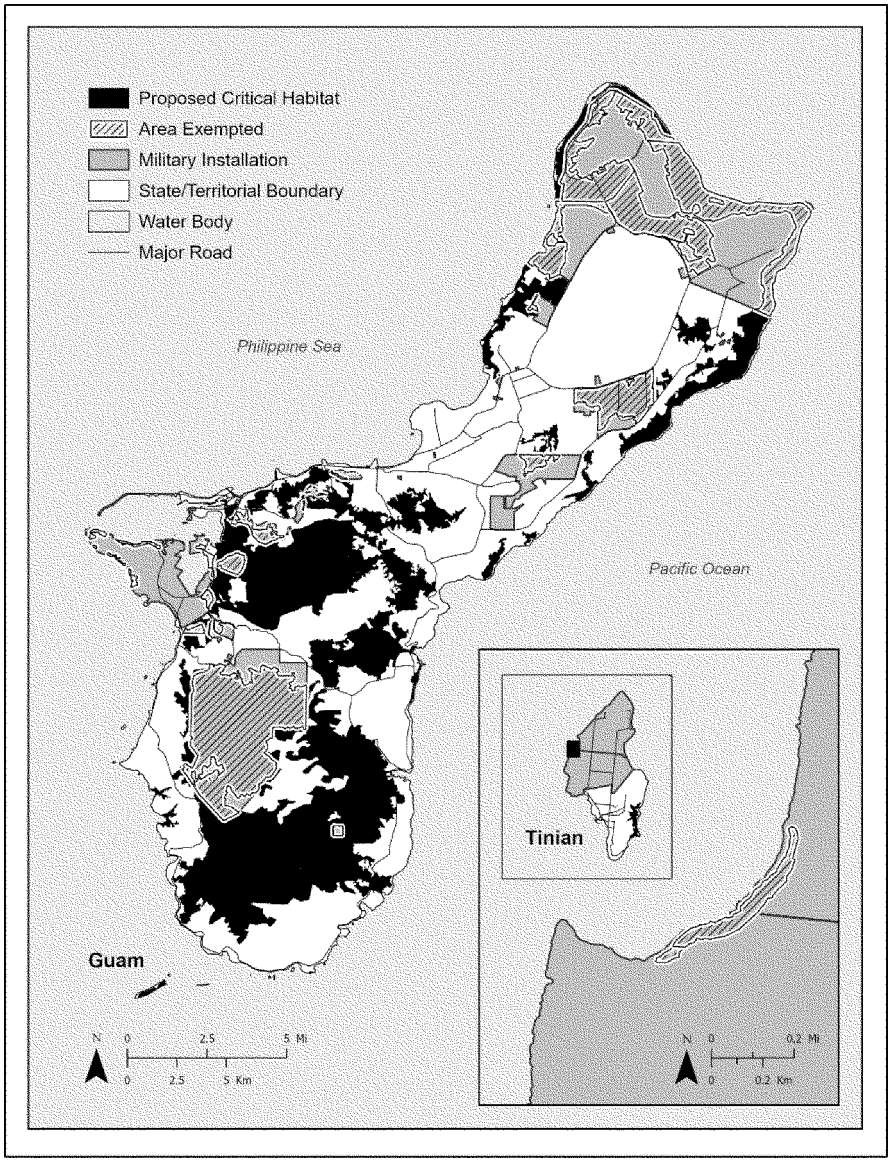
Figure 1—Department of Defense Lands Meeting the Definition of Critical Habitat but Exempt Under the Act

[Species (19) include Pacific sheath-tailed bat, Mariana eight-spot butterfly, humped tree snail, Guam tree snail, fragile tree snail, *Bulbophyllum guamense, Cycas micronesica, Dendrobium guamense, Eugenia bryanii, Hedyotis megalantha, Heritiera longipetiolata, Maesa walkeri, Nervilia jacksoniae, Phyllanthus saffordii, Psychotria malaspinae, Solanum guamense, Tabernaemontana rotensis, Tinospora homosepala,* and *Tuberolabium guamense*.]





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The ranges of 19 federally endangered and threatened species addressed in this proposed rule occur on DoD lands on the Islands of Guam and Tinian. These lands receive management that provides a conservation benefit to the species and their PBFs including (but not limited to) (DoD 2024, Table 13–5, pp. 13–22 to 13–85):

- Enhancing and restoring limestone forests;
- captive-propagating listed and native plants;
- eradicating or controlling invasive plant and animal species;
- implementing biosecurity protocols;
- constructing ungulate fencing in priority areas;
- implementing a fire management plan;
- protecting, propagating, and out-planting host plants for the Mariana eight-spot butterfly;
- protecting tree snail and butterfly populations and their habitats; and
- monitoring and removing brown tree snakes in and around swiftlet caves.

Based on the above considerations, and in accordance with section 4(a)(3)(B)(i) of the Act, we have determined that the identified lands are subject to the JRM INRMP and that conservation efforts identified in the JRM INRMP will provide a benefit to Pacific sheath-tailed bat, Mariana eight-spot butterfly, fragile tree snail, Guam tree snail, humped tree snail, *Bulbophyllum guamense, Cycas micronesica, Dendrobium guamense, Eugenia bryanii, Hedyotis megalantha, Heritiera longipetiolata, Maesa walkeri, Nervilia jacksoniae, Phyllanthus saffordii, Psychotria malaspinae, Solanum guamense, Tabernaemontana rotensis, Tinospora homosepala,* and *Tuberolabium guamense.* Therefore, lands owned or managed by the DoD on Guam and Tinian are exempt from critical habitat designation under section 4(a)(3) of the Act. We are not including a total of approximately 18,549 ac (7,506 ha) of habitat on Guam and Tinian in this proposed critical habitat designation because of this exemption. Additionally, *Solanum guamense* is the only species addressed in this proposed rule where its range and occurrences occur solely on DoD (Andersen AFB) lands. Given the section 4(a)(3)(B)(i) exemption addressed herein, there is no proposed critical habitat for *Solanum guamense.*

Consideration of Impacts Under Section 4(b)(2) of the Act

Section 4(b)(2) of the Act states that the Secretary shall designate and make revisions to critical habitat on the basis of the best available scientific data after taking into consideration the economic impact, the impact on national security impact, and any other relevant impact of specifying any particular area as critical habitat. The Secretary may exclude any area from critical habitat if the benefits of exclusion outweigh those of inclusion, so long as exclusion will not result in extinction of the species concerned. Exclusion decisions are governed by the regulations at 50 CFR 424.19 and the Policy Regarding Implementation of Section 4(b)(2) of the Endangered Species Act (hereafter, the ''2016 Policy''; 81 FR 7226, February 11, 2016), both of which were developed jointly with the National Marine Fisheries Service (NMFS). We also refer to a 2008 Department of the Interior Solicitor's opinion entitled ''The Secretary's Authority to Exclude Areas from a Critical Habitat Designation under Section 4(b)(2) of the Endangered Species Act'' (M–37016).

In considering whether to exclude a particular area from the designation, we identify the benefits of including the area in the designation, identify the benefits of excluding the area from the designation, and evaluate whether the benefits of exclusion outweigh the benefits of inclusion. If the analysis indicates that the benefits of exclusion outweigh the benefits of inclusion, the Secretary may exercise discretion to exclude the area only if such exclusion would not result in the extinction of the species. In making the determination to exclude a particular area, the statute on its face, as well as the legislative history, are clear that the Secretary has broad discretion regarding which factor(s) to use and how much weight to give to any factor. In our final rules, we explain any decision to exclude areas, as well as decisions not to exclude, to make clear the rational basis for our decision. We describe below the process that we use for taking into consideration each category of impacts and any initial analyses of the relevant impacts.

Consideration of Economic Impacts

Section 4(b)(2) of the Act and its implementing regulations require that we consider the economic impact that may result from a designation of critical habitat. To assess the probable economic impacts of a designation, we must first evaluate specific land uses or activities and projects that may occur in the area of the critical habitat. We then must evaluate the impacts that a specific critical habitat designation may have on restricting or modifying specific land uses or activities for the benefit of the species and its habitat within the areas proposed. We then identify which conservation efforts may be the result of the species being listed under the Act versus those attributed solely to the designation of critical habitat for this particular species. The probable economic impact of a proposed critical habitat designation is analyzed by comparing scenarios both ''with critical habitat'' and ''without critical habitat.''

The ''without critical habitat'' scenario represents the baseline for the analysis, which includes the existing regulatory and socio-economic burden imposed on landowners, managers, or other resource users potentially affected by the designation of critical habitat (*e.g.,* under the Federal listing as well as other Federal, State, and local regulations). Therefore, the baseline represents the costs of all efforts attributable to the listing of the species under the Act (*i.e.,* conservation of the species and its habitat incurred regardless of whether critical habitat is designated). The ''with critical habitat'' scenario describes the incremental impacts associated specifically with the designation of critical habitat for the species. The incremental conservation efforts and associated impacts would not be expected without the designation of critical habitat for the species. In other words, the incremental costs are those attributable solely to the designation of critical habitat, above and beyond the baseline costs. These are the costs we use when evaluating the benefits of inclusion and exclusion of particular areas from the final designation of critical habitat should we choose to conduct a discretionary section 4(b)(2) exclusion analysis.

Executive Order (E.O.) 12866 and E.O. 13563 direct Federal agencies to assess the costs and benefits of available regulatory alternatives in quantitative (to the extent feasible) and qualitative terms. Consistent with these E.O. regulatory analysis requirements, our effects analysis under the Act may take into consideration impacts to both directly and indirectly affected entities, where practicable and reasonable. If sufficient data are available, we assess to the extent practicable the probable impacts to both directly and indirectly affected entities. To determine whether the designation of critical habitat may have an economic effect of $100 million or more in any given year (which would trigger section 3(f)(1) of E.O. 12866), we used a screening analysis to assess whether a designation of critical habitat for the Mariana Islands species is likely to exceed the economically significant threshold.

For this particular designation, we developed an incremental effects memorandum (IEM) considering the probable incremental economic impacts that may result from this proposed designation of critical habitat. The information contained in our IEM was then used to develop a screening analysis of the probable effects of the designation of critical habitat for the Mariana Islands species (Industrial Economics Incorporated (IEc) 2025, entire). We began by conducting a screening analysis of the proposed designation of critical habitat in order to focus our analysis on the key factors that are likely to result in incremental economic impacts. The purpose of the screening analysis is to filter out particular geographical areas of critical habitat that are already subject to such protections and are, therefore, unlikely to incur incremental economic impacts. In particular, the screening analysis considers baseline costs (*i.e.,* absent critical habitat designation) and includes any probable incremental economic impacts where land and water use may already be subject to conservation plans, land management plans, best management practices, or regulations that protect the habitat area as a result of the Federal listing status of the species.

Ultimately, the screening analysis allows us to focus our analysis on evaluating the specific areas or sectors that may incur probable incremental economic impacts as a result of the designation. The presence of the listed species in occupied areas of critical habitat means that any destruction or adverse modification of those areas is also likely to jeopardize the continued existence of the species. Therefore, designating occupied areas as critical habitat typically causes little if any incremental impacts above and beyond the impacts of listing the species. As a result, we generally focus the screening analysis on areas of unoccupied critical habitat (unoccupied units or unoccupied areas within occupied units). Overall, the screening analysis assesses whether designation of critical habitat is likely to result in any additional management or conservation efforts that may incur incremental economic impacts. This screening analysis combined with the information contained in our IEM constitute what we consider to be our economic analysis of the proposed critical habitat designation for the Mariana Islands species and is summarized in the narrative below.

As part of our screening analysis, we considered the types of economic activities that are likely to occur within the areas likely affected by the critical habitat designation. In our evaluation of the probable incremental economic impacts that may result from the proposed designation of critical habitat for the Mariana Islands species, first we identified, in the IEM dated May 20, 2025, probable incremental economic impacts associated with the following categories of activities: development, including associated ground-disturbing actions; agriculture; fire management; limestone rock quarrying; recreation, including (but not limited to) off-road use and hunting using archery equipment; renewable energy (such as offshore wind farms); transportation; utility projects; forest management and water quality improvements, including potential impacts to adjacent soils or vegetation that may cause or result in erosion and increase turbidity or siltation in streams; geotechnical boring; ungulate removals (*i.e.,* hunting or trapping); research; invasive animal and biological controls; and application of disaster-related grants and activities, such as for emergencies through the Federal Emergency Management Agency (IEc 2025, p. 15; Service 2024e, in litt., pp. 95–97). We considered each industry or category individually. Additionally, we considered whether their activities have any Federal involvement. Critical habitat designation generally will not affect activities that do not have any Federal involvement; under the Act, designation of critical habitat affects only activities conducted, funded, permitted, or authorized by Federal agencies. For the 22 species in this proposed critical habitat designation that we have already listed as endangered or threatened species (80 FR 59424; October 1, 2015), Federal agencies are already required to consult with the Service under section 7 of the Act on activities they authorize, fund, or carry out that may affect these species. If we finalize this proposed critical habitat designation for the 22 species, Federal agencies would be required to consider the effects of their actions on the designated habitat, and if the Federal action may affect critical habitat, our consultations would include an evaluation of measures to avoid the destruction or adverse modification of critical habitat.

In our IEM, we attempted to clarify the distinction between the effects that would result from the species being listed and those attributable to the critical habitat designation (*i.e.,* the difference between the jeopardy and adverse modification standards) for the Mariana Islands species proposed critical habitat. The following specific circumstances help to inform our evaluation: (1) The essential PBFs identified for critical habitat are the same features that are essential for the life requisites of the species, (2) any actions determined to likely adversely affect the essential PBFs of occupied critical habitat are also likely to adversely affect the species itself, and (3) any actions determined to likely adversely affect the essential PBFs of unoccupied critical habitat (one unit only for Pacific sheath-tailed bat on the island of Rota) may also be likely to adversely affect the species because the unoccupied critical habitat has been deemed essential to the species. The IEM outlines our rationale concerning this limited distinction between baseline conservation efforts and incremental impacts of the designation of critical habitat for this species for all of the occupied units.

The proposed critical habitat designation for the Mariana Islands species includes 122 critical habitat units, totaling approximately 59,886 ac (24,235 ha). One unit for the Pacific sheath-tailed bat on the island of Rota is unoccupied, and the remaining 121 units across the Territory of Guam and the CNMI were occupied by the other species at the time of listing and/or are currently occupied.

The screening analysis reveals that the total annual incremental cost of critical habitat designation for this proposed rule is anticipated to be less than $31,300 per year (IEc 2025, pp. 2, 53, 54, 57). Costs are projected to likely be administrative due to: (1) projects with a Federal nexus being subject to section 7 consultation requirements regardless of whether critical habitat is designated, (2) conservation efforts recommended to avoid jeopardizing the continued existence of the species would be substantially similar to those that could be recommended for an adverse modification analysis, and (3) conservation efforts and recovery actions of other listed species and some existing critical habitat designations that overlap the proposed critical habitat for the 22 species in this proposed rule are likely to provide some protections even absent this critical habitat designation (IEc 2025, pp. 51–52). Given this information, the total incremental costs of this critical habitat designation, as proposed, is anticipated to cost approximately $313,100 (2024 dollars) during the next 10 years, or up to $31,300 annually (IEc 2025, pp. 2, 53, 54, 57). Additionally, we anticipate that the island of Guam would incur the highest incremental costs at $24,900 annually (2024 dollars) given that 61 percent of the proposed critical habitat designation occurs on this island (IEc 2025, p. 53). Finally, we do not expect this designation would trigger additional requirements under commonwealth, territory, or other local regulations (IEc 2025, p. 55).

Specifically for the single unoccupied critical habitat unit for the Pacific sheath-tailed bat on the island of Rota, we anticipate that project modifications for this unit would be the same to avoid jeopardy to the species as would be recommended for avoiding adverse modification to its habitat (*e.g.,* species surveys for presence/absence, reducing human disturbance and noise in or near cave habitat, minimizing nighttime lighting in forest areas (Service 2024d, pers. comm.; IEc 2025, p. 53)). We do not expect incremental costs due to the proposed critical habitat designation in this area as an unoccupied unit based on the following (IEc 2025, pp. 53–54):

(1) The cave and/or surrounding foraging area for the unit completely or partially overlaps with occupied areas for 12 other species addressed in this proposed rule (*i.e.,* humped tree snail, fragile tree snail, Mariana wandering butterfly, Rota blue damselfly, and the plants *Bulbophyllum guamense, Dendrobium guamense, Tuberolabium guamense, Nervilia jacksoniae, Cycas micronesica, Tabernaemontana rotensis,* and *Maesa walkeri*).

(2) This unoccupied unit completely overlaps with the ranges of other federally endangered or threatened species not addressed within this proposed rule. Approximately 75 percent of the proposed unit overlaps with existing critical habitat for the federally endangered Rota bridled white-eye and the Mariana crow, both of which share with the Pacific sheath-tailed bat intact, contiguous forest as a PBF.

(3) The cave identified for this unit is also suitable habitat for the federally endangered Mariana swiftlet; although the swiftlet is not currently present, this area is identified in the swiftlet's recovery plan as a recovery area for potential translocation. Because the swiftlet is federally endangered and potentially present, section 7 consultations would already occur in this area for potential effects to caves or swiftlets (Service 2024d, pers. comm.).

We are soliciting data and comments from the public on the economic analysis discussed above. During the development of a final designation, we will consider the information presented in the economic analysis and any additional information on economic

impacts we receive during the public comment period to determine whether any specific areas should be excluded from the final critical habitat designation under authority of section 4(b)(2), our implementing regulations at 50 CFR 424.19, and the 2016 Policy. We may exclude an area from critical habitat if we determine that the benefits of excluding the area outweigh the benefits of including the area, provided the exclusion will not result in the extinction of this species.

Consideration of National Security Impacts

Section 4(a)(3)(B)(i) of the Act may not cover all DoD lands or areas that pose potential national-security concerns (*e.g.,* a DoD installation that is in the process of revising its INRMP for a newly listed species or a species previously not covered). If a particular area is not covered under section 4(a)(3)(B)(i), then national-security or homeland-security concerns are not a factor in the process of determining what areas meet the definition of ''critical habitat.'' However, we must still consider impacts on national security, including homeland security, on those lands or areas not covered by section 4(a)(3)(B)(i) because section 4(b)(2) requires us to consider those impacts whenever we designate critical habitat. Accordingly, if DoD, Department of Homeland Security (DHS), or another Federal agency has requested exclusion based on an assertion of national-security or homeland-security concerns, or we have otherwise identified national-security or homeland-security impacts from designating particular areas as critical habitat, we generally have reason to consider excluding those areas.

However, we cannot automatically exclude requested areas. When DoD, DHS, or another Federal agency requests exclusion from critical habitat on the basis of national-security or homeland-security impacts, we must conduct an exclusion analysis if the Federal requester provides information, including a reasonably specific justification of an incremental impact on national security that would result from the designation of that specific area as critical habitat. That justification could include demonstration of probable impacts, such as impacts to ongoing border-security patrols and surveillance activities, or a delay in training or facility construction as a result of compliance with section 7(a)(2) of the Act. If the agency requesting the exclusion does not provide us with a reasonably specific justification, we will contact the agency to recommend that it provide a specific justification or clarification of its concerns relative to the probable incremental impact that could result from the designation. If we conduct an exclusion analysis because the agency provides a reasonably specific justification or because we decide to exercise the discretion to conduct an exclusion analysis, we will defer to the expert judgment of DoD, DHS, or another Federal agency as to: (1) Whether activities on its lands or waters, or its activities on other lands or waters, have national-security or homeland-security implications; (2) the importance of those implications; and (3) the degree to which the cited implications would be adversely affected in the absence of an exclusion. In that circumstance, in conducting a discretionary section 4(b)(2) exclusion analysis, we will give great weight to national-security and homeland-security concerns in analyzing the benefits of exclusion.

Under section 4(b)(2) of the Act, we also consider whether a national security or homeland security impact might exist on lands owned or managed by DoD or DHS. In preparing this proposal, we have determined that, other than the land exempted under section 4(a)(3)(B)(i) of the Act based upon the existence of an approved INRMP (see Exemptions, above), the lands within the proposed designation of critical habitat for the Mariana Islands species are not owned or managed by DoD or DHS. Therefore, we anticipate no impact on national security or homeland security.

Consideration of Other Relevant Impacts

Under section 4(b)(2) of the Act, we consider any other relevant impacts, in addition to economic impacts and impacts on national security discussed above. To identify other relevant impacts that may affect the exclusion analysis, we consider a number of factors, including whether there are approved and permitted conservation agreements or plans covering the species in the area—such as safe harbor agreements, candidate conservation agreements with assurances (CCAAs) or ''conservation benefit agreement'' or ''conservation agreement'' (CBAs) (CBAs are a new type of agreement replacing SHAs and CCAAs in use after April 2024 (89 FR 26070; April 12, 2024)) or HCPs—or whether there are non-permitted conservation agreements and partnerships that may be impaired by designation of, or exclusion from, critical habitat. In addition, we look at whether Tribal conservation plans or partnerships, Tribal resources, or government-to-government relationships of the United States with Tribal entities may be affected by the designation. We also consider any State, local, social, or other impacts that might occur because of the designation.

When analyzing other relevant impacts of including a particular area in a designation of critical habitat, we weigh those impacts relative to the conservation value of the particular area. To determine the conservation value of designating a particular area, we consider a number of factors, including, but not limited to, the additional regulatory benefits that the area would receive due to the protection from destruction or adverse modification as a result of actions with a Federal nexus, the educational benefits of mapping essential habitat for recovery of the listed species, and any benefits that may result from a designation due to State or Federal laws that may apply to critical habitat.

In the case of the Mariana Islands species, the benefits of critical habitat include public awareness of the presence of these species and the importance of habitat protection, and, where a Federal nexus exists, increased habitat protection for these species due to protection from destruction or adverse modification of critical habitat. Continued implementation of an ongoing management plan that provides conservation equal to or more than the protections that result from a critical habitat designation would reduce those benefits of including that specific area in the critical habitat designation.

After identifying the benefits of inclusion and the benefits of exclusion, we carefully weigh the two sides to evaluate whether the benefits of exclusion outweigh those of inclusion. If our analysis indicates that the benefits of exclusion outweigh the benefits of inclusion, we then determine whether exclusion would result in extinction of the species. If exclusion of an area from critical habitat will result in extinction, we will not exclude it from the designation.

Non-Permitted Conservation Plans, Agreements, or Partnerships

We sometimes exclude specific areas from critical habitat designations based in part on the existence of private or other non-Federal conservation plans or agreements and their attendant partnerships. A conservation plan or agreement describes actions that are designed to provide for the conservation needs of a species and its habitat and may include actions to reduce or mitigate negative effects on the species caused by activities on or adjacent to the

area covered by the plan. Conservation plans or agreements can be developed by private entities with no Service involvement, or in partnership with the Service.

Shown below is a non-exhaustive list of factors that we consider in evaluating how non-permitted plans or agreements affect the benefits of inclusion or exclusion. These are not required elements of plans or agreements. Rather, they are some of the factors we may consider, and not all of these factors apply to every plan or agreement. We also consider information provided by proponents of an exclusion on the non-permitted plan or agreement.

(i) The degree to which the record of the plan, or information provided by proponents of an exclusion, supports a conclusion that a critical habitat designation would impair the realization of the benefits expected from the plan, agreement, or partnership.

(ii) The extent of public participation in the development of the conservation plan.

(iii) The degree to which agency review and required determinations (*e.g.,* State regulatory requirements) have been completed, as necessary and appropriate.

(iv) Whether National Environmental Policy Act (42 U.S.C. 4321 *et seq.*) compliance was required.

(v) The demonstrated implementation and success of the chosen mechanism.

(vi) The degree to which the plan or agreement provides for the conservation of the essential PBFs for the species.

(vii) Whether there is a reasonable expectation that the conservation management strategies and actions contained in a management plan or agreement will be implemented.

(viii) Whether the plan or agreement contains a monitoring program and adaptive management to ensure that the conservation measures are effective and can be modified in the future in response to new information.

A portion of the DoD-owned or managed lands that provides habitat for most of the species addressed in this rule will be addressed under a ''Mariana Islands Conservation Strategy.'' Department of Defense (DoD) lands are exempted from critical habitat under section 4(a)(3)(B)(i) of the Act. However, the proposed critical habitat designation for non-DoD-owned or managed lands is being addressed through the developing Mariana Islands Conservation Strategy. Although still in progress, this strategy seeks to benefit the species and habitats identified in the proposed designation through a collaborative partnership among the DoD, the Department of the Interior (DOI), and the territorial governments of the CNMI and Guam.

The proposed critical habitat designation includes three areas that are covered by non-permitted plans and provide for the conservation of the Pacific sheath-tailed bat, fragile tree snail, Guam tree snail, Mariana wandering butterfly, *Bulbophyllum guamense, Cycas micronesica, Dendrobium guamense, Maesa walkeri, Nervilia jacksoniae, Tabernaemontana rotensis,* and *Tuberolabium guamense.* After considering factors (i)–(viii) described above, we have reason to consider excluding these three non-permitted plans: The Memorandum of Agreement for the Mariana Crow Conservation Area (Service 2011, entire), Rota Local Law No. 9–1 for the Sabana Protected Area (CNMI 1994, entire), and the Talakhaya Integrated Watershed Management Plan (CNMI DEQ 2012, entire). An additional conservation effort is underway for a Guam HCP; however, that effort is not expected to be completed prior to our statutory timeline to submit a final rule to the **Federal Register** 12 months following this proposed rule and thus not included at this time for a potential exclusion. We describe below our reasons for considering the other three areas for potential exclusion.

(1) Memorandum of Agreement (MOA)—Mariana Crow Conservation Area

In 2011, the Service entered into an MOA with the Government of the CNMI (Department of Public Lands) in recognition of the importance to implement recovery actions for the federally endangered Mariana crow, including to protect and manage Mariana crow designated critical habitat on the island of Rota (Service 2011, p. 1). These coordination efforts resulted in an MOA outlining the commitment of the CNMI Department of Public Lands to implement conservation measures on 1,097 ac (444 ha) of lands to be protected and managed in perpetuity; this area includes 684 ac (277 ha) known as the I'Chenchon Bird Sanctuary. The total area is hereafter referred to as the Mariana Crow Conservation Area. Preservation and management of the 1,097-ac (444-ha) area is in perpetuity, with conservation measures that benefit the crow outlined in the Mariana Crow Conservation Area Management Plan (Service 2011, pp. 9–22). The MOA and management plan include a provision asserting that there would be no permits or approvals of any proposed or future projects on the island of Rota that may adversely affect the Mariana crow or its critical habitat without first obtaining approval from the Pacific Islands Fish and Wildlife Office (Service 2011, p. 2). The establishment of this area and associated prohibitions are memorialized by the Commonwealth Law Revision Commission (July 19, 2019), Title 85: Department of Lands and Natural Resources; Subchapter 30.4, Mariana Crow Conservation Area.

Approximately 8,871 ac (357 ha) of the Mariana Crow Conservation Area fully or partially overlap proposed critical habitat units for the Pacific sheath-tailed bat, fragile tree snail, Guam tree snail, Mariana wandering butterfly, *Bulbophyllum guamense, Cycas micronesica, Dendrobium guamense, Maesa walkeri, Tabernaemontana rotensis,* and *Tuberolabium guamense.* One or more of the PBFs essential to the conservation of these species receive direct or indirect conservation benefits as a result of the preservation and management originally intended for the Mariana crow. These benefits include, but are not limited to the following:

(a) Prohibitions (the MOA prohibits, in perpetuity) against the removal of plants, animals, soils, sand, and rocks that protect habitats and resources (*e.g.,* water, sunlight, moisture, soil porosity, nutritional components, vegetation stature, canopy composition, ground cover, and other habitat and resources).

(b) Preserving in perpetuity native volcanic and limestone forests, substrates, and understory, including maintaining closed canopy conditions, host plants, and other habitats and resources for native and federally listed species, pollinators, seed dispersers, and microbial partners.

(c) Prohibitions against establishing new roads.

(d) The Service and the CNMI Government agreed to develop an island-wide multiple-species conservation plan specifically protecting all federally listed species on Rota; the conservation plan is incomplete and expected to be completed when budgets and workforce allow.

(2) Rota Local Law No. 9–1—Sabana Protected Area

In 1994, Rota Local Law No. 9–1 (CNMI 1994, entire) was established by the Rota legislative delegation to provide protections to wildlife and forest vegetation within the Sabana Heights and part of the I'Chenchon Bird Sanctuary (hereafter referred to as the Sabana Protected Area) on the island of Rota. The protections are afforded to approximately 3,707 ac (1,500 ha) of lands and administered by CNMI's

Director of the Department of Natural Resources. The Sabana Protected Area consists of mixed agricultural lots and various types of native forest area, including forested cliffs, providing habitat for several endemic and federally endangered or threatened species. The law establishes restrictions and calls for implementation of conservation techniques to ensure there are no adverse impacts on the wildlife and vegetation in this area (CNMI 1994, p. 1). Prohibitions were established to include the prevention of take, such as harassment and disturbance of non-game wildlife, gathering/removal of vegetation (*i.e.,* all plant life, including fungi, forest vegetation, and grasses that are not used for medicinal purposes in traditional healing practices), and other disturbances to wildlife and plants (*e.g.,* destruction of nests, excavation of surface areas, disruptions of normal patterns of behavior or growth of wildlife); enforcement of the conservation area is also provided (CNMI 1994, pp. 1–2).

The Sabana Protected Area fully or partially overlaps proposed critical habitat units for approximately 2,840 ac (1,150 ha) for the Pacific sheath-tailed bat; approximately 2,820 ac (1,141 ha) for the fragile tree snail, humped tree snail, Guam tree snail, Mariana wandering butterfly, *Bulbophyllum guamense, Cycas micronesica, Dendrobium guamense, Maesa walkeri, Tabernaemontana rotensis,* and *Tuberolabium guamense;* approximately 2,411 ac (976 ha) for *Nervilia jacksoniae;* and approximately 289 ac (117 ha) for the Rota blue damselfly. One or more of the PBFs essential to the conservation of these 11 species receive direct or indirect conservation benefits as a result of the conserved area coupled with the provided prohibitions and enforcement to the forested habitats. These benefits include, but are not limited to, the following:

(a) Prohibitions against removing, injuring, or killing plants and wildlife with the exception of plants used for traditional medicine, or those being utilized through normal agricultural activities.

(b) Sabana Conservation area is gated and Rota DFW Law Enforcement patrols through the area during the day and sometimes as night. No permits of any activities are issued within this area since land clearing and hunting are prohibited.

(c) No removing or disturbing soil, sand, or rock.

(d) No harassing or disturbing wildlife or vegetation to include the following: darting, driving or herding animals out of an area; destruction of nesting areas; excavation of surface land for the removal of any type of soil or plant life; mining operations; and any other activities that result in disruption of the normal patterns of behavior or growth of wildlife or the destruction of plant life soil/rock/coral composition.

(e) Prohibit any other activities (recreational, commercial, and agricultural) that are deemed detrimental to the aquifer within or adjacent to the Sabana Heights area at the discretion of the Director of Department of Lands and Natural Resources, Chief of the Division of Fish and Wildlife, and the Rota Resident Director of Department of Lands and Natural Resources.

(3) Talakhaya Integrated Watershed Management Plan (CNMI DEQ 2012, Entire)

The Talakhaya/Sabana watershed encompasses 4,900 ac (1,983 ha) of lands at the southern end of Rota. This area includes a unique combination of geology and hydrology for Rota, including the only perennial streams on the southern side of the island (CNMI BECQ 2020, pp. 12, 18). The habitats comprise a mosaic of native forest habitat along with freshwater caves and spring systems, and five sub-watersheds and associated riparian areas. The watershed is jointly managed by three local government agencies (*i.e.,* CNMI BECQ, Department of Land and Natural Resources, and Forestry) whose management approach is described as ''ridge-to-reef'' (CNMI BECQ 2020, pp. 10, 26).

Approximately 254 ac (103 ha) of the Talakhaya watershed is managed under the Talakhaya Watershed Management Plan including approximately 152 ac (62 ha) overlapping the Sabana Protected Area. The remaining area managed under the Plan partially overlaps proposed critical habitat units for approximately 254 ac (103 ha) for the Pacific sheath-tailed bat and Rota blue damselfly. One or more of the PBFs essential to the conservation of these two species receive direct or indirect conservation benefits as a result of the managed area. Management actions that can benefit the PBFs for Pacific sheath-tailed bat and Rota blue damselfly include, but are not limited to, the following: (1) revegetate critically eroding areas, (2) decrease watershed erosion, (3) create enforcement measures for local laws, and (4) educate the Rota community about how fires affect the watershed (CNMI BECQ 2020, p. 36). The management plan also identifies a variety of strategies to address threats to the watershed area that could negatively impact bat and damselfly habitat, such as establishing partnerships with private landowners to implement watershed-friendly best management practices for agricultural and grazing activities (thus reducing negative impacts on habitat for the bat and damselfly) and stabilizing existing roads and culverts to reduce sedimentation (CNMI BECQ 2020, pp. 38–39). Additionally, adaptive management will be implemented and supported with monitoring activities to adjust priorities and actions should goals not be achieved (CNMI BECQ 2020, pp. 58–61).

Summary of Exclusions Considered Under 4(b)(2) of the Act

We have reason to consider excluding the following areas under section 4(b)(2) of the Act from the final critical habitat designation for the Pacific sheath-tailed bat, fragile tree snail, Guam tree snail, Mariana wandering butterfly, Rota blue damselfly, *Bulbophyllum guamense, Cycas micronesica, Dendrobium guamense, Maesa walkeri, Nervilia jacksoniae, Tabernaemontana rotensis,* and *Tuberolabium guamense.* All of these considered exclusions occur on the Island of Rota. Table 26 below provides the areas and approximate acreage (ac, ha) of lands that meet the definition of critical habitat but for which we are considering possible exclusion under section 4(b)(2) of the Act from the final critical habitat rule.

TABLE 26—AREAS CONSIDERED FOR EXCLUSION BY CRITICAL HABITAT UNIT

Area	Specific unit	Areas meeting the definition of critical habitat, in acres (hectares)	Areas considered for possible exclusion, in acres (hectares)	Reasons for considering exclusion
10	Rota 1–*Bulbophyllum guamense*–a	1,930 (781)	2 (1)	Mariana Crow Conservation Area/2011 MOA.
10	Rota 2–*Tabernaemontana rotensis*–b	3,327 (1,347)	654 (265)	

TABLE 26—AREAS CONSIDERED FOR EXCLUSION BY CRITICAL HABITAT UNIT—Continued

Area	Specific unit	Areas meeting the definition of critical habitat, in acres (hectares)	Areas considered for possible exclusion, in acres (hectares)	Reasons for considering exclusion
11	Rota 2–*Bulbophyllum guamense*–b Rota 2–*Dendrobium guamense*–a Rota 2–*Tuberolabium guamense*–a Rota 2–*Cycas micronesica*–a Rota 2–*Maesa walkeri*–a Rota 2–*Tabernaemontana rotensis*–b	6,875 (2,782)	233 (94)	
12	Fragile Tree Snail–1, Rota Mariana Wandering Butterfly–1, Rota	12,282 (4,970)	887 (359)	
14	Pacific Sheath-Tailed Bat–1, Rota	7,632 (3,089)	233 (94)	
Total Excluded MOA (no overlapping acres).			887 (359)	
11	Rota 2–*Bulbophyllum guamense*–b Rota 2–*Dendrobium guamense*–a Rota 2–*Tuberolabium guamense*–a Rota 2–*Cycas micronesica*–a Rota 2–*Maesa walkeri*–a Rota 2–*Tabernaemontana rotensis*–b	6,875 (2,782)	2,820 (1,141)	Sabana Protected Area.
11	Rota 2–*Nervilia jacksoniae*–a	4,368 (1,768)	2,411 (976)	
12	Fragile Tree Snail–1, Rota Mariana Wandering Butterfly–1, Rota.	12,282 (4,970)	2,820 (1,141)	
13	Rota Blue Damselfly–1, Rota	1,133 (459)	289 (117)	
14	Pacific Sheath-tailed Bat–1, Rota	7,632 (3,089)	2,840 (1,150)	
Total Excluded Sabana (no overlapping acres).			2,840 (1,150)	
13	Rota Blue Damselfly–1, Rota	1,133 (459)	254 (103)	Talakhaya Integrated Watershed Management Plan.
14	Pacific Sheath-tailed Bat–1, Rota	7,632 (3,089)		
Total Excluded Talakhaya (no overlapping acres).			254 (103)	

Note: Total acreages for each of the three management plans/conservation areas do not sum for each unit because of overlapping areas. More specifically, the Sabana Protected Area and total area managed under the Talakhaya Integrated Watershed Management Plan partially overlap by approximately 152 ac (62 ha). Proposed critical habitat considered for exclusion in this overlap of conservation areas is included in the acreages for the Sabana Protected Area only.

In conclusion, for this proposed rule, we have reason to consider excluding the areas identified above from the final designation based on other relevant impacts. We specifically solicit comments on the inclusion or exclusion of such areas. We also solicit comments on whether there are potential economic, national security, or other relevant impacts from designating any other particular areas as critical habitat. As part of developing the final designation of critical habitat, we will evaluate the information we receive regarding potential impacts from designating the areas described above or any other particular areas, and we may conduct a discretionary exclusion analysis to determine whether to exclude those areas under authority of section 4(b)(2) and our implementing regulations at 50 CFR 424.19. If we receive a request for exclusion of a particular area and after evaluation of supporting information we do not exclude, we will fully describe our decision in the final rule for this action.

Required Determinations

Clarity of the Proposed Rule

We are required by E.O.s 12866 and 12988 and by the Presidential memorandum of June 1, 1998, to write all rules in plain language. This means that each rule we publish must:

(1) Be logically organized;

(2) Use the active voice to address readers directly;

(3) Use clear language rather than jargon;

(4) Be divided into short sections and sentences; and

(5) Use lists and tables wherever possible.

If you feel that we have not met these requirements, send us comments by one of the methods listed in **ADDRESSES**. To better help us revise the proposed rule, your comments should be as specific as possible. For example, you should tell us the numbers of the sections or paragraphs that are unclearly written, which sections or sentences are too long, the sections where you feel lists or tables would be useful, etc.

Regulatory Planning and Review—E.O.s 12866,13563 and 14192

E.O. 12866 provides that the Office of Information and Regulatory Affairs (OIRA) in the Office of Management and Budget will review all significant rules as defined in section 3(f) of that E.O. OIRA has determined that this proposed rule is significant and has reviewed it.

E.O. 13563 reaffirms the principles of E.O. 12866 while calling for improvements in the Nation's regulatory system to promote predictability, to reduce uncertainty, and to use the best, most innovative, and least burdensome tools for achieving regulatory ends. E.O. 13653 directs agencies to consider regulatory approaches that reduce burdens and maintain flexibility and freedom of choice for the public where these approaches are relevant, feasible, and consistent with regulatory objectives. E.O. 13563 emphasizes further that regulations must be based on the best available science and that the rulemaking process must allow for public participation and an open exchange of ideas. We have developed this proposed rule in a manner consistent with these requirements.

This proposed rule, if finalized as proposed, may be an E.O. 14192 regulatory action.

Regulatory Flexibility Act (5 U.S.C. 601 et seq.)

Under the Regulatory Flexibility Act (RFA; 5 U.S.C. 601 *et seq.*), as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA; title II of Pub. L. 104–121, March 29, 1996), whenever a Federal agency is required to publish a notice of rulemaking for any proposed or final rule, it must prepare and make available

for public comment a regulatory flexibility analysis that describes the effects of the rule on small entities (*i.e.,* small businesses, small organizations, and small government jurisdictions). However, no regulatory flexibility analysis is required if the head of the agency certifies the rule will not have a significant economic impact on a substantial number of small entities. The SBREFA amended the RFA to require Federal agencies to provide a certification statement of the factual basis for certifying that the rule will not have a significant economic impact on a substantial number of small entities.

According to the Small Business Administration, small entities include small organizations such as independent nonprofit organizations; small governmental jurisdictions, including school boards and city and town governments that serve fewer than 50,000 residents; and small businesses (13 CFR 121.201). The definition of a small business varies by industry. Small businesses size standards for manufacturing and mining vary between 500 and 1,500 employees, for wholesale trade entities between 100 and 250 employees, retail and service businesses with between $8 and $47 million in annual sales, general and heavy construction businesses with less than $45 million in annual business, special trade contractors doing less than $19 million in annual business, and agricultural businesses with annual sales between $2.25 and $5.5 million. To determine whether potential economic impacts to these small entities are significant, we considered the types of activities that might trigger regulatory impacts under this designation as well as types of project modifications that may result. In general, the term ''significant economic impact'' is meant to apply to a typical small business firm's business operations.

Under the RFA, as amended, and as understood in light of recent court decisions, Federal agencies are required to evaluate the potential incremental impacts of rulemaking on those entities directly regulated by the rulemaking itself; in other words, the RFA does not require agencies to evaluate the potential impacts to indirectly regulated entities. The regulatory mechanism through which critical habitat protections are realized is section 7 of the Act, which requires Federal agencies, in consultation with the Service, to ensure that any action authorized, funded, or carried out by the agency is not likely to destroy or adversely modify critical habitat. Therefore, under section 7, only Federal action agencies are directly subject to the specific regulatory requirement (avoiding destruction and adverse modification) imposed by critical habitat designation. Consequently, only Federal action agencies would be directly regulated if we adopt the proposed critical habitat designation. The RFA does not require evaluation of the potential impacts to entities not directly regulated. Moreover, Federal agencies are not small entities. Therefore, because no small entities would be directly regulated by this rulemaking, the Service certifies that, if made final as proposed, the proposed critical habitat designation will not have a significant economic impact on a substantial number of small entities.

In summary, we have considered whether the proposed designation would result in a significant economic impact on a substantial number of small entities. For the above reasons and based on currently available information, we certify that, if made final, the proposed critical habitat designation would not have a significant economic impact on a substantial number of small business entities. Therefore, an initial regulatory flexibility analysis is not required.

Energy Supply, Distribution, or Use—E.O. 13211

E.O. 13211 (Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use) requires agencies to prepare statements of energy effects ''to the extent permitted by law'' when undertaking actions identified as significant energy actions (66 FR 28355; May 22, 2001). E.O. 13211 defines a ''significant energy action'' as, among other things, an action that (i) meets the definition of a ''significant regulatory action'' under E.O. 12866 (or any successor); and (ii) is likely to have a significant adverse effect on the supply, distribution, or use of energy. In our economic analysis, we identified geothermal wells, solar power, and wind farms as renewable energy projects that could potentially occur within the proposed critical habitat designation, but we did not find that the designation of critical habitat would significantly affect energy supplies, distribution, or use (IEc 2025, entire). Renewable energy activities have been known to occur in some areas on some islands, such as with a current wind farm off Guam where we are coordinating with the Bureau of Ocean Energy Management. Under section 7 of the Act, we consult on these types of activities with Federal agencies. As discussed in the economic analysis, the costs associated with consultations related to the proposed critical habitat designation would be largely administrative in nature and are not anticipated to reach $100 million in any given year based on the anticipated annual number of consultations and associated consultation costs, which are not expected to exceed $31,300 per year (2024 dollars) (IEc 2025, pp. 2, 53, 57). Therefore, this action is not a significant energy action, and no statement of energy effects is required.

Unfunded Mandates Reform Act (2 U.S.C. 1501 et seq.)

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501 *et seq.*), we make the following finding:

(1) This proposed rule would not produce a Federal mandate. In general, a Federal mandate is a provision in legislation, statute, or regulation that would impose an enforceable duty upon State, local, or Tribal governments, or the private sector, and includes both ''Federal intergovernmental mandates'' and ''Federal private sector mandates.'' These terms are defined in 2 U.S.C. 658(5)–(7). ''Federal intergovernmental mandate'' includes a regulation that ''would impose an enforceable duty upon State, local, or Tribal governments'' with two exceptions. It excludes ''a condition of Federal assistance.'' It also excludes ''a duty arising from participation in a voluntary Federal program,'' unless the regulation ''relates to a then-existing Federal program under which $500,000,000 or more is provided annually to State, local, and Tribal governments under entitlement authority,'' if the provision would ''increase the stringency of conditions of assistance'' or ''place caps upon, or otherwise decrease, the Federal Government's responsibility to provide funding,'' and the State, local, or Tribal governments ''lack authority'' to adjust accordingly. At the time of enactment, these entitlement programs were: Medicaid; Aid to Families with Dependent Children work programs; Child Nutrition; Food Stamps; Social Services Block Grants; Vocational Rehabilitation State Grants; Foster Care, Adoption Assistance, and Independent Living; Family Support Welfare Services; and Child Support Enforcement. ''Federal private sector mandate'' includes a regulation that ''would impose an enforceable duty upon the private sector, except (i) a condition of Federal assistance or (ii) a duty arising from participation in a voluntary Federal program.''

The designation of critical habitat does not impose a legally binding duty on non-Federal Government entities or private parties. Under the Act, the only regulatory effect is that Federal agencies

must ensure that their actions are not likely to destroy or adversely modify critical habitat under section 7. While non-Federal entities that receive Federal funding, assistance, or permits, or that otherwise require approval or authorization from a Federal agency for an action, may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency. Furthermore, to the extent that non-Federal entities are indirectly impacted because they receive Federal assistance or participate in a voluntary Federal aid program, the Unfunded Mandates Reform Act would not apply, nor would critical habitat shift the costs of the large entitlement programs listed above onto State governments.

(2) This rule would not significantly or uniquely affect small governments, or small governments may be affected only to the extent that any programs having Federal permits, funds (including mayoral offices within the commonwealth and territory that rely on Federal funding), or other authorized activities must ensure that their actions will not adversely affect the critical habitat. Our analysis considered Federal funding, such as (but not limited to) affordable housing and community development block grant funding (IEc 2025, pp. 15–16). Small governments will be affected only to the extent that any programs having Federal funds, permits, or other authorized activities must ensure that their actions will not adversely affect the critical habitat. Therefore, a small government agency plan is not required.

Takings—E.O. 12630

In accordance with E.O. 12630 (Government Actions and Interference with Constitutionally Protected Private Property Rights), we have analyzed the potential takings implications of designating critical habitat for the Mariana Islands species in a takings implications assessment. The Act does not authorize the Service to regulate private actions on private lands or confiscate private property as a result of critical habitat designation. Designation of critical habitat does not affect land ownership, or establish any closures, or restrictions on use of or access to the designated areas. Furthermore, the designation of critical habitat does not affect landowner actions that do not require Federal funding or permits, nor does it preclude development of habitat conservation programs or issuance of incidental take permits to permit actions that do require Federal funding or permits to go forward. However, Federal agencies are prohibited from carrying out, funding, or authorizing actions that would destroy or adversely modify critical habitat. A takings implications assessment has been completed for the proposed designation of critical habitat for the Mariana Islands species, and it concludes that, if adopted, this designation of critical habitat does not pose significant takings implications for lands within or affected by the designation.

Federalism—E.O. 13132

In accordance with E.O. 13132 (Federalism), this proposed rule does not have significant Federalism effects. A federalism summary impact statement is not required. In keeping with Department of the Interior policy, we requested information from and coordinated development of this proposed critical habitat designation with, appropriate State resource agencies. From a federalism perspective, the designation of critical habitat directly affects only the responsibilities of Federal agencies. The Act imposes no other duties with respect to critical habitat, either for States and local governments, or for anyone else. As a result, the proposed rule does not have substantial direct effects either on the States, or on the relationship between the Federal Government and the States, or on the distribution of powers and responsibilities among the various levels of government. The proposed designation may have some benefit to these governments because the areas that contain the features essential to the conservation of the species are more clearly defined, and the PBFs of the habitat necessary for the conservation of the species are specifically identified. This information does not alter where and what federally sponsored activities may occur. However, it may assist State and local governments in long-range planning because they no longer have to wait for case-by-case section 7 consultations to occur.

Where State and local governments require approval or authorization from a Federal agency for actions that may affect critical habitat, consultation under section 7(a)(2) of the Act would be required. While non-Federal entities that receive Federal funding, assistance, or permits, or that otherwise require approval or authorization from a Federal agency for an action, may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency.

Civil Justice Reform—E. O. 12988

In accordance with E.O. 12988 (Civil Justice Reform), the Office of the Solicitor has determined that the rule would not unduly burden the judicial system and that it meets the requirements of sections 3(a) and 3(b)(2) of the Order. We have proposed designating critical habitat in accordance with the provisions of the Act. To assist the public in understanding the habitat needs of the species, this proposed rule identifies the PBFs essential to the conservation of the species. The proposed areas of critical habitat are presented on maps, and the proposed rule provides several options for the interested public to obtain more detailed location information, if desired.

Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.)

This proposed rule does not contain information collection requirements, and a submission to the Office of Management and Budget (OMB) under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*) is not required. We may not conduct or sponsor and you are not required to respond to a collection of information unless it displays a currently valid OMB control number.

National Environmental Policy Act (42 U.S.C. 4321 et seq.)

Regulations adopted pursuant to section 4(a) of the Act are exempt from the National Environmental Policy Act (NEPA; 42 U.S.C. 4321 *et seq.*) and do not require an environmental analysis under NEPA. We published a notice outlining our reasons for this determination in the **FEDERAL REGISTER** on October 25, 1983 (48 FR 49244). This includes listing, delisting, and reclassification rules, as well as critical habitat designations. In a line of cases starting with *Douglas County* v. *Babbitt,* 48 F.3d 1495 (9th Cir. 1995), the courts have upheld this position. Also see Section 1.1(a)(6)(iii)(D) of 516 DM 1—U.S. Department of the Interior Handbook of National Environmental Policy Act Implementing Procedures.

Government-to-Government Relationship With Tribes

In accordance with the President's memorandum of April 29, 1994 (Government-to-Government Relations with Native American Tribal Governments; 59 FR 22951, May 4, 1994), E.O. 13175 (Consultation and Coordination with Indian Tribal Governments), the President's memorandum of November 30, 2022 (Uniform Standards for Tribal Consultation; 87 FR 74479, December 5,

2022), and the Department of the Interior's manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with federally recognized Tribes and Alaska Native Corporations on a government-to-government basis. In accordance with the Secretary's Order 3206 of June 5, 1997 (American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act), we readily acknowledge our responsibilities to work directly with Tribes in developing programs for healthy ecosystems, to acknowledge that Tribal lands are not subject to the same controls as Federal public lands, to remain sensitive to Indian culture, and to make information available to Tribes. We are also continuing to work closely with the indigenous community in CNMI and the Territory of Guam. We have determined that no Tribal lands fall within the boundaries of the proposed critical habitat for the Mariana Islands species, so no Tribal lands would be affected by the proposed designation.

References Cited

A complete list of references cited in this rulemaking is available on the internet at *https://www.regulations.gov* and upon request from the Pacific Islands Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**).

List of Subjects in 50 CFR part 17

Endangered and threatened species, Exports, Imports, Plants, Reporting and recordkeeping requirements, Transportation, Wildlife.

Proposed Regulation Promulgation

Accordingly, we propose to amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, as set forth below:

PART 17—ENDANGERED AND THREATENED WILDLIFE AND PLANTS

■ 1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361–1407; 1531–1544; and 4201–4245, unless otherwise noted.

■ 2. In § 17.11, in paragraph (h), amend the List of Endangered and Threatened Wildlife by:
■ a. Under MAMMALS, revising the entry for ''Bat, Pacific sheath-tailed (Mariana subspecies) (Payeyi, Paischeey)'';
■ b. Under REPTILES, revising the entry for ''Skink, Slevin's (Gualiik halumtanu, Gholuuf)'';
■ c. Under SNAILS, revising the entries for ''Snail, fragile tree (Akaleha dogas, Denden)'', ''Snail, Guam tree (Akaleha, Denden)'', ''Snail, humped tree (Akaleha, Denden)'', and ''Snail, Langford's tree (Akaleha, Denden)''; and
■ d. Under INSECTS, revising the entries for ''Butterfly, Mariana eight-spot (Ababbang, Libweibwogh)'', ''Butterfly, Mariana wandering (Ababbang, Libweibwogh)'', and ''Damselfly, Rota blue (Dulalas Luta, Dulalas Luuta)''.

The revisions read as follows:

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Common name	Scientific name	Where listed	Status	Listing citations and applicable rules
MAMMALS				
*	*	*	*	*
Bat, Pacific sheath-tailed (Mariana subspecies) (=payeye, payeyi, payesyes, payesyis, paischeey, fanihen ganas, fanihin ganas, payesyis).	*Emballonurasemicaudata rotensis*.	Wherever found	E	80 FR 59424, 10/1/2015; 50 CFR 17.95(a)[CH].
*	*	*	*	*
REPTILES				
*	*	*	*	*
Skink, Slevin's (=Marianas emoia, Mariana skink, gualiek halomtano, gholuuf, gualiik halumtanu, gholuuf).	*Emoia slevini*	Wherever found	E	80 FR 59424, 10/1/2015; 50 CFR 17.95(c)[CH].
*	*	*	*	*
SNAILS				
*	*	*	*	*
Snail, fragile tree (=dengdeng, dengding, akaleha, denden).	*Samoana fragilis*	Wherever found	E	80 FR 59424, 10/1/2015; 50 CFR 17.95(f)[CH].
Snail, Guam tree (=dengdeng, dengding, akaleha, denden).	*Partula radiolata*	Wherever found	E	80 FR 59424, 10/1/2015; 50 CFR 17.95(f)[CH].
Snail, humped tree (=dengdeng, dengding, akaleha, denden).	*Partula gibba*	Wherever found	E	80 FR 59424, 10/1/2015; 50 CFR 17.95(f)[CH].
*	*	*	*	*
Snail, Langford's tree (=dengdeng, dengding, akaleha, denden).	*Partula langfordi*	Wherever found	E	80 FR 59424, 10/1/2015; 50 CFR 17.95(f)[CH].

Common name	Scientific name	Where listed	Status	Listing citations and applicable rules
*	*	*	*	*
INSECTS				
*	*	*	*	*
Butterfly, Mariana eight-spot (=ababang, ababbang, libweibwogh).	*Hypolimnas octocula marianensis*.	Wherever found	E	80 FR 59424, 10/1/2015; 50 CFR 17.95(i)[CH].
Butterfly, Mariana wandering (=ababang, ababbang, libweibwogh).	*Vagrans egistina*	Wherever found	E	80 FR 59424, 10/1/2015; 50 CFR 17.95(i)[CH].
*	*	*	*	*
Damselfly, Rota blue (=dulalas luta).	*Ischnura luta*	Wherever found	E	80 FR 59424, 10/1/2015; 50 CFR 17.95(i)[CH].
*	*	*	*	*

■ 3. In § 17.12, paragraph (h), amend the List of Endangered and Threatened Plants by:

■ a. Under FLOWERING PLANTS, revising the entries for ''*Bulbophyllum guamense*'', ''*Dendrobium guamense*'', ''*Eugenia bryanii*'', ''*Hedyotis megalantha*'', ''*Heritiera longipetiolata*'', ''*Maesa walkeri*'', ''*Nervilia jacksoniae*'', ''*Phyllanthus saffordii*'', ''*Psychotria malaspinae*'', ''*Tabernaemontana rotensis*'', ''*Tinospora homosepala*'', and ''*Tuberolabium guamense*''; and

■ b. Under CONIFERS AND ALLIES, revising the entry for ''*Cycas micronesica*''.

These revisions read as follows:

§ 17.12 Endangered and threatened plants.

* * * * *

(h) * * *

Scientific name	Common name	Where listed	Status	Listing citations and applicable rules
FLOWERING PLANTS				
*	*	*	*	*
Bulbophyllum guamense	Wild onion (=siboyas halomtano, siboyas halumtanu, siboyan halomtano).	Wherever found	T	80 FR 59424, 10/1/2015; 50 CFR 17.96(a)[CH].
*	*	*	*	*
Dendrobium guamense	No common name	Wherever found	T	80 FR 59424, 10/1/2015; 50 CFR 17.96(a)[CH].
*	*	*	*	*
Eugenia bryanii	No common name	Wherever found	E	80 FR 59424, 10/1/2015; 50 CFR 17.96(a)[CH].
*	*	*	*	*
Hedyotis megalantha	Pao dedo, paodedu, pao doodu.	Wherever found	E	80 FR 59424, 10/1/2015; 50 CFR 17.96(a)[CH].
*	*	*	*	*
Heritiera longipetiolata	Ufa halomtano, ufa halumtanu, ufa halomtano.	Wherever found	E	80 FR 59424, 10/1/2015; 50 CFR 17.96(a)[CH].
*	*	*	*	*
Maesa walkeri	No common name	Wherever found	T	80 FR 59424, 10/1/2015; 50 CFR 17.96(a)[CH].
*	*	*	*	*
Nervilia jacksoniae	No common name	Wherever found	T	80 FR 59424, 10/1/2015; 50 CFR 17.96(a)[CH].
*	*	*	*	*
Phyllanthus saffordii	Maigo lalo	Wherever found	E	80 FR 59424, 10/1/2015; 50 CFR 17.96(a)[CH].

Scientific name	Common name	Where listed	Status	Listing citations and applicable rules
* *	*	*	*	* *
Psychotria malaspinae	Aplohkateng palaoan, applok hatting palaoan, aplokkating palaoan.	Wherever found	E	80 FR 59424, 10/1/2015; 50 CFR 17.96(a)[CH].
* *	*	*	*	* *
Tabernaemontana ..... *rotensis*	No common name	Wherever found	T	80 FR 59424, 10/1/2015; 50 CFR 17.96(a)[CH].
* *	*	*	*	* *
Tinospora homosepala	No common name	Wherever found	E	80 FR 59424, 10/1/2015; 50 CFR 17.96(a)[CH].
* *	*	*	*	* *
Tuberolabium guamense	No common name	Wherever found	T	80 FR 59424, 10/1/2015; 50 CFR 17.96(a)[CH].
* *	*	*	*	* *
CONIFERS AND ALLIES				
* *	*	*	*	* *
Cycas micronesica	Fadang, faadang	Wherever found	T	80 FR 59424, 10/1/2015; 50 CFR 17.96(b)[CH].
* *	*	*	*	* *

■ 4. Amend § 17.95 by:
■ a. In paragraph (a), adding an entry for ''Pacific Sheath-Tailed Bat (*Emballonura semicaudata rotensis*)'' after the entry for ''Mariana Fruit Bat *(Pteropus mariannus mariannus)*'';
■ b. In paragraph (c), adding an entry for ''Slevin's Skink (*Emoia slevini*)'' after the entry for ''Leatherback Sea Turtle (*Dermochelys coriacea*)'';
■ c. In paragraph (f), adding entries for ''Fragile Tree Snail (*Samoana fragilis*)'', ''Guam Tree Snail (*Partula radiolata*)'', ''Humped Tree Snail (*Partula gibba*)'', and ''Langford's Tree Snail (*Partula langfordi*)'' after the entry for ''Interrupted Rocksnail (*Leptoxis foremani*)''; and
■ d. In paragraph (i), adding entries for:
■ i. ''Mariana Eight-Spot Butterfly (*Hypolimnas octocula marianensis*)'' and ''Mariana Wandering Butterfly (*Vagrans egistina*)'' after the entry for ''Island Marble Butterfly (*Euchloe ausonides insulanus*)''; and
■ ii. ''Rota Blue Damselfly (*Ischnura luta*)'' after the entry for ''Pacific Hawaiian Damselfly (*Megalagrion pacificum*)''.

These additions read as follows:

§ 17.95 Critical habitat—fish and wildlife.

(a) *Mammals.*

* * * * *

Pacific Sheath-Tailed Bat (*Emballonura semicaudata rotensis*)

(1) Critical habitat units are depicted for Aguiguan and Rota within the Commonwealth of the Northern Mariana Islands, on the maps in this entry.

(2) Within these areas, the physical or biological features essential to the conservation of the Pacific sheath-tailed bat (for the occupied unit) and for the conservation of the species (for the unoccupied unit) consist of the following components:

(i) Limestone caves, lava tubes, overhanging cliffs, and crevasses for roosting.

(ii) Intact, contiguous forests near and surrounding suitable roosting sites.

(iii) Prey insects such as ants, bees, wasps (Hymenoptera), moths (Lepidoptera), and beetles (Coleoptera) and vegetation to support them.

(3) Critical habitat does not include manmade structures (such as buildings or paved areas including aqueducts, runways, or roads) and the land on which they are located existing within the legal boundaries on the effective date of the final rule.

(4) Data layers defining map units were created using survey and distribution data provided by multiple local and regional sources as available (*e.g.,* reports, databases, and species experts' knowledge) and as maintained by universities, local governments, and nonprofit organizations across the Mariana Islands. Landcover data (*e.g.,* soil substrate, vegetation, and elevation) were obtained and compiled from multiple Federal and local government agencies. Temperature and precipitation data were obtained and compiled from journal publications. Landforms were primarily delineated based on the most currently available aerial maps and satellite imagery. The maps in this entry, as supplemented by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site at *https://www.fws.gov/project/critical-habitat-mariana-islands,* at *https://www.regulations.gov* at Docket No. FWS–R1–ES–2024–0194, and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) The index map shows the general locations of critical habitat units designated on each island, with each location/area on each island identified as a specific number.

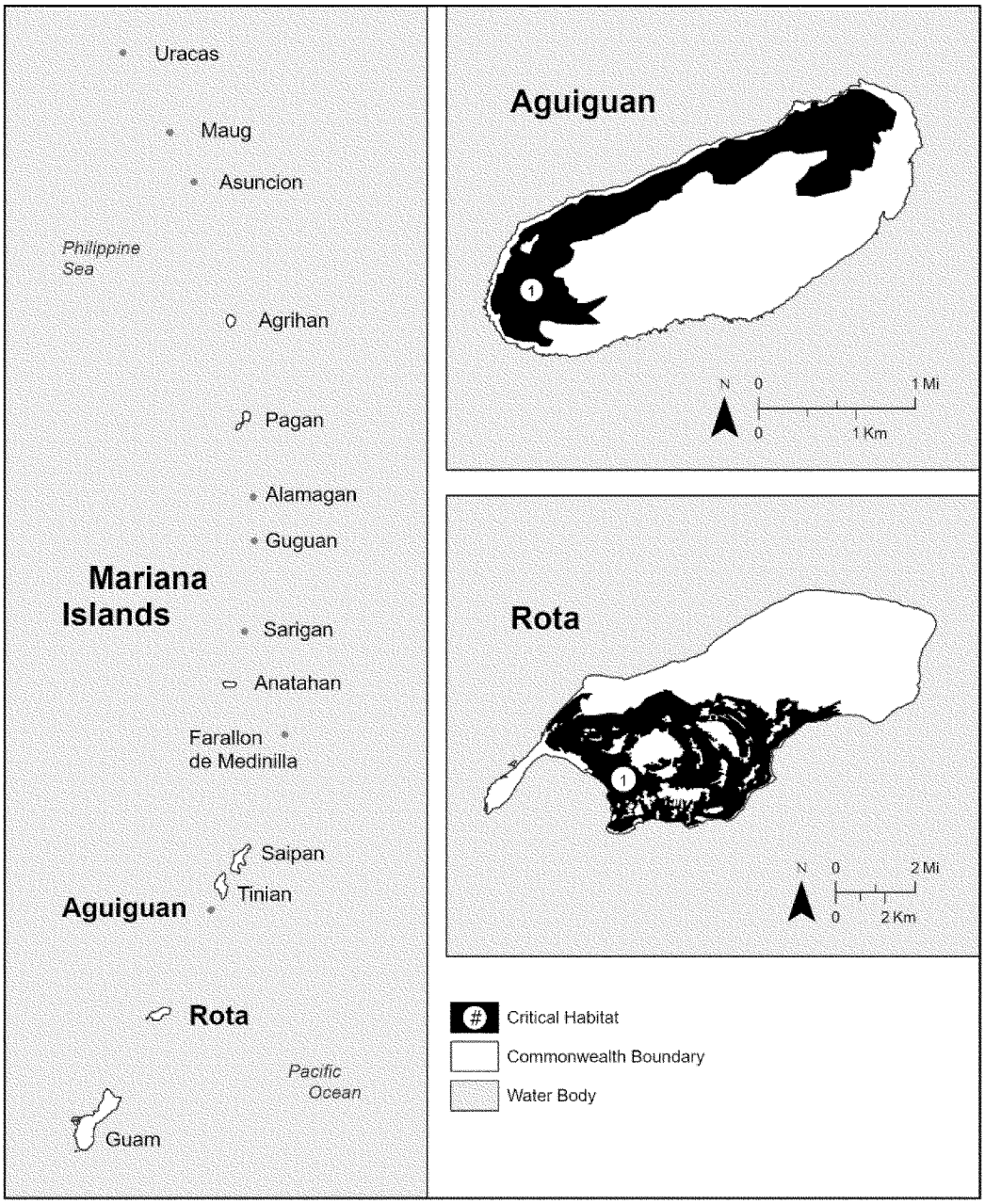
(i) Each critical habitat unit name comprises the species name, a numeral digit, and an island name. The numeral digit within a unit name corresponds with the number of critical habitat units present on a given island (*i.e.,* each island map with the species present has a unit number 1).

(ii) Index map follows:

BILLING CODE 4333–15–P

Figure 1 to the Pacific Sheath-Tailed Bat (*Emballonura semicaudata rotensis*) paragraph (5)(ii)

Critical Habitat for Pacific Sheath-tailed Bat (*Emballonura semicaudata rotensis*)
Index Map for the Islands of Aguiguan and Rota,
Commonwealth of the Northern Mariana Islands



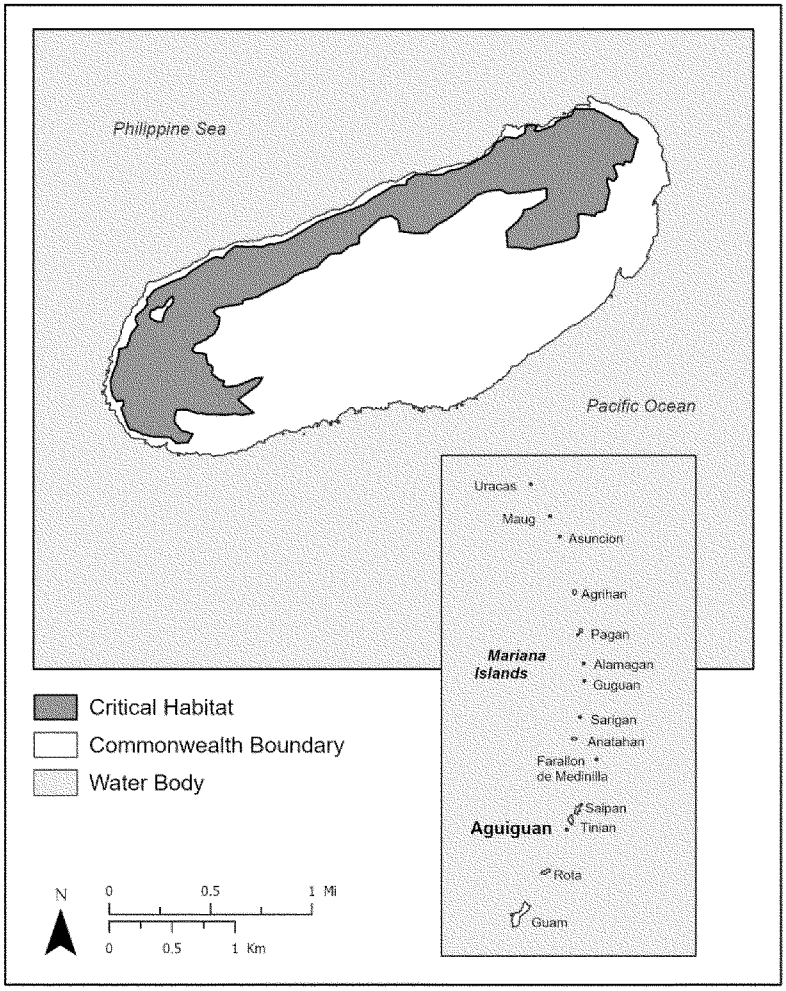
(6) Pacific Sheath-Tailed Bat–1, Aguiguan; Commonwealth of the Northern Mariana Islands.

(i) This unit consists of 589 ac (238 ha) on the uninhabited island of Aguiguan (also known as Goat Island or Aguijan). The unit includes limestones caves and secondary forests extending from the northeastern to the northwestern side of the island. All lands are owned by the Commonwealth government.

(ii) Map of Pacific Sheath-Tailed Bat–1, Aguiguan, follows:

Figure 2 to Pacific Sheath-Tailed Bat (*Emballonura semicaudata rotensis*) paragraph (6)(ii)

Critical Habitat for Pacific Sheath-tailed Bat (*Emballonura semicaudata rotensis*)
Pacific Sheath-tailed Bat–1, Aguiguan
Commonwealth of the Northern Mariana Islands



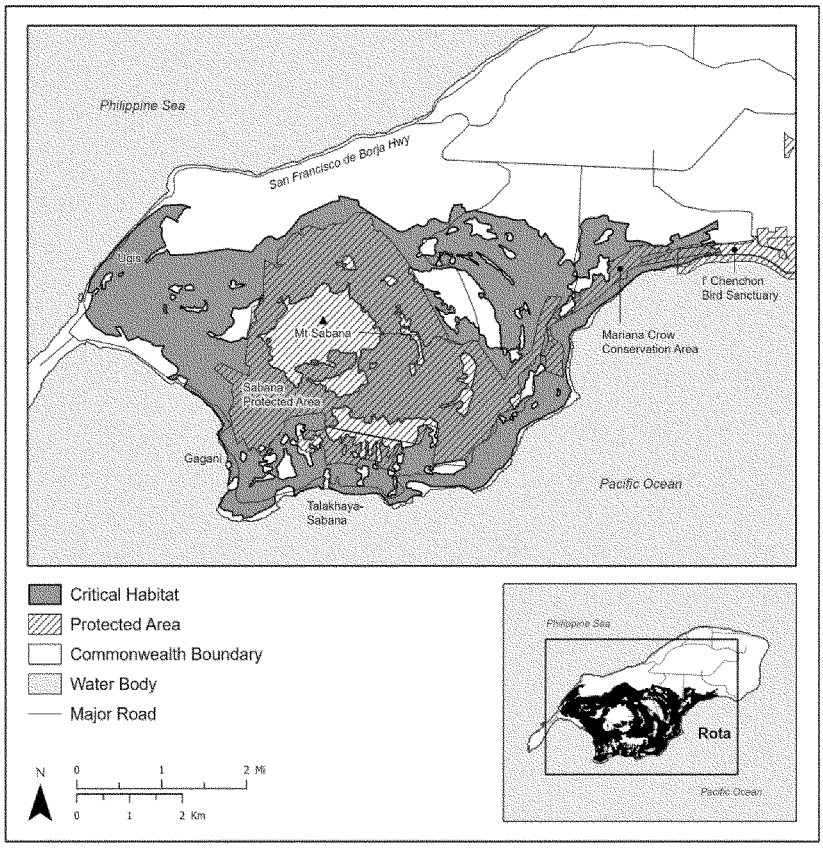
(7) Pacific Sheath-Tailed Bat–1, Rota; Commonwealth of the Northern Mariana Islands.

(i) This unit consists of 7,633 ac (3,089 ha) of limestone and secondary forested lands with limestone caves on the island of Rota. The unit is located on the southern section of Rota extending west towards I'Chenchon Bird Sanctuary, east towards Ugis, and south into the southern boundaries of the Talakhaya watershed, with the exception of developed areas, grasslands, and Mount Sabana. Landownership includes 6,178 ac (2,500 ha) of the Commonwealth government, 1,418 ac (574 ha) in private ownership, and 36 ac (15 ha) that are uncategorized. The southern portion of this unit overlaps the Talakhaya Conservation Area, the central portion overlaps the Sabana Protected Area, and the northeastern tip overlaps the western end of the I'Chenchon Bird Sanctuary Conservation Area.

(ii) Map of Pacific Sheath-Tailed Bat–1, Rota, follows:

Figure 3 to Pacific Sheath-Tailed Bat (*Emballonura semicaudata rotensis*) paragraph (7)(ii)

Critical Habitat for Pacific Sheath-tailed Bat (*Emballonura semicaudata rotensis*)
Pacific Sheath-tailed Bat–1, Rota
Commonwealth of the Northern Mariana Islands



* * * * *

(c) *Reptiles.*

* * * * *

Slevin's Skink (*Emoia slevini*)

(1) Critical habitat units are depicted for Alamagan, Asuncion, Pagan, and Sarigan within the Commonwealth of the Northern Mariana Islands, and Cocos Island within the Territory of Guam on the maps in this entry.

(2) Within these areas, the physical or biological features essential to the conservation of Slevin's skink consist of the following components:

(i) Forests such as native limestone forests, volcanic forests, mixed-nonnative forests, or *Casuarina equisetifolia* (gagu, gago, weighu, beach sheoak, or common ironwood) and *Cocos nucifera* (niyok, coconut) dominant forests.

(ii) Forest understory and leaf litter and debris.

(iii) Invertebrate prey and vegetation to support them.

(3) Critical habitat does not include manmade structures (such as buildings or paved areas including aqueducts, runways, or roads) and the land on which they are located existing within the legal boundaries on the effective date of the final rule.

(4) Data layers defining map units were created using survey and distribution data provided by multiple local and regional sources as available (*e.g.,* reports, databases, and species experts' knowledge) and as maintained by universities, local governments, and nonprofit organizations across the Mariana Islands. Landcover data (*e.g.,* soil substrate, vegetation, and elevation) were obtained and compiled from multiple Federal and local government agencies. Temperature and precipitation data were obtained and compiled from journal publications. Landforms were primarily delineated based on the most currently available aerial maps and satellite imagery. The maps in this entry, as supplemented by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site at *https://www.fws.gov/project/critical-habitat-mariana-islands,* at *https://www.regulations.gov* at Docket No. FWS–R1–ES–2024–0194, and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

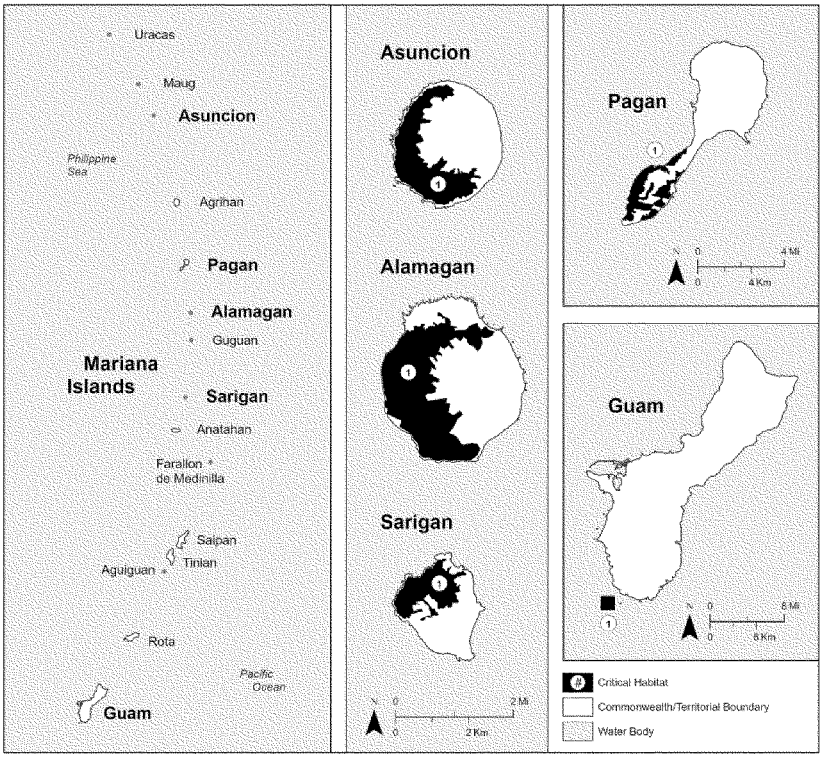
(5) The index map shows the general locations of critical habitat units designated on five islands, with each location/area on each island identified as a specific number.

(i) Each critical habitat unit name comprises the species name, a numeral digit, and an island name. The numeral digit within a unit name corresponds with the number of critical habitat units present on a given island. Therefore, each island map with the species present has a Unit 1, with a single unit on each island totaling five units for this species.

(ii) Index map follows:

Figure 1 to the Slevin's Skink (*Emoia slevini*) paragraph (5)(ii)

Critical Habitat for Slevin's Skink (*Emoia slevini*)
Index Map for the Islands of Asuncion, Pagan, Alamagan, and Sarigan, Commonwealth of the Northern Mariana Islands; and Cocos Island, Territory of Guam

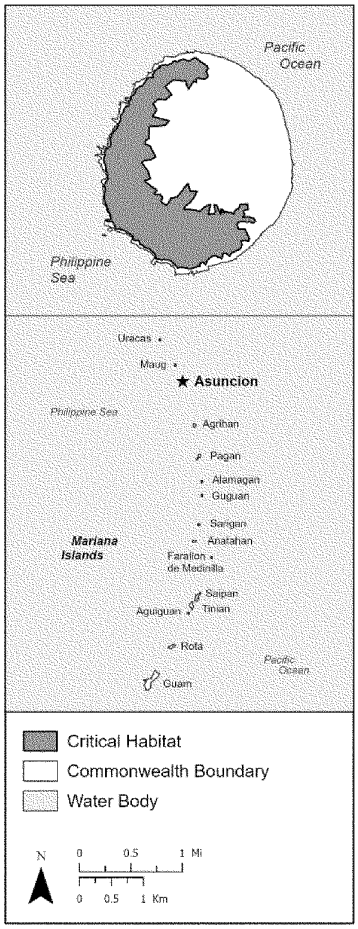


(6) Slevin's Skink–1, Asuncion; Commonwealth of the Northern Mariana Islands.

(i) This unit consists of 750 ac (304 ha) of secondary forests on the island of Asuncion (an uninhabited volcano). The unit extends from the north to the south along the western side of the island. All lands are owned by the Commonwealth government.

(ii) Map of Slevin's Skink–1, Asuncion, follows:

Figure 2 to Slevin's Skink (*Emoia slevini*) paragraph (6)(ii)



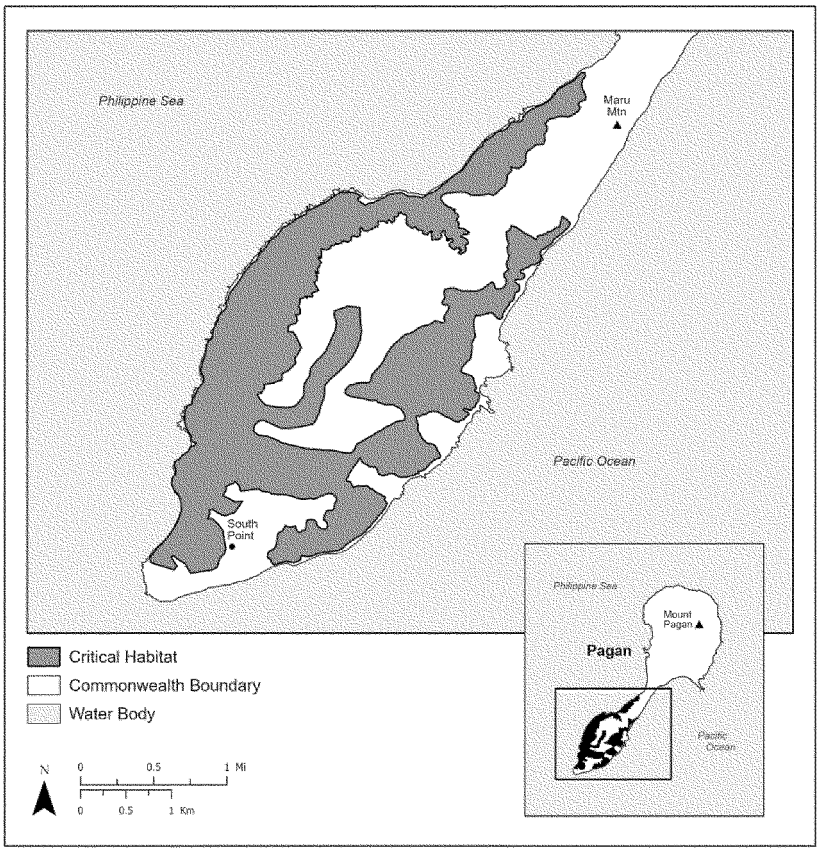
(7) Slevin's Skink–1, Pagan; Commonwealth of the Northern Mariana Islands.

(i) This unit consists of 1,846 ac (747 ha) of secondary forests from the isthmus to the southern portion of Pagan. The unit extends from the South Point up towards the land bridge connecting the southern and northern sections of Pagan. All lands are owned by the Commonwealth government.

(ii) Map of Slevin's Skink–1, Pagan, follows:

Figure 3 to Slevin's Skink (*Emoia slevini*) paragraph (7)(ii)

Critical Habitat for Slevin's Skink (*Emoia slevini*)
Slevin's Skink–1, Pagan
Commonwealth of the Northern Mariana Islands



(8) Slevin's Skink–1, Alamagan; Commonwealth of the Northern Mariana Islands.

(i) This unit consists of 1,420 ac (574 ha) of secondary forests on the island of Alamagan (an uninhabited volcano), extending roughly along the northern, the entire western, and the southern slopes of the volcano. All lands are owned by the Commonwealth government.

(ii) Map of Slevin's Skink–1, Alamagan, follows:

Figure 4 to Slevin's Skink (*Emoia slevini*) paragraph (8)(ii)

Critical Habitat for Slevin's Skink
(*Emoia slevini*)
Slevin's Skink–1, Alamagan
Commonwealth of the
Northern Mariana Islands

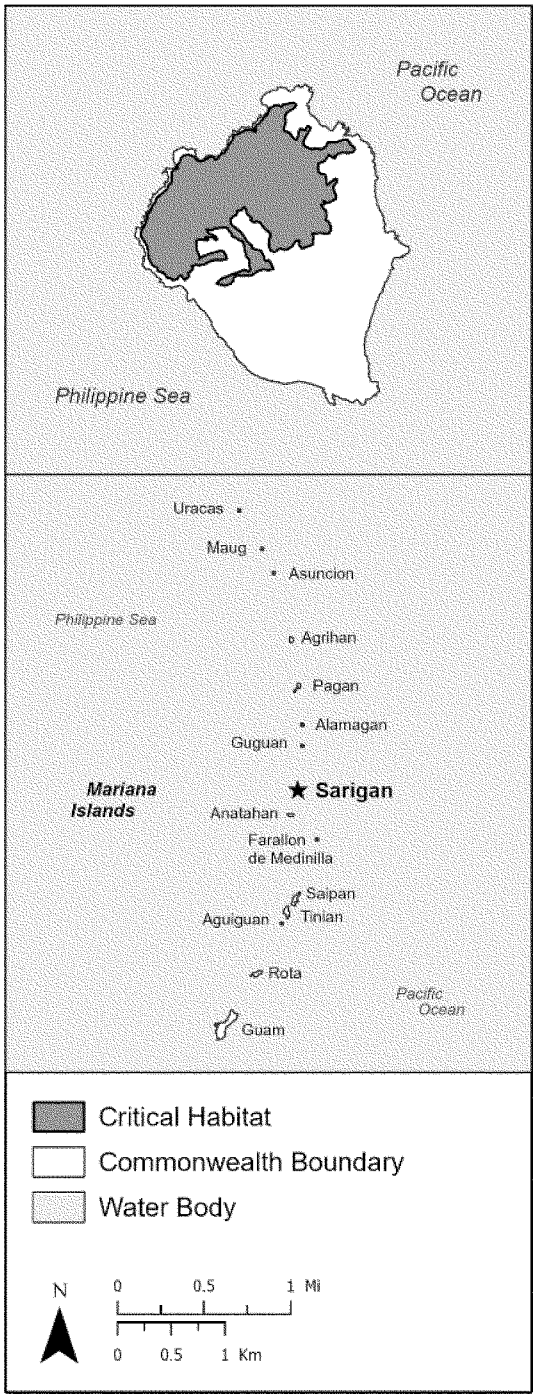
(9) Slevin's Skink–1, Sarigan; Commonwealth of the Northern Mariana Islands.

(i) This unit consists of 402 ac (163 ha) of secondary forests on the island of Sarigan, an uninhabited island due to volcanic activity. The unit extends from the northeastern side to the northwestern side of the island. All lands are owned by the Commonwealth government.

(ii) Map of Slevin's Skink–1, Sarigan, follows:

Figure 5 to Slevin's Skink (*Emoia slevini*) paragraph (9)(ii)

Critical Habitat for Slevin's Skink
(*Emoia slevini*)
Slevin's Skink–1, Sarigan
Commonwealth of the
Northern Mariana Islands



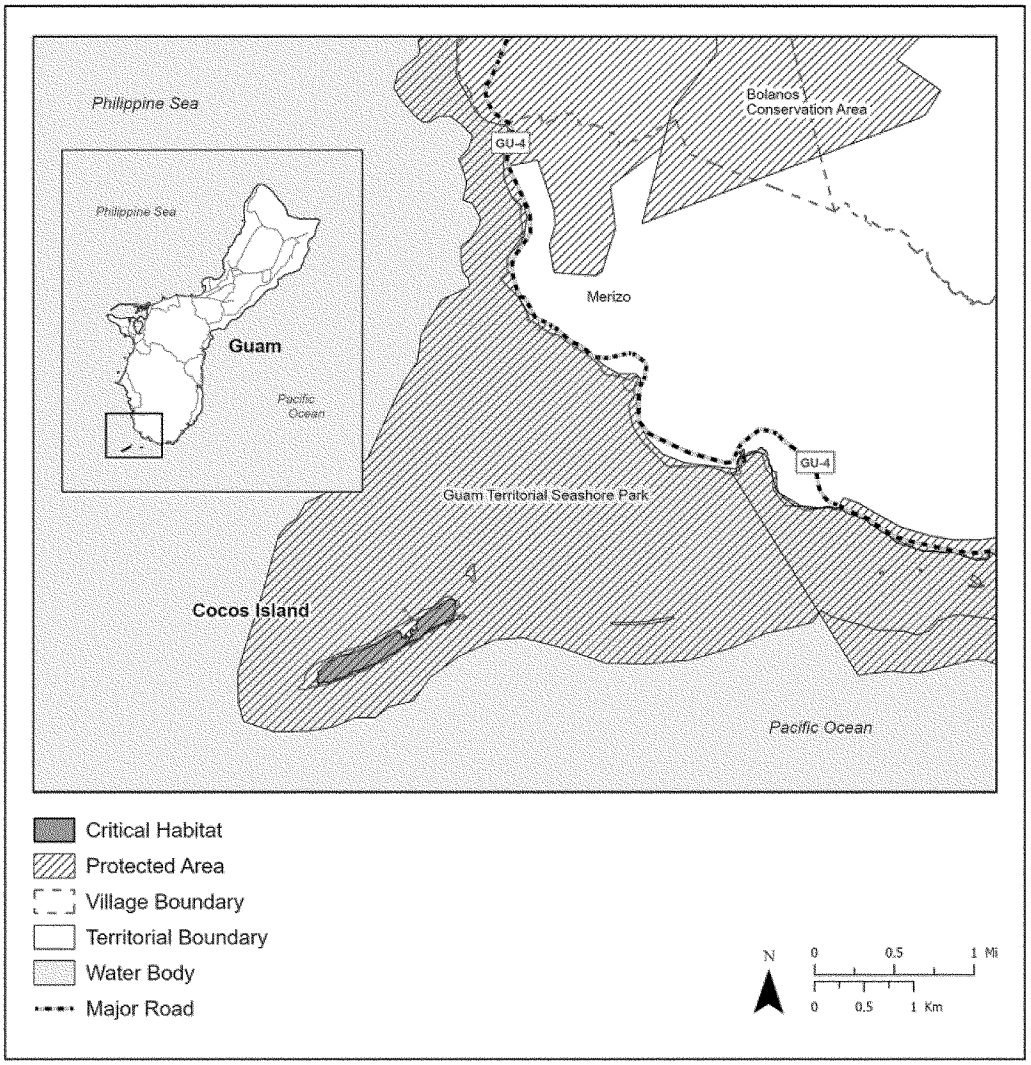
(10) Slevin's Skink–1, Guam; Cocos Island, Territory of Guam.

(i) This unit consists of 63 ac (25 ha) of secondary forests on Cocos Island, which is an island off the southern end of Guam. The unit extends across the majority of the island with the exception of developed areas and bare rock along the coastline and includes 30 ac (12 ha) under private ownership and 33 ac (13 ha) that are uncategorized. The island resides within the jurisdiction of the Guam Territorial Seashore Park.

(ii) Map of Slevin's Skink–1, Guam, follows:

Figure 6 to Slevin's Skink (*Emoia slevini*) paragraph (10)(ii)

Critical Habitat for Slevin's Skink (*Emoia slevini*)
Slevin's Skink–1, Cocos Island
Territory of Guam



* * * * *

(f) *Clams and snails.*

* * * * *

Fragile Tree Snail (*Samoana fragilis*)

(1) Critical habitat units are depicted for Rota within the Commonwealth of the Northern Mariana Islands and Guam within the Territory of Guam, on the maps in this entry.

(2) Within these areas, the physical or biological features essential to the conservation of the fragile tree snail consist of the following components:

(i) Contiguous closed-canopy limestone, volcanic, riverine, riparian, ravine, or secondary/mixed forests, or backstrand beach vegetation, providing relatively stable climatic conditions such as shade, moisture, high humidity, and low air movement.

(ii) Dense mid-canopy vegetation such as large leaves, branches, vines, or other structures.

(iii) Understory such as ground cover composed of short herbs, shrubs, ferns, or small trees.

(iv) Food sources such as dead and decaying plant material, leaf litter, and tree debris.

(3) Critical habitat does not include manmade structures (such as buildings or paved areas including aqueducts, runways, or roads) and the land on which they are located existing within the legal boundaries on the effective date of the final rule.

(4) Data layers defining map units were created using survey and distribution data provided by multiple local and regional sources as available (*e.g.,* reports, databases, and species experts' knowledge) and as maintained by universities, local governments, and nonprofit organizations across the Mariana Islands. Landcover data (*e.g.,* soil substrate, vegetation, and elevation) were obtained and compiled from multiple Federal and local government agencies. Temperature and precipitation data were obtained and compiled from journal publications. Landforms were primarily delineated based on the most currently available aerial maps and satellite imagery. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site at *https://www.fws.gov/project/critical-habitat-mariana-islands,* at *https://www.regulations.gov* at Docket No. FWS–R1–ES–2024–0194, and at the field office responsible for this

designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

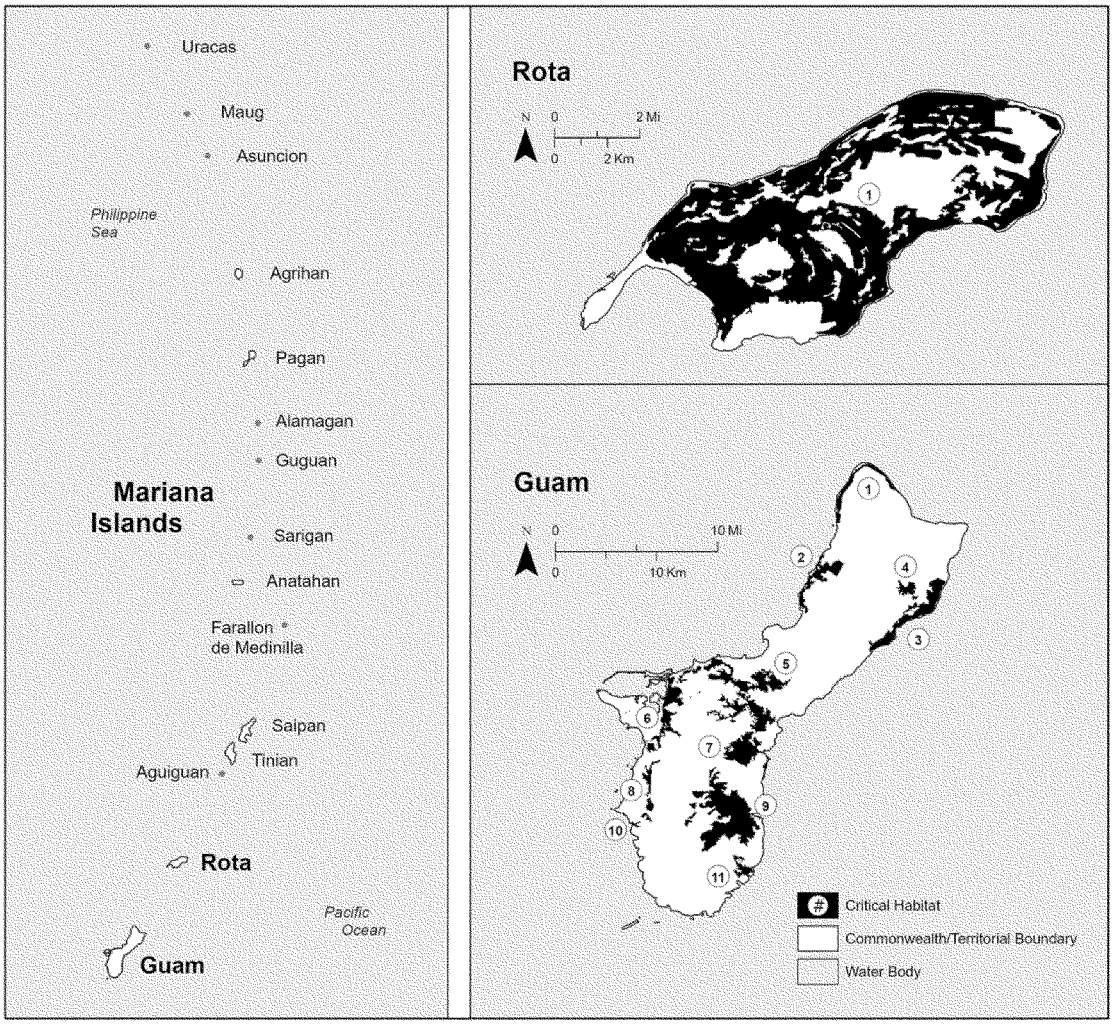
(5) The following index map shows the general locations of critical habitat units designated on two islands, with each location/area on each island identified as a specific number.

(i) Each critical habitat unit name comprises the species name, a numeral digit, and an island name. The numeral digit within a unit name corresponds with the number of the critical habitat unit on a given island. Therefore, each island map with the species present has a Unit 1, with unit numbers for the island of Guam ranging from 1 to 11 units, and a total of 12 units across both islands for this species.

(ii) Index map follows:

Figure 1 to the Fragile Tree Snail (*Samoana fragilis*) paragraph (5)

Critical Habitat for Fragile Tree Snail (*Samoana fragilis*)
Index Map for the Island of Rota, Commonwealth of the Northern Mariana Islands and the Island of Guam, Territory of Guam



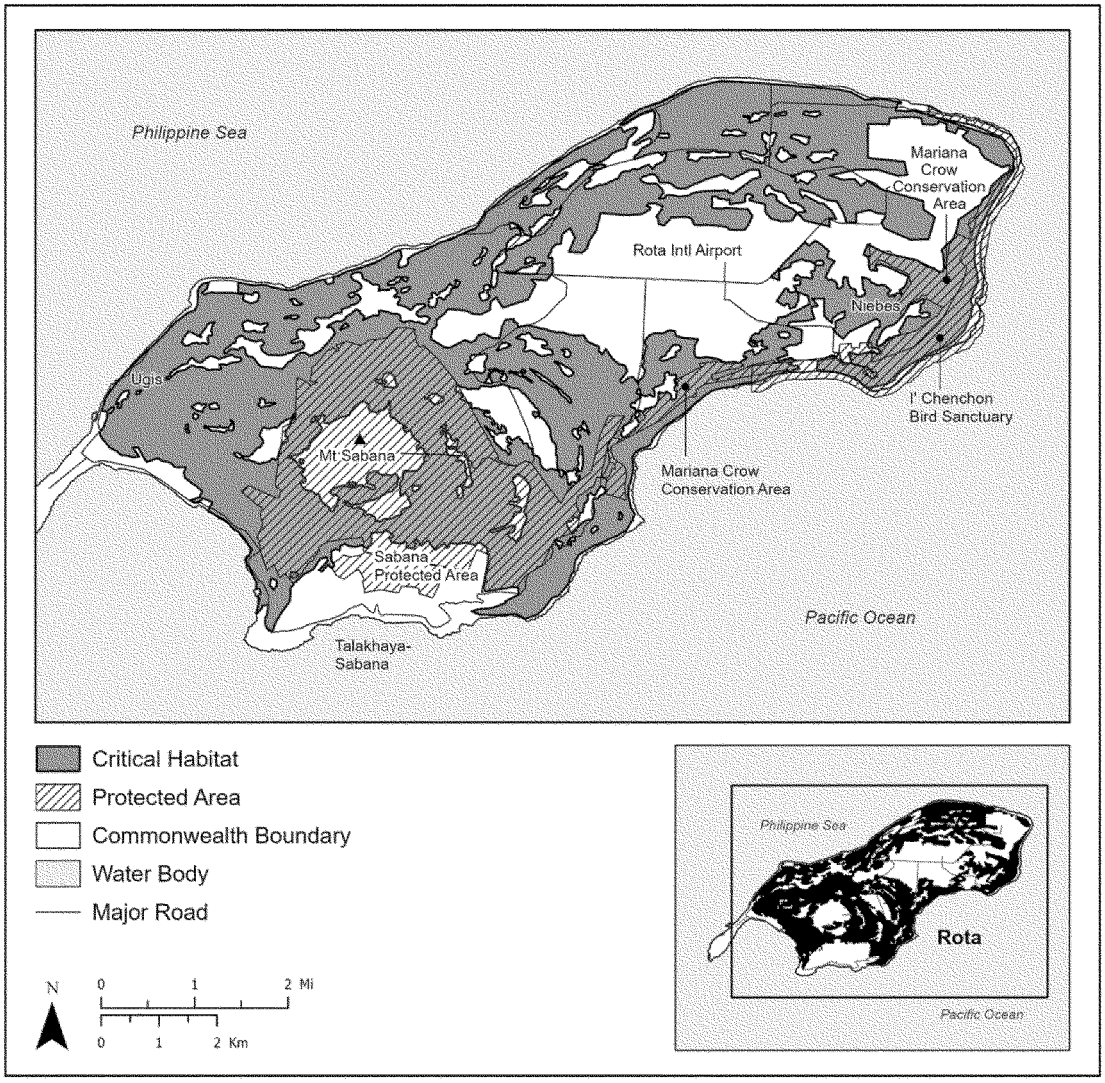
(6) Fragile Tree Snail–1, Rota; Commonwealth of the Northern Mariana Islands.

(i) This single critical habitat unit on the island of Rota consists of 12,282 ac (4,970 ha) and is composed of forested lands across the majority of the island with the exception of developed areas, Mount Sabana, and the watersheds at the southern end. Landownership includes 9,294 ac (3,761 ha) of the Commonwealth government, 2,954 ac (1,195 ha) in private ownership, and 34 ac (14 ha) that are uncategorized. The northeastern coastal portion of the unit overlaps the I'Chenchon Bird Sanctuary Conservation Area, and the southcentral area overlaps the Sabana Protected Area.

(ii) Map of Fragile Tree Snail–1, Rota, follows:

Figure 2 to Fragile Tree Snail (*Samoana fragilis*) paragraph (6)(ii)

Critical Habitat for Fragile Tree Snail (*Samoana fragilis*)
Fragile Tree Snail–1, Rota
Commonwealth of the Northern Mariana Islands



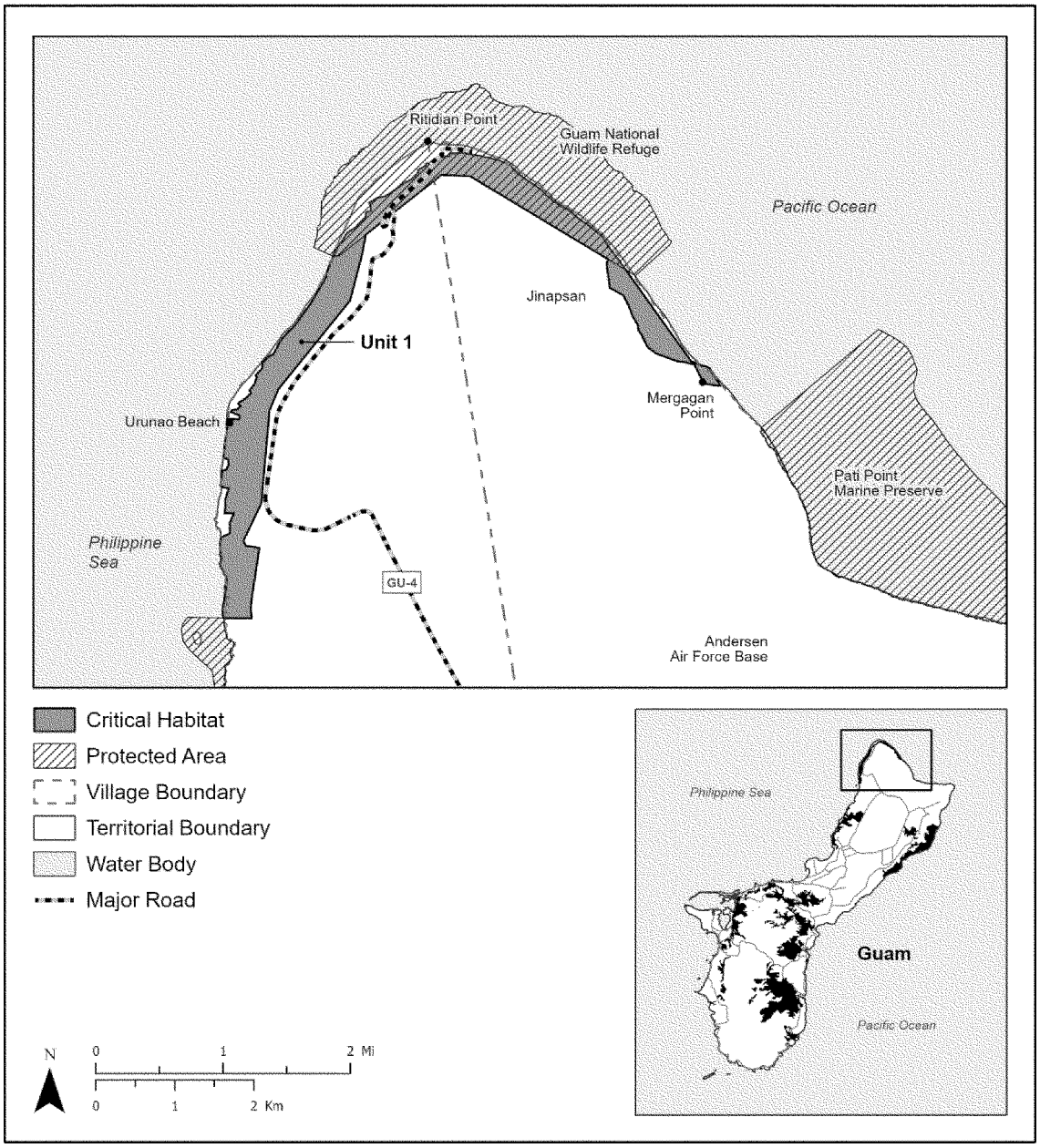
(7) Fragile Tree Snail–1, Guam; Territory of Guam.

(i) Unit 1 on the Island of Guam consists of 856 ac (346 ha) and is composed of a band of secondary limestone forest in a horseshoe-shape on the northwestern point of Guam (Ritidian Point). The unit extends from the southwestern boundary south of Urunao Beach and runs north along the cliffline towards Jinapsan ending at Mergagan Point. Landownership includes 262 ac (106 ha) of Federal ownership (Guam NWR), 68 ac (27 ha) of Territory government land, 408 ac (165 ha) in private ownership, and 118 ac (48 ha) that are uncategorized.

(ii) Map of Fragile Tree Snail–1, Guam, follows:

Figure 3 to Fragile Tree Snail (*Samoana fragilis*) paragraph (7)(ii)

Critical Habitat for Fragile Tree Snail *(Samoana fragilis)*
Fragile Tree Snail–1, Guam
Territory of Guam



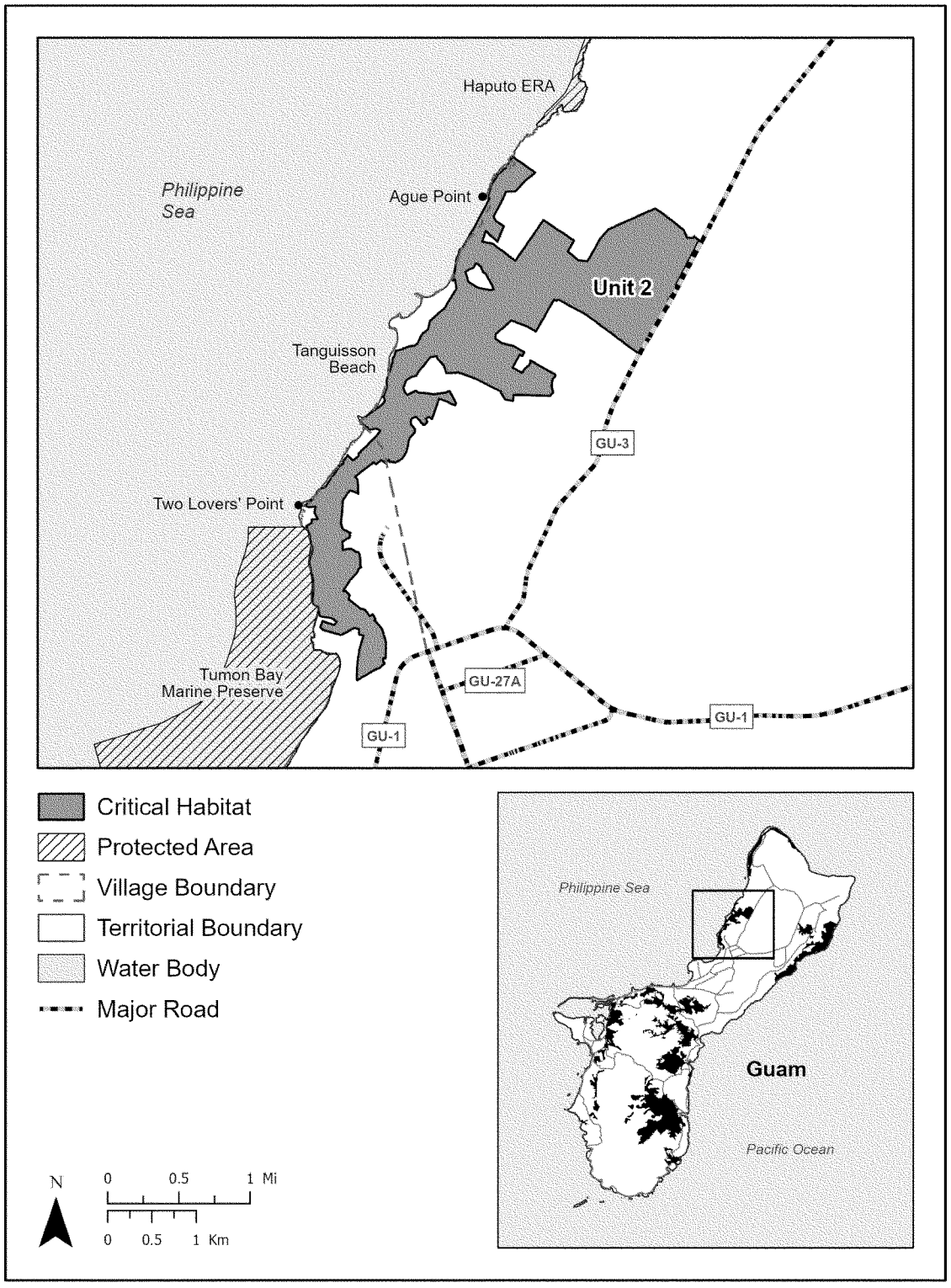
(8) Fragile Tree Snail–2, Guam; Territory of Guam.

(i) Unit 2 on the Island of Guam consists of 1,245 ac (504 ha) and is composed of limestone forests along the northwestern edge of the island. The unit lies west of Route 3 and extends from the clifflines overlooking Tumon Bay west of Route 1 and runs north to Ague Point. Landownership includes 1,081 ac (437 ha) of Territory government land, 108 ac (44 ha) in private ownership, and 56 ac (23 ha) that are uncategorized.

(ii) Map of Fragile Tree Snail–2, Guam, follows:

Figure 4 to Fragile Tree Snail (*Samoana fragilis*) paragraph (8)(ii)

Critical Habitat for Fragile Tree Snail *(Samoana fragilis)*
Fragile Tree Snail–2, Guam
Territory of Guam



(9) Fragile Tree Snail–3, Guam; Territory of Guam.

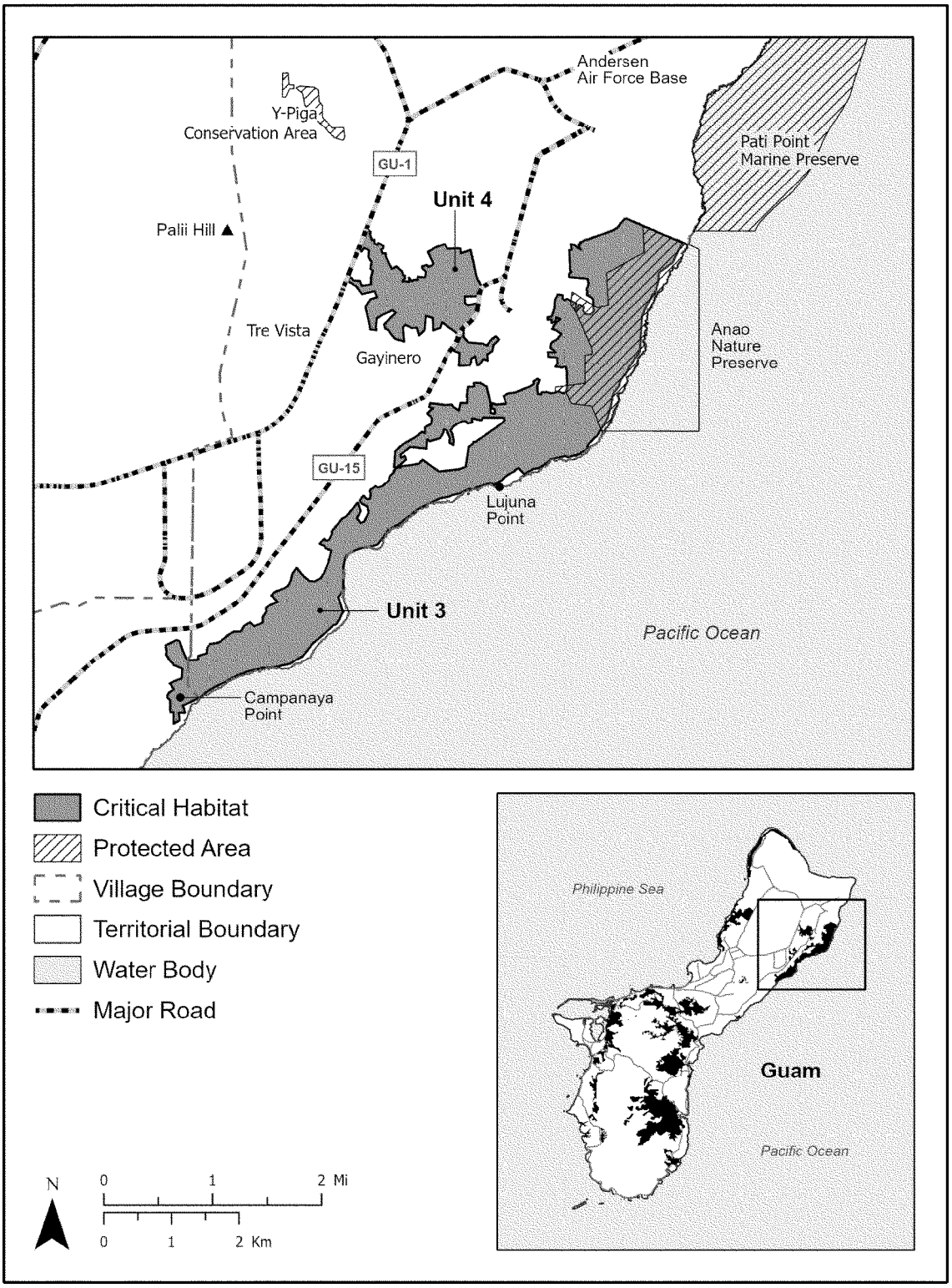
(i) Unit 3 on the Island of Guam consists of 2,166 ac (877 ha) and is composed of limestone forests along the northeast coastal edge of the island. The unit begins at the boundary of the Anao Nature Preserve (which is immediately adjacent to the southern end of the Guam NWR boundary) and extends

southwest along the coast to Campanaya Point. Landownership includes 1,549 ac (627 ha) of Territory government land, 270 ac (109 ha) in private ownership, and 347 ac (141 ha) that are uncategorized. The northeastern portion of this unit overlaps the Anao Nature Preserve.

(ii) Map of Fragile Tree Snail–3, Guam, follows:

Figure 5 to Fragile Tree Snail (*Samoana fragilis*) paragraph (9)(ii)

Critical Habitat for Fragile Tree Snail *(Samoana fragilis)*
Fragile Tree Snail–3, Guam
Fragile Tree Snail–4, Guam
Territory of Guam



(10) Fragile Tree Snail–4, Guam; Territory of Guam.

(i) Unit 4 on the Island of Guam consists of 445 ac (180 ha) and is composed of secondary forests in northeastern Guam. The unit is east of

Route 1 to Route 15 in the Gayinero area, ending east of Route 15. Landownership includes 361 ac (146 ha) in private ownership and 84 ac (34 ha) that are uncategorized.

(ii) Map of Fragile Tree Snail–4, Guam, is provided at paragraph (9)(ii) of this entry.

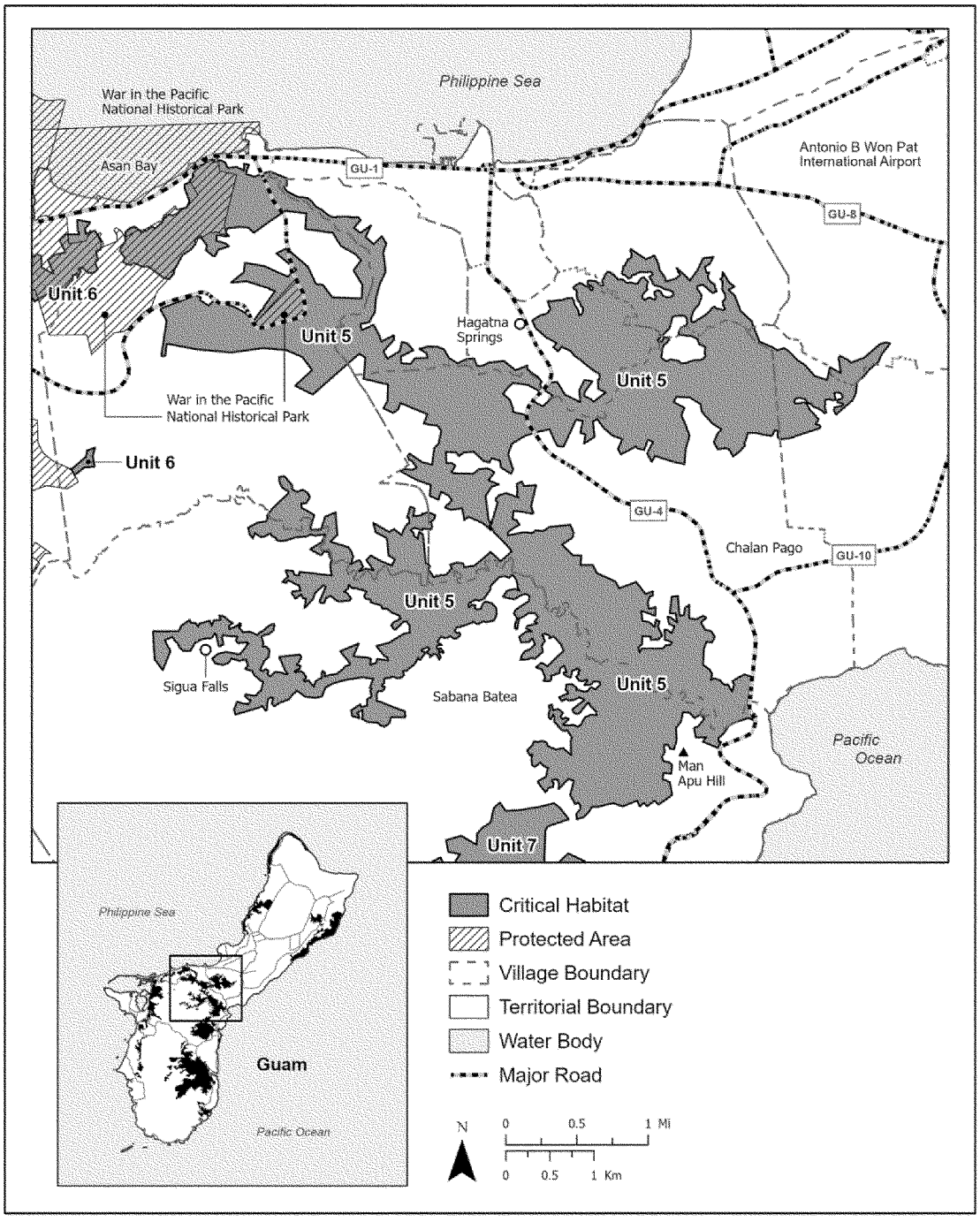
(11) Fragile Tree Snail–5, Guam; Territory of Guam.

(i) Unit 5 on the island of Guam consists of 4,313 ac (1,745 ha) and is composed of secondary forests extending in elongated patches spread across the central portion of the island on both the east and west sides of Route 4, north to Asan Bay, west to Sigua Falls, and southeast to Man Apu Hill. Landownership includes 210 ac (85 ha) of Federal lands, 1,954 ac (791 ha) in private ownership, and 2,149 ac (869 ha) that are uncategorized. The unit overlaps portions of the Fonte Plateau Unit and the Asan Inland Unit of War in the Pacific National Historical Park.

(ii) Map of Fragile Tree Snail–5, Guam, follows:

Figure 6 to Fragile Tree Snail (*Samoana fragilis*) paragraph (11)(ii)

Critical Habitat for Fragile Tree Snail (*Samoana fragilis*)
Fragile Tree Snail–5, Guam
Territory of Guam



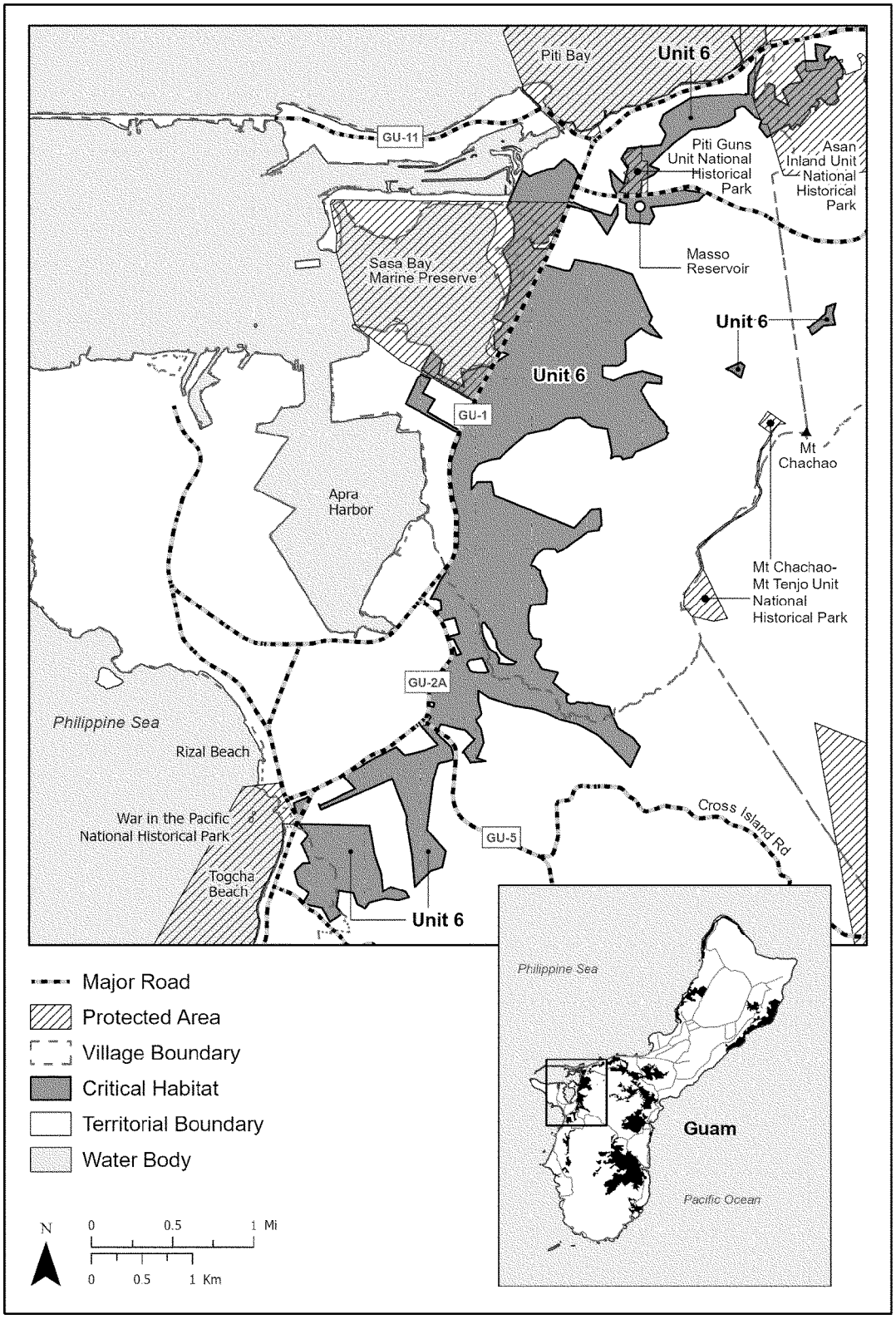
(12) Fragile Tree Snail–6, Guam; Territory of Guam.

(i) Unit 6 on the island of Guam consists of 1,965 ac (795 ha) within six segments and is composed of secondary forests in the westernmost region of the island. The unit roughly extends within portions of the Asan Inland and Piti Guns Units of the War in the Pacific National Historical Park, along Route 1 (GU–1) south to Guam NWR lands, extending inland from Route 2A to east of Togcha Beach. Landownership includes 102 ac (41 ha) of Federal lands, 756 ac (306 ha) in private ownership, and 1,107 ac (448 ha) that are uncategorized. This unit overlaps portions of Asan Inland and Piti Guns Units of the War in the Pacific National Historical Park, Sasa Bay Marine Preserve, and Guam NWR.

(ii) Map of Fragile Tree Snail–6, Guam, follows:

Figure 7 to Fragile Tree Snail (*Samoana fragilis*) paragraph (12)(ii)

Critical Habitat for Fragile Tree Snail *(Samoana fragilis)*
Fragile Tree Snail–6, Guam
Territory of Guam



(13) Fragile Tree Snail–7, Guam; Territory of Guam.

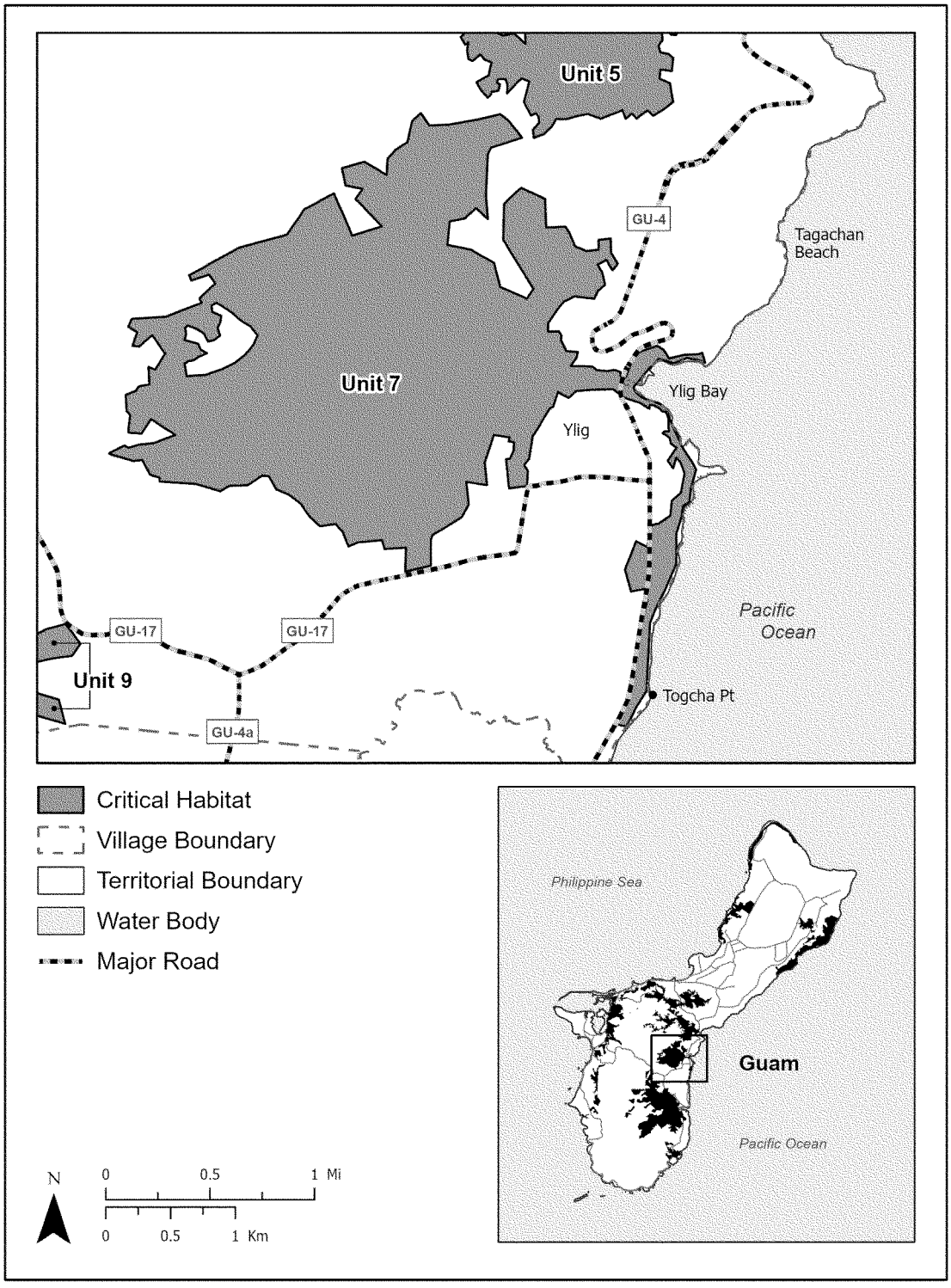
(i) Unit 7 on the island of Guam consists of 1,863 ac (754 ha) and is composed of secondary forests on the southeast side of the island. The

majority of the unit extends west of Routes 4 and 17 surrounding the Ylig River. Part of the unit also surrounds Ylig Bay and extends along the coastline south along Route 4 and ends south of Togcha Point. Landownership includes 983 ac (398 ha) in private ownership and 880 ac (356 ha) that are uncategorized.

(ii) Fragile Tree Snail–7, Guam, follows:

Figure 8 to Fragile Tree Snail (*Samoana fragilis*) paragraph (13)(ii)

Critical Habitat for Fragile Tree Snail (*Samoana fragilis*)
Fragile Tree Snail–7, Guam
Territory of Guam



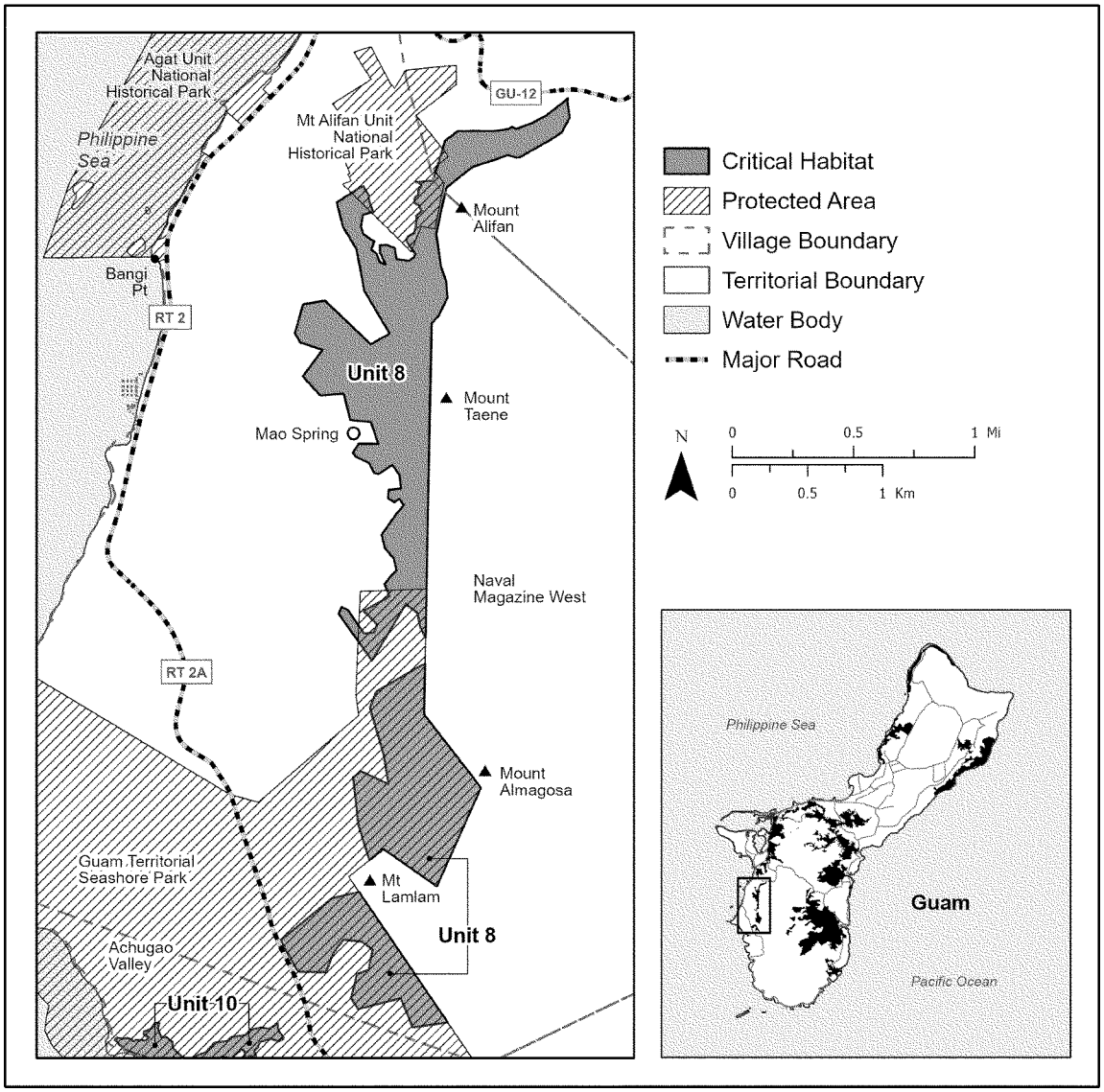
(14) Fragile Tree Snail–8, Guam; Territory of Guam.

(i) Unit 8 on the island of Guam consists of 629 ac (254 ha) in three segments and is composed of secondary limestone forests on the southwest side of the island. In the north, the unit extends from Route 12, north of Mount Alifan, and wraps south to Mount Lamlam along Route 2A. Landownership includes 16 ac (6 ha) of Federal Government land, 84 ac (34 ha) of Territory government lands, 344 ac (139 ha) in private ownership, and 185 ac (75 ha) that are uncategorized. The southern tip of the first/long segment and the other two segments of this unit overlap portions of the Guam Territorial Seashore Park.

(ii) Map of Fragile Tree Snail–8, Guam, follows:

Figure 9 to Fragile Tree Snail (*Samoana fragilis*) paragraph (14)(ii)

Critical Habitat for Fragile Tree Snail *(Samoana fragilis)*
Fragile Tree Snail–8, Guam
Territory of Guam



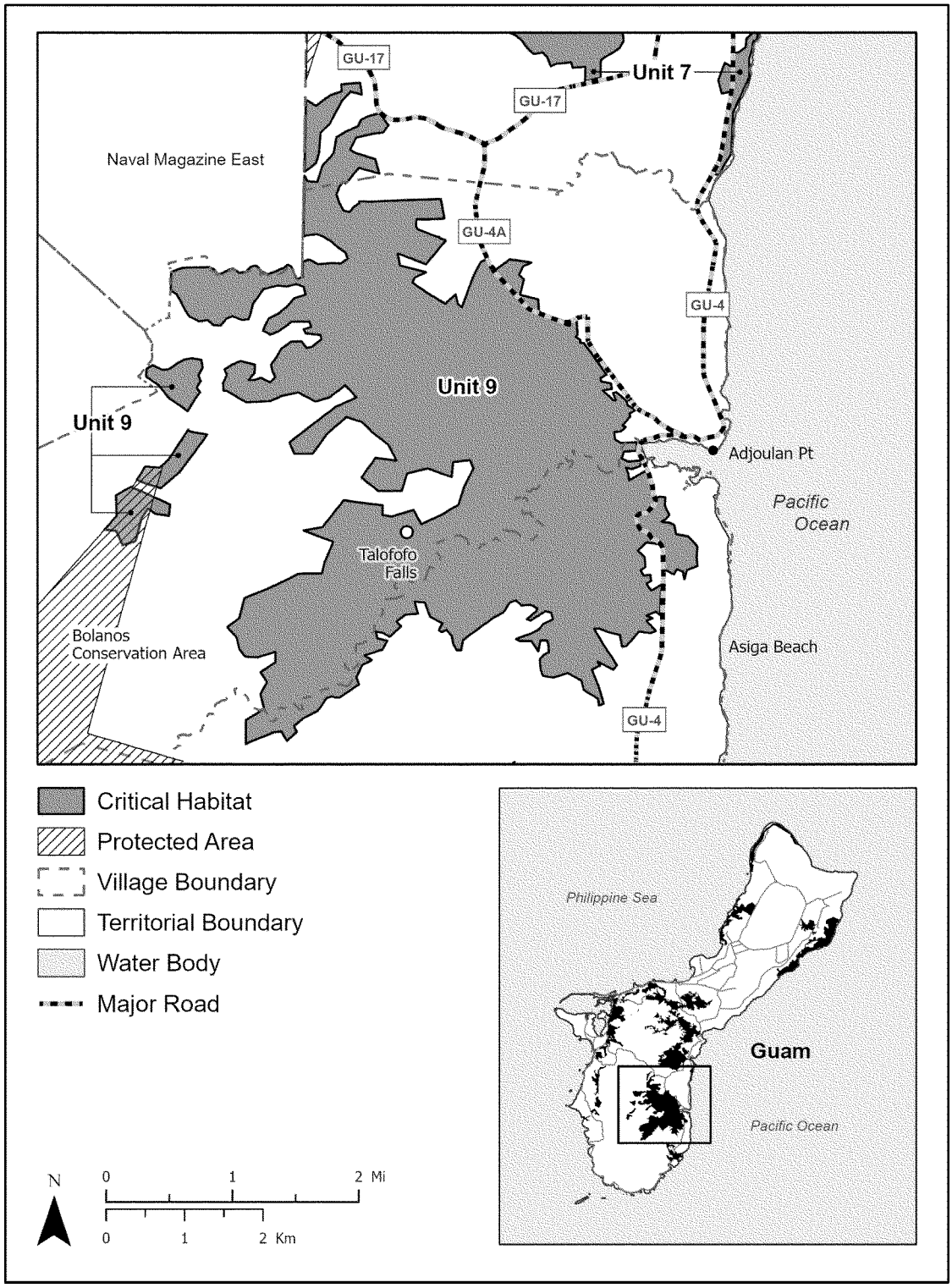
(15) Fragile Tree Snail–9, Guam; Territory of Guam.

(i) Unit 9 on the island of Guam consists of 5,697 ac (2,306 ha) in four segments and is composed of secondary volcanic forests on the southeastern end of the island. The largest segment extends almost entirely south of Route 17 and east of the Guam NWR/Naval Magazine East lands. The unit runs south and west of Route 4A and Route 4. Additionally, three small segments occur to the west of the largest segment along the east edge of the Bolanos Conservation Area. Landownership includes 142 ac (57 ha) of Territory government lands, 3,915 ac (1,584 ha) in private ownership, and 1,640 ac (665 ha) that are uncategorized. This unit overlaps portions of the Bolanos Conservation Area.

(ii) Map of Fragile Tree Snail–9, Guam, follows:

Figure 10 to Fragile Tree Snail (*Samoana fragilis*) paragraph (15)(ii)

Critical Habitat for Fragile Tree Snail *(Samoana fragilis)*
Fragile Tree Snail–9, Guam
Territory of Guam



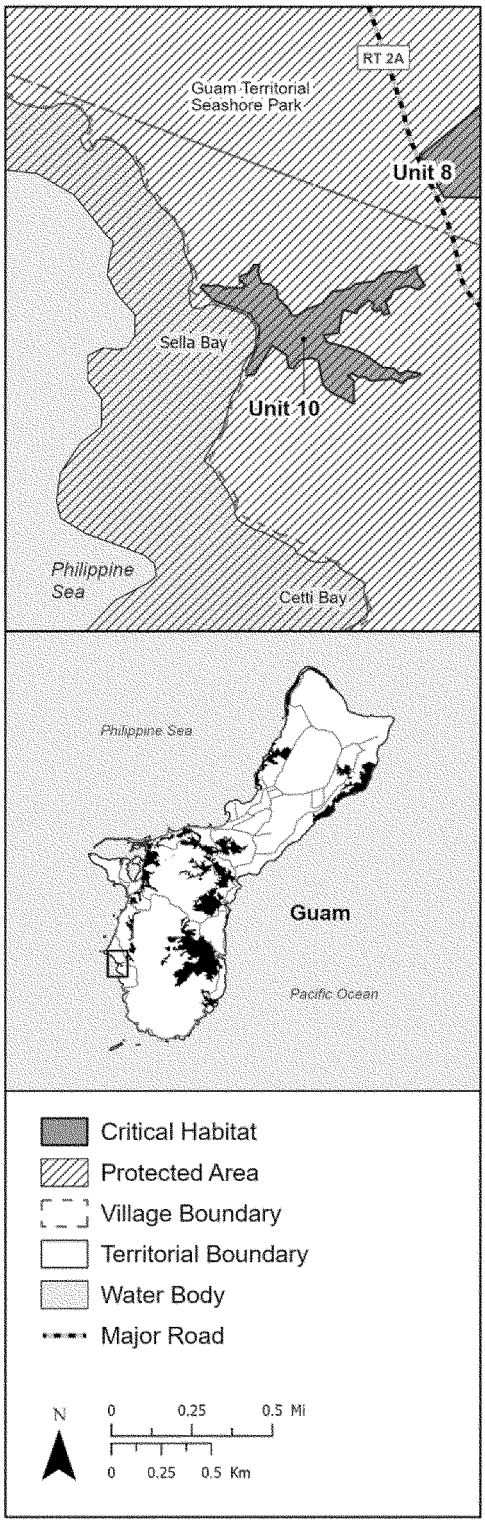
(16) Fragile Tree Snail–10, Guam; Territory of Guam.

(i) Unit 10 on the island of Guam consists of 64 ac (26 ha) and is composed of secondary forests inland from Sella Bay on the southwest side of the island and west of Guam Route 2A. Landownership includes 57 ac (23 ha) in private ownership and 7 ac (3 ha) that are uncategorized. This unit overlaps portions of the Guam Territorial Seashore Park.

(ii) Map of Fragile Tree Snail–10, Guam, follows:

Figure 11 to Fragile Tree Snail (*Samoana fragilis*) paragraph (16)(ii)

Critical Habitat for Fragile Tree Snail
(*Samoana fragilis*)
Fragile Tree Snail–10, Guam
Territory of Guam



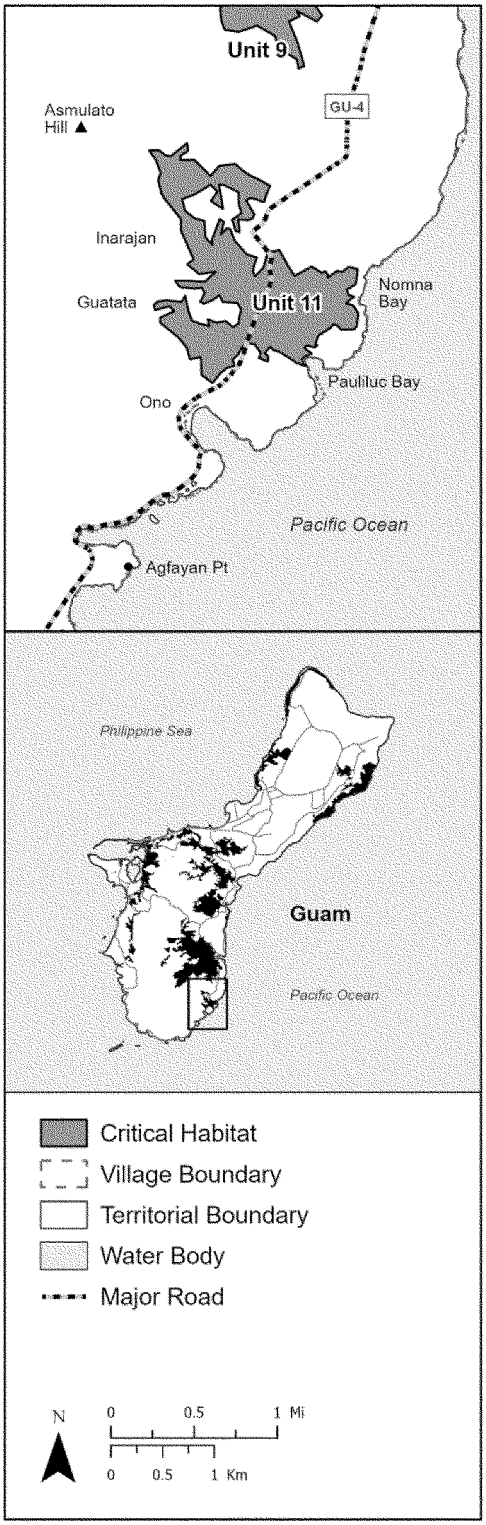
(17) Fragile Tree Snail–11, Guam; Territory of Guam.

(i) Unit 11 on the island of Guam consists of 457 ac (185 ha) and is composed of secondary forests near the southeastern coast, from Asmulato Hill extending across Route 4 towards the coastline from Nomna Bay south to Paulilus Bay. Landownership includes 154 ac (62 ha) in private ownership and 303 ac (123 ha) that are uncategorized.

(ii) Map of Fragile Tree Snail–11, Guam, follows:

Figure 12 to Fragile Tree Snail (*Samoana fragilis*) paragraph (17)(ii)

Critical Habitat for Fragile Tree Snail
(*Samoana fragilis*)
Fragile Tree Snail–11, Guam
Territory of Guam



Guam Tree Snail (Partula radiolata)

(1) Critical habitat units are depicted for Guam within the Territory of Guam on the maps in this entry.

(2) Within these areas, the physical or biological features essential to the conservation of Guam tree snail consist of the following components:

(i) Contiguous closed-canopy limestone, volcanic, riverine, riparian, ravine, or secondary/mixed forests, or backstrand beach vegetation, providing relatively stable climatic conditions such as shade, moisture, high humidity, and low air movement.

(ii) Dense mid-canopy vegetation such as large leaves, branches, vines, or other structures.

(iii) Understory such as ground cover composed of short herbs, shrubs, ferns, or small trees.

(iv) Food sources such as dead and decaying plant material, leaf litter, and tree debris.

(3) Critical habitat does not include manmade structures (such as buildings or paved areas including aqueducts, runways, or roads) and the land on which they are located existing within the legal boundaries on the effective date of the final rule.

(4) Data layers defining map units were created using survey and distribution data provided by multiple local and regional sources as available (*e.g.,* reports, databases, and species experts' knowledge) and as maintained by universities, local governments, and nonprofit organizations across the Mariana Islands. Landcover data (*e.g.,* soil substrate, vegetation, and elevation) were obtained and compiled from multiple Federal and local government agencies. Temperature and precipitation data were obtained and compiled from journal publications. Landforms were primarily delineated based on the most currently available aerial maps and satellite imagery. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site at *https://www.fws.gov/project/critical-habitat-mariana-islands,* at *https://www.regulations.gov* at Docket No. FWS–R1–ES–2024–0194, and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

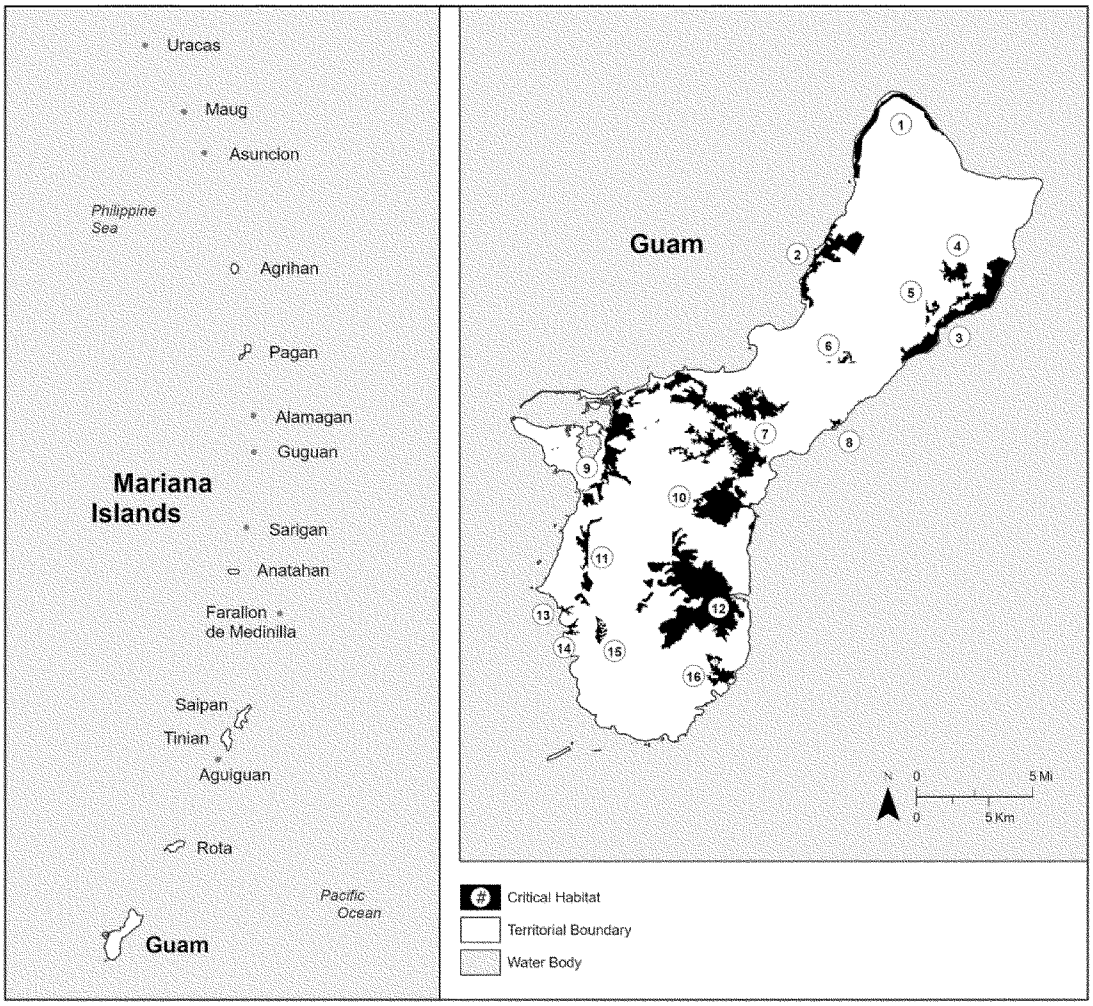
(5) The following index map shows the general locations of critical habitat units designated on the island of Guam, with each location/area identified as a specific number.

(i) Each critical habitat unit name comprises the species name, a numeral digit, and the island name. The numeral digit within a unit name corresponds with the number of the critical habitat unit on the island, totaling 16 units for this species.

(ii) Index map follows:

Figure 1 to the Guam Tree Snail (*Partula radiolata*) paragraph (5)

Critical Habitat for Guam Tree Snail (*Partula radiolata*)
Index Map for the Island of Guam, Territory of Guam



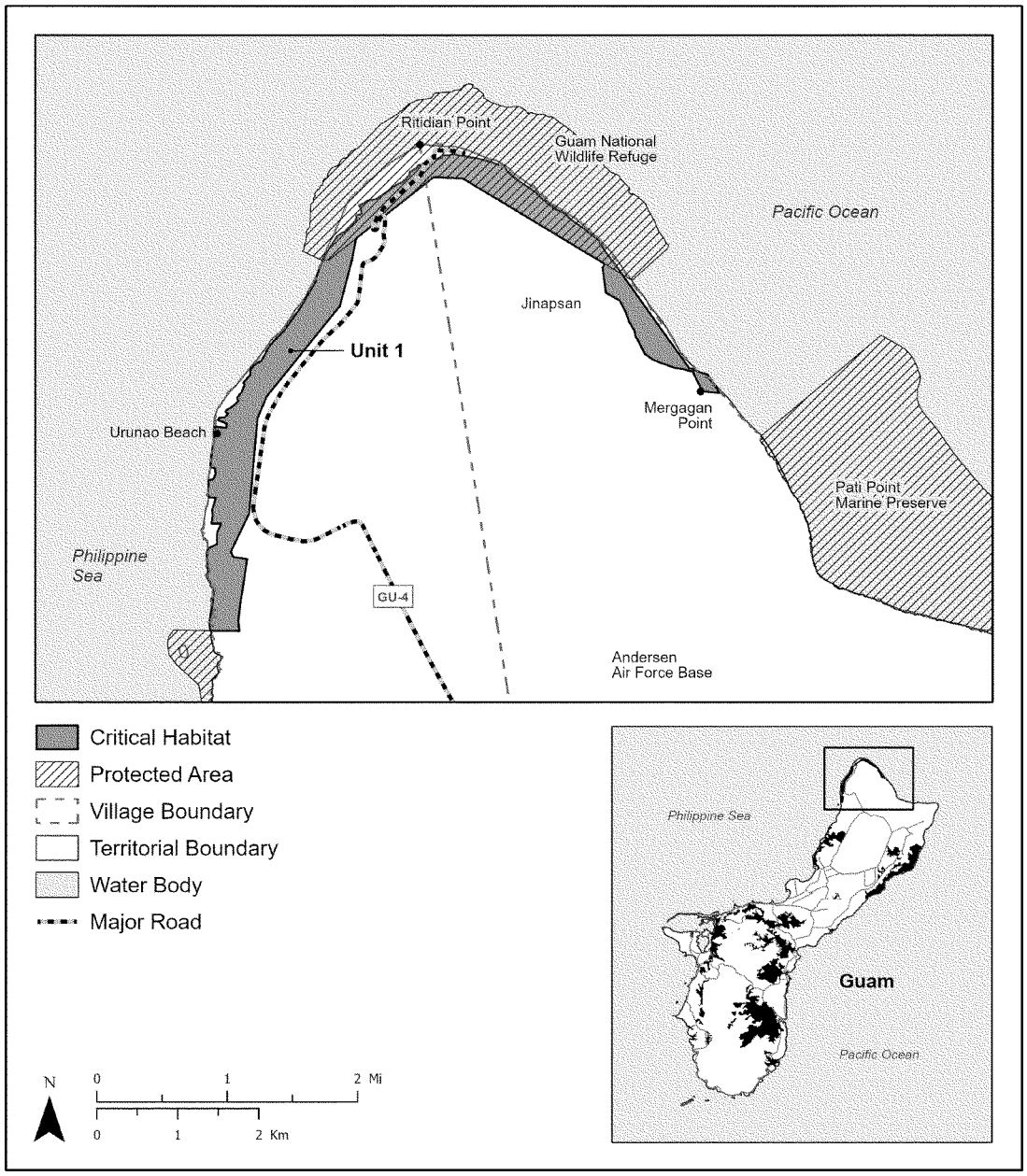
(6) Guam Tree Snail–1, Guam; Territory of Guam.

(i) Unit 1 on the island of Guam consists of 856 ac (346 ha) and is composed of a band of secondary limestone forest in a horseshoe-shape on the northwestern point of Guam (Ritidian Point). The unit extends from the southwestern boundary south of Urunao Beach and runs north along the cliffline towards Jinapsan ending at Mergagan Point. Landownership includes 262 ac (106 ha) of Federal lands (Guam NWR), 68 ac (27 ha) of Territory government lands, 408 ac (165 ha) in private ownership, and 118 ac (48 ha) that are uncategorized.

(ii) Map of Guam Tree Snail–1, Guam, follows:

Figure 2 to Guam tree snail (*Partula radiolata*) paragraph (6)(ii)

Critical Habitat for Guam Tree Snail *(Partula radiolata)*
Guam Tree Snail–1, Guam
Territory of Guam



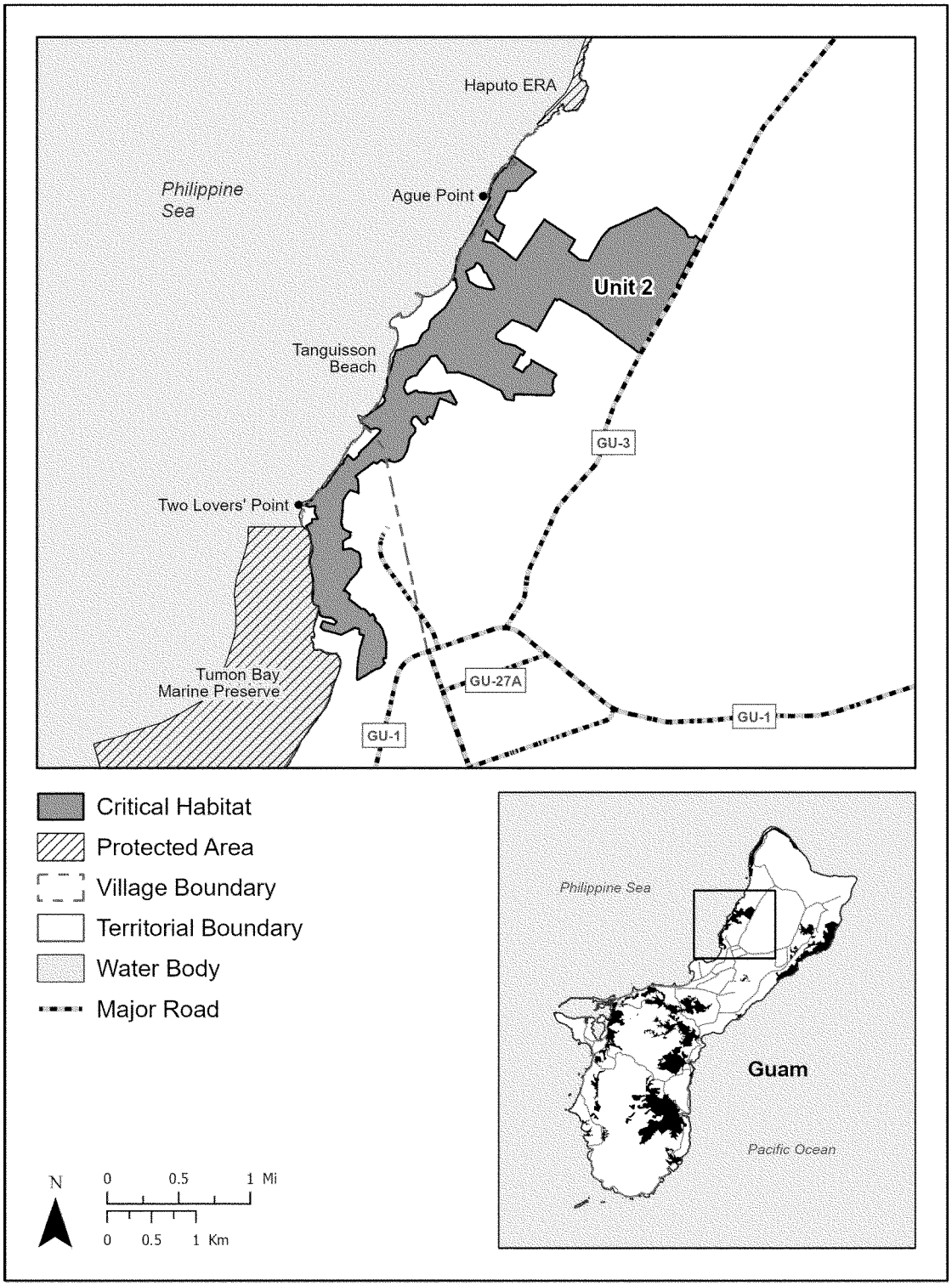
(7) Guam Tree Snail–2, Guam; Territory of Guam.

(i) Unit 2 on the island of Guam consists of 1,245 ac (504 ha) and is composed of limestone forests along the northwestern edge of the island. The unit lies west of Route 3 and extends from the clifflines overlooking Tumon Bay west of Route 1 and runs north to Ague Point. Landownership includes 1,081 ac (437 ha) of Territory government lands, 108 ac (44 ha) in private ownership, and 56 ac (23 ha) that are uncategorized.

(ii) Map of Guam Tree Snail–2, Guam, follows:

Figure 3 to Guam Tree Snail (*Partula radiolata*) paragraph (7)(ii)

Critical Habitat for Guam Tree Snail *(Partula radiolata)*
Guam Tree Snail–2, Guam
Territory of Guam



(8) Guam Tree Snail–3, Guam; Territory of Guam.

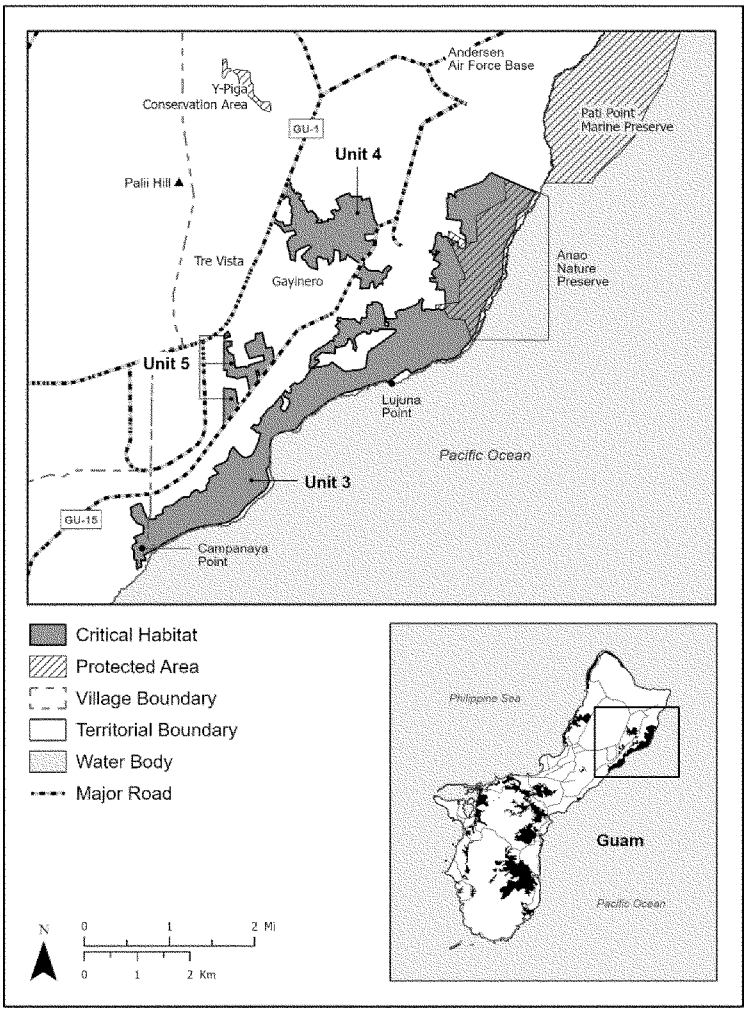
(i) Unit 3 on the island of Guam consists of 2,166 ac (877 ha) and is composed of limestone forests along the northeastern coastal edge of the island. The unit begins at the boundary of the Anao Nature Preserve, immediately adjacent to the southern end of the Guam NWR boundary and extends southwest along the coast to Campanaya Point. Landownership includes 1,549 ac

(627 ha) of Territory government lands, 270 ac (109 ha) in private ownership, and 347 ac (141 ha) that are uncategorized. The northeastern portion of this unit overlaps the Anao Nature Preserve.

(ii) Map of Guam Tree Snail–3, Guam Tree Snail–4, and Guam Tree Snail–5, Guam, follows:

Figure 4 to Guam Tree Snail (*Partula radiolata*) paragraph (8)(ii)

Critical Habitat for Guam Tree Snail *(Partula radiolata)*
Guam Tree Snail–3, Guam
Guam Tree Snail–4, Guam
Guam Tree Snail–5, Guam
Territory of Guam



(9) Guam Tree Snail–4, Guam; Territory of Guam.

(i) Unit 4 on the island of Guam consists of 445 ac (180 ha) and is composed of secondary forests in the northeastern portion of the island. Unit 4 is east of Route 1 to Route 15 in the Gayinero area, ending east of Route 15. Landownership includes 361 ac (146 ha) in private ownership and 84 ac (34 ha) that are uncategorized.

(ii) Map of Guam Tree Snail–4, Guam, is provided at paragraph (8)(ii) of this entry.

(10) Guam Tree Snail–5, Guam; Territory of Guam.

(i) Unit 5 on the island of Guam consists of 147 ac (59 ha) and is composed of secondary forests and a limestone substrate with intrusions of exposed volcanic ridges and slopes in the northeastern part of the island. Unit 5 extends from the east of Route 1 in the village of Yigo to Route 15 south of the Gayeniero area. Landownership includes 110 ac (44 ha) in private ownership and 37 ac (15 ha) that are uncategorized.

(ii) Map of Guam Tree Snail–5, Guam, is provided at paragraph (8)(ii) of this entry.

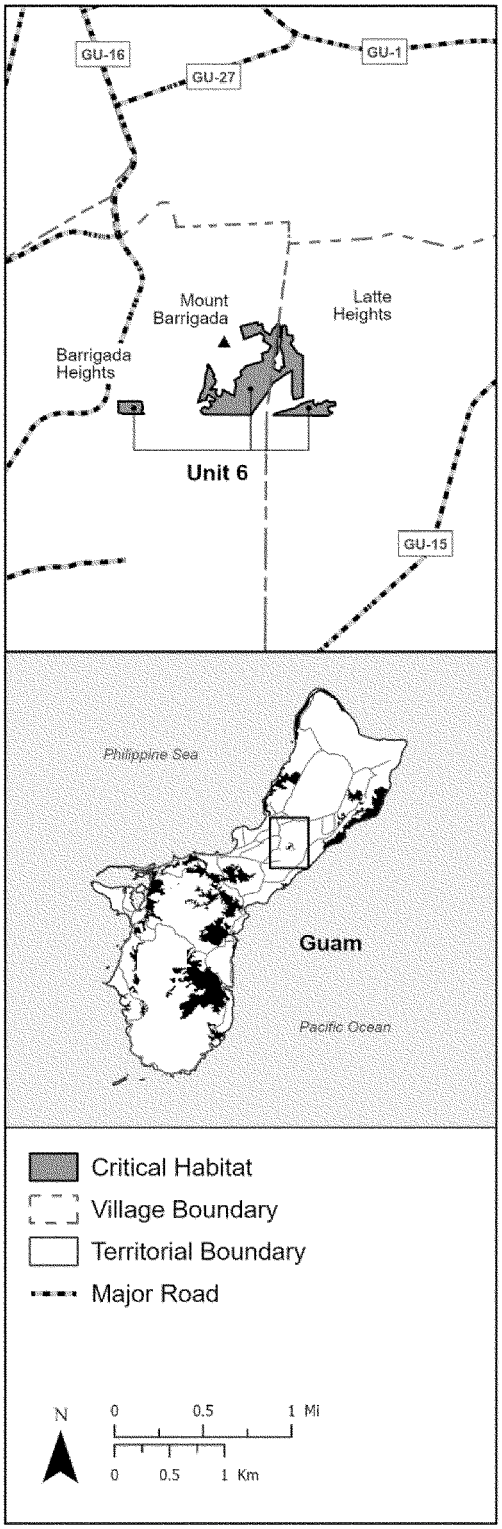
(11) Guam Tree Snail–6, Guam; Territory of Guam.

(i) Unit 6 on the island of Guam consists of 99 ac (40 ha) and is composed of three segments of secondary forests in the central part of the island. Unit 6 extends from east of Route 16 in Barrigada Heights towards Latte Heights. Landownership includes 44 ac (18 ha) in private ownership and 55 ac (22 ha) that are uncategorized.

(ii) Map of Guam Tree Snail–6, Guam, follows:

Figure 5 to Guam Tree Snail (*Partula radiolata*) paragraph (11)(ii)

Critical Habitat for Guam Tree Snail
(*Partula radiolata*)
Guam Tree Snail–6, Guam
Territory of Guam



(12) Guam Tree Snail–7, Guam; Territory of Guam.

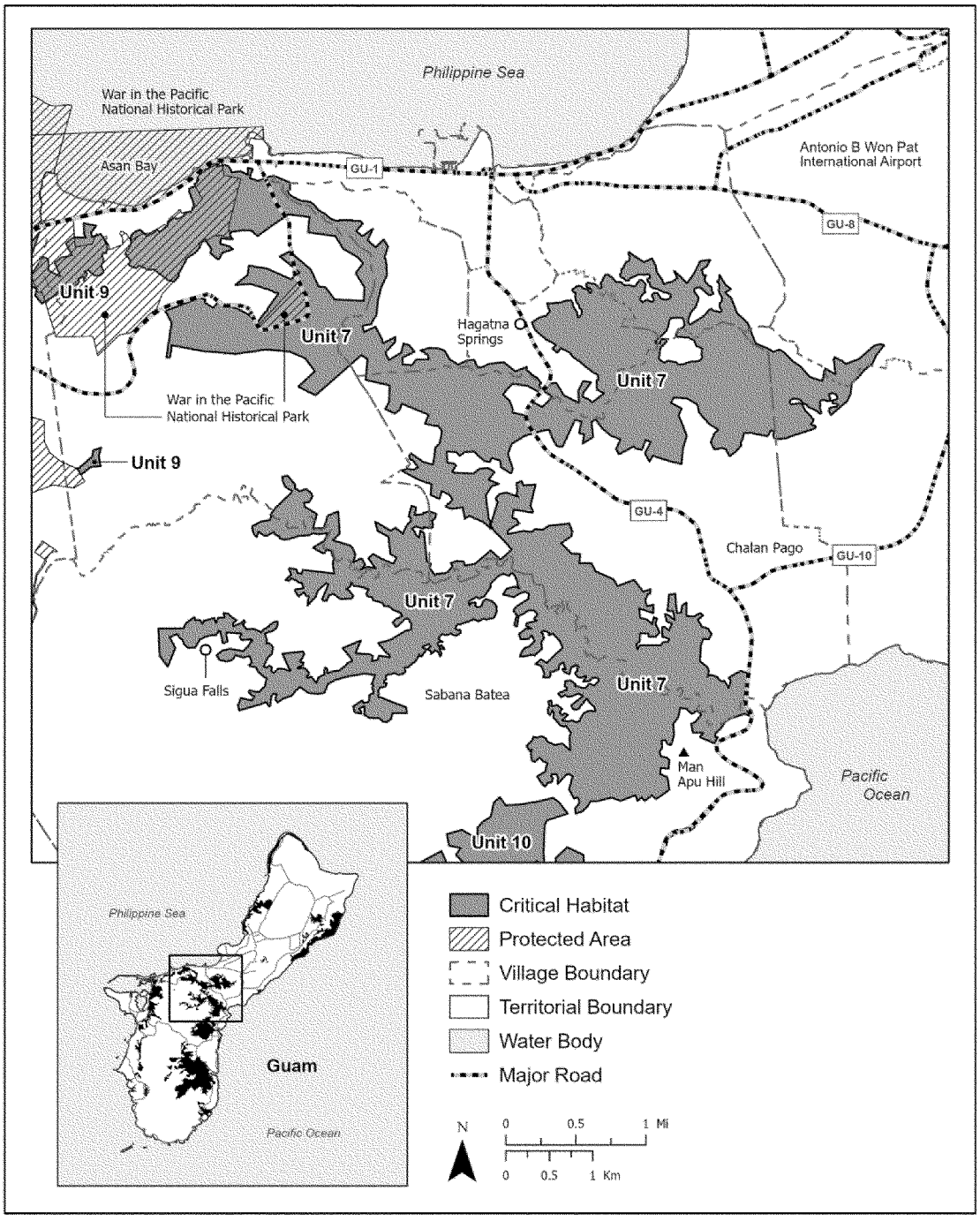
(i) Unit 7 on the island of Guam consists of 4,313 ac (1,745 ha) and is composed of secondary forests extending in elongated patches spread across the central portion of the island on both the east and west sides of Route

4, north to Asan Bay, west to Sigua Falls, and southeast to Man Apu Hill. Landownership includes 210 ac (85 ha) of Federal lands, 1,954 ac (791 ha) in private ownership, and 2,149 ac (869 ha) that are uncategorized. The unit overlaps portions of Fonte Plateau National Historical Park and the Asan Inland Unit National Historical Park.

(ii) Map of Guam Tree Snail–7, Guam, follows:

Figure 6 to Guam tree snail (*Partula radiolata*) paragraph (12)(ii)

Critical Habitat for Guam Tree Snail (*Partula radiolata*)
Guam Tree Snail–7, Guam
Territory of Guam



(13) Guam Tree Snail–8, Guam; Territory of Guam.

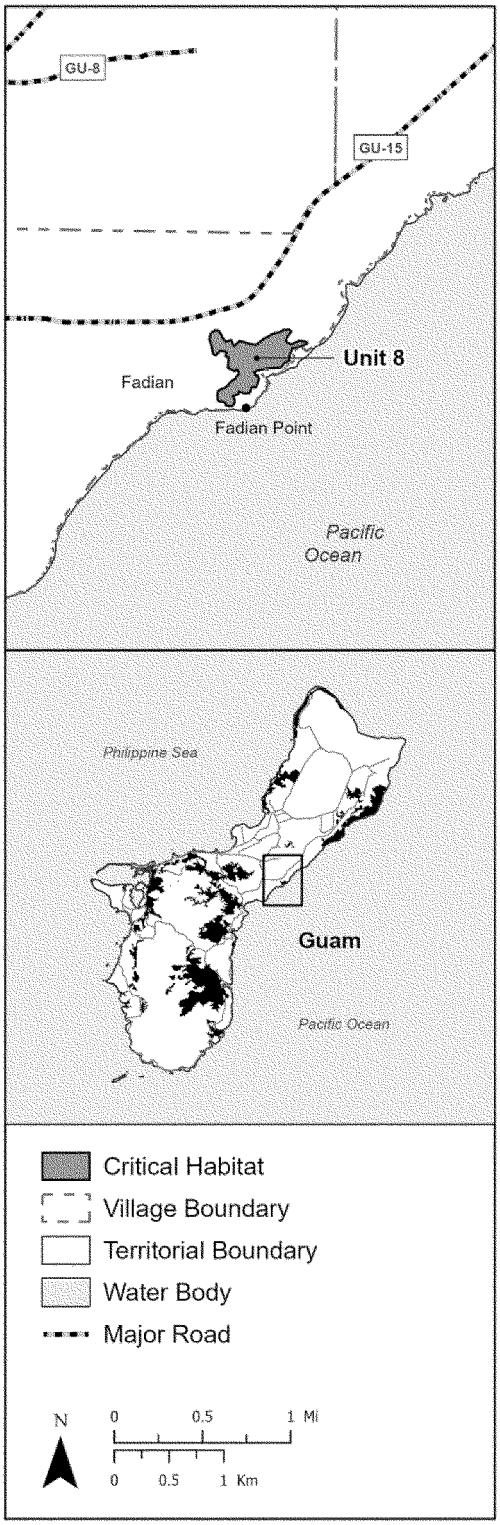
(i) Unit 8 on the island of Guam consists of 61 ac (25 ha) and is composed of limestone and secondary forests on the eastern part of the island and is located inland of Fadian Point

and south of Route 15. All lands are under private ownership.

(ii) Map of Guam Tree Snail–8, Guam, follows:

Figure 7 to Guam Tree Snail (*Partula radiolata*) paragraph (13)(ii)

Critical Habitat for Guam Tree Snail
(*Partula radiolata*)
Guam Tree Snail–8, Guam
Territory of Guam



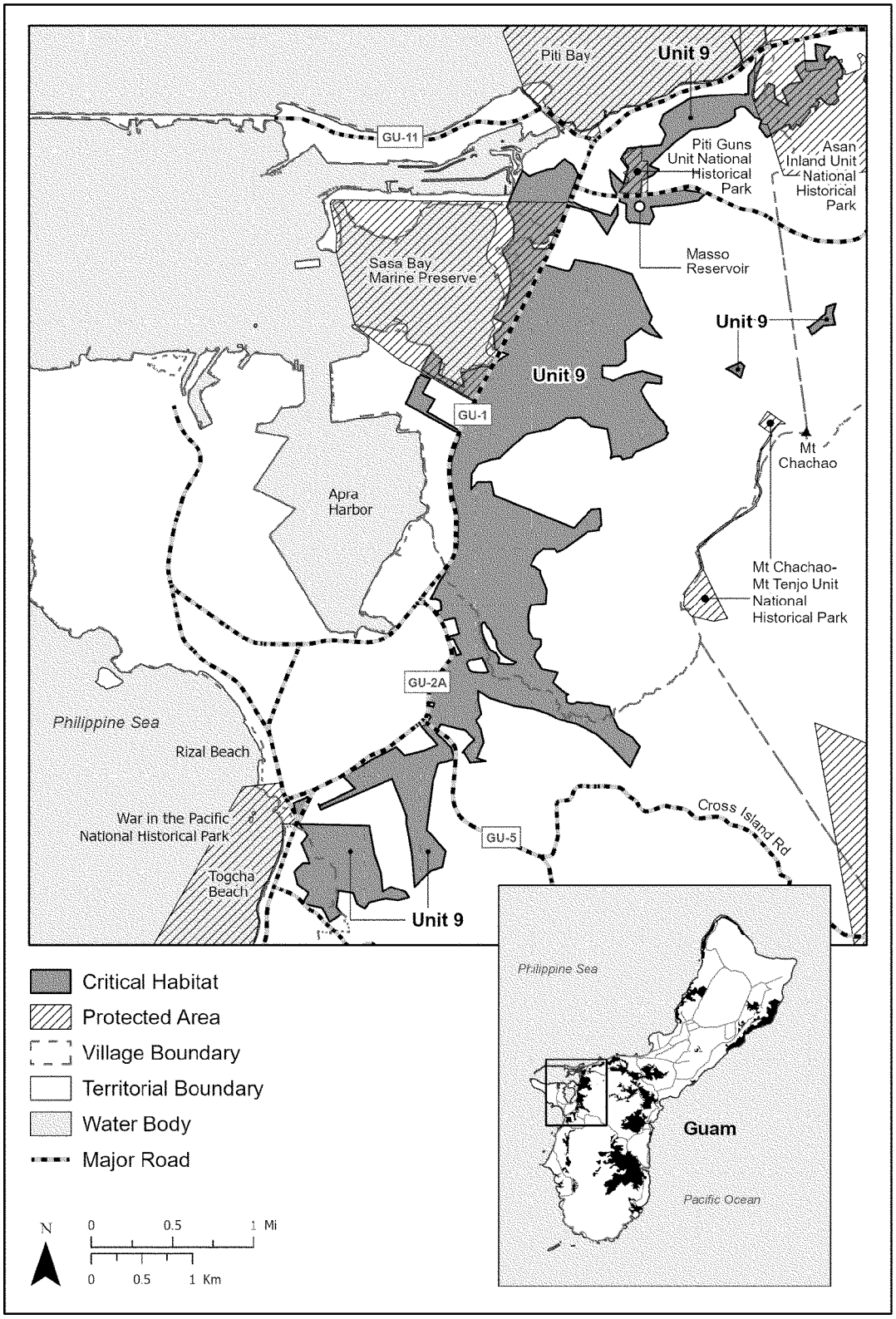
(14) Guam Tree Snail–9, Guam; Territory of Guam.

(i) Unit 9 on the island of Guam consists of six segments totaling 1,965 ac (795 ha) and is composed of secondary forests in the westernmost region of the island. The unit roughly extends within portions of the Aan Inland and Piti Guns Units of the War in the Pacific National Historical Park, along Route 1 (GU–1) south to Guam NWR lands, extending inland from Route 2A to east of Togcha Beach. Landownership includes 102 ac (41 ha) of Federal lands, 756 ac (306 ha) in private ownership, and 1,107 ac (448 ha) that are uncategorized. This unit overlaps portions of the Asan Inland and Piti Guns Units of the War in the Pacific National Historical Park, Sasa Bay Marine Preserve, and Guam NWR.

(ii) Map of Guam Tree Snail–9, Guam, follows:

Figure 8 to Guam Tree Snail (*Partula radiolata*) paragraph (14)(ii)

Critical Habitat for Guam Tree Snail *(Partula radiolata)*
Guam Tree Snail–9, Guam
Territory of Guam



(15) Guam Tree Snail–10, Guam; Territory of Guam.

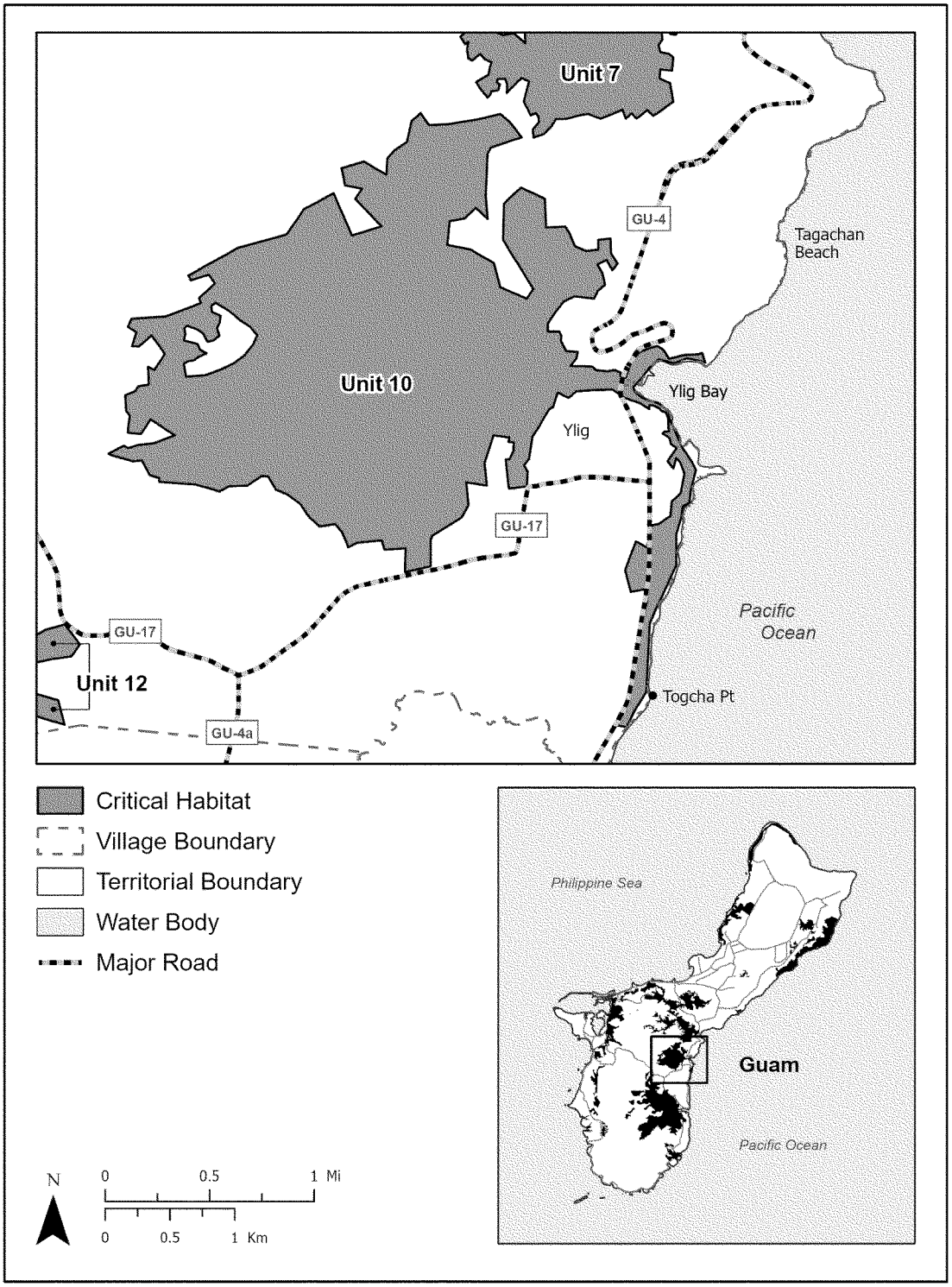
(i) Unit 10 on the island of Guam consists of 1,863 ac (754 ha) and is composed of secondary forests on the southeastern side of the island. The

majority of the unit extends west of Routes 4 and 17 surrounding the Ylig River. Part of the unit also surrounds Ylig Bay and extends along the coastline south along Route 4 and ends south of Togcha Point. Landownership includes 983 ac (398 ha) in private ownership and 880 ac (356 ha) that are uncategorized.

(ii) Map of Guam Tree Snail–10, Guam, follows:

Figure 9 to Guam Tree Snail (*Partula radiolata*) paragraph (15)(ii)

Critical Habitat for Guam Tree Snail (*Partula radiolata*)
Guam Tree Snail–10, Guam
Territory of Guam



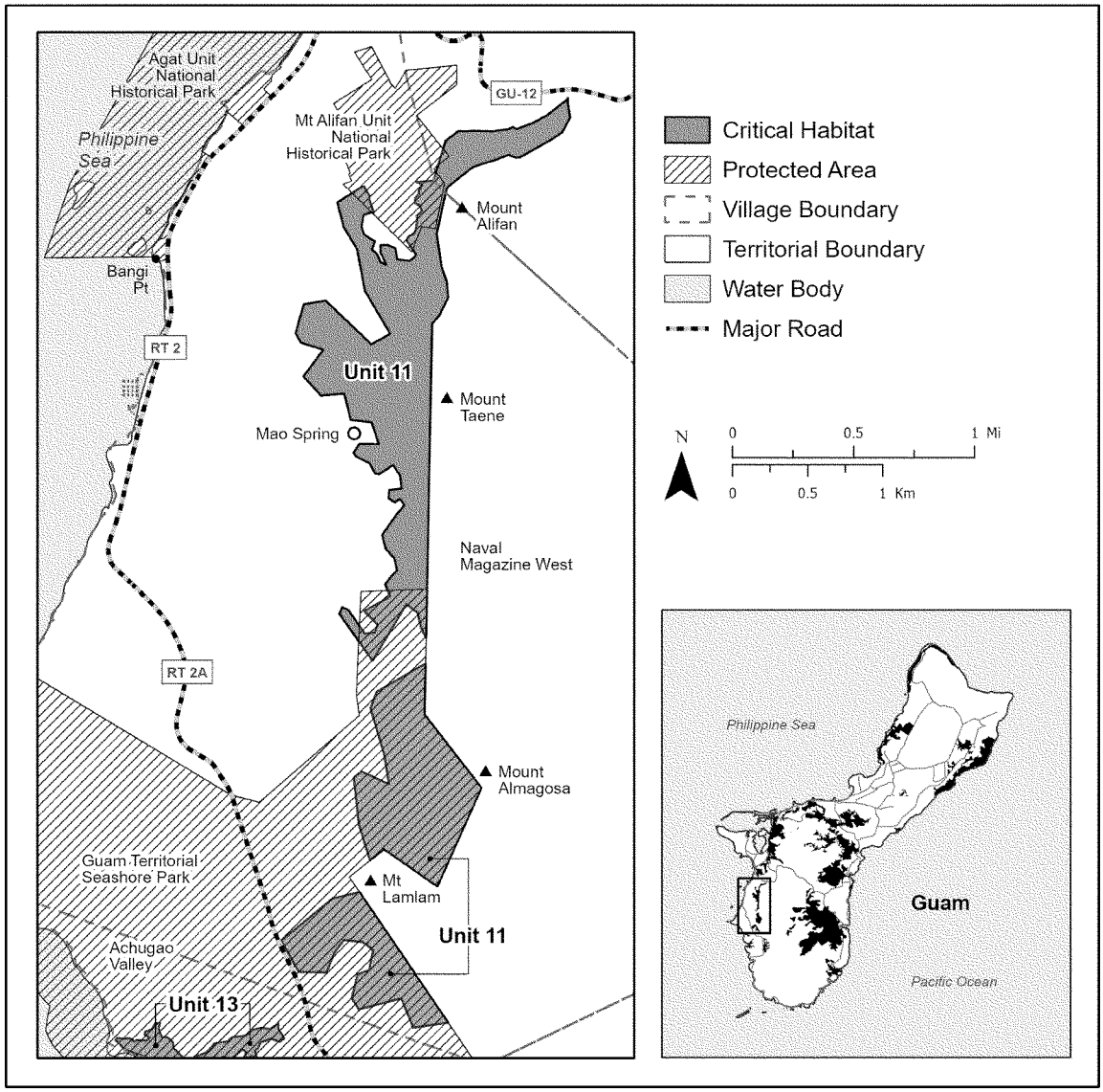
(16) Guam Tree Snail–11, Guam; Territory of Guam.

(i) Unit 11 on the island of Guam consists of 629 ac (254 ha) and is composed of three segments of limestone forests on the southwestern side of the island. The unit extends from Route 12 and Mt. Alifan in the north, running along the border of Naval Magazine West, and ending south of Mt. Lamlam at Route 2A. Landownership includes 16 ac (6 ha) of Federal lands (War in the Pacific National Historical Park), 84 ac (34 ha) of Territory government lands, 344 ac (139 ha) in private ownership, and 185 ac (75 ha) that are uncategorized. The northern portion of the unit overlaps the Mt. Alifan Unit of War in the Pacific National Historical Park. The southern portion of the unit overlaps the Guam Territorial Seashore Park.

(ii) Map of Guam Tree Snail–11, Guam, follows:

Figure 10 to Guam Tree Snail (*Partula radiolata*) paragraph (16)(ii)

Critical Habitat for Guam Tree Snail *(Partula radiolata)*
Guam Tree Snail–11, Guam
Territory of Guam



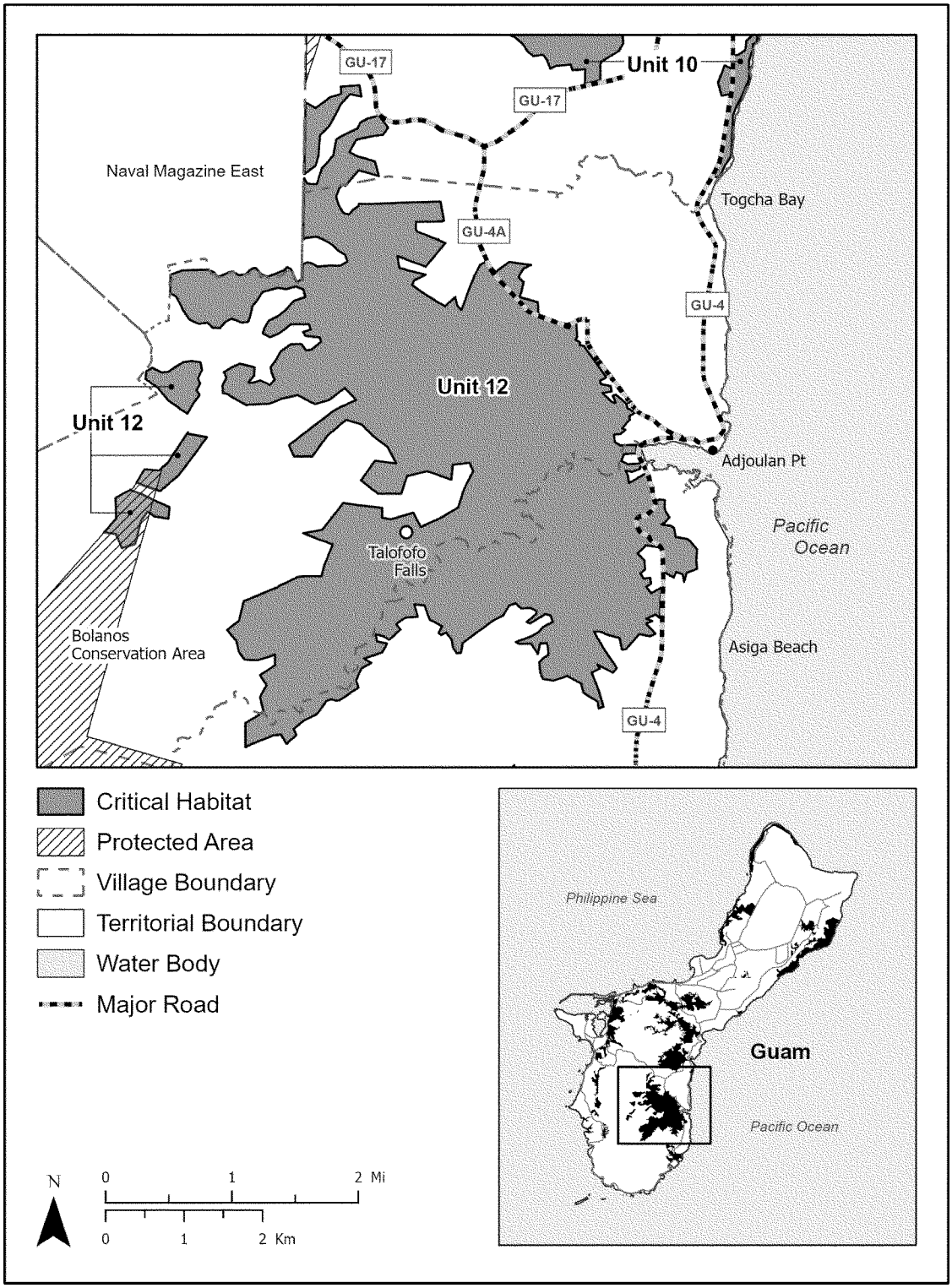
(17) Guam Tree Snail–12, Guam; Territory of Guam.

(i) Unit 12 on the island of Guam consists of four segments totaling 5,697 ac (2,306 ha) and is composed of secondary volcanic forests on the southeastern end of the island. The largest segment extends almost entirely south of Route 17 and east of the Guam NWR/Naval Magazine East lands. The unit runs south and west of Route 4A and Route 4. Additionally, three small segments occur to the west of the largest segment along the eastern edge of the Bolanos Conservation Area. Landownership includes 142 ac (57 ha) of Territory government lands, 3,915 ac (1,584 ha) in private ownership, and 1,640 ac (665 ha) that are uncategorized. This unit overlaps portions of the Bolanos Conservation Area.

(ii) Map of Guam Tree Snail–12, Guam, follows:

Figure 11 to Guam Tree Snail (*Partula radiolata*) paragraph (17)(ii)

Critical Habitat for Guam Tree Snail *(Partula radiolata)*
Guam Tree Snail–12, Guam
Territory of Guam



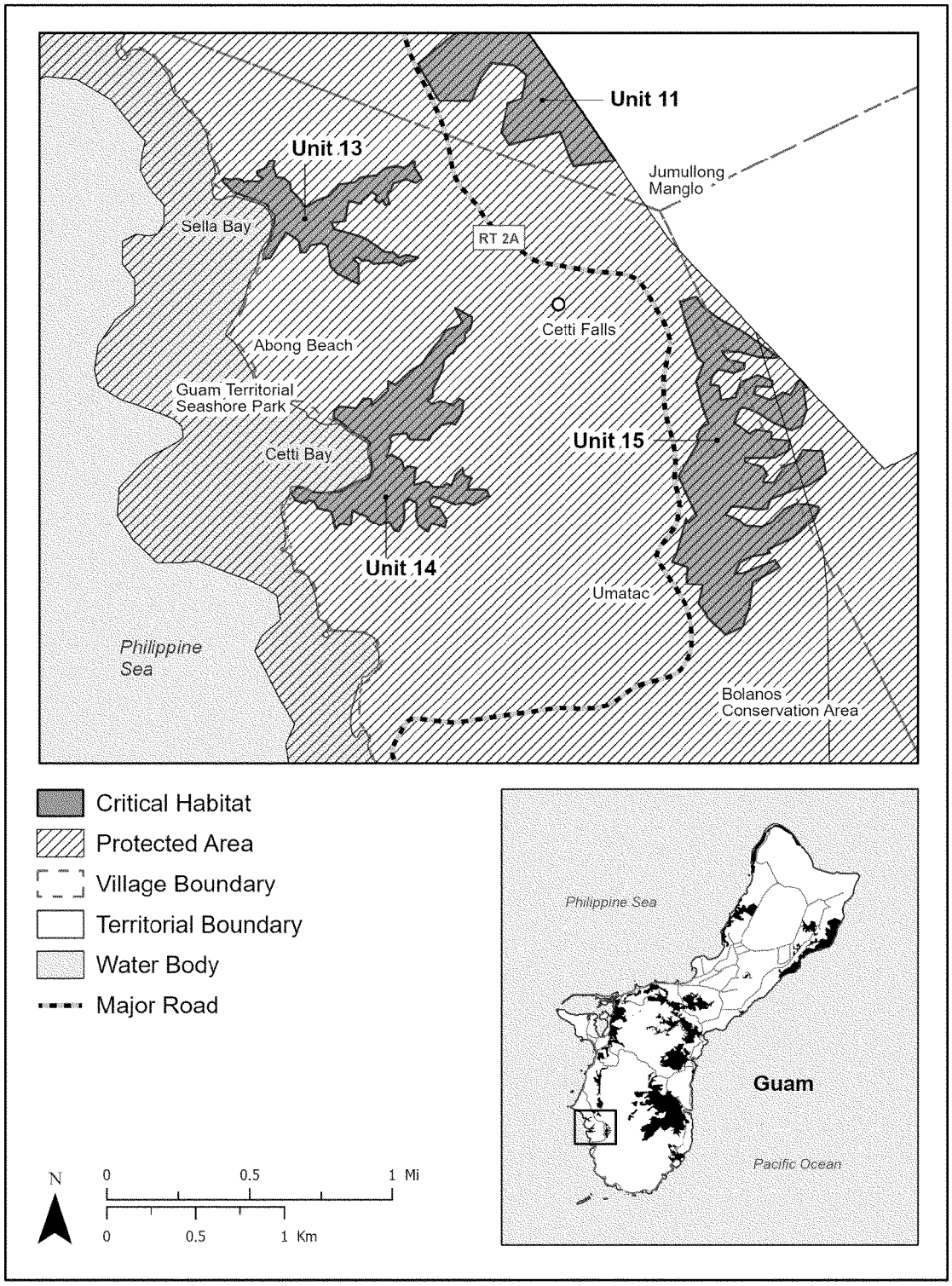
(18) Guam Tree Snail–13, Guam; Territory of Guam.

(i) Unit 13 on the island of Guam consists of 64 ac (26 ha) and is composed of secondary forests inland from Sella Bay on the southwestern side of the island and west of Route 2A. Landownership includes 57 ac (23 ha) in private ownership and 7 ac (3 ha) that are uncategorized. This unit overlaps portions of the Guam Territorial Seashore Park.

(ii) Map of Guam Tree Snail–13, Guam, follows:

Figure 12 to Guam Tree Snail (*Partula radiolata*) paragraph (18)(ii)

Critical Habitat for Guam Tree Snail *(Partula radiolata)*
Guam Tree Snail–13, Guam
Guam Tree Snail–14, Guam
Guam Tree Snail–15, Guam
Territory of Guam



(19) Guam Tree Snail–14, Guam; Territory of Guam.

(i) Unit 14 on the island of Guam consists of 102 ac (41 ha) and is composed of secondary forests and a limestone substrate with intrusions of

exposed volcanic ridges and slopes on the southwestern part of the island. This unit extends from Cetti Bay east towards Cetti Falls and Route 2A. Landownership includes 27 ac (11 ha) in private ownership and 75 ac (30 ha) that are uncategorized.

(ii) Map of Guam Tree Snail–14, Guam, is provided at paragraph (18)(ii) of this entry.

(20) Guam Tree Snail–15, Guam; Territory of Guam.

(i) Unit 15 on the island of Guam consists of 184 ac (74 ha) and is composed of limestone and secondary forests on the southwestern side of the island. This unit extends inland from the east of Route 2A towards and into the Bolanos Conservation Area. Landownership includes 19 ac (8 ha) of Territory government lands, 31 ac (13 ha) under private ownership, and 134 ac (53 ha) that are uncategorized. This unit overlaps the Bolanos Conservation Area.

(ii) Map of Guam Tree Snail–15, Guam, is provided at paragraph (18)(ii) of this entry.

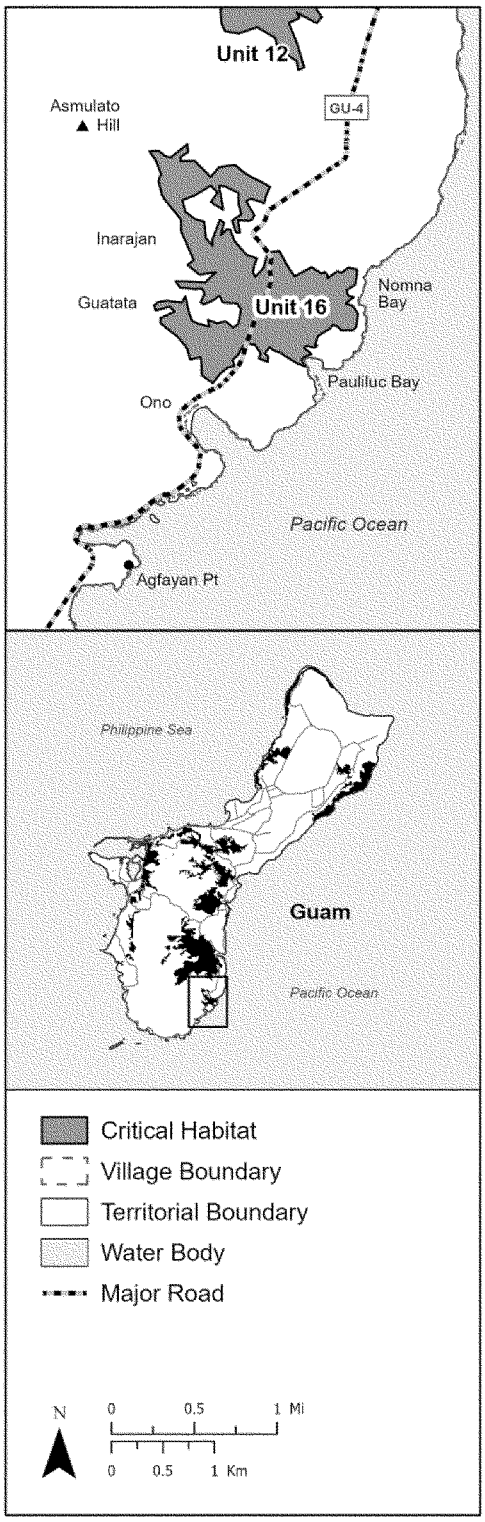
(21) Guam Tree Snail–16, Guam; Territory of Guam.

(i) Unit 16 on the island of Guam consists of 457 ac (185 ha) and is composed of secondary forests near the southeastern coast, from Asmulato Hill extending across Route 4 towards the coastline from Nomna Bay south to Paulilus Bay. Landownership includes 154 ac (62 ha) in private ownership and 303 ac (123 ha) that are uncategorized.

(ii) Map of Guam Tree Snail–16, Guam, follows:

Figure 13 to Guam Tree Snail (*Partula radiolata*) paragraph (21)(ii)

Critical Habitat for Guam Tree Snail
(*Partula radiolata*)
Guam Tree Snail–16, Guam
Territory of Guam



Humped Tree Snail (Partula gibba)

(1) Critical habitat units are depicted for Pagan, Alamagan, Sarigan, Saipan, and Rota within the Commonwealth of the Northern Mariana Islands, and Guam within the Territory of Guam, on the maps in this entry.

(2) Within these areas, the physical or biological features essential to the conservation of the humped tree snail consist of the following components:

(i) Contiguous closed-canopy limestone, volcanic, riverine, riparian, ravine, or secondary/mixed forests, or backstrand beach vegetation, providing relatively stable climatic conditions such as shade, moisture, high humidity, and low air movement.

(ii) Dense mid-canopy vegetation such as large leaves, branches, vines, or other structures.

(iii) Understory such as ground cover composed of short herbs, shrubs, ferns, or small trees.

(iv) Food sources such as dead and decaying plant material, leaf litter, and tree debris.

(3) Critical habitat does not include manmade structures (such as buildings or paved areas including aqueducts, runways, or roads) and the land on which they are located existing within the legal boundaries on the effective date of the final rule.

(4) Data layers defining map units were created using survey and distribution data provided by multiple local and regional sources as available (*e.g.,* reports, databases, and species experts' knowledge) and as maintained by universities, local governments, and nonprofit organizations across the Mariana Islands. Landcover data (*e.g.,* soil substrate, vegetation, and elevation) were obtained and compiled from multiple Federal and local government agencies. Temperature and precipitation data were obtained and compiled from journal publications. Landforms were primarily delineated based on the most currently available aerial maps and satellite imagery. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site at *https://www.fws.gov/project/critical-habitat-mariana-islands,* at *https://www.regulations.gov* at Docket No. FWS–R1–ES–2024–0194, and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

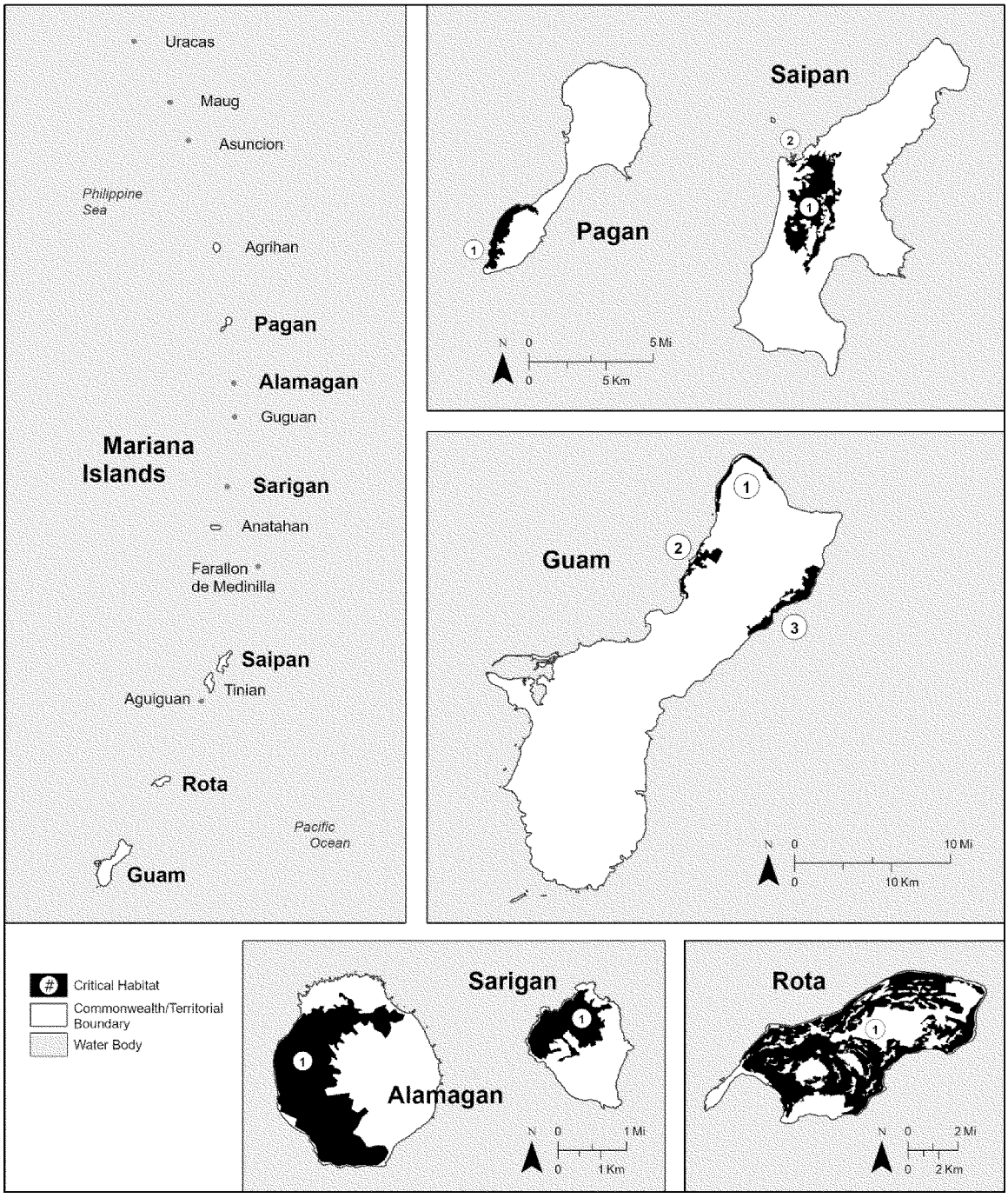
(5) The following index map shows the general locations of critical habitat units designated on seven islands, with each location/area on each island identified as a specific number.

(i) Each critical habitat unit name comprises the species name, a numeral digit, and an island name. The numeral digit within a unit name corresponds with the number of the critical habitat units on a given island. Therefore, each island map with the species present will have a Unit 1. This species has a total of 10 units across the seven islands.

(ii) Index map follows:

Figure 1 to the Humped Tree Snail (*Partula gibba*) paragraph (5)

Critical Habitat for Humped Tree Snail *(Partula gibba)*
Index Map for the Islands of Pagan, Alamagan, Sarigan, Saipan, and Rota, Commonwealth of the Northern Mariana Islands; and the Island of Guam, Territory of Guam



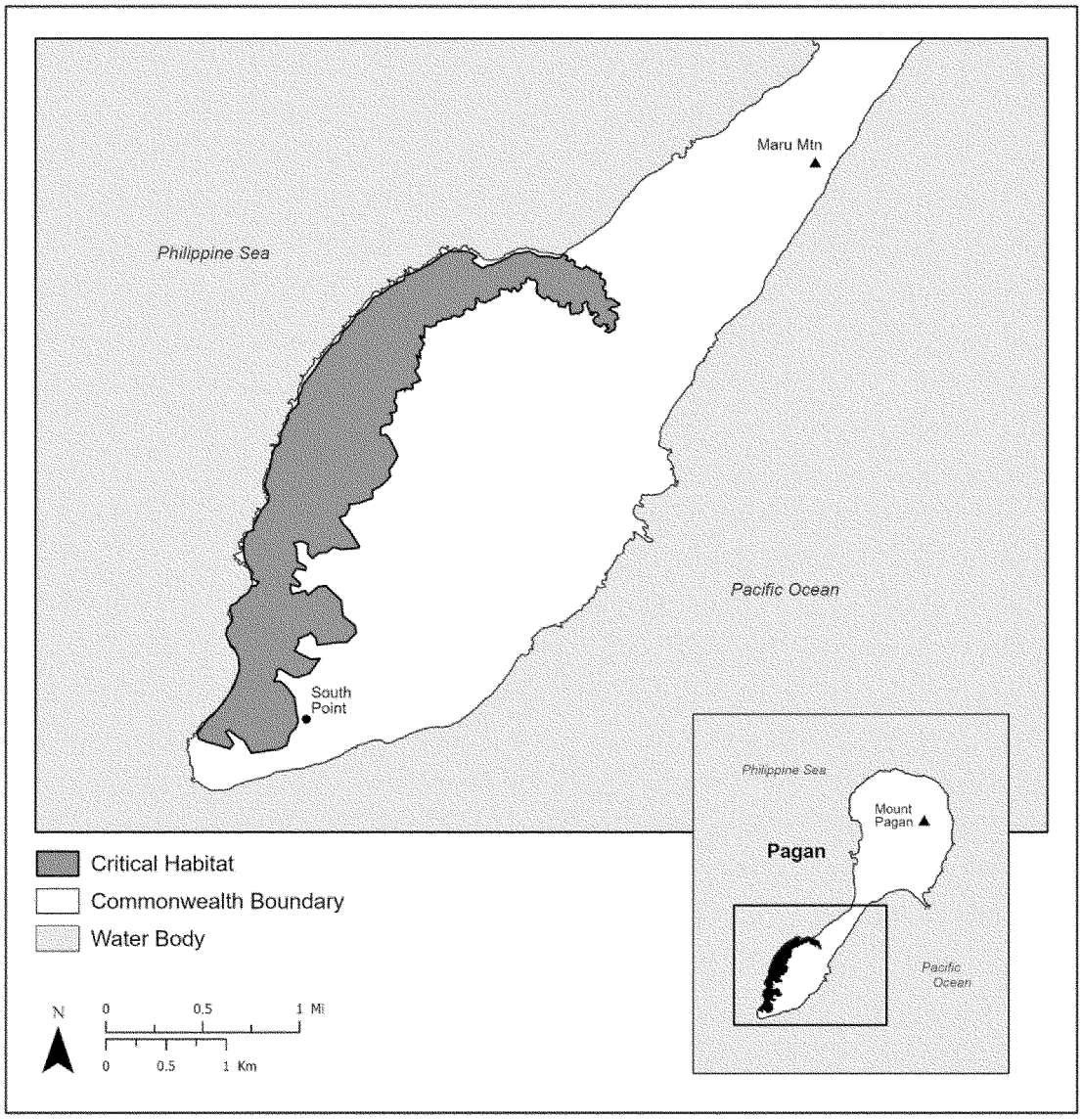
(6) Humped Tree Snail–1, Pagan; Commonwealth of the Northern Mariana Islands.

(i) This single critical habitat unit on the island of Pagan consists of 843 ac (341 ha) and is composed of secondary forests located on the western side of the southern portion on the island of Pagan. The unit extends from South Point up the western side ending at the island's isthmus (the natural land bridge connecting to the northern sections of Pagan). All lands are owned by the Commonwealth government.

(ii) Map of Humped Tree Snail–1, Pagan, follows:

Figure 2 to Humped Tree Snail (*Partula gibba*) paragraph (6)(ii)

Critical Habitat for Humped Tree Snail (*Partula gibba*)
Humped Tree Snail–1, Pagan
Commonwealth of the Northern Mariana Islands



(7) Humped Tree Snail–1, Alamagan; Commonwealth of the Northern Mariana Islands.

(i) This single critical habitat unit on the island of Alamagan consists of 1,420 ac (574 ha) and is composed of secondary forests extending along the northern, the entire western, and the southern slopes of the volcano. All lands are owned by the Commonwealth government.

(ii) Map of Humped Tree Snail–1, Alamagan, follows:

Figure 3 to Humped Tree Snail (*Partula gibba*) paragraph (7)(ii)

Critical Habitat for Humped Tree Snail
(*Partula gibba*)
Humped Tree Snail–1, Alamagan
Commonwealth of the
Northern Mariana Islands

(8) Humped Tree Snail–1, Sarigan; Commonwealth of the Northern Mariana Islands.

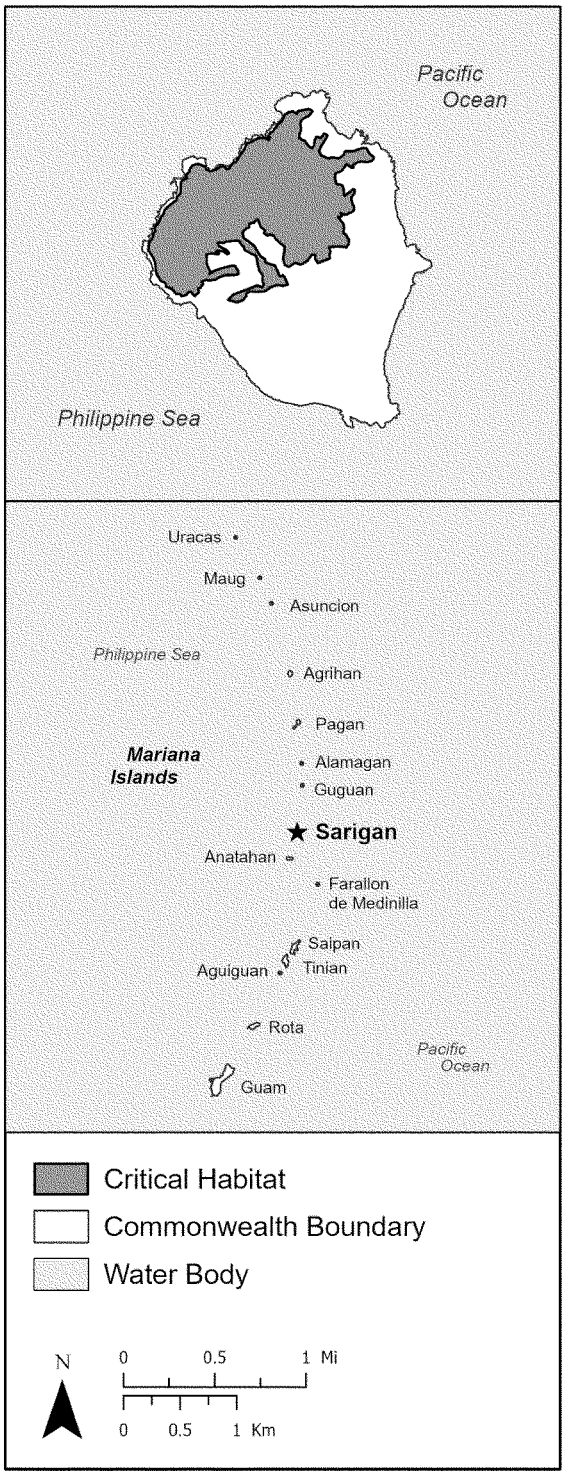
(i) This single critical habitat unit on the uninhabited (due to volcanic activity) island of Sarigan consists of 402 ac (163 ha) and is composed of secondary forests. The unit extends from the northwestern to the

northeastern side of the island. All lands are owned by the Commonwealth government.

(ii) Map of Humped Tree Snail–1, Sarigan, follows:

Figure 4 to Humped Tree Snail (*Partula gibba*) paragraph (8)(ii)

Critical Habitat for Humped Tree Snail (*Partula gibba*)
Humped Tree Snail–1, Sarigan
Commonwealth of the Northern Mariana Islands



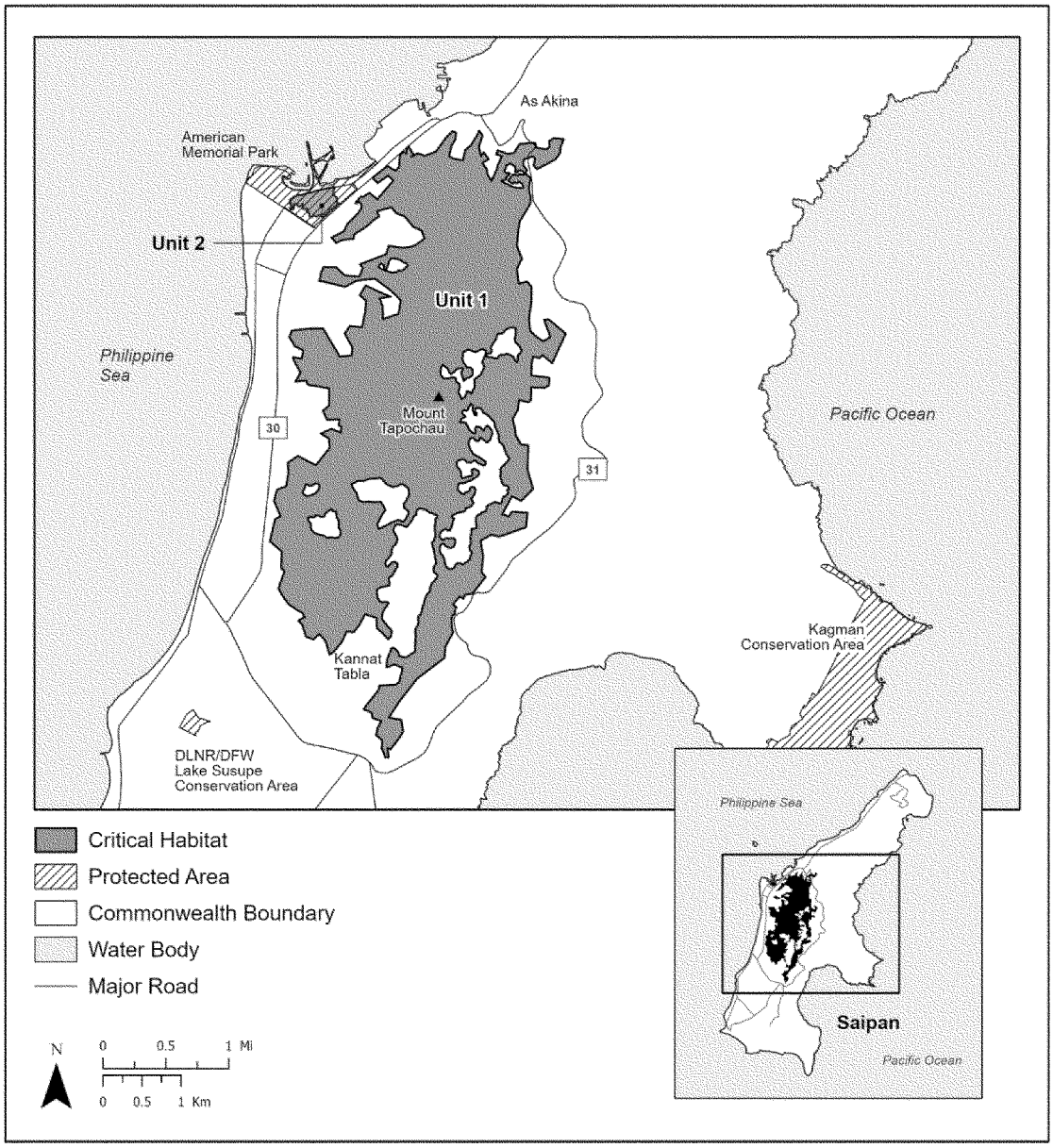
(9) Humped Tree Snail–1, Saipan; Commonwealth of the Northern Mariana Islands.

(i) Unit 1 of two units on the island of Saipan consists of 3,290 ac (1,332 ha) and is composed of secondary forests and is located on the western side of central Saipan. The unit extends from Route 30 towards Mt. Tapochau and ends near Route 31 in the east. The unit extends north into As Akina and south to Kannat Tabla. Landownership includes 893 ac (361 ha) of Commonwealth government lands, 2,393 ac (969 ha) in private ownership, and 4 ac (2 ha) that are uncategorized.

(ii) Map of Humped Tree Snail–1, Saipan, follows:

Figure 5 to Humped Tree Snail (*Partula gibba*) paragraph (9)(ii)

Critical Habitat for Humped Tree Snail (*Partula gibba*)
Humped Tree Snail–1, Saipan
Humped Tree Snail–2, Saipan
Commonwealth of the Northern Mariana Islands



(10) Humped Tree Snail–2, Saipan; Commonwealth of the Northern Mariana Islands.

(i) Unit 2 on the island of Saipan consists of 35 ac (14 ha) and is composed of secondary forests in the American Memorial Park on the western coast of Saipan, within the village of Garapan and adjacent to the village of As Palacios. All lands are owned by the Federal Government (National Park Service).

(ii) Map of Humped Tree Snail–2, Saipan, is provided at paragraph (9)(ii) of this entry.

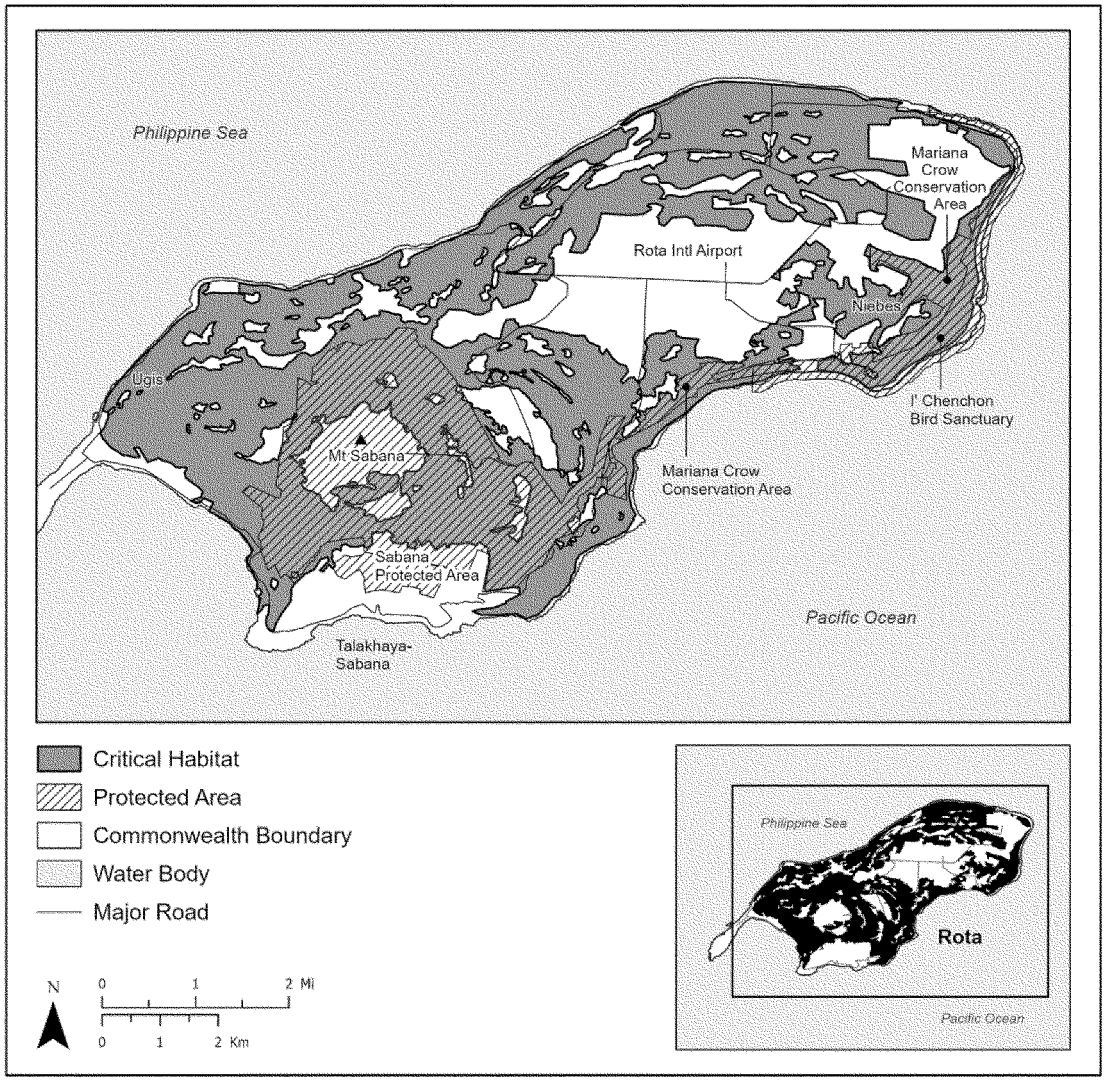
(11) Humped Tree Snail–1, Rota; Commonwealth of the Northern Mariana Islands.

(i) This single critical habitat unit on the island of Rota consists of 12,282 ac (4,970 ha) and is composed of forested lands across the majority of the island with the exception of developed areas, Mt. Sabana, and the watersheds at the southern end. Landownership includes 9,294 ac (3,761 ha) of Commonwealth government lands, 2,954 ac (1,195 ha) in private ownership, and 34 ac (14 ha) that are uncategorized. The northeastern coastal portion of the unit overlaps the I'Chenchon Bird Sanctuary Conservation Area, and the southcentral area overlaps the Sabana Protected Area.

(ii) Map of Humped Tree Snail–1, Rota, follows:

Figure 7 to Humped Tree Snail (*Partula gibba*) paragraph (12)(ii)

Critical Habitat for Humped Tree Snail (*Partula gibba*)
Humped Tree Snail–1, Rota
Commonwealth of the Northern Mariana Islands



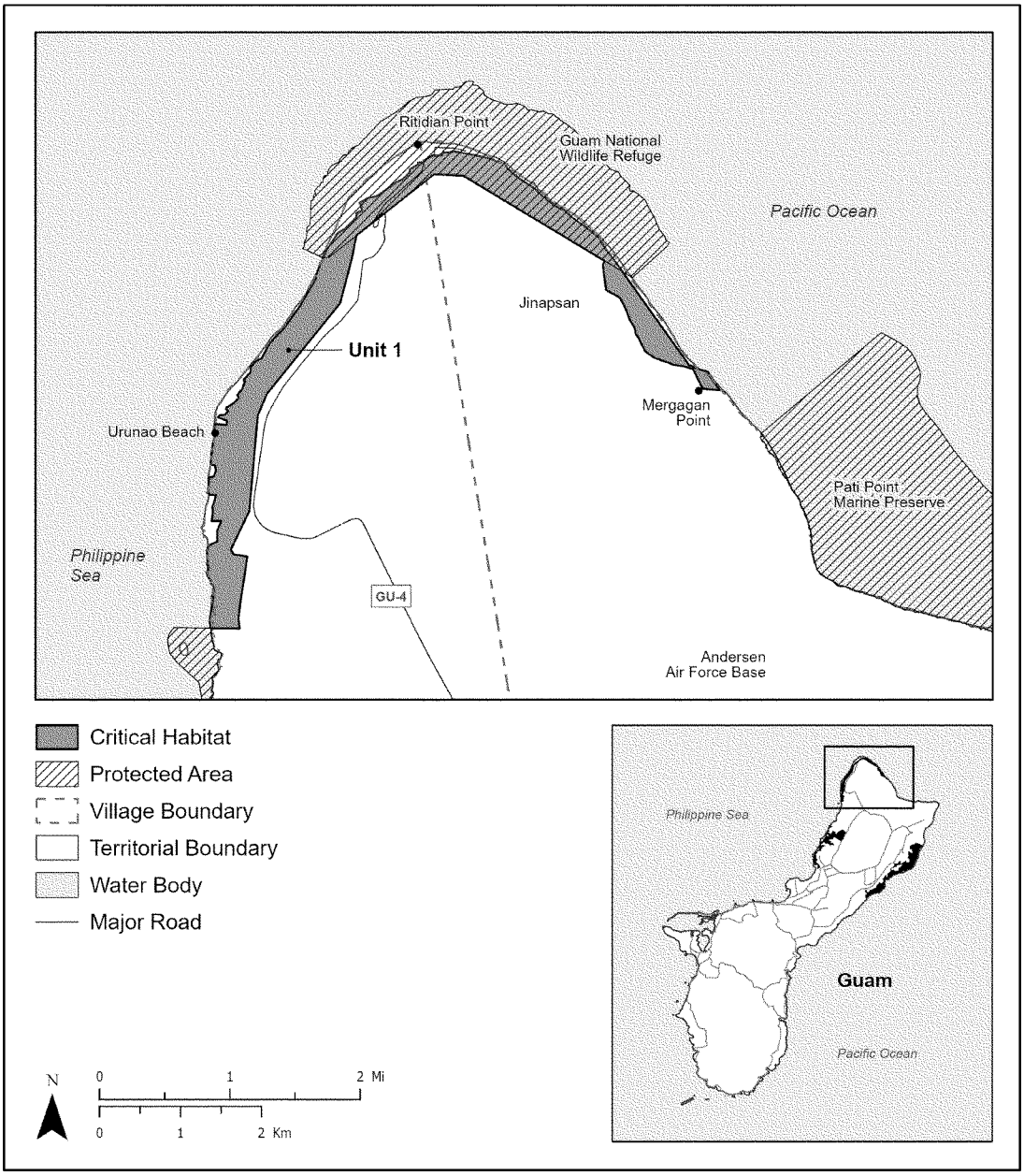
(12) Humped Tree Snail–1, Guam; Territory of Guam.

(i) Unit 1 on the island of Guam consists of 856 ac (346 ha) and is composed of a band of secondary limestone forest in a horseshoe-shape on the northwestern point of Guam (Ritidian Point). The unit extends from the southwestern boundary south of Urunao Beach and runs north along the cliffline towards Jinapsan ending at Mergagan Point. Landownership includes 262 ac (106 ha) of Federal lands (Guam NWR), 68 ac (27 ha) of Territory government lands, 408 ac (165 ha) in private ownership, and 118 ac (48 ha) that are uncategorized.

(ii) Map of Humped Tree Snail–1, Guam, follows:

Figure 8 to Humped Tree Snail (*Partula gibba*) paragraph (13)(ii)

Critical Habitat for Humped Tree Snail *(Partula gibba)*
Humped Tree Snail–1, Guam
Territory of Guam



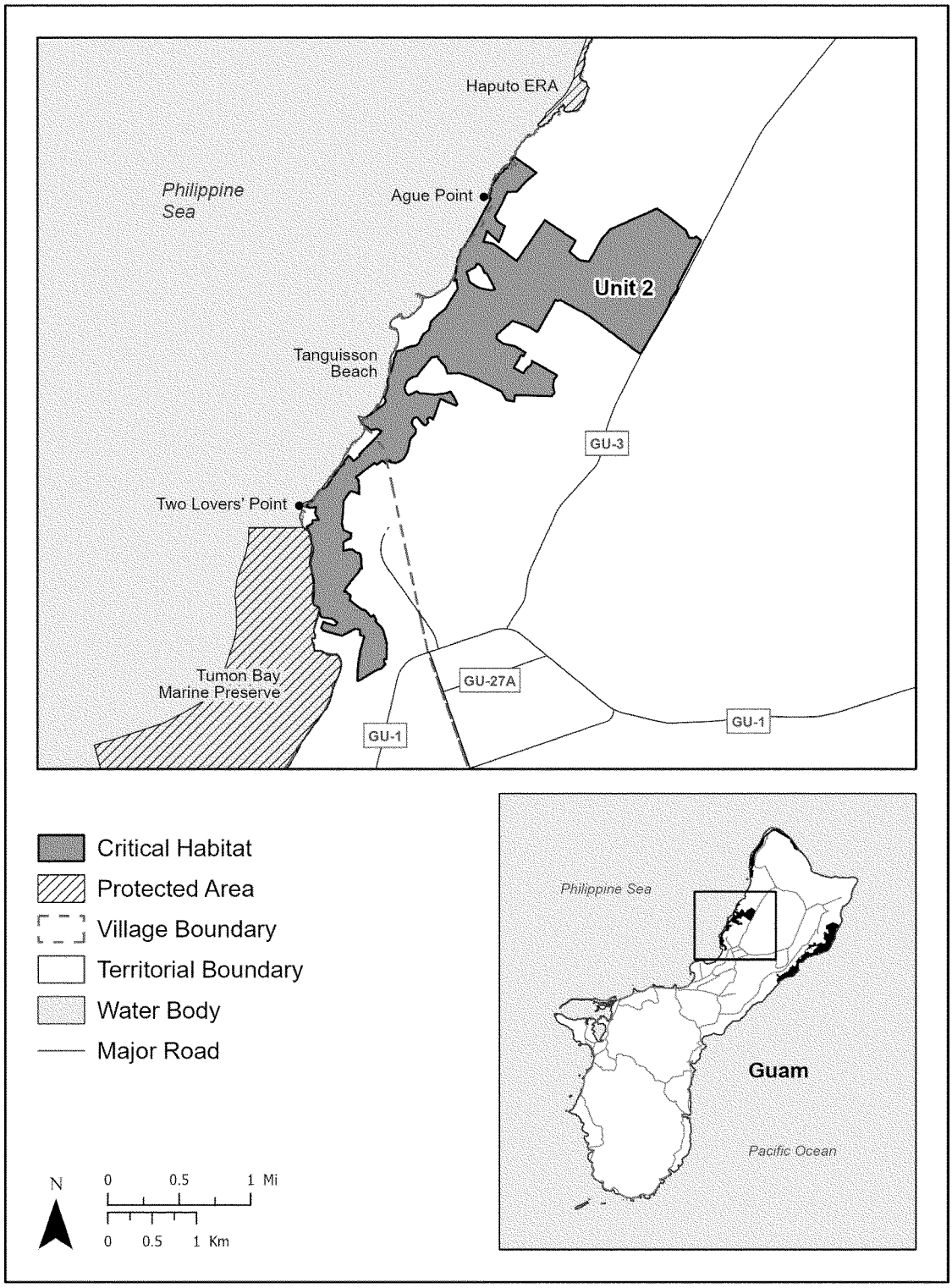
(13) Humped Tree Snail–2, Guam; Territory of Guam.

(i) Unit 2 on the island of Guam consists of 1,245 ac (504 ha) and is composed of limestone forests along the northwestern edge of the island. The unit lies west of Route 3 and extends from the clifflines overlooking Tumon Bay west of Route 1 and runs north to Ague Point. Landownership includes 1,081 ac (437 ha) of Territory government lands, 108 ac (44 ha) in private ownership, and 56 ac (23 ha) that are uncategorized.

(ii) Map of Humped Tree Snail–2, Guam, follows:

Figure 9 to Humped Tree Snail (*Partula gibba*) paragraph (14)(ii)

Critical Habitat for Humped Tree Snail *(Partula gibba)*
Humped Tree Snail–2, Guam
Territory of Guam



(14) Humped Tree Snail–3, Guam; Territory of Guam.

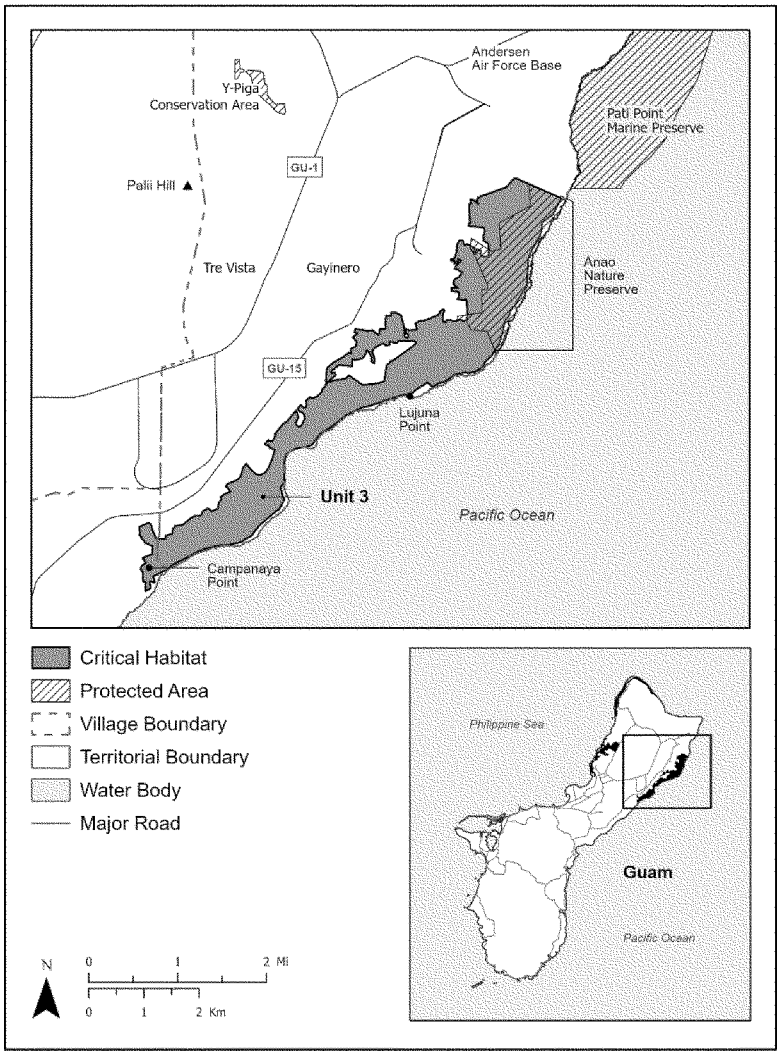
(i) Unit 3 on the island of Guam consists of 2,166 ac (877 ha) and is composed of limestone forests along the northeastern coastal edge of the island. The unit begins at the boundary of the Anao Nature Preserve, immediately adjacent to the southern end of the Guam NWR boundary, and extends southwest along the coast to Campanaya Point. Landownership includes 1,549 ac

(627 ha) of Territory government lands, 270 ac (109 ha) in private ownership, and 347 ac (141 ha) that are uncategorized. The northeastern portion of this unit overlaps the Anao Nature Preserve.

(ii) Map of Humped Tree Snail–3, Guam, follows:

Figure 10 to Humped Tree Snail (*Partula gibba*) paragraph (15)(ii)

Critical Habitat for Humped Tree Snail *(Partula gibba)*
Humped Tree Snail–3, Guam
Territory of Guam



Langford's Tree Snail (*Partula langfordi*)

(1) One critical habitat unit is depicted for Aguiguan within the Commonwealth of the Northern Mariana Islands, on the map in this entry.

(2) Within this area, the physical or biological features essential to the conservation of the Langford's tree snail consist of the following components:

(i) Contiguous closed-canopy limestone, volcanic, riverine, riparian, ravine, or secondary/mixed forests, or backstrand beach vegetation, providing relatively stable climatic conditions such as shade, moisture, high humidity, and low air movement.

(ii) Dense mid-canopy vegetation such as large leaves, branches, vines, or other structures.

(iii) Understory such as ground cover composed of short herbs, shrubs, ferns, or small trees.

(iv) Food sources such as dead and decaying plant material, leaf litter, and tree debris.

(3) Critical habitat does not include manmade structures (such as buildings or paved areas including aqueducts, runways, or roads) and the land on which they are located existing within the legal boundaries on the effective date of the final rule.

(4) Data layers defining the map unit were created using survey and distribution data provided by multiple local and regional sources as available (*e.g.,* reports, databases, and species experts' knowledge) and as maintained by universities, local governments, and nonprofit organizations across the Mariana Islands. Landcover data (*e.g.,* soil substrate, vegetation, and elevation) were obtained and compiled from multiple Federal and local government agencies. Temperature and precipitation data were obtained and compiled from journal publications. Landforms were primarily delineated based on the most currently available aerial maps and

satellite imagery. The map in this entry, as modified by any accompanying regulatory text, establishes the boundaries of the critical habitat designation. The coordinates or plot points or both on which the map is based are available to the public at the Service's internet site at *https://www.fws.gov/project/critical-habitat-mariana-islands,* at *https://www.regulations.gov* at Docket No. FWS–R1–ES–2024–0194, and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) There is a single critical habitat unit on the island of Aguiguan. The critical habitat unit name comprises the species name, a numeral digit (1) to correspond with the number of critical habitat units on the island for this species, and an island name.

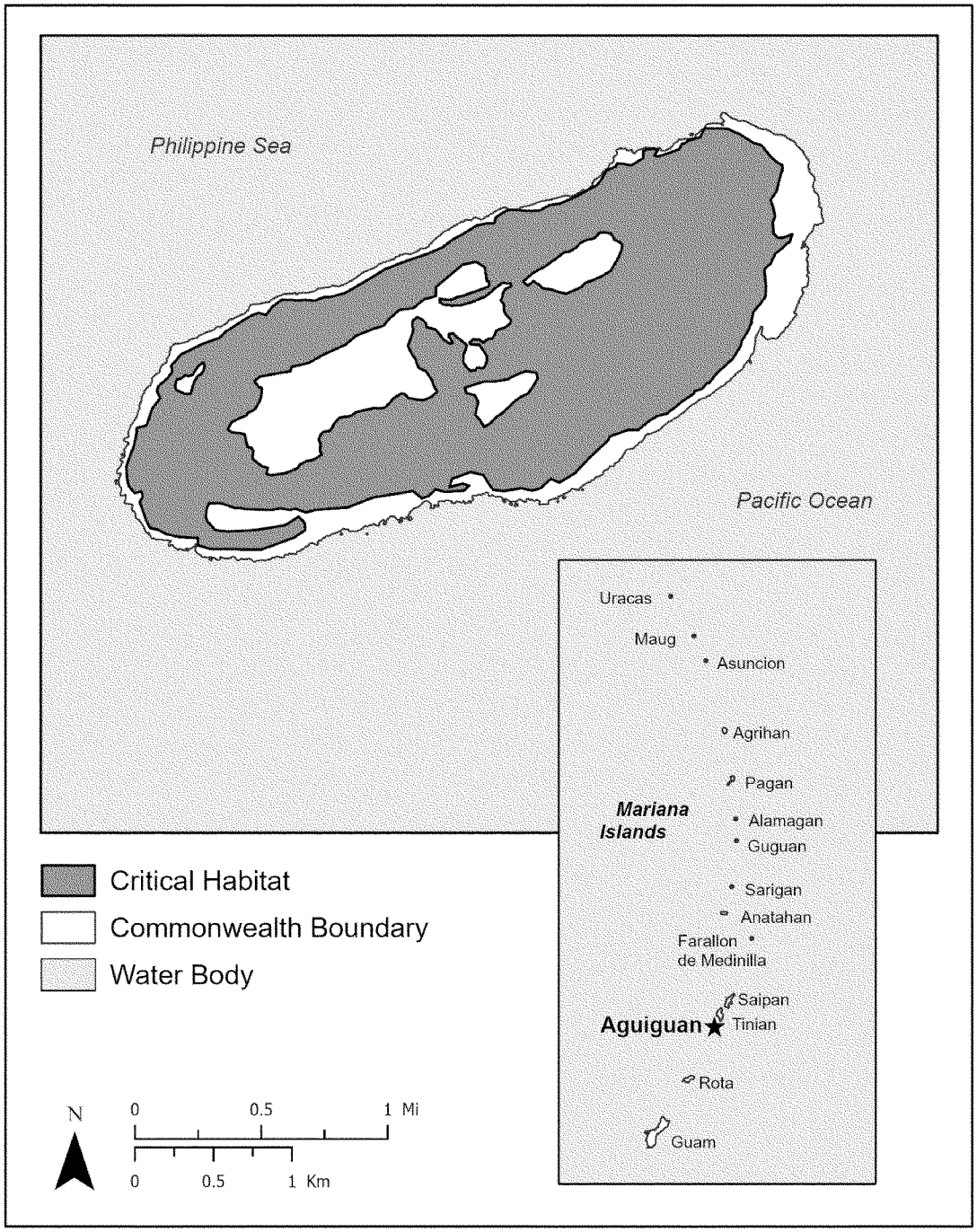
(6) Langford's Tree Snail–1, Aguiguan; Commonwealth of the Northern Mariana Islands.

(i) This single critical habitat unit on the island of Aguiguan consists of 1,217 ac (492 ha) and is composed of limestone and secondary forests. The unit extends across the majority of the island with the exception of grasslands in the center of the island and bare rock along the coastline. All lands are owned by the Commonwealth government.

(ii) Map of Langford's Tree Snail–1, Aguiguan, follows:

Figure 1 to Langford's Tree Snail (*Partula langfordi*) paragraph (6)

Critical Habitat for Langford's Tree Snail (*Partula langfordi*)
Langford's Tree Snail–1, Aguiguan
Commonwealth of the Northern Mariana Islands



* * * * *

(i) *Insects.*

* * * * *

Mariana Eight-Spot Butterfly (Hypolimnas Octocula Marianensis)

(1) Critical habitat units are depicted for Guam within the Territory of Guam, on the maps in this entry.

(2) Within these areas, the physical or biological features essential to the conservation of Mariana eight-spot butterfly consist of the following components:

(i) Interconnected native, closed-canopy limestone forests.

(ii) Larval host plants such as *Procris pedunculata* (no common name) or *Elatostema calcareum* (tapun ayuyu).

(iii) Food resources from day-flowering plants or decaying organic matter (*e.g.,* rotten fruits or animals).

(3) Critical habitat does not include manmade structures (such as buildings or paved areas including aqueducts, runways, or roads) and the land on which they are located existing within the legal boundaries on the effective date of the final rule.

(4) Data layers defining map units were created using survey and distribution data provided by multiple local and regional sources as available (*e.g.,* reports, databases, and species experts' knowledge) and as maintained by universities, local governments, and nonprofit organizations across the Mariana Islands. Landcover data (*e.g.,* soil substrate, vegetation, and elevation) were obtained and compiled from multiple Federal and local government agencies. Temperature and precipitation data were obtained and compiled from journal publications. Landforms were primarily delineated based on the most currently available aerial maps and satellite imagery. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site at *https://www.fws.gov/project/critical-habitat-mariana-islands,* at *https://www.regulations.gov* at Docket No. FWS–R1–ES–2024–0194, and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

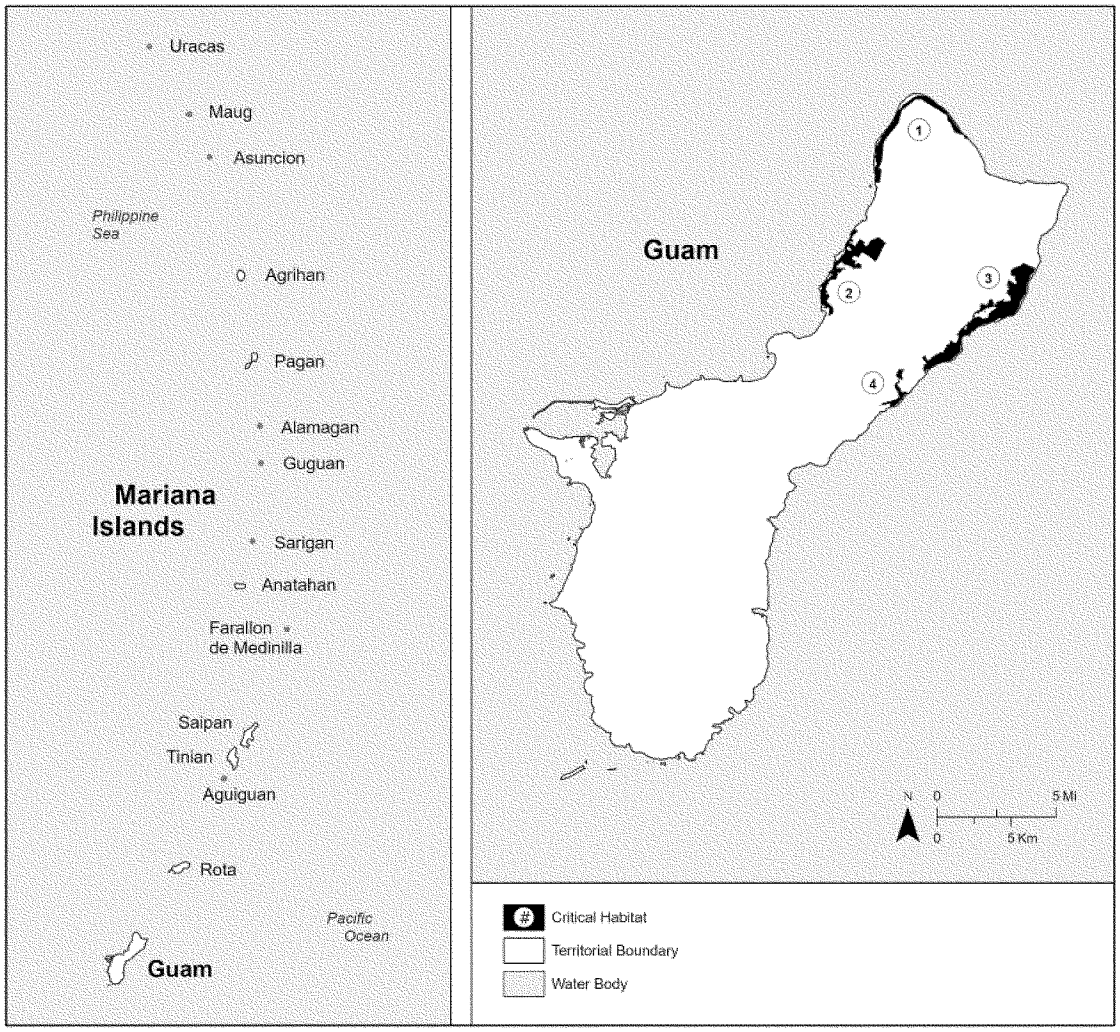
(5) The following index map shows the general locations of critical habitat units designated on the island of Guam, with each location/area identified as a specific number.

(i) Each critical habitat unit name comprises the species name, a numeral digit, and an island name. The numeral digit within a unit name corresponds with the number of the critical habitat unit on the island, totaling four units for this species.

(ii) Index map follows:

Figure 1 to the Mariana Eight-Spot Butterfly (*Hypolimnas octocula marianensis*) paragraph (5)(ii)

Critical Habitat for Mariana Eight-Spot Butterfly
(*Hypolimnas octocula marianensis*)
Index Map for the Island of Guam, Territory of Guam



(6) Mariana Eight-Spot Butterfly—1, Guam; Territory of Guam.

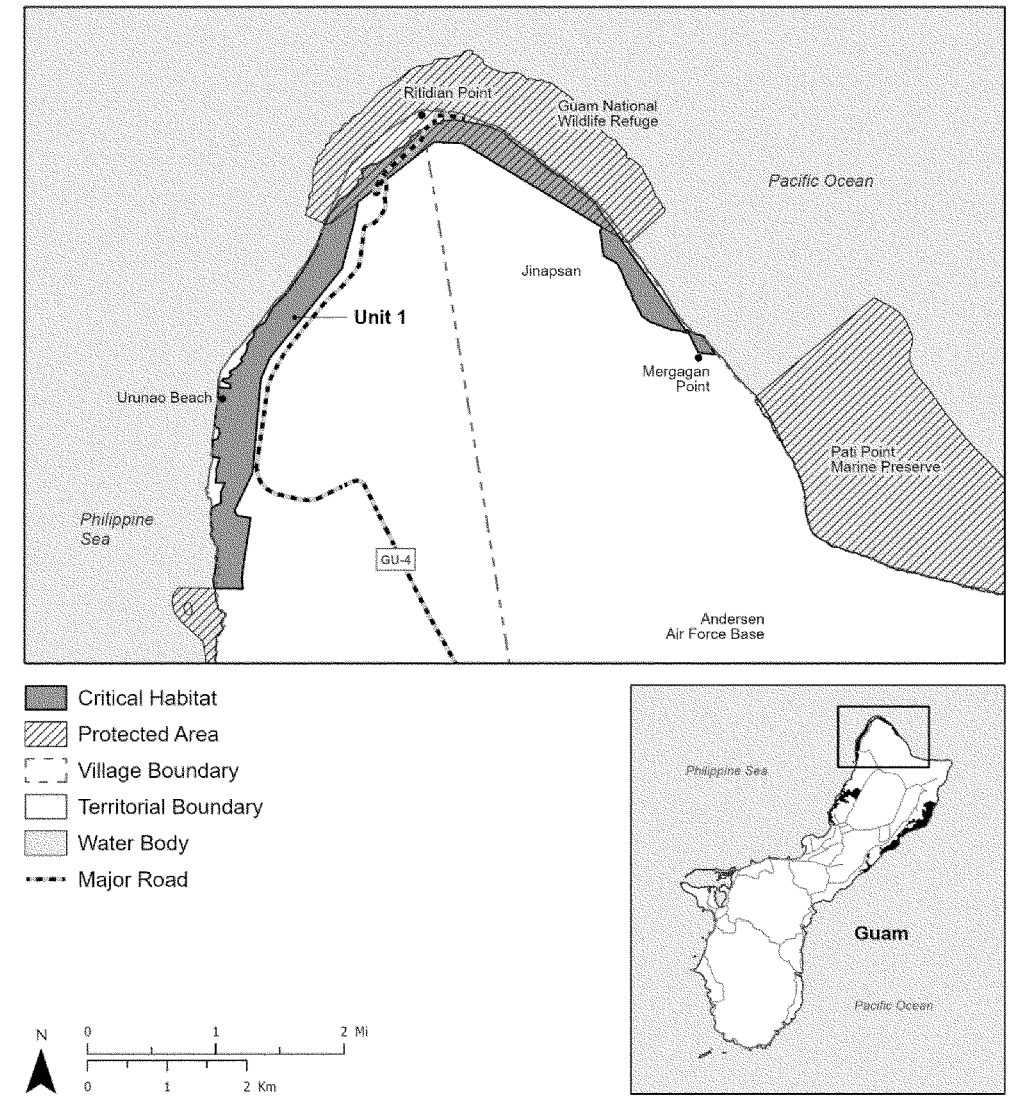
(i) Unit 1 on the island of Guam consists of 856 ac (346 ha) and is composed of a band of secondary limestone forest in a horseshoe-shape on the northwestern point of Guam (Ritidian Point). The unit extends from the southwestern boundary south of Urunao Beach and runs north along the cliffline towards Jinapsan ending at Mergagan Point. Landownership includes 262 ac (106 ha) of Federal lands (Guam NWR), 68 ac (27 ha) of Territory government lands, 408 ac (165

ha) in private ownership, and 118 ac (48 ha) that are uncategorized.

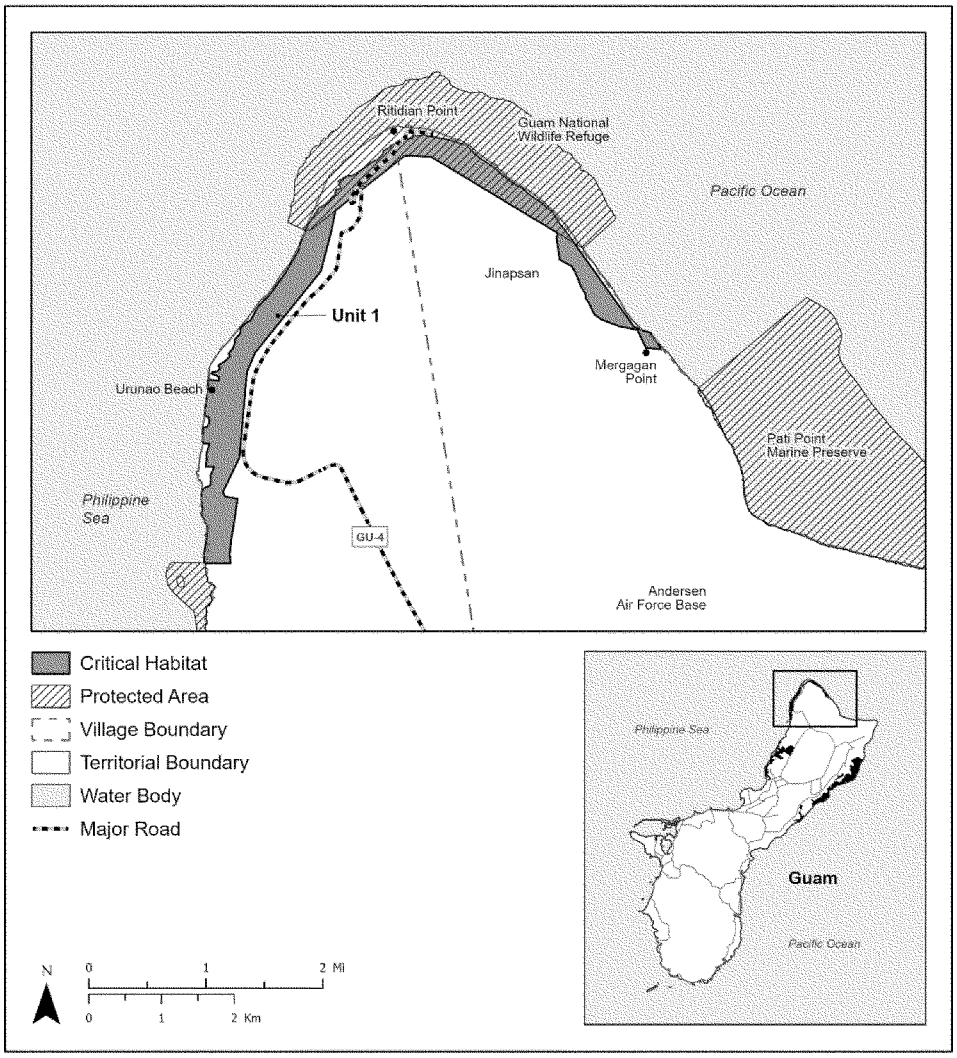
(ii) Map of Mariana Eight-Spot Butterfly—1, Guam, follows:

Figure 2 to Mariana Eight-Spot Butterfly (*Hypolimnas octocula marianensis*) paragraph (6)(ii)

Critical Habitat for Mariana Eight-Spot Butterfly (*Hypolimnas octocula marianensis*)
Mariana Eight-Spot Butterfly–1, Guam
Territory of Guam



Critical Habitat for Mariana Eight-Spot Butterfly (*Hypolimnas octocula marianensis*)
Mariana Eight-Spot Butterfly–1, Guam
Territory of Guam



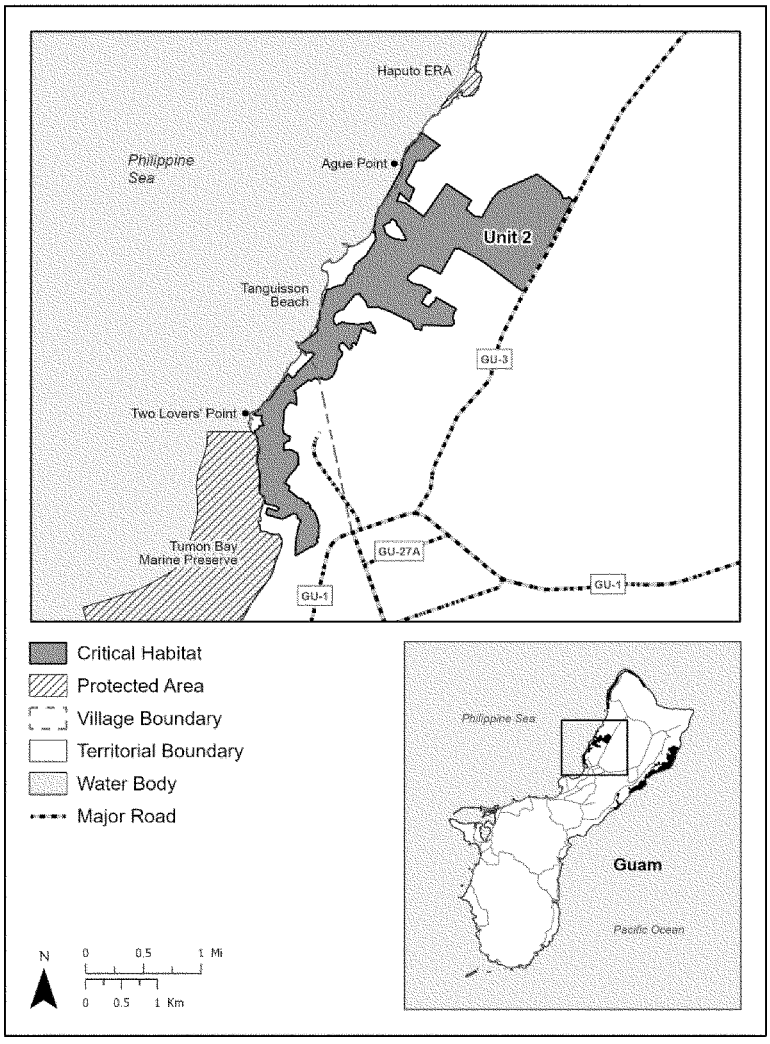
(7) Mariana Eight-Spot Butterfly—2, Guam; Territory of Guam.

(i) Unit 2 on the island of Guam consists of 1,245 ac (504 ha) in the Territory of Guam and is composed of limestone forests along the northwestern edge of the island. It lies west of Route 3 and extends from the clifflines overlooking Tumon Bay west of Route 1 and runs north to Ague Point. Landownership includes 1,081 ac (437 ha) of Territory government lands, 108 ac (44 ha) in private ownership, and 56 ac (23 ha) that are uncategorized.

(ii) Map of Mariana Eight-Spot Butterfly—2, Guam, follows:

Figure 3 to Mariana Eight-Spot Butterfly (*Hypolimnas octocula marianensis*) paragraph (7)(ii)

Critical Habitat for Mariana Eight-Spot Butterfly
(*Hypolimnas octocula marianensis*)
Mariana Eight-Spot Butterfly–2, Guam
Territory of Guam



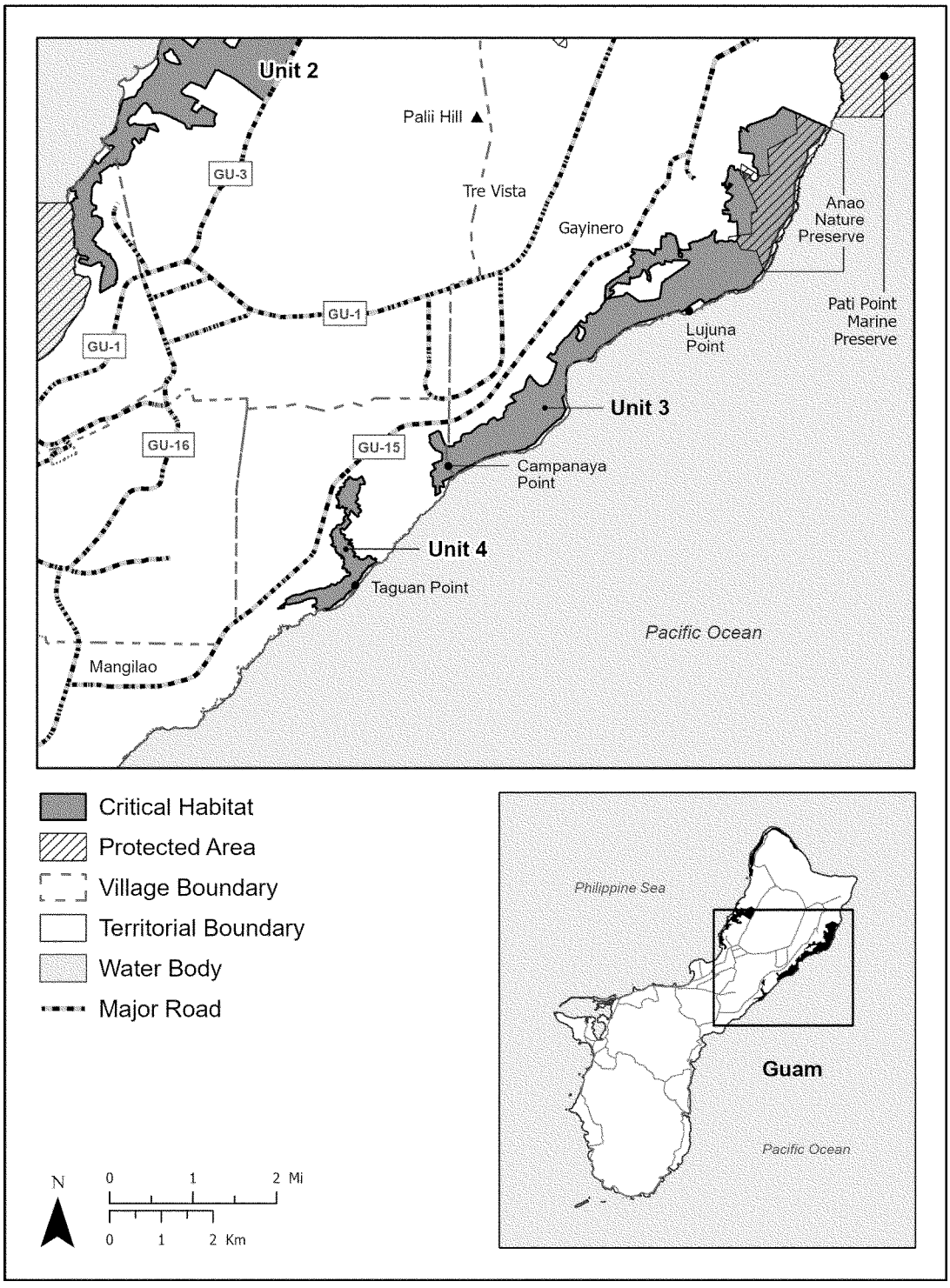
(8) Mariana Eight-Spot Butterfly—3, Guam; Territory of Guam.

(i) Unit 3 on the island of Guam consists of 2,166 ac (877 ha) and is composed of limestone forests along the northeastern coastal edge of the island. The unit begins at the boundary of the Anao Nature Preserve, immediately adjacent to the southern end of the Guam NWR boundary and extends southwest along the coast to Campanaya Point. Landownership includes 1,549 ac (627 ha) of Territory government land, 270 ac (109 ha) in private ownership, and 347 ac (141 ha) that are uncategorized. The northeastern portion of this unit overlaps the Anao Nature Preserve.

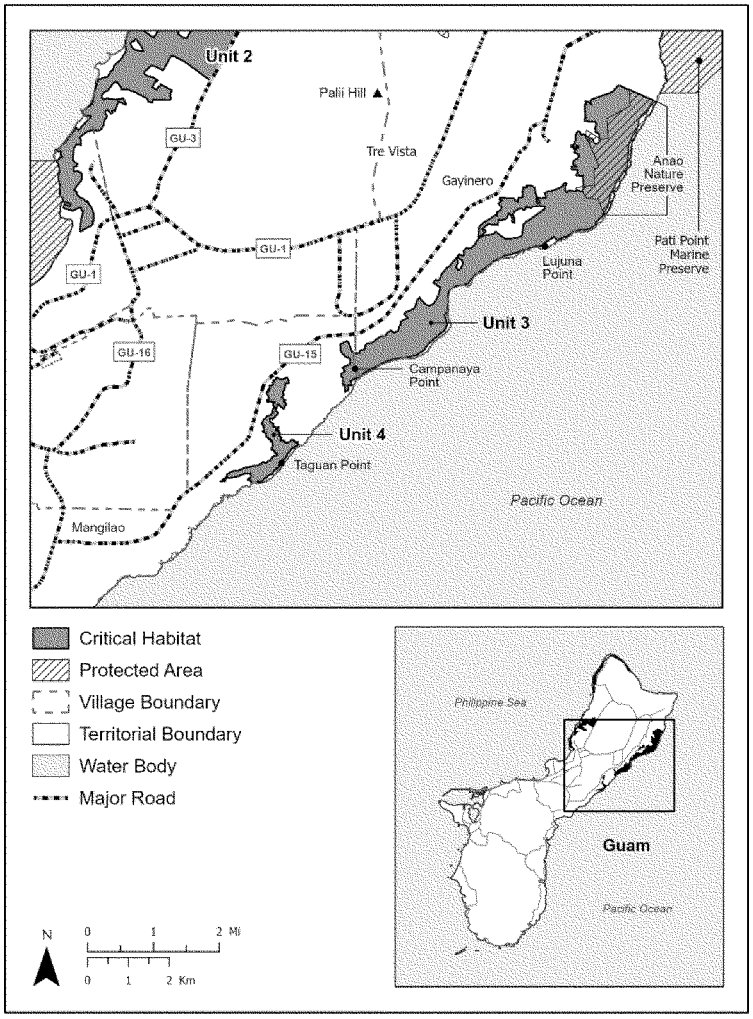
(ii) Map of Mariana Eight-Spot Butterfly—3 and Mariana Eight-Spot Butterfly—4, Guam, follows:

Figure 4 to Mariana Eight-Spot Butterfly (*Hypolimnas octocula marianensis*) paragraph (8)(ii)

Critical Habitat for Mariana Eight-Spot Butterfly
(*Hypolimnas octocula marianensis*)
Mariana Eight-Spot Butterfly–3, Guam
Mariana Eight-Spot Butterfly–4, Guam
Territory of Guam



Critical Habitat for Mariana Eight-Spot Butterfly
(*Hypolimnas octocula marianensis*)
Mariana Eight-Spot Butterfly–3, Guam
Mariana Eight-Spot Butterfly–4, Guam
Territory of Guam



(9) Mariana Eight-Spot Butterfly—4, Guam; Territory of Guam.

(i) Unit 4 on the island of Guam consists of 242 ac (98 ha) and is composed of limestone, secondary, and coastal strand forests from Taguan Point and extending east towards Route 15 in the village of Mangilao. Landownership includes 133 ac (54 ha) in private ownership and 109 ac (44 ha) that are uncategorized.

(ii) Map of Mariana Eight-Spot Butterfly—4, Guam, is provided at paragraph (8)(ii) of this entry.

Mariana Wandering Butterfly (Vagrans Egistina)

(1) One critical habitat unit is depicted for Rota within the Commonwealth of the Northern Mariana Islands, on the map in this entry.

(2) Within this area, the physical or biological features essential to the conservation of Mariana wandering butterfly consist of the following components:

(i) Interconnected native limestone forest.

(ii) Native limestone forest understory vegetation.

(iii) Larval host plants such as *Maytenus thompsonii* (luluhut).

(iv) Food resources from day-flowering plants or decaying organic matter (*e.g.,* rotten fruits or animals).

(3) Critical habitat does not include manmade structures (such as buildings or paved areas including aqueducts, runways, or roads) and the land on which they are located existing within the legal boundaries on the effective date of the final rule.

(4) Data layers defining the map unit were created using survey and distribution data provided by multiple local and regional sources as available (*e.g.,* reports, databases, and species experts' knowledge) and as maintained by universities, local governments, and nonprofit organizations across the Mariana Islands. Landcover data (*e.g.,* soil substrate, vegetation, and elevation) were obtained and compiled from multiple Federal and local government agencies. Temperature and precipitation data were obtained and compiled from journal publications. Landforms were primarily delineated based on the most currently available aerial maps and satellite imagery. The map in this entry, as modified by any accompanying regulatory text, establishes the boundaries of the critical habitat designation. The coordinates or plot points or both on which the map is based are available to the public at the Service's internet site at *https://www.fws.gov/project/critical-habitat-mariana-islands,* at *https://*

www.regulations.gov at Docket No. FWS–R1–ES–2024–0194, and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) There is a single critical habitat unit on the island of Rota. The critical habitat unit name comprises the species name, a numeral digit (1) that corresponds with the number of critical habitat units on the island for this species, and an island name.

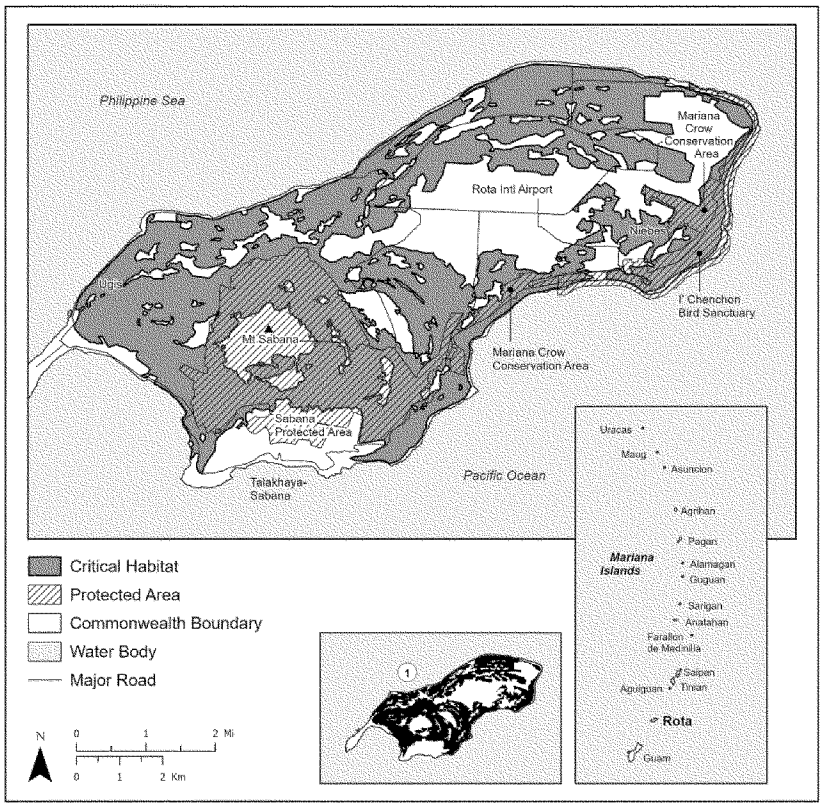
(6) Mariana Wandering Butterfly—1, Rota; Commonwealth of the Northern Mariana Islands.

(i) This single critical habitat unit on the island of Rota consists of 12,282 ac (4,970 ha) and is composed of forested lands across the majority of the island with the exception of developed areas, Mt. Sabana, and the watersheds at the southern end. Landownership includes 9,294 ac (3,761 ha) of Commonwealth government lands, 2,954 ac (1,195 ha) in private ownership, and 34 ac (14 ha) that are uncategorized. The northeastern coastal portion of the unit overlaps the I'Chenchon Bird Sanctuary Conservation Area, and the southcentral area overlaps the Sabana Protected Area.

(ii) Map of Mariana Wandering Butterfly—1, Rota, follows:

Figure 1 to Mariana Wandering Butterfly (*Vagrans egistina*) paragraph (6)(ii)

Critical Habitat for Mariana Wandering Butterfly (*Vagrans egistina*)
Mariana Wandering Butterfly–1, Rota
Commonwealth of the Northern Mariana Islands



* * * * *

Rota Blue Damselfly (Ischnura Luta)

(1) One critical habitat unit is depicted for Rota within the Commonwealth of the Northern Mariana Islands, on the map in this entry.

(2) Within this area, the physical or biological features essential to the conservation of the Rota blue damselfly consist of the following components:

(i) Contiguous closed-canopy forest habitats surrounding streams and their tributaries with adequate cool, clean, clear, moving water.

(ii)) Riparian vegetation adjacent to streams and their tributaries.

(iii) Small prey such as water fleas, larvae, or other small invertebrate or aquatic organisms.

(3) Critical habitat does not include manmade structures (such as buildings or paved areas including aqueducts, runways, or roads) and the land on which they are located existing within the legal boundaries on the effective date of the final rule.

(4) Data layers defining the map unit were created using survey and distribution data provided by multiple local and regional sources as available (*e.g.,* reports, databases, and species expert's knowledge) and as maintained by universities, local governments, and nonprofit organizations across the Mariana Islands. Landcover data (*e.g.,* soil substrate, vegetation, and elevation) were obtained and compiled from multiple Federal and local government agencies. Temperature and precipitation data were obtained and compiled from journal publications. Landforms were primarily delineated based on the most currently available aerial maps and satellite imagery. The map in this entry, as modified by any accompanying regulatory text, establishes the boundaries of the critical habitat designation. The coordinates or plot points or both on which the map is based are available to the public at the Service's internet site at *https://www.fws.gov/project/critical-habitat-mariana-islands,* at *https://*

www.regulations.gov at Docket No. FWS–R1–ES–2024–0194, and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) There is a single critical habitat unit on the island of Rota. The critical habitat unit name comprises the species name, a numeral digit (1) that corresponds with the number of critical habitat units on the island for this species, and an island name.

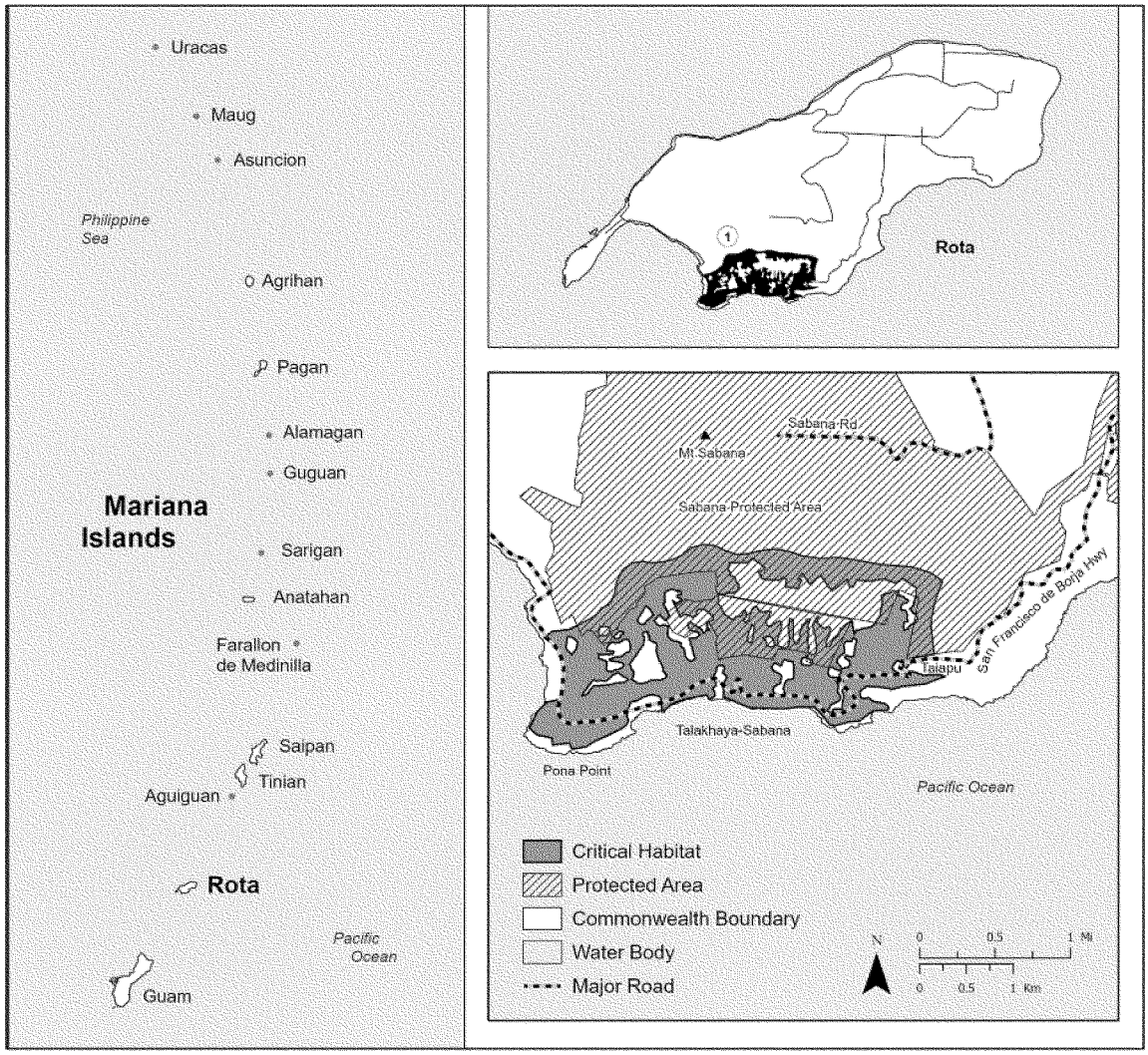
(6) Rota Blue Damselfly—1, Rota; Commonwealth of the Northern Mariana Islands.

(i) This single critical habitat unit on the island of Rota consists of 1,133 ac (459 ha) and is composed of limestone and secondary forests containing streams and riparian vegetation on the southern slopes of Mt. Sabana. This unit begins near Pona Point and extends east towards Taipu and north including the clifflines of the Sabana within the Talakhaya watershed. Landownership includes 671 ac (272 ha) of Commonwealth government lands, 433 ac (175 ha) in private ownership, and 29 ac (12 ha) that are uncategorized. Northern portions of this unit overlap the Sabana Protected Area.

(ii) Map of Rota Blue Damselfly—1, Rota, follows:

Figure 1 to Rota blue damselfly (*Ischnura luta*) paragraph (6)(ii)

Critical Habitat for Rota Blue Damselfly (*Ischnura luta*)
Rota Blue Damselfly–1, Rota
Commonwealth of the Northern Mariana Islands



* * * * *

■ 5. Amend § 17.96 by:

■ a. In paragraph (a), adding:

■ i. An entry for ''Family Apocynaceae: *Tabernaemontana rotensis* (no common name)'' after the entry for ''Family Apocynaceae: *Asclepias prostrata* (prostrate milkweed)'';

■ ii. An entry for ''Family Malvaceae: *Heritiera longipetiolata* (ufa halumtanu, ufa halomtano)'' before the entry for ''Family Malvaceae: *Hibiscus dasycalyx* (Neches River rose-mallow)'';

■ iii. Entries for ''Family Menispermaceae: *Tinospora homosepala* (no common name)'', ''Family Myrsinaceae: *Maesa walkeri* (no common name)'', and ''Family Myrtaceae: *Eugenia bryanii* (no common name)'' after the entry for ''Family Malvaceae: *Sphaeralcea gierischii* (Gierisch mallow)'';

■ iv. Entries for ''Family Orchidaceae: *Bulbophyllum guamense* (siboyas

halumtanu, siboyan halomtano)'', ''Family Orchidaceae: *Dendrobium guamense* (no common name)'', and ''Family Orchidaceae: *Nervilia jacksoniae* (no common name)'' before the entry for ''Family Orchidaceae: *Piperia yadonii* (Yadon's piperia)'' and, after that entry, adding an entry for ''Family Orchidaceae: *Tuberolabium guamense* (no common name)'';

■ v. An entry for ''Family Phyllanthaceae: *Phyllanthus saffordii* (maigo lalo)'' after the entry for ''Family Orobanchaceae: *Castilleja cinerea* (ash-gray Indian paintbrush)''; and

■ vi. Entries for ''Family Rubiaceae: *Hedyotis megalantha* (pau dedo, pao doodu)'' and ''Family Rubiaceae: *Psychotria malaspinae* (aplokhating palaoan)'' after the entry for ''Family Rubiaceae: *Catesbaea melanocarpa* (no common name)''; and

■ b. In paragraph (b), adding paragraph (b)(2).

The additions read as follows:

§ 17.96 Critical habitat—plants.

(a) *Flowering plants.*

* * * * *

Family Apocynaceae: Tabernaemontana Rotensis (No Common Name)

(1) Critical habitat units are depicted for Rota within the Commonwealth of the Northern Mariana Islands, and Guam within the Territory of Guam, on the maps in this entry.

(2) Within these areas, the physical or biological features essential to the conservation of *Tabernaemontana rotensis* consist of the following components:

(i) Interconnected native limestone forests, open patches, and forest edges providing moderate to full sunlight.

(ii) Native limestone forest habitat vegetation such as (but not limited to) *Abrus* spp., *Aidia* spp., *Aglaia* spp., *Aglaia mariannensis* (mapunyao, mapunao, fischil liyoos), *Aidia cochinchinensis* (sumak), *Asplenium nidus* (galak, fedda, bird's nest fern), *Elaeocarpus* spp., *Ficus* spp., *Freycinetia* spp., *Guamia* spp., *Hernandia* spp., *Hibiscus tiliaceus* (sea hibiscus, pago), *Intsia bijuga* (ifit, Borneo teak), *Macaranga thompsonii* (NCN), *Melanolepis* spp., *Morinda citrifolia* (lada, noni, Indian mulberry), *Operculina* spp., *Pandanus* spp., *Phymatosorus scolopendria* (monarch fern, kahlao), *Pipturus* spp., *Pisonia grandis* (umumu, bird-catcher tree, cabbage tree, birdlime tree), *Pouteria* spp., *Premna* spp., *Psychotria mariana* (applok hating, aplohkateng, aplu kati, gathemach, aploghating, aplokhating), and *Trema* spp.

(iii) Native seed dispersers such as birds and fruit bats.

(iv) Native pollinators, such as butterflies and other generalist pollinators and native vegetation to support them.

(3) Critical habitat does not include manmade structures (such as buildings or paved areas including aqueducts, runways, or roads) and the land on which they are located existing within the legal boundaries on the effective date of the final rule.

(4) Data layers defining map units were created using survey and distribution data provided by multiple local and regional sources as available (*e.g.,* reports, databases, and species experts' knowledge) and as maintained by universities, local governments, and nonprofit organizations across the Mariana Islands. Landcover data (*e.g.,* soil substrate, vegetation, and elevation) were obtained and compiled from multiple Federal and local government agencies. Temperature and precipitation data were obtained and compiled from journal publications. Landforms were primarily delineated based on the most currently available aerial maps and satellite imagery. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site at *https://www.fws.gov/project/critical-habitat-mariana-islands,* at *https://www.regulations.gov* at Docket No. FWS–R1–ES–2024–0194, and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) The following index maps show the general locations of critical habitat units for all plant species designated on each island, with each location/area on each island identified as a specific number on the index maps. These island location/area numbers allow for comparison of overlapping critical habitat units for other listed species within the same location.

(i) Each critical habitat unit name comprises an island name, a number corresponding to a specific geographic location/area on the applicable island, which may include overlapping units for different species, the species name, and a letter. The letter at the end of each critical habitat unit name corresponds to the number of units present on a given island, where each escalating letter for each island corresponds to the additive number of units per island for the species. Critical habitat for *Tabernaemontana rotensis* includes two units on the island of Rota and five units on the island of Guam, for a total of seven critical habitat units.

(ii) Index maps follow:

Figure 1 to Family Apocynaceae: *Tabernaemontana rotensis* (No Common Name) paragraph (5)(ii)

Critical Habitat
Index Map for Plants on the Islands of Rota,
Commonwealth of the Northern Mariana Islands

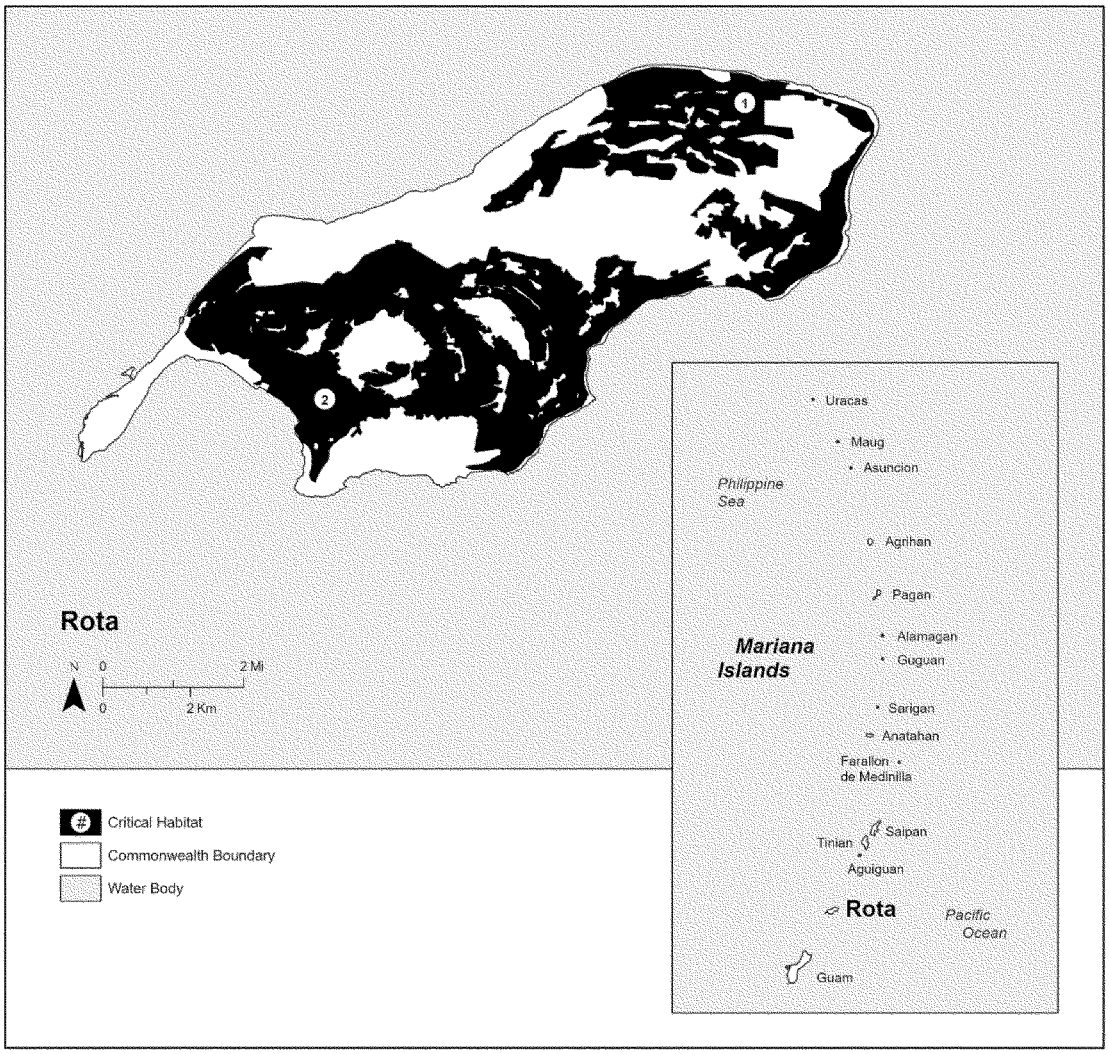
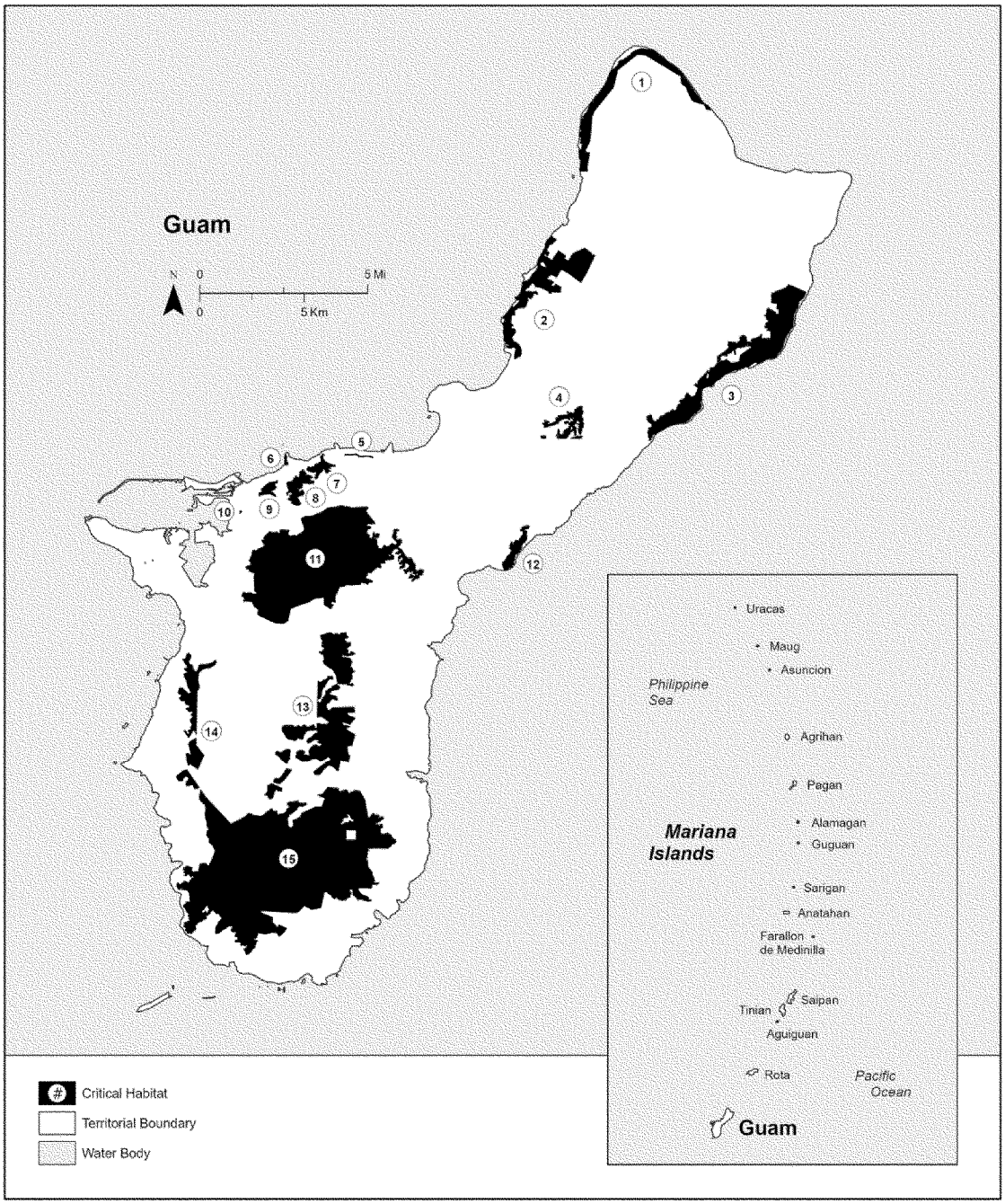


Figure 2 to Family Apocynaceae: *Tabernaemontana rotensis* (No Common Name) paragraph (5)(ii)

Critical Habitat
Index Map for Plants on the Islands of Guam,
Territory of Guam



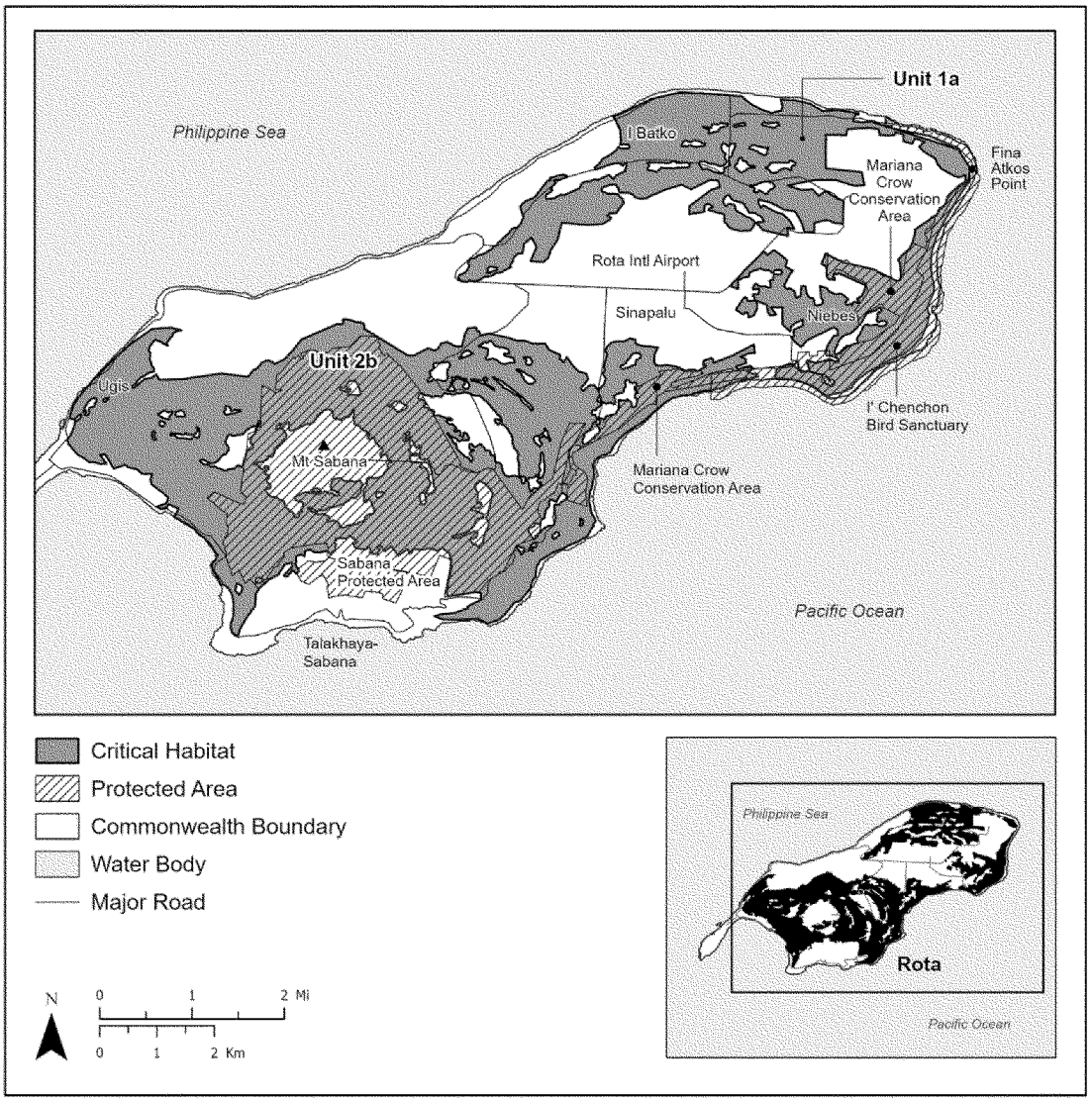
(6) Rota 1—*Tabernaemontana rotensis*–a, Commonwealth of the Northern Mariana Islands.

(i) Unit 1a on the island of Rota consists of 3,327 ac (1,347 ha) of limestone forests in the north and northeastern sides of the island. The unit starts from I Batko to the north, stretches east along the coast and around Fina Atkos Point, passes through the I'Chenchon Bird Sanctuary and then inland toward Niebes, extends inland north of the Rota International Airport and west of Sinapalu. Landownership includes 2,656 ac (1,075 ha) of Commonwealth government lands and 671 ac (272 ha) in private ownership.

(ii) Map of Rota 1—*Tabernaemontana rotensis*–a follows:

Figure 3 to Family Apocynaceae: *Tabernaemontana rotensis* (No Common Name) paragraph (6)(ii)

Critical Habitat for *Tabernaemontana rotensis* (no common name)
Rota 1–*Tabernaemontana rotensis*–a
Rota 2–*Tabernaemontana rotensis*–b
Rota, Commonwealth of the Northern Mariana Islands



(7) Rota 2—*Tabernaemontana rotensis*–b, Commonwealth of the Northern Mariana Islands.

(i) Unit 2b on the island of Rota consists of 6,875 ac (2,782 ha) and is composed of limestone forest in the south of the island. This unit extends south of the Rota International Airport, stretches east to the I'Chenchon Bird Sanctuary, and flanks the Talakhaya-Sabana watershed to the south (encompassing parts of the Sabana Protected Area, Mariana Crow Conservation Area, and I'Chenchon Bird Sanctuary) and east to Ugis. The unit does not include developed areas, grasslands, or Mt. Sabana. Landownership includes 5,806 ac (2,350 ha) of land owned by the Commonwealth government, 1,039 ac (420 ha) in private ownership, and 30 ac (12 ha) that are uncategorized.

(ii) Map of Rota 2—*Tabernaemontana rotensis*–b is presented at paragraph (6)(ii) of this entry.

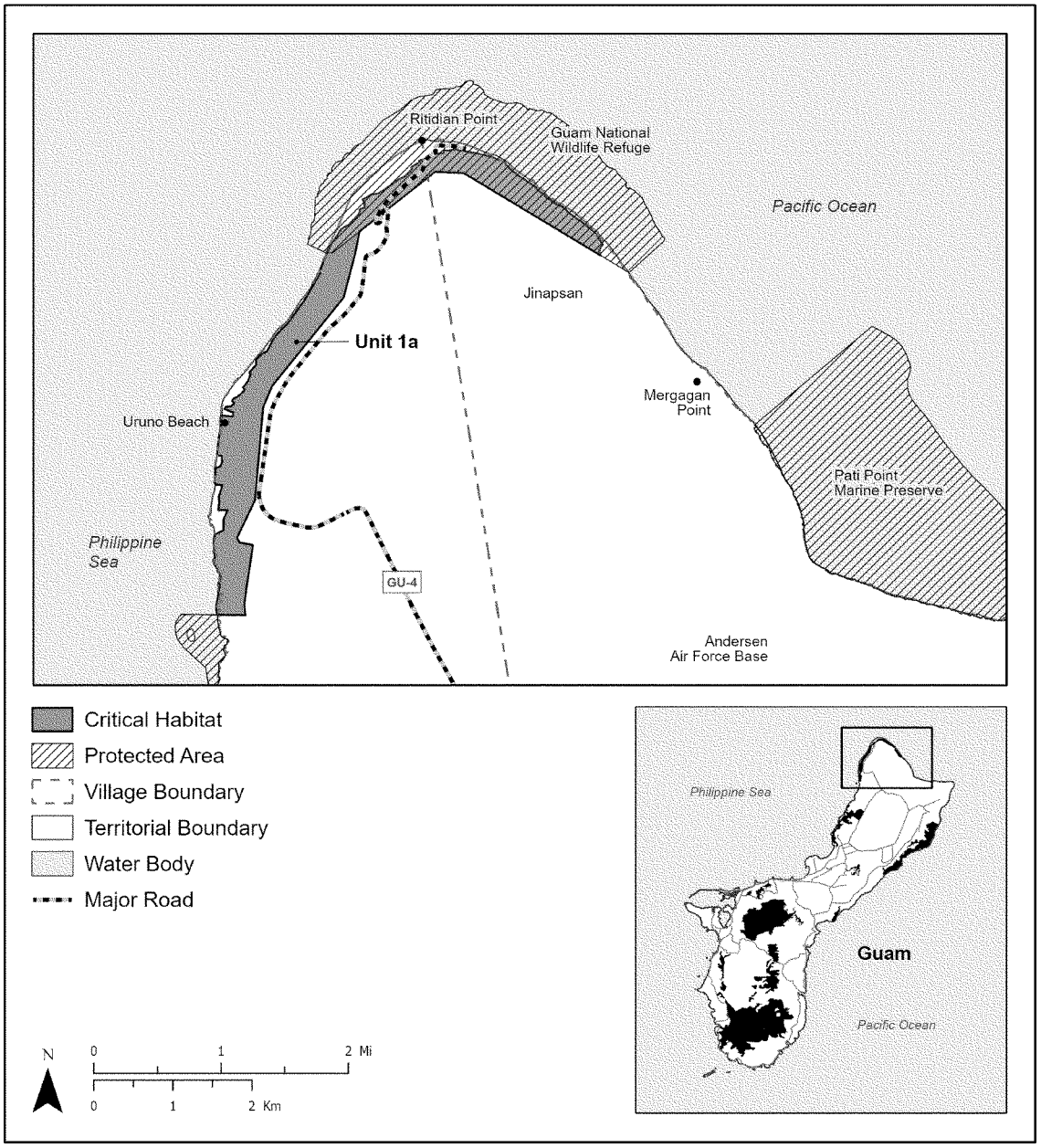
(8) Guam 1—*Tabernaemontana rotensis*–a, Territory of Guam.

(i) Unit 1a on the island of Guam consists of 741 ac (300 ha) and is composed of a band of secondary limestone forest along the north point of the island (Ritidian Point). The unit extends from the southwestern boundary south of Urunao Beach and runs north along the cliffline ending at Jinapsan. Landownership includes 257 ac (104 ha) of Federal lands (Guam NWR), 68 ac (27 ha) of Territory government lands, 375 ac (152 ha) in private ownership, and 41 ac (17 ha) that are uncategorized.

(ii) Map of Guam 1—*Tabernaemontana rotensis*–a follows:

Figure 4 to Family Apocynaceae: *Tabernaemontana rotensis* (No Common Name) paragraph (8)(ii)

Critical Habitat for *Tabernaemontana rotensis* (no common name)
Guam 1–*Tabernaemontana rotensis*–a
Guam, Territory of Guam



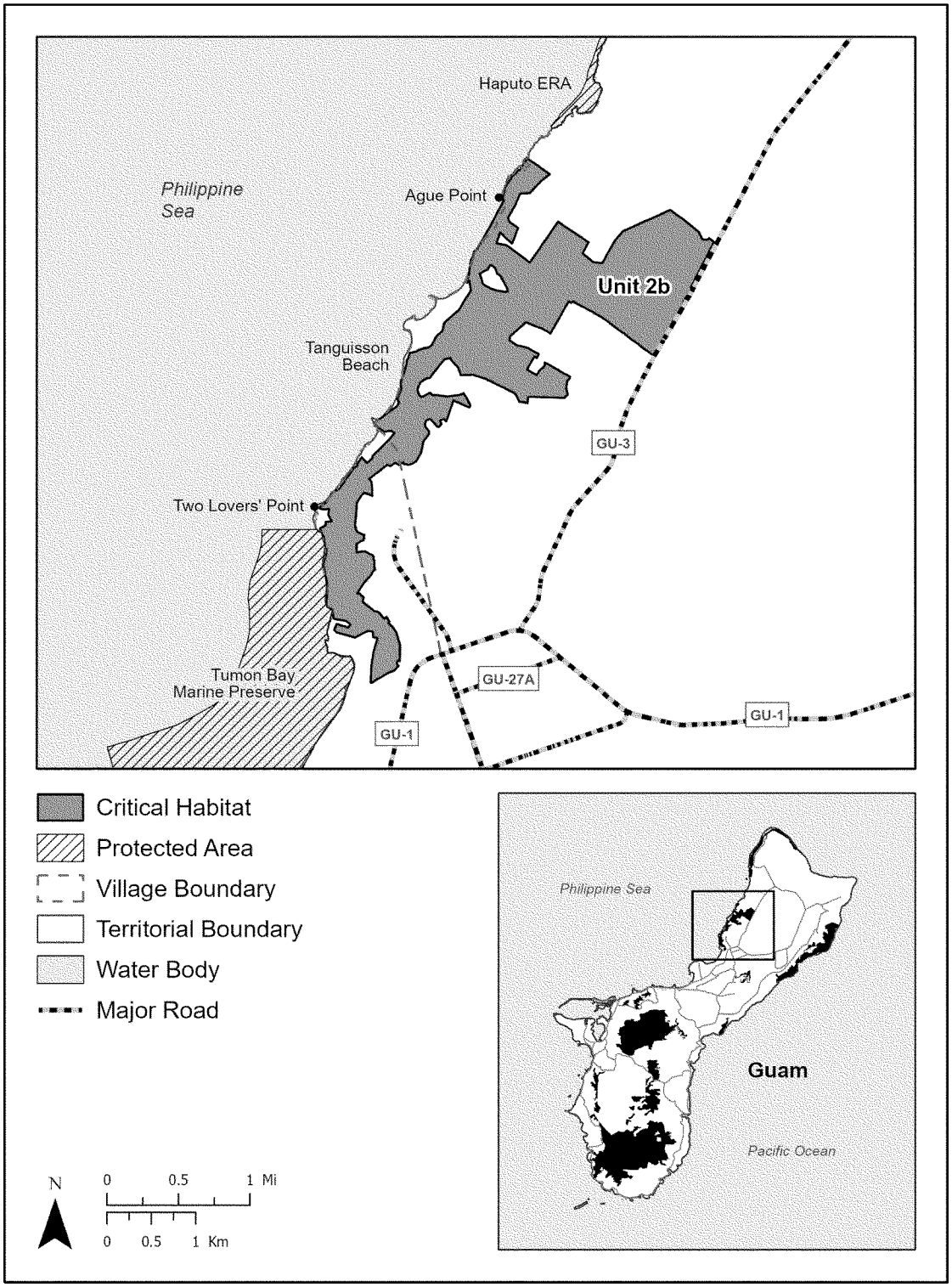
(9) Guam 2—*Tabernaemontana rotensis*–b, Territory of Guam.

(i) Unit 2b on the island of Guam consists of 1,245 ac (504 ha) and is composed of limestone forests along the northwestern edge of the island. The unit lies west of Route 3 and extends from the clifflines overlooking Tumon Bay west of Route 1 and runs north to Ague Point. Landownership includes 1,081 ac (437 ha) of Territory government lands, 108 ac (44 ha) in private ownership, and 56 ac (23 ha) that are uncategorized.

(ii) Map of Guam 2—*Tabernaemontana rotensis*–b follows:

Figure 5 to Family Apocynaceae: *Tabernaemontana rotensis* (No Common Name) paragraph (9)(ii)

Critical Habitat for *Tabernaemontana rotensis* (no common name)
Guam 2–*Tabernaemontana rotensis*–b
Guam, Territory of Guam



(10) Guam 3—*Tabernaemontana rotensis*–c, Territory of Guam.

(i) Unit 3c on the island of Guam consists of 1,986 ac (804 ha) and is composed of limestone forests along the northeastern coastal edge of the island. The unit begins at the boundary of the Anao Nature Preserve, immediately adjacent to the southern end of the Guam NWR boundary and extends southwest along the coast to Campanaya Point. Landownership includes 1,488 ac

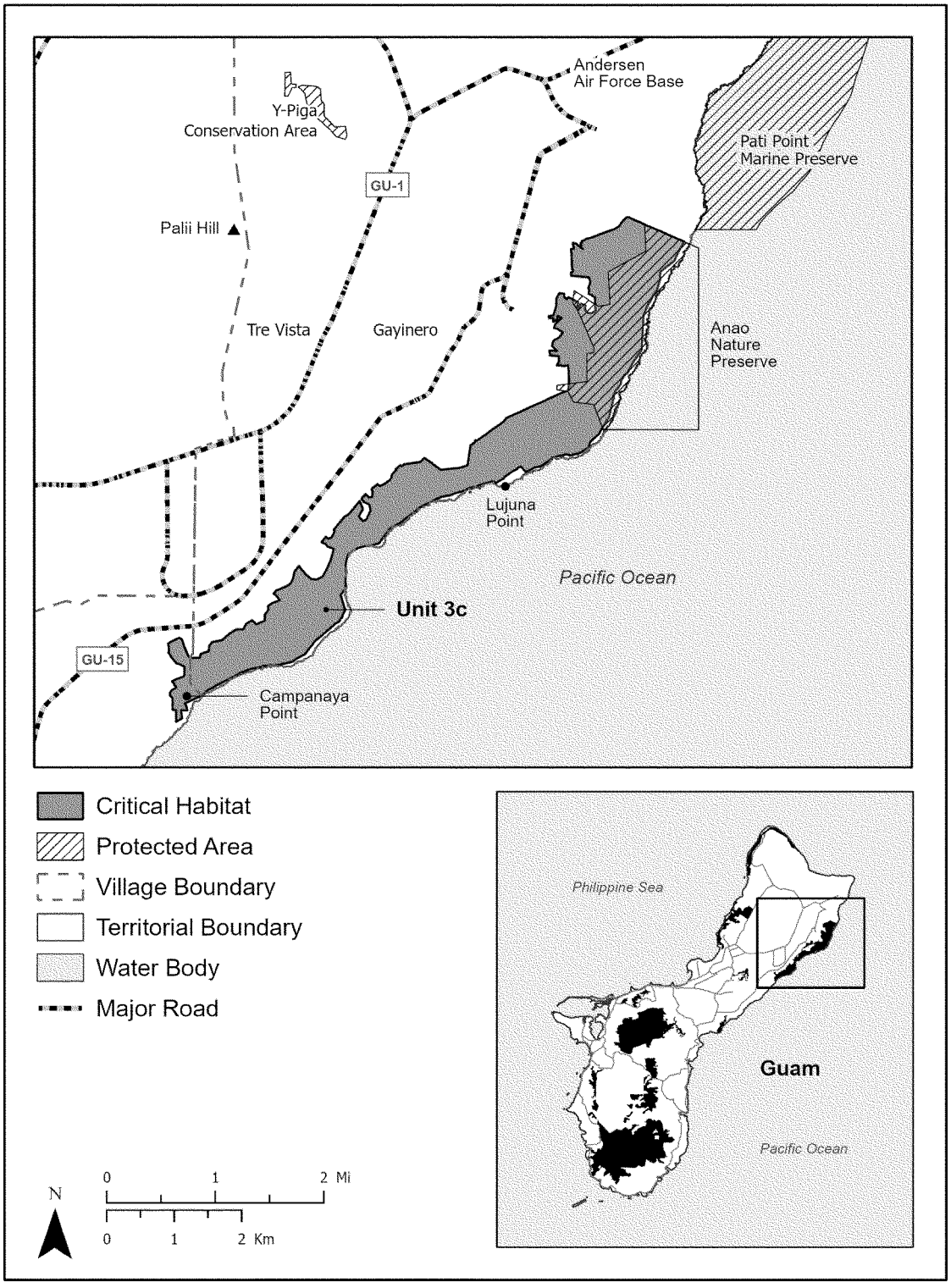
(602 ha) of Territory government lands, 198 ac (80 ha) in private ownership, and 300 ac (122 ha) that are uncategorized.

The northeastern portion of this unit overlaps the Anao Nature Preserve.

(ii) Map of Guam 3—*Tabernaemontana rotensis*–c follows:

Figure 6 to Family Apocynaceae: *Tabernaemontana rotensis* (No Common Name) paragraph (10)(ii)

Critical Habitat for *Tabernaemontana rotensis* (no common name)
Guam 3–*Tabernaemontana rotensis*–c
Guam, Territory of Guam



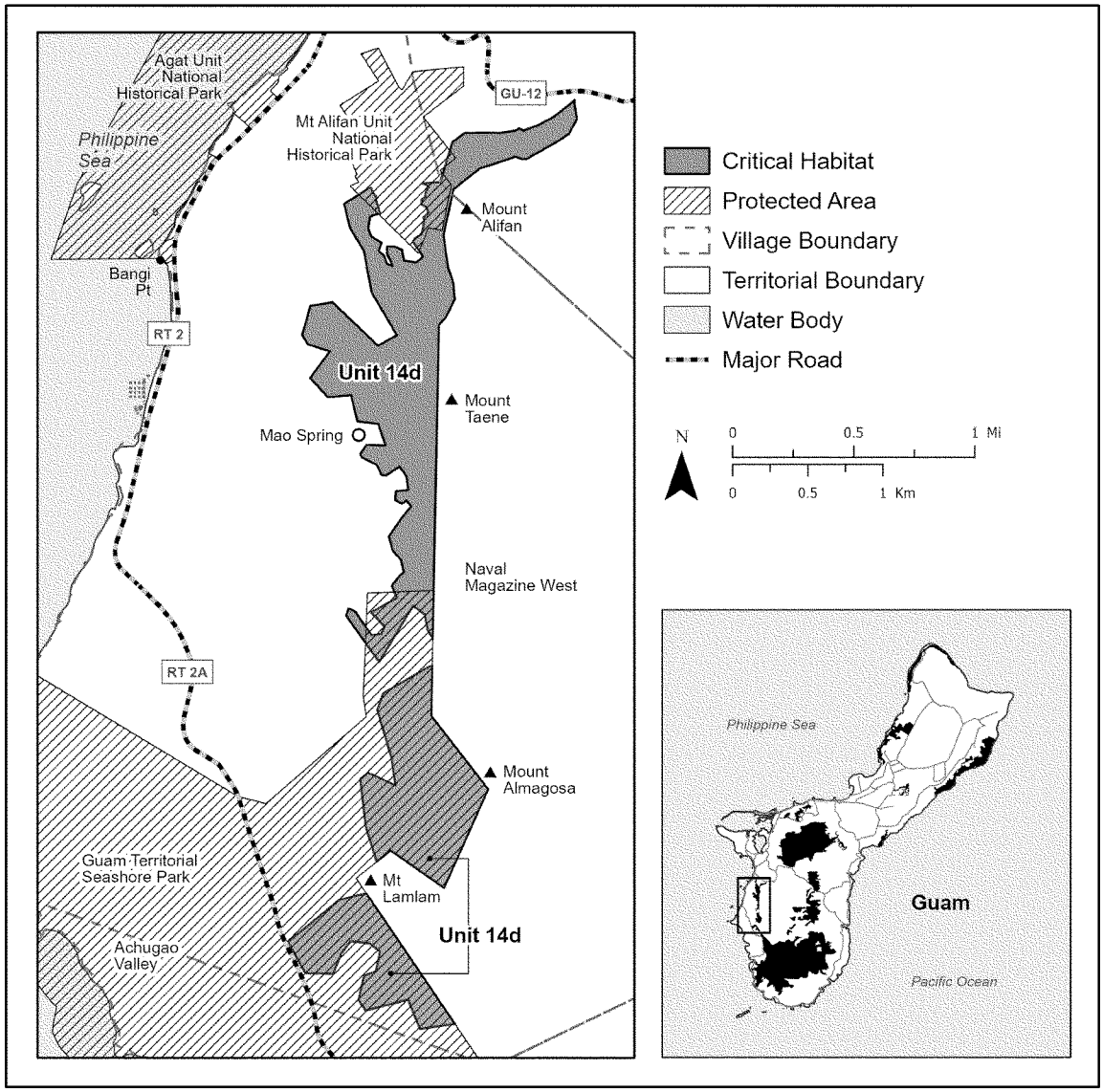
(11) Guam 14—*Tabernaemontana rotensis*–d, Territory of Guam.

(i) Unit 14d on the island of Guam consists of 629 ac (254 ha) and is composed of three segments of limestone forests on the southwestern side of the island. The unit extends from Route 12 and Mt. Alifan in the north, running along the border of Naval Magazine West and ending south of Mt. Lamlam at Route 2A. Landownership includes 16 ac (6 ha) of Federal lands (War in the Pacific National Historical Park), 84 ac (34 ha) of territorial government lands, 344 ac (139 ha) in private ownership, and 185 ac (75 ha) that are uncategorized. The northern portion of the unit overlaps the Mt. Alifan unit of War in the Pacific National Historical Park. The southern portion of the unit overlaps the Guam Territorial Seashore Park.

(ii) Map of Guam 14—*Tabernaemontana rotensis*–d follows:

Figure 7 to Family Apocynaceae: *Tabernaemontana rotensis* (No Common Name) paragraph (11)(ii)

Critical Habitat for *Tabernaemontana rotensis* (no common name)
Guam 14–*Tabernaemontana rotensis*–d
Guam, Territory of Guam



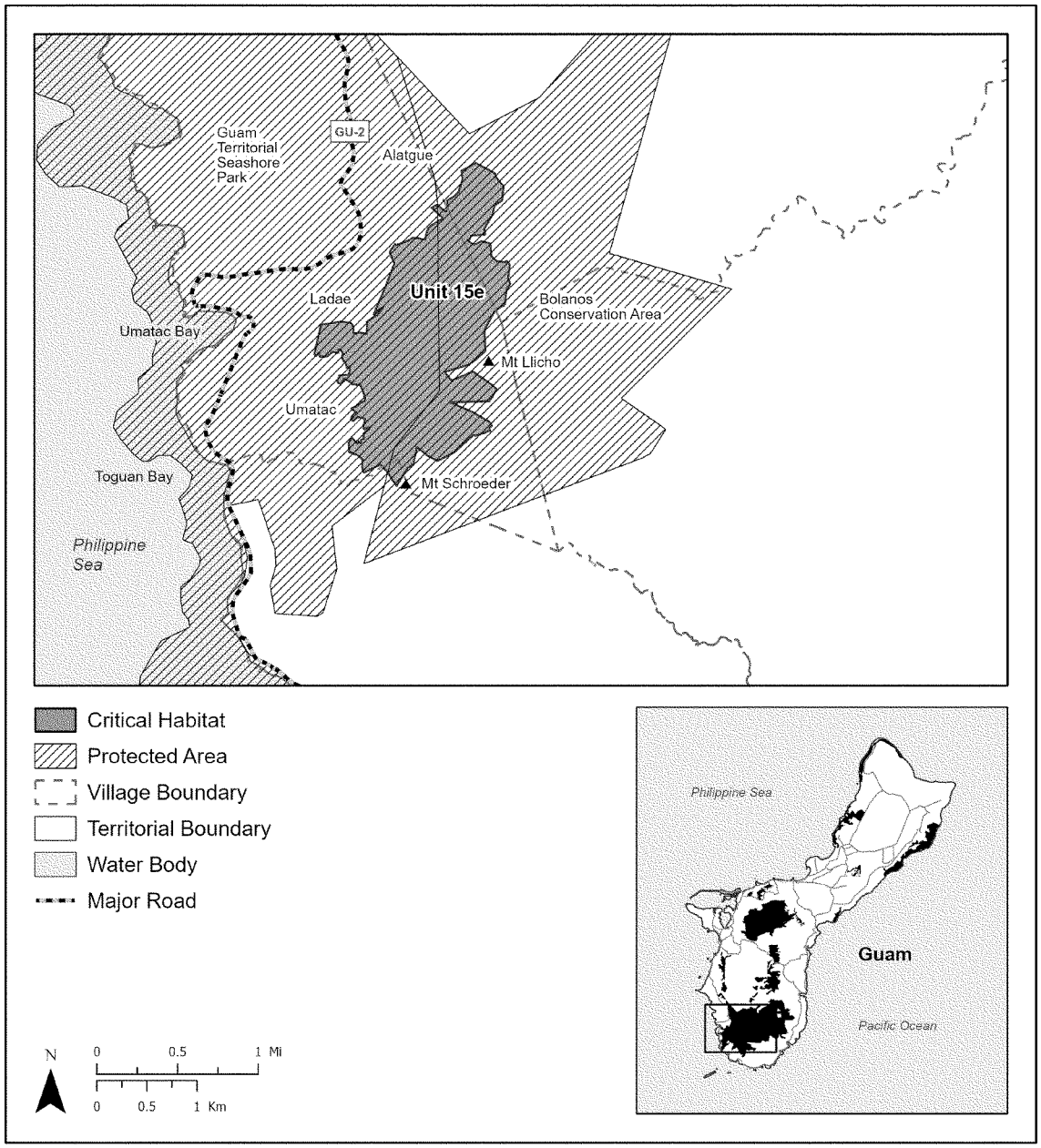
(12) Guam 15—*Tabernaemontana rotensis*–e, Territory of Guam.

(i) Unit 15e on the island of Guam consists of 763 ac (309 ha) and is composed of limestone forests in the southern part of the island. The unit extends from Alatgue in the north down to Mt. Schroeder in the south. Landownership includes 181 ac (73 ha) of Territory government land, 323 ac (131 ha) in private ownership, and 259 ac (105 ha) that are uncategorized. The western half of the unit overlaps the Guam Territorial Seashore Park, and the eastern half overlaps the Bolanos Conservation Area.

(ii) Map of Guam 15—*Tabernaemontana rotensis*–e follows:

Figure 8 to Family Apocynaceae: *Tabernaemontana rotensis* (No Common Name) paragraph (12)(ii)

Critical Habitat for *Tabernaemontana rotensis* (no common name)
Guam 15–*Tabernaemontana rotensis*–e
Guam, Territory of Guam



* * * * *

Family Malvaceae: Heritiera Longipetiolata (Ufa Halumtanu, Ufa Halomtano)

(1) Critical habitat units are depicted for Saipan and Tinian within the Commonwealth of the Northern Mariana Islands, and Guam within the Territory of Guam, on the maps in this entry.

(2) Within these areas, the physical or biological features essential to the conservation of *Heritiera longipetiolata* consist of the following components:

(i) Closed-canopy native limestone forests where there are substrates of karsts, clifflines, and outcroppings.

(ii) Sufficient space within limestone vegetation communities composed of plants such as (but not limited to) *Asplenium nidus* (galak, fedda, bird's nest fern), *Hibiscus tiliaceus* (sea hibiscus, pago), *Morinda citrifolia* (lada, noni, Indian mulberry), *Phymatosorus scolopendria* (monarch fern, kahlao), *Psychotria mariana* (applok hating, aplohkateng, aplu kati, gathemach, aploghating, aplokhating), *Abrus* spp., *Aidia* spp., *Aglaia* spp., *Ficus* spp., *Freycinetia* spp., *Melanolepis* spp., *Operculina* spp., *Pandanus* spp., and *Pipturus* spp.

(iii) Individuals in close proximity to each other and adequate access by native seed dispersers such as birds and fruit bats.

(iv) Native pollinators and native vegetation to support them.

(3) Critical habitat does not include manmade structures (such as buildings or paved areas including aqueducts, runways, or roads) and the land on which they are located existing within

the legal boundaries on the effective date of the final rule.

(4) Data layers defining map units were created using survey and distribution data provided by multiple local and regional sources as available (*e.g.,* reports, databases, and species experts' knowledge) and as maintained by universities, local governments, and nonprofit organizations across the Mariana Islands. Landcover data (*e.g.,* soil substrate, vegetation, and elevation) were obtained and compiled from multiple Federal and local government agencies. Temperature and precipitation data were obtained and compiled from journal publications. Landforms were primarily delineated based on the most currently available aerial maps and satellite imagery. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site at *https://www.fws.gov/project/critical-habitat-mariana-islands,* at *https://www.regulations.gov* at Docket No. FWS–R1–ES–2024–0194, and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) The following index maps show the general locations of critical habitat units for all plant species designated on each island, with each location/area on each island identified as a specific number on the index maps. These island location/area numbers allow for comparison of overlapping critical habitat units for other listed species within the same location.

(i) Each critical habitat unit name comprises an island name, a number corresponding to a specific geographic location/area on the applicable island, which may include overlapping units for different species, the species name, and a letter. The letter at the end of each critical habitat unit name corresponds to the number of units present on a given island, where each escalating letter for each island corresponds to the additive number of units per island for the species. Critical habitat for *Heritiera longipetiolata* includes one unit each on the islands of Saipan and Tinian, and six units on the island of Guam, for a total of eight critical habitat units.

(ii) Index maps follow:

Figure 1 to Family Malvaceae: *Heritiera longipetiolata* (Ufa Halumtanu, Ufa Halomtano) paragraph (5)(ii)

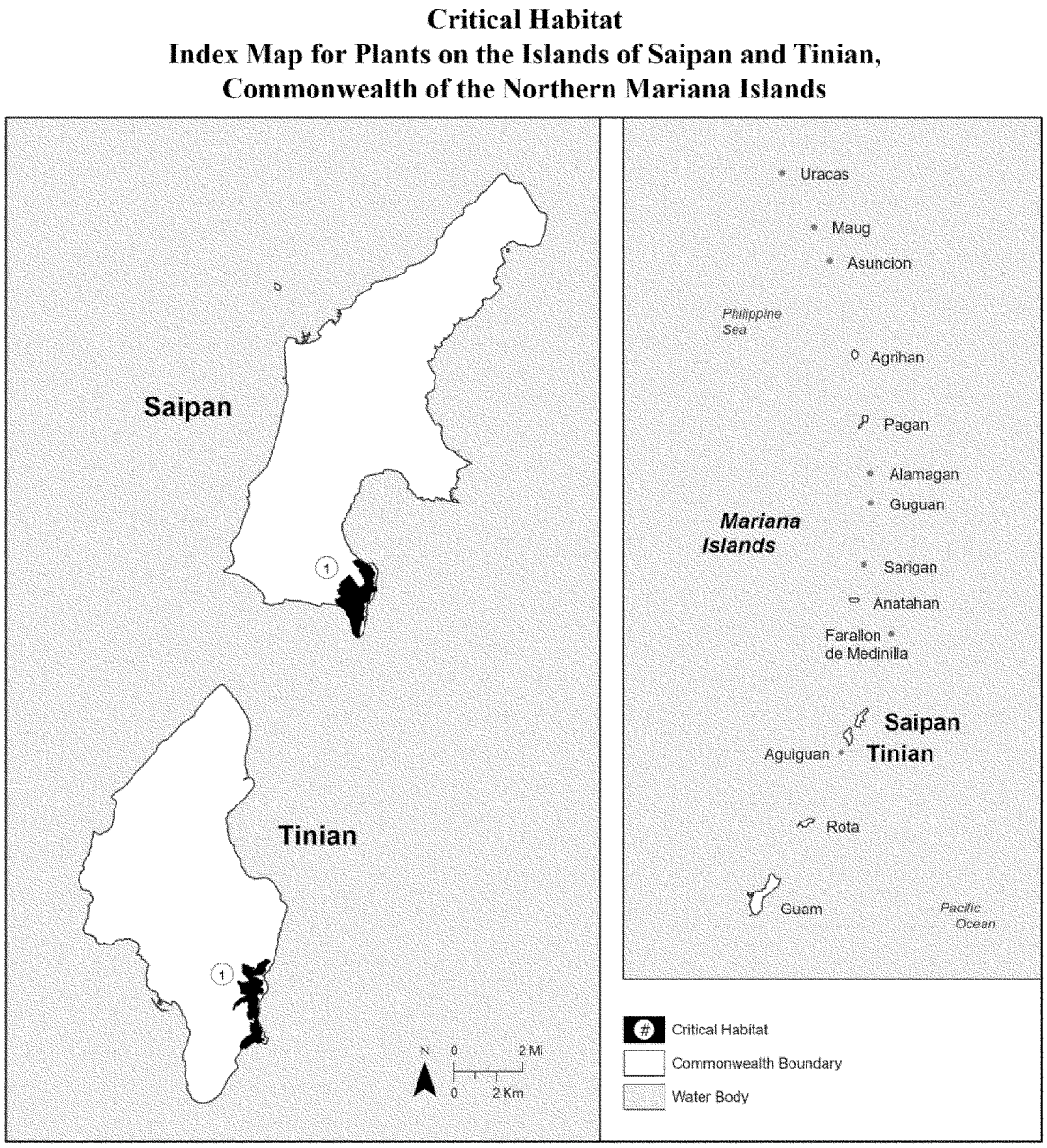
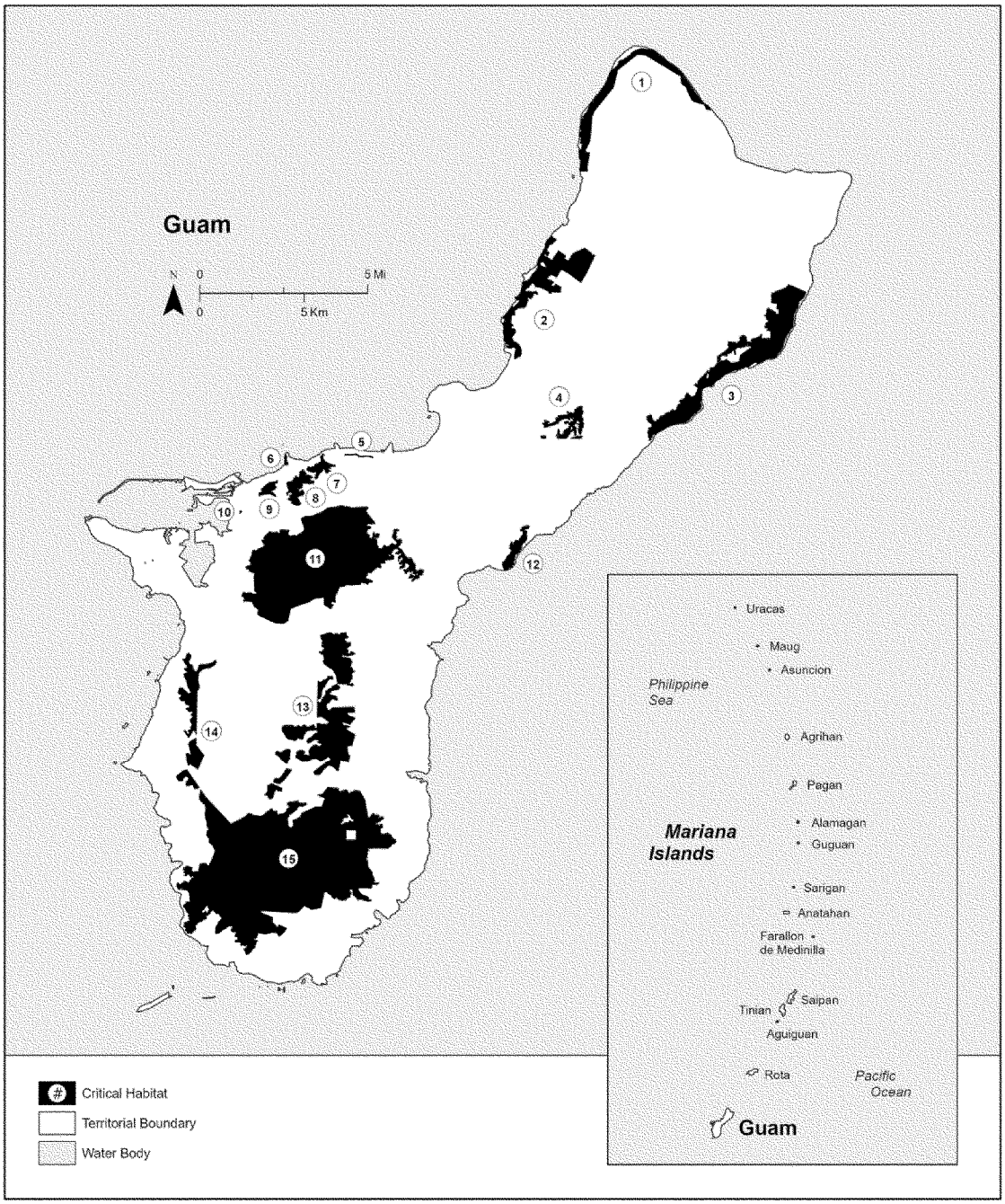


Figure 2 to Family Malvaceae: *Heritiera longipetiolata* (Ufa Halumtanu, Ufa Halomtano) paragraph (5)(ii)

Critical Habitat
Index Map for Plants on the Islands of Guam,
Territory of Guam



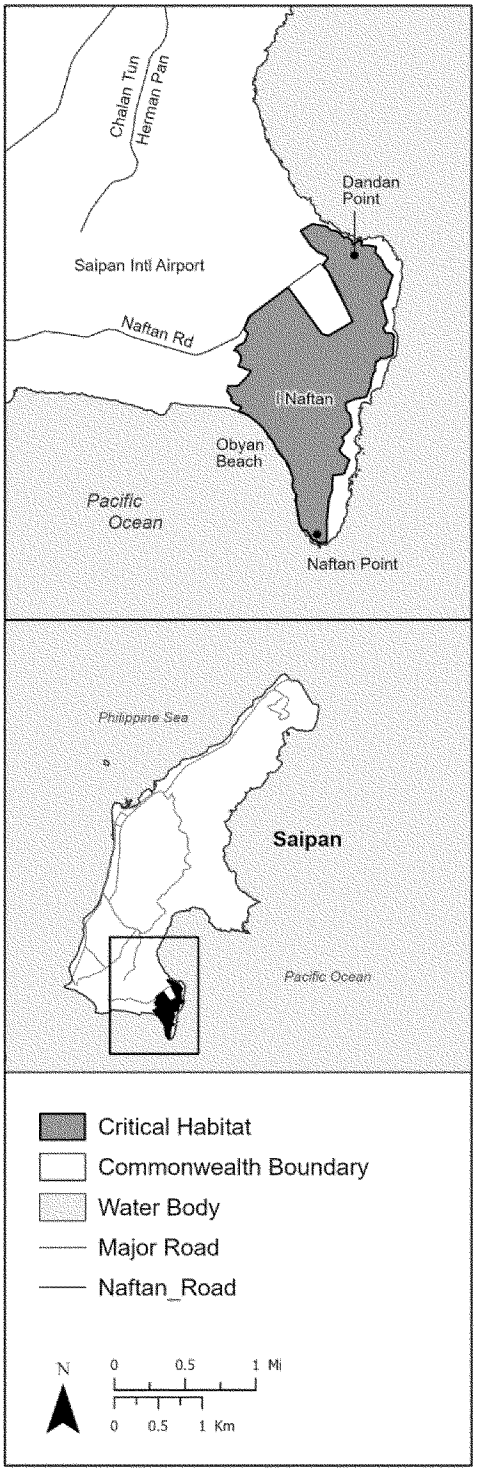
(6) Saipan 1—*Heritiera longipetiolata*–a, Commonwealth of the Northern Mariana Islands.

(i) This single critical habitat unit on the island of Saipan consists of 779 ac (315 ha) and is composed of limestone forest in the southeastern section of Saipan. This unit is southeast of Naftan Road and Saipan International Airport and lies within the I Naftan Area, extends just north of Dandan Point, and extends to Naftan Point in the south and the western boundary ends at Obyan Beach. The unit does not include the majority of the coastal area from Dandan Point to Nafta Point on the eastern edge of the island. Landownership within this area consists of 634 ac (257 ha) of land owned by the Commonwealth government, 143 ac (58 ha) of private land, and 2 ac (less than 1 ha) that are uncategorized.

(ii) Map of Saipan 1—*Heritiera longipetiolata*–a follows:

Figure 3 to Family Malvaceae: *Heritiera longipetiolata* (Ufa Halumtanu, Ufa Halomtano) paragraph (6)(ii)

Critical Habitat for
Heritiera longipetiolata
(Ufa halumtanu, Ufa halomtano)
Saipan 1–*Heritiera longipetiolata*–a
Saipan, Commonwealth of the
Northern Mariana Islands



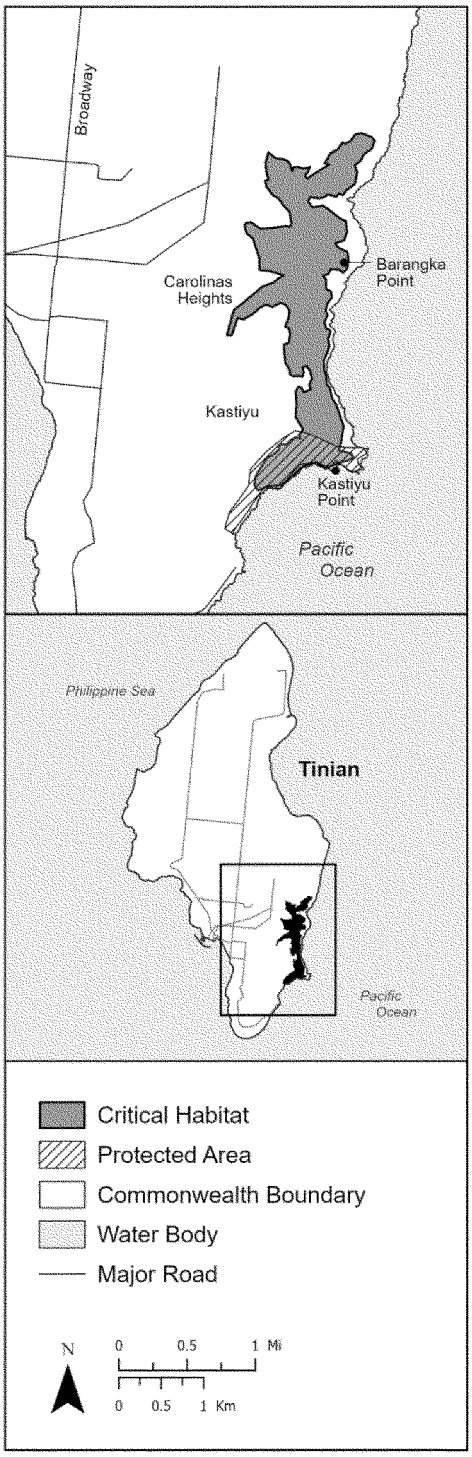
(7) Tinian 1—*Heritiera longipetiolata*–a, Commonwealth of the Northern Mariana Islands.

(i) This single critical habitat unit on the island of Tinian consists of 651 ac (263 ha) and is composed of contiguous limestone forest in the southeastern section of the island. This unit starts north of Barangka Point, extends south beyond Kastiyu Point, and lies east of Kastiyu and Carolinas Heights. Landownership within this area consists of 639 ac (258 ha) of land owned by the Commonwealth government, 3 ac (1 ha) of private land, and 9 ac (4 ha) that are uncategorized.

(ii) Map of Tinian 1—*Heritiera longipetiolata*–a follows:

Figure 4 to Family Malvaceae: *Heritiera longipetiolata* (Ufa Halumtanu, Ufa Halomtano) paragraph (7)(ii)

Critical Habitat for
Heritiera longipetiolata
(Ufa halumtanu, Ufa halomtano)
Tinian 1–*Heritiera longipetiolata*–a
Tinian, Commonwealth of the
Northern Mariana Islands



(8) Guam 1—*Heritiera longipetiolata*–a, Territory of Guam.

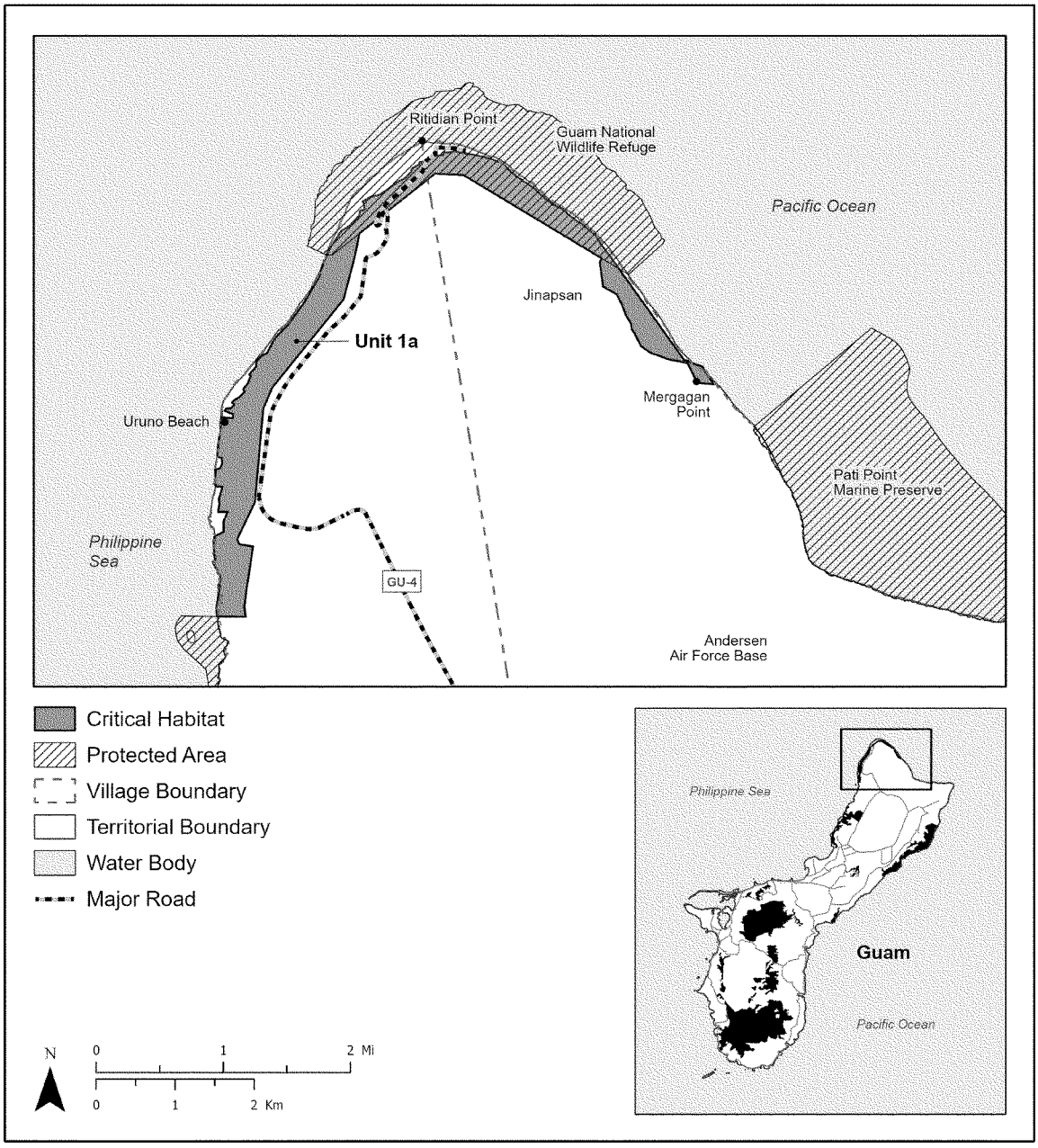
(i) Unit 1a on the island of Guam consists of 856 ac (346 ha) and is composed of a band of secondary limestone forest in a horseshoe-shape on the northwestern point of the island (Ritidian Point). The unit extends from

the southwestern boundary south of Urunao Beach and runs north along the cliffline towards Jinapsan ending at Mergagan Point. Landownership includes 262 ac (106 ha) of Federal lands (Guam NWR), 68 ac (27 ha) of Territory government lands, 408 ac (165 ha) in private ownership, and 118 ac (48 ha) that are uncategorized.

(ii) Map of Guam 1—*Heritiera longipetiolata*–a follows:

Figure 5 to Family Malvaceae: *Heritiera longipetiolata* (Ufa Halumtanu, Ufa Halomtano) paragraph (8)(ii)

Critical Habitat for *Heritiera longipetiolata* (Ufa halumtanu, Ufa halomtano)
Guam 1–*Heritiera longipetiolata*–a
Guam, Territory of Guam



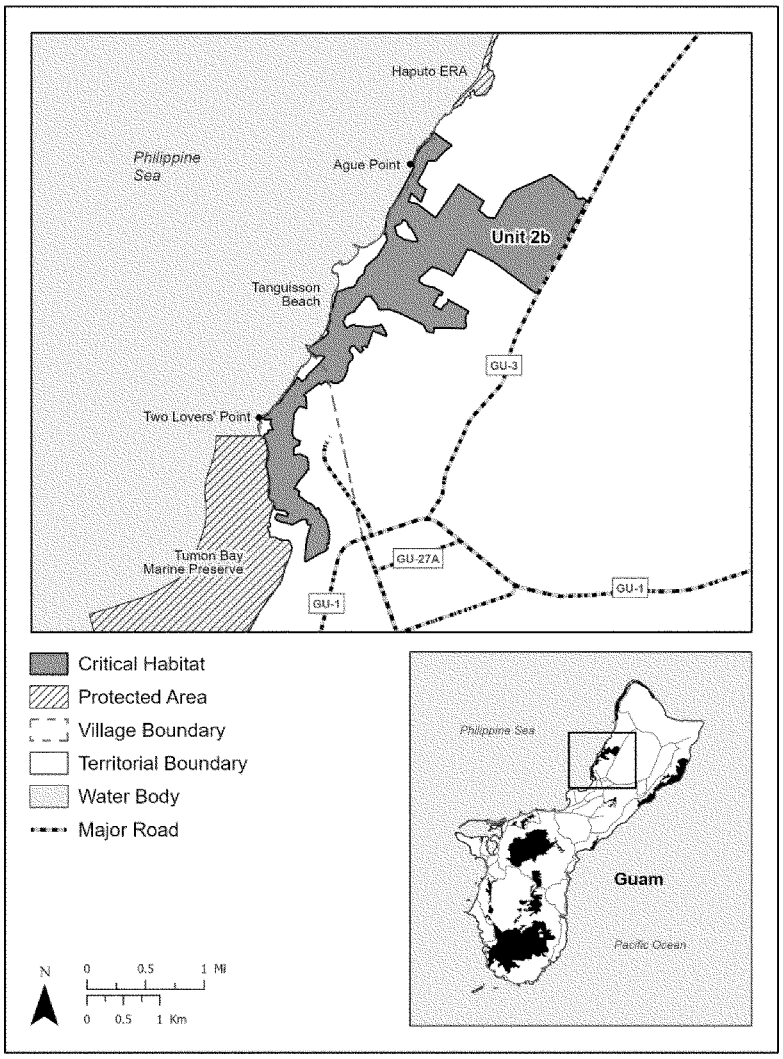
(9) Guam 2—*Heritiera longipetiolata*–b, Territory of Guam.

(i) Unit 2b on the island of Guam consists of 1,245 ac (504 ha) and is composed of limestone forests along the northwestern edge of the island. The unit lies west of Route 3 and extends from the clifflines overlooking Tumon Bay west of Route 1 and runs north to Ague Point. Landownership includes 1,081 ac (437 ha) of Territory government lands, 108 ac (44 ha) in private ownership, and 56 ac (23 ha) that are uncategorized.

(ii) Map of Guam 2—*Heritiera longipetiolata*–b follows:

Figure 6 to Family Malvaceae: *Heritiera longipetiolata* (Ufa Halumtanu, Ufa Halomtano) paragraph (9)(ii)

Critical Habitat for *Heritiera longipetiolata* (Ufa halumtanu, Ufa halomtano)
Guam 2–*Heritiera longipetiolata*–b
Guam, Territory of Guam



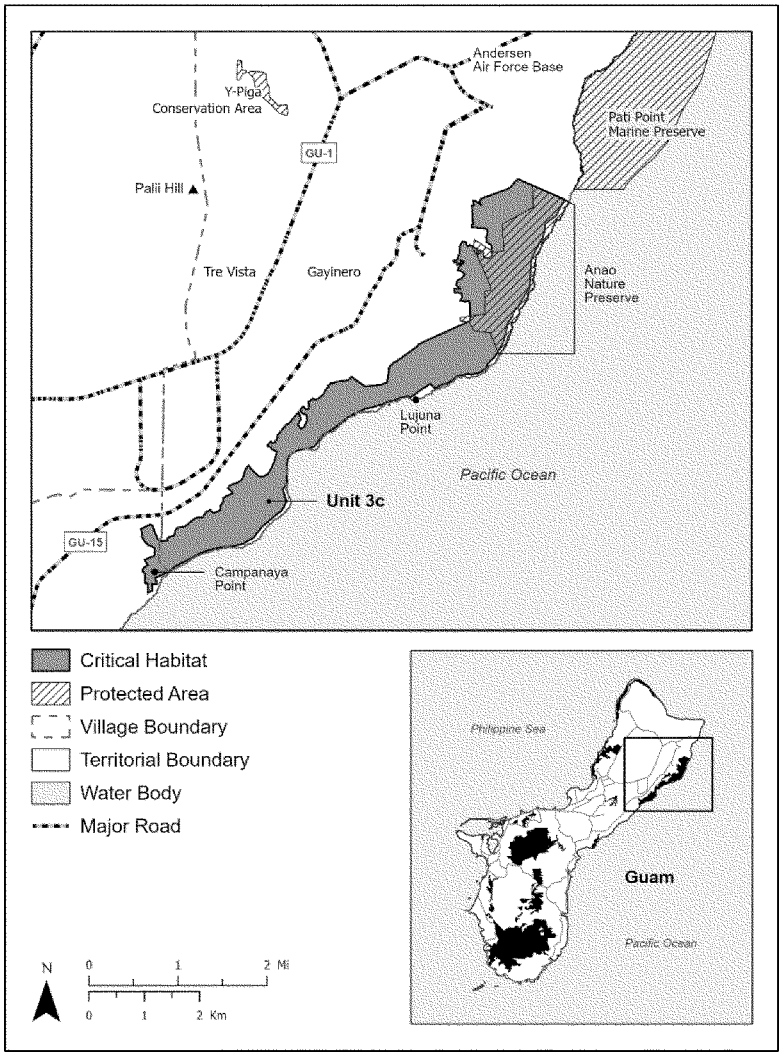
(10) Guam 3—*Heritiera longipetiolata*–c, Territory of Guam.

(i) Unit 3c on the island of Guam consists of 1,986 ac (804 ha) and is composed of limestone forests along the northeast coastal edge of the island. The unit begins at the boundary of the Anao Nature Preserve, immediately adjacent to the southern end of the Guam NWR boundary and extends southwest along the coast to Campanaya Point. Landownership includes 1,488 ac (602 ha) of Territory government lands, 198 ac (80 ha) in private ownership, and 300 ac (122 ha) that are uncategorized. The northeastern portion of this unit overlaps the Anao Nature Preserve.

(ii) Map of Guam 3—*Heritiera longipetiolata*–c follows:

Figure 7 to Family Malvaceae: *Heritiera longipetiolata* (Ufa Halumtanu, Ufa Halomtano) paragraph (10)(ii)

Critical Habitat for *Heritiera longipetiolata* (Ufa halumtanu, Ufa halomtano)
Guam 3–*Heritiera longipetiolata*–c
Guam, Territory of Guam



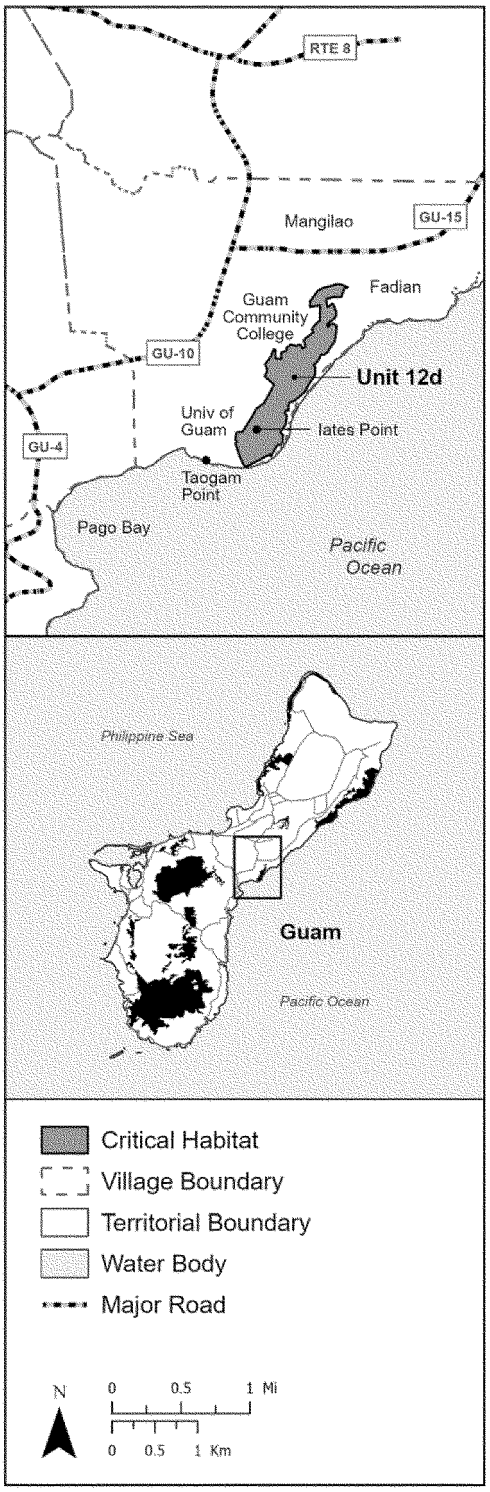
(11) Guam 12—*Heritiera longipetiolata*–d, Territory of Guam.

(i) Unit 12d on the island of Guam consists of 195 ac (79 ha) and is composed of limestone forests along the central-east coast of the island. The unit extends from Fadian south along the coast to Taogam Point, east of Guam Community College and University of Guam. Landownership includes 190 ac (77 ha) in private ownership and 5 ac (2 ha) that are uncategorized.

(ii) Map of Guam 12—*Heritiera longipetiolata*–d follows:

Figure 8 to Family Malvaceae: *Heritiera longipetiolata* (Ufa Halumtanu, Ufa Halomtano) paragraph (11)(ii)

Critical Habitat for
Heritiera longipetiolata
(Ufa halumtanu, Ufa halomtano)
Guam 12–*Heritiera longipetiolata*–d
Guam, Territory of Guam



(12) Guam 13—*Heritiera longipetiolata*–e, Territory of Guam.

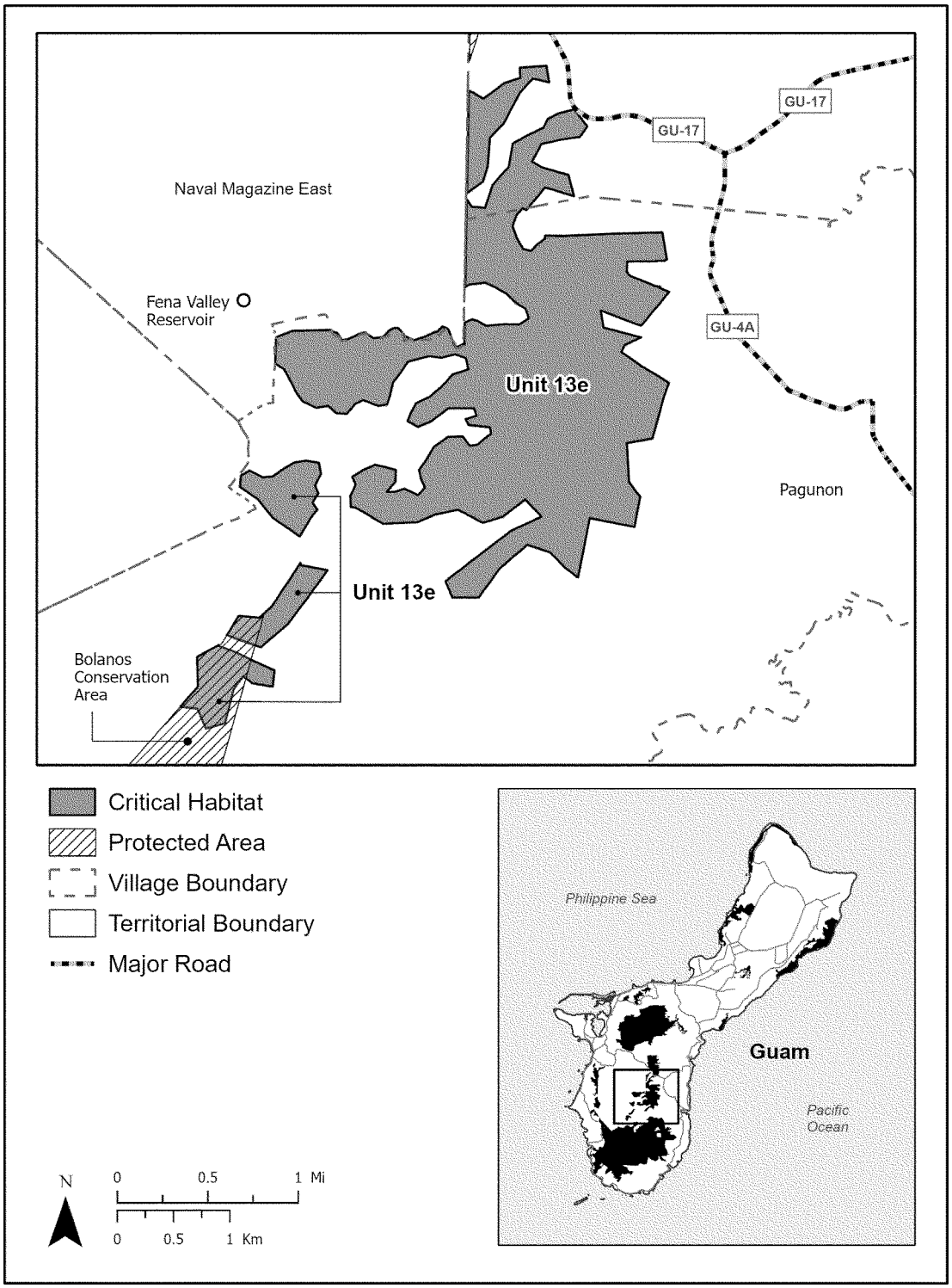
(i) Unit 13e on the island of Guam consists of 1,726 ac (698 ha) and is composed of four segments of volcanic forests in the southcentral part of the island. The unit extends from Route 17 south past Naval Magazine East and

Fena Valley Reservoir along the western boundaries and towards Pagunon on the eastern boundary. The unit extends along the Maagas, Mahlac, and Sagge Rivers and their tributaries (which are not represented on the map due to unavailable data layers). Landownership includes 142 ac (57 ha) of Territory government lands, 859 ac (348 ha) in private ownership, and 725 ac (293 ha) that are uncategorized. The southwestern portion of the unit overlaps the Bolanos Conservation Area.

(ii) Map of Guam 13—*Heritiera longipetiolata*–e follows:

Figure 9 to Family Malvaceae: *Heritiera longipetiolata* (Ufa Halumtanu, Ufa Halomtano) paragraph (12)(ii)

Critical Habitat for *Heritiera longipetiolata* (Ufa halumtanu, Ufa halomtano)
Guam 13–*Heritiera longipetiolata*–e
Guam, Territory of Guam



(13) Guam 14—*Heritiera longipetiolata*–f, Territory of Guam.

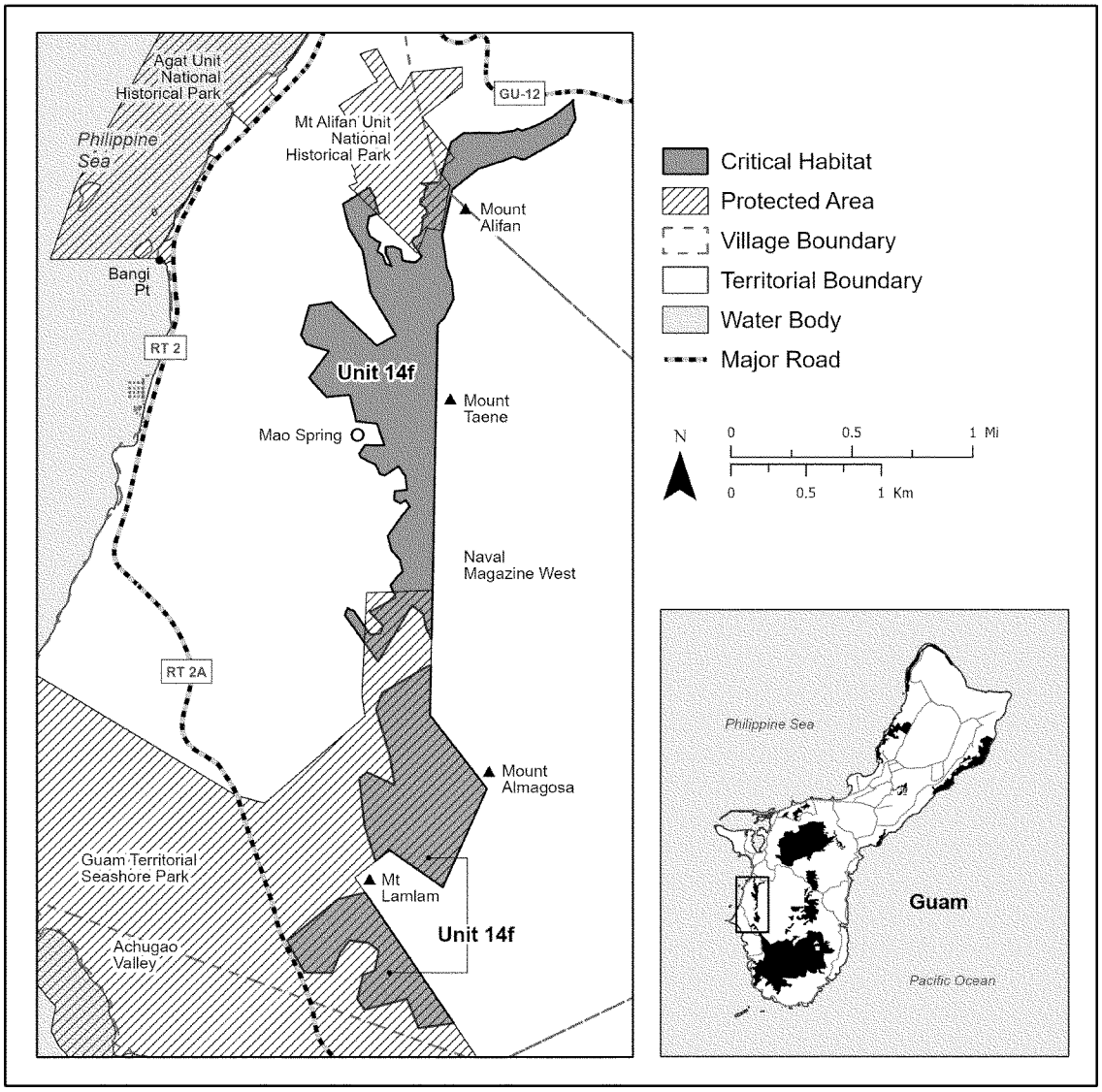
(i) Unit 14f on the island of Guam consists of 629 ac (254 ha) and is composed of three segments of limestone forests on the southwestern side of the island. The unit extends from Route 12 and Mt. Alifan in the north, running along the border of Naval Magazine West and ending south of Mt. Lamlam at Route 2A. Landownership includes 16 ac (6 ha) of Federal lands (War in the Pacific National Historical Park), 84 ac (34 ha) of territorial government lands, 344 ac (139 ha) in

private ownership, and 185 ac (75 ha) that are uncategorized. The northern portion of the unit overlaps the Mt. Alifan unit of War in the Pacific National Historical Park. The southern portion of the unit overlaps the Guam Territorial Seashore Park.

(ii) Map of Guam 14—*Heritiera longipetiolata*–f follows:

Figure 10 to Family Malvaceae: *Heritiera longipetiolata* (Ufa Halumtanu, Ufa Halomtano) paragraph (13)(ii)

Critical Habitat for *Heritiera longipetiolata* (Ufa halumtanu, Ufa halomtano)
Guam 14–*Heritiera longipetiolata*–f
Guam, Territory of Guam



* * * * *

Family Menispermaceae: Tinospora Homosepala (No Common Name)

(1) Critical habitat units are depicted for Guam within the Territory of Guam, on the maps in this entry.

(2) Within these areas, the physical or biological features essential to the conservation of *Tinospora homosepala* consist of the following components:

(i) Tall-canopy native limestone forests with limestone soils and karst substrates.

(ii) Native pollinators and native vegetation to support them.

(iii) Native seed dispersers such as native birds and fruit bats.

(3) Critical habitat does not include manmade structures (such as buildings or paved areas including aqueducts, runways, or roads) and the land on which they are located existing within the legal boundaries on the effective date of the final rule.

(4) Data layers defining map units were created using survey and distribution data provided by multiple local and regional sources as available (*e.g.,* reports, databases, and species experts' knowledge) and as maintained by universities, local governments, and nonprofit organizations across the Mariana Islands. Landcover data (*e.g.,* soil substrate, vegetation, and elevation) were obtained and compiled from

multiple Federal and local government agencies. Temperature and precipitation data were obtained and compiled from journal publications. Landforms were primarily delineated based on the most currently available aerial maps and satellite imagery. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site at *https://www.fws.gov/project/critical-habitat-mariana-islands,* at *https://www.regulations.gov* at Docket No. FWS–R1–ES–2024–0194, and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

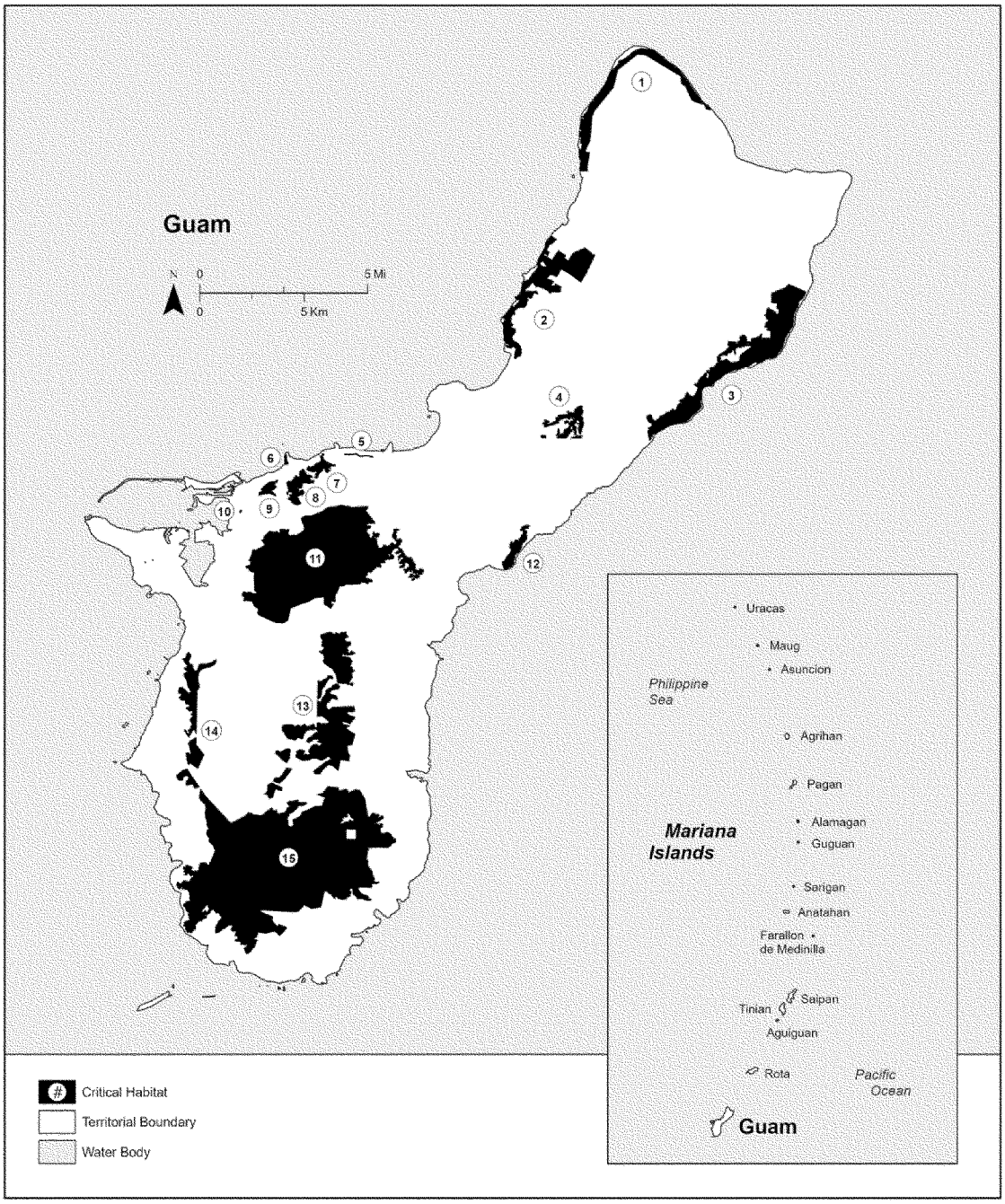
(5) The following index map shows the general locations of critical habitat units for all plant species designated on the island of Guam, with each location/area on the island identified as a specific number on the index map. These island location/area numbers allow for comparison of overlapping critical habitat units for other listed species within the same location.

(i) Each critical habitat unit name comprises the island name, a number corresponding to a specific geographic location/area on the island of Guam, which may include overlapping units for different species, the species name, and a letter. The letter at the end of each critical habitat unit name corresponds to the number of units present on the island, where each escalating letter corresponds to the additive number of units on the island for the species. Critical habitat for *Tinospora homosepala* includes a total of four critical habitat units.

(ii) Index map follows:

Figure 1 to Family Menispermaceae: *Tinospora homosepala* (No Common Name) paragraph (5)(ii)

Critical Habitat
Index Map for Plants on the Islands of Guam,
Territory of Guam



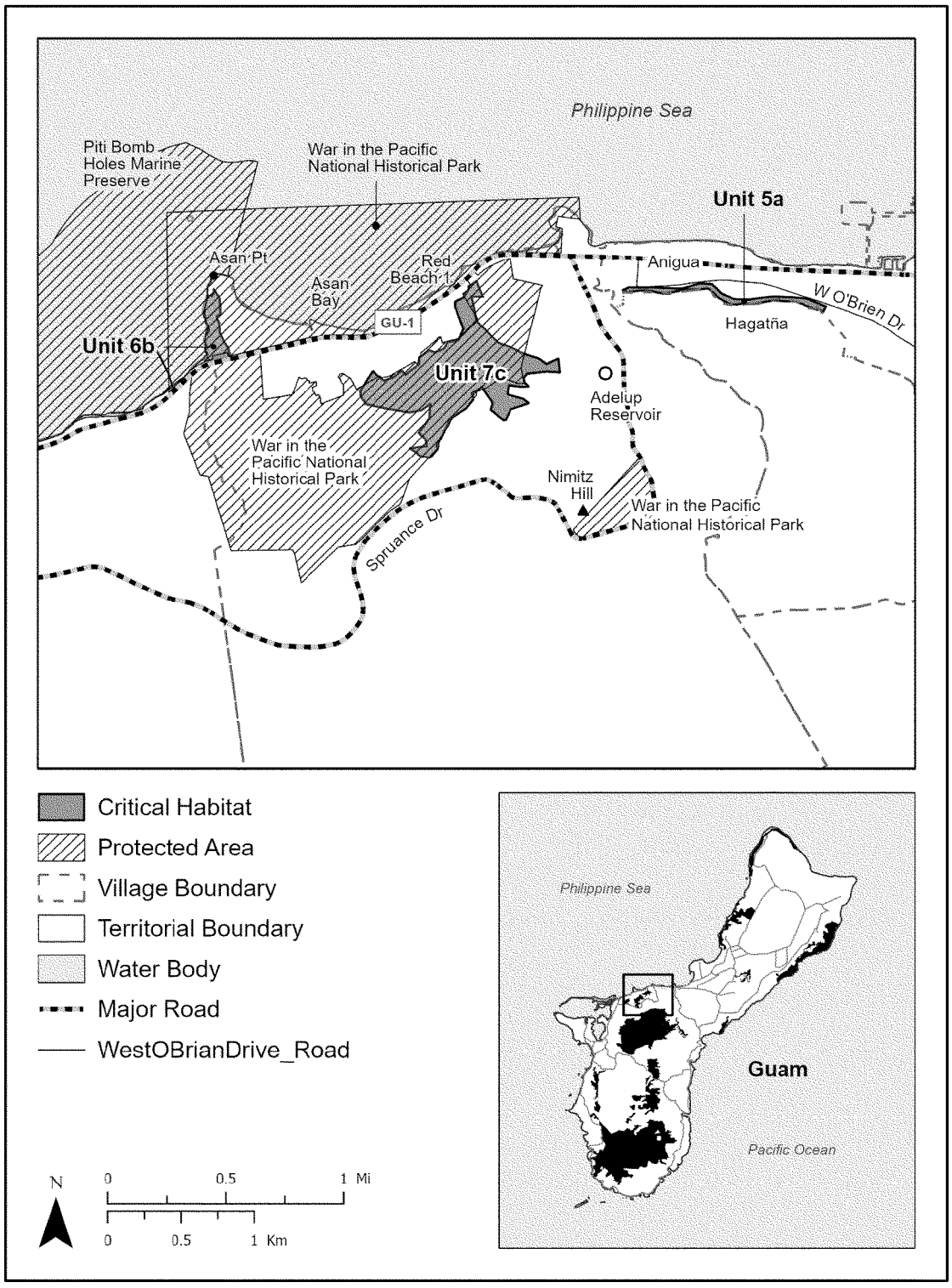
(6) Guam 5—*Tinospora homosepala*–a, Territory of Guam.

(i) Unit 5a on the island of Guam consists of 11 ac (5 ha) and is composed of secondary forests near the central-west coast of the island. The unit is a narrow strip running east to west along the cliffline south of Route 1 along West O'Brien Drive in Anigua and the village of Hagatna. All landownership within this unit is uncategorized.

(ii) Map of Guam 5—*Tinospora homosepala*–a follows:

Figure 2 to Family Menispermaceae: *Tinospora homosepala* (No Common Name) paragraph (6)(ii)

Critical Habitat for *Tinospora homosepala* (no common name)
Guam 5–*Tinospora homosepala*–a
Guam 6–*Tinospora homosepala*–b
Guam 7–*Tinospora homosepala*–c
Guam, Territory of Guam



(7) Guam 6—*Tinospora homosepala*–b, Territory of Guam.

(i) Unit 6b on the island of Guam consists of 12 ac (5 ha) and is composed of secondary forests along the central-west coast of the island on Asan Point.

The unit lies north of Route 1 and east of the Piti Bomb Holes Marine Preserve. Landownership includes 11 ac (4 ha) of Federal lands (War in the Pacific National Historical Park) and 1 ac (1 ha) that are uncategorized. The unit overlaps the Asan Beach Unit of War in the Pacific National Historical Park.

(ii) Map of Guam 6—*Tinospora homosepala*–b is provided at paragraph 6(ii) of this entry.

(8) Guam 7—*Tinospora homosepala*–c, Territory of Guam.

(i) Unit 7c on the island of Guam consists of 124 ac (50 ha) and is composed of secondary forests along the central-west coast of the island near Asan Bay. The unit lies between Route 1 and Spruance Drive and west of the Adelup Reservoir. Landownership includes 102 ac (41 ha) of Federal lands (War in the Pacific National Historical Park), 11 ac (4 ha) in private ownership, and 11 ac (5 ha) that are uncategorized. The unit overlaps the Asan Inland unit of War in the Pacific National Historical Park.

(ii) Map of Guam 7—*Tinospora homosepala*–c is provided at paragraph 6(ii) of this entry.

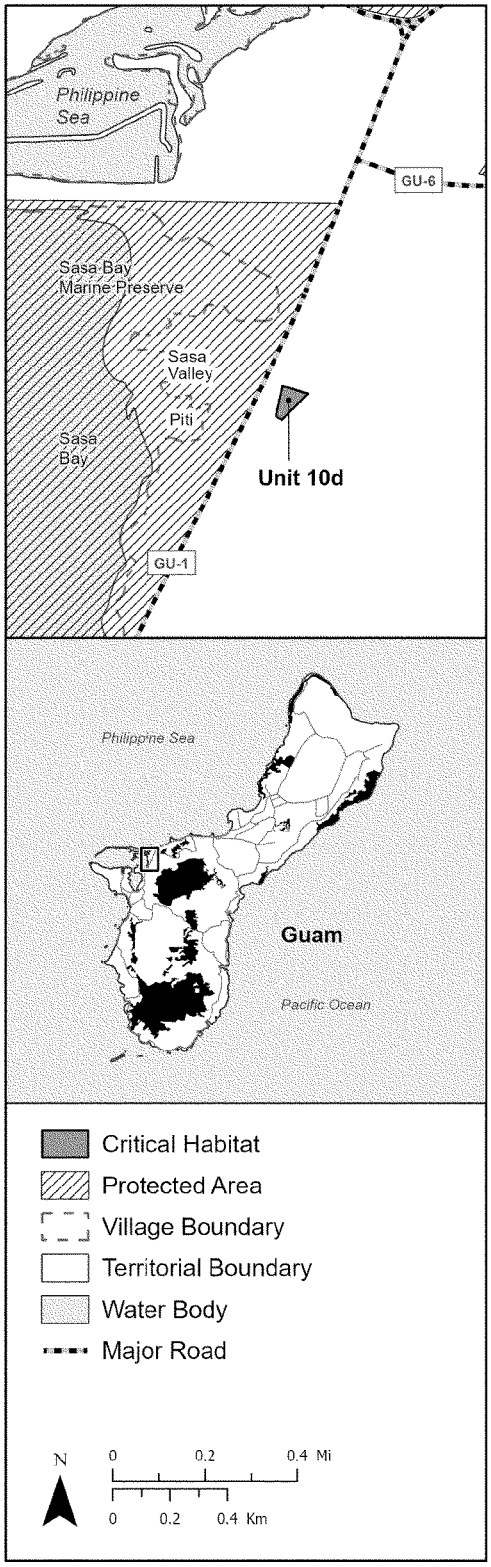
(9) Guam 10—*Tinospora homosepala*–d, Territory of Guam.

(i) Unit 10d on the island of Guam consists of 2 ac (1 ha) and is composed of secondary forests near the central-west coast of the island along Sasa Bay. The unit lies on the east side of Route 1 near the Sasa Valley and Sasa Bay Marine Preserve. The northern boundary of the unit is adjacent to the Guam NWR. Landownership within the entire unit is uncategorized.

(ii) Map of Guam 10—*Tinospora homosepala*–d follows:

Figure 3 to Family Menispermaceae: *Tinospora homosepala* (No Common Name) paragraph (9)(ii)

Critical Habitat for
***Tinospora homosepala* (no common name)**
Guam 10–*Tinospora homosepala*–d
Guam, Territory of Guam



Family Myrsinaceae: Maesa Walkeri (No Common Name)

(1) Critical habitat units are depicted for Rota within the Commonwealth of the Northern Mariana Islands, and Guam within the Territory of Guam, on the maps in this entry.

(2) Within these areas, the physical or biological features essential to the conservation of *Maesa walkeri* consist of the following components:

(i) Native limestone forest and forest edge habitats ranging in elevation between 656–1,312 ft (200–400 m).

(ii) Adequate sunlight, variable amounts of moisture, and relatively constant temperatures.

(iii) Native vegetation such as *Pandanus* spp. and *Hernandia-Elaeocarpus.*

(iv) Native seed dispersers such as birds and fruit bats.

(v) Native pollinators such as insects and native vegetation to support them.

(3) Critical habitat does not include manmade structures (such as buildings or paved areas including aqueducts, runways, or roads) and the land on which they are located existing within the legal boundaries on the effective date of the final rule.

(4) Data layers defining map units were created using survey and distribution data provided by multiple local and regional sources as available (*e.g.,* reports, databases, and species experts' knowledge) and as maintained by universities, local governments, and nonprofit organizations across the Mariana Islands. Landcover data (*e.g.,* soil substrate, vegetation, and elevation) were obtained and compiled from multiple Federal and local government agencies. Temperature and precipitation data were obtained and compiled from journal publications. Landforms were primarily delineated based on the most currently available aerial maps and satellite imagery. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site at *https://www.fws.gov/project/critical-habitat-mariana-islands,* at *https://www.regulations.gov* at Docket No. FWS–R1–ES–2024–0194, and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) The following index maps show the general locations of critical habitat units for all plant species designated on each island, with each location/area on each island identified as a specific number on the index maps. These island location/area numbers allow for comparison of overlapping critical habitat units for other listed species within the same location.

(i) Each critical habitat unit name comprises an island name, a number corresponding to a specific geographic location/area on the applicable island, which may include overlapping units for different species, the species name, and a letter. The letter at the end of each critical habitat unit name corresponds to the number of units present on a given island, where each escalating letter for each island corresponds to the additive number of units per island for the species. Critical habitat for *Maesa walkeri* includes one unit on the island of Rota and one unit on the island of Guam, for a total of two critical habitat units.

(ii) Index maps follow:

Figure 1 to Family Myrsinaceae: *Maesa walkeri* (No Common Name) paragraph (5)(ii)

Critical Habitat
Index Map for Plants on the Islands of Rota,
Commonwealth of the Northern Mariana Islands

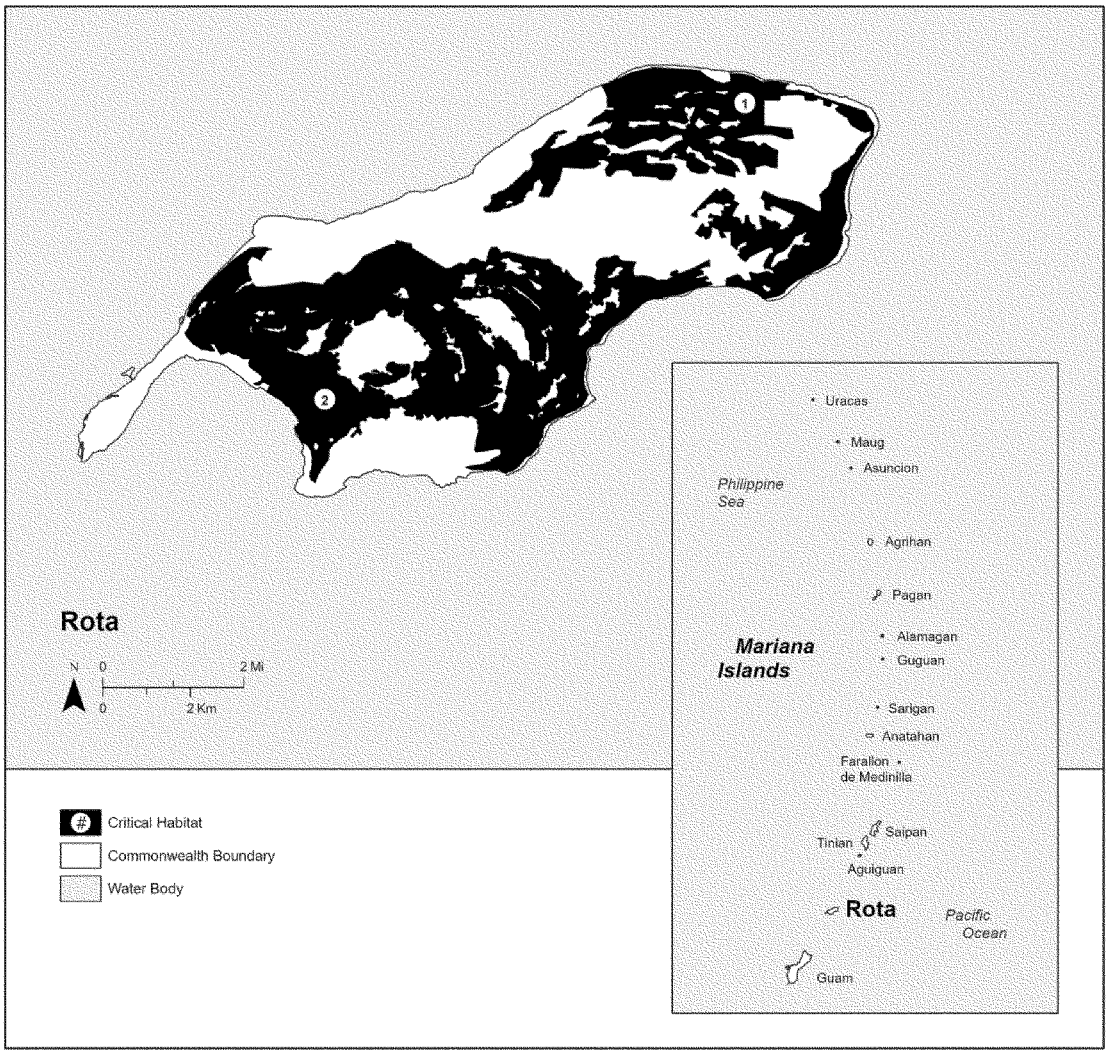
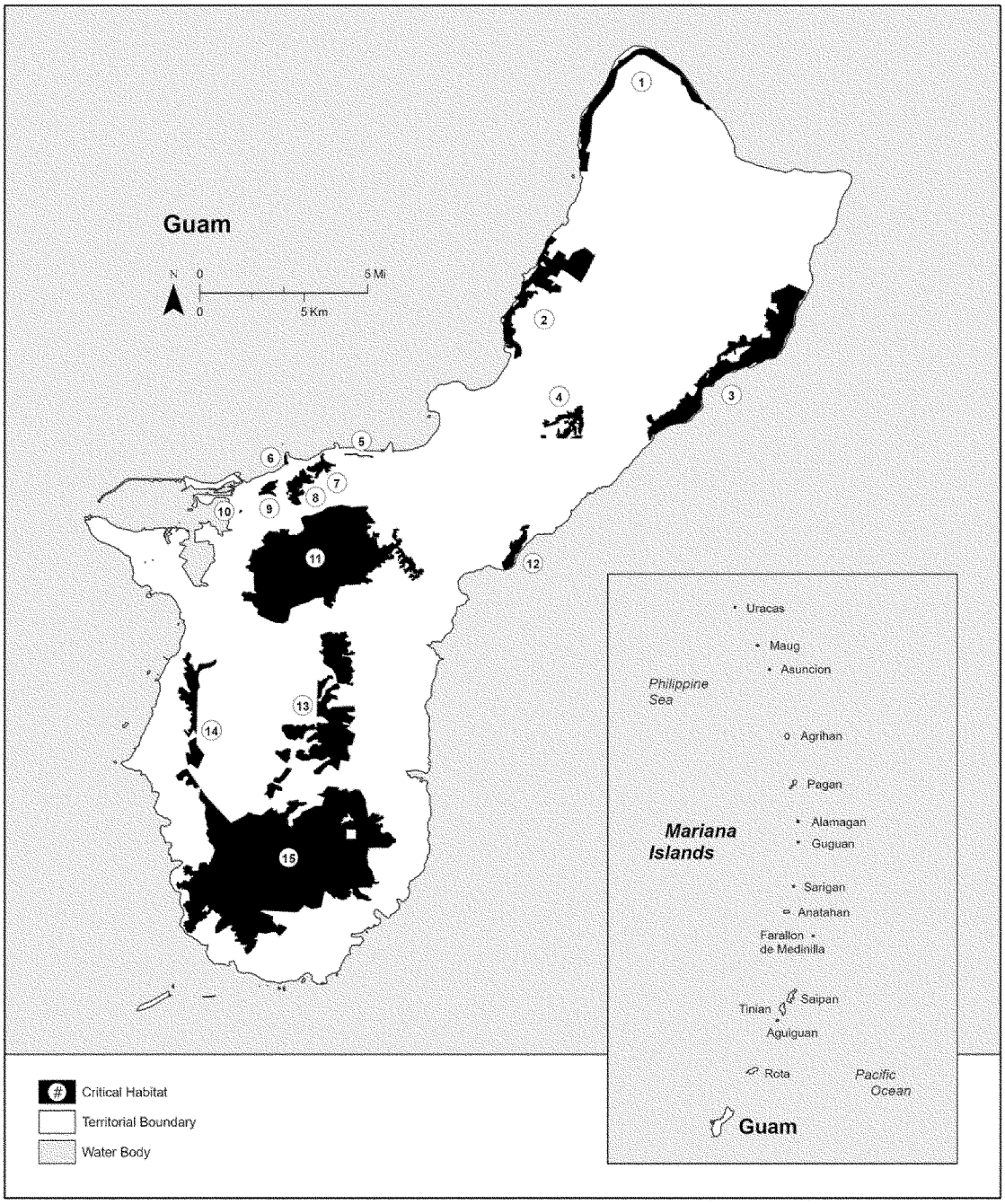


Figure 2 to Family Myrsinaceae: *Maesa walkeri* (No Common Name)
paragraph (5)(ii)

Critical Habitat
Index Map for Plants on the Islands of Guam,
Territory of Guam



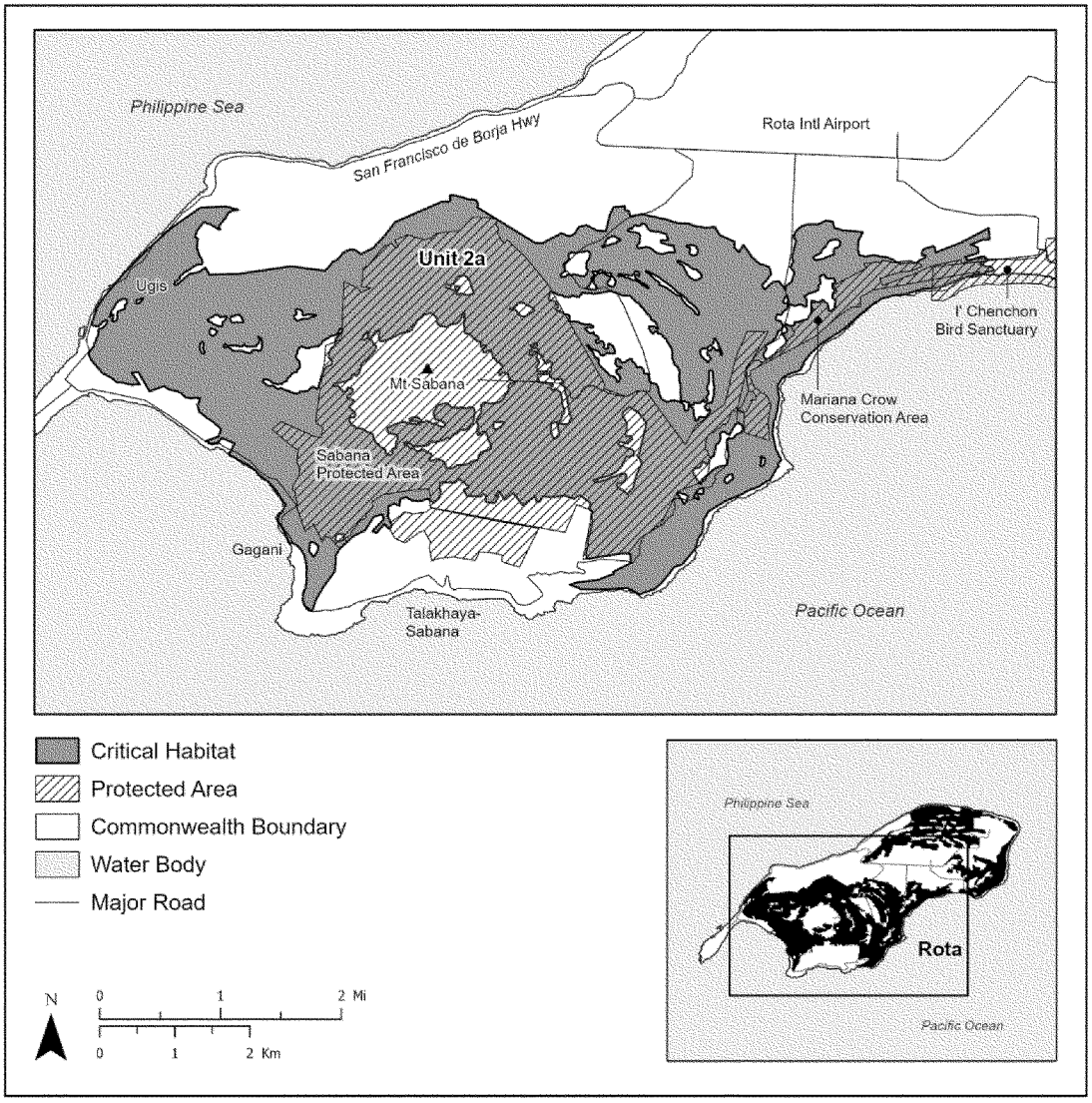
(6) Rota 2–*Maesa walkeri*–a, Commonwealth of the Northern Mariana Islands.

(i) This single critical habitat unit on the island of Rota consists of 6,875 ac (2,782 ha) and is composed of limestone forest in the south of the island. This unit extends south of the Rota International Airport, stretches east to the I'Chenchon Bird Sanctuary, and flanks the Talakhaya-Sabana watershed to the south (encompassing parts of the Sabana Protected Area, Mariana Crow Conservation Area, and I'Chenchon Bird Sanctuary) and east to Ugis. The unit does not include developed areas, grasslands, or Mt. Sabana. Landownership consists of 5,806 ac (2,350 ha) of land owned by the Commonwealth government, 1,039 ac (420 ha) in private ownership, and 30 ac (12 ha) that are uncategorized.

(ii) Map of Rota 2–*Maesa walkeri*–a follows:

Figure 3 to Family Myrsinaceae: *Maesa walkeri* (No Common Name) paragraph (6)(ii)

Critical Habitat for *Maesa walkeri* (no common name)
Rota 2–*Maesa walkeri*–a
Rota, Commonwealth of the Northern Mariana Islands



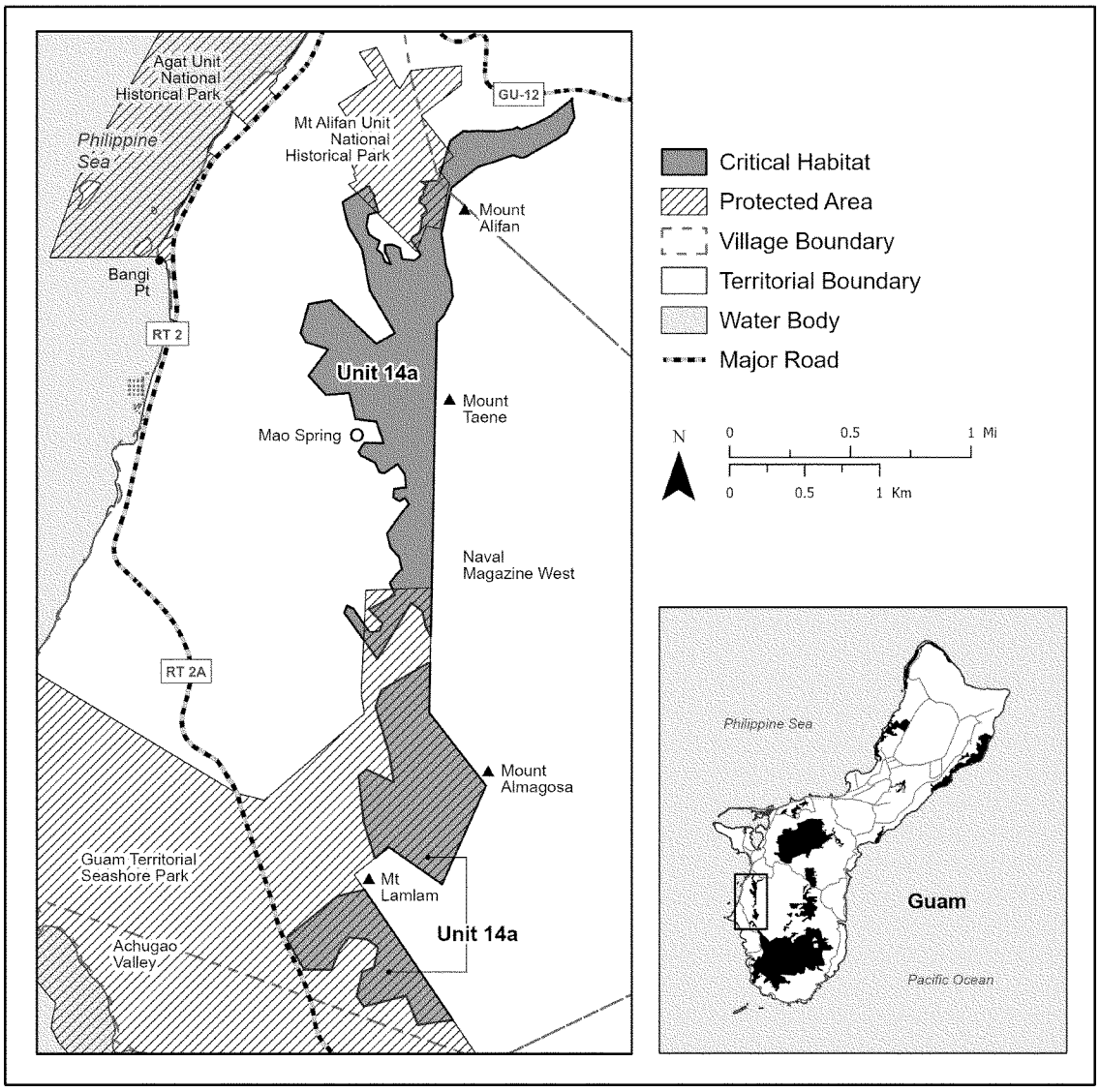
(7) Guam 14–*Maesa walkeri*–a, Territory of Guam.

(i) This single critical habitat unit on the island of Guam consists of 629 ac (254 ha) and is composed of three segments of limestone forests on the southwestern side of the island. The unit extends from Route 12 and Mt. Alifan in the north, running along the border of Naval Magazine West and ending south of Mt. Lamlam at Route 2A. Landownership includes 16 ac (6 ha) of Federal lands (War in the Pacific National Historical Park), 84 ac (34 ha) of Territory government lands, 344 ac (139 ha) in private ownership, and 185 ac (75 ha) that are uncategorized. The northern portion of the unit overlaps the Mt. Alifan unit of War in the Pacific National Historical Park. The southern portion of the unit overlaps the Guam Territorial Seashore Park.

(ii) Map of Guam 14–*Maesa walkeri*–a follows:

Figure 4 to Family Myrsinaceae: *Maesa walkeri* (No Common Name) paragraph (6)(ii)

Critical Habitat for *Maesa walkeri* (no common name)
Guam 14–*Maesa walkeri*–a
Guam, Territory of Guam



Family Myrtaceae: Eugenia bryanii (No Common Name)

(1) Critical habitat units are depicted for Guam within the Territory of Guam, on the maps in this entry.

(2) Within these areas, the physical or biological features essential to the conservation of *Eugenia bryanii* consist of the following components:

(i) Limestone forests with moisture, including (but not limited to) forest edge perimeters, exposed limestone cliffs, and limestone forests with karst as the primary substrate.

(ii) Native seed dispersers such as birds and fruit bats.

(iii) Native pollinators and native vegetation to support them.

(3) Critical habitat does not include manmade structures (such as buildings or paved areas including aqueducts, runways, or roads) and the land on which they are located existing within the legal boundaries on the effective date of the final rule.

(4) Data layers defining map units were created using survey and distribution data provided by multiple local and regional sources as available (*e.g.,* reports, databases, and species experts' knowledge) and as maintained by universities, local governments, and nonprofit organizations across the Mariana Islands. Landcover data (*e.g.,* soil substrate, vegetation, and elevation) were obtained and compiled from multiple Federal and local government agencies. Temperature and precipitation data were obtained and compiled from journal publications. Landforms were primarily delineated based on the most currently available aerial maps and satellite imagery. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site at *https://www.fws.gov/project/critical-habitat-mariana-islands,* at *https://www.regulations.gov* at Docket No. FWS–R1–ES–2024–0194, and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

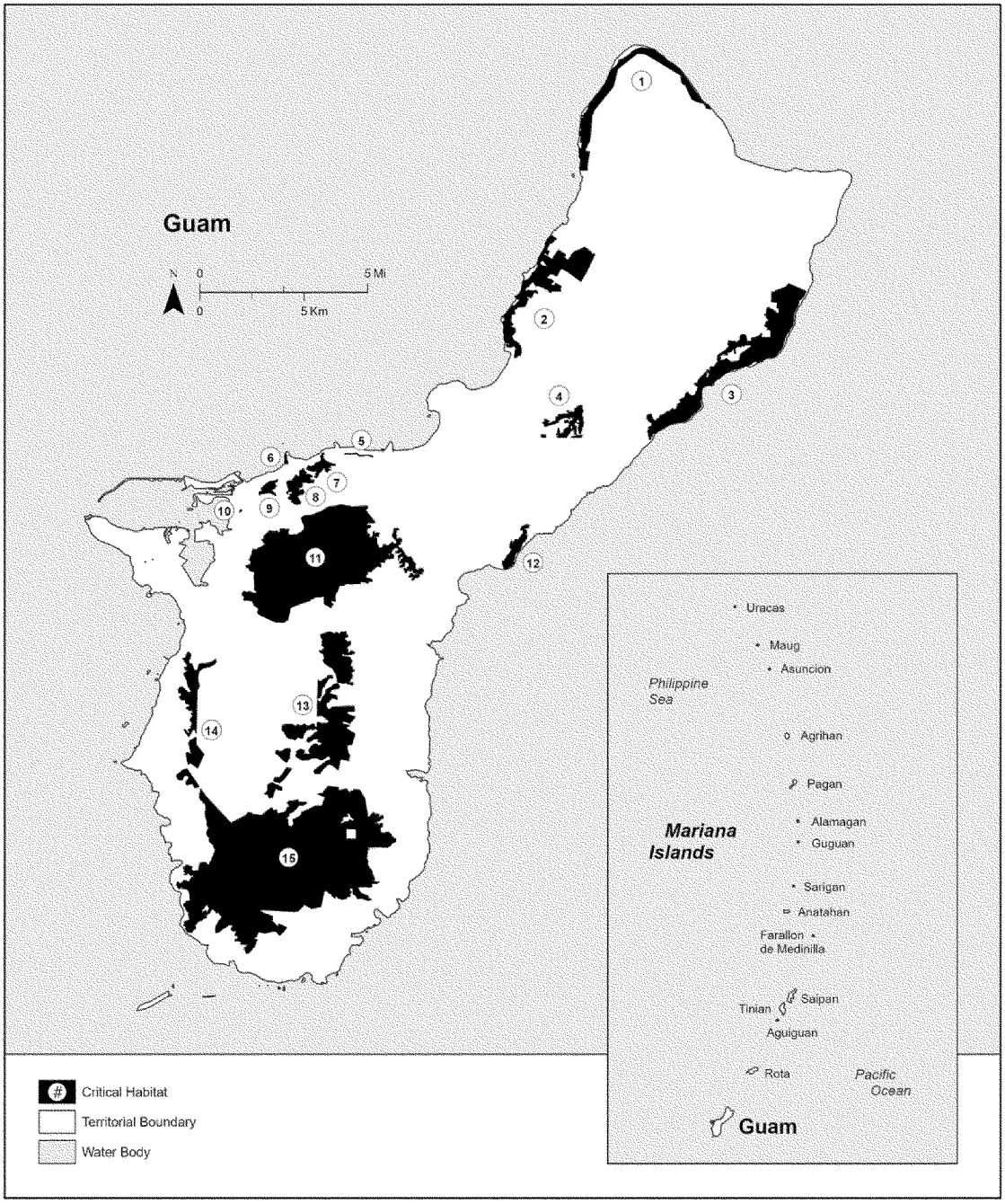
(5) The following index map shows the general locations of critical habitat units for all plant species designated on the island of Guam, with each location/area on the island identified as a specific number on the index map. These island location/area numbers allow for comparison of overlapping critical habitat units for other listed species within the same location.

(i) Each critical habitat unit name comprises the island name, a number (*i.e.,* the geographic location/area on the island of Guam) corresponding to a specific geographic location/area on the island of Guam, which may include overlapping units for different species, the species name, and a letter. The letter at the end of each critical habitat unit name corresponds to the number of units present on the island, where each escalating letter corresponds to the additive number of units on the island for the species. Critical habitat for *Eugenia bryanii* includes a total of five critical habitat units.

(ii) Index map follows:

Figure 1 to Family Myrtaceae: *Eugenia bryanii* (No Common Name) paragraph (5)(ii)

Critical Habitat
Index Map for Plants on the Islands of Guam, Territory of Guam



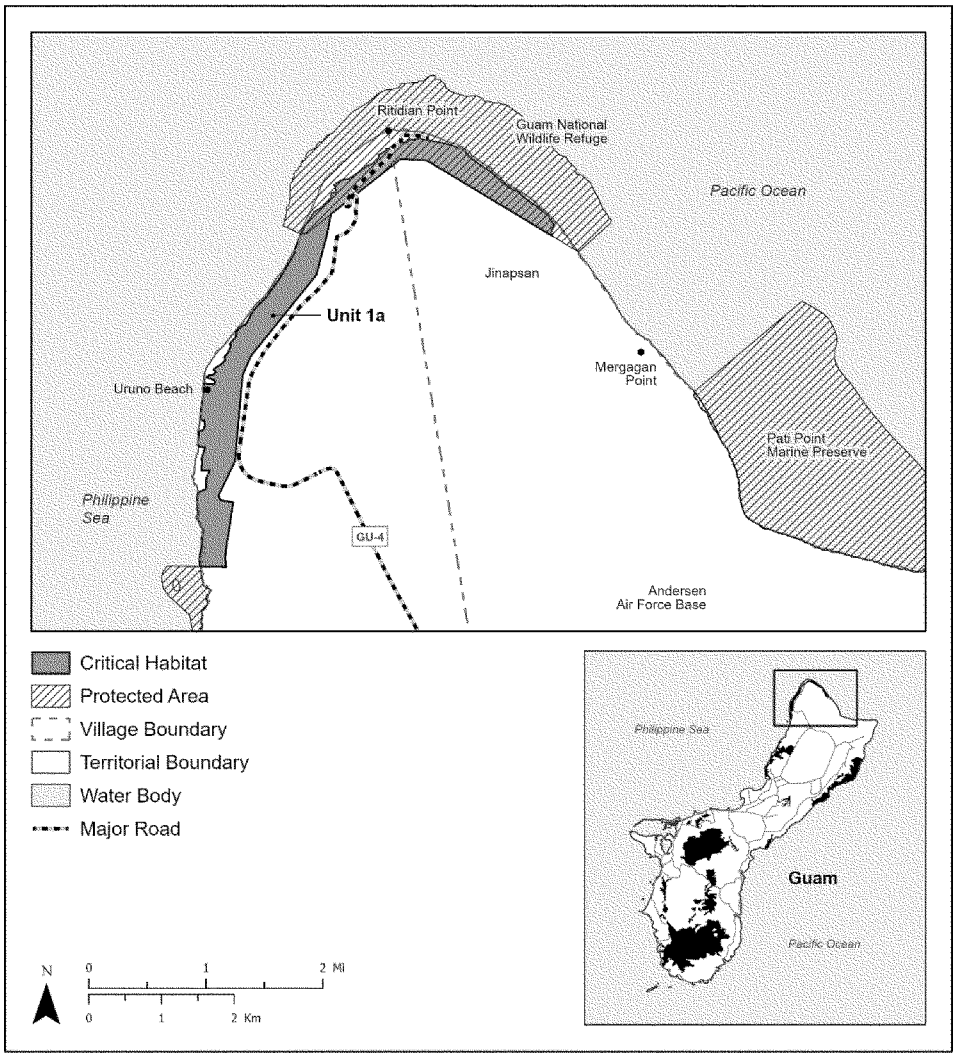
(6) Guam 1–*Eugenia bryanii*–a, Territory of Guam.

(i) Unit 1a on the island of Guam consists of 741 ac (300 ha) and is composed of a band of secondary limestone forest along the north point of the island (Ritidian Point). The unit extends from the southwestern boundary south of Urunao Beach and runs north along the cliffline ending at Jinapsan. Landownership includes 257 ac (104 ha) of Federal lands (Guam NWR), 68 ac (27 ha) of Territory government lands, 375 ac (152 ha) in private ownership, and 41 ac (17 ha) that are uncategorized.

(ii) Map of Guam 1–*Eugenia bryanii*–a follows:

Figure 2 to Family Myrtaceae: *Eugenia bryanii* (No Common Name) paragraph (6)(ii)

Critical Habitat for *Eugenia bryanii* (no common name)
Guam 1–*Eugenia bryanii*–a
Guam, Territory of Guam



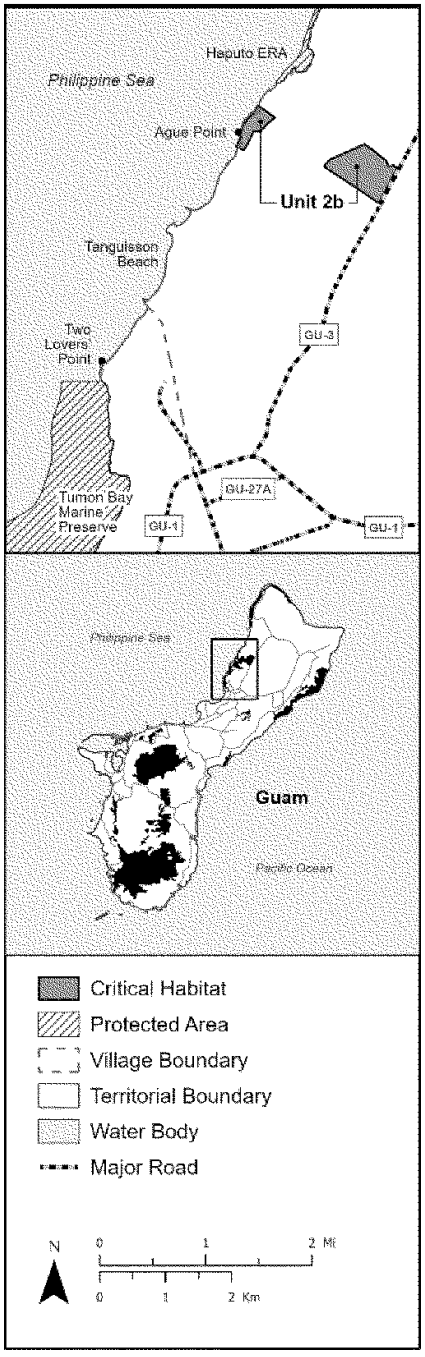
(7) Guam 2–*Eugenia bryanii*–b, Territory of Guam.

(i) Unit 2b on the island of Guam consists of two segments totaling 162 ac (65 ha) and is composed of limestone forests along the northwestern edge of the island. One segment within this unit lies inland of Ague Point and south of the Guam NWR. The second segment within this unit lies west of Route 3 and south of the Guam National Wildlife Refuge boundary. Landownership includes 159 ac (64 ha) of Territory government lands and 3 ac (1 ha) that are uncategorized.

(ii) Map of Guam 2–*Eugenia bryanii*–b follows:

Figure 3 to Family Myrtaceae: *Eugenia bryanii* (No Common Name) paragraph (7)(ii)

Critical Habitat for
***Eugenia bryanii* (no common name)**
Guam 2–*Eugenia bryanii*–b
Guam, Territory of Guam



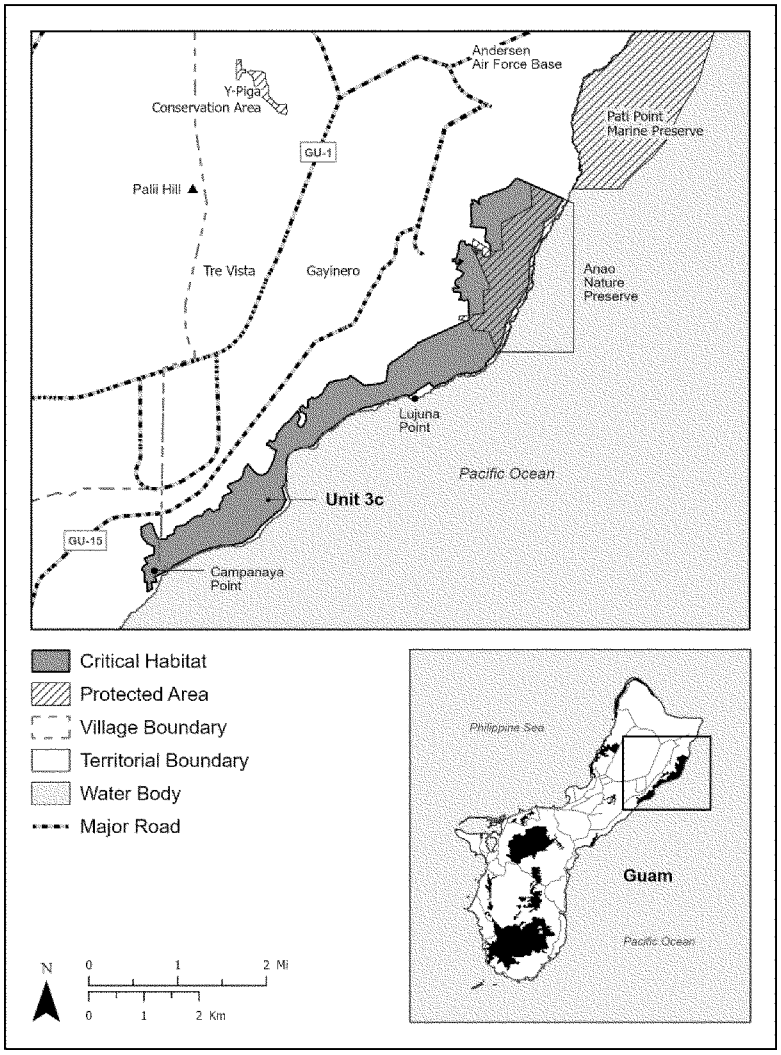
(8) Guam 3–*Eugenia bryanii*–c, Territory of Guam.

(i) Unit 3c on the island of Guam consists of 1,986 ac (804 ha) and is composed of limestone forests along the northeastern coastal edge of the island. The unit begins at the boundary of the Anao Nature Preserve, immediately adjacent to the southern end of the Guam NWR boundary and extends southwest along the coast to Campanaya Point. Landownership includes 1,488 ac (602 ha) of Territory government lands, 198 ac (80 ha) in private ownership, and 300 ac (122 ha) that are uncategorized. The northeastern portion of this unit overlaps the Anao Nature Preserve.

(ii) Map of Guam 3–*Eugenia bryanii*–c follows:

Figure 4 to Family Myrtaceae: *Eugenia bryanii* (No Common Name) paragraph (8)(ii)

Critical Habitat for *Eugenia bryanii* (no common name)
Guam 3–*Eugenia bryanii*–c
Guam, Territory of Guam



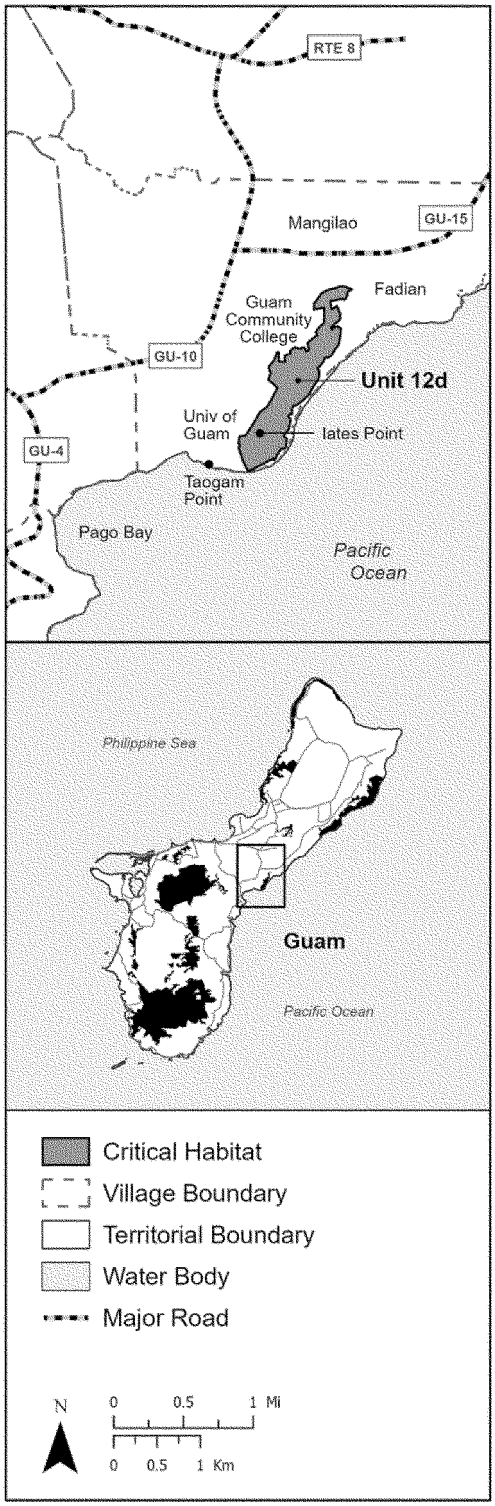
(9) Guam 12–*Eugenia bryanii*–d, Territory of Guam.

(i) Unit 12d on the island of Guam consists of 195 ac (79 ha) and is composed of limestone forests along the central-east coast of the island. It extends from Fadian down to Taogam Point, east of Guam Community College and University of Guam. Landownership includes 190 ac (77 ha) in private ownership and 5 ac (2 ha) that are uncategorized.

(ii) Map of Guam 12–*Eugenia bryanii*–d follows:

Figure 5 to Family Myrtaceae: *Eugenia bryanii* (No Common Name) paragraph (9)(ii)

Critical Habitat for
***Eugenia bryanii* (no common name)**
Guam 12–*Eugenia bryanii*–d
Guam, Territory of Guam



(10) Guam 15–*Eugenia bryanii*–e, Territory of Guam.

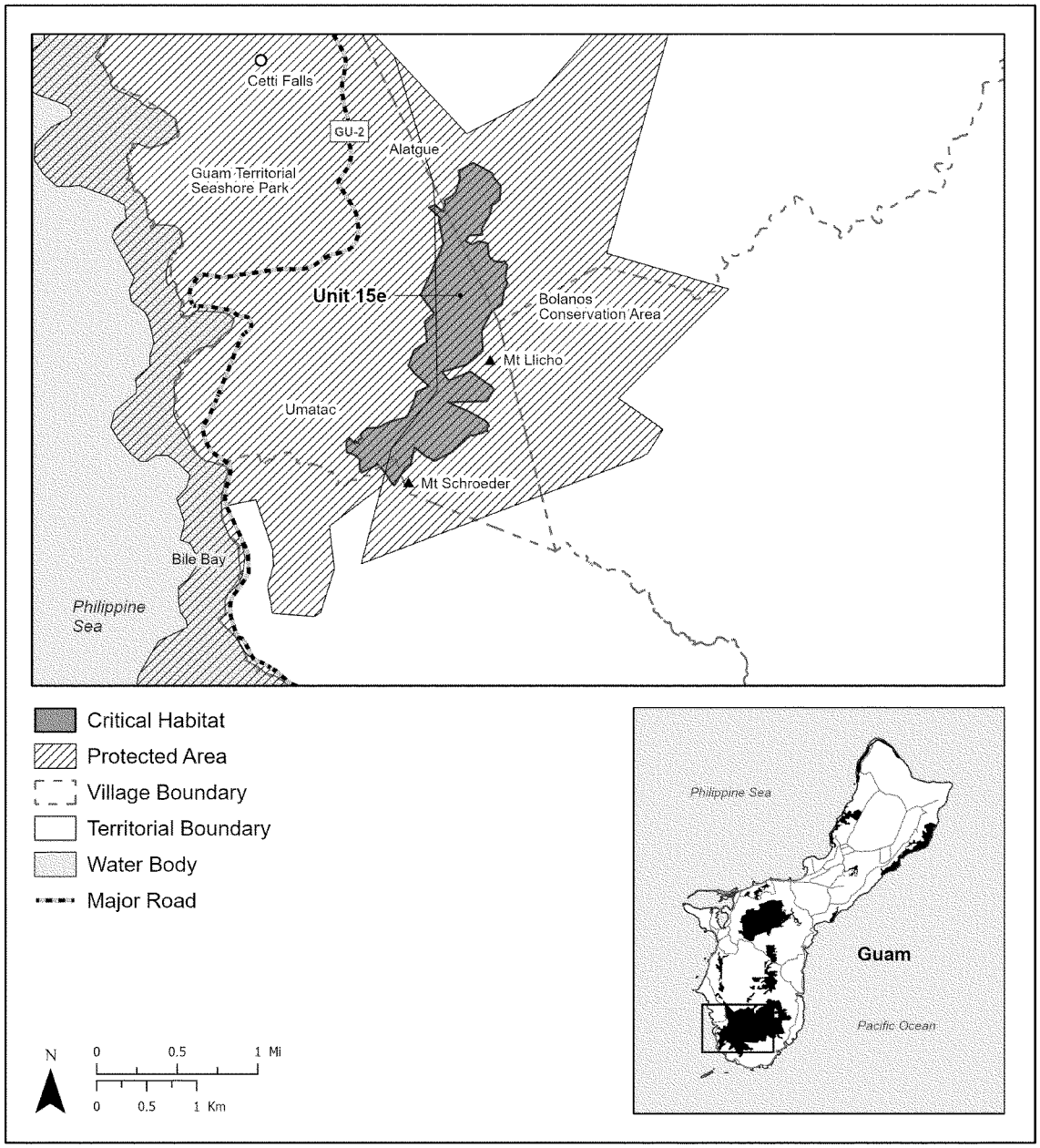
(i) Unit 15e on the island of Guam consists of 470 ac (190 ha) and is composed of limestone forests in the southwestern part of the island. The unit extends from Alatgue in the north down to Mt. Schroeder in the south. Landownership includes 181 ac (73 ha) of Territory government lands, 253 ac (103 ha) in private ownership, and 36 ac (14 ha) that are uncategorized. The

western portion of the unit overlaps the Guam Territorial Seashore Park, and the eastern portion of the unit overlaps the Bolanos Conservation Area.

(ii) Map of Guam 15–*Eugenia bryanii*–e follows:

Figure 6 to Family Myrtaceae: *Eugenia bryanii* (No Common Name) paragraph (10)(ii)

Critical Habitat for *Eugenia bryanii* (no common name)
Guam 15–*Eugenia bryanii*–e
Guam, Territory of Guam



* * * * *

Family Orchidaceae: Bulbophyllum guamense (Siboyas Halumtanu, Siboyan Halomtano)

(1) Critical habitat units are depicted for Rota within the Commonwealth of the Northern Mariana Islands and Guam within the Territory of Guam, on the maps in this entry.

(2) Within these areas, the physical or biological features essential to the conservation of *Bulbophyllum guamense* consist of the following components:

(i) Native limestone or volcanic forests with native host vegetation such as trees and tall shrubs, including forests along clifflines, forest edges, mountainous slopes and secondary/mixed and native volcanic ravine forests providing suitable host vegetation.

(ii) Pollinators such as flies, wasps, and bees, and native vegetation to support them.

(3) Critical habitat does not include manmade structures (such as buildings or paved areas including aqueducts, runways, or roads) and the land on which they are located existing within the legal boundaries on the effective date of the final rule.

(4) Data layers defining map units were created using survey and distribution data provided by multiple local and regional sources as available (*e.g.,* reports, databases, and species experts' knowledge) and as maintained by universities, local governments, and nonprofit organizations across the Mariana Islands. Landcover data (*e.g.,* soil substrate, vegetation, and elevation) were obtained and compiled from multiple Federal and local government agencies. Temperature and precipitation data were obtained and compiled from journal publications. Landforms were primarily delineated based on the most currently available aerial maps and satellite imagery. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site at *https://www.fws.gov/project/critical-habitat-mariana-islands,* at *https://www.regulations.gov* at Docket No. FWS–R1–ES–2024–0194, and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) The following index maps show the general locations of critical habitat units for all plant species designated on each island, with each location/area on each island identified as a specific number on the index maps. These island location/area numbers allow for comparison of overlapping critical habitat units for other listed species within the same location.

(i) Each critical habitat unit name comprises an island name, a number (*i.e.,* the geographic location/area on the applicable island) corresponding to a specific geographic location/area on the applicable island which, may include overlapping units for different species, the species name, and a letter. The letter at the end of each critical habitat unit name corresponds to the number of units present on a given island, where each escalating letter for each island corresponds to the additive number of units per island for the species. Critical habitat for *Bulbophyllum guamense* includes 2 units on the island of Rota and 8 units on the island of Guam, for a total of 10 critical habitat units.

(ii) Index maps follow:

Figure 1 to Family Orchidaceae: *Bulbophyllum guamense* (Siboyas Halumtanu, Siboyan Halomtano) paragraph (5)(ii)

Critical Habitat
Index Map for Plants on the Islands of Rota,
Commonwealth of the Northern Mariana Islands

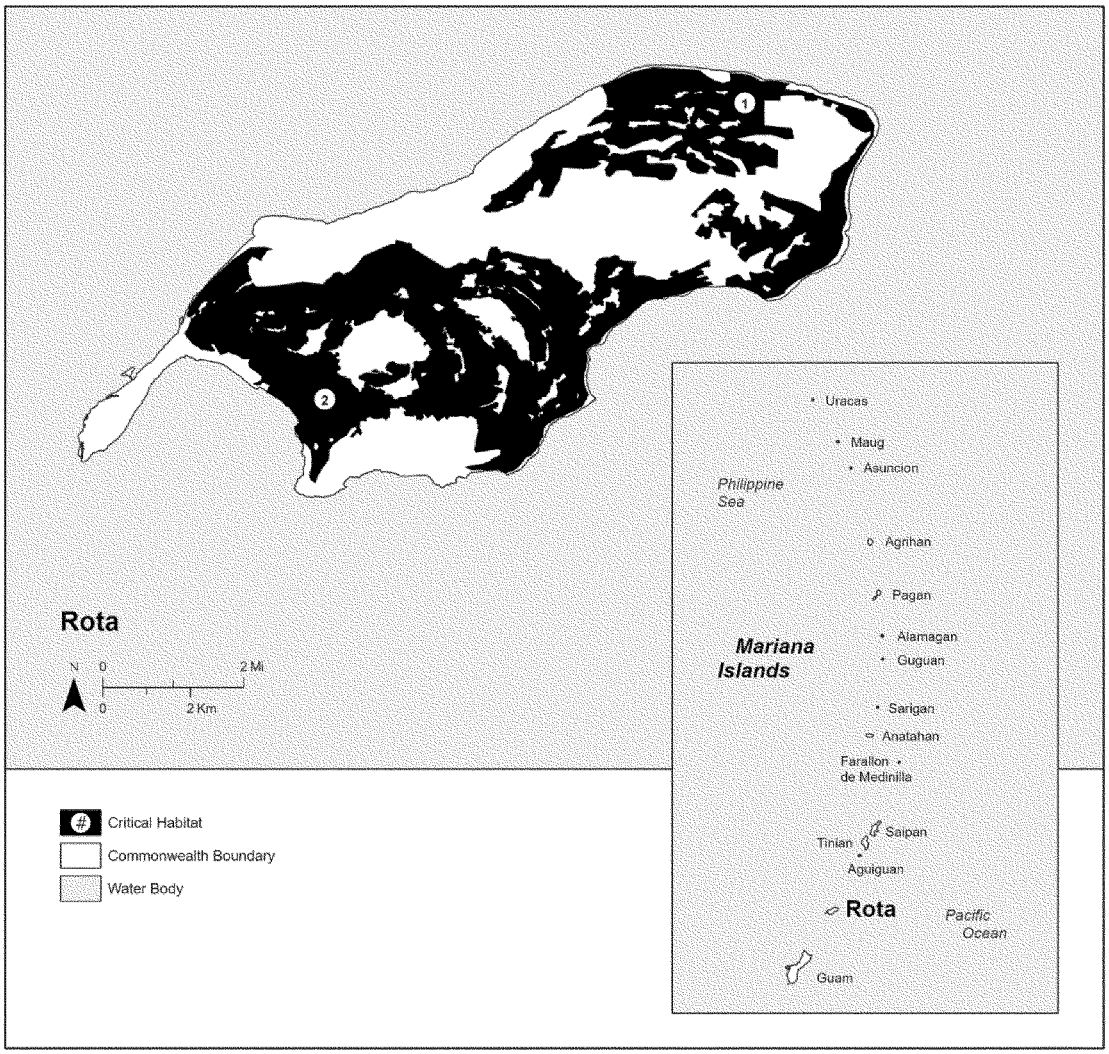
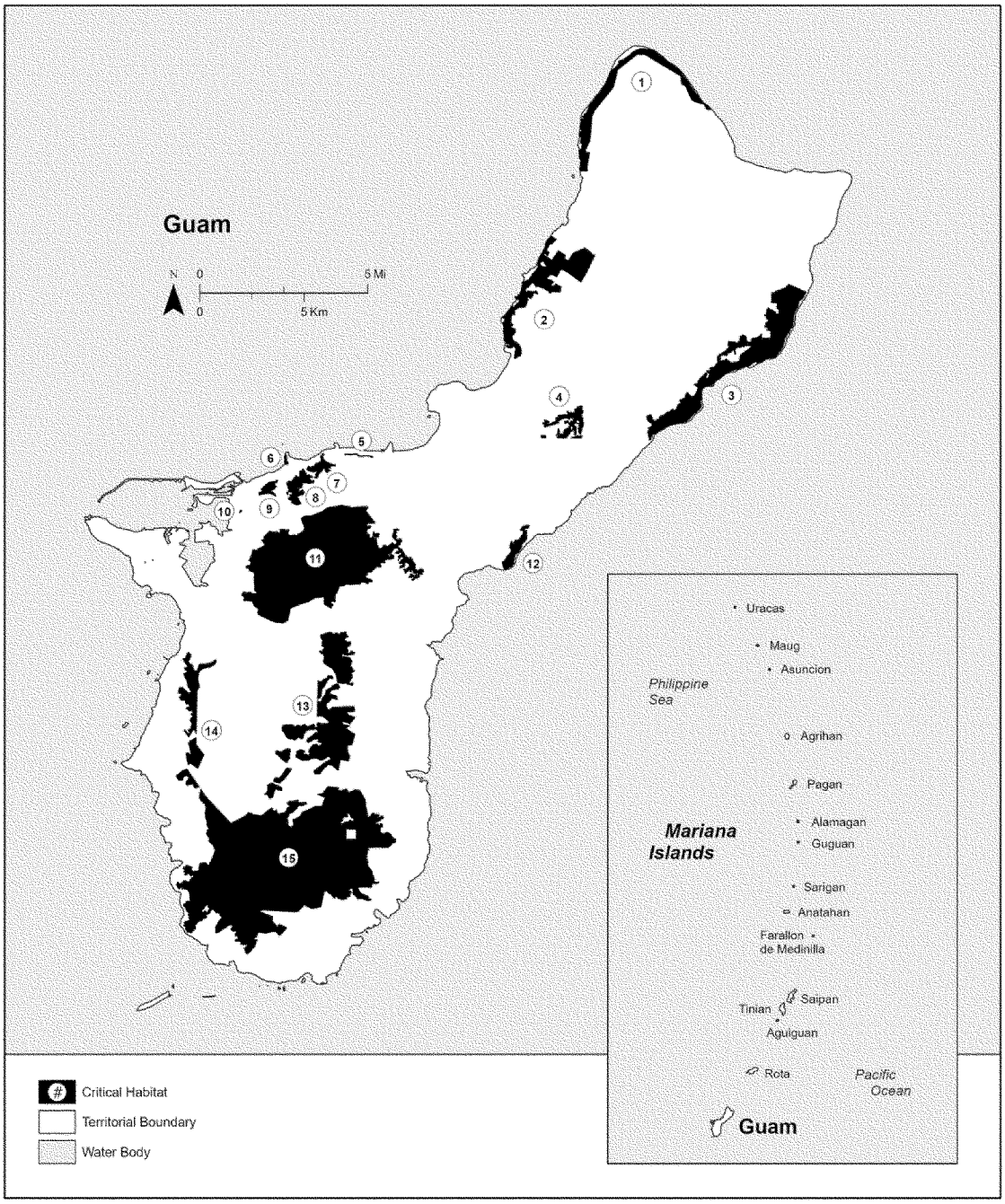


Figure 2 to Family Orchidaceae: *Bulbophyllum guamense* (Siboyas Halumtanu, Siboyan Halomtano) paragraph (5)(ii)

Critical Habitat
Index Map for Plants on the Islands of Guam,
Territory of Guam



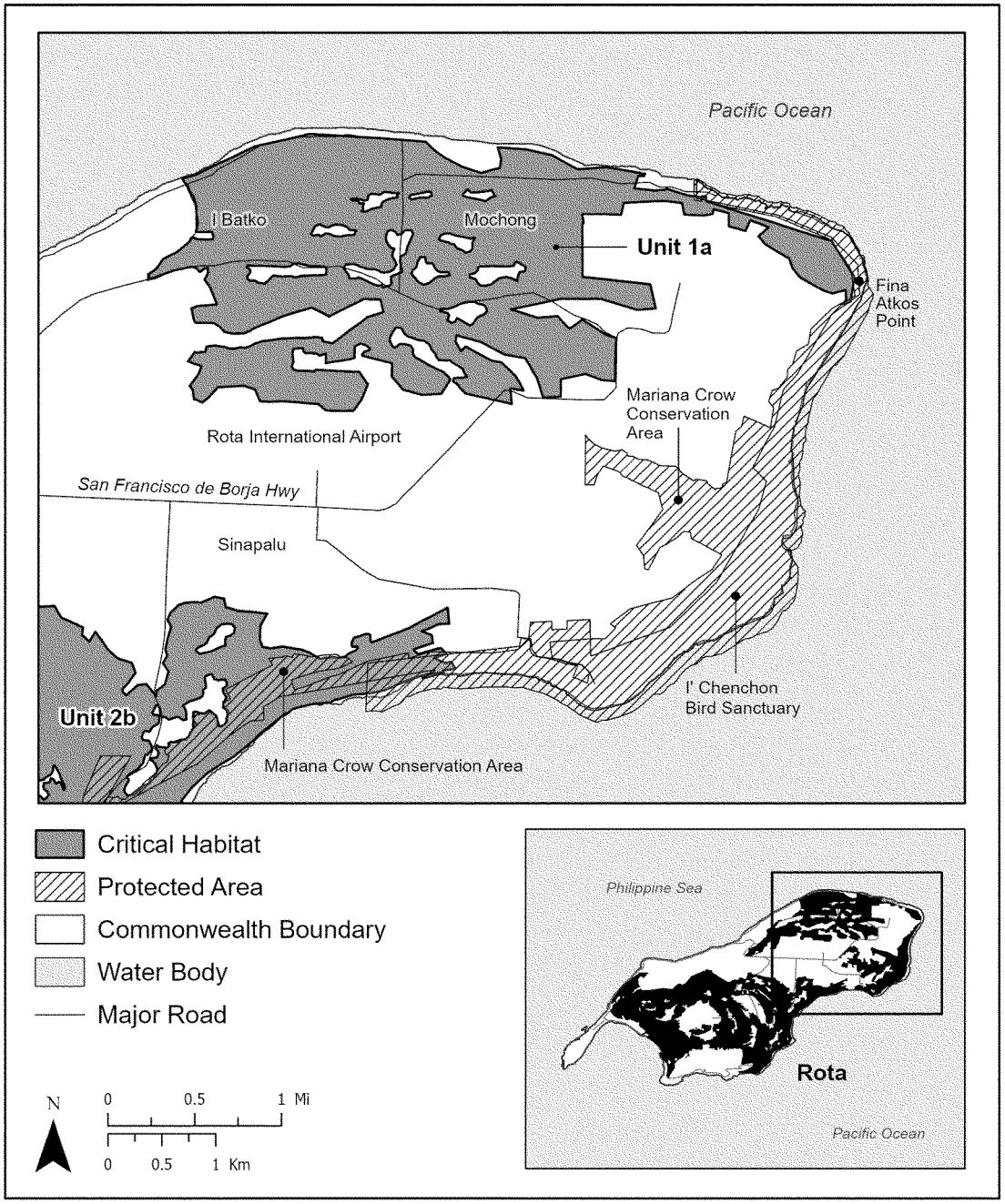
(6) Rota 1–*Bulbophyllum guamense*–a, Commonwealth of the Northern Mariana Islands.

(i) Unit 1a on the island of Rota consists of 1,930 ac (781 ha) and is composed of limestone forests in the north of the island. This unit in the north extends east through Monchong, with one arm extending along the coast to Fina Aktos Point, and lies west of the Mariana Crow Conservation Area, north of the Rota International Airport, and east of I'Batko. This area excludes several portions within Monchon and I'Batko. Landownership includes 1,397 ac (565 ha) of Commonwealth government lands and 533 ac (216 ha) in private ownership.

(ii) Map of Rota 1–*Bulbophyllum guamense*–a follows:

Figure 3 to Family Orchidaceae: *Bulbophyllum guamense* (Siboyas Halumtanu, Siboyan Halomtano) paragraph (6)(ii)

Critical Habitat for *Bulbophyllum guamense*
(Siboyas halumtanu, Siboyan halomtano)
Rota 1–*Bulbophyllum guamense*–a
Rota, Commonwealth of the Northern Mariana Islands



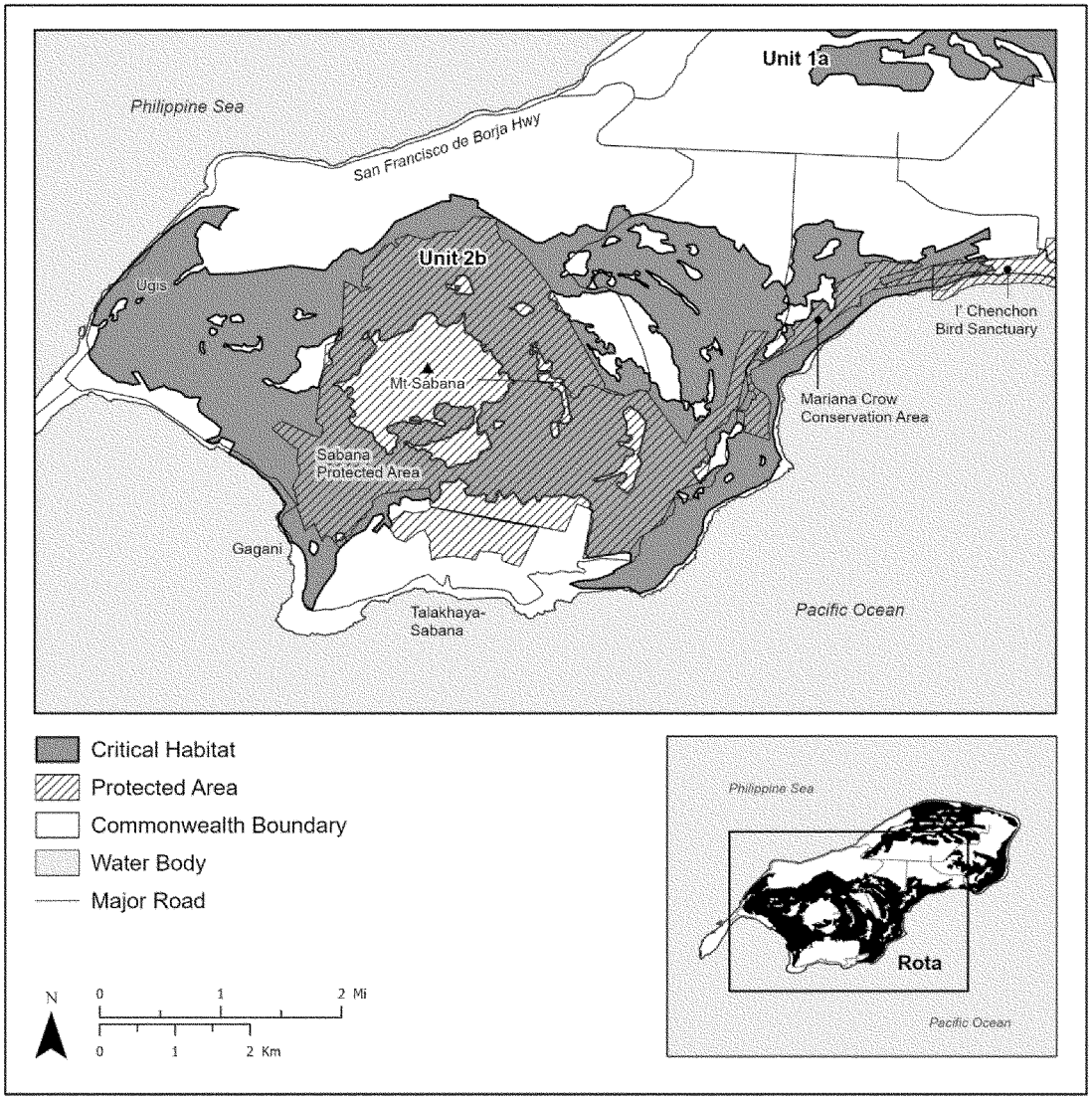
(7) Rota 2–*Bulbophyllum guamense*–b, Commonwealth of the Northern Mariana Islands.

(i) Unit 2b on the island of Rota consists of 6,875 ac (2,782 ha) and is composed of limestone forest in the south of the island. This unit extends south of the Rota International Airport, stretches east to the I'Chenchon Bird Sanctuary, and flanks the Talakhaya-Sabana watershed to the south (encompassing parts of the Sabana Protected Area, Mariana Crow Conservation Area, and I'Chenchon Bird Sanctuary) and east to Ugis. The unit does not include developed areas, grasslands, and Mt. Sabana. Landownership consists of 5,806 ac (2,350 ha) of land owned by the Commonwealth government, 1,039 ac (420 ha) in private ownership, and 30 ac (12 ha) that are uncategorized.

(ii) Map of Rota 2–*Bulbophyllum guamense*–b follows:

Figure 4 to Family Orchidaceae: *Bulbophyllum guamense* (Siboyas Halumtanu, Siboyan Halomtano) paragraph (7)(ii)

Critical Habitat for *Bulbophyllum guamense*
(Siboyas halumtanu, Siboyan halomtano)
Rota 2–*Bulbophyllum guamense*–b
Rota, Commonwealth of the Northern Mariana Islands



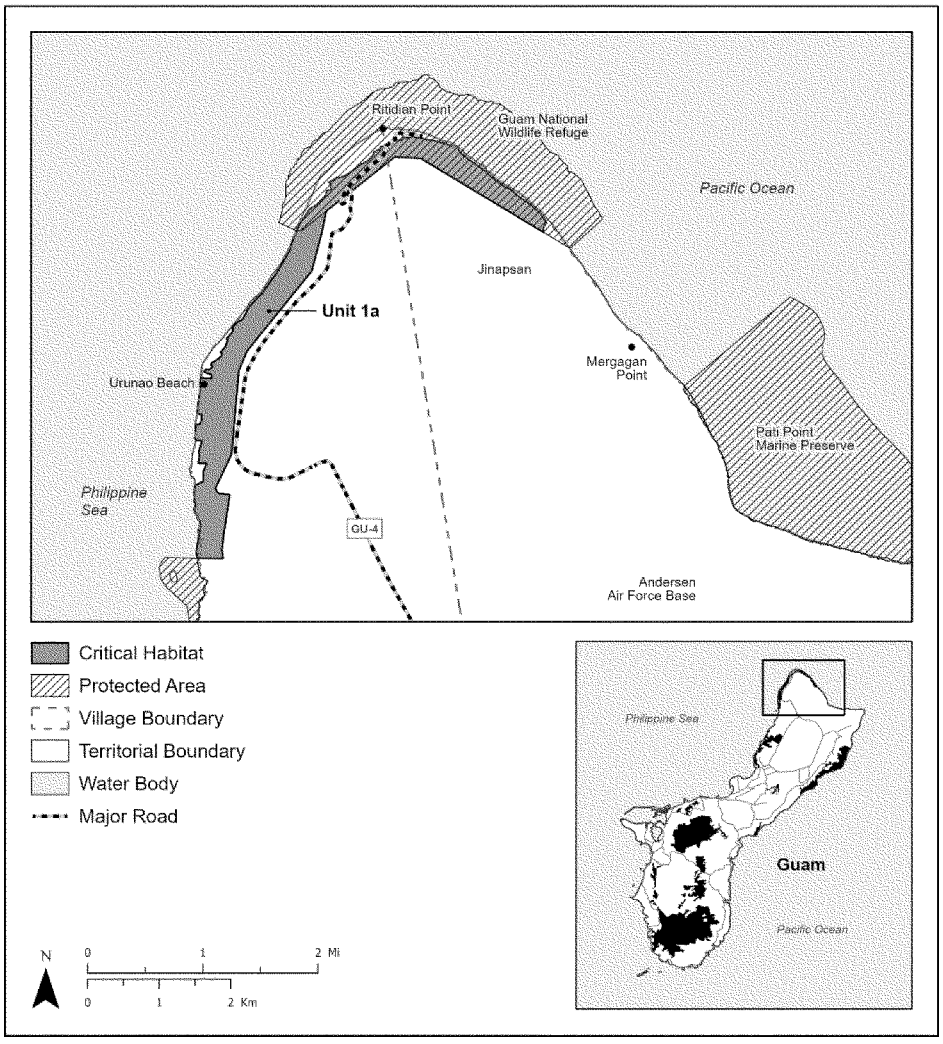
(8) Guam 1–*Bulbophyllum guamense*–a, Territory of Guam.

(i) Unit 1a on the island of Guam consists of 741 ac (300 ha) and is composed of a band of secondary limestone forest along the north point of the island (Ritidian Point). The unit extends from the southwestern boundary south of Urunao Beach and runs north along the cliffline ending at Jinapsan. Landownership includes 257 ac (104 ha) of Federal lands (Guam NWR), 68 ac (27 ha) of Territory government lands, 375 ac (152 ha) in private ownership, and 42 ac (17 ha) that are uncategorized.

(ii) Map of Guam 1–*Bulbophyllum guamense*–a follows:

Figure 5 to Family Orchidaceae: *Bulbophyllum guamense* (Siboyas Halumtanu, Siboyan Halomtano) paragraph (8)(ii)

Critical Habitat for *Bulbophyllum guamense*
(Siboyas halumtanu, siboyan halomtano)
Guam 1–*Bulbophyllum guamense*–a
Guam, Territory of Guam



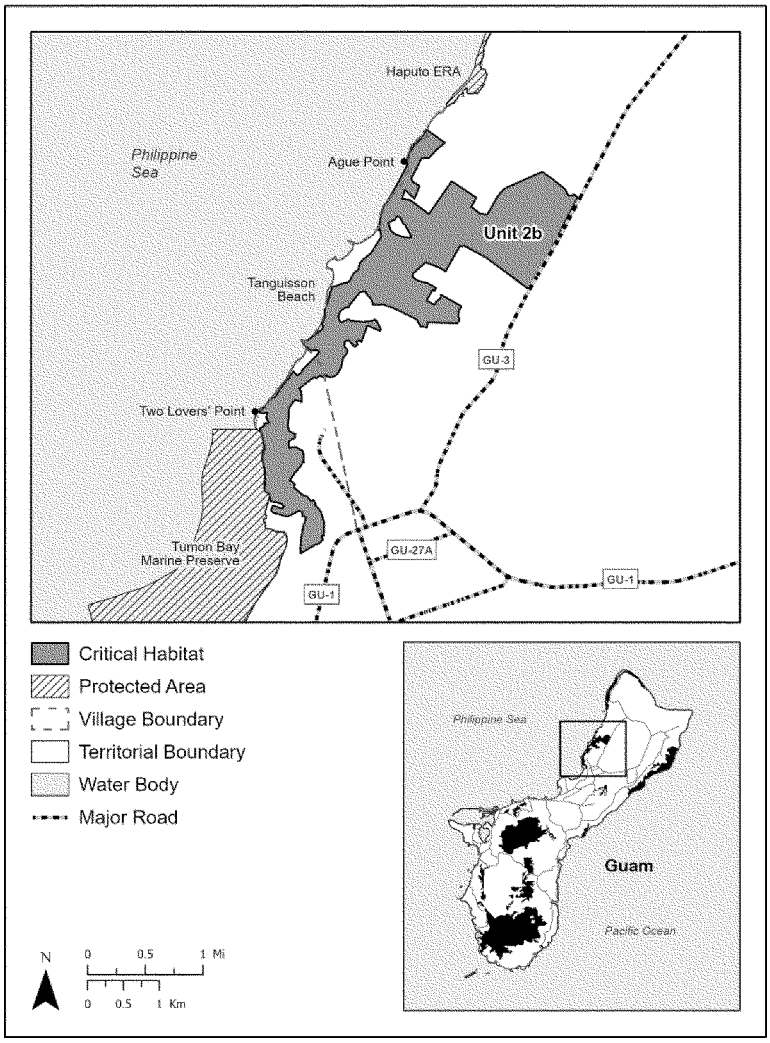
(9) Guam 2–*Bulbophyllum guamense*–b, Territory of Guam.

(i) Unit 2b on the island of Guam consists of 1,245 ac (504 ha) and is composed of limestone forests along the northwestern edge of the island. The unit lies west of Route 3 and extends from the clifflines overlooking Tumon Bay west of Route 1 and runs north to Ague Point. Landownership includes 1,081 ac (437 ha) of Territory government lands, 108 ac (44 ha) in private ownership, and 56 ac (23 ha) that are uncategorized.

(ii) Map of Guam 2–*Bulbophyllum guamense*–b follows:

Figure 6 to Family Orchidaceae: *Bulbophyllum guamense* (Siboyas Halumtanu, Siboyan Halomtano) paragraph (9)(ii)

Critical Habitat for *Bulbophyllum guamense*
(Siboyas halumtanu, siboyan halomtano)
Guam 2–*Bulbophyllum guamense*–b
Guam, Territory of Guam



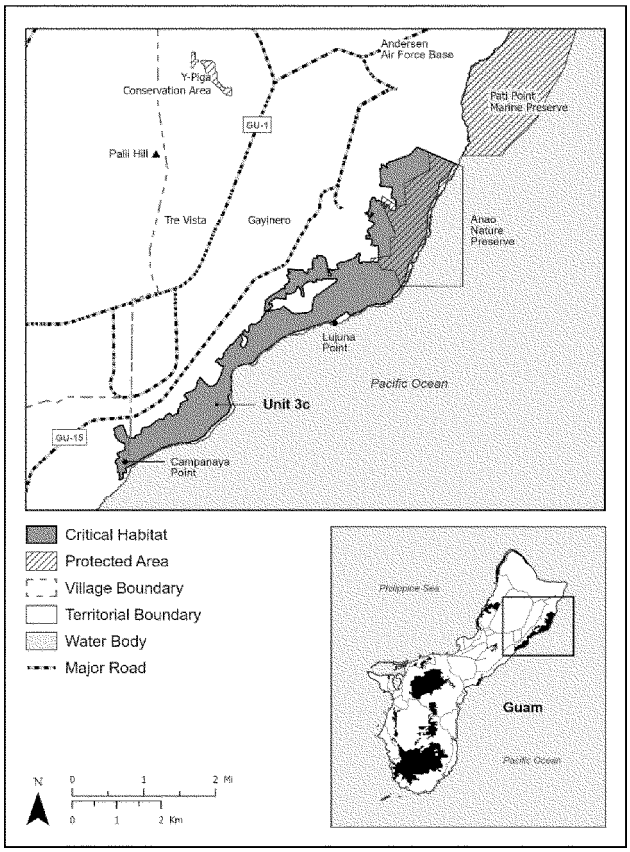
(10) Guam 3–*Bulbophyllum guamense*–c, Territory of Guam.

(i) Unit 3c on the island of Guam consists of 2,166 ac (877 ha) and is composed of limestone forests along the northeastern coastal edge of the island. The unit begins at the boundary of the Anao Nature Preserve (which is immediately adjacent to the southern end of the Guam NWR boundary) and extends southwest along the coast to Campanaya Point. Landownership includes 1,549 ac (627 ha) of Territory government lands, 270 ac (109 ha) in private ownership, and 347 ac (141 ha) that are uncategorized. The northeastern portion of this unit overlaps the Anao Nature Preserve.

(ii) Map of Guam 3–*Bulbophyllum guamense*–c follows:

Figure 7 to Family Orchidaceae: *Bulbophyllum guamense* (Siboyas Halumtanu, Siboyan Halomtano) paragraph (10)(ii)

Critical Habitat for *Bulbophyllum guamense*
(Siboyas halumtanu, siboyan halomtano)
Guam 3–*Bulbophyllum guamense*–c
Guam, Territory of Guam



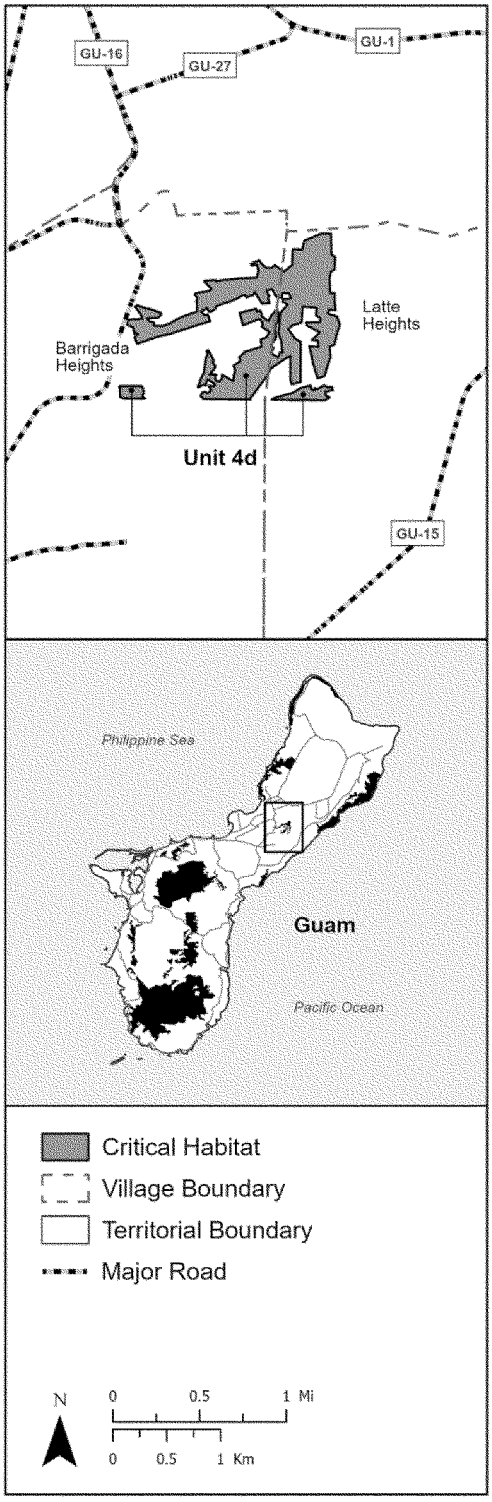
(11) Guam 4–*Bulbophyllum guamense*–d, Territory of Guam.

(i) Unit 4d on the island of Guam consists of 267 ac (108 ha) and is composed of secondary forests in the central part of the island. The unit extends from east of Route 16 in Barrigada Heights toward Latte Heights. The unit does not include developed areas. Landownership includes 171 ac (69 ha) in private ownership and 96 ac (39 ha) that are uncategorized.

(ii) Map of Guam 4—*Bulbophyllum guamense*–d follows:

Figure 8 to Family Orchidaceae: *Bulbophyllum guamense* (Siboyas Halumtanu, Siboyan Halomtano) paragraph (11)(ii)

Critical Habitat for
Bulbophyllum guamense
(Siboyas halumtanu, Siboyan halomtano)
Guam 4–*Bulbophyllum guamense*–d
Guam, Territory of Guam



(12) Guam 11—*Bulbophyllum guamense*–e, Territory of Guam.

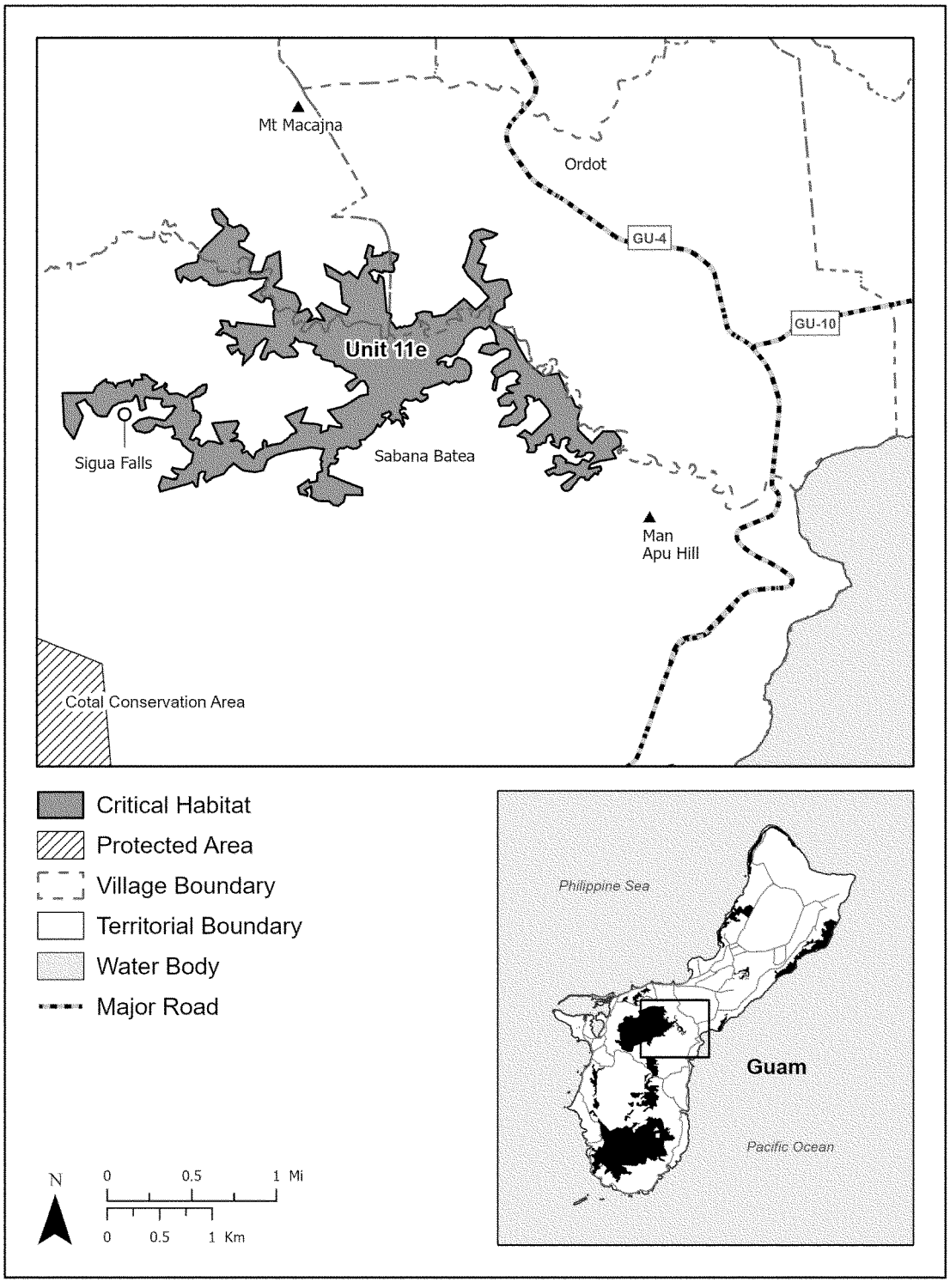
(i) Unit 11e on the island of Guam consists of 914 ac (370 ha) and is composed of secondary forests in the central part of the island. The unit lies west of Route 4 and south of Mt. Macajna and the village of Ordot, with

areas following the Sigua, Lonfit, and Pago Rivers (not represented on map due to unavailable data layer). Landownership includes 324 ac (131 ha) in private ownership and 590 ac (239 ha) that are uncategorized.

(ii) Map of Guam 11—*Bulbophyllum guamense*–e follows:

Figure 9 to Family Orchidaceae: *Bulbophyllum guamense* (Siboyas Halumtanu, Siboyan Halomtano) paragraph (12)(ii)

Critical Habitat for *Bulbophyllum guamense*
(Siboyas halumtanu, Siboyan halomtano)
Guam 11–*Bulbophyllum guamense*–e
Guam, Territory of Guam



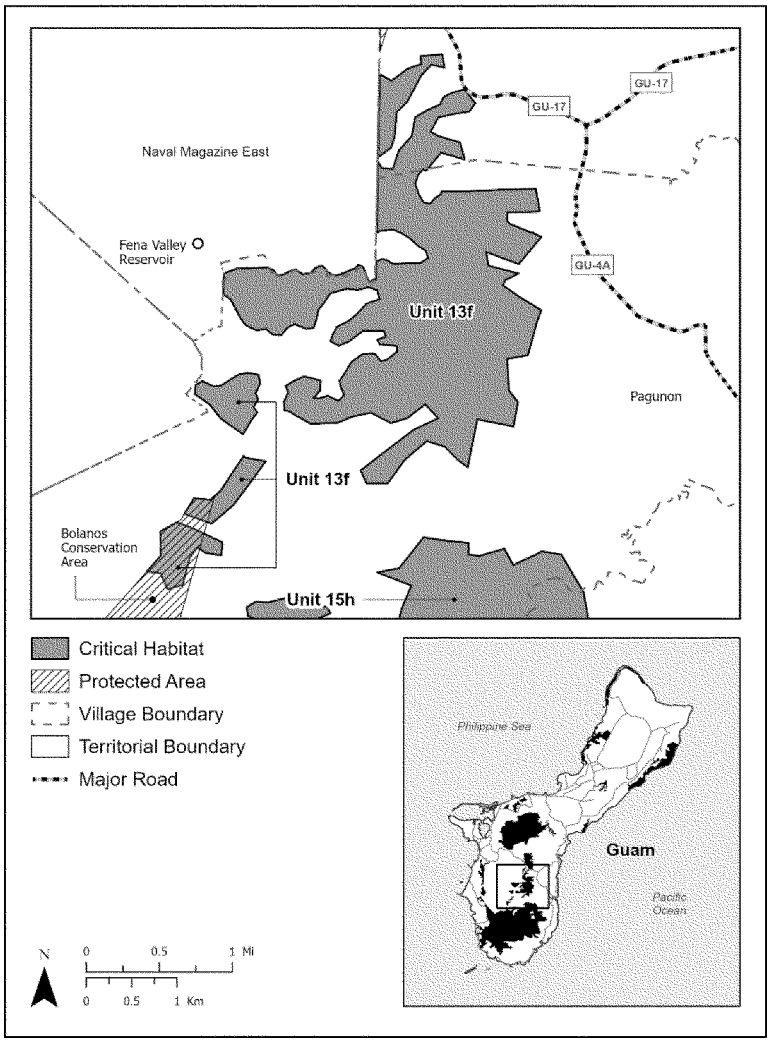
(13) Guam 13—*Bulbophyllum guamense*–f, Territory of Guam.

(i) Unit 13f on the island of Guam consists of 1,726 ac (698 ha) and is composed of four segments of volcanic forests in the southcentral part of the island. The unit extends from Route 17 south past Naval Magazine East and Fena Valley Reservoir along the western boundaries and towards Pagunon on the eastern boundary. The unit extends along the Maagas, Mahlac, and Sagge Rivers and their tributaries (which are not represented on the map due to unavailable data layers). Landownership includes 142 ac (57 ha) of Territory government lands, 859 ac (348 ha) in private ownership, and 725 ac (293 ha) that are uncategorized. The southwestern portion of the unit overlaps the Bolanos Conservation Area.

(ii) Map of Guam 13—*Bulbophyllum guamense*–f follows:

Figure 10 to *Bulbophyllum guamense* (Siboyas Halumtanu, Siboyan Halomtano) paragraph (13)(ii)

Critical Habitat for *Bulbophyllum guamense* (Siboyas halumtanu, siboyan halomtano)
Guam 13–*Bulbophyllum guamense*–f
Guam, Territory of Guam



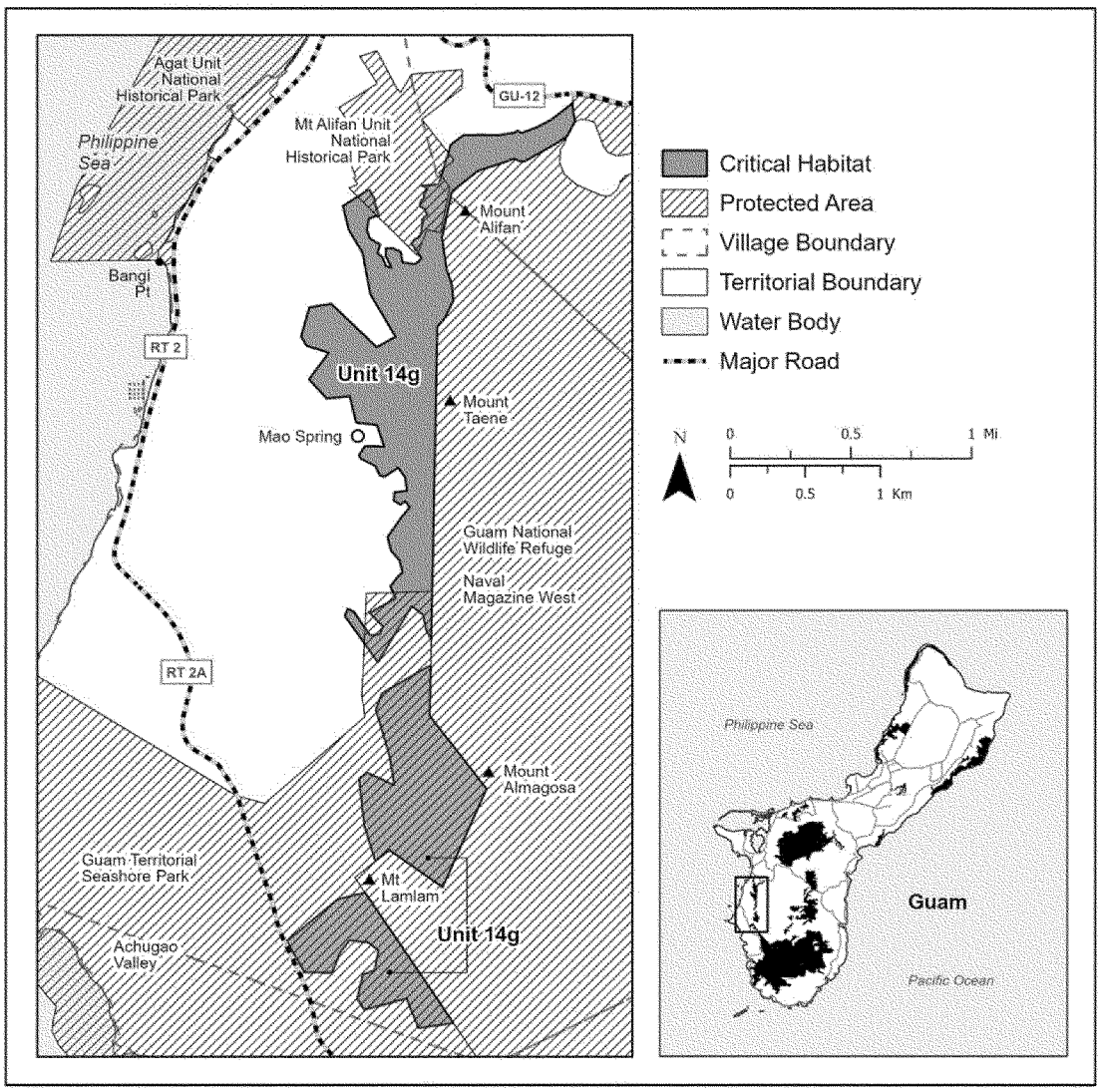
(14) Guam 14—*Bulbophyllum guamense*–g, Territory of Guam.

(i) Unit 14g on the island of Guam consists of 629 ac (254 ha) and is composed of three segments of limestone forests on the southwestern side of the island. The unit extends from Route 12 and Mt. Alifan in the north, running along the border of Naval Magazine West and ending south of Mt. Lamlam at Route 2A. Landownership includes 16 ac (6 ha) of Federal lands (War in the Pacific National Historical Park), 84 ac (34 ha) of Territory government lands, 344 ac (139 ha) in private ownership, and 185 ac (75 ha) that are uncategorized. The northern portion of the unit overlaps the Mt. Alifan Unit of War in the Pacific National Historical Park. The southern portion of the unit overlaps the Guam Territorial Seashore Park.

(ii) Map of Guam 14—*Bulbophyllum guamense*–g follows:

Figure 11 to Family Orchidaceae: *Bulbophyllum guamense* (siboyas halumtanu, siboyan halomtano) paragraph (14)(ii)

Critical Habitat for *Bulbophyllum guamense*
(Siboyas halumtanu, Siboyan halomtano)
Guam 14–*Bulbophyllum guamense*–g
Guam, Territory of Guam



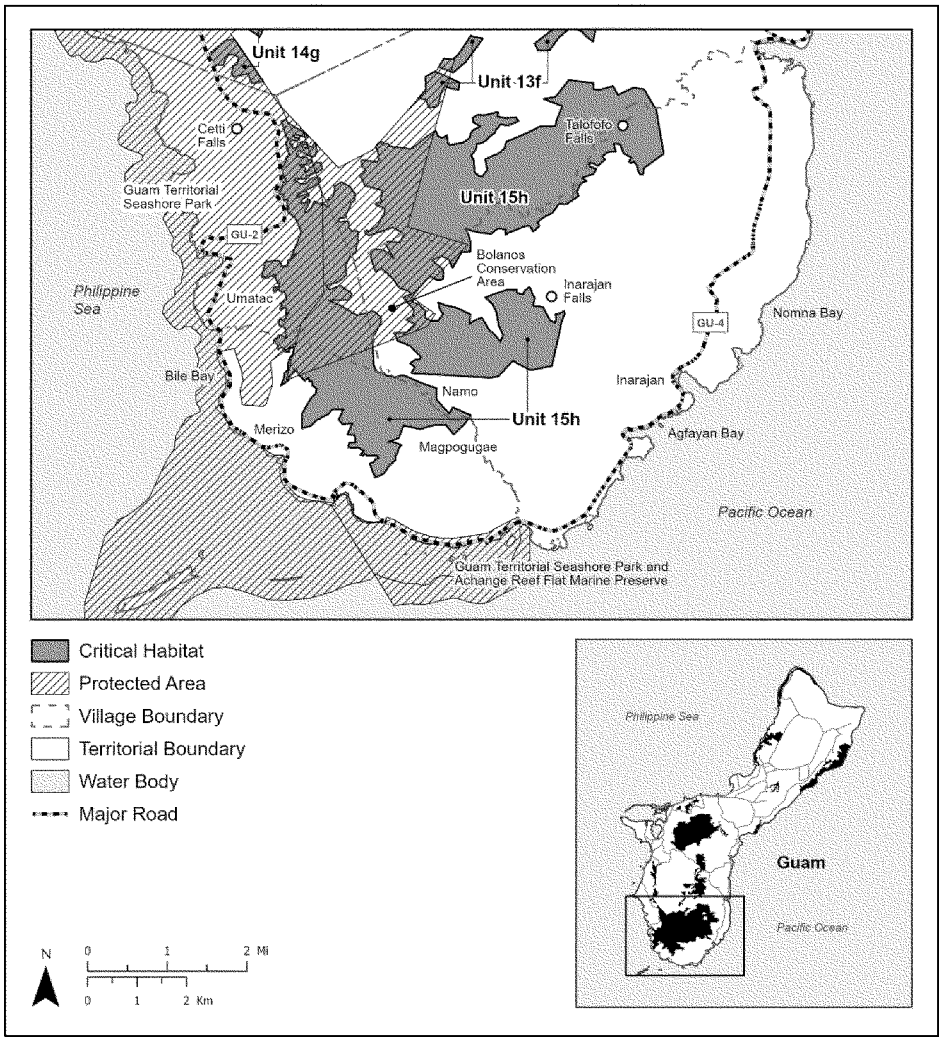
(15) Guam 15—*Bulbophyllum guamense*–h, Territory of Guam.

(i) Unit 15h on the island of Guam consists of 6,148 ac (2,488 ha) and is composed of volcanic forests in the southern part of the island. The unit runs from the north of Talofofo Falls along the Ugum and Bubulao Rivers to the south of Namo and runs from the east of Route 2 along the Dante River to Inarajan Falls; rivers are not represented on the map due to unavailable data layers. Another portion of the unit stretches from Cetti Falls in the north through the Bolanos Conservation Area to Magpogugae in the south. Landownership includes 919 ac (372 ha) of Territory government lands, 3,612 ac (1,462 ha) in private ownership, and 1,617 ac (654 ha) that are uncategorized. The central portion of the unit overlaps the Bolanos Conservation Area, and the western portion of the unit overlaps the Guam Territorial Seashore Park.

(ii) Map of Guam 15—*Bulbophyllum guamense*–h follows:

Figure 12 to Family Orchidaceae: *Bulbophyllum guamense* (Siboyas Halumtanu, Siboyan Halomtano) paragraph (15)(ii)

Critical Habitat for *Bulbophyllum guamense*
(Siboyas halumtanu, siboyan halomtano)
Guam 15–*Bulbophyllum guamense*–h
Guam, Territory of Guam



Family Orchidaceae: *Dendrobium guamense* (No Common Name)

(1) Critical habitat units are depicted for Aguiguan and Rota within the Commonwealth of the Northern Mariana Islands and Guam within the Territory of Guam, on the maps in this entry.

(2) Within these areas, the physical or biological features essential to the conservation of *Dendrobium guamense* consist of the following components:

(i) Native limestone or volcanic forests with native host vegetation such as trees and tall shrubs, including forests along cliffflines, forest edges, mountainous slopes and secondary/mixed and native volcanic ravine forests providing suitable host vegetation.

(ii) Pollinators such as flies, wasps, and bees, and native vegetation to support them.

(3) Critical habitat does not include manmade structures (such as buildings or paved areas including aqueducts, runways, or roads) and the land on which they are located existing within the legal boundaries on the effective date of the final rule.

(4) Data layers defining map units were created using survey and distribution data provided by multiple local and regional sources as available (*e.g.,* reports, databases, and species experts' knowledge) and as maintained by universities, local governments, and nonprofit organizations across the Mariana Islands. Landcover data (*e.g.,* soil substrate, vegetation, and elevation) were obtained and compiled from multiple Federal and local government agencies. Temperature and precipitation data were obtained and compiled from journal publications. Landforms were primarily delineated based on the most currently available aerial maps and satellite imagery. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site at *https://www.fws.gov/project/critical-habitat-mariana-islands,* at *https://www.regulations.gov* at Docket No. FWS–R1–ES–2024–0194, and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) The following index maps show the general locations of critical habitat units for all plant species designated on each island, with each location/area on each island identified as a specific number on the index maps. These island location/area numbers allow for

comparison of overlapping critical habitat units for other listed species within the same location.

(i) Each critical habitat unit name comprises an island name, a number corresponding to a specific geographic location/area on the island of Guam, which may include overlapping units for different species, the species name, and a letter. The letter at the end of each critical habitat unit name corresponds to the number of units present on a given island, where each escalating letter for each island corresponds to the additive number of units per island for the species. Critical habitat for *Dendrobium guamense* includes one unit each on the islands of Aguiguan and Rota, and six units on the island of Guam, for a total of eight critical habitat units.

(ii) Index maps follow:

Figure 1 to Family Orchidaceae: *Dendrobium guamense* (No Common Name) paragraph (5)(ii)

Critical Habitat
Index Map for Plants on the Islands of Aguiguan and Rota, Commonwealth of the Northern Mariana Islands

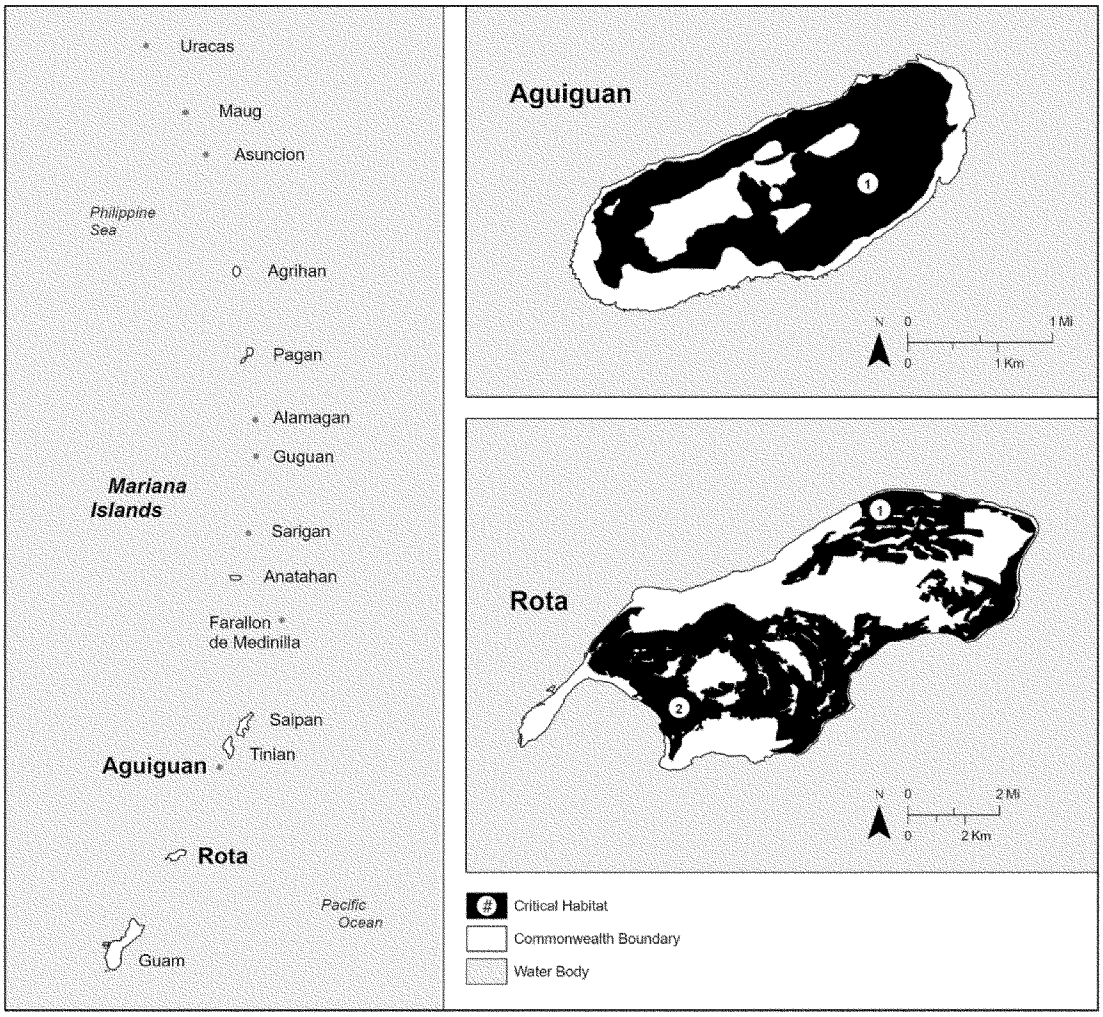
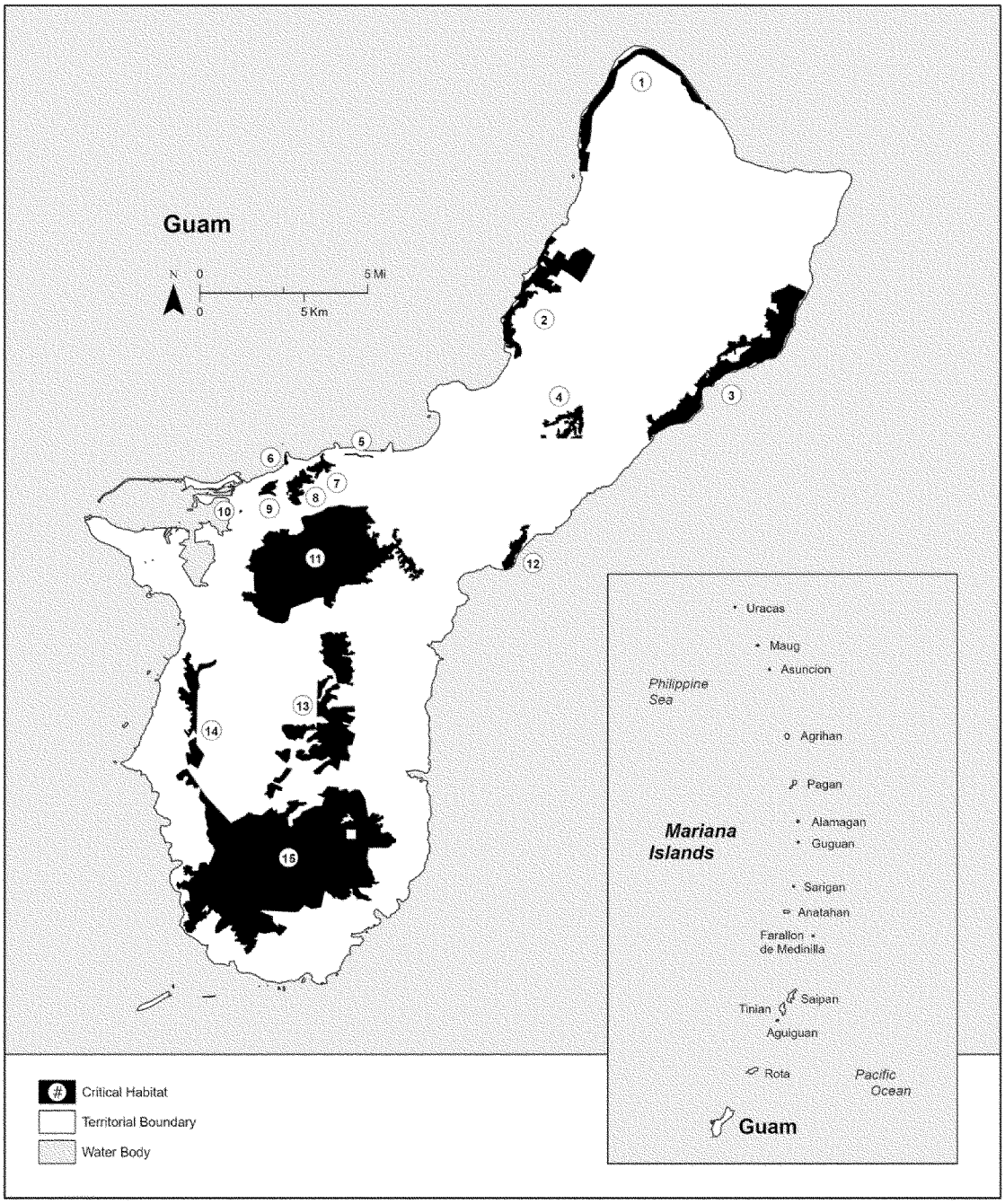


Figure 2 to Family Orchidaceae: *Dendrobium guamense* (No Common Name) paragraph (5)(ii)

Critical Habitat
Index Map for Plants on the Islands of Guam,
Territory of Guam



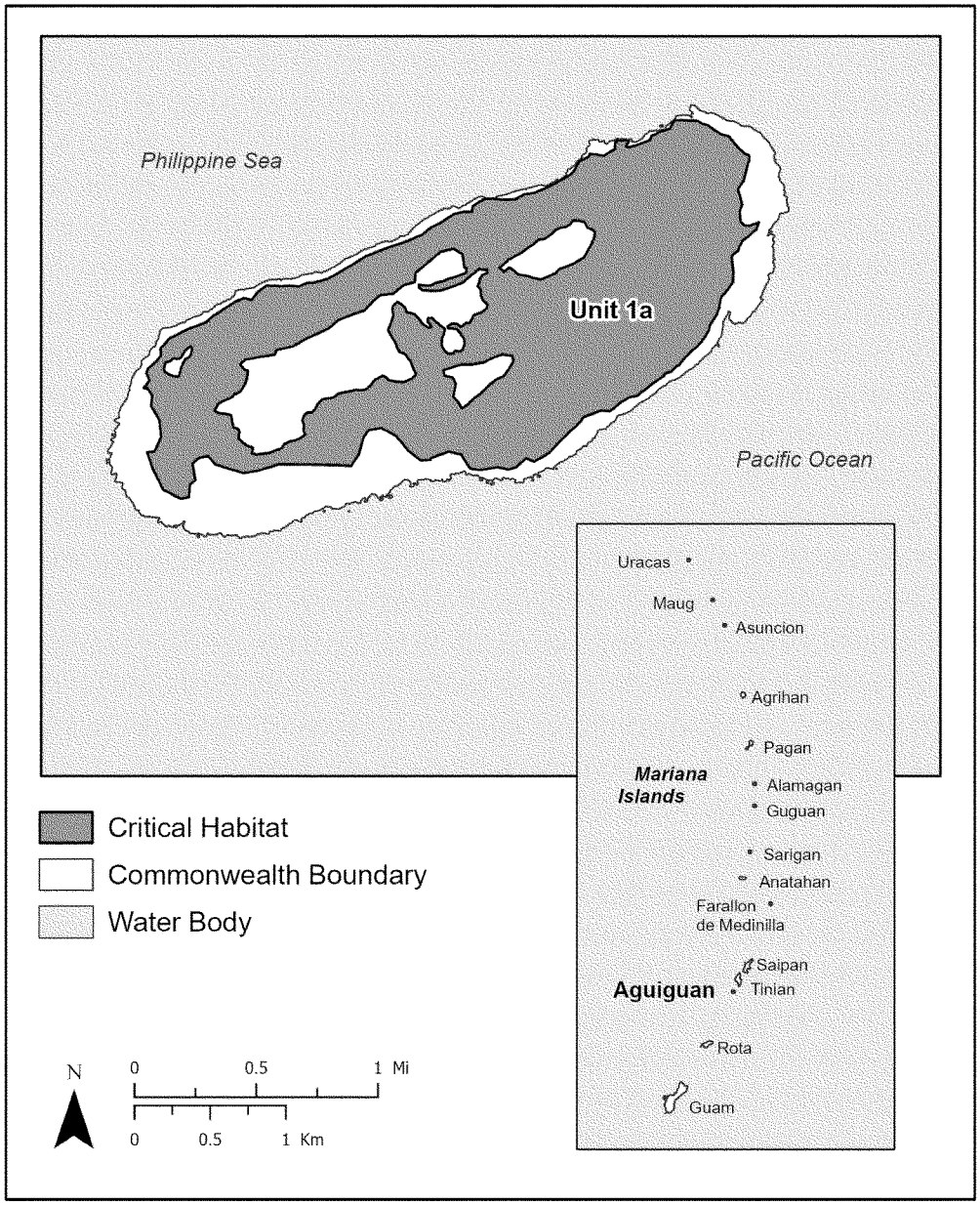
(6) Aguiguan 1—*Dendrobium guamense*–a, Commonwealth of the Northern Mariana Islands.

(i) The single unit on the uninhabited island of Aguiguan consists of 1,094 ac (443 ha) and is composed of steep limestone cliffs, limestone forests, and secondary forests. This unit encompasses most of the island with the exception of coastal areas to the west, southwest, and east, and sections in the central part of the island. All lands are owned by the Commonwealth government.

(ii) Map of Aguiguan 1—*Dendrobium guamense*–a follows:

Figure 3 to Family Orchidaceae: *Dendrobium guamense* (No Common Name) paragraph (6)(ii)

Critical Habitat for *Dendrobium guamense* (no common name)
Aguiguan 1–*Dendrobium guamense*–a
Aguiguan, Commonwealth of the Northern Mariana Islands



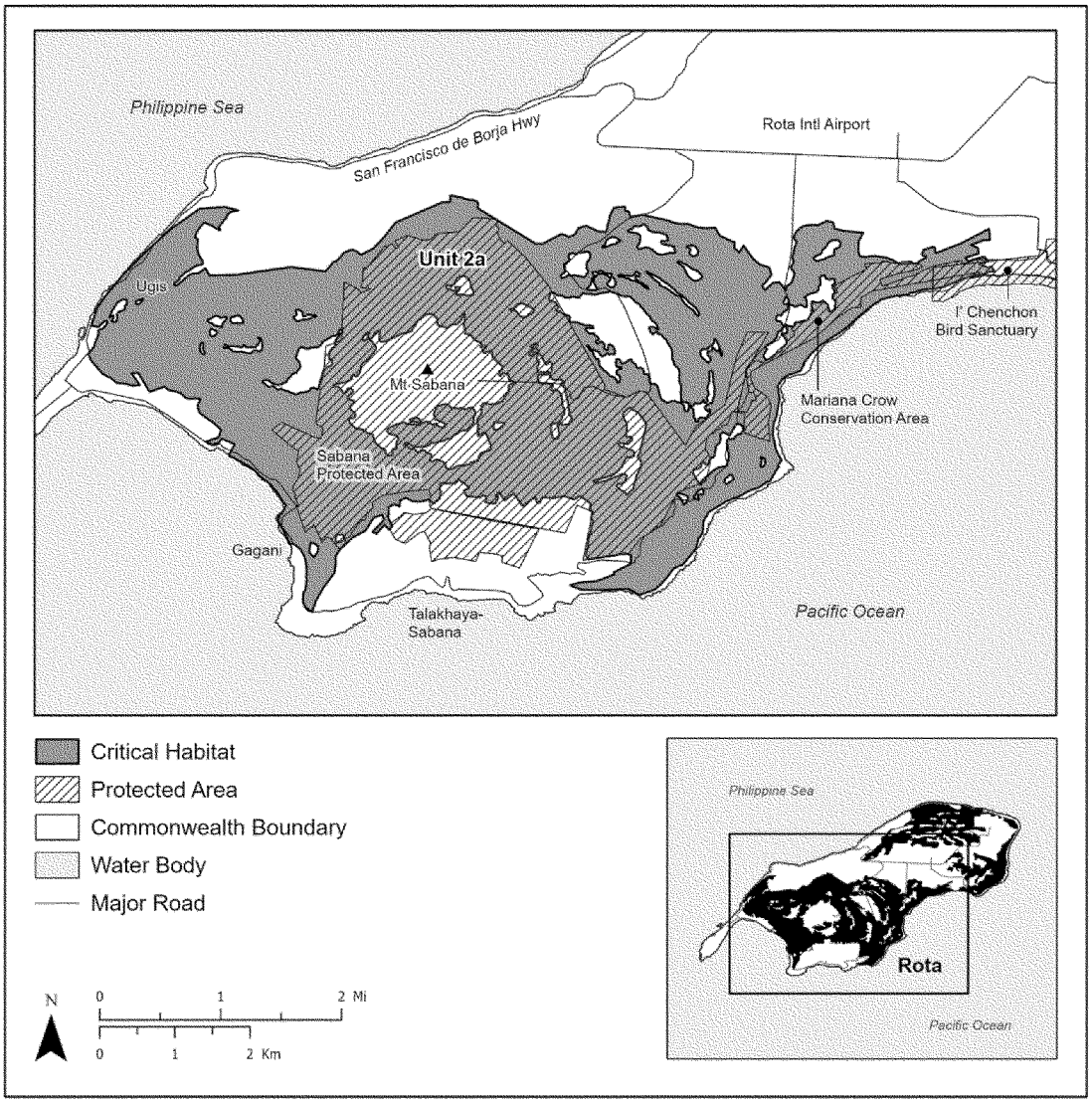
(7) Rota 2—*Dendrobium guamense*–a, Commonwealth of the Northern Mariana Islands.

(i) The single unit on the island of Rota (Unit 2a) consists of 6,875 ac (2,782 ha) and is composed of limestone forest in the south of the island. This unit extends south of the Rota International Airport, stretches east to the I'Chenchon Bird Sanctuary, and flanks the Talakhaya-Sabana watershed to the south (encompassing parts of the Sabana Protected Area, Mariana Crow Conservation Area, and I'Chenchon Bird Sanctuary) and east to Ugis. The unit does not include developed areas, grasslands, and Mt. Sabana. Landownership consists of 5,806 ac (2,350 ha) of land owned by the Commonwealth government, 1,039 ac (420 ha) in private ownership, and 30 ac (12 ha) that are uncategorized.

(ii) Map of Rota 2—*Dendrobium guamense*–a follows:

Figure 4 to Family Orchidaceae: *Dendrobium guamense* (No Common Name) paragraph (7)(ii)

Critical Habitat for *Dendrobium guamense* (no common name)
Rota 2–*Dendrobium guamense*–a
Rota, Commonwealth of the Northern Mariana Islands



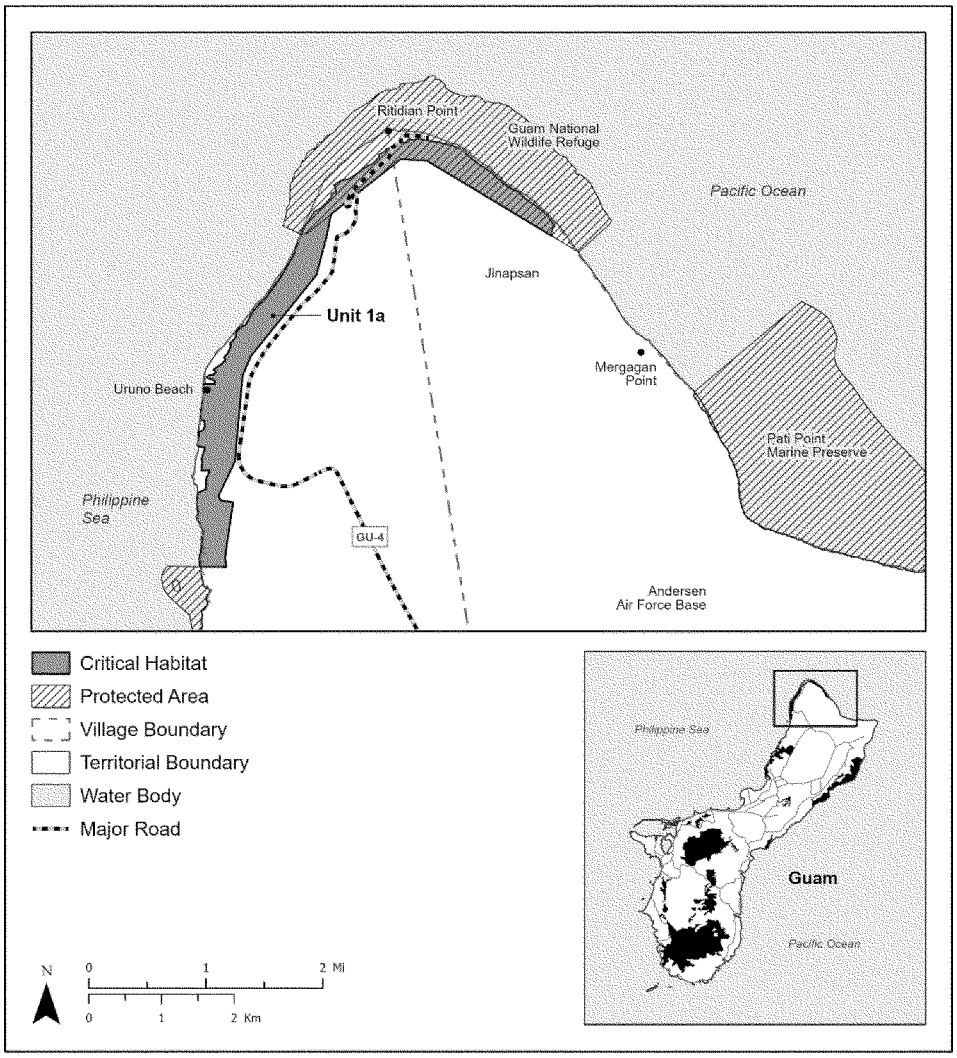
(8) Guam 1—*Dendrobium guamense*–a, Territory of Guam.

(i) Unit 1a on the island of Guam consists of 741 ac (300 ha) and is composed of a band of secondary limestone forest along the north point of the island (Ritidian Point). The unit extends from the southwestern boundary south of Urunao Beach and runs north along the cliffline ending at Jinapsan. Landownership includes 257 ac (104 ha) of Federal lands (Guam NWR), 68 ac (27 ha) of Territory government lands, 375 ac (152 ha) in private ownership, and 41 ac (17 ha) that are uncategorized.

(ii) Map of Guam 1—*Dendrobium guamense*–a follows:

Figure 5 to Family Orchidaceae: *Dendrobium guamense* (No Common Name) paragraph (8)(ii)

Critical Habitat for *Dendrobium guamense* (no common name)
Guam 1–*Dendrobium guamense*–a
Guam, Territory of Guam



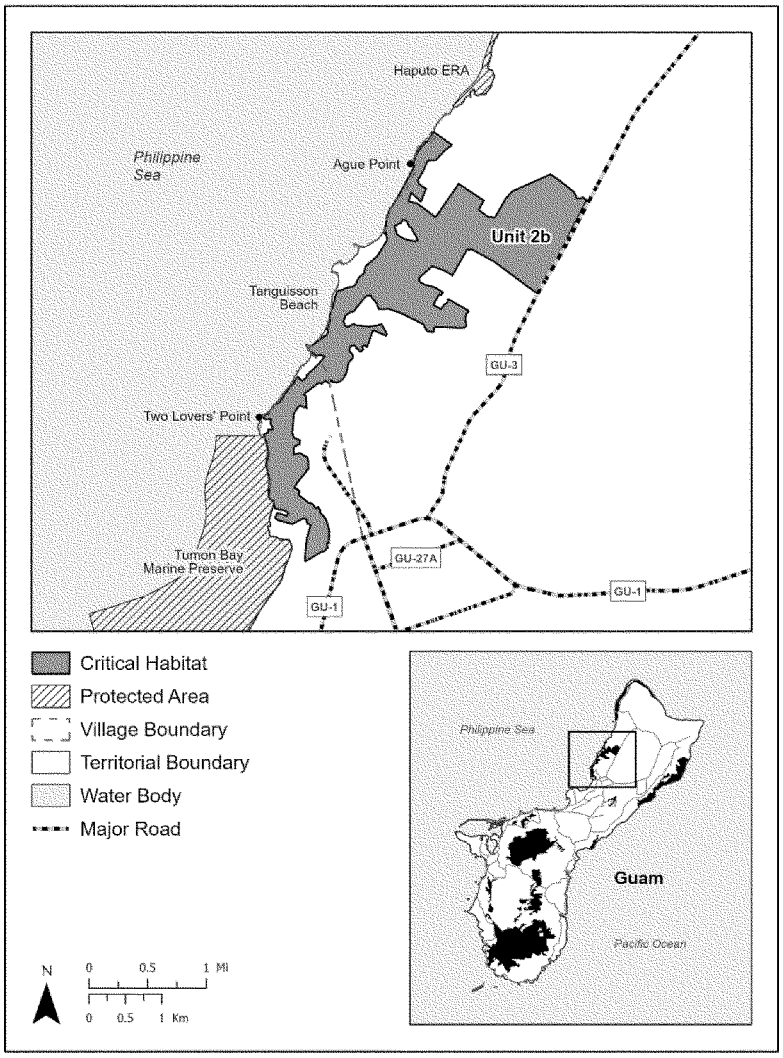
(9) Guam 2—*Dendrobium guamense*–b, Territory of Guam.

(i) Unit 2b on the island of Guam consists of 1,245 ac (504 ha) and is composed of limestone forests along the northwestern edge of the island. The unit lies west of Route 3 and extends from the clifflines overlooking Tumon Bay west of Route 1 and runs north to Ague Point. Landownership includes 1,081 ac (437 ha) of Territory government lands, 108 ac (44 ha) in private ownership, and 56 ac (23 ha) that are uncategorized.

(ii) Map of Guam 2—*Dendrobium guamense*–b follows:

Figure 6 to Family Orchidaceae: *Dendrobium guamense* (No Common Name) paragraph (9)(ii)

Critical Habitat for *Dendrobium guamense* (no common name)
Guam 2–*Dendrobium guamense*–b
Guam, Territory of Guam



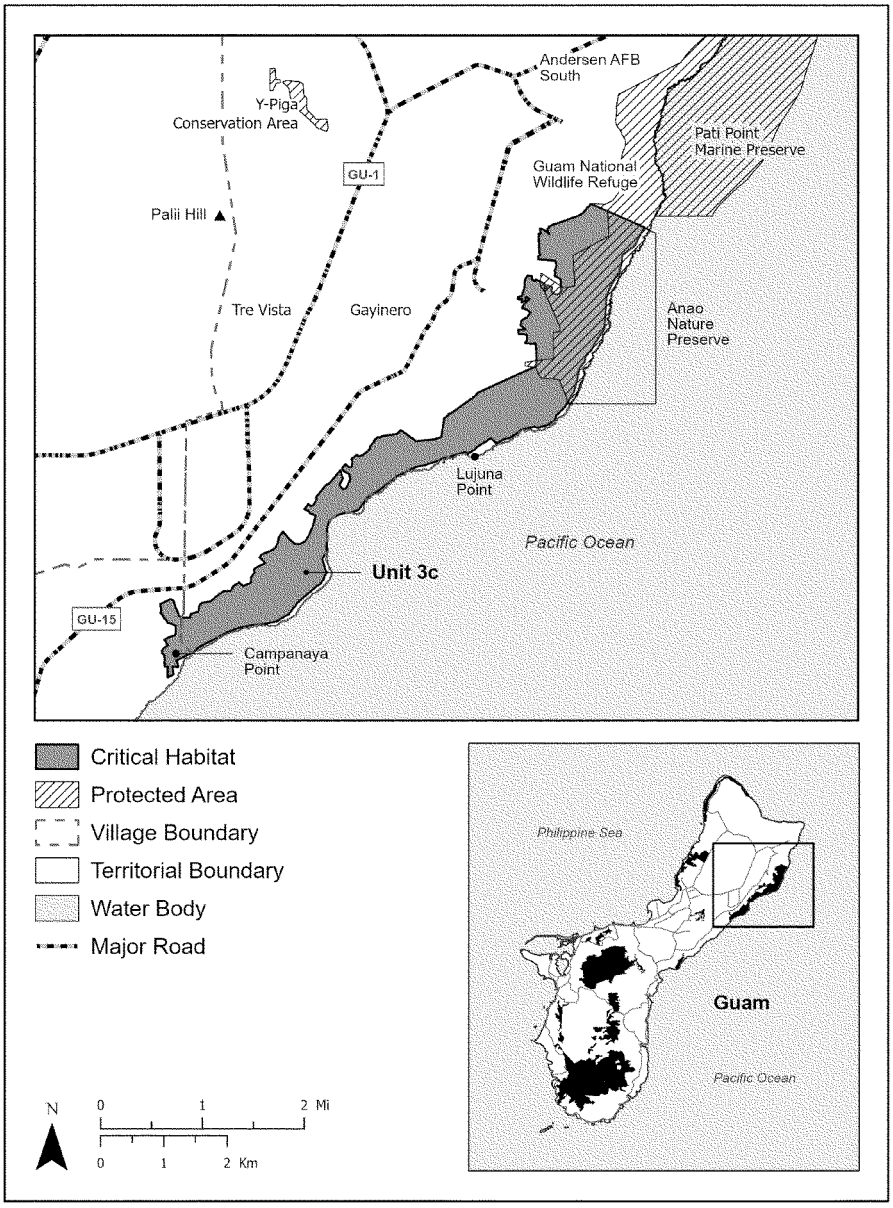
(10) Guam 3—*Dendrobium guamense*–c, Territory of Guam.

(i) Unit 3c on the island of Guam consists of 1,986 ac (804 ha) and is composed of limestone forests along the northeast coastal edge of the island. The unit begins at the boundary of the Anao Nature Preserve (which is immediately adjacent to the southern end of the Guam NWR boundary) and extends southwest along the coast to Campanaya Point. Landownership includes 1,488 ac (602 ha) of Territory government lands, 198 ac (80 ha) in private ownership, and 300 ac (122 ha) that are uncategorized. The northeastern portion of this unit overlaps the Anao Nature Preserve.

(ii) Map of Guam 3—*Dendrobium guamense*–c follows:

Figure 7 to Family Orchidaceae: *Dendrobium guamense* (No Common Name) paragraph (10)(ii)

Critical Habitat for *Dendrobium guamense* (no common name)
Guam 3–*Dendrobium guamense*–c
Guam, Territory of Guam



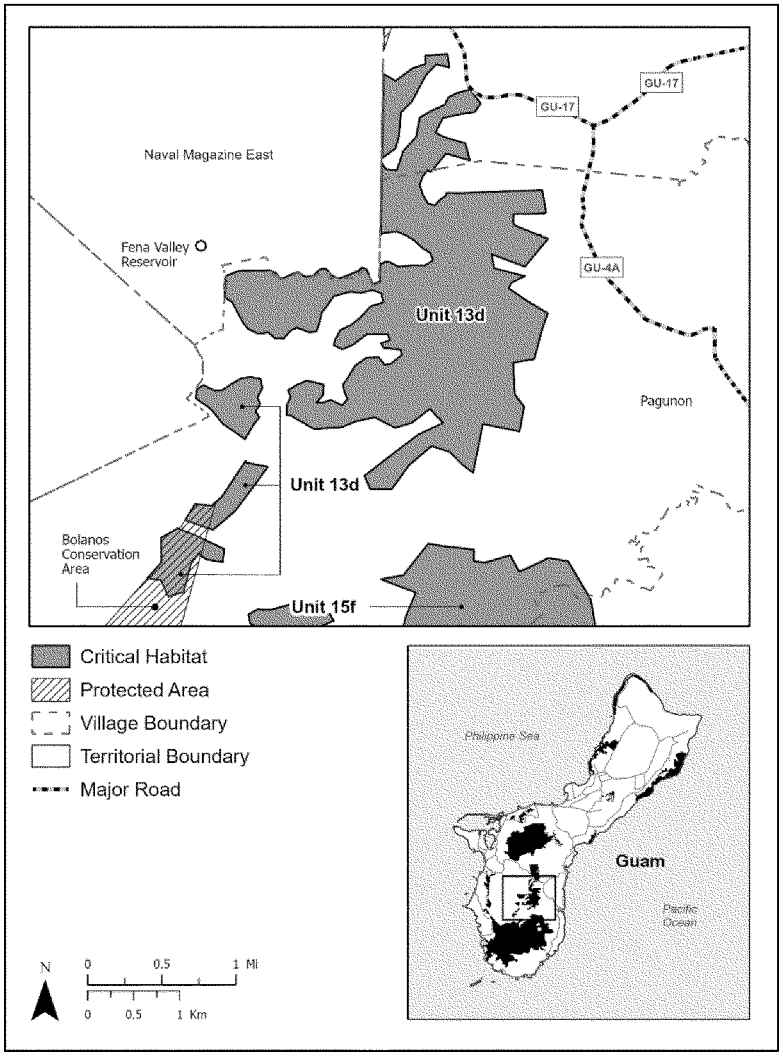
(11) Guam 13—*Dendrobium guamense*–d, Territory of Guam.

(i) Unit 13d on the island of Guam consists of 1,726 ac (698 ha) and is composed of four segments of volcanic forests in the southcentral part of the island. The unit extends from Route 17 south past Naval Magazine East and Fena Valley Reservoir along the western boundaries and towards Pagunon on the eastern boundary. The unit extends along the Maagas, Mahlac, and Sagge Rivers and their tributaries (which are not represented on the map due to unavailable data layers). Landownership includes 142 ac (57 ha) of Territory government lands, 859 ac (348 ha) in private ownership, and 725 ac (293 ha) that are uncategorized. The southwestern portion of the unit overlaps the Bolanos Conservation Area.

(ii) Map of Guam 13—*Dendrobium guamense*–d follows:

Figure 8 to Family Orchidaceae: *Dendrobium guamense* (No Common Name) paragraph (11)(ii)

Critical Habitat for *Dendrobium guamense* (no common name)
Guam 13–*Dendrobium guamense*–d
Guam, Territory of Guam



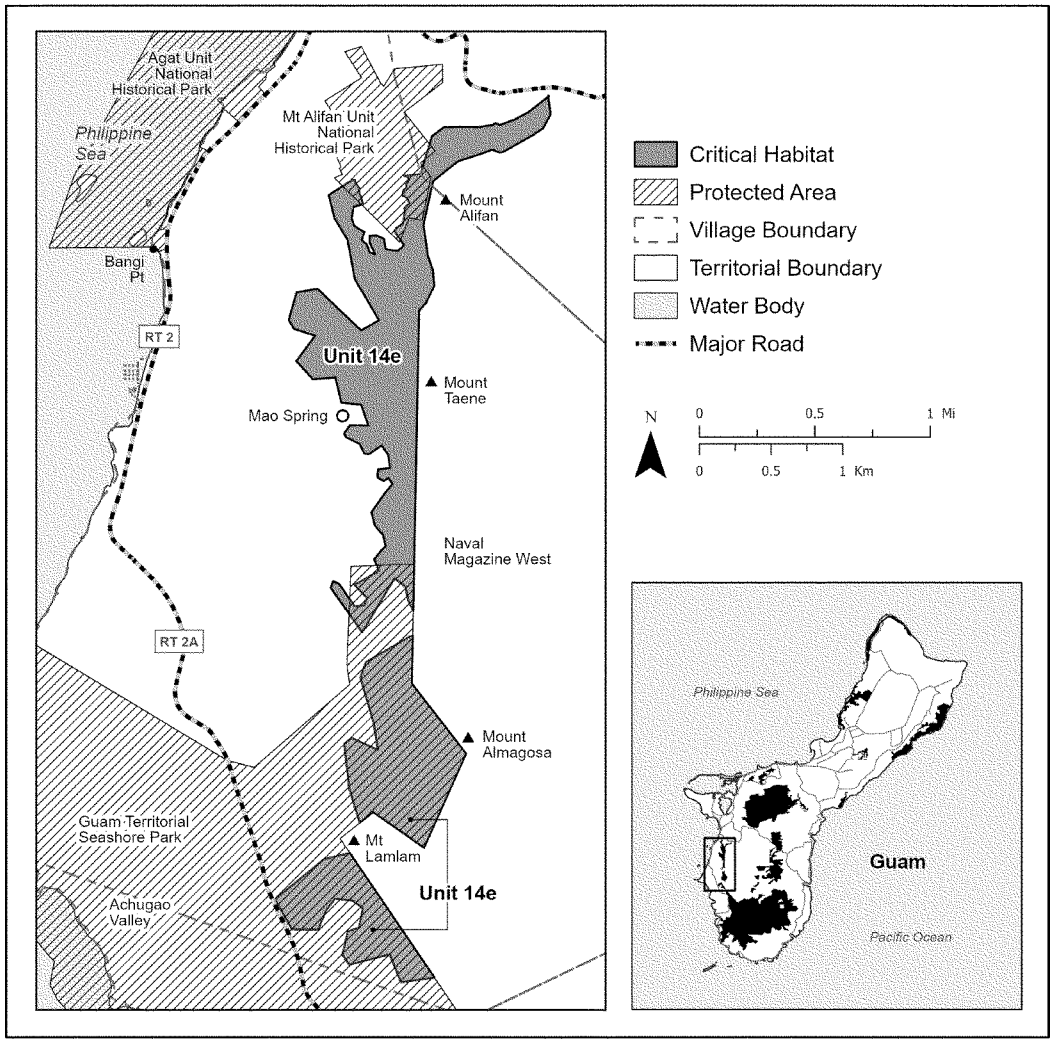
(12) Guam 14—*Dendrobium guamense*–e, Territory of Guam.

(i) Unit 14e on the island of Guam consists of 629 ac (254 ha) and is composed of three segments of limestone forests on the southwestern side of the island. The unit extends from Route 12 and Mt. Alifan in the north, running along the border of Naval Magazine West, and ending south of Mt. Lamlam at Route 2A. Landownership includes 16 ac (6 ha) of Federal lands (War in the Pacific National Historical Park), 84 ac (34 ha) of Territory government lands, 344 ac (139 ha) in private ownership, and 185 ac (75 ha) that are uncategorized. The northern portion of the unit overlaps the Mt. Alifan unit of War in the Pacific National Historical Park. The southern portion of the unit overlaps the Guam Territorial Seashore Park.

(ii) Map of Guam 14—*Dendrobium guamense*–e follows:

Figure 9 to Family Orchidaceae: *Dendrobium guamense* (No Common Name) paragraph (12)(ii)

Critical Habitat for *Dendrobium guamense* (no common name)
Guam 14–*Dendrobium guamense*–e
Guam, Territory of Guam



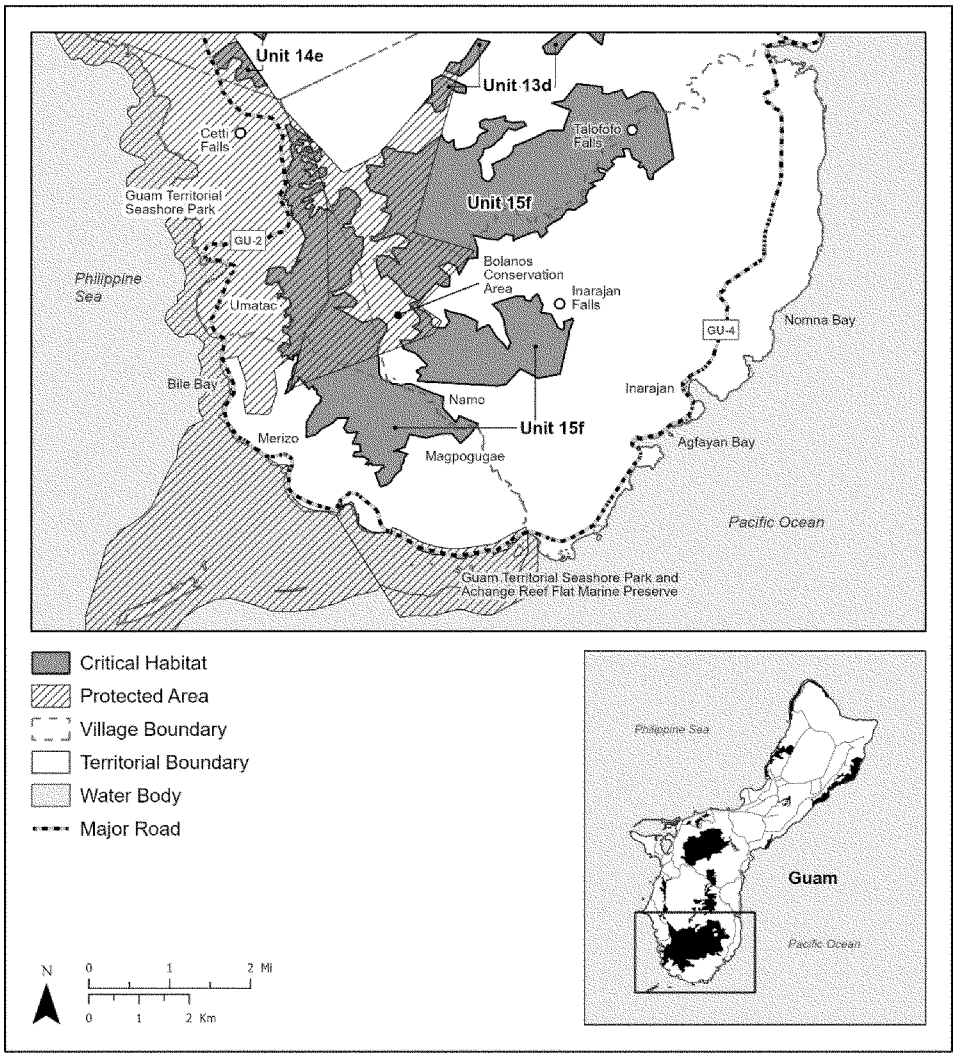
(13) Guam 15—*Dendrobium guamense*–f, Territory of Guam.

(i) Unit 15f on the island of Guam consists of 6,148 ac (2,488 ha) and is composed of volcanic forests in the southern part of the island. The unit runs from the north of Talofofo Falls along the Ugum and Bubulao Rivers to the south of Namo and runs from the east of Route 2 along the Dante River to Inarajan Falls; the rivers are not represented on the map due to unavailable data layers. Another portion of the unit stretches from Cetti Falls in the north through the Bolanos Conservation Area to Magpogugae in the south. Landownership includes 919 ac (372 ha) of Territory government lands, 3,612 ac (1,462 ha) in private ownership, and 1,617 ac (654 ha) that are uncategorized. The central portion of the unit overlaps the Bolanos Conservation Area, and the western portion of the unit overlaps the Guam Territorial Seashore Park.

(ii) Map of Guam 15—*Dendrobium guamense*–f follows:

Figure 10 to Family Orchidaceae: *Dendrobium guamense* (No Common Name) paragraph (13)(ii)

Critical Habitat for *Dendrobium guamense* (no common name)
Guam 15–*Dendrobium guamense*–f
Guam, Territory of Guam



Family Orchidaceae: *Nervilia jacksoniae* (No Common Name)

(1) Critical habitat units are depicted for Rota within the Commonwealth of the Northern Mariana Islands and Guam within the Territory of Guam, on the maps in this entry.

(2) Within these areas, the physical or biological features essential to the conservation of *Nervilia jacksoniae* consist of the following components:

(i) Connected closed-canopy native limestone, volcanic ravine, or mixed forests with leaf-littered humus or sandy forest floors, shade, minor to moderate light, and moisture.

(ii) Native limestone forest understory with plants such as (but not limited to) *Elaeocarpus joga* (yoga, joga), *Hernandia labyrinthica* (nonak, nonag, oschal), *Pandanus dubius* (pahong, bakong, or knob-fruited screwpine), *Pandanus tectorius* (kaffo, akgak, pandan, kafu, screw pine), *Pisonia umbellifera* (birdlime tree, bird-catcher tree), and *Psychotria malaspinae* (aplohkateng palaoan, applok hatting palaoan, aplokkating palaoan).

(iii) Native volcanic forest understory with plants such as (but not limited to) *Barringtonia asiatica* (puting, fish poison tree), *Hernandia sonora* (Jack-in-a-box, lantern tree, nonak), *Pandanus tectorius* (kaffo, akgak, screw pine), *Pisonia grandis* (umumu, bird-catcher tree, cabbage tree, birdlime tree), and *Terminalia catappa* (talisai, tropical almond, Pacific almond).

(iv) Pollinators including insects, such as small bees and wasps, and native vegetation to support them.

(3) Critical habitat does not include manmade structures (such as buildings or paved areas including aqueducts, runways, or roads) and the land on which they are located existing within the legal boundaries on the effective date of the final rule.

(4) Data layers defining map units were created using survey and distribution data provided by multiple local and regional sources as available (*e.g.,* reports, databases, and species experts' knowledge) and as maintained by universities, local governments, and nonprofit organizations across the Mariana Islands. Landcover data (*e.g.,* soil substrate, vegetation, and elevation) were obtained and compiled from multiple Federal and local government agencies. Temperature and precipitation data were obtained and compiled from journal publications. Landforms were primarily delineated based on the most currently available aerial maps and satellite imagery. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The

coordinates or plot points or both on which each map is based are available to the public at the Service's internet site at *https://www.fws.gov/project/critical-habitat-mariana-islands,* at *https://www.regulations.gov* at Docket No. FWS–R1–ES–2024–0194, and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) The following index maps show the general locations of critical habitat units for all plant species designated on each island, with each location/area on each island identified as a specific number on the index maps. These island location/area numbers allow for comparison of overlapping critical habitat units for other listed species within the same location.

(i) Each critical habitat unit name comprises an island name, a number corresponding to a specific geographic location/area on the applicable island, which may include overlapping units for different species, the species name, and a letter. The letter at the end of each critical habitat unit name corresponds to the number of units present on a given island, where each escalating letter for each island corresponds to the additive number of units per island for the species. Critical habitat for *Nervilia jacksoniae* includes one unit on the island of Rota and one unit on the island of Guam, for a total of two critical habitat units.

(ii) Index maps follow:

Figure 1 to Family Orchidaceae: *Nervilia jacksoniae* (No Common Name) paragraph (5)(ii)

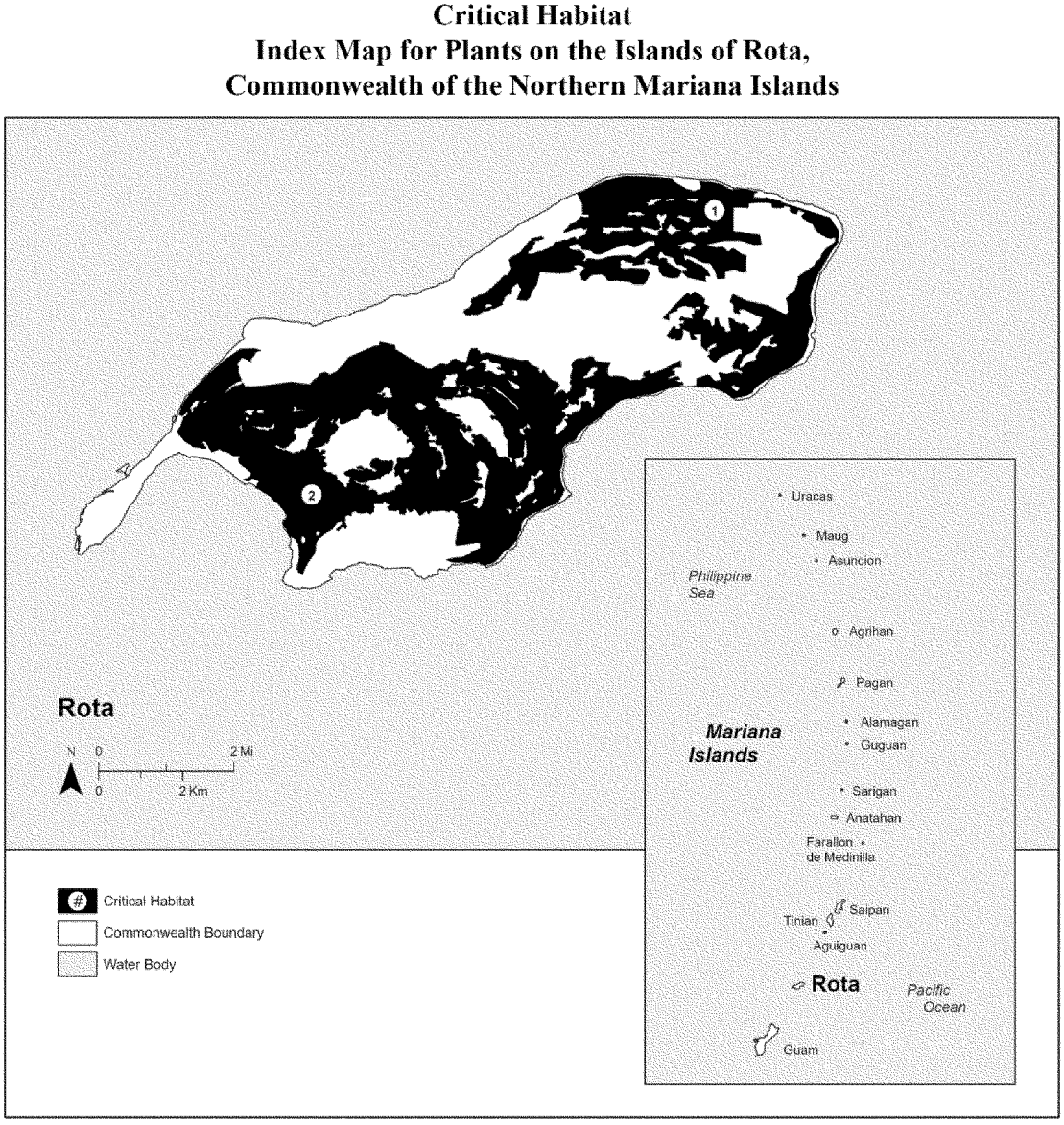
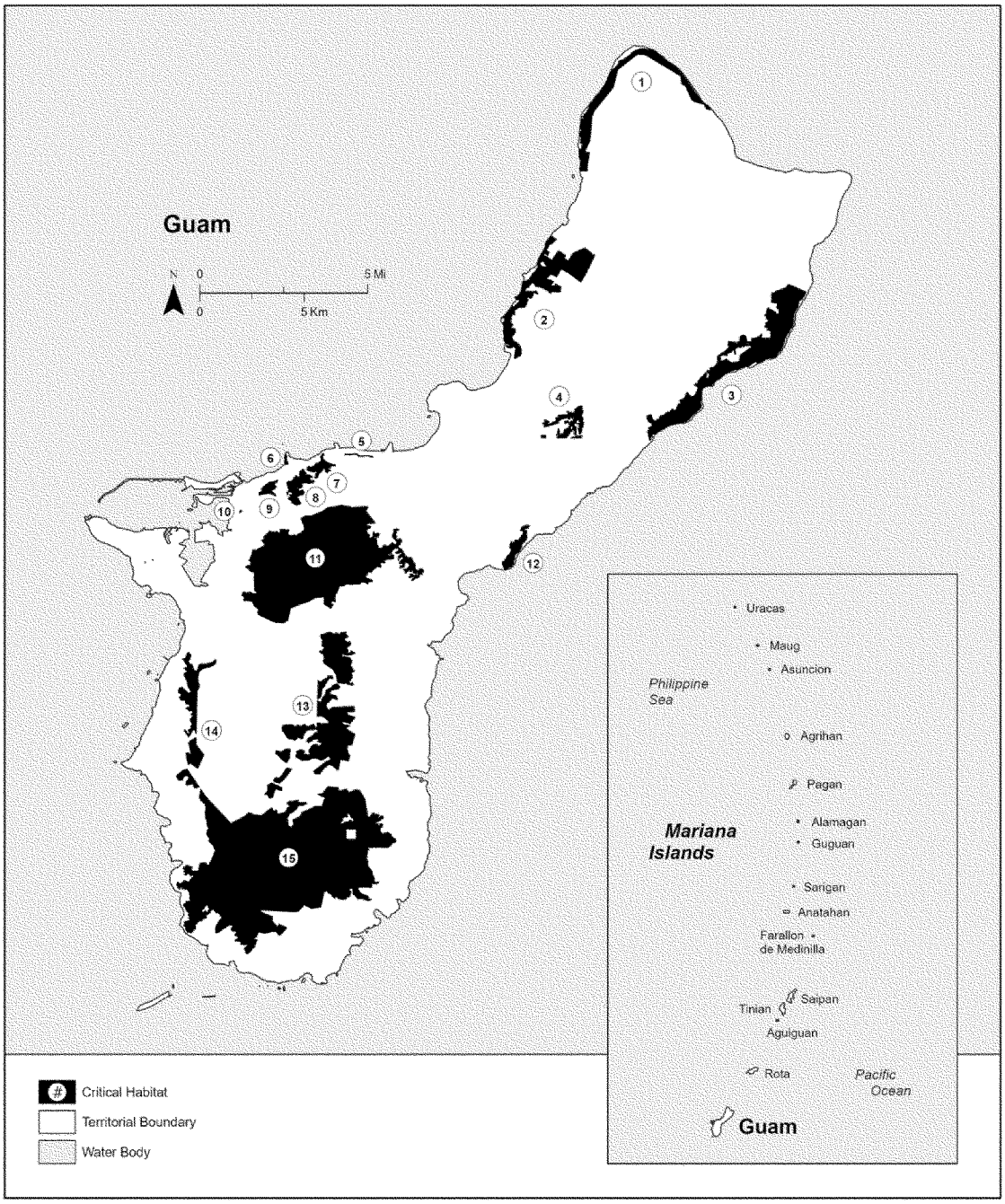


Figure 2 to Family Orchidaceae: *Nervilia jacksoniae* (No Common Name) paragraph (5)(ii)

Critical Habitat
Index Map for Plants on the Islands of Guam,
Territory of Guam



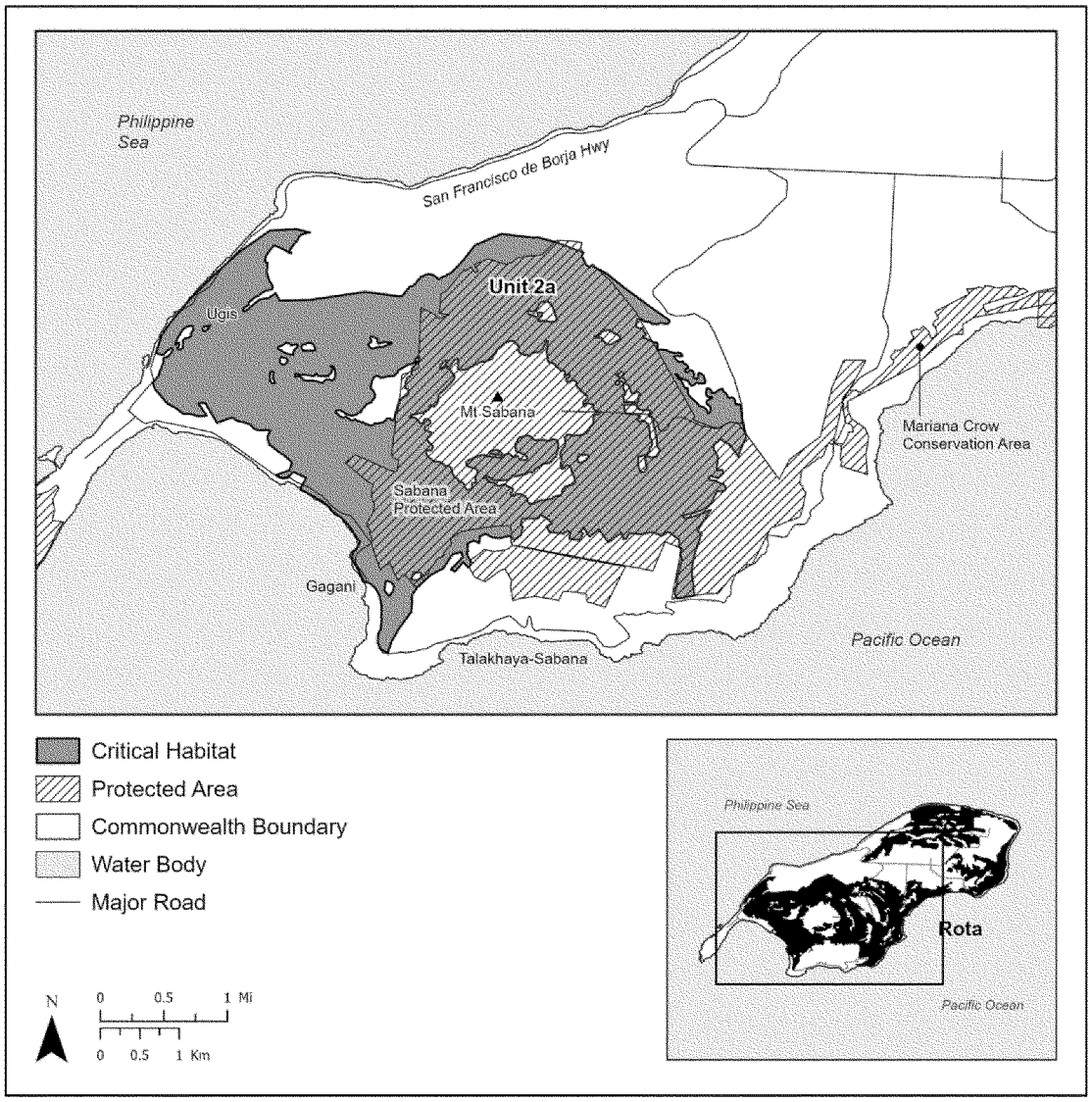
(6) Rota 2–*Nervilia jacksoniae*–a, Commonwealth of the Northern Mariana Islands.

(i) This single critical habitat unit on the island of Rota consists of 4,368 ac (1,768 ha) of limestone forest and is located on the southern section of the island. The unit lies south of the San Francisco De Borja Highway in the north, stretches to the east flank of Mt. Sabana, continues to the upper potions of the Talakhaya-Sabana watershed and the village of Gagani to the south, and extends west to Ugis. Land-ownership consists of 3,585 ac (1,451 ha) of land owned by the Commonwealth government, 753 ac (305 ha) in private ownership, and 30 ac (12 ha) that are uncategorized. This unit overlaps the Sabana Protected Area.

(ii) Map of Rota 2–*Nervilia jacksoniae*–a follows:

Figure 3 to Family Orchidaceae: *Nervilia jacksoniae* (No Common Name) paragraph (6)(ii)

Critical Habitat for *Nervilia jacksoniae* (no common name)
Rota 2–*Nervilia jacksoniae*–a
Rota, Commonwealth of the Northern Mariana Islands



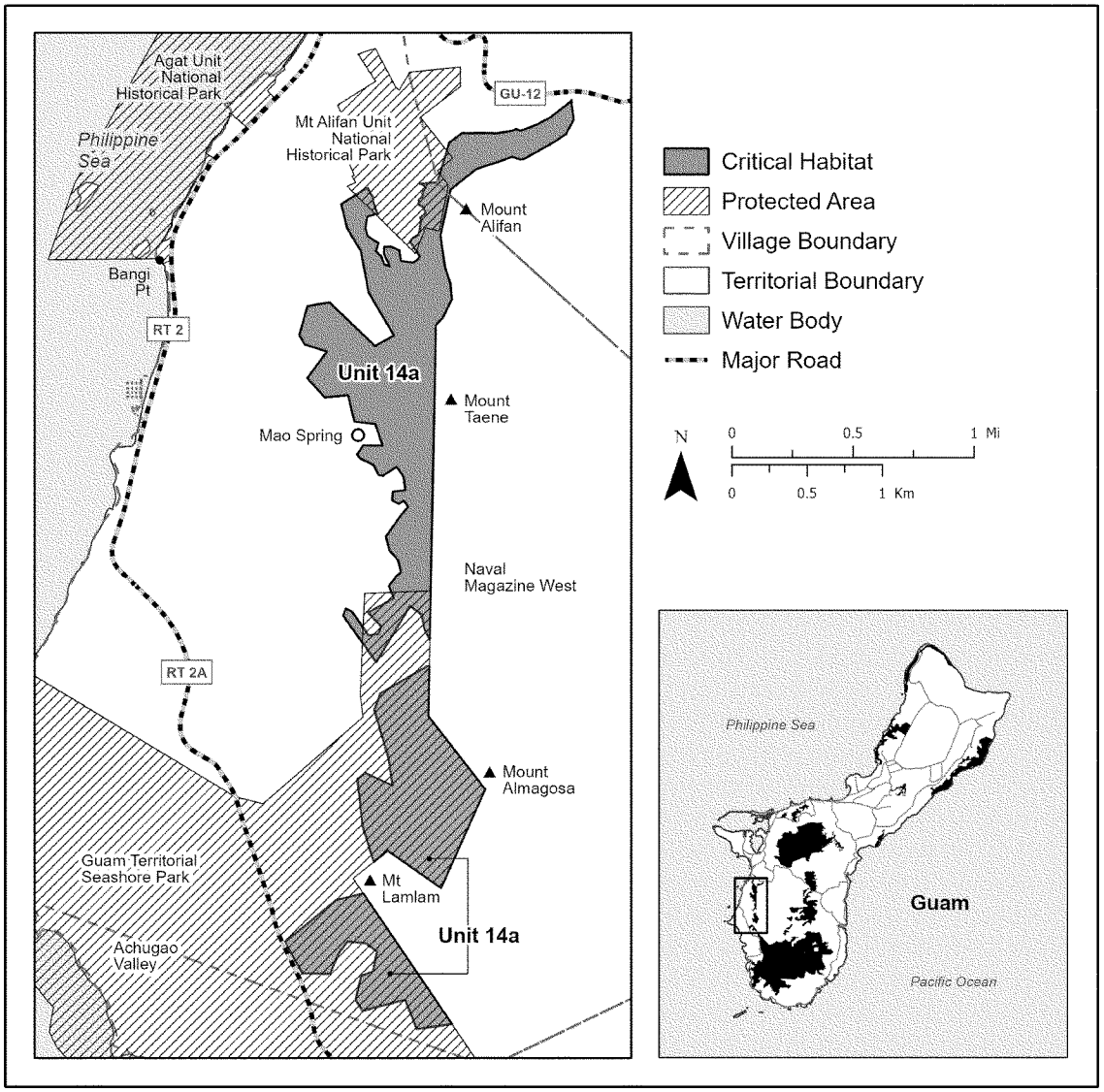
(7) Guam 14–*Nervilia jacksoniae*–a, Territory of Guam.

(i) This single critical habitat unit on the island of Guam consists of 629 ac (254 ha) and is composed of three segments of limestone forests on the southwestern side of the island. It extends from Route 12 and Mt. Alifan in the north, running along the border of Naval Magazine West and ending south of Mt. Lamlam at Route 2A. Landownership includes 16 ac (6 ha) of Federal lands (War in the Pacific National Historical Park), 84 ac (34 ha) of Territory government lands, 344 ac (139 ha) in private ownership, and 185 ac (75 ha) that are uncategorized. The northern portion of the unit overlaps the Mt. Alifan Unit of War in the Pacific National Historical Park. The southern portion of the unit overlaps the Guam Territorial Seashore Park.

(ii) Map of Guam 14–*Nervilia jacksoniae*–a follows:

Figure 4 to Family Orchidaceae: *Nervilia jacksoniae* (No Common Name) paragraph (7)(ii)

Critical Habitat for *Nervilia jacksoniae* (no common name)
Guam 14–*Nervilia jacksoniae*–a
Guam, Territory of Guam



* * * * *

Family Orchidaceae: *Tuberolabium guamense* (No Common Name)

(1) Critical habitat units are depicted for Rota within the Commonwealth of the Northern Mariana Islands and Guam within the Territory of Guam, on the maps in this entry.

(2) Within these areas, the physical or biological features essential to the conservation of *Tuberolabium guamense* consist of the following components:

(i) Native limestone or volcanic forests with native host vegetation such as trees and tall shrubs, including forests along clifflines, forest edges, mountainous slopes and secondary/mixed and native volcanic ravine forests providing suitable host vegetation.

(ii) Pollinators such as flies, wasps, and bees, and native vegetation to support them.

(3) Critical habitat does not include manmade structures (such as buildings or paved areas including aqueducts, runways, or roads) and the land on which they are located existing within the legal boundaries on the effective date of the final rule.

(4) Data layers defining map units were created using survey and distribution data provided by multiple local and regional sources as available (*e.g.,* reports, databases, and species experts' knowledge) and as maintained by universities, local governments, and nonprofit organizations across the Mariana Islands. Landcover data (*e.g.,* soil substrate, vegetation, and elevation) were obtained and compiled from multiple Federal and local government agencies. Temperature and precipitation data were obtained and compiled from journal publications. Landforms were primarily delineated based on the most currently available aerial maps and satellite imagery. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site at *https://www.fws.gov/project/critical-habitat-mariana-islands,* at *https://www.regulations.gov* at Docket

No. FWS–R1–ES–2024–0194, and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) The following index maps show the general locations of critical habitat units for all plant species designated on each island, with each location/area on each island identified as a specific number on the index maps. These island location/area numbers allow for comparison of overlapping critical habitat units for other listed species within the same location.

(i) Each critical habitat unit name comprises an island name, a number corresponding to a specific geographic location/area on the applicable island, which may include overlapping units for different species, the species name, and a letter. The letter at the end of each critical habitat unit name corresponds to the number of units present on a given island, where each escalating letter for each island corresponds to the additive number of units per island for the species. Critical habitat for *Tuberolabium guamense* includes one unit on the island of Rota and six units on the island of Guam, for a total of seven critical habitat units.

(ii) Index maps follow:

Figure 1 to Family Orchidaceae: *Tuberolabium guamense* (No Common Name) paragraph (5)(ii)

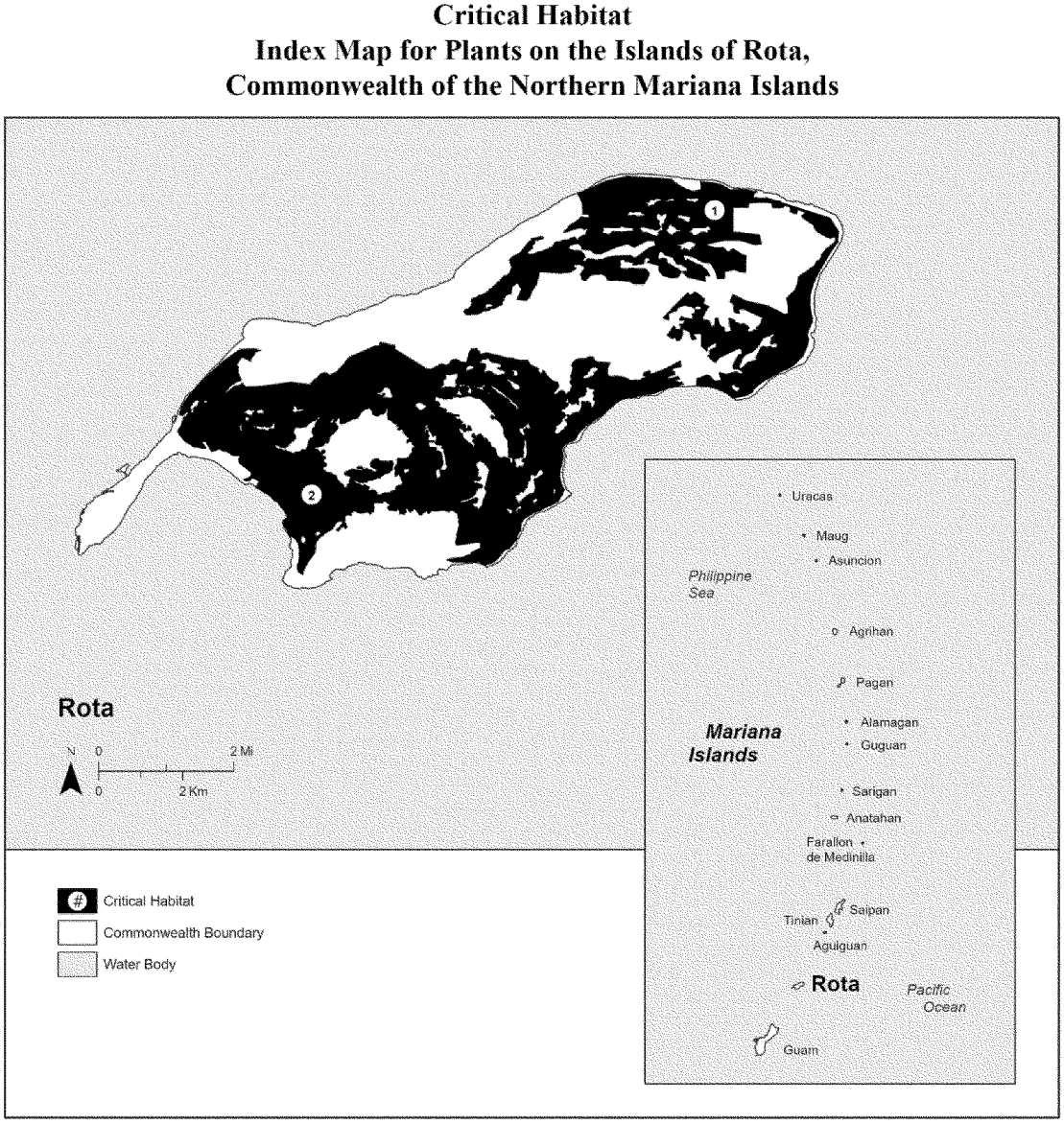
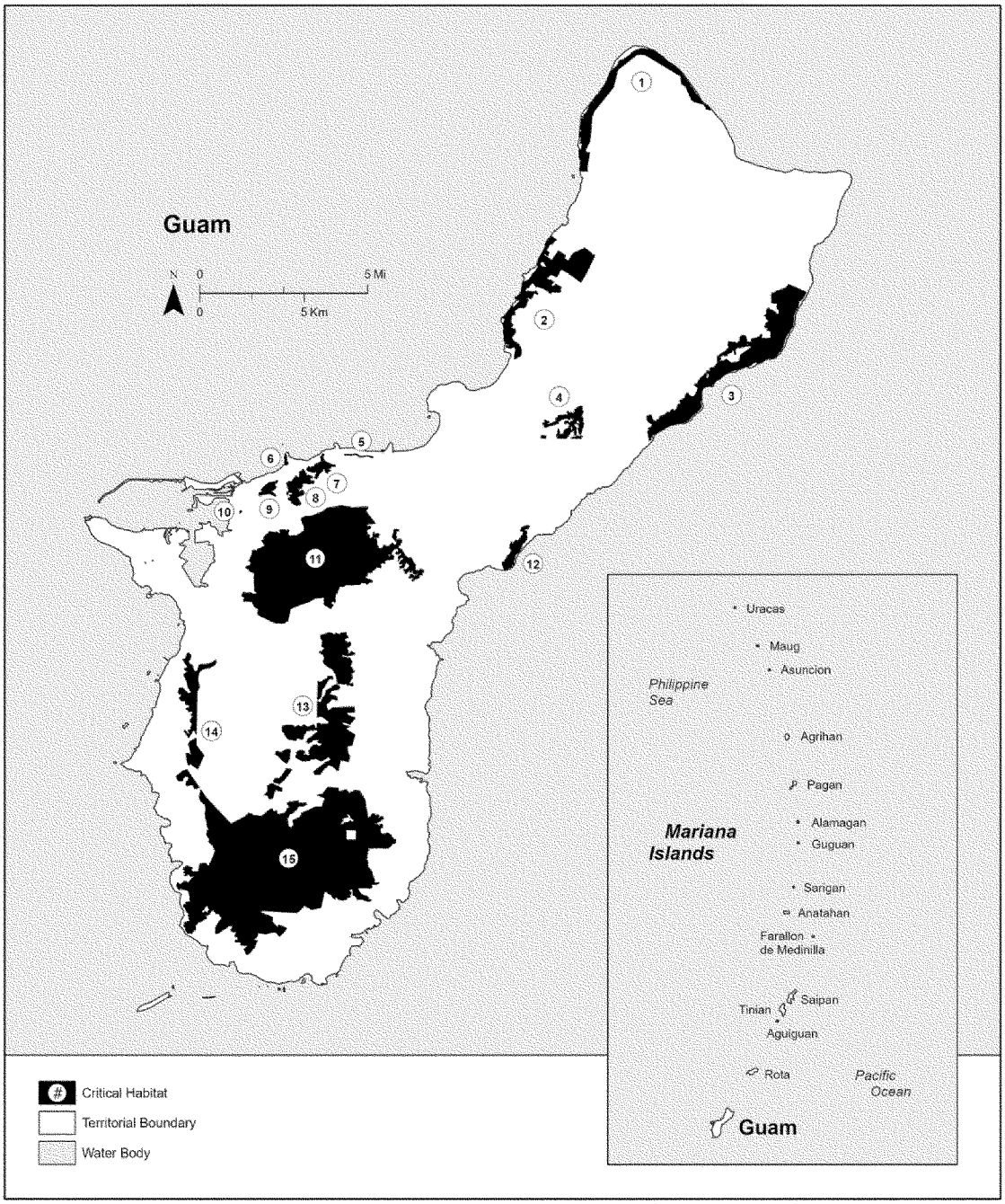


Figure 2 to Family Orchidaceae: *Tuberolabium guamense* (No Common Name) paragraph (5)(ii)

Critical Habitat
Index Map for Plants on the Islands of Guam,
Territory of Guam



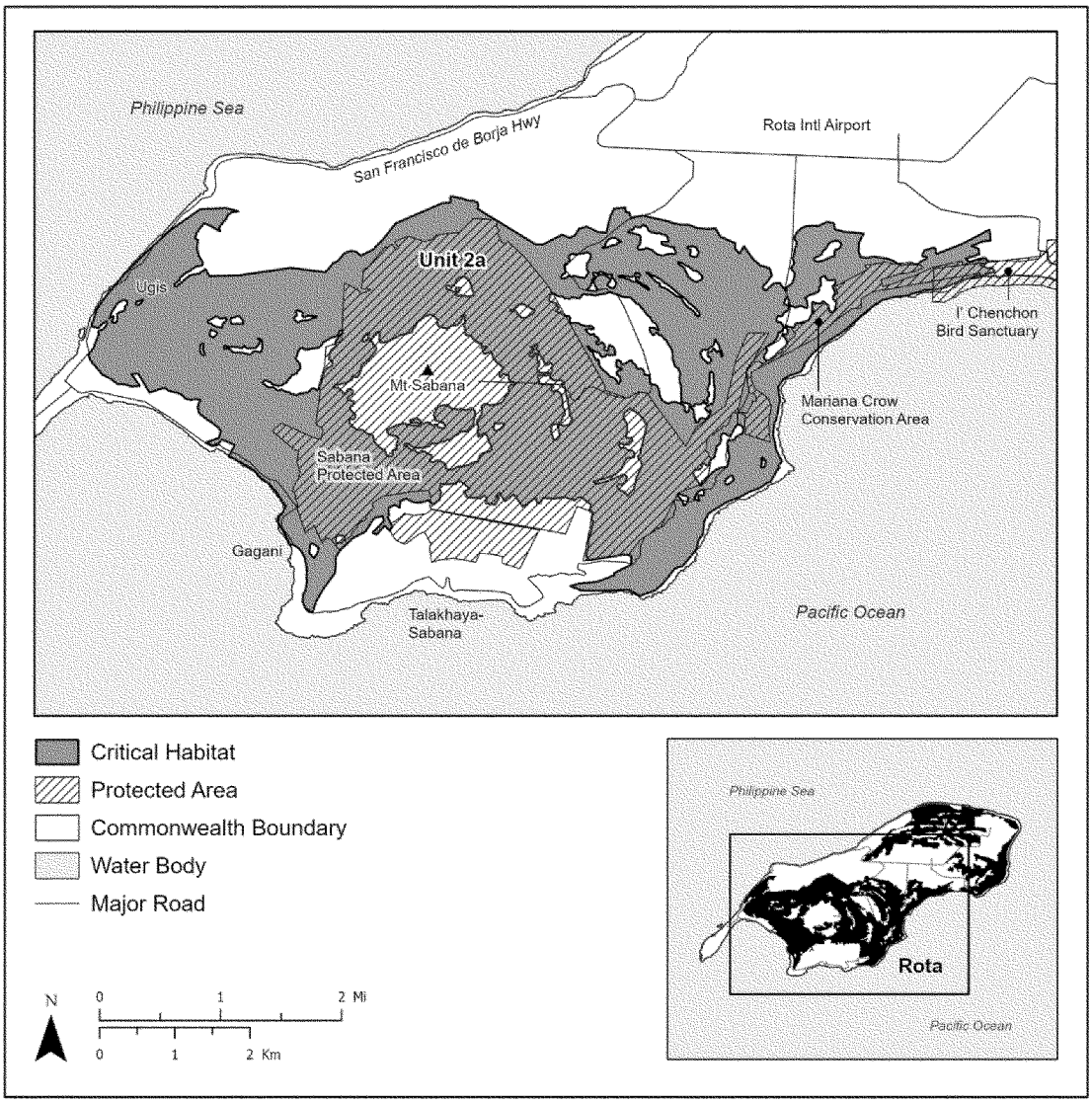
(6) Rota 2—*Tuberolabium guamense*–a, Commonwealth of the Northern Mariana Islands.

(i) This single critical habitat unit on the island of Rota consists of 6,875 ac (2,782 ha) and is composed of limestone forest in the south of the island. This unit extends south of the Rota International Airport, stretches east to the I'Chenchon Bird Sanctuary, and flanks the Talakhaya-Sabana watershed to the south (encompassing parts of the Sabana Protected Area, Mariana Crow Conservation Area, and I'Chenchon Bird Sanctuary) and east to Ugis. The unit does not include developed areas, grasslands, or Mt. Sabana. Land-ownership includes 5,806 ac (2,350 ha) of land owned by the Commonwealth government, 1,039 ac (420 ha) in private ownership, and 30 ac (12 ha) that are uncategorized.

(ii) Map of Rota 2—*Tuberolabium guamense*–a follows:

Figure 3 to Family Orchidaceae: *Tuberolabium guamense* (No Common Name) paragraph (6)(ii)

Critical Habitat for *Tuberolabium guamense* (no common name)
Rota 2–*Tuberolabium guamense*–a
Rota, Commonwealth of the Northern Mariana Islands



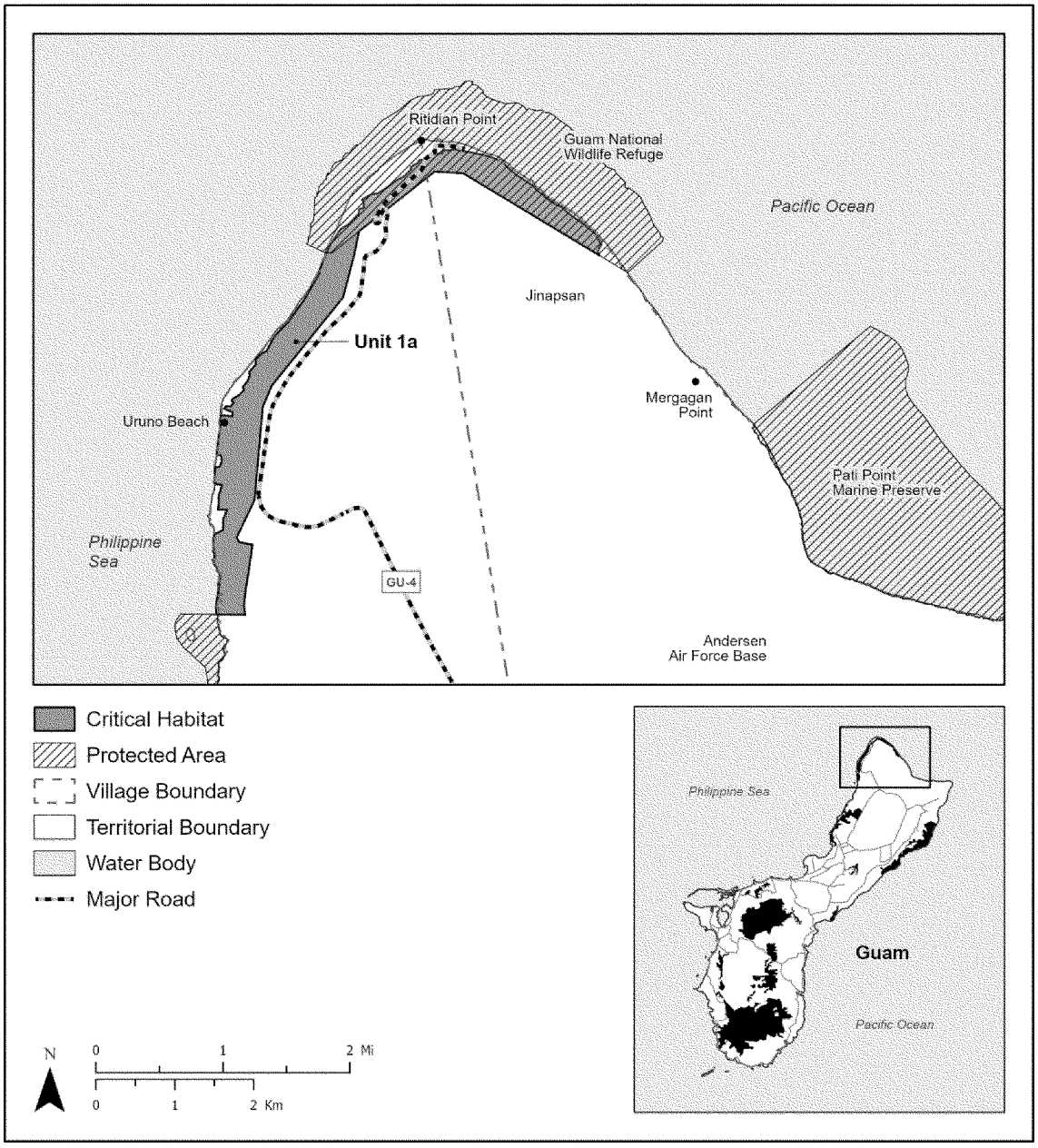
(7) Guam 1—*Tuberolabium guamense*–a, Territory of Guam.

(i) Unit 1 on the island of Guam consists of 741 ac (300 ha) and is composed of a band of secondary limestone forest along the north point of the island (Ritidian Point). The unit extends from the southwestern boundary south of Urunao Beach and runs north along the cliffline ending at Jinapsan. Landownership includes 257 ac (104 ha) of Federal lands (Guam NWR), 68 ac (27 ha) of Territory government lands, 375 ac (152 ha) in private ownership, and 41 ac (17 ha) that are uncategorized.

(ii) Map of Guam 1—*Tuberolabium guamense*–a follows:

Figure 4 to Family Orchidaceae: *Tuberolabium guamense* (No Common Name) paragraph (7)(ii)

Critical Habitat for *Tuberolabium guamense* (no common name)
Guam 1–*Tuberolabium guamense*–a
Guam, Territory of Guam



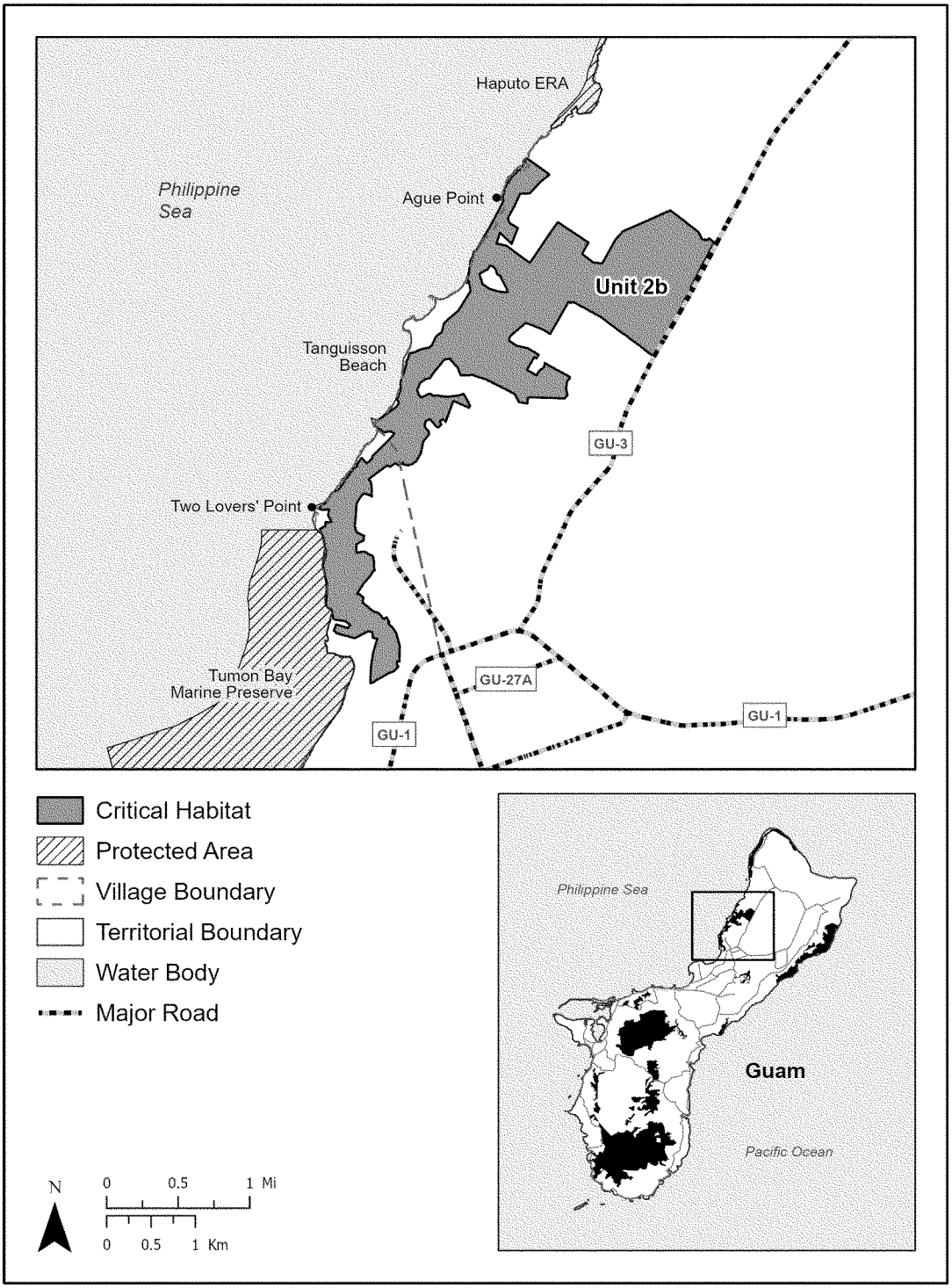
(8) Guam 2—*Tuberolabium guamense*–b, Territory of Guam.

(i) Unit 2b on the island of Guam consists of 1,245 ac (504 ha) and is composed of limestone forests along the northwestern edge of the island. The unit lies west of Route 3 and extends from the clifflines overlooking Tumon Bay west of Route 1 and runs north to Ague Point. Landownership includes 1,081 ac (437 ha) of Territory government lands, 108 ac (44 ha) in private ownership, and 56 ac (23 ha) that are uncategorized.

(ii) Map of Guam 2—*Tuberolabium guamense*–b follows:

Figure 5 to Family Orchidaceae: *Tuberolabium guamense* (No Common Name) paragraph (8)(ii)

Critical Habitat for *Tuberolabium guamense* (no common name)
Guam 2–*Tuberolabium guamense*–b
Guam, Territory of Guam



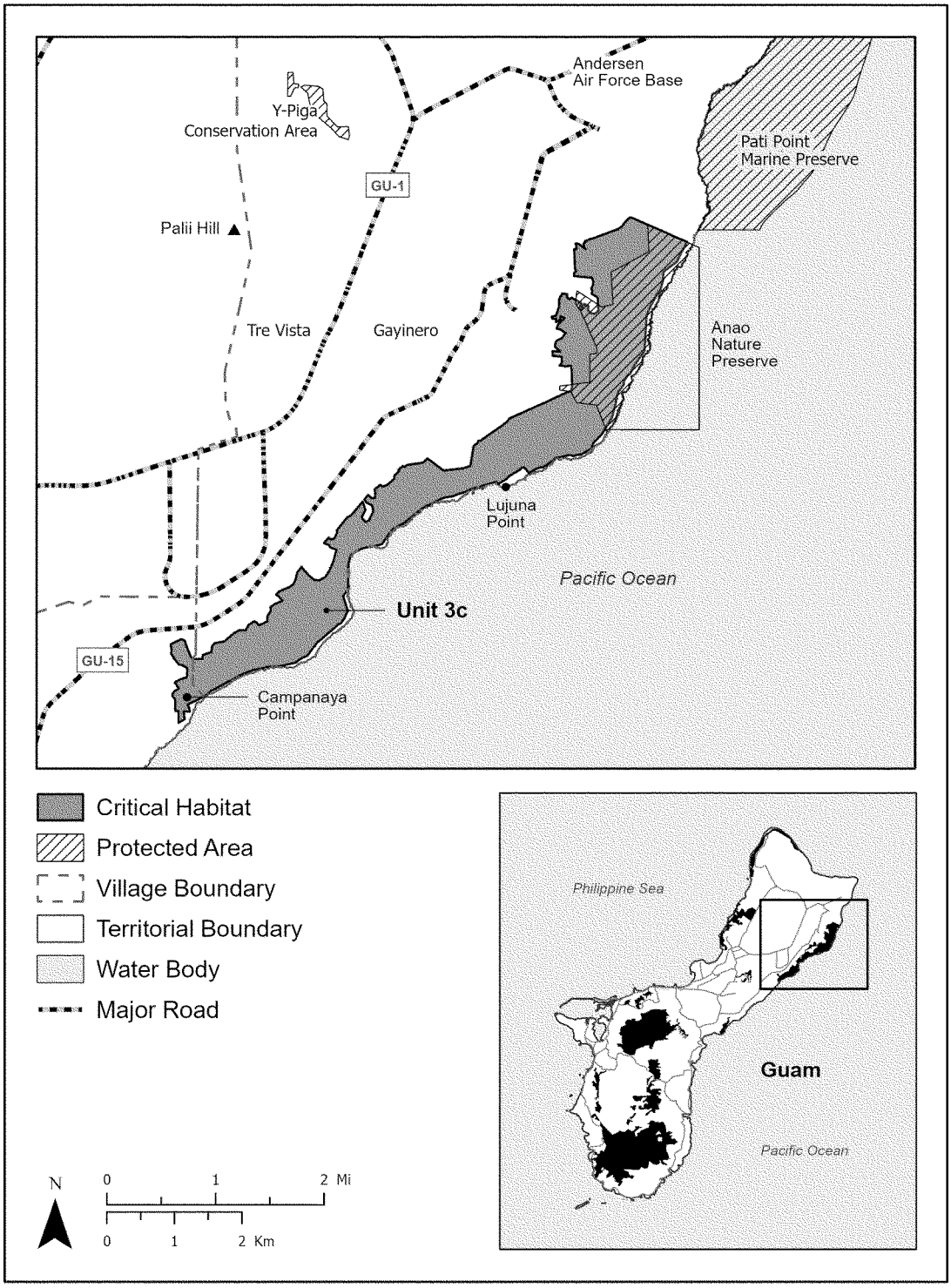
(9) Guam 3—*Tuberolabium guamense*–c, Territory of Guam.

(i) Unit 3c on the island of Guam consists of 1,986 ac (804 ha) and is composed of limestone forests along the northeast coastal edge of the island. The unit begins at the boundary of the Anao Nature Preserve, immediately adjacent to the southern end of the Guam NWR boundary and extends southwest along the coast to Campanaya Point. Landownership includes 1,488 ac (602 ha) of Territory government lands, 198 ac (80 ha) in private ownership, and 300 ac (122 ha) that are uncategorized. The northeastern portion of this unit overlaps the Anao Nature Preserve.

(ii) Map of Guam 3—*Tuberolabium guamense*–c follows:

Figure 6 to Family Orchidaceae: *Tuberolabium guamense* (No Common Name) paragraph (9)(ii)

Critical Habitat for *Tuberolabium guamense* (no common name)
Guam 3–*Tuberolabium guamense*–c
Guam, Territory of Guam



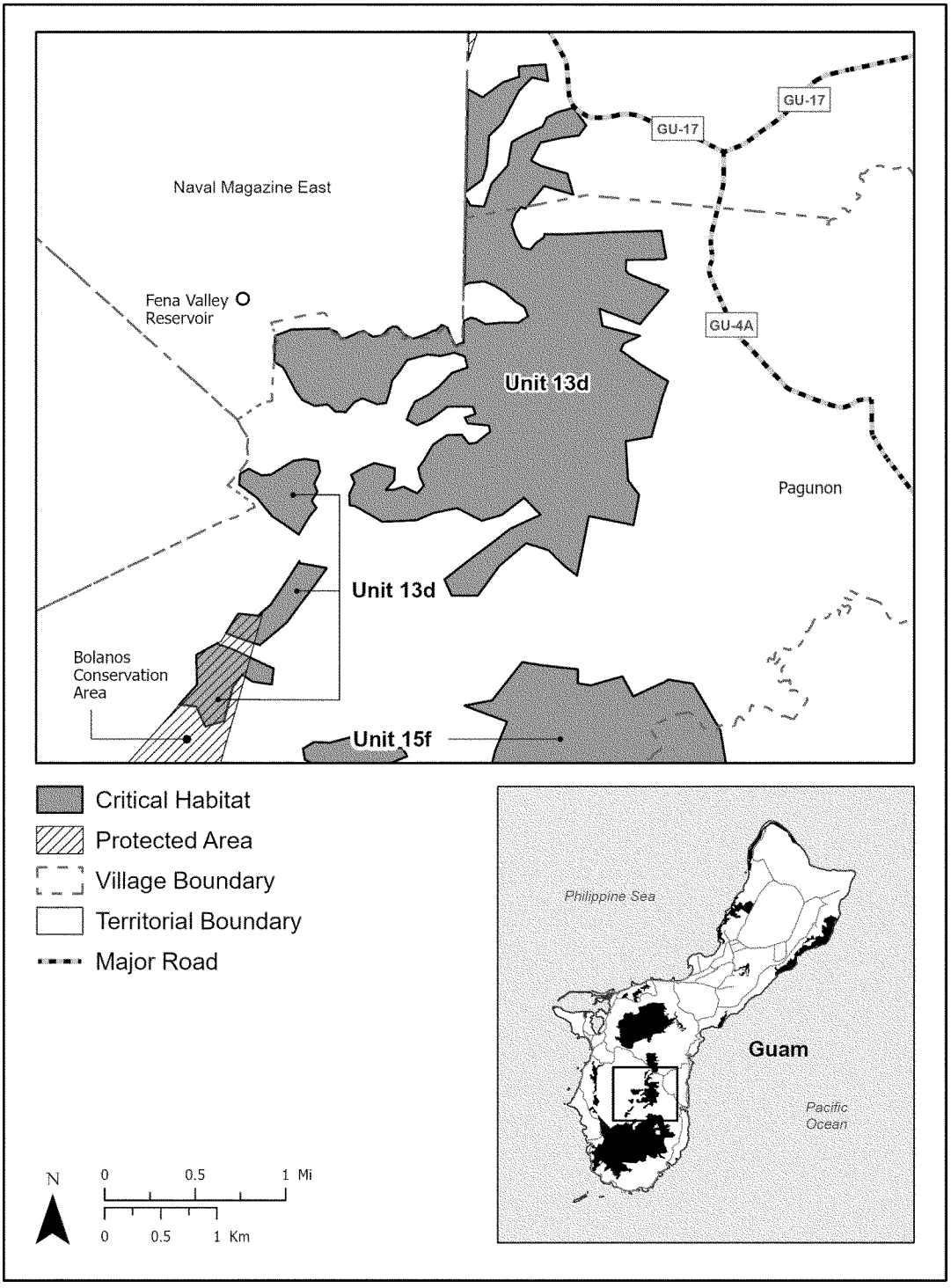
(10) Guam 13—*Tuberolabium guamense*–d, Territory of Guam.

(i) Unit 13d on the island of Guam consists of 1,726 ac (698 ha) and is composed of four segments of volcanic forests in the southcentral part of the island. The unit extends from Route 17 south past Naval Magazine East and Fena Valley Reservoir along the western boundaries and towards Pagunon on the eastern boundary. The unit extends along the Maagas, Mahlac, and Sagge Rivers and their tributaries (which are not represented on the map due to unavailable data layers). Landownership includes 142 ac (57 ha) of Territory government lands, 859 ac (348 ha) in private ownership, and 725 ac (293 ha) that are uncategorized. The southwestern portion of the unit overlaps the Bolanos Conservation Area.

(ii) Map of Guam 13—*Tuberolabium guamense*–d follows:

Figure 7 to Family Orchidaceae: *Tuberolabium guamense* (No Common Name) paragraph (10)(ii)

Critical Habitat for *Tuberolabium guamense* (no common name)
Guam 13–*Tuberolabium guamense*–d
Guam, Territory of Guam



(11) Guam 14–*Tuberolabium guamense*–e, Territory of Guam.

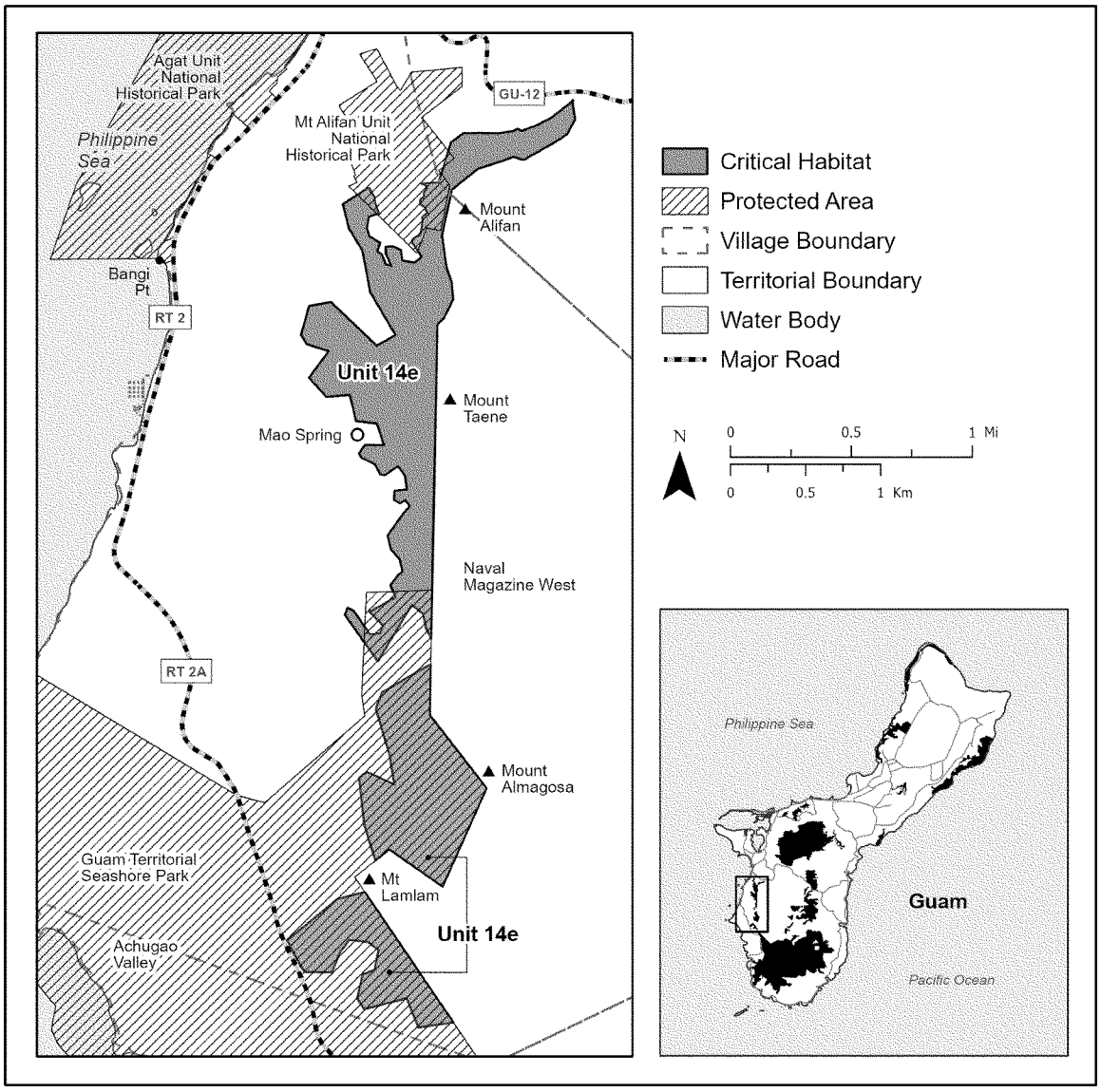
(i) Unit 14e on the island of Guam consists of 629 ac (254 ha) and is composed of three segments of limestone forests on the southwestern side of the island. The unit extends from Route 12 and Mt. Alifan in the north, running along the border of Naval Magazine West, and ending south of Mt. Lamlam at Route 2A. Landownership includes 16 ac (6 ha) of Federal lands (War in the Pacific National Historical Park), 84 ac (34 ha) of Territory government lands, 344 ac (139 ha) in private ownership, and 185 ac (75 ha) that are uncategorized. The northern portion of the unit overlaps the Mt.

Alifan unit of War in the Pacific National Historical Park. The southern portion of the unit overlaps the Guam Territorial Seashore Park.

(ii) Map of Guam 14—*Tuberolabium guamense*–e follows:

Figure 8 to Family Orchidaceae: *Tuberolabium guamense* (No Common Name) paragraph (11)(ii)

Critical Habitat for *Tuberolabium guamense* (no common name)
Guam 14–*Tuberolabium guamense*–e
Guam, Territory of Guam



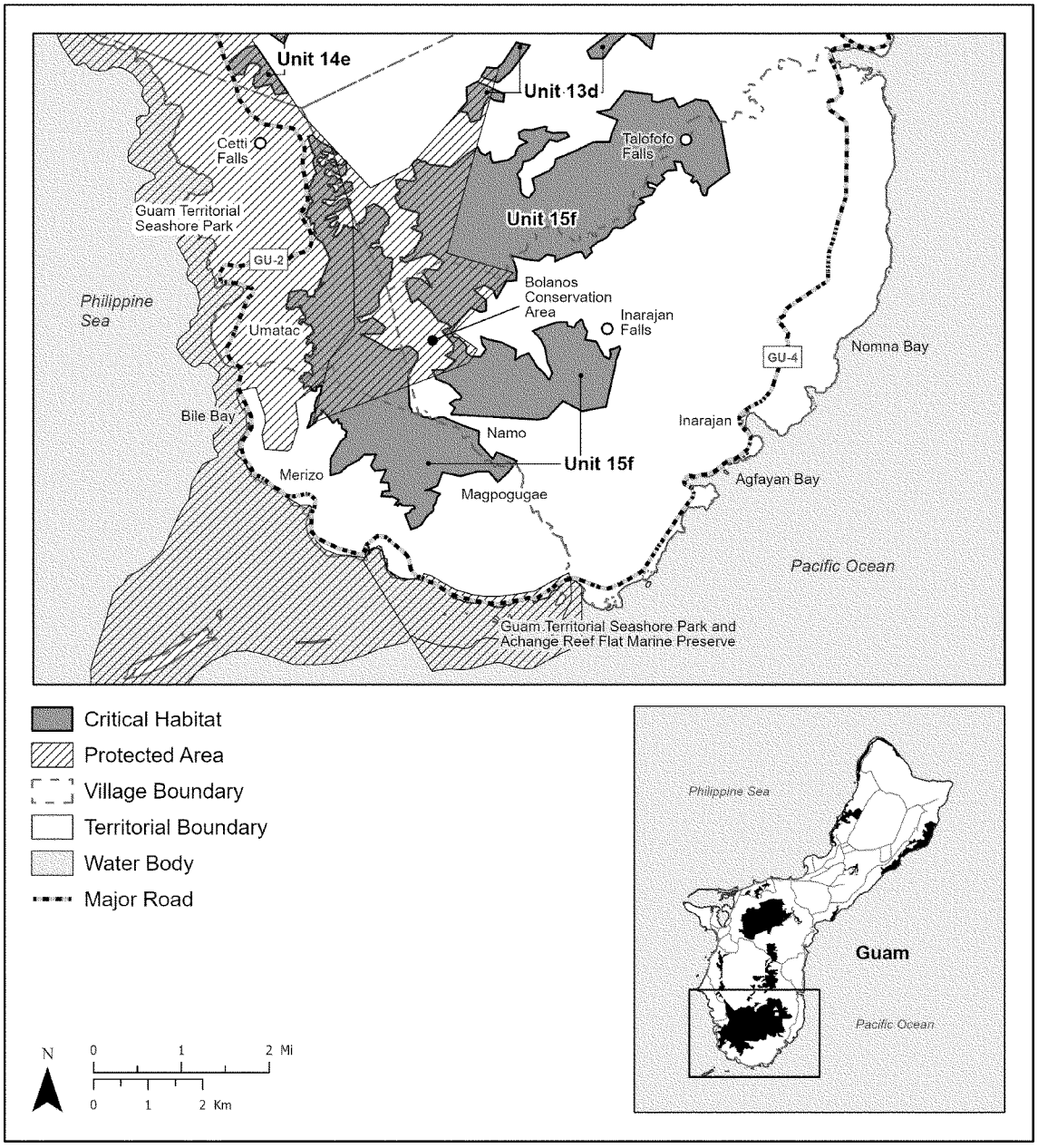
(12) Guam 15—*Tuberolabium guamense*–f, Territory of Guam.

(i) Unit 15f on the island of Guam consists of 6,148 ac (2,488 ha) and is composed of volcanic forests in the southern part of the island. The unit runs from the north of Talofofo Falls along the Ugum and Bubulao Rivers to the south of Namo and runs from the east of Route 2 along the Dante River to Inarajan Falls; rivers are not represented on the map due to unavailable data layers. Another portion of the unit stretches from Cetti Falls in the north through the Bolanos Conservation Area to Magpogugae in the south. Landownership includes 919 ac (372 ha) of Territory government lands, 3,612 ac (1,462 ha) in private ownership, and 1,617 ac (654 ha) that are uncategorized. The central portion of the unit overlaps the Bolanos Conservation Area, and the western portion of the unit overlaps the Guam Territorial Seashore Park.

(ii) Map of Guam 15—*Tuberolabium guamense*–f follows:

Figure 9 to Family Orchidaceae: *Tuberolabium guamense* (no common name) paragraph (12)(ii)

Critical Habitat for *Tuberolabium guamense* (no common name)
Guam 15–*Tuberolabium guamense*–f
Guam, Territory of Guam



* * * * *

Family Phyllanthaceae: *Phyllanthus saffordii* (Maigo lalo)

(1) Critical habitat units are depicted for Guam within the Territory of Guam, on the maps in this entry.

(2) Within these areas, the physical or biological features essential to the conservation of *Phyllanthus saffordii* consist of the following components:

(i) Savanna habitats with volcanic substrates containing lateritic soils, including (but not limited to) *Dimeria* spp. communities and erosion scar communities.

(ii) Forest edges, steep slopes, and eroded soils on volcanic substrates containing lateritic soils.

(iii) Savanna vegetation such as (but not limited to) *Decaspermum fruticosum* (no common name), *Dicranopteris linearis* (Old World forked fern, uluhe, chacha), *Dimeria chloridiformis* (no common name), *Fimbristylis* spp., *Geniostoma micranthum* (no common name), *Melastoma malabathricum* var. *mariannum* (melastoma, gafao, gafau), *Myrtella benningseniana* (no common name), *Machaerina mariscoides* (tropical twigrush), *Lycopodium cernuum* (patas nganga, staghorn clubmoss, nodding clubmoss), *Phyllanthus saffordii* (no common name), and *Rhynchospora rubra* (sweet broom, macao tea).

(iv) Native pollinators, such as bees, ants, moths, butterflies, and other generalist pollinators and native vegetation to support them.

(v) Native seed dispersers such as birds and fruit bats.

(3) Critical habitat does not include manmade structures (such as buildings or paved areas including aqueducts, runways, or roads) and the land on which they are located existing within the legal boundaries on the effective date of the final rule.

(4) Data layers defining map units were created using survey and distribution data provided by multiple local and regional sources as available (*e.g.,* reports, databases, and species experts' knowledge) and as maintained by universities, local governments, and nonprofit organizations across the Mariana Islands. Landcover data (*e.g.,* soil substrate, vegetation, and elevation) were obtained and compiled from multiple Federal and local government agencies. Temperature and precipitation data were obtained and compiled from journal publications. Landforms were primarily delineated based on the most currently available aerial maps and satellite imagery. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site at *https://www.fws.gov/project/critical-habitat-mariana-islands,* at *https://www.regulations.gov* at Docket No. FWS–R1–ES–2024–0194, and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

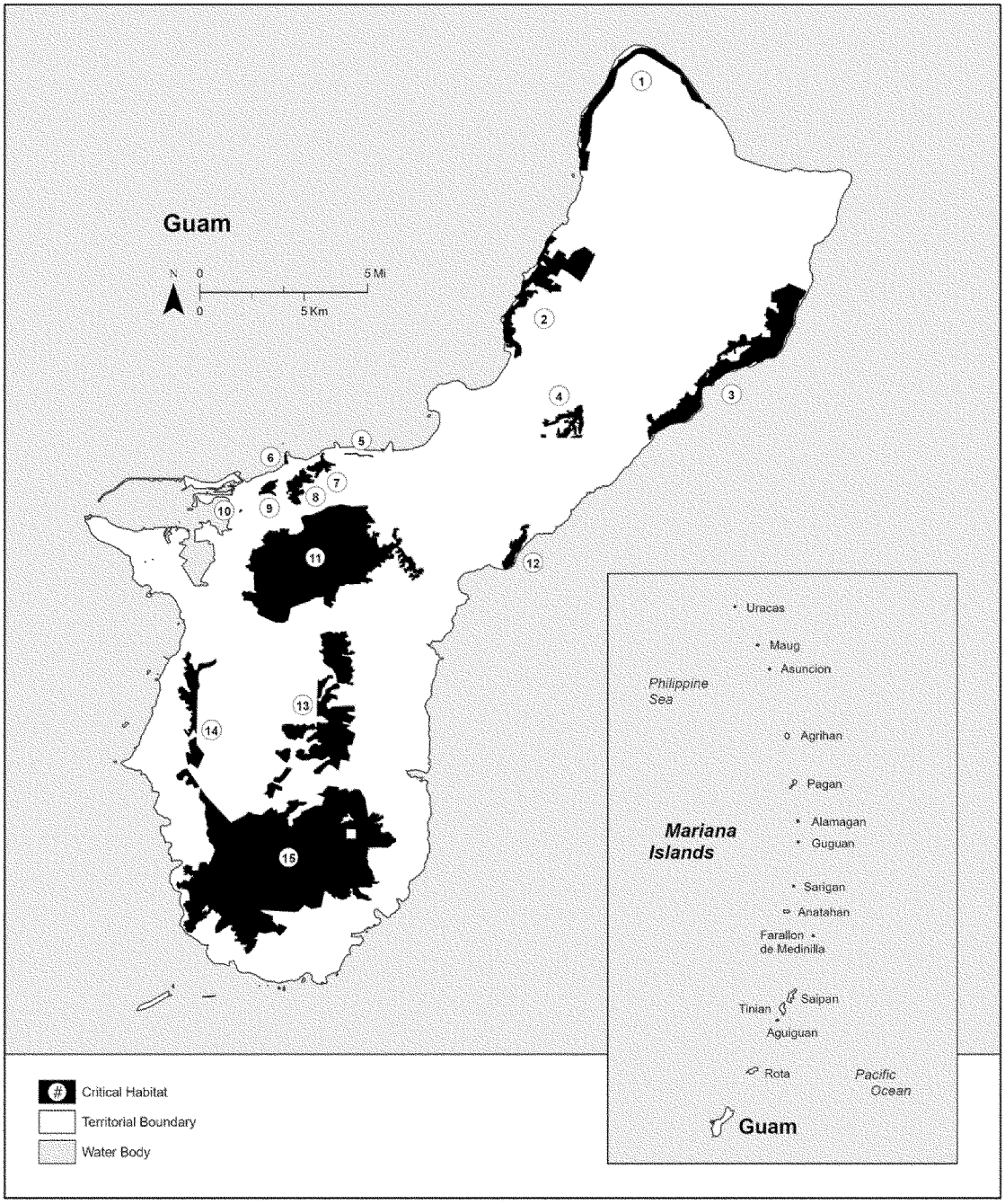
(5) The following index map shows the general locations of critical habitat units for all plant species designated on the island of Guam, with each location/area on the island identified as a specific number on the index map. These island location/area numbers allow for comparison of overlapping critical habitat units for other listed species within the same location.

(i) Each critical habitat unit name comprises the island name, a number corresponding to a specific geographic location/area on the island of Guam, which may include overlapping units for different species, the species name, and a letter. The letter at the end of each critical habitat unit name corresponds to the number of units present on the island, where each escalating letter corresponds to the additive number of units on the island for the species. Critical habitat for *Phyllanthus saffordii* includes a total of six critical habitat units.

(ii) Index map follows:

Figure 1 to Family Phyllanthaceae: *Phyllanthus saffordii* (Maigo lalo) paragraph (5)(ii)

Critical Habitat
Index Map for Plants on the Islands of Guam,
Territory of Guam



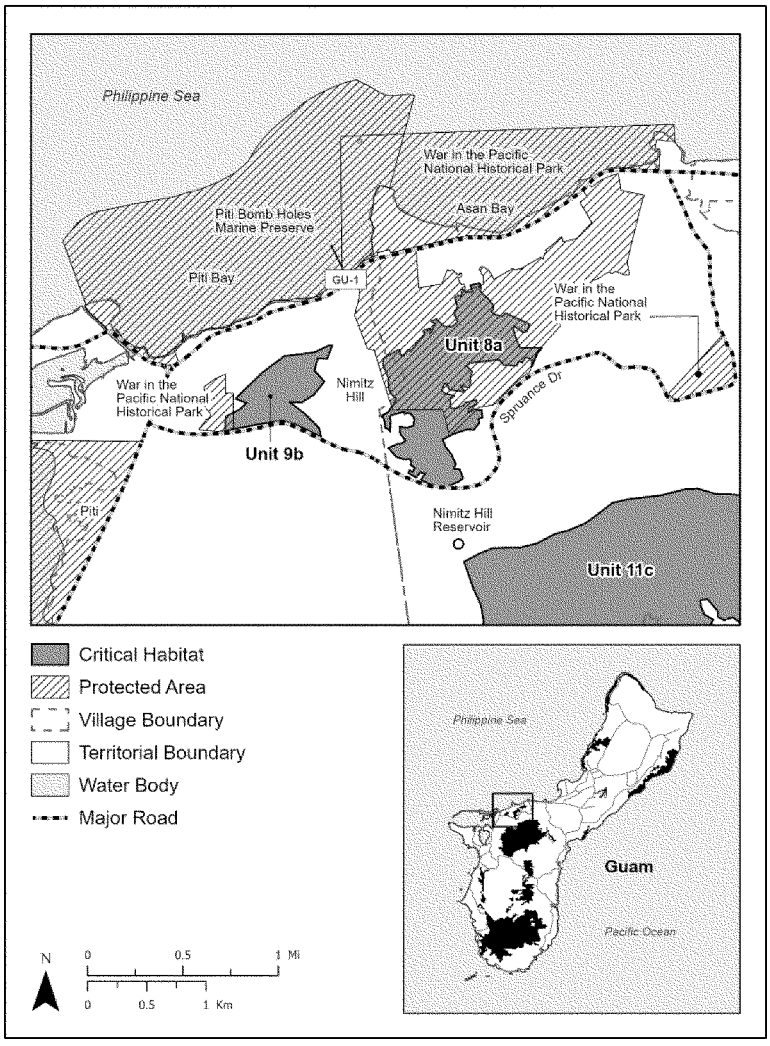
(6) Guam 8—*Phyllanthus saffordii*–a, Territory of Guam.

(i) Unit 8a on the island of Guam consists of 236 ac (95 ha) and is composed of savanna habitat near the central-west coast of the island. The unit lies between Route 1 and Spruance Drive. The western border of the unit runs along the community of Nimitz Hill. Landownership includes 169 ac (68 ha) of Federal lands (War in the Pacific National Historical Park, 55 ac (22 ha) in private ownership, and 12 ac (5 ha) that are uncategorized. The northern portion of the unit overlaps the Asan Inland unit of War in the Pacific National Historical Park.

(ii) Map of Guam 8—*Phyllanthus saffordii*–a follows:

Figure 2 to Family Phyllanthaceae: *Phyllanthus saffordii* (Maigo lalo) paragraph (6)(ii)

Critical Habitat for *Phyllanthus saffordii* (Maigo lalo)
Guam 8–*Phyllanthus saffordii*–a
Guam 9–*Phyllanthus saffordii*–b
Guam, Territory of Guam



(7) Guam 9—*Phyllanthus saffordii*–b, Territory of Guam.

(i) Unit 9b on the island of Guam consists of 82 ac (33 ha) and is composed of savanna habitat near the central-west coast of the island. The unit lies between Route 1 and Spruance Drive. The eastern border of the unit runs along the community of Nimitz Hill. Landownership includes 2 ac (1 ha) of Federal lands (War in the Pacific National Historical Park), 18 ac (7 ha) in private ownership, and 62 ac (25 ha) that are uncategorized. A small part of the western portion of the unit overlaps the Piti Guns Unit of War in the Pacific National Historical Park.

(ii) Map of Guam 9—*Phyllanthus saffordii*–b is provided at paragraph 6 (ii) of this entry.

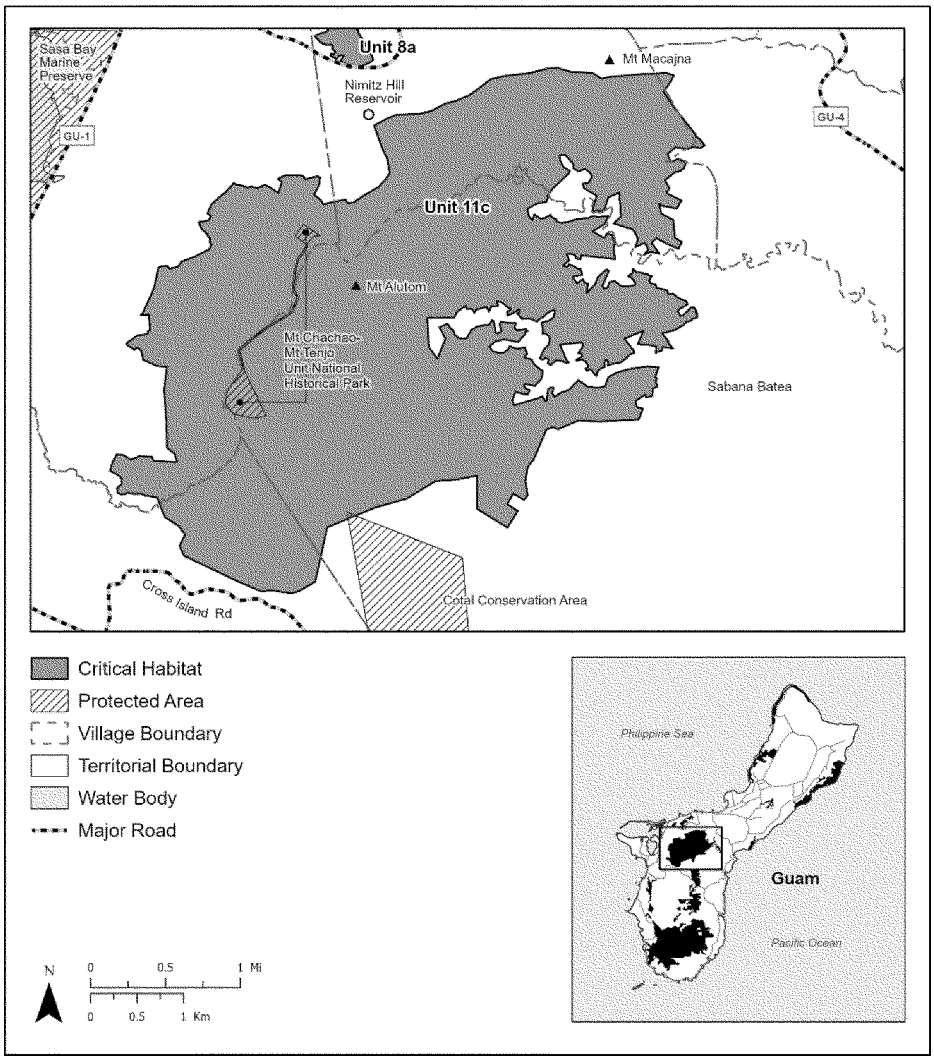
(8) Guam 11—*Phyllanthus saffordii*–c, Territory of Guam.

(i) Unit 11c on the island of Guam consists of 5,024 ac (2,033 ha) and is composed of savanna habitat in the southcentral part of the island. The unit extends from Mt. Macajna near Route 4 on the northern end to Cross Island Road on the southern end. The unit does not include forested areas along the Sigua and Lonfit Rivers (which are not represented on the map due to unavailable data layers). Landownership includes 45 ac (18 ha) of Federal lands (War in the Pacific National Historical Park), 3,031 (1,227 ha) in private ownership, and 1,948 ac (788 ha) that are uncategorized. The central portion of the unit overlaps the Mt. Chachao-Mt. Tenjo Unit of War in the Pacific National Historical Park, and a small portion of the southeastern part of the unit overlaps the Cotal Conservation Area.

(ii) Map of Guam 11—*Phyllanthus saffordii*–c follows:

Figure 3 to Family Phyllanthaceae: *Phyllanthus saffordii* (Maigo lalo) paragraph (8)(ii)

Critical Habitat for *Phyllanthus saffordii* (Maigo lalo)
Guam 11–*Phyllanthus saffordii*–c
Guam, Territory of Guam



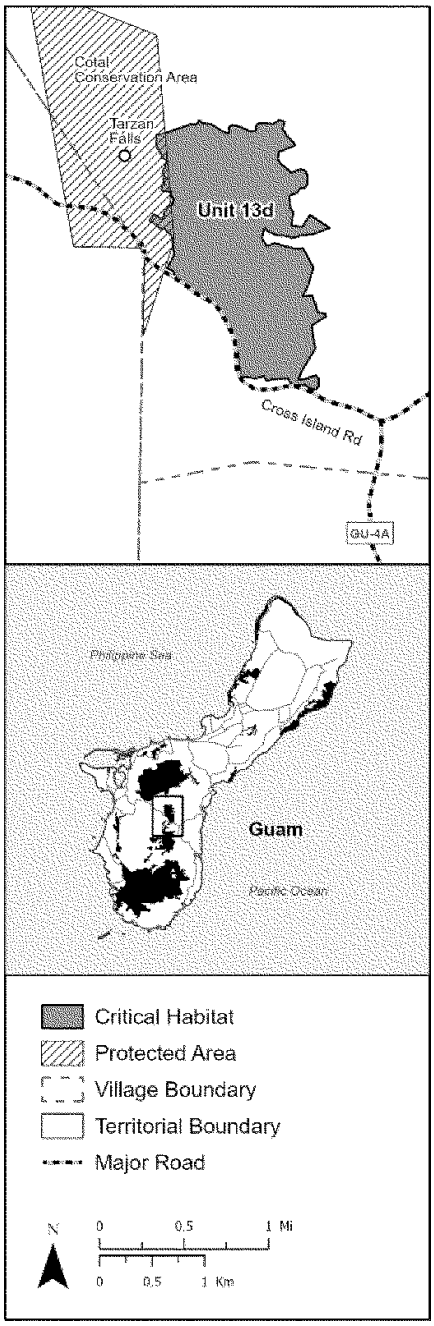
(9) Guam 13—*Phyllanthus saffordii*–d, Territory of Guam.

(i) Unit 13d on the island of Guam consists of 652 ac (264 ha) and is composed of savanna habitat in the southcentral part of the island. The unit is bounded on the north by the Ylig River (which is not represented on the map due to unavailable data layers), on the south by Cross Island Road, and on the west by the Cotal Conservation Area. The unit extends from east of Tarzan Falls and ends near the junction of Cross Island Road and Route 4A. Landownership includes 651 ac (264 ha) in private ownership and 1 ac (less than 1 ha) of uncategorized lands. The western edge of the unit overlaps the Cotal Conservation Area.

(ii) Map of Guam 13—*Phyllanthus saffordii*–d follows:

Figure 4 to Family Phyllanthaceae: *Phyllanthus saffordii* (Maigo lalo) paragraph (9)(ii)

Critical Habitat for
Phyllanthus saffordii
(Maigo lalo)
Guam 13–*Phyllanthus saffordii*–d
Guam, Territory of Guam

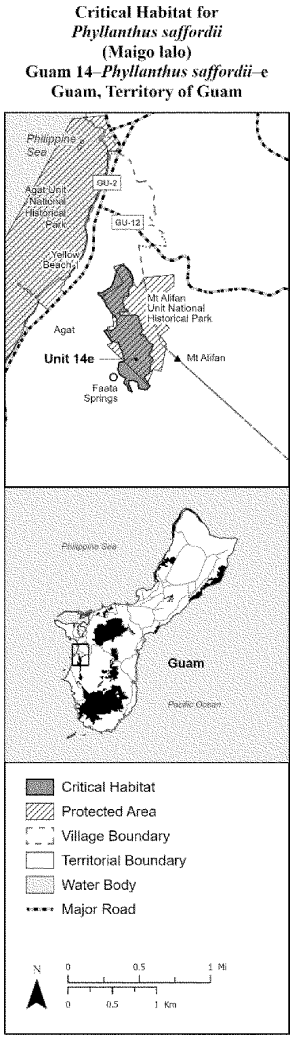


(10) Guam 14—*Phyllanthus saffordii*–e, Territory of Guam.

(i) Unit 14e on the island of Guam consists of 91 ac (37 ha) and is composed of savanna habitat in the southwestern part of the island. The unit begins south of the junction of Route 12 and Route 2 and ends at Faata Springs to the south. Mt. Alifan lies to the east of the unit and the village of Agat lies to the west. Landownership includes 73 ac (30 ha) of Federal lands (War in the Pacific National Historical Park), 17 ac (7 ha) in private ownership, and 1 ac (less than 1 ha) of uncategorized lands. The majority of the unit overlaps the Mt. Alifan unit of War in the Pacific National Historical Park.

(ii) Map of Guam 14–*Phyllanthus saffordii*–e follows:

Figure 5 to Family Phyllanthaceae: *Phyllanthus saffordii* (Maigo lalo) paragraph (10)(ii)



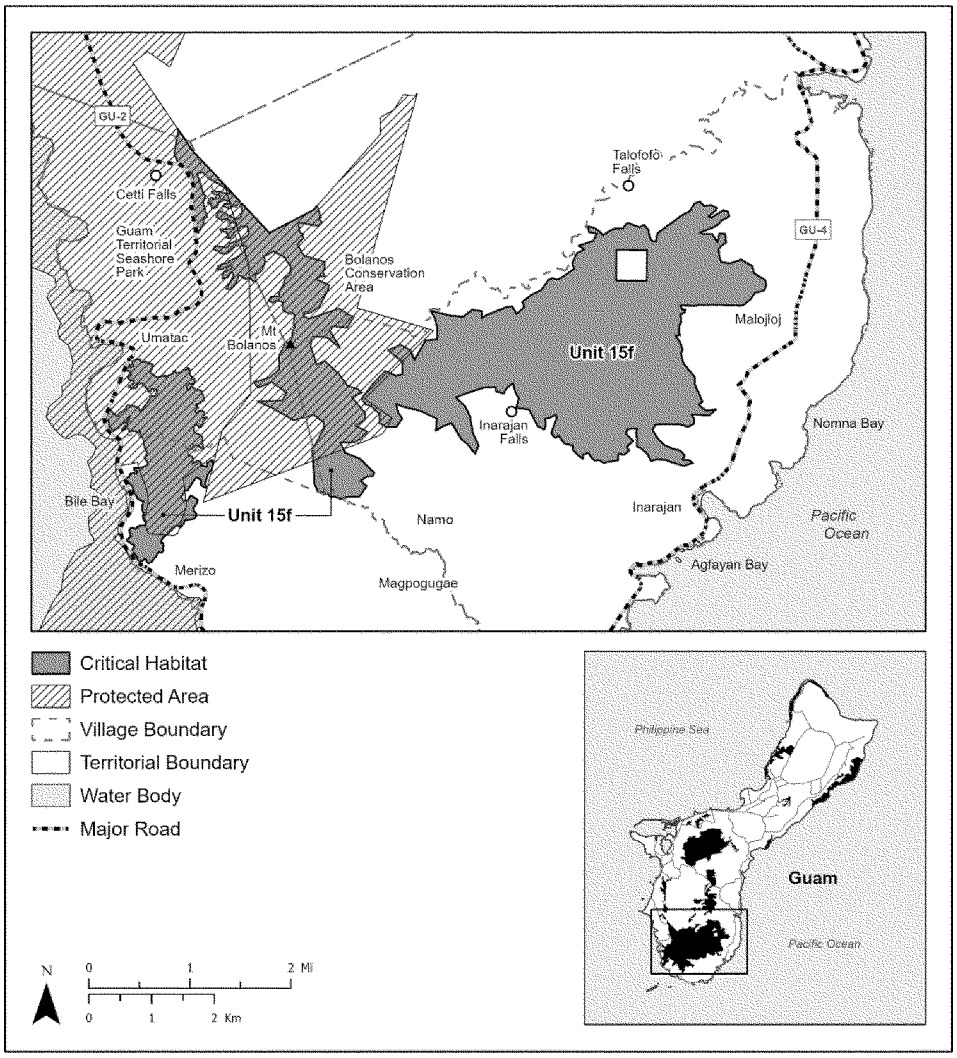
(11) Guam 15—*Phyllanthus saffordii*–f, Territory of Guam.

(i) Unit 15f on the island of Guam consists of 4,726 ac (1,912 ha) and is composed of three segments of savanna habitat in the southern part of the island. The first segment lies between Bile Bay and Mt. Bolanos, extending from the village of Umatac in the north to the village of Merizo in the south. The second segment extends from Cetti Falls in the north to Namo in the south. The third segment stretches from Mt. Bolanos in the west to the village of Malojloj in the east, bounded by the Ugum River (which is not represented on the map due to unavailable data layers) in the north and the village of Inarajan in the south. Landownership includes 550 ac (223 ha) of Territory government lands, 3,532 ac (1,429 ha) in private ownership, and 644 ac (260 ha) that are uncategorized. The first segment overlaps the Guam Territorial Seashore Park. The majority of the second segment and the western edge of the third segment overlap the Bolanos Conservation Area.

(ii) Map of Guam 15—*Phyllanthus saffordii*–f follows:

Figure 6 to Family Phyllanthaceae: *Phyllanthus saffordii* (Maigo lalo) paragraph (11)(ii)

Critical Habitat for *Phyllanthus saffordii* (Maigo lalo)
Guam 15–*Phyllanthus saffordii*–f
Guam, Territory of Guam



* * * * *

Family Rubiaceae: *Hedyotis megalantha* (Pau Dedo, Pao Doodu)

(1) Critical habitat units are depicted for Guam within the Territory of Guam, on the maps in this entry.

(2) Within these areas, the physical or biological features essential to the conservation of *Hedyotis megalantha* consist of the following components:

(i) Native savanna habitats with volcanic soils.

(ii) Grasses, ferns, shrubs, and other savanna vegetation such as (but not limited to) *Decaspermum fruticosum* (no common name), *Dicranopteris linearis* (Old World forked fern, uluhe, chacha), *Dimeria* spp., *Fimbristylis* spp., *Geniostoma micranthum* (no common name), *Lycopodium cernuum* (patas nganga, staghorn clubmoss, nodding clubmoss), *Machaerina mariscoides* (tropical twigrush), *Melastoma malabathricum* var. *mariannum* (melastoma, gafao, gafau), *Myrtella benningseniana* (no common name), *Phyllanthus saffordii* (no common name), and *Rhynchospora rubra* (sweet broom, macao tea).

(iii) Native pollinators, such as butterflies and other generalist pollinators, and native vegetation to support them.

(3) Critical habitat does not include manmade structures (such as buildings or paved areas including aqueducts, runways, or roads) and the land on which they are located existing within the legal boundaries on the effective date of the final rule.

(4) Data layers defining map units were created using survey and distribution data provided by multiple local and regional sources as available (*e.g.,* reports, databases, and species experts' knowledge) and as maintained by universities, local governments, and nonprofit organizations across the Mariana Islands. Landcover data (*e.g.,* soil substrate, vegetation, and elevation) were obtained and compiled from multiple Federal and local government agencies. Temperature and precipitation data were obtained and compiled from journal publications. Landforms were primarily delineated based on the most currently available aerial maps and satellite imagery. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site at *https://www.fws.gov/project/critical-habitat-mariana-islands,* at *https://www.regulations.gov* at Docket No. FWS–R1–ES–2024–0194, and at the

field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

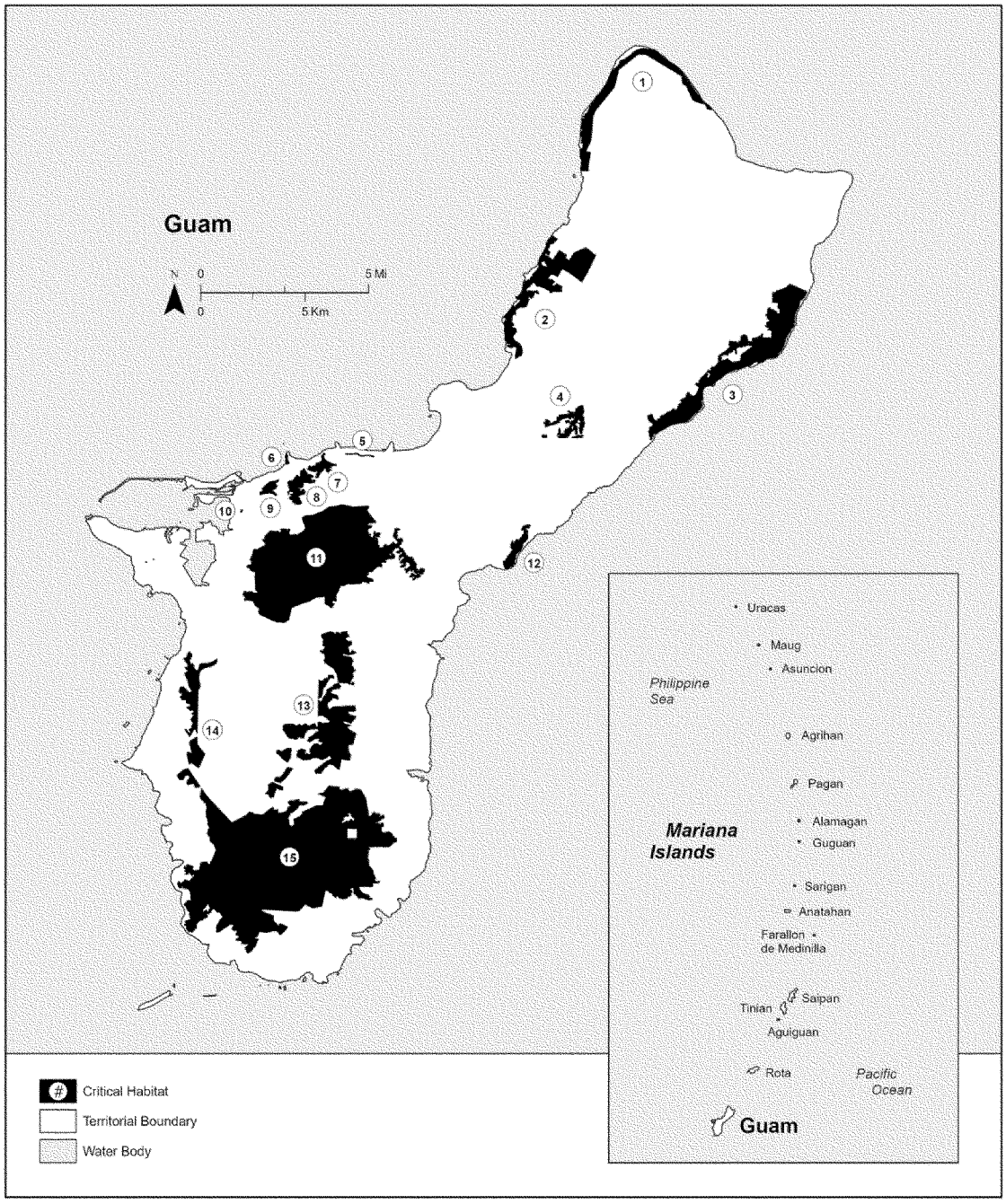
(5) The following index map shows the general locations of critical habitat units for all plant species designated on the island of Guam, with each location/area on the island identified as a specific number on the index map. These island location/area numbers allow for comparison of overlapping critical habitat units for other listed species within the same location.

(i) Each critical habitat unit name comprises the island name, a number corresponding to a specific geographic location/area on the island of Guam, which may include overlapping units for different species, the species name, and a letter. The letter at the end of each critical habitat unit name corresponds to the number of units present on the island, where each escalating letter corresponds to the additive number of units on the island for the species. Critical habitat for *Hedyotis megalantha* includes a total of three critical habitat units.

(ii) Index map follows:

Figure 1 to Family Rubiaceae: *Hedyotis megalantha* (Pau Dedo, Pao Doodu) paragraph (5)(ii)

Critical Habitat
Index Map for Plants on the Islands of Guam, Territory of Guam



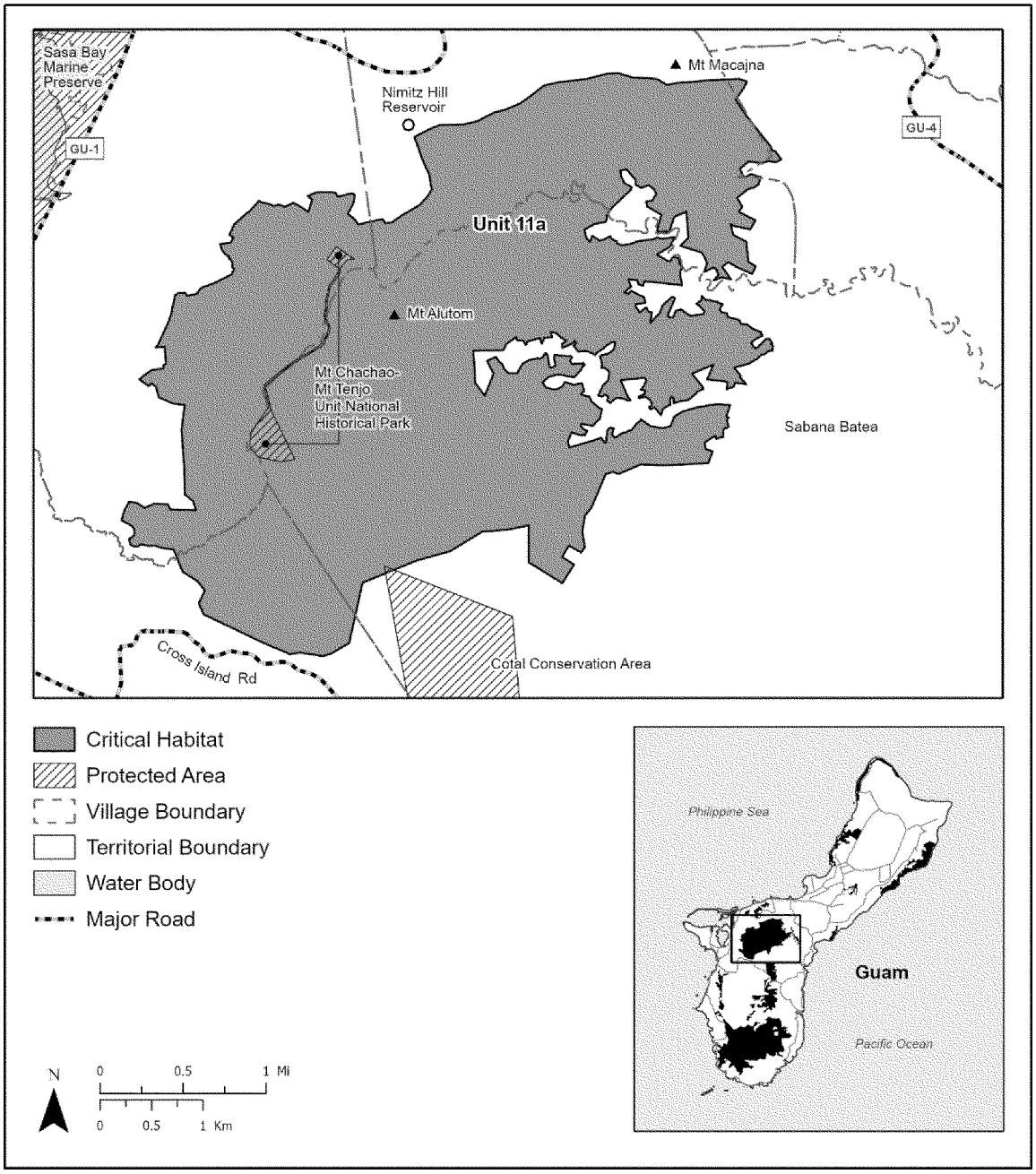
(6) Guam 11—*Hedyotis megalantha*–a, Territory of Guam.

(i) Unit 11a on the island of Guam consists of 5,024 ac (2,033 ha) and is composed of savanna habitat in the southcentral part of the island. The unit extends from Mt. Macajna near Route 4 on the northern end to Cross Island Road on the southern end. The unit does not include forested areas along the Sigua and Lonfit Rivers (which are not represented on the map due to unavailable data layers). Landownership includes 45 ac (18 ha) of Federal lands (War in the Pacific National Historical Park), 3,031 (1,227 ha) in private ownership, and 1,948 ac (788 ha) that are uncategorized. The central portion of the unit overlaps the Mt. Chachao-Mt. Tenjo unit of War in the Pacific National Historical Park, and a small portion of the southeastern part of the unit overlaps the Cotal Conservation Area.

(ii) Map of Guam 11—*Hedyotis megalantha*–a follows:

Figure 2 to Family Rubiaceae: *Hedyotis megalantha* (Pau Dedo, Pao Doodu) paragraph (6)(ii)

Critical Habitat for *Hedyotis megalantha* (Pau dedo, Pao doodu)
Guam 11–*Hedyotis megalantha*–a
Guam, Territory of Guam



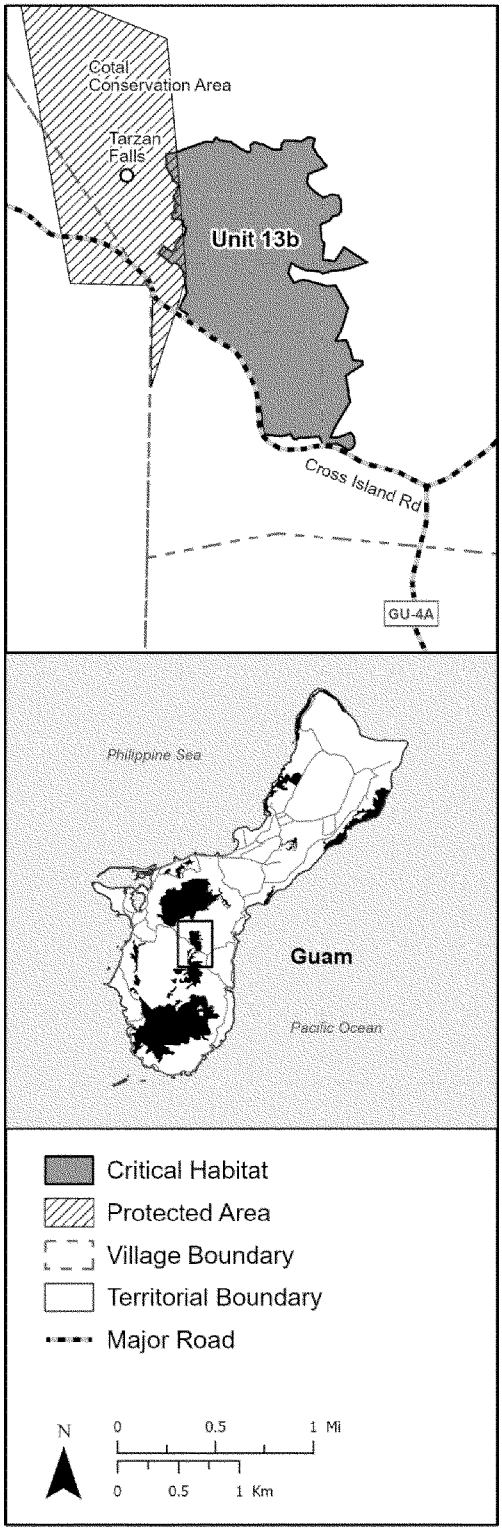
(7) Guam 13—*Hedyotis megalantha*–b, Territory of Guam.

(i) Unit 13b on the island of Guam consists of 652 ac (264 ha) and is composed of savanna habitat in the southcentral part of the island. The unit is bounded on the north by the Ylig River (which is not represented on the map due to unavailable data layers), on the south by Cross Island Road, and on the west by the Cotal Conservation Area. It extends from east of Tarzan Falls and ends near the junction of Cross Island Road and Route 4A. Landownership includes 651 ac (264 ha) in private ownership and 1 ac (less than 1 ha) of uncategorized lands. The western edge of the unit overlaps the Cotal Conservation Area.

(ii) Map of Guam 13—*Hedyotis megalantha*–b follows:

Figure 3 to Family Rubiaceae: *Hedyotis megalantha* (Pau Dedo, Pao Doodu) paragraph (7)(ii)

Critical Habitat for
Hedyotis megalantha
(Pau dedo, Pao doodu)
Guam 13–*Hedyotis megalantha*–b
Guam, Territory of Guam



(8) Guam 15—*Hedyotis megalantha*–c, Territory of Guam.

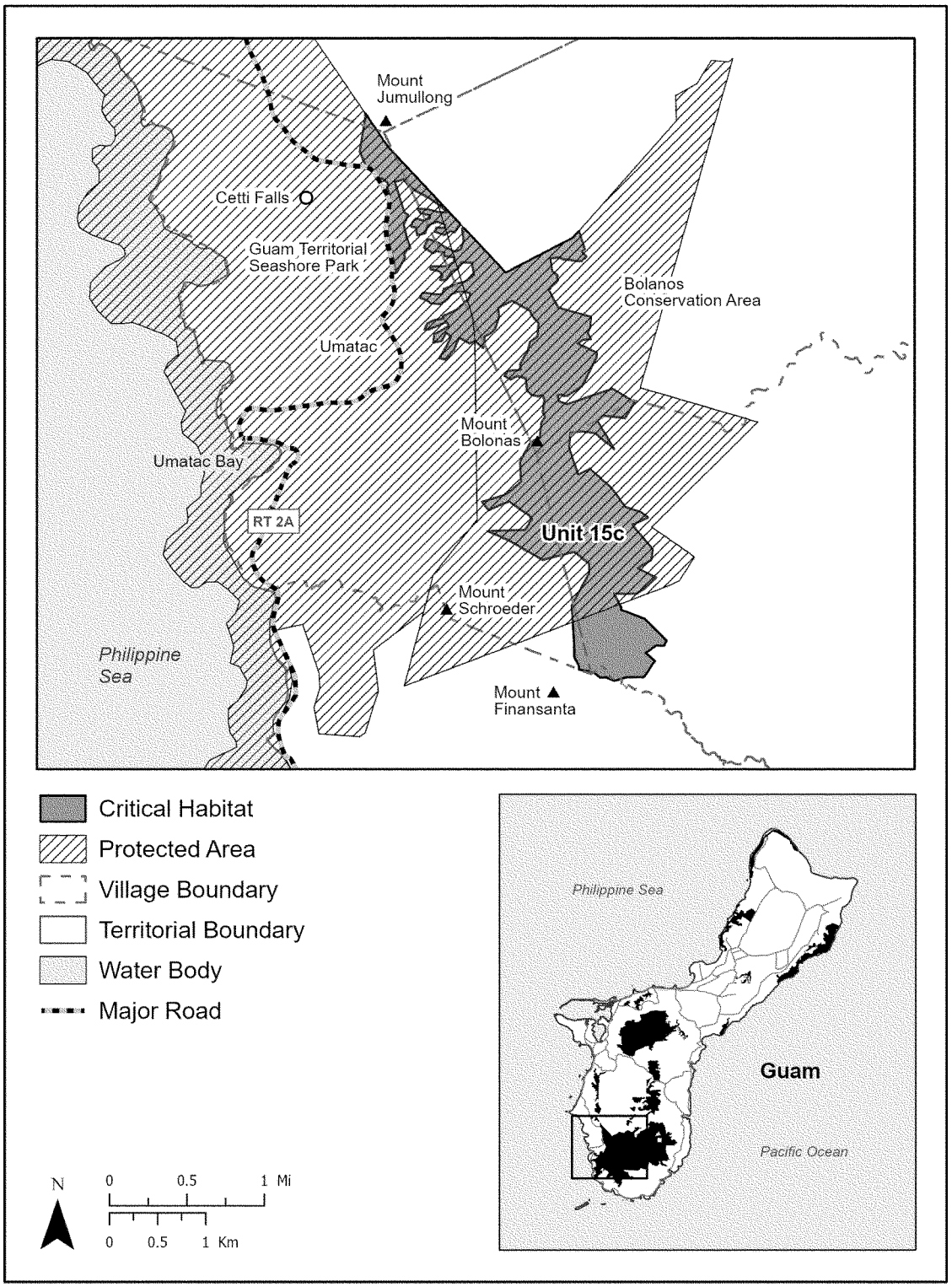
(i) Unit 15c on the island of Guam consists of 1,045 ac (423 ha) and is composed of savanna habitat in the southwestern part of the island. The

unit extends from Mt. Jumullong Manglo near Route 2A in the north and runs southeast along the eastern side of Mt. Bolanas, ending at Mt. Finansanta in the south. Landownership includes 510 ac (206 ha) of Territory government lands, 334 (135 ha) in private ownership, and 201 ac (82 ha) that are uncategorized. The northwestern portion of the unit overlaps the Guam Territorial Seashore Park, and the central portion of the unit overlaps the Bolanos Conservation Area.

(ii) Map of Guam 15—*Hedyotis megalantha*–c follows:

Figure 4 to Family Rubiaceae: *Hedyotis megalantha* (Pau Dedo, Pao Doodu) paragraph (8)(ii)

Critical Habitat for *Hedyotis megalantha* (Pau dedo, Pao doodu)
Guam 15–*Hedyotis megalantha*–c
Guam, Territory of Guam



Family Rubiaceae: *Psychotria malaspinae* (Aplokhating Palaoan)

(1) Critical habitat units are depicted for Guam within the Territory of Guam, on the maps in this entry.

(2) Within these areas, the physical or biological features essential to the conservation of *Psychotria malaspinae* consist of the following components:

(i) Interconnected native limestone forest habitat.

(ii) Sufficient space within a vegetation community where there is closed canopy or where partial to full sunlight is available with plants such as (but not limited to) *Abrus* spp., *Aglaia marianensis* (mapunyao, mapunao, fischil liyoos), *Aidia cochinchinensis* (sumak), *Asplenium nidus* (galak, fedda, bird's nest fern), *Ficus* spp., *Freycinetia* spp., *Hibiscus tiliaceus* (sea hibiscus, pago), *Melanolepis multiglandulosa* (alom), *Morinda citrifolia* (lada, noni, Indian mulberry), *Operculina* spp., *Pandanus* spp., *Phymatosorus scolopendria* (monarch fern, kahlao), *Pipturus argenteus* (amahayan, atmahayan, amahadyan, ghasooso, native mulberry), and *Psychotria mariana* (applok hating, aplohkateng, aplu kati, gathemach, aploghating, aplokhating).

(iii) Native seed dispersers such as birds and fruit bats.

(iv) Native pollinators and native vegetation to support them.

(3) Critical habitat does not include manmade structures (such as buildings or paved areas including aqueducts, runways, or roads) and the land on which they are located existing within the legal boundaries on the effective date of the final rule.

(4) Data layers defining map units were created using survey and distribution data provided by multiple local and regional sources as available (*e.g.,* reports, databases, and species experts' knowledge) and as maintained by universities, local governments, and nonprofit organizations across the Mariana Islands. Landcover data (*e.g.,* soil substrate, vegetation, and elevation) were obtained and compiled from multiple Federal and local government agencies. Temperature and precipitation data were obtained and compiled from journal publications. Landforms were primarily delineated based on the most currently available aerial maps and satellite imagery. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site at *https://www.fws.gov/project/critical-habitat-mariana-islands,* at *https://www.regulations.gov* at Docket No. FWS–R1–ES–2024–0194, and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

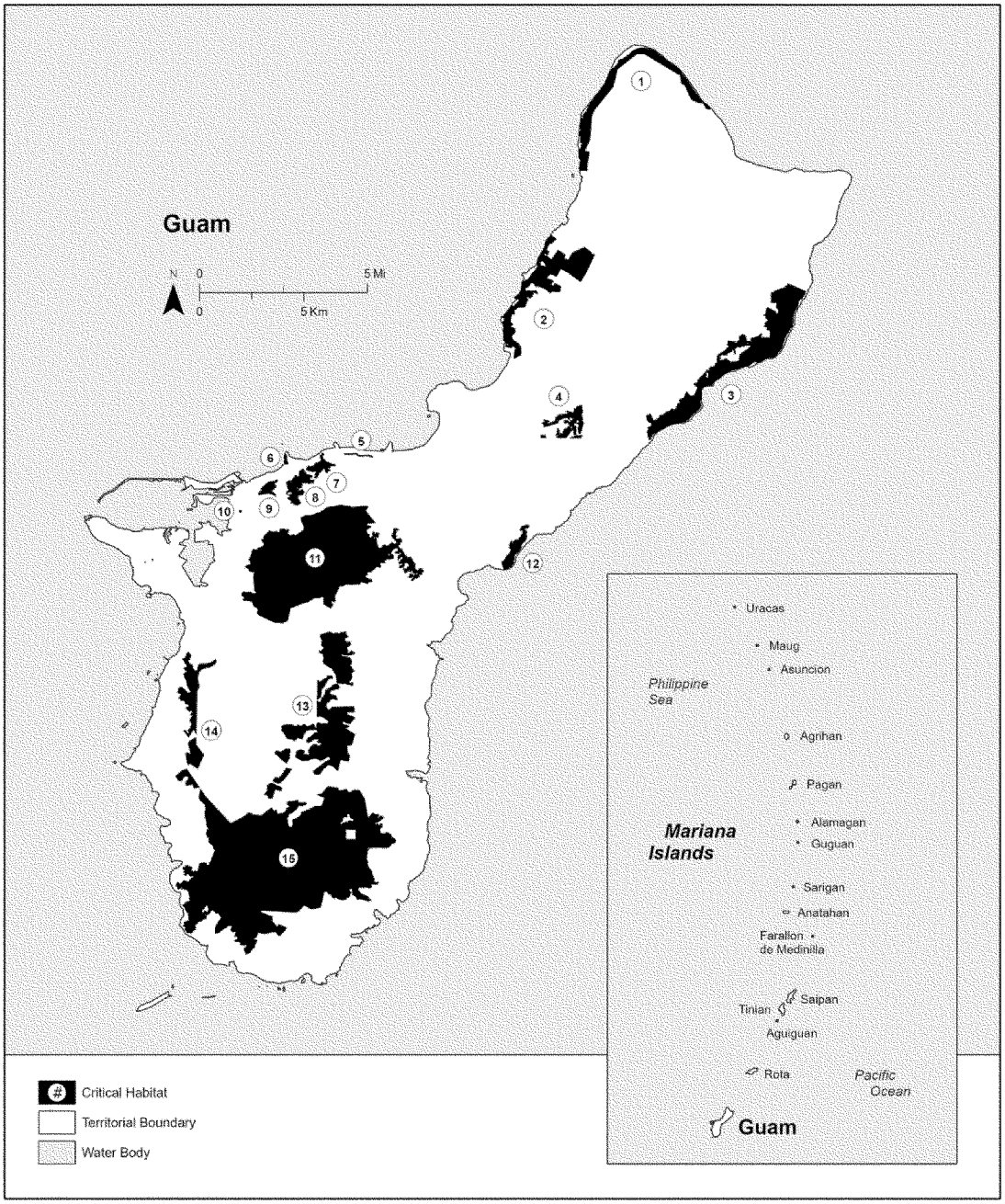
(5) The following index map shows the general locations of critical habitat units for all plant species designated on the island of Guam, with each location/area on the island identified as a specific number on the index map. These island location/area numbers allow for comparison of overlapping critical habitat units for other listed species within the same location.

(i) Each critical habitat unit name comprises the island name, a number corresponding to a specific geographic location/area on the island of Guam, which may include overlapping units for different species, the species name, and a letter. The letter at the end of each critical habitat unit name corresponds to the number of units present on the island, where each escalating letter corresponds to the additive number of units on the island for the species. Critical habitat for *Psychotria malaspinae* includes a total of two critical habitat units.

(ii) Index map follows:

Figure 1 to Family Rubiaceae: *Psychotria malaspinae* (Aplokhating Palaoan) paragraph (5)(ii)

Critical Habitat
Index Map for Plants on the Islands of Guam,
Territory of Guam



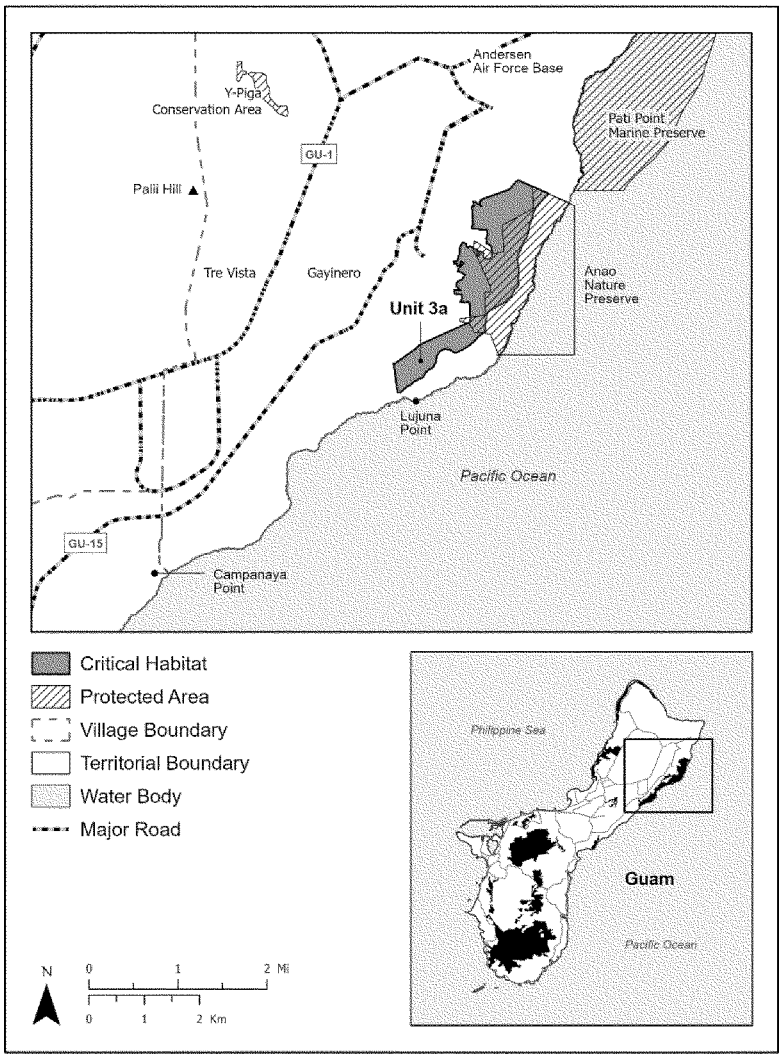
(6) Guam 3—*Psychotria malaspinae*–a, Territory of Guam.

(i) Unit 3a on the island of Guam consists of 711 ac (288 ha) and is composed of limestone forests along the northeast coastal edge of the island. The unit begins at the boundary of the Anao Nature Preserve immediately adjacent to the southern end of the Guam NWR boundary and extends southwest inland of the coast to Lujuna Point. Landownership includes 468 ac (189 ha) of Territory government lands, 79 ac (32 ha) in private ownership, and 164 ac (67 ha) that are uncategorized. The northeastern portion of this unit overlaps the Anao Nature Preserve.

(ii) Map of Guam 3—*Psychotria malaspinae*–a follows:

Figure 2 to Family Rubiaceae: *Psychotria malaspinae* (Aplokhating Palaoan) paragraph (6)(ii)

Critical Habitat for *Psychotria malaspinae* (Aplokhating palaoan)
Guam 3–*Psychotria malaspinae*–a
Guam, Territory of Guam



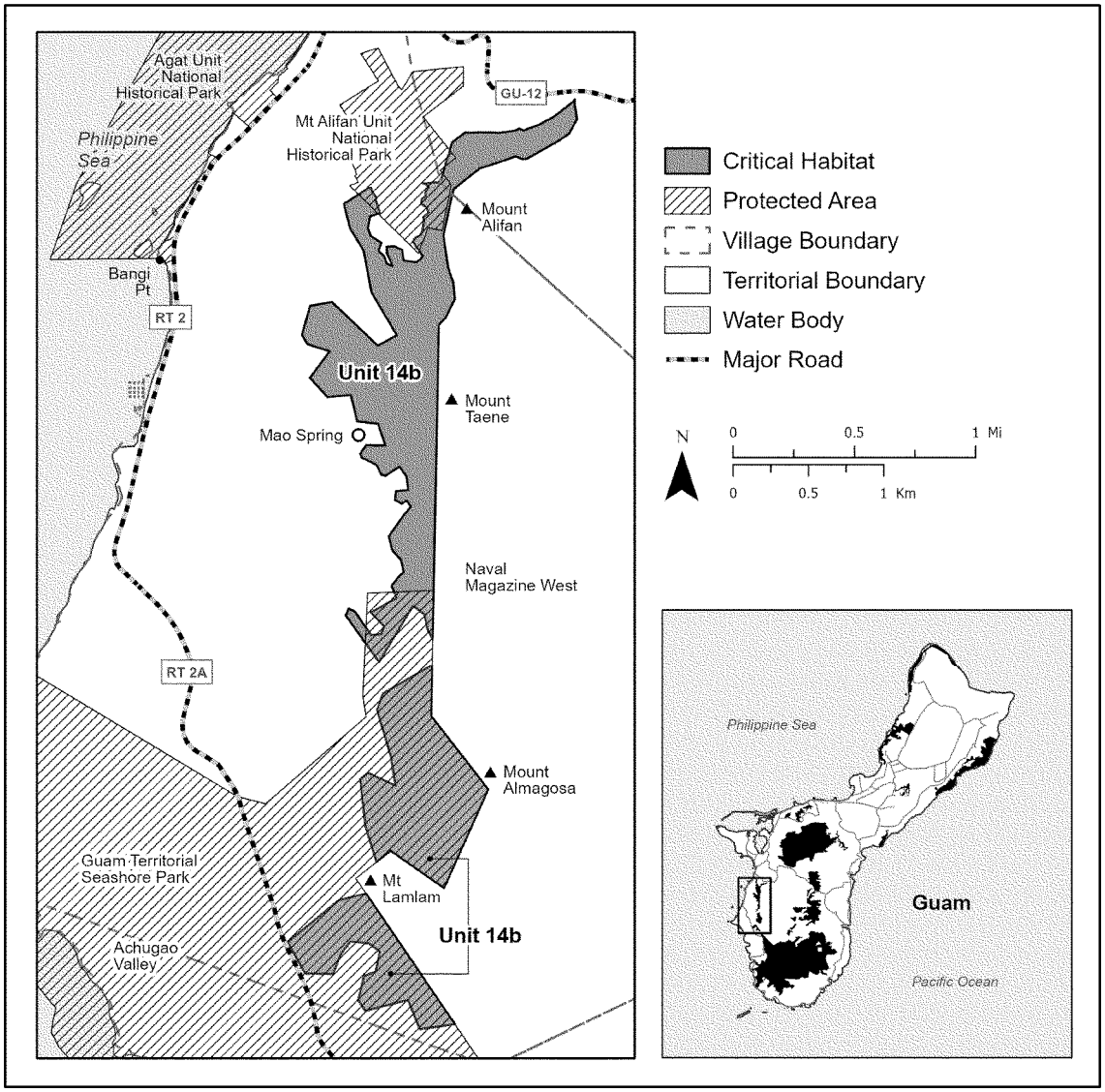
(7) Guam 14–*Psychotria malaspinae*–b, Territory of Guam.

(i) Unit 14b on the island of Guam consists of 629 ac (254 ha) and is composed of three segments of limestone forests on the southwestern side of the island. The unit extends from Route 12 and Mt. Alifan in the north, running along the border of Naval Magazine West and ending south of Mt. Lamlam at Route 2A. Landownership includes 16 ac (6 ha) of Federal lands (War in the Pacific National Historical Park), 84 ac (34 ha) of Territory government lands, 344 ac (139 ha) in private ownership, and 185 ac (75 ha) that are uncategorized. The northern portion of the unit overlaps the Mt. Alifan unit of War in the Pacific National Historical Park. The southern portion of the unit overlaps the Guam Territorial Seashore Park.

(ii) Map of Guam 14—*Psychotria malaspinae*–b follows:

Figure 3 to Family Rubiaceae: *Psychotria malaspinae* (Aplokhating Palaoan) paragraph (7)(ii)

Critical Habitat for *Psychotria malaspinae* (Aplokhating palaoan)
Guam 14–*Psychotria malaspinae*–b
Guam, Territory of Guam



* * * * *

(b) * * *

Family Cycadaceae: *Cycas micronesica* (Fadang, Faadang).

(i) Critical habitat units are depicted for Rota within the Commonwealth of the Northern Mariana Islands and Guam within the Territory of Guam, on the maps in this entry.

(ii) Within these areas, the physical or biological features essential to the conservation of *Cycas micronesica* consist of the following components:

(A) Closed-canopy native limestone or volcanic forests with native vegetation such as (but not limited to) *Hibiscus tiliaceus* (sea hibiscus, pago), *Morinda citrifolia* (lada, noni, Indian mulberry), *Psychotria mariana* (aploghating, aplokhating), *Aidia* spp., *Aglaia* spp., *Ficus* spp., *Melanolepis multiglandulosa* (alom), *Pandanus* spp., and *Pipturus* spp.

(B) Closed-canopy native coastal strand forest with sandy soils and native vegetation such as *Barringtonia asiatica* (puting, fish poison tree), *Bikkia tetrandra* (torchwood, gausali), *Casuarina equisetifolia* (gagu, gago, weighu, beach sheoak, or common ironwood), *Cocos nucifera* (niyok, coconut), *Hernandia nymphaeifolia* (doko, Hernandia, Jack-in-the-box, lantern tree, nonak), *Hibiscus tiliaceus, Ipomoea pes-caprae* (halaihai, goats foot morning glory, bayhops, beach morning glory, railroad vine), *Mammea odorata* (chopak, chopag), *Pemphis acidula* (bantigue, nigas), *Scaevola taccada* (*beach naupaka,* beach cabbage), *Sesuvium portulacastrum* (sea purslane), *Sporobolus virginicus* (seashore dropseed), *Thespesia populnea* (banalo, binalo, Pacific rosewood, Portia tree), *Thuarea involuta* (kuroiwa grass, tropical beachgrass, bird's beak grass), and *Vigna marina* (akankang manulasa, akangkang malolusa, nanea, beach pea).

(C) Native pollinators such as moths and beetles, and native vegetation to support them.

(D) Native seed dispersers such as birds and fruit bats.

(iii) Critical habitat does not include manmade structures (such as buildings or paved areas including aqueducts, runways, or roads) and the land on which they are located existing within

the legal boundaries on the effective date of the final rule.

(iv) Data layers defining map units were created using survey and distribution data provided by multiple local and regional sources as available (*e.g.,* reports, databases, and species experts' knowledge) and as maintained by universities, local governments, and nonprofit organizations across the Mariana Islands. Landcover data (*e.g.,* soil substrate, vegetation, and elevation) were obtained and compiled from multiple Federal and local government agencies. Temperature and precipitation data were obtained and compiled from journal publications. Landforms were primarily delineated based on the most currently available aerial maps and satellite imagery. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site at *https://www.fws.gov/project/critical-habitat-mariana-islands,* at *https://www.regulations.gov* at Docket No. FWS–R1–ES–2024–0194, and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(v) The following index maps show the general locations of critical habitat units for all plant species designated on each island, with each location/area on each island identified as a specific number on the index maps. These island location/area numbers allow for comparison of overlapping critical habitat units for other listed species within the same location.

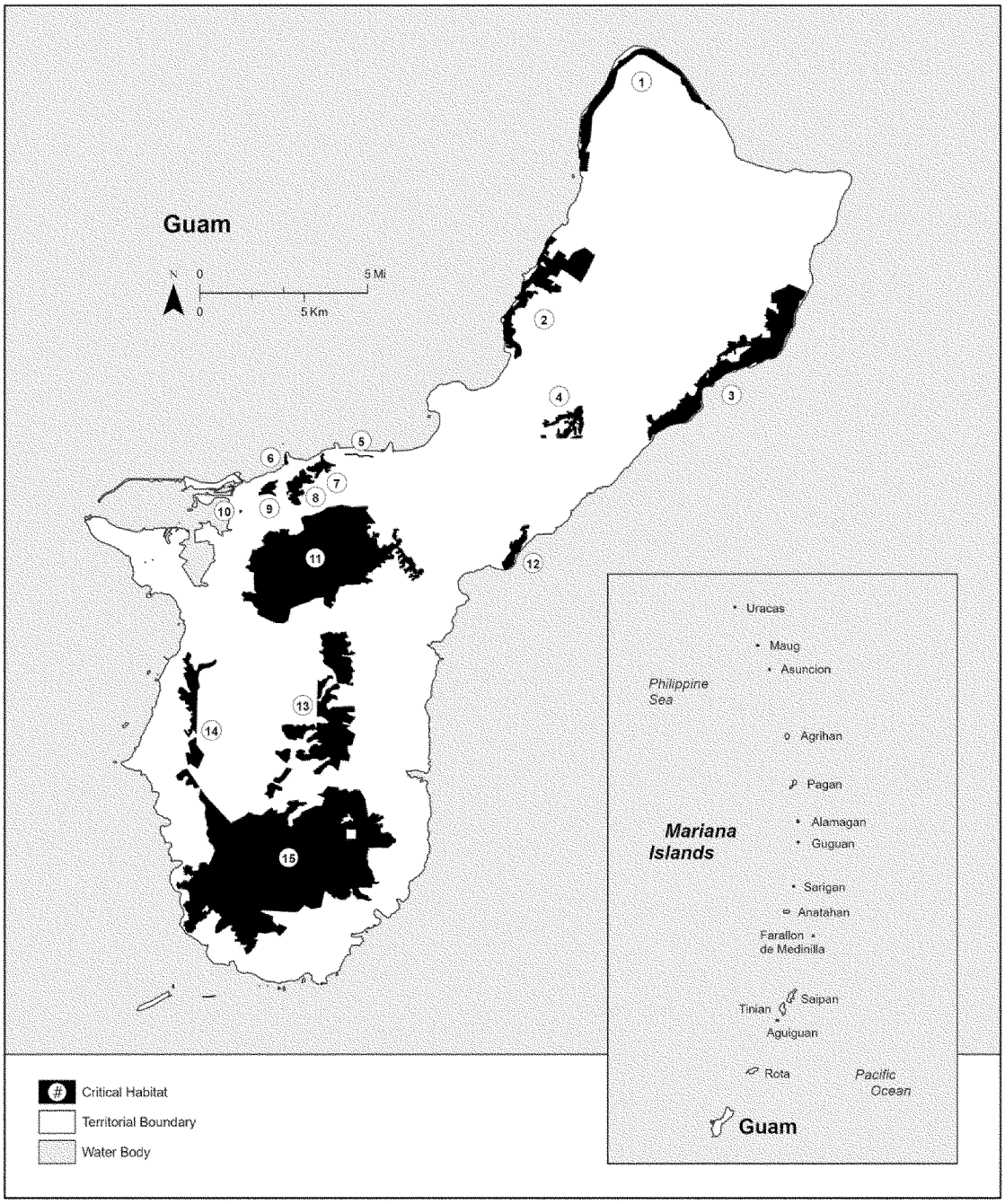
(A) Each critical habitat unit name comprises an island name, a number corresponding to a specific geographic location/area on the applicable island, which may include overlapping units for different species, the species name, and a letter. The letter at the end of each critical habitat unit name corresponds to the number of units present on a given island, where each escalating letter for each island corresponds to the additive number of units per island for the species. Critical habitat for *Cycas micronesica* includes one unit on the island of Rota and six units on the island of Guam, for a total of seven critical habitat units.

(B) Index maps follow:

Figure 1 to Family Cycadaceae: *Cycas micronesica* (Fadang, Faadang) paragraph (b)(2)(v)(B)

Figure 2 to Family Cycadaceae: *Cycas micronesica* (Fadang, Faadang) paragraph (b)(2)(v)(B)

Critical Habitat
Index Map for Plants on the Islands of Guam,
Territory of Guam



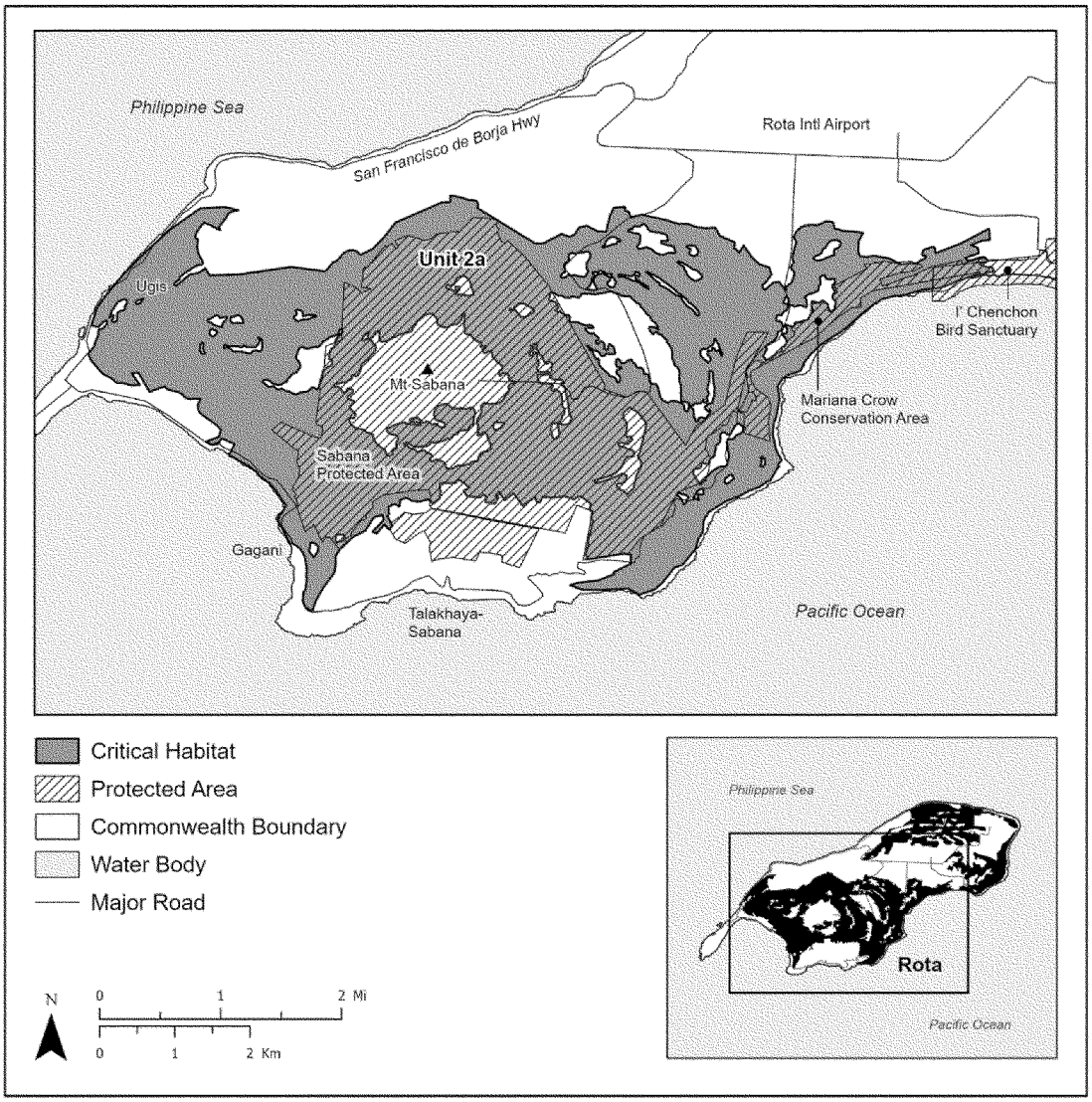
(vi) Rota 2—*Cycas micronesica*–a, Commonwealth of the Northern Mariana Islands.

(A) The single critical habitat unit (2a) on the island of Rota consists of 6,875 ac (2,782 ha) and is composed of limestone forest in the south of the island. This unit extends south of the Rota International Airport, stretches east to the I'Chenchon Bird Sanctuary, and flanks the Talakhaya-Sabana watershed to the south (encompassing parts of the Sabana Protected Area, Mariana Crow Conservation Area, and I'Chenchon Bird Sanctuary) and east to Ugis. The unit does not include developed areas, grasslands, and Mt. Sabana. Land-ownership consists of 5,806 ac (2,350 ha) of land owned by the Commonwealth government, 1,039 ac (420 ha) in private ownership, and 30 ac (12 ha) that are uncategorized.

(B) Map of Rota 2–*Cycas micronesica*–a follows:

Figure 3 to Family Cycadaceae: *Cycas micronesica* (Fadang, Faadang) paragraph (b)(2)(vi)(B)

Critical Habitat for *Cycas micronesica* (Fadang, Faadang)
Rota 2–*Cycas micronesica*–a
Rota, Commonwealth of the Northern Mariana Islands



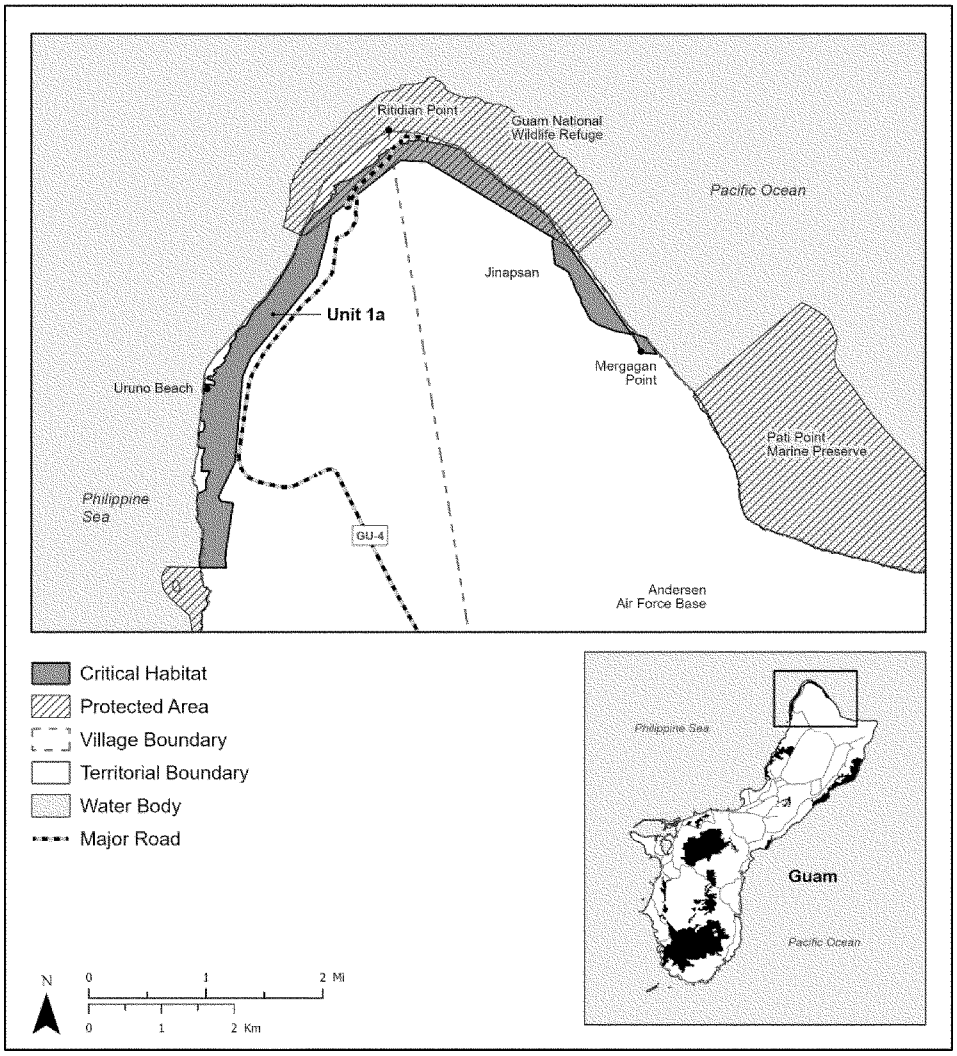
(vii) Guam 1—*Cycas micronesica*–a, Territory of Guam.

(A) Unit 1a on the island of Guam consists of 856 ac (346 ha) and is composed of a band of secondary limestone forest in a horseshoe-shape on the northwestern point of the island (Ritidian Point). The unit extends from the southwestern boundary south of Urunao Beach and runs north along the cliffline towards Jinapsan ending at Mergagan Point. Landownership includes 262 ac (106 ha) of Federal lands (Guam NWR), 68 ac (27 ha) of Territory government lands, 408 ac (165 ha) in private ownership, and 118 ac (48 ha) that are uncategorized.

(B) Map of Guam 1—*Cycas micronesica*–a follows:

Figure 4 to Family Cycadaceae: *Cycas micronesica* (Fadang, Faadang) paragraph (b)(2)(vii)(B)

Critical Habitat for *Cycas micronesica* (Fadang, Faadang)
Guam 1–*Cycas micronesica*–a
Guam, Territory of Guam



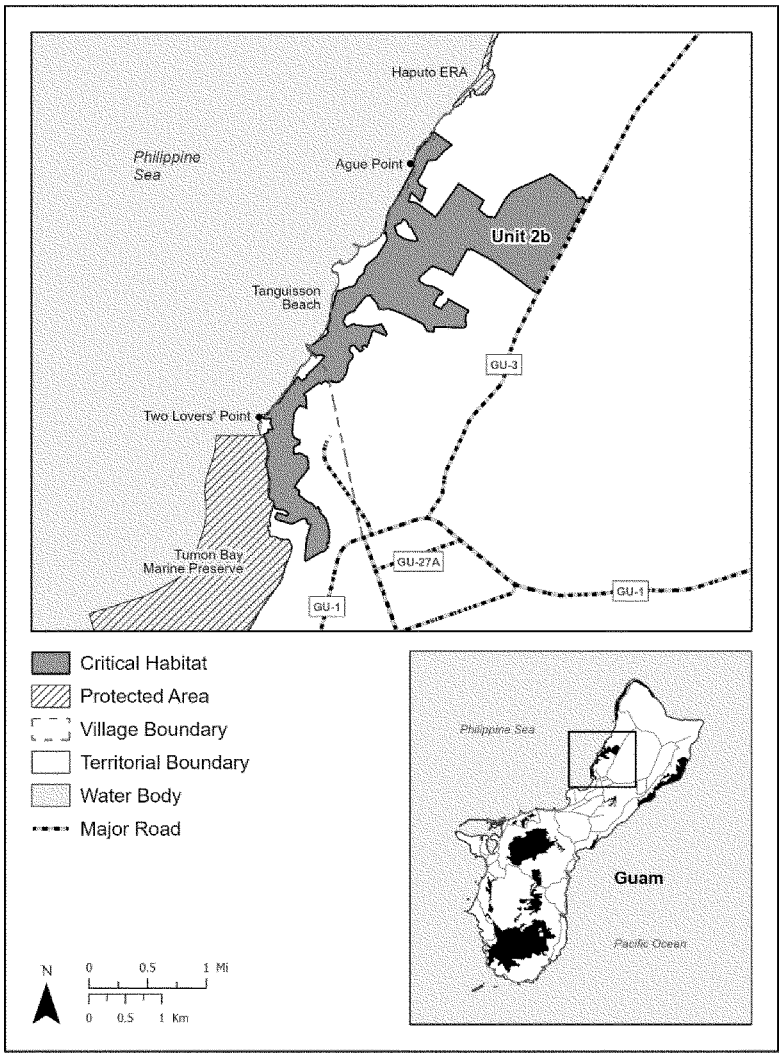
(viii) Guam 2—*Cycas micronesica*–b, Territory of Guam.

(A) Unit 2b on the island of Guam consists of 1,245 ac (504 ha) and is composed of limestone forests along the northwestern edge of the island. The unit lies west of Route 3 and extends from the clifflines overlooking Tumon Bay west of Route 1 and runs north to Ague Point. Landownership includes 1,081 ac (437 ha) of Territory government lands, 108 ac (44 ha) in private ownership, and 56 ac (23 ha) that are uncategorized.

(B) Map of Guam 2—*Cycas micronesica*–b follows:

Figure 5 to Family Cycadaceae: *Cycas micronesica* (Fadang, Faadang) paragraph (b)(2)(viii)(B)

Critical Habitat for *Cycas micronesica* (Fadang, Faadang)
Guam 2–*Cycas micronesica*–b
Guam, Territory of Guam



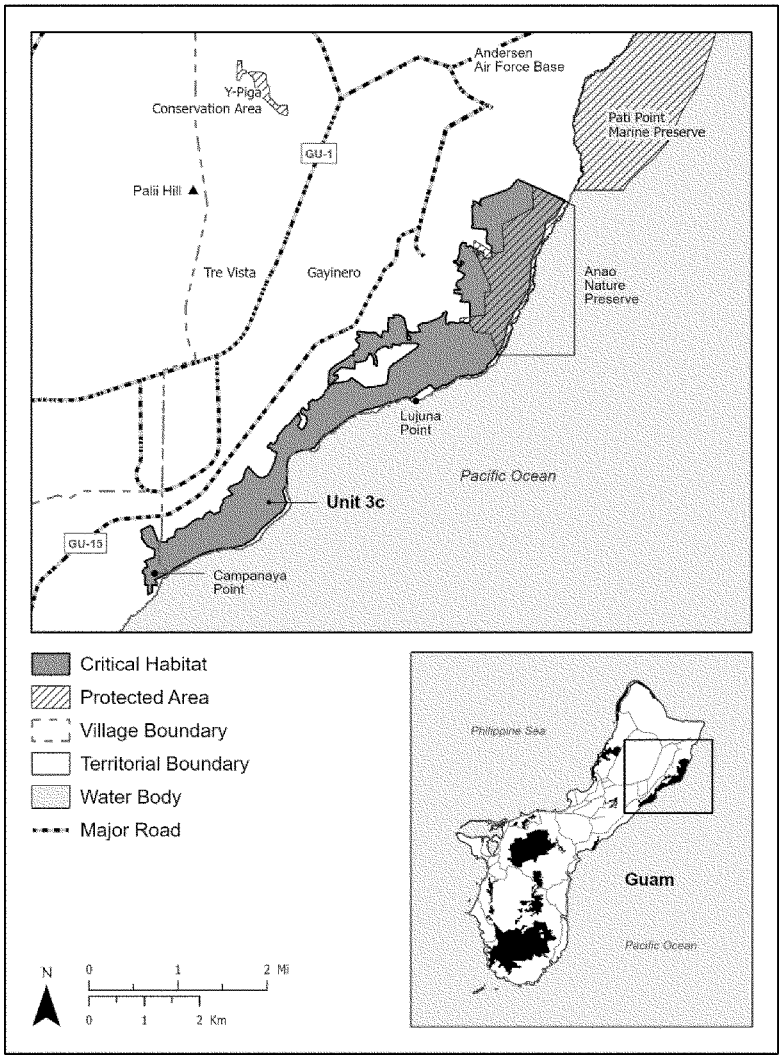
(ix) Guam 3—*Cycas micronesica*—c, Territory of Guam.

(A) Unit 3c on the island of Guam consists of 2,166 ac (877 ha) and is composed of limestone forests along the northeast coastal edge of the island. The unit begins at the boundary of the Anao Nature Preserve (which is immediately adjacent to the southern end of the Guam NWR boundary) and extends southwest along the coast to Campanaya Point. Landownership includes 1,549 ac (627 ha) of Territory government lands, 270 ac (109 ha) in private ownership, and 347 ac (141 ha) that are uncategorized. The northeastern portion of this unit overlaps the Anao Nature Preserve.

(B) Map of Guam 3—*Cycas micronesica*—c follows:

Figure 6 to Family Cycadaceae: *Cycas micronesica* (Fadang, Faadang) paragraph (b)(2)(ix)(B)

Critical Habitat for *Cycas micronesica* (Fadang, Faadang)
Guam 3–*Cycas micronesica*–c
Guam, Territory of Guam



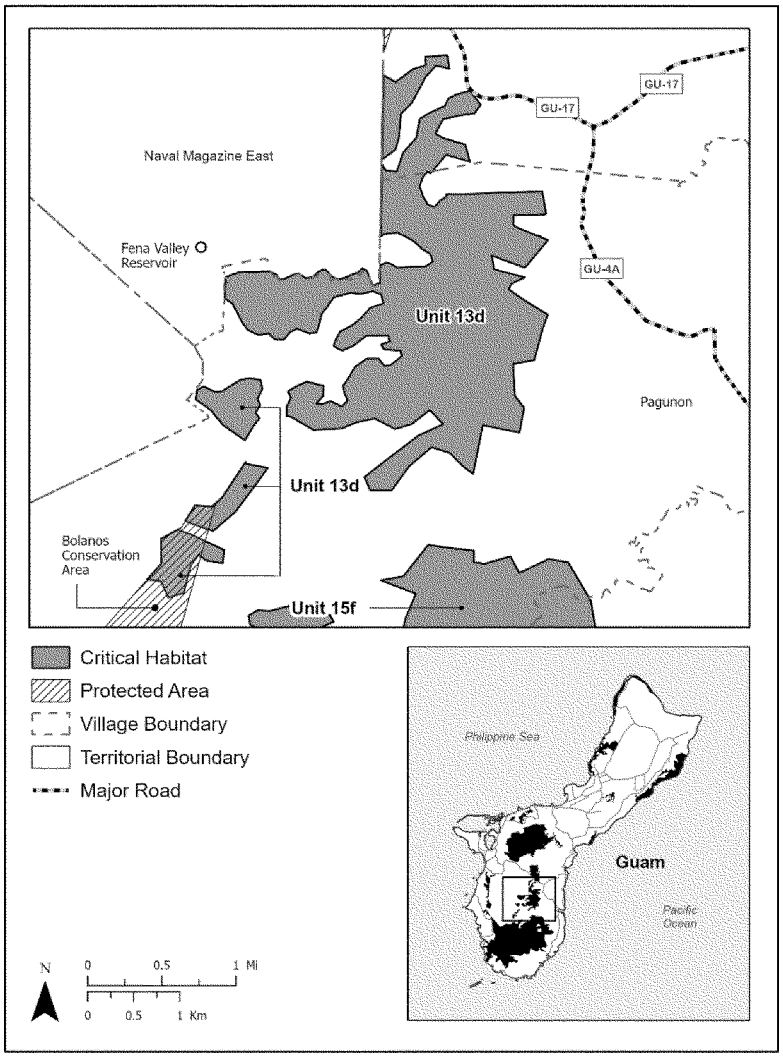
(x) Guam 13—*Cycas micronesica*–d, Territory of Guam.

(A) Unit 13d on the island of Guam consists of 1,726 ac (698 ha) and is composed of four segments of volcanic forests on the southeastern side of the island. The unit extends from Route 17 south past Naval Magazine East and Fena Valley Reservoir along the western boundaries and towards Pagunon on the eastern boundary. The unit also extends along the Maagas, Mahlac, and Sagge Rivers and their tributaries (which are not represented on the map due to unavailable data layers). Landownership includes 142 ac (57 ha) of Territory government lands, 859 ac (348 ha) in private ownership, and 725 ac (293 ha) that are uncategorized. This unit overlaps the Bolanos Conservation Area.

(B) Map of Guam 13—*Cycas micronesica*–d follows:

Figure 7 to Family Cycadaceae: *Cycas micronesica* (Fadang, Faadang) paragraph (b)(2)(x)(B)

Critical Habitat for *Cycas micronesica* (Fadang, Faadang)
Guam 13–*Cycas micronesica*–d
Guam, Territory of Guam



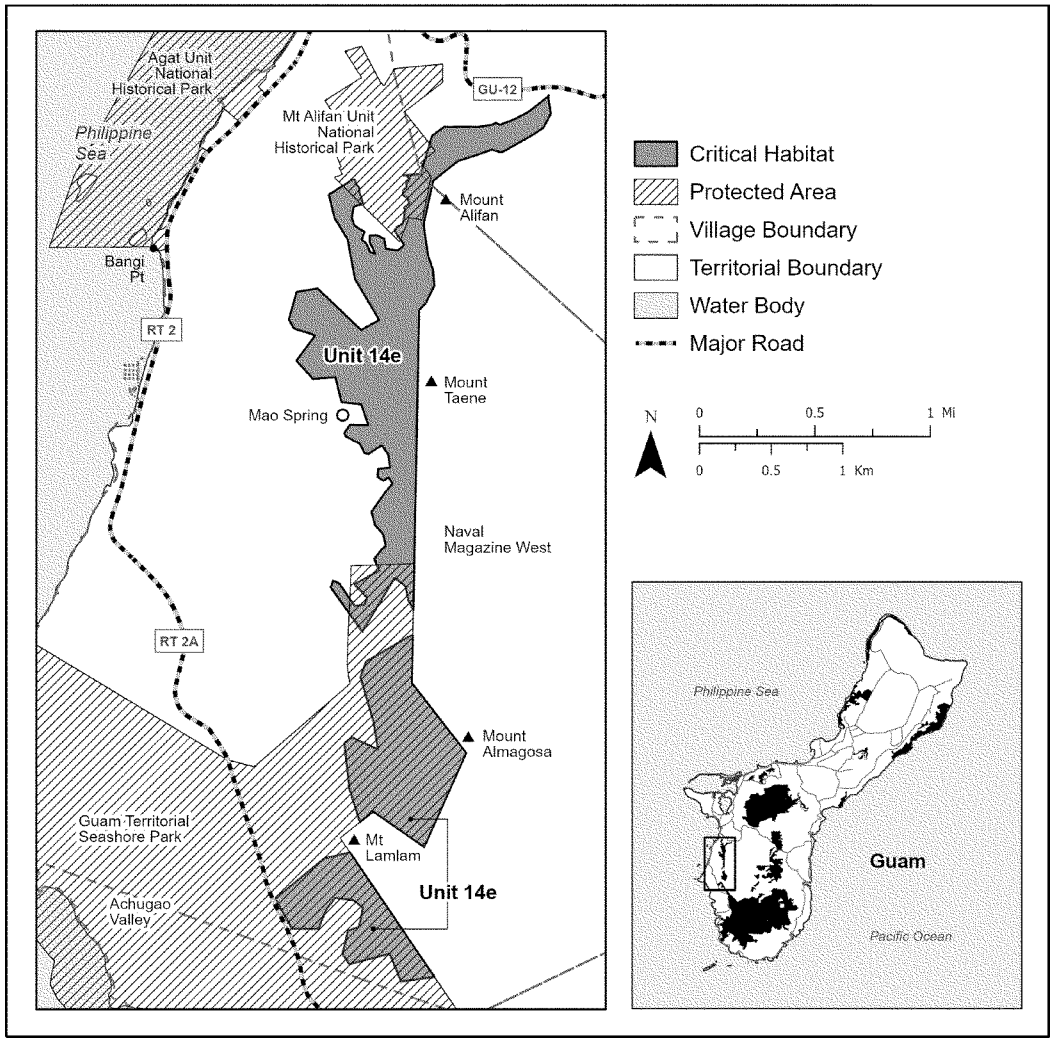
(xi) Guam 14—*Cycas micronesica*–e, Territory of Guam.

(A) Unit 14e on the island of Guam consists of 629 ac (254 ha) and is composed of three segments of limestone forests on the southwestern side of the island. The unit extends from Route 12 and Mt. Alifan in the north, running along the border of Naval Magazine West and ending south of Mt. Lamlam at Route 2A. Landownership includes 16 ac (6 ha) of Federal lands (War in the Pacific National Historical Park), 84 ac (34 ha) of Territory government lands, 344 ac (139 ha) in private ownership, and 185 ac (75 ha) that are uncategorized. The northern portion of the unit overlaps the Mt. Alifan Unit of War in the Pacific National Historical Park. The southern portion of the unit overlaps the Guam Territorial Seashore Park.

(B) Map of Guam 14—*Cycas micronesica*–e follows:

Figure 8 to Family Cycadaceae: *Cycas micronesica* (Fadang, Faadang) paragraph (b)(2)(xi)(B)

Critical Habitat for *Cycas micronesica* (Fadang, Faadang)
Guam 14–*Cycas micronesica*–e
Guam, Territory of Guam



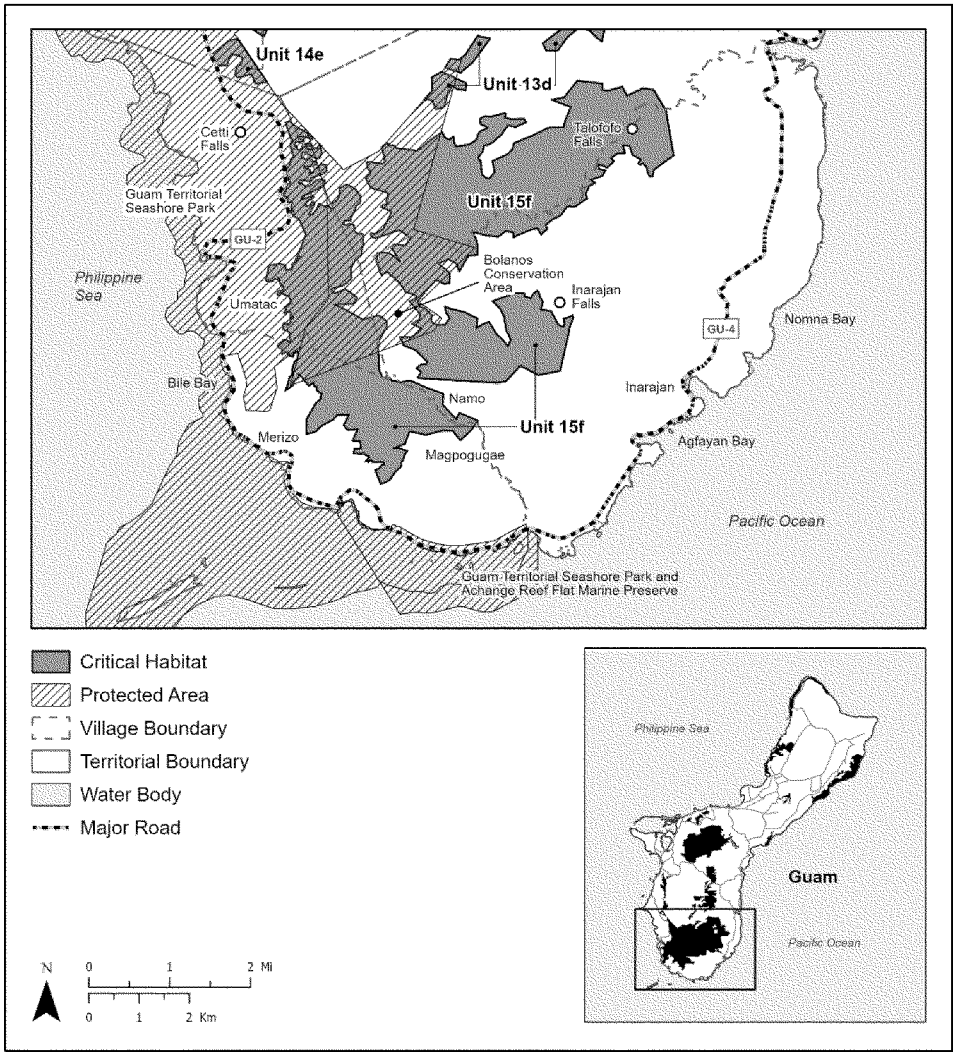
(xii) Guam 15—*Cycas micronesica*–f, Territory of Guam.

(A) Unit 15f on the island of Guam consists of 6,148 ac (2,488 ha) and is composed of volcanic forests in the southern part of the island. The unit runs from the north of Talofofo Falls along the Ugum and Bubulao Rivers to the south of Namo and runs from the east of Route 2 along the Dante River to Inarajan Falls (the rivers of which are not represented on the map due to unavailable data layers). Another portion of the unit stretches from Cetti Falls in the north through the Bolanos Conservation Area to Magpogugae in the south. Landownership includes 919 ac (372 ha) of Territory government lands, 3,612 ac (1,462 ha) in private ownership, and 1,617 ac (654 ha) that are uncategorized. The central portion of the unit overlaps the Bolanos Conservation Area, and the western portion of the unit overlaps the Guam Territorial Seashore Park.

(B) Map of Guam 15—*Cycas micronesica*—f follows:

Figure 9 to Family Cycadaceae: *Cycas micronesica* (Fadang, Faadang) paragraph (b)(2)(xii)(B)

Critical Habitat for *Cycas micronesica* (Fadang, Faadang)
Guam 15–*Cycas micronesica*–f
Guam, Territory of Guam



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Brian Nesvik,
Director, U.S. Fish and Wildlife Service.
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