

Overview of Invasive Species Issues on Guam

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<https://github.com/aubreymoore/PESC-OIA-overview/raw/main/guam-overview.pdf>

Hafa Adai



Priority Issues

Guam's natural ecosystems, especially Guam's forests, are rapidly being destroyed by invasive species.

Priority Issue 1: Brown treesnake



Courtesy of USGS

Forest Birds before BTS



Forest Birds after BTS



Priority Issue 1: Brown treesnake - Impacts

- Guam's forest bird species are either extinct or on the endangered species list.
- Forest health is severely impacted by the ecosystem services that these birds provided: seed dispersal, insect control, pollination, etc.

Priority Issue 1: Brown treesnake - Current status

- Established as an invasive species only on Guam since the late 1940s
- Millions of dollars per year are spent on preventing BTS from leaving Guam.
- Some funds are being used for control methods development: snake-proof barriers and "pinkies on parachutes".

Priority Issue 2: Asian Cycad Scale



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Priority Issue 2: Cycad aulacaspis scale - Impacts

- Cycad aulacaspis scale, and other invasive species, have killed about 90% of Guam's endemic *Cycas micronesica* plants and the population is not recovering because natural reproduction is not occurring.
- *C. micronesica* went from being the most numerous tree in Guam's forests in 2002 to being placed on the National Endangered Species list in 2016

Priority Issue 2: Cycad aulacaspis scale - Current status

- Established in Hawaii, CNMI, Palau; Cycad population on Yap at great risk.
- Cycad aulacaspis scale is partially controlled by introduced predators and parasites on Guam, but almost all seeds and seedlings are being killed by the scale insect.

Priority Issue 3: Coconut rhinoceros beetle



Oryctes rhinoceros Biotype G

Priority Issue 3: Coconut rhinoceros beetle (CRB)

Priority Issue 4: Little fire ant (LFA)



Challenges

- Professional scientific/technical capacity is low
- Guam suffers from the *taxonomic impediment*
- Guam does not have a terrestrial biodiversity inventory

Funding sources

- Department of Interior - Office of Insular Affairs
- USDA - Forest Service
- USDA - APHIS
- DOD
- Government of Guam - Invasive Species Tarrif

National/Territorial Invasive Species Plans

- Guam Invasive Species Management Plan <https://www.sprep.org/attachments/VirLib/Guam/nissap-2017-2019.pdf>
- Regional Biosecurity Plan for Micronesia and Hawaii
<https://pacific.navfac.navy.mil/About-Us/Regional-Biosecurity-Plan-for-Micronesia-and-Hawaii/>

Next steps

- Implement action items in the Guam Invasive Species Management Plan and the Regional Biosecurity Plan for Micronesia and Hawaii

The End - Thanks for listening.

**Invasive species aren't all bad.
They provide job security for biologists.**

