



**MODEL SPECIES PROTECTION POLICY
IN THE USAPR: A HAWAI'I CASE
STUDY**

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Introduction

In 2021, the U.S. Department of the Interior's Office of Insular Affairs (OIA) announced that \$1,541,421 in grant money would be awarded to combat invasive species as part of a larger endeavor to reduce the negative impacts of climate change. Although this is a step in the right direction, there needs to be a concerted effort to coordinate resources and promote biosecurity policy. This paper argues Hawai'i is uniquely positioned in the US-affiliated Pacific Region (USAPR) to serve as a leader in these efforts, with locally-based institutions like the East-West

Center positioned to act as a liaison to produce cohesive policy.

The USAPR are defined as the Commonwealth of the Northern Mariana Islands (CNMI), the incorporated Territory of Guam, and the unincorporated Territory of American Samoa, all of which fall under the sovereignty of the United States (U.S.).¹ In addition, the three sovereign states of the Compact of Free Association (COFA) are included in the designation. The USAPR covers a diversity of endemic flora and fauna unique to the region which are particularly vulnerable to species loss as a consequence of both climate change and introduced species due to human transportation. According to the Pacific Island Regional Climate Assessment (PIRCA), "Despite the small size of most Pacific Islands, the combined exclusive economic zones (EEZ) of the region's island polities encompass an area four times the size of the contiguous United States, making this region of great importance to the nation as a whole."² Therefore, maintaining good relations with the USAPR is vital for the U.S.'s maritime trade economy and transportation. The Pacific region is geographically subdivided into three sections: the Western North Pacific, the Central North Pacific, and the Central South Pacific.

This paper argues the State of Hawai'i must explicitly assert a leadership position in the USAPR's conservation efforts through contemporary discourse over regional biosecurity. Such efforts should align with the State of Hawai'i's aggressive goals concerning climate change, as evidenced by the State of Hawai'i Climate Change Mitigation and Adaptation Commission's annual report to the Hawai'i State Legislature, which calls for the State of Hawai'i "to help ratchet up [climate action] ambition abroad, and buckle down to work on adaptation actions at home."³ Conservation is a critical facet of climate adaptation, especially in those communities

¹ The phrases connoting the USAPR is used typically in scientific circles, and it is the most convenient phrase in the confines of this paper. It should be noted that Hawai'i is not always included in the USAPR, as it is not affiliated with the U.S. in an 'insular' capacity so much as it is part of the Union. See "Drought in the U.S. Affiliated Pacific Islands," United States Geological Survey, accessed August 14, 2022, <https://www.usgs.gov/ecosystems/climate-adaptation-science-centers/drought-us-affiliated-pacific-islands>.

²Hawaii and the US Affiliated Pacific Islands
<https://pirca.org/about/pacific-islands/>

³ Hawaii Climate Change Mitigation and Adaptation Commission, "Report to the Thirty-First Legislature of the State of Hawai'i, Regular Session of 2022" (Honolulu, November 2021), 15, <https://climate.hawaii.gov/wp-content/uploads/2021/11/Climate-Change-Commission-Rpt-FY21-Sec-225P-3k.pdf>.

directly threatened by rapidly challenged ecosystem(s).⁴ When taken wholesale, the unique island ecosystems of each polity within the USAPR confront overlapping challenges, making efforts towards conservation an ideal source of cooperation and dialogue.

As the host of the East-West Center, the Joint Indo-Pacific Command of the U.S. military, and other federally-funded organizations, the Hawaiian archipelago is already strategically positioned as an influential logistical base in the Asia-Pacific Region. However, this project is focused on a specific area directly influenced by the U.S. through the status of its entities as (1) a U.S. state, (2) territories of the American Union, or (3) sovereign states entered into the COFA with the U.S. Federal Government.

Case Study Species: The Diverse Scales of Model Species Protection

Although there are a wide variety of invasive species that harm economic and cultural livelihoods in the USAPR, we identify and analyze three species which are particularly harmful throughout the region as areas where collective discourse on model species is feasible.

The Coconut Rhinoceros Beetle (*Oryctes rhinoceros*) is an invasive species that is known to afflict Guam, American Samoa, and Hawai'i. In the time span of five years (2007-2012), the Coconut Rhinoceros Beetle became widespread in Guam. On O'ahu in Hawai'i, it is known to be at the Joint Base Pearl Harbor-Hickam, Diamond Head, Barbers Point, and the Campbell Industrial Park.⁵ The beetle bores into the crown of palms where it consumes the sap of the plant, thereby hindering the plant's ability to produce fruit and can kill the tree. It is known to feed on commercially important crops such as coconut palms,

bananas, sugarcane, papayas, sisal, pineapples, and date palms.⁶ The Coconut Rhinoceros Beetle also threatens native palm species which are already under pressure of extinction due to climatic shifts in temperature, moisture, and inclement weather. Initial transfer of the Coconut Rhinoceros Beetle is thought to come from untreated mulch, waste, or human and cargo transportation. Stakeholders in Australia, New Zealand, the United States, and private entities across the various Pacific island polities are coordinating to make an effective plan to reduce the threat of *Oryctes rhinoceros*.⁷

Brown Tree Snakes (*Boiga irregularis*) require preventative measures which are necessary to keep the snake from reaching other islands in the USAPR. Currently, the Brown Tree Snake is only found as an invasive species in Guam and its native range in Indonesia, Australia, and nearby islands. In Guam, the Brown Tree Snake has extirpated 13 of the 22 native avian species and similarly eradicated some native bat and lizard species.⁸ Conservation Biologists Rodda and Savidge (2007) indicate that "cargo destinations most at risk are in Micronesia, especially the Northern Mariana Islands, but Guam also has direct air transportation links to Hawai'i that will soon be supplemented with direct ship traffic. Ultimately, all Pacific islands are at risk but especially those obtaining cargo through Guam." Additionally, the snakes climb onto power lines, causing power outages, damaging electrical equipment, and costing an estimated \$1.7 billion in damages annually in Guam.⁹ Thus, it is imperative for the region to have the resources to remain vigilant against the spread of the Brown Tree Snake.

Cats (*felis catus*) threaten endemic species vulnerable to extinction, especially in fragile island ecosystems. Current humane society resources are lacking and

⁴ Callum M. Roberts, Bethan C. O'Leary, and Julie P. Hawkins, "Climate Change Mitigation and Nature Conservation Both Require Higher Protected Area Targets," *Philosophical Transactions of the Royal Society B: Biological Sciences* 375, no. 1794 (March 16, 2020): 20190121, <https://doi.org/10.1098/rstb.2019.0121>.

⁵ HDOA Coconut Rhinoceros Beetle Fact Sheet <https://hdoa.hawaii.gov/pi/main/crb/>

⁶ USDA APHIS Coconut Rhinoceros Beetle Facts <https://www.aphis.usda.gov/aphis/resources/pests-diseases/hungry-pests/the-threat/coconut-rhinoceros-beetle/hp-crp>

⁷ A Pacific Battle to Eradicate the Coconut Rhinoceros Beetle (2017) <https://www.spc.int/updates/blog/2017/10/a-pacific-battle-to-eradicate-the-rhinoceros-beetle>

⁸ Rodda, Gordon and Julie Savidge. Biology and Impacts of Pacific Island Invasive Species. 2. *Boiga irregularis*, the Brown Tree Snake (Reptilia: Colubridae) 2007. [https://bioone.org/journals/pacific-science/volume-61/issue-3/1534-6188\(2007\)61%5B307%3ABAIOP%5D2.0.CO%3B2/Biology-and-Impacts-of-Pacific-Island-Invasive-Species-2-Boiga/10.2984/1534-6188\(2007\)61\[307:BAIOP\]2.0.CO;2.full](https://bioone.org/journals/pacific-science/volume-61/issue-3/1534-6188(2007)61%5B307%3ABAIOP%5D2.0.CO%3B2/Biology-and-Impacts-of-Pacific-Island-Invasive-Species-2-Boiga/10.2984/1534-6188(2007)61[307:BAIOP]2.0.CO;2.full)

⁹ See footnote 8.

unable to accommodate cat colonies in places such as university lands or managed wildlife territory. *Felis catus*, especially those that are feral, wreck habitats across the USAPR. *Toxoplasma gondii*, a protozoa which exclusively reproduces in cat intestines, is a major threat to native wildlife. In particular, it is considered one of the “Big Three” dangers to Hawaiian Monk Seals and kills about 5% of native avifauna on insular polities.¹⁰ The issue remains controversial in Hawai‘i, as most recently evidenced by a piece of state legislation (HB 1987) directly targeting feral cats proposed by State Representative Patrick Pihana Branco (D-50).¹¹

Policy Discussion

The State of Hawai‘i must utilize existing tools within its shores to convene a regional plan for addressing biosecurity issues across the region. To that effect, this project recommends that the State of Hawai‘i, through existing entities like the Hawai‘i Invasive Species Council (HISC) of the Department of Land and Natural Resources (DLNR) and plans such as the Hawai‘i Interagency Biosecurity Plan (HIBP) established under the leadership of the DLNR and the Department of Agriculture (DOA),¹² enlist institutions like the Pacific Islands Development Program (PIDP) – or another appropriate federal entity – in the formation of a USAPR-based strategy for dealing with the formulation of this regional plan.

Precedent confirms there is room for a concerted strategy directed by Hawai‘i elected officials serving in state and federal capacities in a biosecurity capacity. The U.S. Navy Facilities Engineering Systems Command’s (NAVFAC) Regional Biosecurity Plan for Micronesia and Hawaii is a model that demonstrates the feasibility of our proposal and its relevance to continued U.S. national security strategy in the region.¹³ Funded by NAVFAC, the plan is an expansive, four-part document of over thirteen-

hundred pages. While NAVFAC implicitly assumed responsibility for the plan, they also recognized its limitations. “The spatial scale for this plan is extremely broad,” the mission statement acknowledges, ‘encompassing most of Micronesia and the archipelago of Hawaii.’ Furthermore, the plan’s “overall approach is unprecedented due to the broad geographic and taxonomic scope, as well as inclusion of multiple countries and cultures.” The area defined as Micronesia in this plan constitutes the three sovereign COFA states and the U.S. territories of the Mariana Islands (Guam and the CNMI), with specific recommendations even attached to each state of the FSM (Chuuk, Kosrae, Pohnpei, and Yap). NAVFAC’s funding for this plan is a foundation for a USAPR-based biosecurity framework, albeit without American Samoa.

The State of Hawai‘i must engage with the East-West Center on formulating a policy of substantive engagement with other members of the USAPR community. The next gubernatorial administration should designate – officially or not – a liaison to the East-West Center to determine steps for more active engagement in regional policy-making. The East-West Center is the Secretariat of the Pacific Islands Conference of Leaders (PICL), granting them unique influence over the convening of USAPR leaders to discuss issues such as biosecurity.¹⁴ The most recent foundational strategy of the East-West Center identifies their desire to promote themselves as an “active hub for Pacific Islands expertise in the areas of culture and arts, economics, civil society, government, environment, and sustainability; a platform to amplify Pacific Islands voices; and a bridge between the region and partners.”¹⁵

In June 2015, former Hawai‘i state Senator Joshua Green (now-2022 Hawai‘i Democratic Gubernatorial Nominee) filmed a video with two Micronesian leaders in Hawai‘i concerning the necessity of

¹⁰ The Toll of Toxoplasmosis (2020)

[https://www.fisheries.noaa.gov/feature-story/toll-toxoplasmosis-
protozoal-disease-has-now-claimed-lives-12-monk-seals-and-left](https://www.fisheries.noaa.gov/feature-story/toll-toxoplasmosis-protozoal-disease-has-now-claimed-lives-12-monk-seals-and-left)

¹¹ HB 1987

https://www.capitol.hawaii.gov/session2022/bills/HB1987_.HTM

¹² <https://dlnr.hawaii.gov/hisc/plans/hibp/>

¹³ [https://pacific.navy.mil/About-Us/Regional-Biosecurity-
Plan-for-Micronesia-and-Hawaii/](https://pacific.navy.mil/About-Us/Regional-Biosecurity-Plan-for-Micronesia-and-Hawaii/).

¹⁴ “Pacific Islands Development Program to Convene 12th Pacific Islands Conference of Leaders in September.” 2022. East-West Center. August 11, 2022. <https://www.eastwestcenter.org/news-center/news-releases/pacific-islands-development-program-convene-12th-pacific-islands>.

¹⁵ “East-West Center Foundational Strategy 2023-2027.” 2022. *East-West Center*, August 2022., See priority three. [https://www.eastwestcenter.org/publications/east-west-center-
foundational-strategy-2023-2027](https://www.eastwestcenter.org/publications/east-west-center-foundational-strategy-2023-2027)

bolstering relations between the two regions of the USAPR.¹⁶ While unofficial networks already exist through (1) the East-West Center's auxiliary programs and (2) appointed Board-of-Governors, a specific point-person should exist in the next administration to continually review and confirm progress on regional dialogue covering issues like conservation and biosecurity. This strategy should be borne carefully in light of newly-installed President Suzanne Vares-Lum's five-part strategy articulating the future of the East-West Center over the next five years.¹⁷ Furthermore, the administration should direct the Director of the Department of Business, Economic Development, and Tourism (DBEDT) to investigate how the State of Hawai'i's sister-state program might incorporate other members of the USAPR into the program's existing framework.¹⁸

The Hawai'i U.S. Congressional Delegation should incorporate funding for USAPR efforts into their appropriations requests at the Federal level. Hawai'i is the only part of the USAPR with voting members in the U.S. Congress. As of August 2022, U.S. Representative Edward E. Case is a member of the House Appropriations Committee, while U.S. Senator Brian Schatz is a member of the Senate Committee on Appropriations, granting the State of Hawai'i influence over federal funding appropriations at the national level. Given the geographical location of the USAPR relative to U.S. security concerns in Asia, defense and natural resource matters will likely continue to converge on policy regional agendas in the form of biosecurity.

The State of Hawai'i's Invasive Species Council (HISC) continues to monitor the NAVFAC Regional Biosecurity Plan and the ways they can meet the plan's expectations.¹⁹ As the largest part of the

USAPR, their role in the plan's success is critical. This is where the lack of data on how each part of the USAPR impedes a comprehensive summation of the issue. For that matter, American Samoa's separation from the rest of the USAPR in dialogue concerning this plan is disappointing, considering their efforts to deal with invasive species.²⁰ The State of Hawai'i, with the assistance of the East-West Center and such organizations as the Pacific Islands Development Program, which functions as the Secretariat of the Pacific Island Conference of Leaders (PICL) and is slated to host a conference for the group in September 2022, is poised to incorporate American Samoa into future conversations.²¹ These efforts are in line with the East-West Center's ambition to play a more aggressive role in policy conversations concerning such issues as climate change, especially in the context of an ascendant People's Republic of China (PRC).²²

As evidenced by the spread of the Coconut Rhinoceros Beetle and Brown Tree Snake, plant certifications, inspections, and quarantine practices continue to be vital in preventing non-native invertebrates from becoming established invasive species. This includes having certification processes for local nurseries to show that they abide by good importation practices to keep the island's ecology safe. Stable funding is essential to have lasting effects, especially in regards to invasive species that reproduce quickly and can cause significant damages in a short period of time. The U.S. DOI has previously given awards to control invasive species. One award from 2020 gave \$942,206 to support efforts in Guam, Commonwealth of the Northern Mariana Islands, Republic of Palau, and Yap, in the Federated States of Micronesia (FSM) to eradicate invasive species such as the Coconut Rhinoceros Beetle, feral cats, monitor

¹⁶ *Shared Responsibility: Hawaii and Micronesia with Sheldon Riklon and Joakim "Jojo" Peter*, 2015, <https://www.youtube.com/watch?v=MNbnwK5bQkw>.

¹⁷ The strategy is scheduled to be unveiled on August 23, 2022. For more information, please see the official announcement: <https://www.eastwestcenter.org/events/ewcs-new-five-year-strategic-plan-featuring-president-vares-lum>

¹⁸ "Hawaii's Sister-States," Department of Business, Economic Development, and Tourism,, <https://invest.hawaii.gov/international/sister-states/>.

¹⁹ The State of Hawai'i's HISC continues to monitor the plan in order to determine how they are meeting the plan's expectations: <https://dlnr.hawaii.gov/hisc/plans/rbp/>.

²⁰ "American Samoa Invasive Species Strategy and Action Plan" (The Department of Marine and Wildlife Resources, American Samoa Government, 2017), <https://library.sprep.org/sites/default/files/asispp-plan-as.pdf>.

²¹ "Pacific Islands Development Program to Convene 12th Pacific Islands Conference of Leaders in September," East-West Center, August 11, 2022, <https://www.eastwestcenter.org/news-center/news-releases/pacific-islands-development-program-convene-12th-pacific-islands>.

²² Suzanne Vares-Lum, "The East-West Center's Regional Role in 2022," East-West Center, February 3, 2022, <https://www.eastwestcenter.org/news-center/web-articles/the-east-west-center-s-regional-role-in-2022>.

lizards, and wild vines.²³ As mentioned in the introduction, the 2021 budget was about \$1.5 million to combat invasive species, allocating money for Guam to counter the Coconut Rhinoceros Beetle, to remove invasive rats from the Mili Atoll of the Marshall Islands, to manage the Sabana Pandanus Forest and fund a native trees restoration project in the Commonwealth of the Northern Mariana Islands, and to eradicate and generally manage invasive species in Micronesia's states of Kosrae, Chuuk, and Yap.²⁴ Though these grants are encouraging to biosecurity specialists, the breakdown of awards indicate that certain groups need consistent funding.

Conclusion

The time is prime for Hawai'i State Government to utilize existing resources within the archipelago to broaden its role as an actor in biosecurity policy across the USAPR through the formulation of a coherent regional strategy. However, a degree of humility must remain foundational to the scale of such a task; the diversity of the USAPR otherwise renders effective biosecurity policy impossible from the top-down. Policy-making attendant to the USAPR's diversity should utilize experts from every part of the region through federally-funded local entities like the East-West Center to fashion a mosaic of policy cohesion; this is a tangible path for the future of biosecurity in the USAPR. Hawai'i is a model for this approach, with a working framework of species protection methods in the realm of biosecurity the product of its size, wealth, and comparative proximity to the United States. It is obligated, as a dual part of the USAPR and the American Union, to work towards the protection of species across the USAPR.

Disclaimer: All opinions in this article are solely those of the authors and do not represent any organization.

²³ <https://www.doi.gov/oia/press/interior-awards-942206-eradicate-invasive-species-insular-areas>

²⁴ Interior Office of Insular Affairs Funds 2021
<https://www.doi.gov/oia/press/interior-office-insular-affairs-announces-nearly-3-million-protect-coral-reefs-and-combat>