

# 2026–2030 Strategic Plan for the Ports of Entry Monitoring Program, Hawai'i Invasive Species Council

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PREPARED FOR

**Hawai'i Invasive Species Council**

PREPARED BY

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PORTS OF ENTRY MONITORING PROGRAM,  
HAWAI'I INVASIVE SPECIES COUNCIL**

Prepared for

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## 1 INTRODUCTION

The movement of people, together with the transport of biotic and abiotic goods, is the primary pathway for the global introduction and spread of invasive species (Hulme 2009; National Invasive Species Council [NISC] 2016). Commercial shipping, air travel, and associated supply chains facilitate the unintentional movement of organisms across natural biogeographic barriers, making ports of entry critical points for biosecurity intervention (Hulme et al. 2008; Ruiz et al. 2000). Experience worldwide has shown that relatively modest investments in early detection, monitoring, and rapid response can generate substantial economic and environmental benefits by preventing invasive species from becoming established (Leung et al. 2002; Mehta et al. 2007). By addressing incursions at their earliest stages, government agencies, non-governmental organizations, and private businesses and individuals can avoid the significantly higher costs of long-term control and containment, as well as widespread and lasting impacts to local ecosystems, economies, and human health (Brewington et al. 2026; Lovell et al. 2016; Pimentel et al. 2005).

Hawai'i's exceptionally diverse ecosystems and biodiversity, much of which is found nowhere else on Earth, form the foundation of the state's cultural heritage, environmental health, economy, and sense of place. These ecological values are increasingly threatened by invasive species, which pose the single greatest risk to Hawai'i's natural environment and to the well-being of its people and visitors (Hawai'i State Legislature, Act 85, Section 1, Session Laws of Hawai'i 2003).

To protect Hawai'i from the introduction and establishment of invasive species, which have caused severe environmental, economic, and human health impacts elsewhere (Simberloff et al. 2013; NISC 2016), the Hawai'i Invasive Species Council (HISC) launched the Māmalu Poepoe project in 2016, later renamed the Ports of Entry Monitoring (PoEM) Program in 2021. For the past decade, the PoEM Program has undertaken interagency coordination, built capacity, and refined early detection efforts at the state's most vulnerable points of entry. Today, it enhances surveillance for high-risk insect species at airports and harbors, supports the strategic deployment of early detection and rapid response measures, and raises awareness of invasive species among port personnel, contractors, and tenants.

This 2026–2030 PoEM Strategic Plan (Strategic Plan) outlines the roles, priorities, and implementation approach to guide the PoEM Program over the next 5 years. Developed through a collaborative stakeholder engagement process facilitated by HISC and SWCA Environmental Consultants (SWCA) in 2024–2025, the plan supports statewide priorities for invasive species prevention, early detection, and rapid response. It builds upon the previous strategic plan for the Māmalu Poepoe project (*Interagency Points of Entry, Points of Exit Monitoring Plan—Māmalu Poepoe Strategic Biosecurity for Hawai'i 2014–2022* [HISC 2022]) and aligns with the broader *Hawai'i Interagency Biosecurity Plan 2017–2027* (Hawaii Department of Agriculture [HDOA] et al. 2016).

## 2 HISTORY OF THE POEM PROGRAM

The PoEM Program evolved from the Māmalu Poepoe project, which was conceived by a group of state agency leaders acting in their capacities as members of the HISC in 2013. Their shared objective was to address gaps in Hawai'i's biosecurity system by establishing coordinated monitoring and response capacity at points of entry that were not adequately covered by existing inspection programs; these programs had been compromised due to a reduction in the labor force as a result of the economic downturn in 2008–2009 (Kaufman 2021). This group included directors or designees from the following agencies:

- Hawai'i Department of Agriculture and Biosecurity (DAB) (previously HDOA)

- University of Hawai'i (UH)
- Hawai'i Department of Health (DOH)
- Hawai'i Department of Land and Natural Resources (DLNR), which serves as HISC's administrative host
- Hawai'i Department of Transportation (DOT)

A strategic plan for the Māmalu Poepoe project was subsequently drafted between 2013 and 2014, and a project coordinator was recruited in 2016 under the Research Corporation of UH to oversee program implementation. The plan initially focused on six major airports statewide: Honolulu International, Kahului International, Līhu'e International, Kona International, Hilo, and Moloka'i, with particular emphasis on Honolulu International due to its high passenger and cargo volume.

Monitoring activities formally began in summer 2017 (Kaufman 2021), supported initially by funding from the DOT Airports Division. Due to the funding type (DOT funding) at that time, the program only targeted invasive species that directly impacted airport facilities or the experience of airport users. Target taxa included Africanized bees (*Apis mellifera scutellata*), invasive ants (e.g., *Solenopsis invicta*, *Wasmannia auropunctata*), mosquitoes (*Aedes* spp., *Culex* spp., *Anopheles* spp.), and coconut rhinoceros beetle (*Oryctes rhinoceros*). These species were chosen because they are difficult to detect and often evade inspections due to the many pathways through which they can enter and their ability to hitchhike undetected on aircraft, vessels, cargo, and people.

Over the following years, the Māmalu Poepoe strategic plan underwent multiple refinements as partners improved monitoring protocols, clarified communication pathways, and incorporated lessons learned. The first fully executed version of this strategic plan, the fourth draft released in 2017, established a structured, interagency early detection framework at airports and demonstrated the value of coordinated surveillance and rapid response. However, there was a concern about the gaps in the early detection program that resulted from invasive species arriving at unmonitored major points of entry in Hawai'i.

As DOT funding concluded and operational gaps emerged, the program secured additional support in Fiscal Year 2022 through several funding sources: Congressional Directed Spending (CDS) administered by the U.S. Department of Agriculture (USDA)–Animal and Plant Health Inspection Service (APHIS) Plant Protection and Quarantine, the Hawai'i State Plant Health Director's Office, U.S. Department of Defense (DoD) Readiness and Environmental Protection Integration (REPI) program funds, and the HISC. This funding enabled the Māmalu Poepoe project to transition into the broader PoEM Program between 2021 and 2023, aligning it more closely with statewide biosecurity priorities and expanding its scope beyond the original airport-focused pilot to include harbor monitoring in 2023. During this period, the program also added the Japanese beetle (*Popillia japonica*) as a target species. The seventh and final draft of the Māmalu Poepoe strategic plan, *Interagency Points of Entry, Points of Exit Monitoring Plan—Māmalu Poepoe Strategic Biosecurity for Hawai'i 2014-2022* (HISC 2022), was completed during this time.

Today, the PoEM Program continues to mature into a statewide, interagency early detection network built on consistent communication practices, shared training, and cross-sector collaboration. The PoEM Program is entering a phase of increased institutionalization as data systems evolve and partners integrate its monitoring, reporting, and response protocols into their agency-specific operational plans. This shift, from pilot project to long-term, statewide biosecurity program, supports standardized procedures, shared governance, and coordinated operational capacity. It also helps set the stage for administration of the PoEM Program to move from DLNR to DAB in 2030 (Hawai'i State Legislature House Bill 427, Relating to Biosecurity [Act 236]).

### 3 CURRENT BIOSECURITY LANDSCAPE AND POEM PROGRAM ROLE

DAB is the only Hawai'i state agency mandated to implement a biosecurity program for inspecting people, their belongings, and cargo at ports of entry from domestic points of origin (CGAPS 2025; HDOA et al. 2016). However, these inspections are currently limited to agricultural commodities. Pest interception from foreign points of origin is primarily the responsibility of the USDA's APHIS and the U.S. Department of Homeland Security's Customs and Border Protection (SWCA 2025a). Appendix A describes state agencies with biosecurity functions, and Section 4 below includes statutory mandates for biosecurity in Hawai'i.

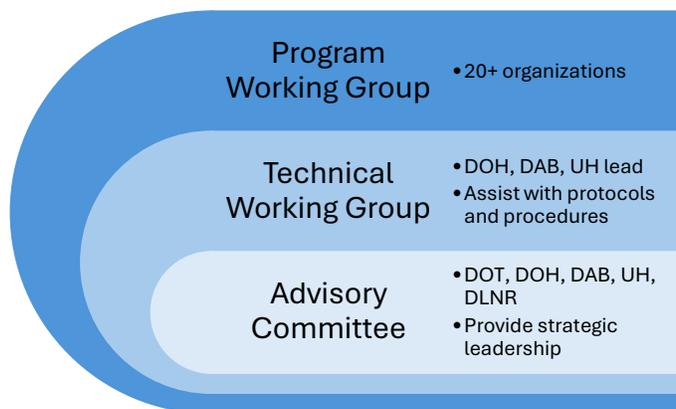
Management of the PoEM Program aligns with HISC Directive 2 in Section 194-2 of the Hawai'i Revised Statutes, which established HISC to advise, consult, and coordinate interagency efforts on invasive species, making it a natural entity to oversee the program. HISC, together with UH, leveraged its capacity to provide program management and staff hiring while HDOA recovered from the 2008–2009 economic downturn (Kaufman 2021). The PoEM Program will remain under HISC management until DAB completes its legislatively mandated reorganization under Hawai'i State Legislature House Bill 427 (Act 236, Relating to Biosecurity), initiated in 2025.

### 4 POEM STAKEHOLDER ROLES AND RESPONSIBILITIES

The PoEM Program is an interagency initiative supported by the shared commitment of state, federal, county, and university partners. All stakeholders are considered part of the Program Working Group, providing the program with a broad leadership perspective. The Program Working Group provides an on-the-ground-team to policymakers, offering an excellent opportunity for informed, adaptive management that reflects both real-time operational realities and long-term strategic objectives. Within the Working Group are the Technical Working Group and the Advisory Committee (Figure 1). Each group is described in more detail below.

#### 4.1 Program Working Group

The Program Working Group includes over 20 stakeholders, including long-standing partners such as DAB, DOT, DLNR, UH, statewide Invasive Species Committees (ISCs), and the Hawai'i Ant Lab (HAL), as well as newer partners such as the U.S. Army and Navy. Because no single agency has the authority, capacity, or infrastructure to prevent high-risk pest introductions, collaboration, the operational backbone of the program, is essential. Through this coordinated network, the PoEM Program convenes partners, standardizes shared practices, and addresses statewide gaps without duplicating existing efforts, enabling early detection, rapid response, and consistent monitoring at airports and harbors.



**Figure 1. Program Working Group, Technical Working Group, and Advisory Committee.**

Each partner organization contributes according to its statutory authority, expertise, and resources: DAB provides regulatory oversight and pest management; DOH contributes vector control and public health surveillance; DOT offers site access, infrastructure, and tenant coordination; DLNR supports natural-resource protection and houses HISC; UH programs, including HAL, the ISCs, and the College of Tropical Agriculture and Human Resilience (CTAHR), provide research, technical support, and flexible monitoring and response; and federal partners such as the USDA–APHIS, U.S. Fish and Wildlife Service (USFWS), U.S. Customs and Border Protection (CBP), U.S. Centers for Disease Control and Prevention (CDC), and DoD installations offer identification expertise and support at federally managed sites. Table 1 summarizes each partner’s roles, responsibilities, resources, and areas of shared or complementary leadership.

**Table 1. Agency/Partner Roles and Resources**

<b>Agency/Partner</b>	<b>Role</b>	<b>Attributes and Resources</b>
Hawai'i Invasive Species Council (HISC)	Provides cabinet-level direction and interagency coordination. Currently administratively housed within DLNR; will transfer to DAB in 2030.	<ul style="list-style-type: none"> <li>• Coordination support</li> <li>• Funding support</li> <li>• Planning support</li> </ul>
Department of Agriculture and Biosecurity (DAB)	Leads pre-border and border activities for the importation of plants and animals into Hawai'i. Conducts post-border activities for pest management, which includes inspection, certification, regulation of inter- and intra-island movement, export of regulated commodities, quarantine operations, pest and disease survey and control, pesticide regulation, diagnostics, and permitting.	<ul style="list-style-type: none"> <li>• Expertise (e.g., entomologists, monitoring protocols, response)</li> <li>• Facilities on each island</li> <li>• Staff on each island</li> <li>• Legal authority to act</li> </ul>
Department of Land and Natural Resources (DLNR)	Administrative host for HISC. Leads pre-border, border, and post-border control activities for aquatic invasive species (Division of Aquatic Resources) and manages terrestrial invasive species (Division of Forestry and Wildlife) post-border in natural areas while supporting efforts to stop pests and invasive species from impacting cultural and natural resources.	<ul style="list-style-type: none"> <li>• Expertise (e.g., threat identification, aquatic species)</li> <li>• Staff and equipment on each island</li> <li>• Administrative support</li> </ul>
Department of Health (DOH)	Leads human disease vector management, public health, and human welfare aspects, including the management of solid and hazardous waste.	<ul style="list-style-type: none"> <li>• Vector staff monitoring at airports</li> <li>• Entomology expertise</li> <li>• Mosquito control equipment</li> </ul>
Department of Transportation (DOT)	Manages seaports, airports, and transportation pathways; provides infrastructure and access for biosecurity inspections and treatments; and assists in coordinating with transportation carriers (i.e., shippers, airlines, truckers and freight forwarders).	<ul style="list-style-type: none"> <li>• Funding</li> <li>• Travel for project staff</li> <li>• Staff support (e.g., access, landscaping adjustments)</li> </ul>
Coordinating Group on Alien Pest Species (CGAPS)	Provides biosecurity leadership by coordinating agencies and stakeholders, shaping policy, and fostering interagency collaboration, outreach.	<ul style="list-style-type: none"> <li>• Coordination and outreach support</li> </ul>
University of Hawai'i College of Tropical Agriculture and Human Resilience (UH-CTAHR)	Provides support for research, identification/diagnostics, outreach and community engagement, and scientific tool development.	<ul style="list-style-type: none"> <li>• Expertise (e.g., entomologists, pest identification, research)</li> <li>• Lab space at extension facilities on each island</li> <li>• Researchers (including post-doctoral and graduate)</li> </ul>
Pacific Cooperative Studies Unit, Research Corporation of the University of Hawai'i	Provides fiscal sponsor and administrative support.	<ul style="list-style-type: none"> <li>• Mechanism to hire project staff</li> <li>• Mechanism to manage grant funds</li> </ul>

Agency/Partner	Role	Attributes and Resources
Island Invasive Species Committees (ISCs)	Provide early detection, rapid response, targeted control/eradication of invasive species, outreach.	<ul style="list-style-type: none"> <li>• Infrastructure and systems to employ and outfit monitoring staff</li> <li>• Monitoring and response capacity</li> <li>• Flexibility to work across boundaries and agency mandates</li> </ul>
Counties	Provide local environmental and human health support and policy.	<ul style="list-style-type: none"> <li>• General support</li> <li>• Public outreach</li> </ul>
Military (Joint Base Pearl Harbor-Hickam)/U.S. Army	Responsible for environmental impact of activities (major potential vector due to widescale movement of personnel and equipment).	<ul style="list-style-type: none"> <li>• Expertise (e.g., entomologist, monitoring protocols, procedures)</li> <li>• Supplemental monitoring at their locations</li> <li>• Staff for response on DoD lands</li> </ul>
USDA–APHIS, USFWS, CBP, CDC, and DoD	Together, these federal partners supply national-level regulatory authority, intelligence, enforcement capacity, and specialized technical expertise that enhance risk identification, interdiction, and coordinated response within the PoEM framework.	<ul style="list-style-type: none"> <li>• Federal regulatory and enforcement authority (e.g., Plant Protection Act, Lacey Act, Endangered Species Act, federal quarantine statutes)</li> <li>• Border inspection and interdiction capacity (cargo, passengers, conveyances, mail)</li> <li>• National intelligence, targeting, and risk-analysis systems</li> <li>• Specialized technical expertise (entomology, wildlife trade, vector-borne disease, biosecurity protocols)</li> <li>• Diagnostic laboratory networks and disease surveillance systems</li> <li>• Incident management and emergency response frameworks</li> <li>• Access to federal funding streams and surge capacity during outbreaks</li> <li>• Interagency coordination channels linking Hawai'i to national and international biosecurity systems</li> </ul>

Sources: HISC (2022); CGAPS (2025).

## 4.2 Technical Working Group

DOH, DAB, and UH lead the Technical Working Group, which supports the development of science-based protocols, procedures, and best management practices.

## 4.3 Advisory Committee

The Māmalu Poepoe pilot project was spearheaded by directors or designees from DOT, DOH, DAB, UH, and DLNR. These organizations now compose the Advisory Committee, reflecting their clear interest in the PoEM Program and, in some cases, statutory responsibilities related to biosecurity. Although some overlap exists, particularly among agency staff, the 2024 stakeholder interviews indicated that these agencies are primarily interested in program leadership, while other partners are more focused on the technical aspects or implementation of the program.

## **5 2026–2030 STRATEGIC PLAN DEVELOPMENT AND STAKEHOLDER ENGAGEMENT**

In September 2024, representatives from HISC and SWCA reviewed both existing and potential PoEM Program partners and stakeholders. The stakeholder list included long-standing partners such as DAB, DOT, DLNR, UH, ISCs, and the HAL, as well as federal entities such as the U.S. Army and U.S. Navy, who have collaborated with the program on specific operational efforts but have not served as regular, institutional partners. The stakeholders were subsequently categorized into two groups: 1) Tier One entities representing current agency leads for participant programs and 2) Tier Two entities, representing technical experts and potential partners. Tier One entities would receive interview questions via email and participate in in-person interviews, while Tier Two entities would be sent interview questions only via email. This approach was selected to ensure inclusivity, to stay within budget, and to accommodate the fluid nature of stakeholders and key points of contact (POCs).

SWCA reviewed background materials provided by HISC to develop interview questions and to refine the approach for this phase of strategic planning. The interviews were designed to support the development of this 2026–2030 PoEM Program Strategic Plan, building on insights from similar 2021 interviews. Questions about the PoEM Program's necessity or additional target species were intentionally excluded, as it was determined that target species lists and species-specific detection and management protocols would be addressed separately from strategic planning.

SWCA subsequently conducted five 1-hour in-person and 27 online or hybrid interviews with key stakeholder POCs. Where multiple representatives from the same organization were identified, group interviews were conducted to streamline the process. All interviewees were sent invites and updates, reminders, and appreciation emails. The interviews were conducted between early October and late November 2024 and focused on gathering stakeholder feedback on key challenges, organizational knowledge and capacity, lessons learned, and future aspirations for the PoEM Program. The specific interview questions, responses, and planning considerations are available in the strategic planning summary report (SWCA 2025b).

Plan development was further informed by facilitated stakeholder input sessions held on July 17 and September 27, 2025. The first session included 13 leadership-level stakeholders who explored the need for and future direction of the PoEM Program along with core components. A shared vision was drafted, and a strategic framework was outlined. The second session consisted of 19 stakeholders, representing the fourth stakeholder input opportunity for the 2026–2030 PoEM Program Strategic Plan. Stakeholders reviewed and refined the plan framework, confirmed the vision (Section 6) and guiding principles (Appendix B), and discussed next steps for implementation.

## **6 POEM PROGRAM VISION**

The vision for the PoEM Program was developed collaboratively with stakeholders during the 2025 input sessions. It reflects core tenets and shared aspirations, articulates a desired future state for the PoEM Program, and provides a unifying foundation for coordinated action as conditions, risks, and priorities evolve.

*The Ports of Entry Monitoring Program will strengthen Hawai'i's overall biosecurity system through coordinated, collaborative, interagency early detection efforts for targeted pest species at ports of entry, minimizing opportunities for high-risk incursions and protecting our islands from their devastating effects.*

## 7 PLANNING ASSUMPTIONS

The PoEM Program: 2026–2030 Strategic Plan is grounded in several core assumptions that frame its scope, intent, and practical implementation. These assumptions help ensure the plan remains realistic, actionable, and durable across agencies with differing mandates, capacities, and resources. They also clarify what the Strategic Plan is—and what it is not—as the PoEM Program continues to evolve.

### 7.1 Interagency Commitments

Core interagency commitments and operating principles assumed for effective implementation of the Strategic Plan are listed below. These commitments are integral to the success of the PoEM Program.

- **Biosecurity gap-filling:** The PoEM Program functions as a statewide early detection and coordination mechanism that complements, rather than replaces, the mandates and programs of partner agencies.
- **Interagency collaboration:** Partners actively participate in coordinated interagency efforts, honor agreed-upon roles and responsibilities, and maintain transparent communication across ports, islands, and program areas.
- **Data standardization and sharing:** Agencies contribute to and use centralized, standardized data systems that support informed decision-making, performance tracking, and statewide coordination.
- **Adaptive management:** The plan is iterative, incorporating annual reviews, measurable milestones, and opportunities to refine strategies as new information, technologies, or challenges emerge.
- **Practical and measurable action:** Goals and objectives remain realistic, clearly defined, and tied to measurable outcomes that support operational excellence in biosecurity.

### 7.2 Limitations

Key operational, legal, and resource constraints that may influence the scope, pace, and feasibility of plan implementation are as follows:

- **Capacity and staffing constraints:** Staffing levels, credentialing continuity, and port access limitations may restrict the scope or frequency of monitoring and response activities.

- **Funding constraints:** The plan does not assume stable or sufficient funding across agencies; actions may require phased or scaled implementation based on available resources.
- **Jurisdictional and legal boundaries:** Implementation must operate within existing statutory authorities and does not confer new jurisdiction or enforcement powers.
- **Infrastructure and access limitations:** Existing infrastructure, site access, and facility modification capacity may influence where and how monitoring efforts can expand.
- **Data system limitations:** Although in development by DAB, a fully centralized biosecurity data platform does not yet exist; improvements will require time, resources, and interagency agreement.
- **Rapid response gaps:** Response capabilities vary by agency and island, and some high-risk species lack fully developed response protocols or capacity.

### 7.3 What the Strategic Plan Is Not

The following list clarifies the boundaries of the Strategic Plan, defining what it does not provide, authorize, or replace and helping to manage expectations and avoid misinterpretation.

The Strategic Plan is **NOT**

- **A funding commitment:** The plan does not guarantee long-term, new, or additional funding; goals must align with realistic resource availability.
- **A grant of authority:** The plan does not create new legal powers or mandates; actions rely on existing authorities of partner agencies.
- **An operations manual:** Species-specific protocols, SOPs, and technical procedures will be developed separately by the Technical Working Group as addendums.
- **A replacement for partner programs:** The PoEM Program supplements, aligns with, and supports partner programs rather than duplicating or superseding them.
- **A static document:** The plan is designed to evolve through annual review, stakeholder engagement, and adaptive management as capacities, threats, and conditions change.

## 8 2026–2030 POEM PROGRAM GOALS, STRATEGIC PRIORITIES, AND ACTIONS

This section translates the PoEM Program's vision (Section 6) and guiding principles (Appendix B) into an actionable implementation framework for the 2026–2030 planning period. It distinguishes between goals that define *why* the PoEM Program exists, measurable objectives that describe what must be accomplished, and how the work gets done (actions).

Similar to the guiding principles described in Appendix B, seven strategic priority areas organize how interagency work is carried out. Within each strategic priority area, strategies and actions identify the specific tasks, responsible entities, timelines, and performance metrics needed to achieve program objectives. Together, these elements provide a clear, coherent roadmap for coordinated implementation, performance tracking, and adaptive management across partner agencies.

## 8.1 Program Goals

The following high-level goals act as a “North Arrow,” guiding decision-making and defining what the PoEM Program aims to achieve over the 5-year period.

- Foster cooperation, coordination and communication among partner agencies regarding invasive species surveillance at port facilities in Hawai‘i.
- Improve the state’s capability to prevent invasive species introductions through systematic monitoring efforts.
- Increase the security and health of Hawai‘i’s people, natural resources, food supply and economy through an interagency monitoring program of incipient pests at major ports over the next 5 years.

## 8.2 Strategic Priority Areas

In the tables that follow, *strategy* refers to the strategic approach within each of the seven priority areas, *objective* describes the intended outcome of that strategy, and *actions* identify the specific tasks required for implementation.

### 8.2.1 Strategic Priority 1: Risk-Based Prioritization and Planning

This strategic priority establishes how the PoEM Program identifies high-risk species, prioritizes ports of entry, and allocates monitoring and response resources statewide. A risk-based approach ensures that limited capacity is focused on where it will have the greatest preventive value and allows priorities to be updated as new information becomes available. Table 2 identifies strategies and actions that guide species selection, port prioritization, and planning processes, along with responsible entities, timelines, and performance metrics.

**Table 2. Risk-Based Prioritization and Planning**

Strategy	Objective	Actions	Leads	Timeline	Performance Metrics
Prioritize list of current and potential target species	Maintain a current, risk-based target species list	Review annually; integrate partner intelligence	Project Coordinator, Project Working Group	Annual	<ul style="list-style-type: none"> <li>• List updated</li> <li>• Number of partners contributing</li> </ul>
Prioritize ports of entry (POEs)	Rank points of entry based on risk	Apply ranking criteria; strategize resources based on risk; validate with partners	Project Coordinator, Project Working Group, Advisory Committee	Annual	<ul style="list-style-type: none"> <li>• Updated rankings</li> <li>• Percent of rankings validated</li> </ul>
Increase surveillance at high-risk POEs	Strengthen early detection	Rank POEs; expand monitoring; review annually	Project Coordinator, DAB, DOT, ISCs	Years 1–5/ Annual	<ul style="list-style-type: none"> <li>• High-risk list maintained</li> <li>• Coverage and frequency increased</li> </ul>
Include aquatic and disease vectors	Expand target list scope	Develop vector list; create protocols	DAB, DOH, CTAHR, Technical Working Group	Years 1–2	<ul style="list-style-type: none"> <li>• List completed</li> <li>• Number of species considered</li> <li>• Number of protocols adopted</li> </ul>

## 8.2.2 Strategic Priority 2: Surveillance Expansion and Monitoring Operations

This strategic priority focuses on expanding and strengthening surveillance coverage across airports, harbors, and other high-risk locations while improving consistency and effectiveness of monitoring operations. Actions under this priority address capacity gaps, site access, staffing, and coordination with partners to increase early detection capability statewide. Table 3 outlines specific actions to assess existing capacity, expand monitoring coverage, and integrate partner-led surveillance efforts.

**Table 3. Surveillance Expansion and Monitoring Operations**

Strategy	Objective	Actions	Leads	Timeline	Performance Metrics
Determine surveillance capacity at facilities	Document existing capacity statewide	Conduct assessments; identify gaps	Project Coordinator, Lead Agencies	Annual	<ul style="list-style-type: none"> <li>Capacity profiles</li> <li>Number of gaps identified</li> </ul>
Conduct gap analysis of existing surveillance	Identify gaps in surveillance coverage	Compare capacity to risk; recommend expansions	Project Coordinator, Lead Agencies	Annual	<ul style="list-style-type: none"> <li>Gap analysis</li> <li>Number of recommendations</li> </ul>
Implement monitoring at seven harbors	Strengthen maritime biosecurity	Secure access agreements; implement monitoring	Project Coordinator, DOT, ISCs	Years 1–5	<ul style="list-style-type: none"> <li>Number of agreements</li> <li>Number of harbors monitored</li> </ul>
Expand monitoring with partners	Increase monitoring footprint at partner points of entry	Identify partner sites; formalize agreements	CGAPS, Working Group	Annual/Ongoing	<ul style="list-style-type: none"> <li>Number of partner sites</li> <li>Number of agreements</li> </ul>
Assess and recommend landscape modifications	Reduce habitat suitability at ports	Conduct assessments; recommend improvements	DOT with Project Coordinator input	Ongoing	<ul style="list-style-type: none"> <li>Number of sites assessed</li> <li>Number of modifications completed</li> </ul>
Compile monitoring and response resources	Maintain a complete resource inventory	Update inventories; track readiness	Project Coordinator	Annual/Ongoing	<ul style="list-style-type: none"> <li>Inventory completeness</li> <li>Readiness indicators</li> </ul>
Designate staff/hire for monitoring	Maintain adequate staffing	Assess staffing needs; hire/assign staff	ISCs, DOH, DAB	Annual/Ongoing	<ul style="list-style-type: none"> <li>Staffing assessment</li> <li>Number of full-time equivalents needed vs. filled</li> </ul>
Develop monitoring protocols for target species	Ensure protocol alignment	Update protocols; distribute and train partners	DAB, DOH, UH, Project Coordinator	Annual/Ongoing	<ul style="list-style-type: none"> <li>Number of updates</li> <li>Number of partners trained</li> </ul>

## 8.2.3 Strategic Priority 3: Data Management and Information Systems

This strategic priority addresses how surveillance, detection, and response information is collected, managed, shared, and used across agencies. Effective data management supports timely decision-making, interagency coordination, performance tracking, and long-term program evaluation. Table 4 identifies actions to standardize data collection, improve information sharing, and strengthen applied research linkages that inform PoEM Program operations.

**Table 4. Data Management and Information Systems**

Strategy	Objective	Actions	Leads	Timeline	Performance Metrics
Centralize and standardize data collection	Improve statewide coordination	Develop standards; launch platform; train partners	Project Coordinator, HISC, UH-CTAHR, DAB, DOT	Years 1–4	<ul style="list-style-type: none"> <li>Standards</li> <li>Platform use</li> <li>Number trained</li> </ul>
Maintain UH graduate research partnership	Support applied research	Maintain projects; integrate findings; provide feedback on partner needs; address knowledge gaps	UH-CTAHR, Project Coordinator	Ongoing/ Annual	<ul style="list-style-type: none"> <li>Number of projects reviewed</li> <li>Number of research initiatives pursued</li> <li>Number of findings incorporated</li> </ul>
Develop detection communication protocols	Standardize detection alerts	Update workflows; train partners	Project Coordinator, Working Group	Annual/ Ongoing	<ul style="list-style-type: none"> <li>Number of updates</li> <li>Number of partners trained</li> </ul>

### **8.2.4 Strategic Priority 4: Response Readiness and Incident Command System Preparedness**

This strategic priority strengthens the PoEM Program’s ability to respond quickly and effectively to detections of high-risk species. It emphasizes preparedness through standardized response planning, training, and exercises grounded in the Incident Command System (ICS). Table 5 identifies actions to develop and maintain response plans, conduct exercises, and ensure monitoring protocols are aligned with response needs.

**Table 5. Response Readiness and Incident Command System Preparedness**

Strategy	Objective	Actions	Leads	Timeline	Performance Metrics
Develop ICS-based response plans	Improve interagency readiness	Develop ICS plans; update annually	Project Coordinator, Technical Working Group, Partners	Annual	<ul style="list-style-type: none"> <li>Number of plans</li> <li>Percent updated</li> </ul>
Conduct tabletop ICS exercises	Test and refine readiness	Conduct exercises; integrate findings	Project Coordinator, Working Group	Annual	<ul style="list-style-type: none"> <li>Number of exercises</li> <li>Number of improvements suggested and integrated</li> </ul>

### **8.2.5 Strategic Priority 5: Workforce, Training, and Partner Engagement**

This strategic priority focuses on building and sustaining the human capacity needed to implement PoEM activities consistently across agencies and locations. It emphasizes training continuity, clear roles and POCs, and active engagement of partners to support coordinated detection and response. Table 6 outlines actions related to staff training, stakeholder engagement, reporting practices, and formalization of partner participation.

**Table 6. Workforce, Training, and Partner Engagement**

Strategy	Objective	Actions	Leads	Timeline	Performance Metrics
Train staff in monitoring protocols	Ensure consistent implementation	Conduct training; evaluate performance	Project Coordinator, ISCs, DAB, DOH	Annual	<ul style="list-style-type: none"> <li>Number trained</li> <li>Evaluation scores</li> </ul>
Crosstrain with national and international partners	Integrate lessons learned from example biosecurity programs	Participate in conferences, workshops, and trainings	Project Coordinator, Advisory Committee	Annual	<ul style="list-style-type: none"> <li>Number of trainings attended</li> <li>Number of integration actions taken</li> </ul>
Strengthen stakeholder engagement	Expand and activate partner network	Engage new stakeholders; coordinate across agencies	Project Coordinator, Advisory Committee	Ongoing	<ul style="list-style-type: none"> <li>Number of partners engaged</li> <li>Number of actions coordinated</li> </ul>
Strengthen stakeholder engagement	Expand and activate partner network	Promote reporting for early detection and rapid response	Project Coordinator, Technical Working Group	Ongoing	<ul style="list-style-type: none"> <li>Number of new reports and action taken</li> </ul>
Strengthen stakeholder engagement	Expand and activate partner network	Assign responsibilities and agency point(s) of contact	Advisory Committee, Partners	As partners commit to participation	<ul style="list-style-type: none"> <li>Number of partners</li> </ul>
Strengthen stakeholder engagement	Expand and activate partner network	Implement compliance agreements and supportive policies	HISC and Partners	As partners commit to participation	<ul style="list-style-type: none"> <li>Number of agreements in place</li> <li>Impact of agreements</li> </ul>

### 8.2.6 Strategic Priority 6: Standard Operating Procedures, Institutionalization, and Agency Alignment

This strategic priority supports long-term program sustainability by standardizing procedures and embedding PoEM Program practices into partner agency operations. Institutionalization ensures continuity despite staff turnover, changing conditions, or evolving priorities. Table 7 identifies actions to develop standard operating procedures (SOPs), align agency workflows, and reinforce consistent implementation across partners.

**Table 7. SOPs, Institutionalization, and Agency Alignment**

Strategy	Objective	Actions	Leads	Timeline	Performance Metrics
Institutionalize protocols and procedures	Standardize surveillance and response	Develop SOPs; align agencies; train partners	DAB, DOH, ISCs, Project Coordinator	Years 1–5	<ul style="list-style-type: none"> <li>Number of SOPs</li> <li>Percent of partners aligned</li> <li>Number trained</li> </ul>
Institutionalize protocols and procedures	Standardize surveillance and response	Embed SOPs and standardized responses into agency workflows	Partners	As partners commit to participation	<ul style="list-style-type: none"> <li>Number of partners committed to following fundamental protocols and procedures</li> </ul>

## 8.2.7 Strategic Priority 7: Funding, Resources, and Program Sustainability

This strategic priority addresses the financial and resource foundations necessary to sustain PoEM operations over time. It focuses on identifying resource needs, securing funding for monitoring and response capacity, and establishing mechanisms for long-term program support. Table 8 outlines actions related to resource planning, response funding, and pursuit of stable funding pathways.

**Table 8. Funding, Resources, and Program Sustainability**

Strategy	Objective	Actions	Leads	Timeline	Performance Metrics
Identify and allocate resources	Secure needed resources	Annual resource needs; identify funding gaps	Project Coordinator and partners	Annual/Ongoing	<ul style="list-style-type: none"> <li>Resource summary</li> <li>Number of funding sources</li> <li>Annual goal(s) met/gaps filled</li> </ul>
Identify funds for response capacity	Ensure sustainable response capability	Develop annual response budget; secure funding	Project Coordinator, HISC	Annual/Ongoing	<ul style="list-style-type: none"> <li>Budget produced</li> <li>Funds secured</li> </ul>
Secure stable, long-term funding	Establish sustainable funding	Identify mechanisms; pursue grants/appropriations	HISC, Project Coordinator, Advisory Committee	Ongoing	<ul style="list-style-type: none"> <li>Mechanisms list</li> <li>Funding secured</li> <li>Opportunities identified and pursued</li> </ul>
Secure legislative support	Accelerate coordination for regulatory support	Identify gaps in statewide biosecurity system	HISC, Advisory Committee, Stakeholders	Ongoing	<ul style="list-style-type: none"> <li>Number of actions proposed and pursued</li> </ul>

## 9 2026–2030 POEM PROGRAM MEASURES OF SUCCESS

Program progress will be evaluated using defined measures of success and milestones, which may be referred to as “Hallmarks of Success” when communicating with funders and policymakers. These near-, mid-, and long-term objectives were outlined in the Māmalu Poepoe strategic plan (HISC 2022), refined through stakeholder input, and assessed by SWCA in 2025 (SWCA 2025a, 2025b). Together, they provide a structured basis for annual review, adaptive management, and continuous improvement of the PoEM Program.

The PoEM Program is designed as a living framework that evolves in response to changing conditions, emerging threats, and lessons learned through implementation. Given the dynamic nature of biosecurity work at ports of entry, regular review and adjustment are essential to ensure strategies remain effective, practical, and aligned with partner capacities and on-the-ground operational realities.

Measures of success will be reviewed annually using monitoring data, detection reports, communication evaluations, and partner feedback. Adaptive management incorporates lessons learned from real detections, response exercises, field operations, and stakeholder input to ensure milestones remain realistic and responsive to emerging pest risks, resource constraints, evolving conditions at ports of entry, and opportunities to integrate improved protocols or technologies. Where adjustments are warranted, changes will be documented and communicated through established PoEM communication strategies (see Section 10.1), ensuring transparency, accountability, and data-driven decision-making over time.

To support this process, the Program Coordinator and Advisory Committee will conduct annual reviews of communication systems, operational readiness, and partner engagement. Reviews will draw on the annual all-staff and partner update meeting, performance during detections and exercises, and feedback from staff, technical specialists, and agency leadership. Outcomes may include updates to notification chains, data-sharing protocols, communication platforms, training materials, or coordination procedures. This review process will support institutional learning, maintain continuity amid staff turnover or changing roles, and ensure PoEM Program systems remain effective and aligned with partner needs throughout the 2026–2030 planning horizon.

The sections that follow present objectives for the PoEM Program for Year 1, Years 2 through 5, and Year 5 and beyond. These objectives are based on those in the Māmalu Poepoe strategic plan (HISC 2022) and have been adapted based on input from the 2024 stakeholder interviews and 2025 stakeholder meetings.

## 9.1 Program Objectives: Year 1

Short-term objectives (Year 1) are as follows:

- 1A Interagency collaboration has increased.
- 1B Monitoring protocols for target species have been developed.
- 1C Detection communication protocols have improved.
- 1D Capacity to communicate and respond to target species detections has increased.
- 1E Knowledge of target species occurrence and introductions at ports of entry has increased.

## 9.2 Program Objectives: Years 2–5

Mid-term objectives for Years 2 through 5 are as follows:

- 2A Knowledge of changes in target species occurrence at ports of entry has increased over time.
- 2B Major ports of entry are regularly and consistently monitored through partnerships.
- 2C Response protocols are in place for new detections.
- 2D Response capacity and funding mechanisms are in place.
- 2E Studies are completed on detection methods, economic benefits of monitoring, or other relevant aspects of the PoEM Program.

## 9.3 Program Objectives: Year 5 and Beyond

Long-term objectives (Year 5 and beyond) are as follows:

- 3A Risk of target species occurrence at ports of entry is better understood.
- 3B The Hawaiian Islands are less vulnerable to the establishment and spread of incipient species with the potential for widespread economic and environmental impacts.

- 3C** Clear response protocols and resources for implementation are in place.
- 3D** Risk of target species establishment has been reduced due to effective surveillance efforts.
- 3E** Partners understand the costs and benefits of early detection monitoring and are prepared to maintain, modify, or discontinue efforts as appropriate.

## **10 2026–2030 POEM PROGRAM IMPLEMENTATION**

Effective implementation of the PoEM Program requires clear alignment of resources and coordinated action across partner agencies to support current operations and future needs. This section describes the communication strategy, funding and capacity-building considerations, and target species prioritization process. Together, these components provide the operational foundation needed to maintain a resilient and responsive early detection system across Hawai'i's ports of entry.

### **10.1 Stakeholder Communication Strategy**

The HISC and PoEM Program Coordinator are responsible for ensuring timely communication and coordination of effort, as well as timely updates to reinforce shared goals, build trust across agencies, and support communication from leadership through frontline staff. The HISC and PoEM Program Coordinator will work to strengthen the collective voice of partners when engaging with the Legislature, the public, and other decision-makers, ensuring that PoEM and partners communicate with clarity and alignment.

The PoEM Program, as a frontline early detection entity and communication coordinator, will maintain a clear communication hierarchy that identifies:

- Primary and secondary POCs for each partner agency
- Standard pathways for routine monitoring updates
- A defined alert chain for detections (e.g., mosquito detections, high-risk ants, CRB, Japanese beetle), including time-sensitive notifications, modeled on previously successful notification chains, or call trees, used in the Māmalu Poepoe project
- Decision-making authorities at each phase of response: initial detection, confirmation, escalation, and coordinated action

Detailed incident command systems are included with species-specific protocols and plans as addendums.

### **10.2 Resource Allocations and Funding**

A funding overview and outlook will be prepared and reviewed annually with the Advisory Committee.

## 10.3 Capacity Building, Emergency Response, and Program Expansion

Effective capacity building and emergency response under the PoEM Program depend on strong interagency collaboration, clear communication, and well-established biosecurity practices. To maintain readiness, PoEM will invest in relationship-building and coordination through annual partner meetings to review performance and lessons learned, targeted cross-training and site visits to align roles and expectations, and joint refinement of monitoring, reporting, and response protocols. Engagement with tenants, contractors, and port personnel will reinforce day-to-day biosecurity responsibilities, while incorporating PoEM communication requirements, such as detection thresholds, escalation pathways, and reporting expectations, into partner training and posted protocols will help integrate biosecurity into routine operations. Together, these efforts support continuity despite staff turnover or changing conditions and ensure partners can respond quickly and effectively when high-risk species are detected.

Consideration of program expansion reflects limited monitoring capacity, inconsistent site access, and fragmented interagency responsibilities that leave some points of entry insufficiently covered and increase Hawai'i's vulnerability to high-risk invasive species. Partners have identified additional high-risk pathways and taxa (e.g., rodents, snakes, aquatic species, plant pathogens, and disease vectors) that may warrant enhanced detection due to their potential for rapid spread through transportation networks. While expansion is widely recognized as beneficial, decisions to extend the PoEM Program's monitoring footprint rest with the HISC and the Advisory Committee to ensure existing efforts are not diluted. If pursued, expansion would be phased and coordinated, guided by available resources, statutory authority, agency capacity, shared priorities, and leveraged partnerships to strategically strengthen surveillance at critical points of entry.

## 10.4 Target Species Priorities

Target species are selected collaboratively by the Technical Working Group with the DOH, DAB, and UH as the primary leads. The focus of the PoEM Program is currently high-risk insect pests that pose significant human health, economic, and environmental concern. New species for consideration can be brought to the Technical Working Group by any PoEM Program partner.

### 10.4.1 Species Selection Criteria and Process

Criteria for selection of target species is based on these key factors:

- High priority pest due to threats posed by introduction and spread.
- A species that is easily missed through current inspections/monitoring regimes due to the characteristics of its mobility and/or is not currently being monitored for.
- Ability to set up a feasible and time efficient monitoring program for the group of species selected given available funding and resources.

Detailed plans and procedures for each species will be added as stand-alone addendums (i.e., species-specific plans) to this Strategic Plan.

## 11 CONCLUSION

The PoEM Program represents a coordinated, statewide commitment to strengthening Hawai'i's biosecurity system at its most vulnerable gateways. Building on more than a decade of progress that began with the Māmalu Poepoe pilot project, this Strategic Plan provides a unified, actionable roadmap for expanding surveillance, enhancing response readiness, and institutionalizing biosecurity practices across partner agencies. Its success relies on the strength of cross-sector collaboration among federal, state, university, and county partners on a shared dedication to proactive early detection and rapid response.

The strategies outlined in this plan are designed to be dynamic and adaptive, allowing partners to integrate new information, technologies, funding opportunities, and emerging threats into annual reviews and future updates. Through continued training, joint exercises, and open communication channels, partners will refine protocols, strengthen interagency trust, and build the collective capacity needed to respond quickly and effectively to high-risk invasive species detections. Ultimately, sustained commitment to the program and the goals and objectives outlined in this plan will reduce the likelihood of highly invasive species becoming established and spreading across the islands, safeguarding Hawai'i's people, economy, natural resources, and cultural heritage.

## 12 ACKNOWLEDGEMENTS

Successful biosecurity programs do not happen by chance or good fortune. Each component, including pre-border, border, and post-border, has commonalities but is fundamentally very different. Development of this Strategic Plan for the PoEM Program required purposeful cooperation and collaboration. Carefully developed strategies, outlined here, the engagement of the right people to execute those strategies, and key challenges being sharply addressed as well as opportunities seized, are the cornerstones of successful implementation. The HISC, backed by the enthusiastic support of the broader stakeholder community, is poised for success with the PoEM Program, elevating biosecurity standards in Hawai'i. SWCA thanks the HISC for their confidence in us during the strategic planning process. We appreciate the invaluable assistance from HISC staff, particularly Mason Russo (Research and Projects Coordinator), Chelsea Arnott (former HISC Coordinator), and Dr. Leyla Kaufman of the USFWS (former Māmalu Poepoe Project Coordinator), as well as the thoughtful participation of all stakeholders.

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## **APPENDIX A**

### **State Agencies with Biosecurity Functions**

Table A-1 presents state agencies with biosecurity functions; these agencies have direct relevance to the PoEM Program.

**Table A-1. State Agencies and Biosecurity Functions**

Agency	Biosecurity Statutory Mandate
<b>Department of Agriculture and Biosecurity (DAB)</b>	DAB is statutorily mandated (HRS 141, 142, 149A, 150A, 152, and 161) to implement the State's comprehensive biosecurity program. DAB carries out these responsibilities through the Plant Industry (PI) and Animal Industry (AI) divisions. PI consists of three branches: Plant Quarantine (PQ), Plant Pest Control (PPC), and Pesticides (PEST) and is responsible for preventing the entry, establishment, and spread of invasive plants, animals, insects, weeds, plant pathogens, and other harmful pests by regulating the importation and possession of non-domestic animals and microorganisms; conducts surveillance, detection, control and eradication activities; conducts biocontrol research and implementation; and ensures the safe and effective use of pesticides statewide. The AI Division safeguards the State's livestock and poultry industries by preventing, detecting, and responding to livestock pests and diseases, regulating animal movement, and enforcing measures to protect animal health and biosecurity.
<b>Department of Land and Natural Resources (DLNR)</b>	DLNR is statutorily mandated (HRS 171, 183D, 187A, and 199) to enhance, protect, conserve, and manage the State's natural, cultural, and aquatic resources. The Division of Forestry and Wildlife and the Division of Aquatic Resources administer various programs to manage, control, mitigate established invasive species across forests, watersheds, wildlife habitats, and nearshore and marine ecosystems.
<b>Department of Health (DOH)</b>	DOH is statutorily mandated (HRS 321, 322, 340A, 342H, and 344) to protect and improve public health and the environment across the state. DOH's Vector Control Branch is responsible for preventing the introduction, establishment, and spread of human disease vectors and related public health threats. The Solid & Hazardous Waste Branch provides regulatory oversight of solid waste management including composting operations and green waste disposal.
<b>Department of Transportation (DOT)</b>	DOT is mandated (HRS 261 and 266) to plan, design, construct, operate, and maintain State's aviation, maritime, and ground transportation systems. DOT is responsible for ensuring a safe, efficient, accessible, and sustainable intermodal transportation network that supports the movement of people and goods statewide and helps preserve economic prosperity and quality of life.
<b>Hawai'i Invasive Species Council (HISC)</b>	The HISC (HRS 194) consists of members from DAB, DLNR, DOH, DOT, Department of Business, Economic Development and Tourism, and the University of Hawai'i. HISC is mandated to advise, consult, and coordinate invasive species policies, priorities, and program across state departments and other partners.
<b>UH College of Tropical Agriculture and Human Resilience (CTAHR)</b>	CTAHR's (HRS 304A-203) Cooperative Extension Services (CES) is responsible for providing science-based information and educational programs in agriculture, natural resources, and human resources. CES directly supports local farmers, aquaculturists, floriculturists, and other producers through research, surveys, pest detection, and management guidance. CES also provides diagnostic services, including insect identification; plant disease diagnosis; soil, plant, water, and feed analysis; and supports local production through the sale of vegetable and fruit cultivars developed by the college.

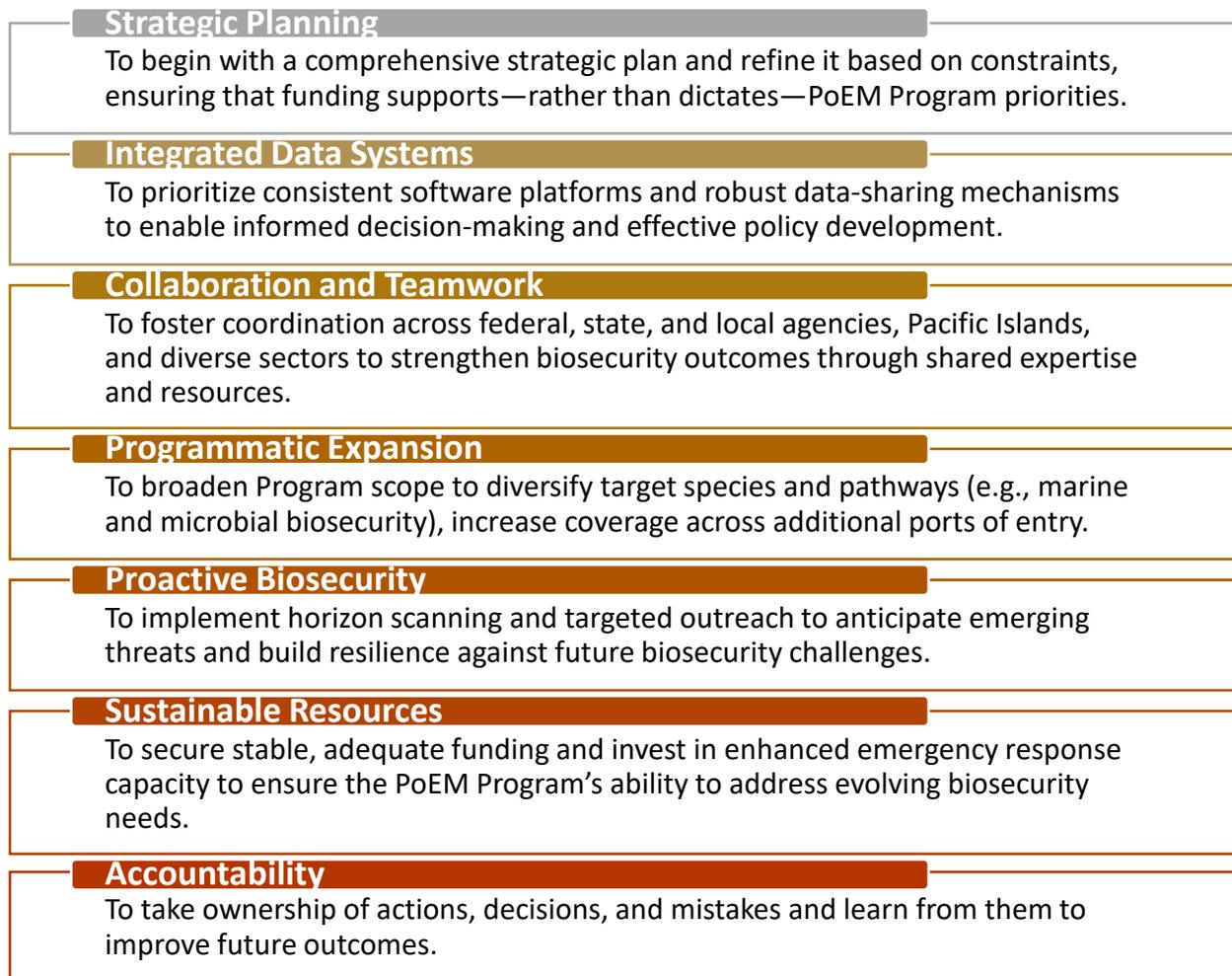
Source: Coordinating Group on Alien Pest Species (CGAPS) 2025

Note: Adapted from the 2025 CGAPS meeting notes and related DAB presentation for the purpose of this plan.

## **APPENDIX B**

### **2026–2030 Strategic Plan and Program Guiding Principles**

During input sessions on July 17 and September 27, 2025, 32 stakeholders identified seven guiding principles for the 2026–2030 Strategic Plan and the PoEM Program. These guiding principles, presented in Figure B-1, are incorporated into the seven strategic priorities outlined in Section 8.2. They form a strategic framework intended to keep the Strategic Plan, and PoEM Program, adaptable and responsive to evolving needs such as emerging pests, new funding opportunities or shortfalls, and changes in policy or regulation.



**Figure B-1. Guiding principles of the PoEM Program and Strategic Plan.**