Follow-Up on Recommendations from Report No. 17-05, *Audit of Hawai‘i Department of Agriculture’s Plant Quarantine Branch*

A Report to the Governor
and the Legislature of
the State of Hawai‘i

Report No. 20-12
September 2020

OFFICE OF THE AUDITOR
STATE OF HAWAI‘I

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STATE OF HAWAIʻI

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Section 23-7.5, Hawai‘i Revised Statutes, requires the Auditor to report to the Legislature annually on each audit recommendation more than one year old that has not been implemented by the audited department or agency. We follow up on recommendations in two ways. First, annually, we ask agencies to report the status of their implementation of our audit recommendations. We compile agencies’ self-reported implementation status in a consolidated report. Second, we conduct an “active” follow-up two to three years after issuance of the audit report containing the recommendations where we, independently, assess the agency’s progress in implementing each recommendation and issue a separate follow-up report. This report presents the results of our review of seven recommendations made to the Department of Agriculture’s Plant Quarantine Branch in Report No. 17-05, *Audit of Hawai‘i Department of Agriculture’s Plant Quarantine Branch*, which was published in July 2017.

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Why we did the 2017 Audit

Report No. 17-05, *Audit of Hawai‘i Department of Agriculture’s Plant Quarantine Branch*, dated July 2017, was performed in response to Act 243, Session Laws of Hawai‘i 2016, which directed the Auditor

to audit the Plant Quarantine Branch (PQB). The 2017 audit was conducted pursuant to Article VII, Section 10 of the Hawai‘i State Constitution and Section 23-4, Hawai‘i Revised Statutes, which authorize the Auditor to conduct post-audits of the transactions, accounts, programs, and performance of all departments, offices, and agencies of the State and its political subdivisions. The examination was conducted from June 2016 to February 2017.

Department of Agriculture’s Plant Quarantine Branch

According to the agency’s website, the Hawai‘i plant quarantine program began more than a hundred years ago when, in 1888, King David Kalakaua decreed that in order to protect the coffee industry in Hawai‘i, new coffee plants would not be allowed into the islands. Two years later, laws were enacted to prevent the introduction of injurious insect pests and plant diseases. Today, PQB describes itself as the State’s “First Line of Defense” in keeping pests out of the islands, inspecting “everything from single-celled organisms used for research to exotic animals in the zoo; from flowers, fruits, and vegetables in the market…to birds and fishes in the pet shop.”

Hawai‘i Invasive Species Council and the Hawai‘i Interagency Biosecurity Plan

IN 2016, a Hawai‘i Interagency Biosecurity Plan was proposed as a coordinated effort between Hawai‘i Department of Agriculture, Hawai‘i Department of Land and Natural Resources, Hawai‘i Department of Health, University of Hawai‘i, as well as other state, federal, county, and private agencies to increase biosecurity efforts across the state. According to the United States Department of Agriculture, biosecurity refers to everything that is done to keep diseases and the pathogens that carry them – including viruses, bacteria, funguses, parasites and other microorganisms – away from birds, property, and people. The Hawai‘i Invasive Species Council (the Council) is a State interdepartmental collaboration established in 2003 by Hawai‘i’s Legislature. The Council was created to provide policy level direction, coordination, and planning among state departments, federal agencies, and international and local initiatives for the control and eradication of harmful invasive species infestations throughout the State and for preventing the introduction of other invasive species that may be potentially harmful. The Hawai‘i Interagency Biosecurity Plan, adopted by the Council in January 2017, addresses three biosecurity areas – pre-border, border, and post-border. The plan is a strategic system analysis, rather than an operational plan, that analyzes response protocols for individual species. It identifies critical gaps in the State’s biosecurity system and suggests policies, processes and resources to address those gaps. By 2027, the plan should address Hawai‘i’s most critical biosecurity gaps, including enhanced policies and processes for pre-border, border, and post-border controls to prevent invasive species from making their way to Hawai‘i. The plan includes roughly 150 action items assigned to various agencies and stakeholders, with specific details on how and when to best implement each action. The Council reported that as of July 2019, 55% of these action items were initiated or completed.

As the "first line of defense" in keeping pests out of the islands, PQB reviews the effectiveness of the Hawai'i Department of Agriculture (HDOA) inspection program at the State's ports of entry by conducting periodic "enhanced inspections" to assess the risks of all imported agricultural commodities. According to HDOA, based on these assessments, PQB inspectors focus their efforts on high-risk commodities, which enhances the effectiveness of their inspections and interception of invasive species. The department's definition of biosecurity and general description of its program activities reflect a widely accepted, risk-based approach to biosecurity, since inspection of all commodities entering the state is simply not practical.

What we found in 2017

In Report No. 17-05, *Audit of Hawai'i Department of Agriculture's Plant Quarantine Branch*, we found that, contrary to HDOA claims, the branch did not assess the risk of invasive species to the State or the effectiveness of its inspection program using up-to-date data. We noted that PQB lacked data gathering and data analysis functions necessary to actively and continuously assess risks from invasive species. Invicta, the branch's central database at the time, did not perform its core functions and was considered by PQB staff to be unreliable and cumbersome to use. The system did not communicate with other PQB databases. We found that information collected by inspectors was inconsistent, incomplete, and not shared throughout the branch or integrated with other data sources to provide the branch with a necessary tool to reassess the risk of entry of invasive species. We also found that PQB lacked the organizational framework necessary to manage and communicate risks from the different types of invasive species. As a result of this lack of organizational framework, the only official guidance inspectors received from the department consisted of PQB's manual of standard operating procedures, which the branch had not fully updated since 1989, and the Hawai'i Revised Statutes. We also found that rather than being an integral part of a feedback loop – passing along and receiving valuable, up-to-date information – inspectors conducted inspections that were based on their past experiences and the experiences of coworkers. We also noted that the branch had not established policies and procedures to guide enhanced inspection activities.

At the time of our 2017 audit, we found that, after more than a decade of development and close to $4.2 million in new and amended contracts, HDOA had failed in its attempt to implement a central integrated database system that could perform its necessary core functions. Among other things, Invicta did not include important taxonomic data, communicate with other PQB databases, or support e-manifesting, a screening process that allows low-risk cargo to be

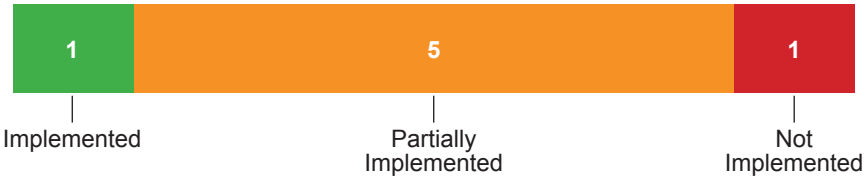
pre-cleared. We also found that, due to Invicta's limited capabilities, pest interception data and other information collected by inspectors was neither shared throughout the branch nor integrated with other data sources to provide the branch with a necessary tool to reassess the risk of entry of invasive species.

Although inspectors were required to enter inspection and interception data into Invicta, this information was not used to assess risk. Given the tremendous volume of cargo arriving through Hawai'i's ports, PQB inspectors cannot examine every box of produce, every plant or even every shipping container. Instead, the branch must develop processes and incorporate technology to deploy its inspectors and direct its biosecurity efforts efficiently and effectively. Without a reliable source of data on which it can base decision-making, PQB could not and did not monitor, evaluate, adjust or improve its inspection activities. As a result, rather than continuously passing along and receiving valuable, up-to-date information and analyses, PQB inspectors operated in a bubble, leaving the State of Hawai'i potentially more vulnerable to the influx of invasive species.

What we found this year

Our follow-up efforts were limited to reviewing and reporting on the implementation of our audit recommendations. We did not explore new issues or revisit old ones that did not relate to the original recommendations. The following details the audit recommendations made in Report No. 17-05 and the current status of each recommendation based on our review of information and documents provided by HDOA.

Exhibit 1
Audit Recommendations by Status



Source: Office of the Auditor

Recommendations and their status

Our follow-up on the implementation of recommendations made in Report No. 17-05, conducted between November 2019 to July 2020, included interviews of selected personnel, examining relevant documents and records, arranging a demonstration of the new

database system, and evaluating whether and to what extent HDOA's actions appeared to address our recommendations. We found that PQB implemented one recommendation, partially implemented five recommendations, and has not implemented one recommendation at this time.

We suspended our review in December 2019 based on representations by PQB that the new database system would be rolled out over the next few months. We agreed to provide the agency time to implement the new system and to develop training, believing our assessment would be more meaningful if we were able to assess a system that was up and running. We reinitiated our review in May 2020, after learning that PQB's new system rollout had been delayed.

The HDOA's Plant Industry Division solicited bids to address PQB's need to replace Invicta. We found that, following the issuance of Report No. 17-05, PQB entered into a contract with software developer Pacific Point Inc. (Pacific Point) that set out a two-phase project implementation process designed to address some of our recommendations. Phase 1 of the contract's scope of services included an e-Manifest/Inspection Module that will allow PQB to screen inbound shipments, schedule inspections of incoming cargo based on risk, and clear low-risk commodities for immediate distribution. A Permitting/Application Program was also part of Phase 1, while the Import/Export Inspection, Nursery Inspection, Investigations and Phytosanitary Certification Program were among the functions included in Phase 2. While Pacific Point has completed both Phases 1 and 2, PQB had not rolled out either phase before we completed our work in July 2020.

Definition of Terms

WE DEEM recommendations:

Implemented

where the department or agency provided sufficient and appropriate evidence to support all elements of the recommendation;

Partially Implemented

where some evidence was provided but not all elements of the recommendation were addressed;

Not Implemented

where evidence did not support meaningful movement towards implementation, and/or where no evidence was provided;

Not Implemented - N/A

where circumstances changed to make a recommendation not applicable; and

Not Implemented - Disagree

where the department or agency disagreed with the recommendation, did not intend to implement, and no further action will be reported.

Recommendation 1a

The Hawai'i Department of Agriculture should plan and implement a risk analysis process to define and respond to threats of invasive species introduction, incorporating data-driven elements to monitor, evaluate, adjust, and improve inspection activities. This would include developing and implementing policies and procedures for data collection and verification, including establishing standards for data entry, which will ensure the completeness and accuracy of the data recorded.

Partially Implemented

Comments

HDOA submitted a request for proposal (RFP) on September 19, 2017 for a statewide PQB system development and update. Following the RFP process, PQB entered into a contract with Pacific Point in March 2018 to replace its legacy Invicta system. PQB stated that the new system will be using standardized data to run reports to help drive inspectional prioritization. The contract included the development of standard operating procedures for data collection and entry.

Under the contract, Pacific Point was to provide the scope of services as set forth in the RFP. As stated in its RFP, PQB sought to implement an automated, risk-based electronic release system for certain low-risk commodities. For example, the e-Manifest system is intended to allow importers to electronically submit information to PQB for review prior to the cargo's arrival in the State. The RFP also stated that PQB needs to utilize newer technologies to update, automate, and streamline current data collection and report generation; develop and implement an automated risk-based e-Manifest system for imports/exports; and build upon the current functionality to update, automate, and streamline PQB's application, permitting, reporting, certification, and inspection processing.

Part of Pacific Point's responsibilities under the contract was to work with PQB to "Train the Trainer" and assist with staff adoption. As reported in an October 16, 2019 progress report, during the "Train the Trainer" session, additional enhancement or bug fix requests were provided by the PQB trainer team. The progress report noted that Pacific Point updated and deployed all requested items before the October 15, 2019 contract deadline. PQB noted that Pacific Point completed all project milestones under the contract at that time.

PQB expected the system to rollout in small segments following installation. The first segment to rollout was to be the e-Manifest

system for O‘ahu. PQB also noted that it is currently working on a timeline for incremental implementation and training of staff.

The rollout of the Pacific Point system is not yet complete and additional services are required. In March 2020, the agency signed a memorandum of agreement with Pacific Point, following issuance of a Request for Qualifications (RFQ) for professional services to maintain and enhance the new system. In April and May 2020, PQB categorized known issues for the new system as well as conducted weekly meetings to go over progress, updates, and challenges. As of the end of our review period, PQB has made progress towards, but has yet to fully implement, this recommendation.

A brief rundown of the Pacific Point system – and how it is critical to what PQB does.

The Pacific Point system design consists of the following modules:

- e-Manifest / Inspection
- Permitting / Application
- Import Inspections
- Pest Reporting / Pest Hotline
- Interisland Inspections
- Export Inspection and Certification
- Nursery Certification
- Investigation Program
- Phytosanitary Certification

The system is also designed to standardize submission of information, allow for easier and more accessible data collection, and integrate programs across all modules to eliminate duplication of data. The branch provided a brief demonstration of the e-Manifest process, which now allows staff to log into the e-System to review, download, and check the status on a specific manifest record.

The new system is intended to enable PQB to increase efficiency by reducing the use of inspectors to physically inspect low-risk items and allow PQB to better focus its limited manpower on higher risk items.

Little Fire Ant

Pathway Risks: How pests get here

IN OUR 2017 REPORT, we noted that a department study found that live plants were the main pathways used by recently established colonizing insects. According to the study, 19 species used produce imported for consumption as a transportation pathway. In contrast, 137 species of insect used host plants and 134 species used nursery imports as pathways to colonization.

Recommendation 1b

The Hawai'i Department of Agriculture should plan, implement, and operate an up-to-date database system that houses important taxonomic data, communicates with other databases, and supports an e-manifest program, among other functions.

Partially Implemented

Comments

PQB represented that its new system houses the following: e-Manifest, permitting, import inspections, interisland inspections, export inspections, pest hotline, nursery certification, phytosanitary certificate generation, and investigations. Under the system, submission of information across PQB is standardized; data collection tracks inputs in a way to allow for practical entry, retention, and accessibility by PQB staff; and programs are integrated to eliminate duplication of data. We also found that the new system's database is designed to house all e-Manifest data, including a commodity risk assessment table, which will enable PQB to increase efficiency by allowing inspectors to avoid having to physically inspect low-risk items and allow PQB to better focus its limited manpower on high-risk items. The risk assessment table will provide a mechanism by which information submitted generates statistics necessary to update and maintain commodity and pathway risks as well as track what items are being imported to Hawai'i.

PQB also stated that it is currently in the testing phase for the e-Manifest module. The agency assigned two dedicated staff to continue to work on training and testing, which will be maintained until the system is completely rolled out. Since the agency signed a memorandum of agreement with Pacific Point in March 2020 to work on fixes for unforeseen needs and bugs, staff will be testing e-Manifest submission fixes as well as identifying issues in the coming months. Accordingly, although steps have been taken to address this recommendation, implementation is still in progress.

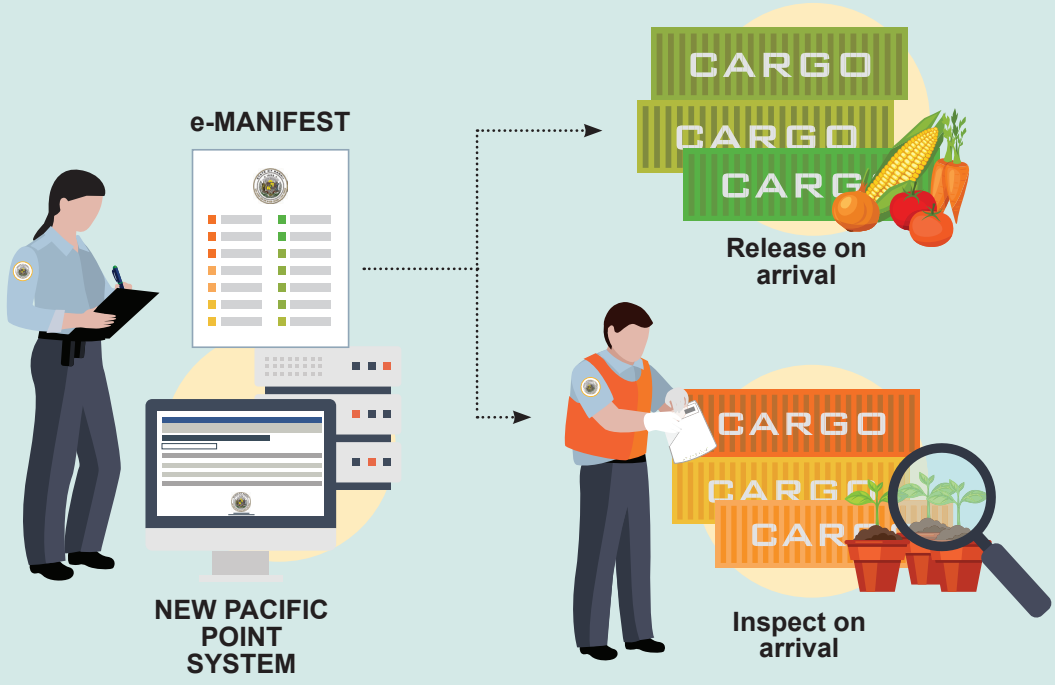
What an e-Manifest is and how it fits into PQB's mission.

TRADITIONALLY, a manifest is a list of the cargo carried by a ship made for the use of various agents and officials at the ports of destination. PQB's e-Manifest system captures the following commodity information for incoming shipments:

- Island;
- If shipped by sea, information including date, ship number, container number, and commodities; and
- If shipped by air, information including date of arrival, airline/flight number, shipper, importer, airway bill number, and commodities.

The e-Manifest module is intended to allow PQB to electronically capture commodity information for incoming shipments or regulated articles prior to arrival in Hawai'i. The purpose of the system is to improve inspection efficiency by allowing commodity information to be screened prior to arrival and shippers/importers to be notified prior to arrival which cargo will be inspected or released based on a risk assessment table. The system also provides a mechanism by which information submitted generates statistics necessary to update and maintain commodity and pathway risks as well as track what items are being imported to Hawai'i.

PQB's statutory mission is to detect invasive species on or in cargo arriving from the continental United States and other Hawaiian Islands. According to the department, a fully integrated e-Manifest system "ties things together as a whole," which could result in added protections for the State as well as increased efficiencies for PQB and shippers.



Source: Office of the Auditor

Recommendation 1c

The Hawai'i Department of Agriculture should determine the personnel necessary to implement and operate a data-driven biosecurity program, ensuring that PQB is sufficiently staffed and supported to carry out these complex and specialized duties.

Not Implemented

Comments

We found that the department has prioritized its vacancy list for recruitment of Plant Quarantine (PQ) positions necessary to implement the biosecurity program. The agency reports PQ Inspector V Specialists and PQ Inspectors I/IIs have been recruited with higher priority, and recruiting of Technicians and Aides became a lesser priority. We also found that, in FY2017, a total of 21 PQB positions were filled, including PQ Inspector V Specialists. In FY2018, a total of 19 PQB positions were filled for Oahu, Maui, and Hawai'i.

The agency reported that it filled vacancies for the following positions: Inspection & Compliance Chief, Specialist & Port Supervisors, and Master Journeyman. The Master Journeyman position has been filled for O'ahu, Maui, and Hawai'i. Specialist and Port Supervisor positions have been filled for O'ahu and Hawai'i.

The agency also reported that two dedicated staff members will continue to work on training and testing until the system is completely rolled out. Although PQB has taken steps to implement the biosecurity program, we could not find enough at this time to conclude that substantial progress has been made to determine the number and necessary qualifications of personnel needed to implement its new system and use the new data-driven biosecurity program.

Recommendation 1d

The Hawai'i Department of Agriculture should ensure timely recruitment of vacant PQB positions, paying particular attention to filling vacant managerial positions with permanent hires.

Implemented

Comments

HDOA reported that they continued to actively fill vacant PQB positions. We found that in FY2017, 21 PQB positions were filled, including the Inspection and Compliance Chief, O'ahu Maritime Port

Supervisor, and subordinate Specialist positions. We also found that the Master Journeymen positions who serve as shift supervisors were filled in FY2017; two for O'ahu, one for Maui, and one for Hilo. PQB also reported that, in FY2018, a total of 19 PQB Inspector positions were filled for O'ahu, Maui, and Hilo. Out of the positions filled, two are Specialist & Port Supervisors. The agency reported that, as of August 31, 2019, 89 of the 90 PQB positions were filled, which reduced the PQB vacancy rate from 25.3 percent at the end of FY2016 to 1.1 percent at the end of FY2019.

Recommendation 2a

The Plant Quarantine Branch should develop appropriate policies and procedures to ensure that its inspectors carry out the branch's biosecurity plan.

Partially Implemented

Comments

PQB stated that the development of appropriate policies and procedures to ensure that its inspectors carry out the branch's biosecurity plan is ongoing. PQB also stated that it is focusing its efforts on utilizing the training program to standardize inspection processes, policies, and procedures by incorporating them directly into each of the training modules. PQB emphasized that the branch will be having statewide meetings quarterly, alternating via teleconference and in-person meetings, to ensure operational consistency throughout the state.

The agency initiated an inspector assessment program, which assesses an inspector's knowledge and performance as part of standard guidelines and procedures. The agency noted that the assessment program will be a statewide assessment. Different assessment programs will be created for Inspectors I, II, and III. The agency had discussed whether to assess journeymen inspectors since this is a new concept and a work in progress, but acknowledged that management would first like to establish a baseline or benchmark of the journeyman's performance abilities and capabilities. The agency stated that the guideline on the PQB training process is made up of four stages: Tell-Show-Do-Review. During each stage, the inspector will be provided with reference materials and assignments related to their day-to-day tasks.

Further, new information and procedures are distributed to the staff using emails, meetings, and memos. The agency also sent emails to introduce PQB staff to the new data system, along with a training guide on the e-Manifest process. The agency noted that pest alert memos are sent to staff that include information of potential incoming pests

and procedures that inspectors need to use for shipment quarantine. In addition, the branch distributed sign-up flyers for staff to attend training workshops.

PQB held a statewide managerial meeting for two days in August 2019 to discuss statewide strategic planning. Managers from Hilo, Kona, Maui, Kaua'i, and O'ahu were present to discuss PQB policies, procedures, and training. PQB provided copies of some of their meeting minutes and training materials, which included guides for their e-Manifest module, Imports Inspections Process, and Quarantine Process. Accordingly, we found that while PQB has taken steps towards implementation of this recommendation; it is, as the agency acknowledges, an ongoing process.

Recommendation 2b

The Plant Quarantine Branch should provide staff with the appropriate training to carry out this new approach.

Partially Implemented

Comments

PQB established a new inspector training program that consists of training materials including a training manual for new inspectors containing rules and regulations with PQB policies, standard operating procedures and memos; demonstrations to the trainees that incorporated the "Tell-Show-Do-Review" method; informational documents on each duty performed, which describe the procedures and guidelines to follow; Microsoft PowerPoint presentations for various inspectional duties and activities; and questions to test the knowledge of the rules, regulations, procedures and protocols that inspectors need to know.

The branch provided some of its training materials, including guides for its e-Manifest module, Imports Inspections Process, and Quarantine Process. The branch stated all training documentation materials are stored on the server for its inspectors to access. Training documentation materials are categorized by position levels. The branch also stated that its training documentation is in various stages of completion due to the broad spectrum of duties and tasks that are encompassed within PQB. PQB also provided a template of its training schedule for its inspectors. PQB's training approach is ongoing due to the implementation of the new inspector training program and installation of the new data system.

Recommendation 2c

The Plant Quarantine Branch should periodically review and update policies and procedures to ensure continued relevance.

Partially Implemented

Comments

PQB reported training material is updated when new information and procedures are identified or as needed. PQB noted that a re-training program is being finalized to start the process of re-enforcing standardized operations for all inspectors. PQB's education specialist is to serve as a statewide program specialist and subject matter expert responsible for PQB's outreach and training program. The education specialist prepares, modifies, and updates standard operating procedures and other PQB policies to ensure that procedures and practices pertaining to operations are done in a uniform, consistent, safe, professional, and timely manner. The agency plans to work with its education specialist to maintain training materials as PQB finalizes the system. PQB stated that the agency assigned two dedicated staff members to continue to work on training and testing, which will be maintained until the new system is completely rolled out. Since PQB has only recently developed policies and procedures relating to the new system, we cannot assess this recommendation that PQB *periodically* update those policies and procedures. Training and installation of the new system continues, so PQB's process of review and updating policies and procedures is still in development.