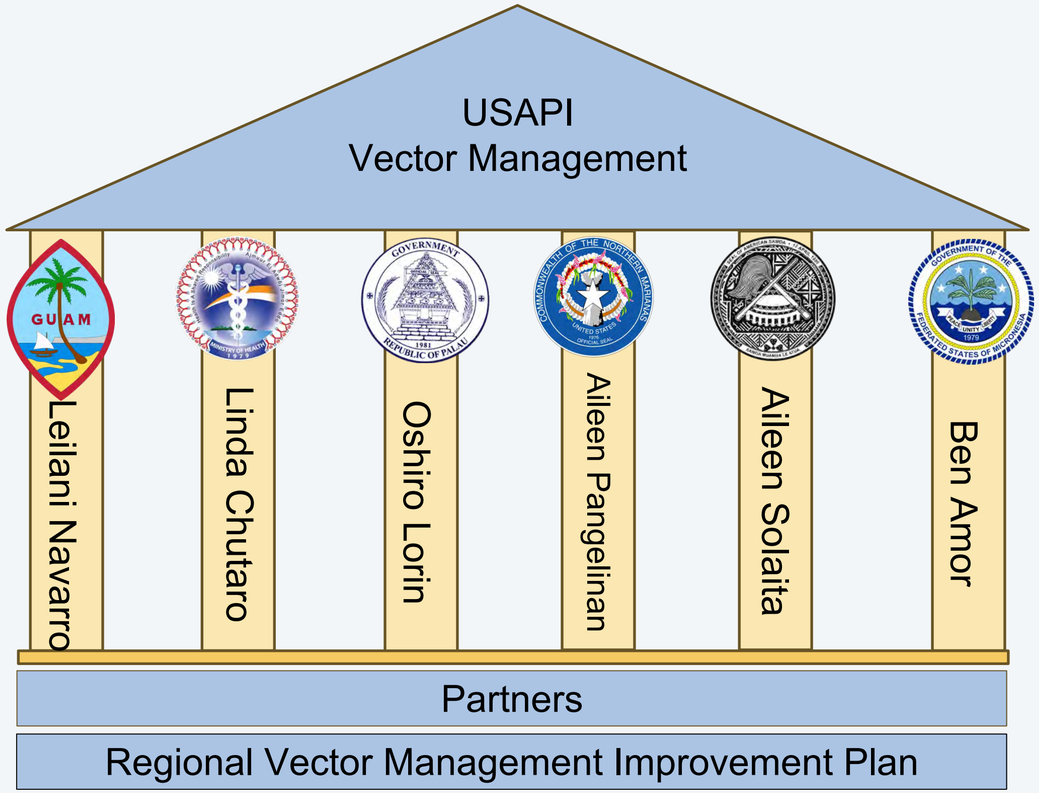
USAPIs Vector Management, PIVMC, and the Pacific Vector Network

74th PIHOA Executive Board Meeting
Honolulu, March 26th
Limb Hapairai, Regional Medical Entomologist

USAPIs Vector Management





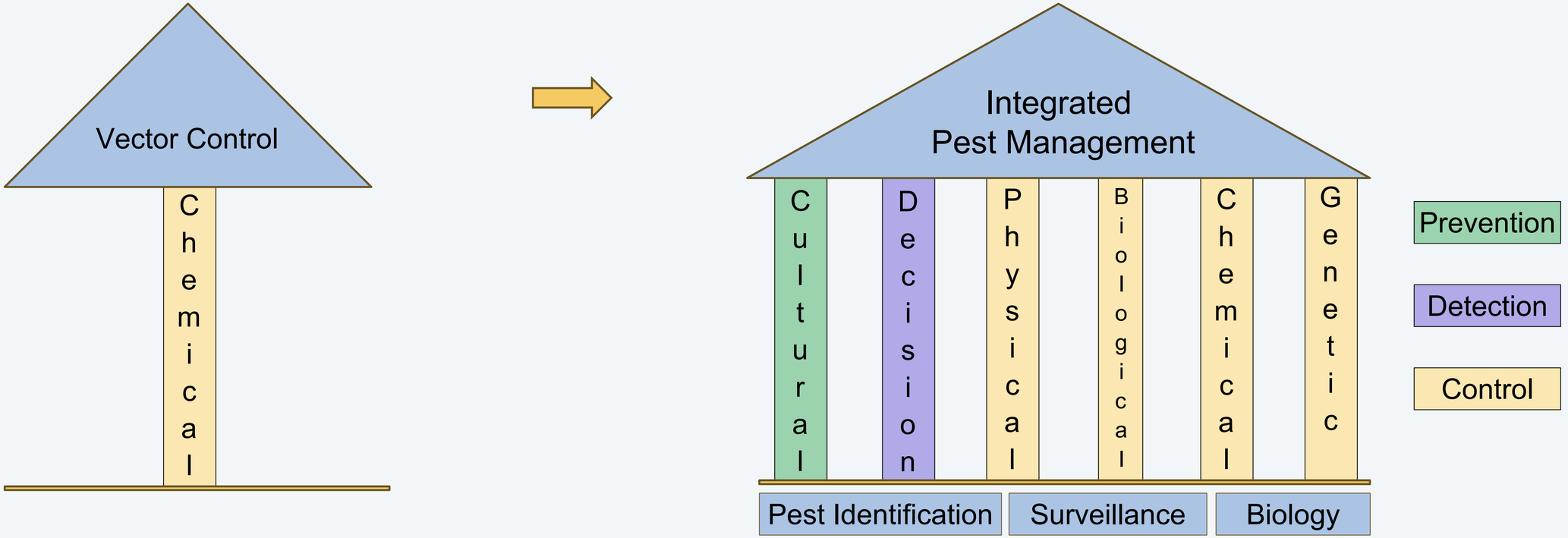






USAPIs Vector Management

SHIFT to IPM



Cultural Control

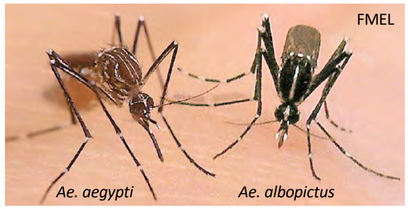
CONTROL MOSQUITOES OUTDOORS

Help prevent mosquitoes from laying their eggs and breeding by following these tips:

- Once a week, empty or throw out any items that hold water like cans, cups, dishes, bottles, coconut shells, and any other container that can hold water.
- Tightly cover water storage containers (rain barrels, buckets, water jugs, etc.).
- Use mesh, screen, or solid covers to place over all containers without lids.
- Use approved larvicide to treat containers that cannot be covered or dumped out.



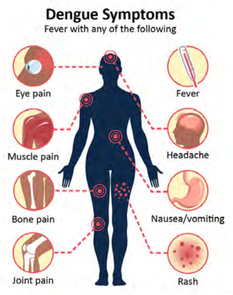
THE *AEDES* MOSQUITO

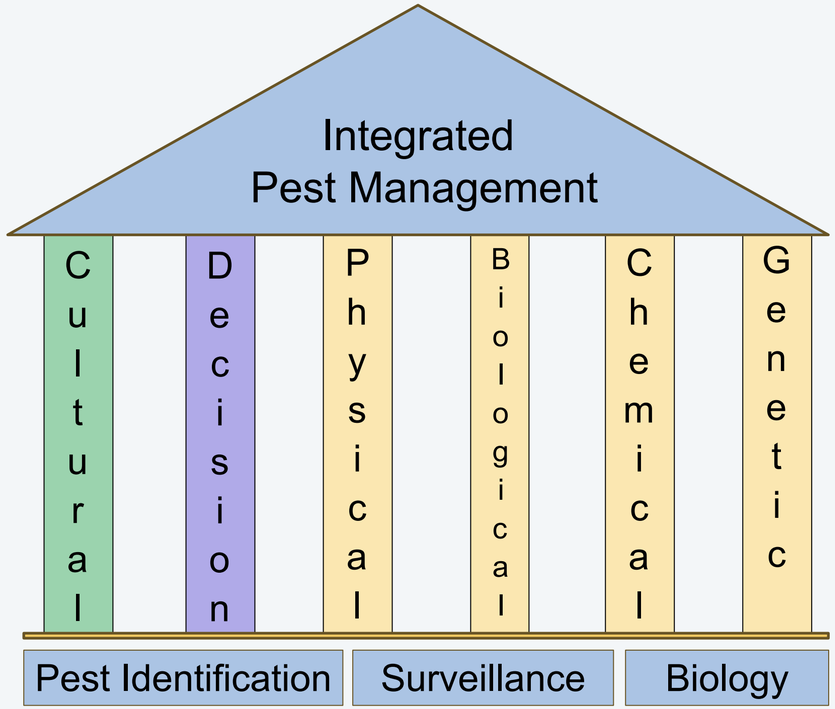


These aggressive day-biting mosquitoes impact our way of life by making our living and working spaces less enjoyable. They increase the risk of spreading mosquito-borne diseases like dengue fever, Zika, and chikungunya.

Please seek medical assistance if you experience any of these symptoms (see Dengue Symptoms figure to the right).

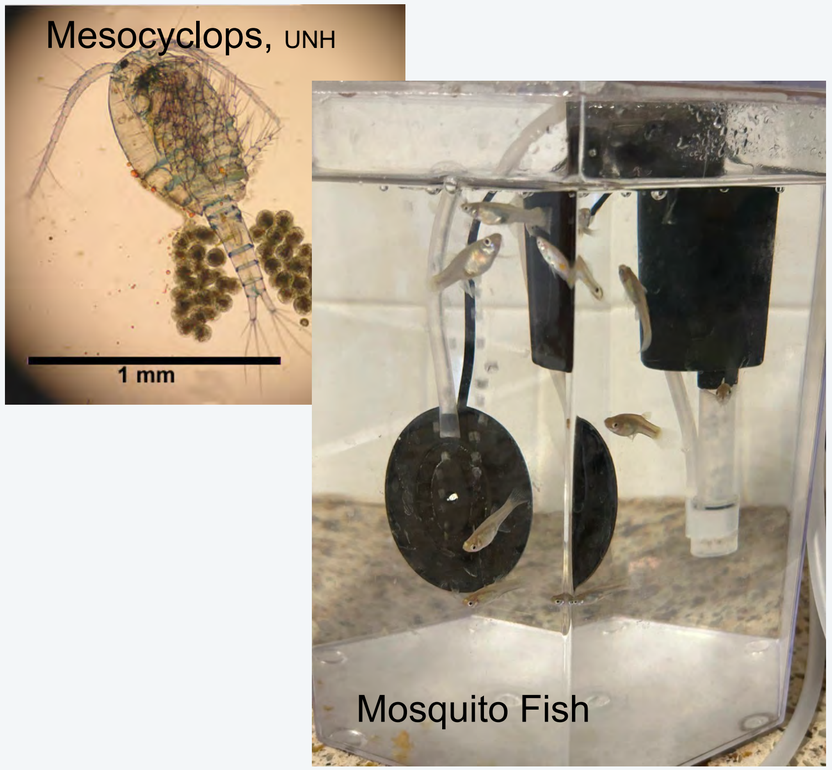
Symptoms usually begin 3 to 14 days after getting bit by an infected mosquito.

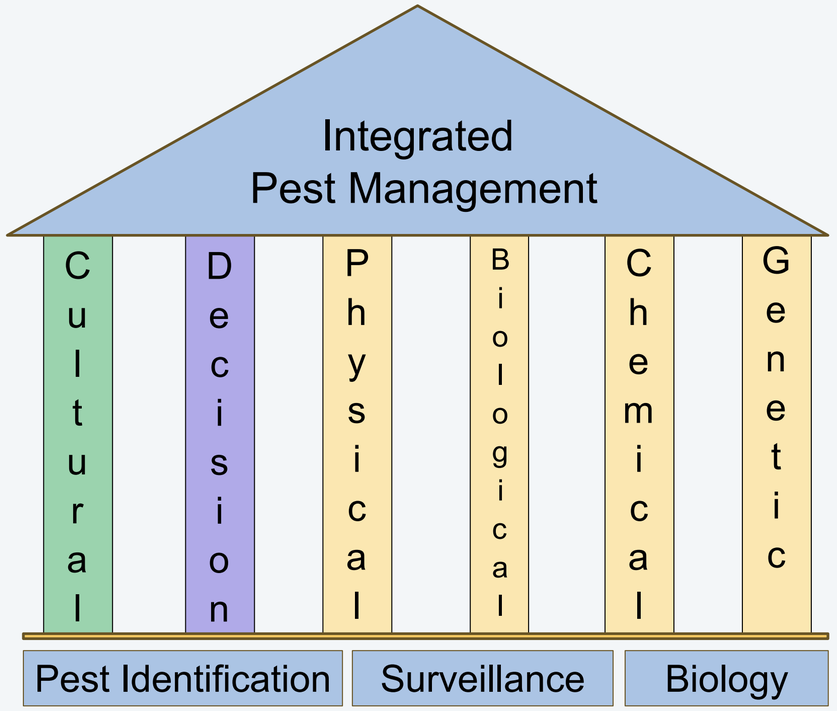




Prevention

Biological Control

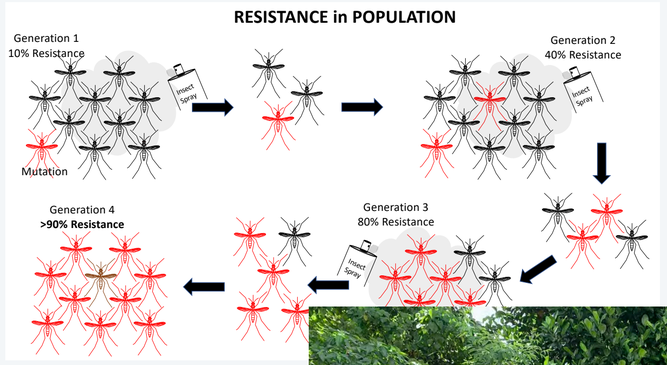




Control

Prevention

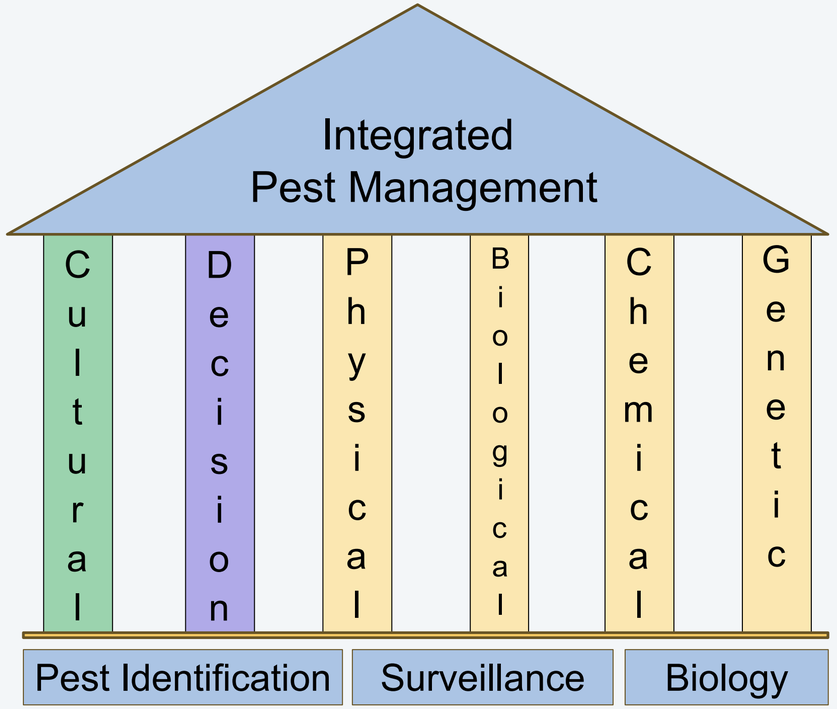
Chemical Control



Bottle Bioassay Training



Targeted
Indoor and outdoor Insecticide Residual Spray Training



Control

Prevention

Public Health Pesticide Applicator Licenses



2021

- Palau Division of Environmental Health
- Palau Environmental Quality Protection Board
- Koa Moana 21
- PIHOA



Particiapants includes: Pohnpei State Environmental Protection Agency
Health and FSM Department of Health & Social Affairs

2023

Pohnpei: 23 Public Health licensed applicators

- Pohnpei Division of Public Health
- Pohnpei Environmental Protection Agency
- FSM National Environmental Health and Food Safety Program

Kosrae: 13 Public Health licensed applicators

- Kosrae Department of Health Services
- Kosrae Island Resource Management Authority

Palau: 2024 renewal

- Palau- Division of Environmental Health
- Palau Environmental Quality Protection Board

Plans for Yap, Chuuk, and American Samoa….

The Pacific Island Vector Management Council Celebrates Five Years!

by Rosanna Yoon Rabago, Grayson Brown, Limb K. Hapairai

November 2023 marks the fifth anniversary of the Pacific Island Vector Management Council (PIVMC), which is comprised of vector control professionals from the U.S. Affiliated Pacific Islands (USAPI) of American Samoa, Commonwealth of the Northern Mariana Islands (CNMI), Federated States of Micronesia (FSM), Guam, Republic of the Marshall Islands (RMI), and the Republic of Palau (Fig. 1).

Since the 1970s, pathogens transmitted by *Aedes* mosquitoes have led to more than twenty dengue, chikungunya, and Zika outbreaks in USAPIs (Matthews et al. 2022, Kern-Allely et al. 2020). Traditionally, the USAPI did not conduct vector surveillance, control, or prevention education and only responded to cases. This style of vector management was compounded by unique challenges, including the lack of expertise, limited resources, cultural diversity, socio-economic issues, and remoteness, often resulting in significant and long outbreaks.

The USAPIs are spread out over more than twenty million km², an area greater than two and one-half times greater than the contiguous U.S. Each island group is its own jurisdiction with its own legal and regulatory environment, culture, customs, and unique mosquito complexes. Coordinating a vector management plan over such an area requires a different approach, a plan that facilitates communication and collaboration.



Fig. 1. In-person meeting in Hilo, Hawaii. From left to right: Osiro Lorin, Republic of Palau, Environmental Health Specialist; Tuiluaai Sualevai-Taufaasau, American Samoa, Environmental Health Inspector; Niel Tirador, Guam Environmental Public Health Officer/Chair, PIVMC; Derek Manglona, Commonwealth of the Northern Mariana Islands, Environmental Health Technician; Jackson Jacklick, Republic of Marshall Islands, Vector Control Technician; Wilson Mackwelung, Federated States of Micronesia - Kosrae State, Vector Control Coordinator; Curtis Sos, Federated States of Micronesia - Chuuk State, Chief of Environmental Health and Sanitation; and Enele Potoae, American Samoa, Health Inspector.
Attendees are listed in the following order: name, island country, and position title.

With this in mind, the USAPI health officials adopted the Regional Vector Management Strategic Plan (RVMSP, PIHOA 2018) to strengthen their ability to prevent and respond to future mosquito-borne diseases (MBD) by:

1) Facilitating the implementation of a strategic regional approach to vector management.

2) Increasing dialogue between the jurisdictions and partner organizations to improve capacity-building activities and resources.

3) Serving as a coordination platform for jurisdictions' mosquito surveillance with the Pacific Island Regional Vector Laboratory (PIRVeL) in Guam.

A prominent feature of the Strategic Plan was the creation of the Pacific Island Vector Management Council (PIVMC). Each island jurisdiction has a representative on the council, and the council members regularly meet to share information relevant to vector management in the region. The PIVMC has since established itself as the coordinating body, giving cohesion to vector management throughout the Pacific region.

The PIVMC chair, co-chair, and members from the USAPIs vector management supervisors and staff are assigned by Ministry of Health/Department of Health leaders. Currently, the chair and co-chair are held by the Guam Department of Public Health and Social Services (DPHSS) Division of Environmental Health and CNMI Environmental Health Disease Prevention. The PIVMC also invites partners for guidance and resources, including government agencies, academic institutions, and non-governmental organizations.

Pacific Island Vector Management Council

The **PIVMC Logo** serves as a source of pride for its membership, a testament to their continued dedication to each other and their respective island community as they work together to help prevent arboviral diseases in the Pacific region.

- The mosquito represents the common foe that transmits arboviral diseases to the USAPIs and our partners.
- The six dots symbolize the geographic location of the six USAPIs.
- The coconut tree is a vital staple for the islands for food, drink, oil, clothing, shelter, mats, baskets, medicine, and more.
- The island mound is a reminder of each council member's stewardship of the environment.
- Lastly, the ocean represents the Pacific Ocean, which connects all the islands. The tree, island, sun, and ocean represent the islands' tropical environment and the year-round threat of mosquito-borne diseases.

Pacific Island Vector Management Council









Partners

Pacific Southwest Center of Excellence Vector-Borne Diseases (PacVec)
U.S. Centers for Disease Control and Prevention (CDC)
University of California- Davis
Association of State and Territorial Health Officials (ASTHO)
Walter Reed Biosystematics Unit (WRBU)
Puerto Rico Vector Control Unit (PRVCU)
and more

TROPICAL ISLANDS
TRAINING & EVALUATION CENTER

















Aims

- To increase the number of trained vector management personnel in the Caribbean and Pacific islands
- To develop and implement evaluation activities and projects that lead to the use of recommended practices and the adoption of new vector management technologies
- To increase the number of partnerships among state/local public health agencies, academic institutions, and other stakeholders involved in vector control activities

Pacific VECTOR NETWORK



Inaugural Pacific Vector Network Meeting, June 2023 Honolulu

Pacific VECTOR NETWORK

Core Members: nominated representatives of Departments and Ministries of Health (MoH) of PICTs

Allied Members: regional research or training institutions, agencies, laboratories, and other organizations or networks

		Chair	Co-Chair				
Technical Working Body	WF	GU	WS	FJ	SB	AS	TK
	NC	NR	CK	PG	MP	PW	TO
	PF	KI	NU	VU	FM	MH	TU

Temporary TWB

Secretariat & Permanent TWB

TBD1, TBD2, TBD3

PIHOA, WHO, SPC

Focal Point

Pacific VECTOR NETWORK



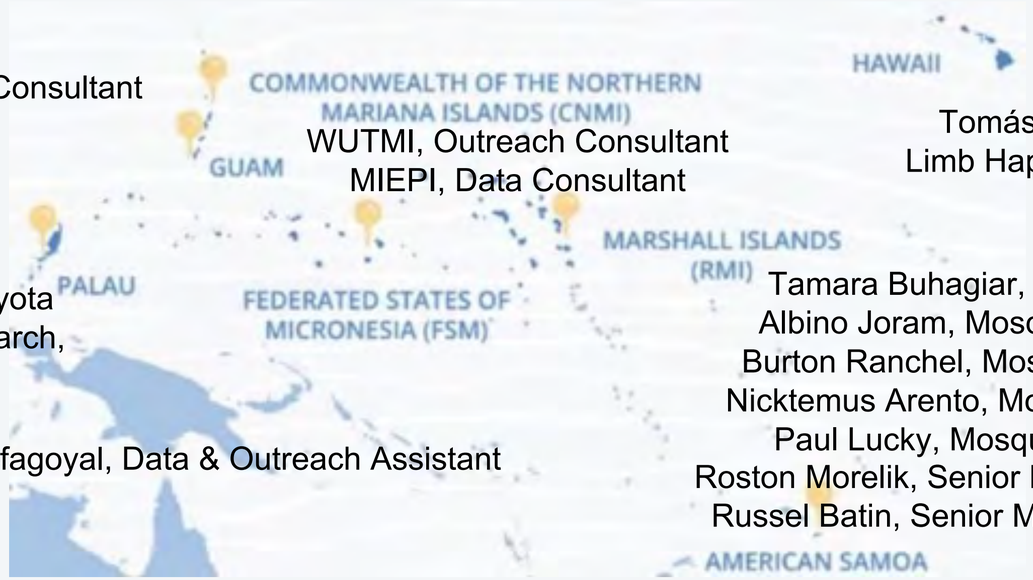
PacVec & Pacific VecNet Training in Hilo, September 2023

- Ensure the PVN members meet & communicate
- Promote sharing of information among members
- Improving entomology skills and laboratory capacity
- Establish or improve the capacity of vector lab for each sub-region
- Strengthening preparedness and response to outbreaks
- Use of digital tools for collecting and sharing vector surveillance data.

2024 annual meeting, July 15-17th in Guam

PIHOA Vector Team

Rosanna Rabago, Technical Support Consultant



WUTMI, Outreach Consultant
MIEPI, Data Consultant

Tomás León, Climate Science Consultant
Limb Hapairai, Regional Medical Entomologist

Christopher Kitalong and Sasha Kyota
Pacific Academic Institute for Research,
Outreach Consultant

Jacquelyn Lefagoyal, Data & Outreach Assistant

Tamara Buhagiar, SIT Project Manager
Albino Joram, Mosquito Field Technician
Burton Ranchel, Mosquito Field Technician
Nicktemus Arento, Mosquito Field Technician
Paul Lucky, Mosquito Field Technician
Roston Morelik, Senior Mosquito Field Technician
Russel Batin, Senior Mosquito Field Technician


Thank You!