

HAWAII MUST LEAD THE GLOBAL FIGHT AGAINST THE COCONUT RHINOCEROS BEETLE

A Presentation to the Hawaii Invasive Species Council

PRESENTED BY

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IPSC

Executive Summary



Comprehensive **10-year eco strategy** to eradicate the Coconut Rhinoceros Beetle (CRB)



Threat to Hawaii's ecosystem, particularly coconut palms, bananas, sugarcane, and taro



Potential damage: \$500 million to \$1 billion over next 10 years



WHAT YOU'LL SEE:

- Introduction
- The Problem
- Our Mission
- The Battle Plan: Step by Step
- CRB Research Center
- Long term Vision





WHAT IS CRB?

- The Coconut Rhinoceros Beetle (CRB) was first detected in Hawaii around 2013.
- The Coconut Rhinoceros Beetle (*Oryctes rhinoceros*) is **a large pest insect native to Southeast Asia and the Pacific.**
- It **primarily targets coconut palms**, but also affects other palms like oil palms and areca palms.
- **The beetle damages the trees** by boring into the crown, leading to reduced fruit production, weakened trees, and potential death.



Source Link: [National Invasive Species Information Center](https://www.nisic.gov/hawaii/invasive-species/coconut-rhinoceros-beetle/)

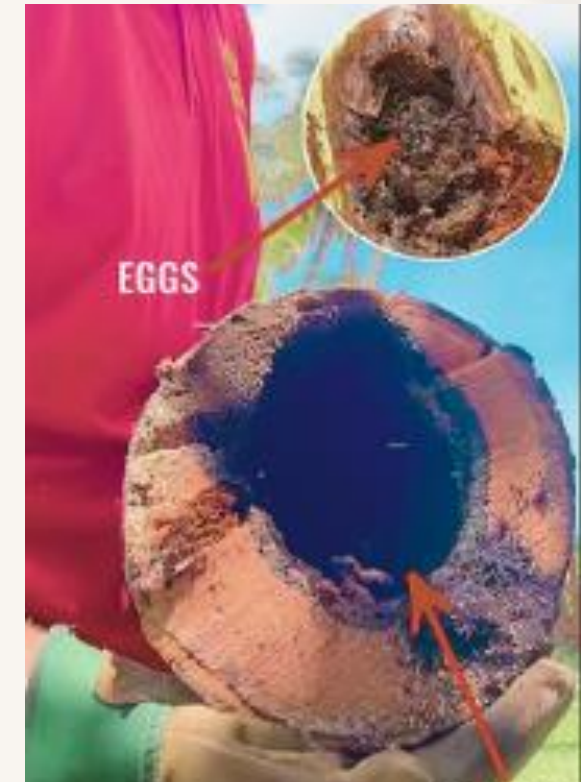


CRB IS A THREAT !

- Destructive insect that damages palm trees by boring into crowns.
- Immediate threat to Hawaii's agriculture, tourism, and food security
- Without action: \$500M-\$1B in damage over next decade
- Ecological impact: Loss of iconic palm landscapes, ecosystem imbalance, soil erosion



CRB IN HAWAII



The images show CRB damage on different parts of a coconut tree, with the beetle boring through outer fronds to reach the inner spear or heart of the palm.

Source Link: [University of Guam CNAS](#)

Source Link: [Coconut Rhinoceros Beetle Response](#)

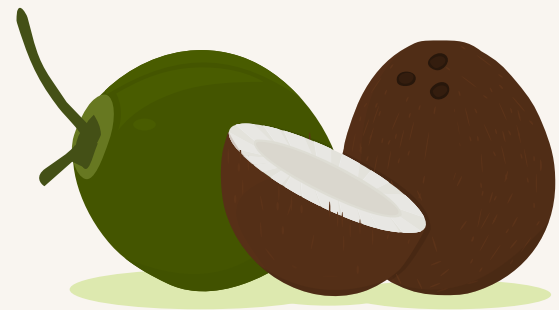


THE PROBLEM



THE PROBLEM

The Coconut Rhinoceros Beetle (CRB) poses a significant threat to vital crops in Hawaii, including:



Coconut



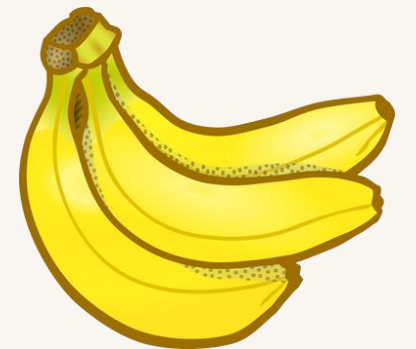
Sugarcane



Breadfruit



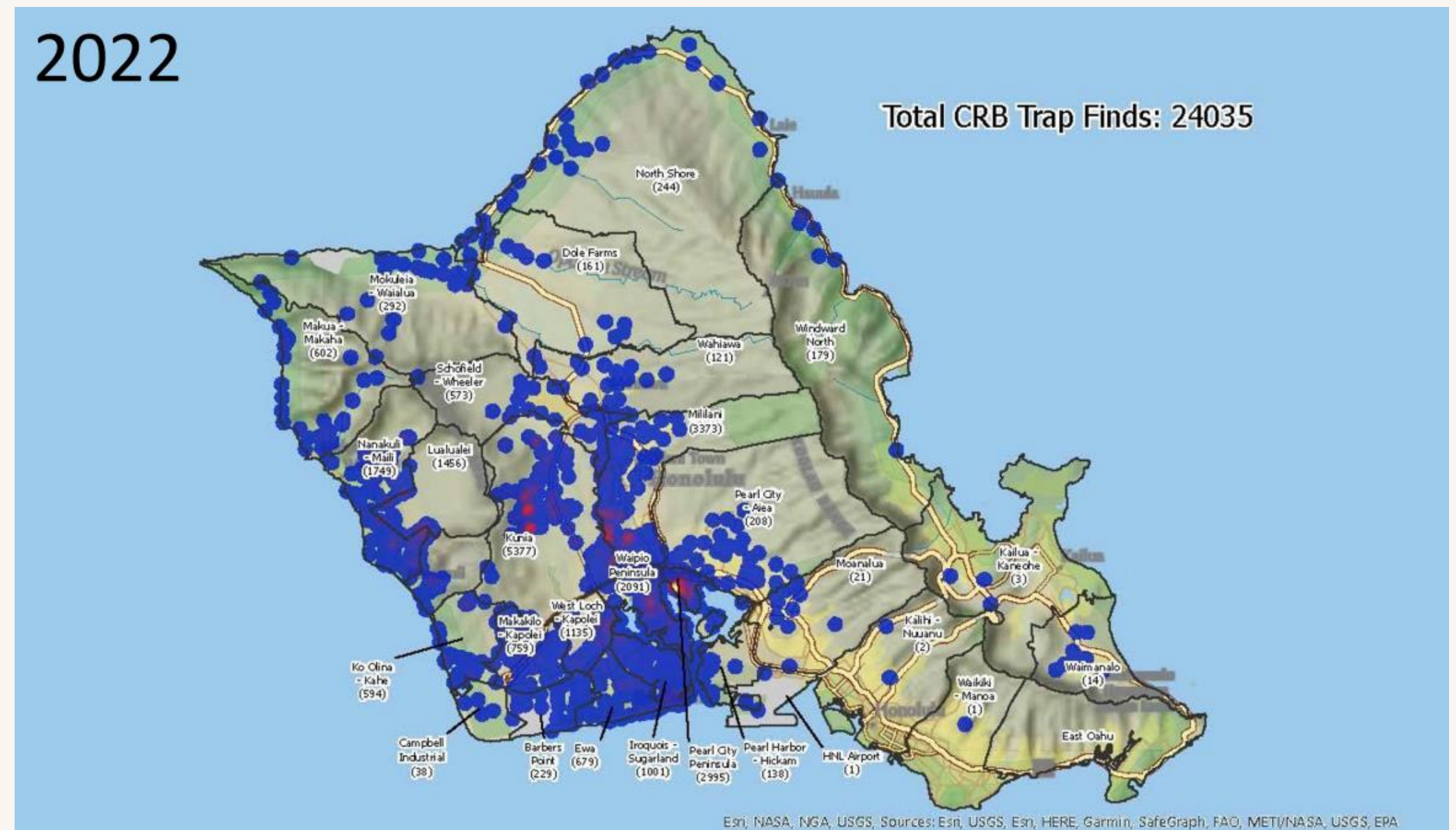
Taro



Bananas

Impacts of the CRB Infestation in Hawaii

- Widespread damage across agricultural regions
- Threatens farmers' livelihoods and local food security
- Rapid beetle spread causes:
 - Significant economic losses
 - Rising control and management costs
 - Concerns over long-term industry health
- Efforts to manage and contain the beetle are ongoing, **but the extent of the damage underscores the urgent need for effective control strategies.**



Protecting these plants is critical for preserving our local heritage and maintaining a healthy, balanced ecosystem and local economy.

Addressing this threat is critical for Hawaii's agricultural sustainability.

OUR MISSION

OUR MISSION



Stop the spread of the coconut rhinoceros beetle



Use non-toxic, physical, and natural methods for control

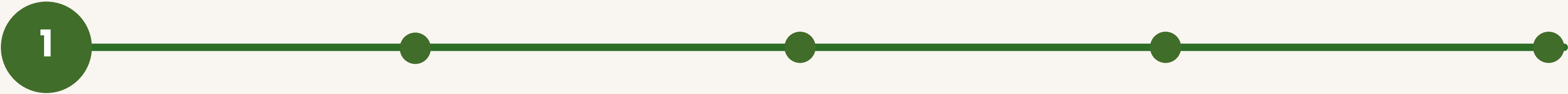


Mobilize communities and build infrastructure to support efforts

THE BATTLE PLAN

THE BATTLE PLAN

STEP BY STEP



Surveillance & Mapping

Natural & Physical Control

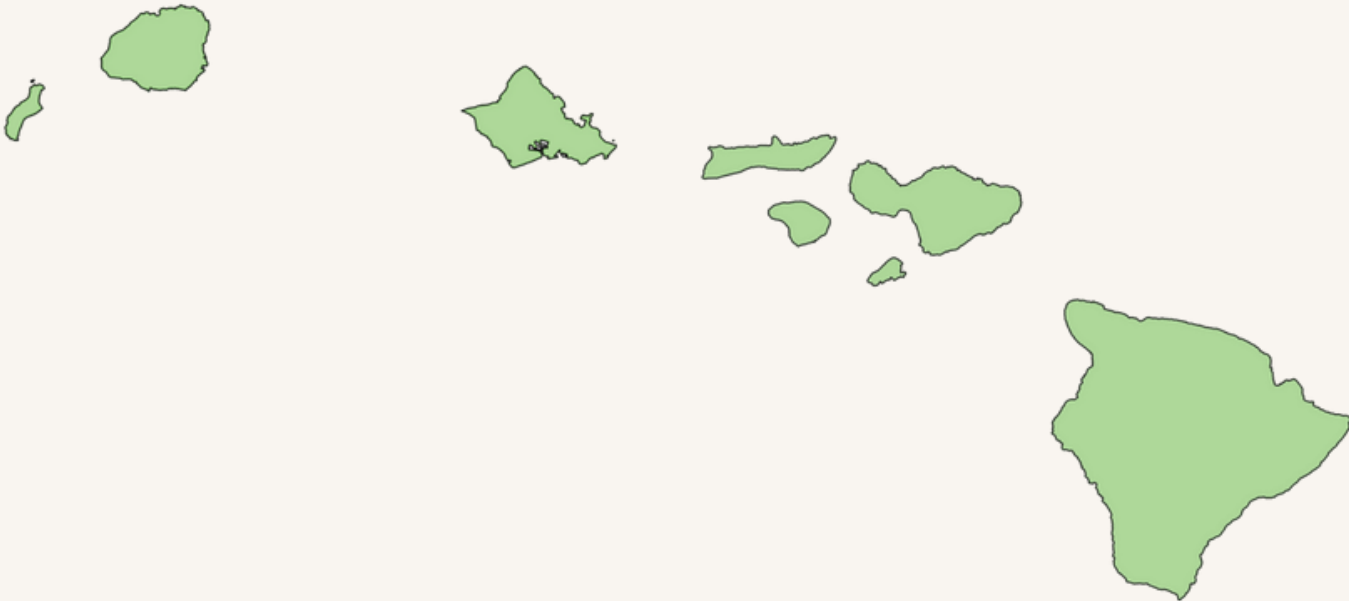
Trapping & Lures

Community Involvement

Research & Development Center



Map infestations using **community reports, drones (with thermal imaging, and GIS technology.**



Focus on target hotspots first for efficient management.

THE BATTLE PLAN

STEP BY STEP

1

Surveillance & Mapping

Natural & Physical Control

Trapping & Lures

Community Involvement

Research & Development Center



Training Dogs

Establishing a training program for 50 detection dogs, with an initial goal of deploying 10 trained dogs and handlers. This approach leverages canine scent detection to locate beetle infestations early.

THE BATTLE PLAN

STEP BY STEP

2

Surveillance & Mapping

Natural & Physical Control

Trapping & Lures

Community Involvement

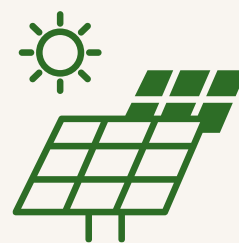
Research & Development Center



Use grinding, hot water, and salt water methods



Developing and applying a unique, eco-friendly mixture of food-grade wax, diatomaceous earth, and natural insecticides like pyrethrum or neem to target and disrupt the beetle's exoskeleton.



using solar exposure, and super-hot water treatments to kill beetle larvae.

THE BATTLE PLAN

STEP BY STEP

3

Surveillance & Mapping

Natural & Physical Control

Trapping & Lures

Community Involvement

Research & Development Center

Use UV light traps to attract pests

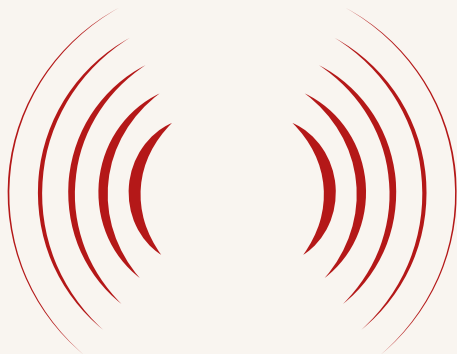


THE BATTLE PLAN

STEP BY STEP



Implementing mandatory netting over compost piles.

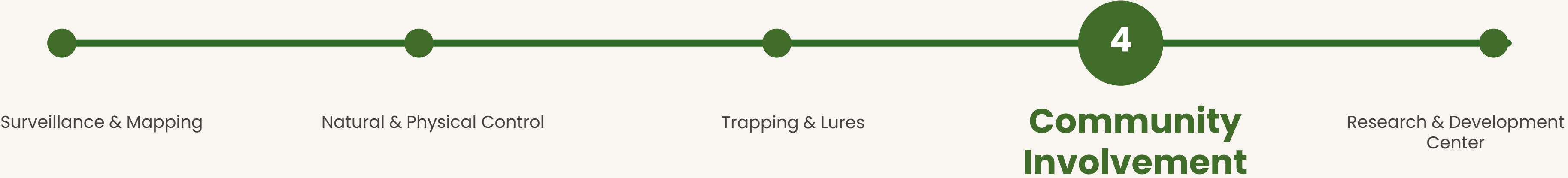


Utilize mating sound replication to disrupt breeding cycles

Simple, scalable, and low-cost solutions for community-wide implementation

THE BATTLE PLAN

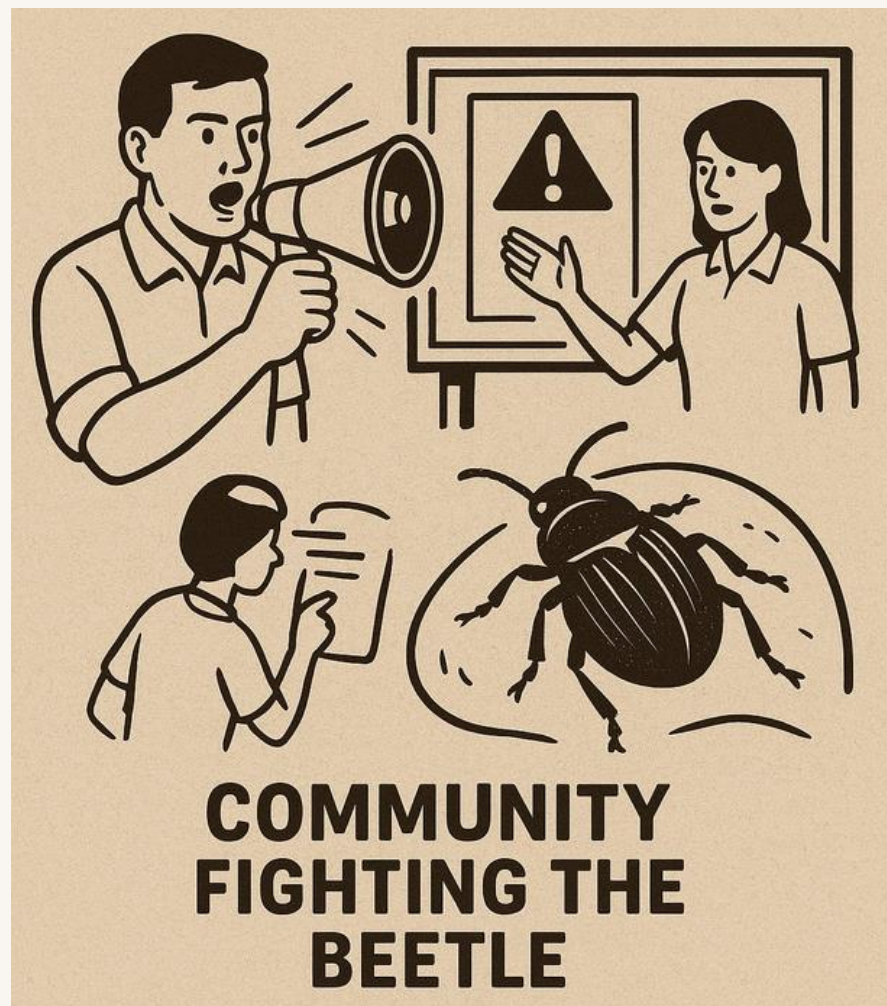
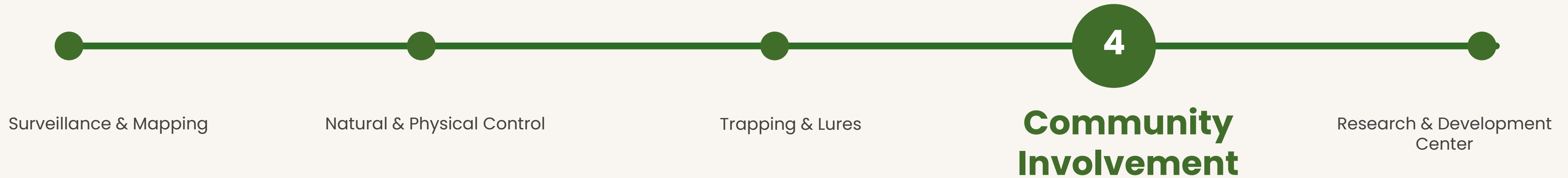
STEP BY STEP



Utilizing **social media and targeted messaging to make the Coconut Rhinoceros Beetle “Public Enemy Number One” in Hawaii.** Through public education, we aim to foster widespread awareness and mobilize every sector of society to support this initiative.

THE BATTLE PLAN

STEP BY STEP



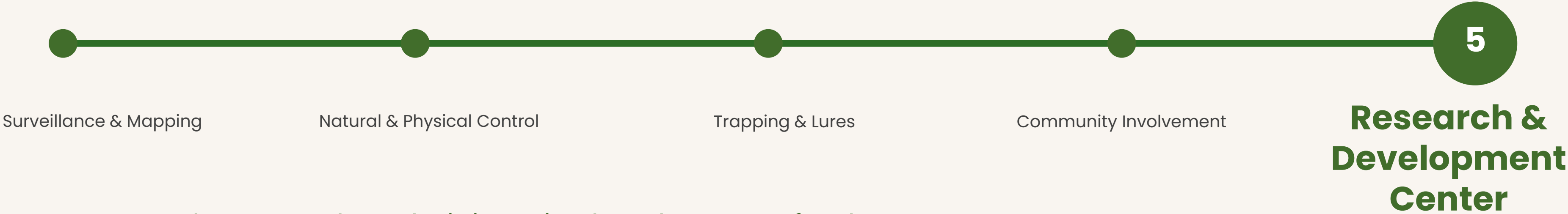
Implement bounty programs to encourage community participation in catching beetles

Use **public alerts** and education **campaigns** to raise awareness

Engage farmers, schools, and volunteers to create a collaborative effort

THE BATTLE PLAN

STEP BY STEP



Set up and operate the administrative headquarters for the Invasive Species Pest Center



THE BATTLE PLAN

STEP BY STEP

5

Surveillance & Mapping

Natural & Physical Control

Trapping & Lures

Community Involvement

**Research &
Development
Center**

- Research: Focus on researching safe, eco-friendly alternatives to chemical pest control treatments:
- Support breeding, testing, and outreach activities, leveraging existing CRBs in the state



THE BATTLE PLAN

STEP BY STEP

5

Surveillance & Mapping

Natural & Physical Control

Trapping & Lures

Community Involvement

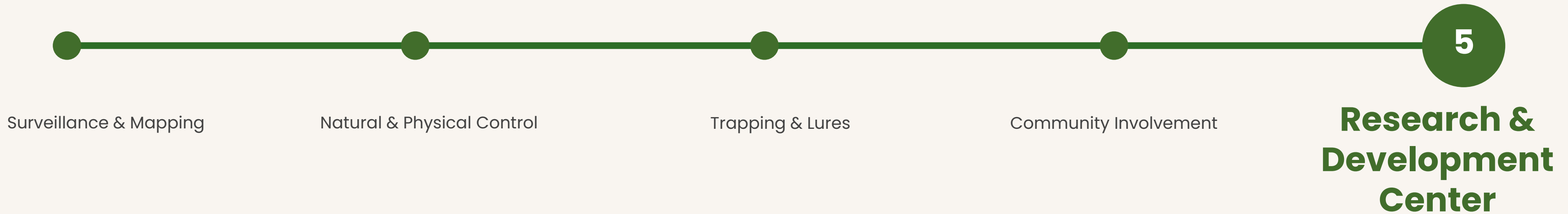
**Research &
Development
Center**

- Develop communications infrastructure (phones, internet, secure data storage)
- Provide administrative support with clerical and operational staff



THE BATTLE PLAN

STEP BY STEP



Statewide Control Centers:

- Setting up 'base yards'—centralized hubs for beetle control across the islands Each base yard would act as a strategic base equipped with:
 - Office trailers
 - Power generation
 - Hot water tanks
 - Fuel
 - And more to support eradication efforts.

CRB RESEARCH CENTER

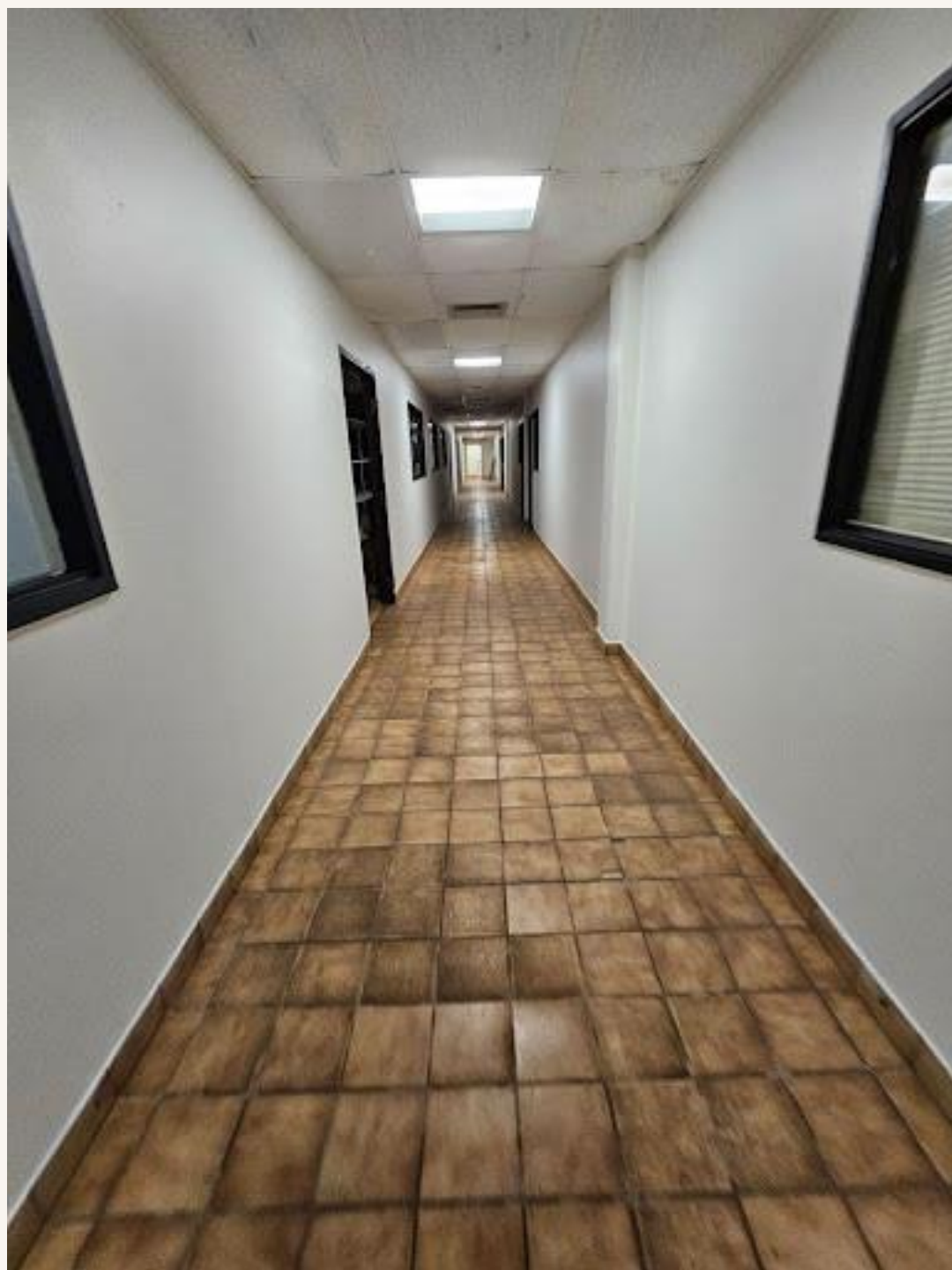


Detecting Coconut Rhino Beetle Infestation



Invasive Species Pest Center

41-745 Mooiki Street
Waimanalo, HI 96795









FUNDING AND LONG TERM COMMITMENT

FUNDING SOURCES AND FLOW OF FUNDS

Securing a real budget for this eradication effort is crucial. This 10-year plan will require consistent funding, coordination, and active participation from both the private and public sectors.

Primary Funding Sources

- 1. State Funding:** Initial funding through Hawaii's budget allocation, disaster funds.
- 2. Federal Funding:** USDA, EPA grants for invasive species control, environmental protection.
- 3. Nonprofits and Foundations:** Contributions from The Nature Conservancy, Bill & Melinda Gates Foundation.
- 4. Private Sector and Tourism Partners:** Funds from tourism, agriculture, and green waste management companies.

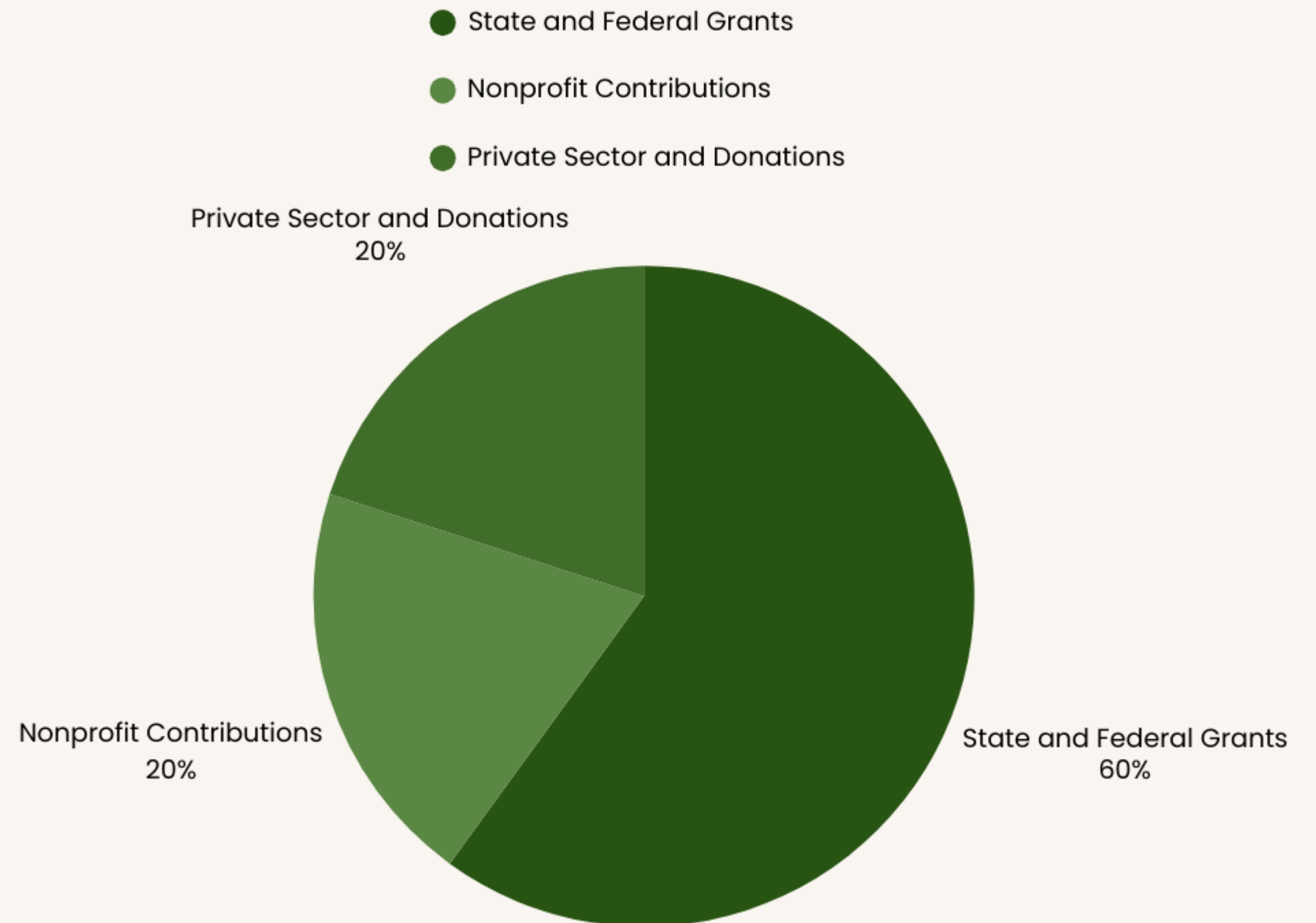
FUNDING SOURCES AND FLOW OF FUNDS

FLOW OF FUNDS

1. State and Federal Grants (60%): First line of funding, covering critical technologies and initial biological controls.

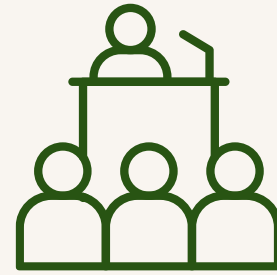
2. Nonprofit Contributions (20%): Support for public education, community engagement, and technology.

3. Private Sector and Donations (20%): Supplemental funding, especially for long-term sustainability efforts.



VISION

OUR VISION



Our vision is to create a future where accessible, non-toxic solutions protect our communities and ecosystems, ensuring that united action today safeguards a prosperous and sustainable tomorrow.

“

There is a non-toxic, affordable path forward. By uniting our efforts today, we can prevent devastating losses tomorrow.

MAHALO

Thank you for your time and consideration

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