



Tracking Awareness of and Attitudes toward Invasive Species in Hawaii

2006 Telephone Survey of Statewide Residents

Prepared for:

The Coordinating Group on Alien Pest Species (CGAPS)

June 2006

Table of Contents

	<u>Page</u>
Objectives and Methodology	3
Profile of Respondents	7
Summary of Findings	8
Appendices:	
Detailed Tables	
Sample Questionnaire	

Objectives and Methodology

Objectives

The overall objective of the survey is:

TO TRACK LEVELS OF AWARENESS AND ATTITUDES TOWARD INVASIVE SPECIES, IN LIGHT OF PUBLIC EDUCATION EFFORTS BY THE COORDINATING GROUP ON ALIEN PEST SPECIES (CGAPS).

Specifically, the survey sought to answer these questions:

- ✓ *What are the current levels of awareness of the invasive species issue?*
- ✓ *What is the level of concern about invasive species, both plants and animals?*
- ✓ *How likely would residents be to purchase plants labeled “non-invasive?”*
- ✓ *How likely are residents to report alien species sightings?*
- ✓ *To what extent would residents support a statewide program to combat invasive species?*

Methodology

- Ward Research interviewed n=504 Hawaii residents on June 1 to June 6, 2006, as part of a statewide omnibus telephone survey.
- The maximum sampling error for n=504 is +/-4.4% at the 95% confidence level.

Island	# Interviews	% Total	Max. sampling error
Oahu	n = 371	74%	+/-5.1%
Neighbor Island Total	n = 133	26	+/-8.5%
Big Island	n = 62	11	
Maui	n = 55	12	
Kauai	n = 16	3	
State Total	n = 504	100%	+/-4.4%

- Statewide data was weighted by age and gender to obtain proportions reflective of the statewide population.
- All households were selected using random-digit dialing, and surveys were completed using CATI (computer-assisted telephone interviewing).
- All respondents were screened to ensure that they were at least 18 years of age. Quotas were also established for island and ethnicity based on census data to ensure a representative sample.
- Upon completion of the surveys, Ward Research edited, coded, data entered, and tabulated the results.

Methodology

- Survey questions were developed by the Coordinating Group on Alien Pest Species (CGAPS). A similar set of questions was asked of a comparable sample of residents in August 2004. Where applicable, data was tracked to monitor changes over time.
- The Detailed Tables following the summary provide cross-tabulation data from key demographic subsamples (i.e., island of residence, ethnic origin, household income, age, etc.).

Profile of Respondents

Years of Residency

	2006	2004
Less than 2 years	2%	8%
2 to less than 5 years	4	9
5 to less than 10 years	5	6
10+ years	40	30
Born and raised	49	47

Age

	2006	2004
18 to 24 years	12%	12%
25 to 34 years	18	19
35 to 44 years	20	21
45 to 54 years	22	22
55 to 64 years	11	12
65+ years	13	13
Refused	4	1
Mean	44.49	44.29

Gender

	2006	2004
Male	50%	50%
Female	50	50

Income

	2006	2004
Under \$25,000	13%	15%
\$25,000 to under \$35,000	10	11
\$35,000 to under \$50,000	14	25
\$50,000 to under \$75,000	14	15
\$75,000+	23	22
Refused	26	12

Ethnicity

	2006	2004
Caucasian	26%	32%
Chinese	5	4
Filipino	17	14
Hawaiian/Part-Hawaiian	21	20
Japanese	19	19
Mixed	7	5
Other	5	6
Refused	1	1

Base: (504) (501)

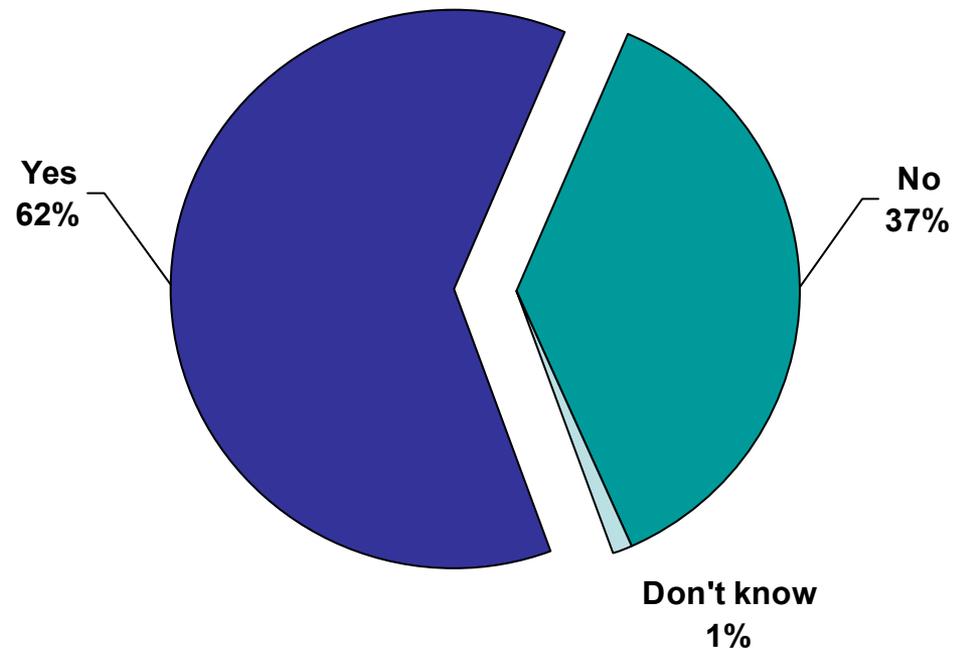
Summary of Findings

Awareness of Alien Pest Species or Invasive Species

More than three in five residents (62%) have read or heard of the “alien pest species” or “invasive species” problem in Hawaii, based on the June 2006 survey.

- Reported awareness of the alien pest/invasive species problem was lower among Filipino (41%) and Hawaiian residents (55%) than among Japanese (66%) and Caucasian residents (77%).
- Among age segments, adults 18-34 years old were less likely to have read or heard of the problem than were older adults.
- More households earning \$75,000 and over reported awareness of the problem (74%) than did those earning between \$35,000 and \$75,000 (67%) and households earning less than \$35,000 (57%).
- No significant differences were found by island of residence, length of residency in Hawaii, or gender.

**Awareness of Alien Pest Species or Invasive Species
2006**



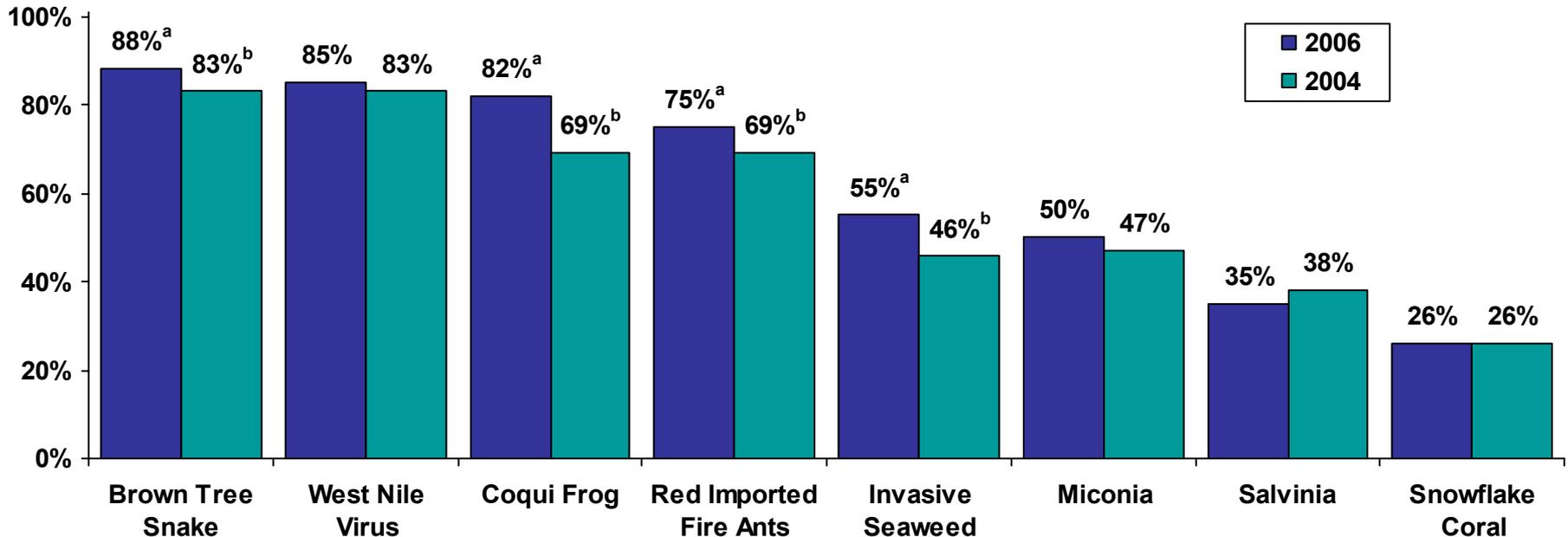
Note: This question was first asked in 2006.

Awareness of Alien Pest Species or Invasive Species

Levels of awareness of six of the eight invasive species tested in the survey increased from 2004; one remained the same (*snowflake coral*) and the other decreased (*salvinia*). The biggest change in 2006: 82% of residents said they had heard of the *coqui frog*, 13 percentage points more than in 2004.

- Proportionately more Big Island residents than residents on the other islands said they had heard of the *coqui frog*.
- Filipinos and residents in households earning less than \$35,000 are less likely to have heard of the majority of these species than other segments, based on survey data.

**Awareness of Invasive Plants and Animals
2004 - 2006**



*a/b denotes differences significant at the 95% confidence level

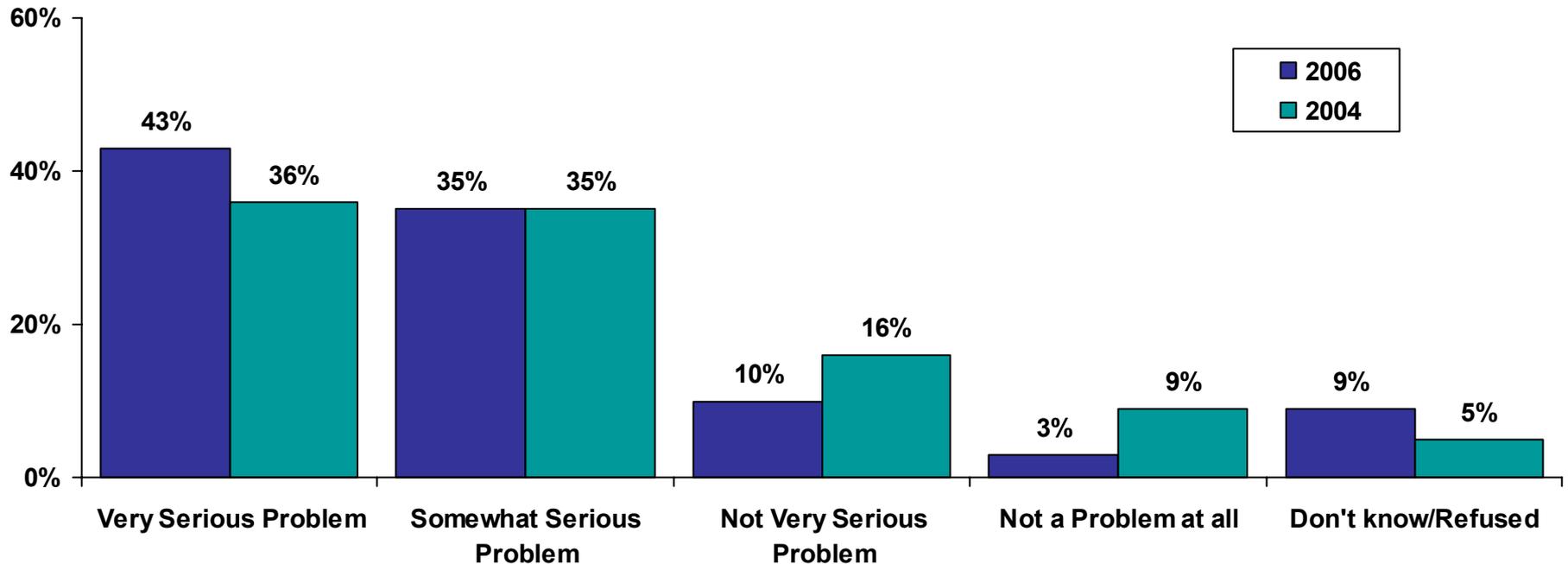
Attitudes toward Invasive Species

Public awareness about the problem of invasive species has increased since 2004. However, most residents don't believe it is a "very serious" problem. Based on survey data, 43% of residents in 2006 believe that Hawaii's invasive species is a "very serious problem," compared to 36% in 2004.

- Neighbor Island residents display more urgency than do Oahu residents toward the invasive species problem (58% saying "very serious problem" vs. 38%).

Responses were based on the following definition of invasive species: *"Invasive species are harmful and undesirable plants, animals, insects, or even microbial organisms that arrive in Hawaii as a result of human actions."*

**Attitudes Toward Invasive Species
2004-2006**



Awareness and Attitudes toward Invasive Plants

Public awareness of the impact of invasive plants increased slightly in 2006. Fewer residents disagreed that *“some plants we plant in our yards and gardens may spread into native forest and damage the ecosystem”* (11% vs. 16%).

One-fourth of all residents (25%) said that if garden stores or nurseries sold only non-invasive plants, “it would make no difference” in their likelihood to purchase there.

- Selling only plants that are non-invasive is less likely to make a difference to those born and raised in Hawaii than those who have lived in Hawaii for a shorter period.

Still, a large majority of residents (91%) said they would support a law to ensure that plants are reviewed for their invasive potential before introduction to the state.

<i>“Some plants we plant in our yards and gardens may spread into the native forest and damage the ecosystem.” Do you . . .</i>			
	2006	2004	+/- Change
Strongly agree	43%	39%	+4
Somewhat agree	40	42	-2
Somewhat disagree	7	11	-4
Strongly disagree	4	5	-1
Don't know/Refused	5	3	+2

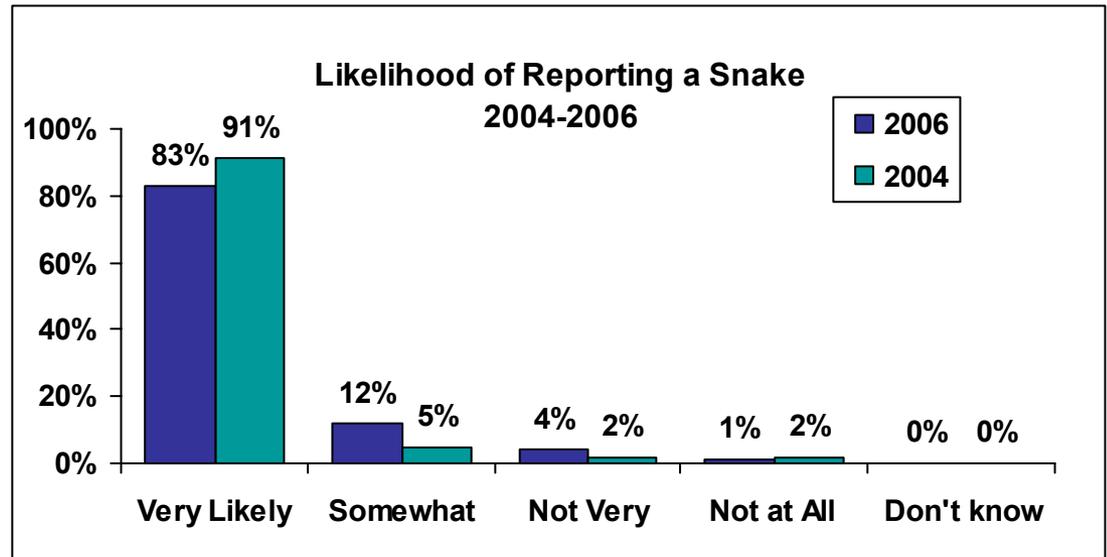
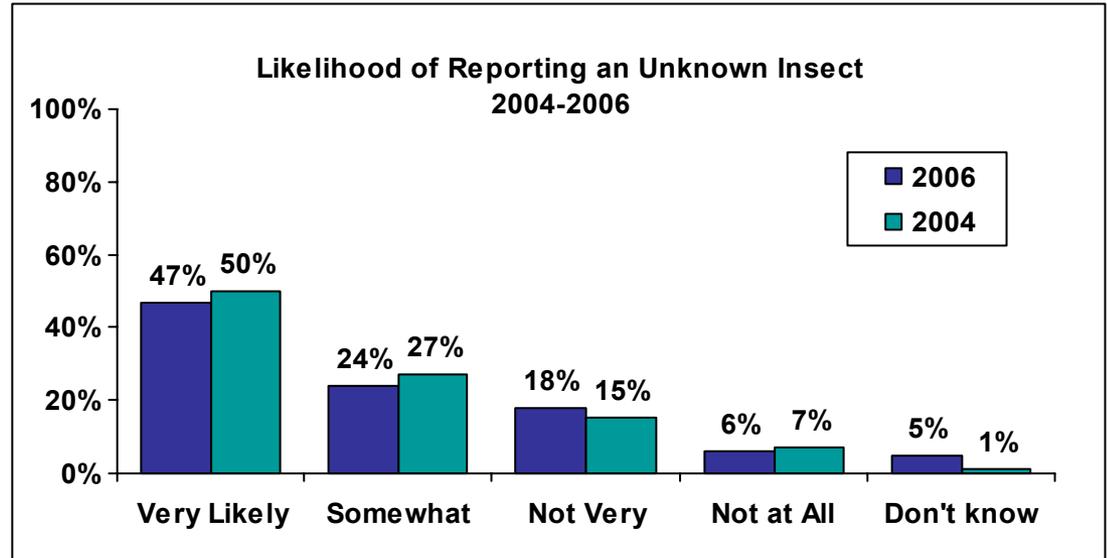
If some garden stores or nurseries sold only non-invasive plants, would you be more likely to purchase plants there?			
	2006	2004	+/- Change
Much more likely to purchase	37%	---	---
Somewhat more likely to purchase	19	---	---
Not likely to purchase	15	---	---
It would make no difference	25	---	---
It depends on other factors	1	---	---
Don't know/Refused	3	---	---

Would you support a law to ensure that plants are reviewed for their invasive potential before introduction to the state?			
	2006	2004	+/- Change
Yes, would support	91%	---	---
No, would not support	6	---	---
Undecided	3	---	---
Don't know/Refused	0	---	---

Likelihood of Reporting Invasive Pest/Alien Species

The likelihood of residents reporting either a snake or an unknown insect decreased slightly from 2004.

- In 2006, 47% of residents said they would be “very likely” to report an *unknown insect*, compared to 50% in 2004.
- Eighty-three percent (83%) said they would be “very likely” to report a snake if they saw one, 8 points less than in 2004.
- Compared to other ethnic groups, Hawaiians are less likely to report a snake, according to survey data. Japanese are less likely to report an unknown insect.



Likelihood of Reporting Invasive Pest/Alien Species

Consistent with 2004, snakes are much more likely to be reported than unknown insects. When residents were asked who they would call to report a snake, 30% said the *police or 911* and 23% said the *Humane Society or animal control*. Only 4% said they would call the Pest Hotline and 14 out of 20 of those respondents did not mention the 586 number (586-PEST).

<i>"If you saw a snake, who would you call to report it?"</i>		
	2006	2004
Police/911	30%	27%
Humane Society/Animal Control	23	*
State Department of Agriculture or DOA	18	18
DLNR (State Department of Land and Natural Resources)	8	6
I would look in the phone book to find out	7	2
Animal Quarantine (State Department of Agriculture)	4	*
State Department of Health or DOH	4	6
Pest Hotline (no number mentioned)	3	0
Other miscellaneous government agencies	2	6
Zoo	2	2
University of Hawaii	2	2
Friends/Family	2	2
Vector Control	1	0
586-PEST/Pest Hotline	1	5
Other	4	5
Don't know/Refused	14	7

**Humane Society/animal control* and *animal quarantine/State Department of Agriculture* was combined in 2004.

Support for Cargo Fee Law

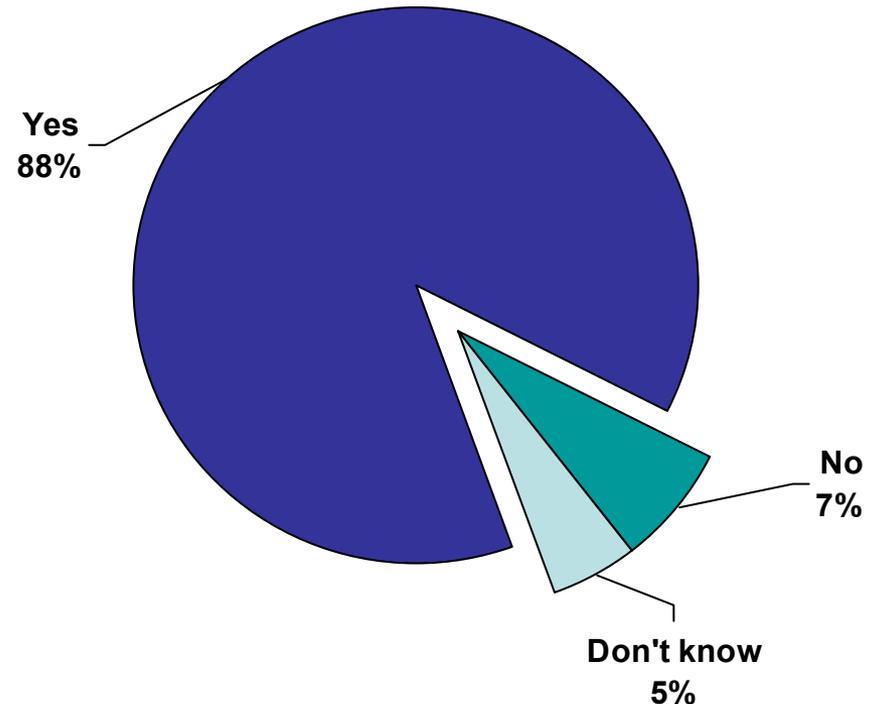
There is public support for a law that allows the Department of Agriculture to charge a fee for cargo with invasive pests, based on responses to the following:

“Currently, the Hawaii Department of Agriculture lacks adequate funding to inspect all cargo and goods entering Hawaii for invasive species. Would you support a law that allows the Department to charge those sending cargo here an appropriate service fee if their items are found infested with pests? This fee would ensure that funds for inspection keep pace with the amount of infested cargo entering the State. Would you support such a law or not?”

Eighty-eight percent (88%) of residents said they would support such a law; 7% said they would not and 5% are undecided.

- Residents in households earning less than \$35,000 are less likely to support a cargo fee law (77%) than residents in households earning \$35,000 to \$75,000 (91%) or more than \$75,000 (89%).

**Support for Cargo Fee
2006**



Conclusion

Although a majority of residents have read or heard of the alien pest species or invasive species problem in Hawaii, most don't believe it is a very serious problem. However, awareness of invasive species as a problem has increased since 2004.

Without many given details, residents generally support the idea of laws to protect Hawaii against invasive species. The biggest issue, then --- and the one that CGAPS should continue to concentrate on --- is public awareness of the impact of invasive species. Despite initial claims of support, it is likely that residents will need to know just how serious the problem is before actually moving to support initiatives to combat it.

Appendices

(data tables omitted for privacy of participants)

Questions

Q1. In terms of problems facing Hawai'i, have you read or heard about the concept known as "alien pest species" or "invasive species"?

Q2. Invasive species are harmful and undesirable plants, animals, insects or even microbial organisms that arrived in Hawai'i as a result of human actions. From what you may have read or heard, would you say that Hawai'i's invasive species is a...

Q3. I am going to read a list of plants and animals, and tell me whether or not you have heard of them. Brown Tree Snake, West Nile Virus, Coqui Frog, Red Imported Fire Ants, Miconia, Invasive Seaweed, Salvinia, Snowflake Coral.

Q4. To what extent do you agree or disagree with the following statement: Some plants we plant in our yards and gardens may spread into the native forest and damage the ecosystem. Do you...

Q5. If some garden stores or nurseries sold only non-invasive plants (both native and non-native plants) would you be more likely to purchase plants there? Would you be...

Q6. Currently, new ornamental plants may be introduced into Hawai'i without prior risk assessment or review to see if they might be invasive. Would you support a law to ensure that plants are reviewed for their invasive potential before introduction to the state?

Q7. If you saw an animal you thought was invasive, how likely would you be to call someone and report it? Would you be very likely, somewhat likely, not very or not at all likely to report it if you saw a...

a) A snake

b) An unknown insect

Q8. If you saw a snake, whom would you call to report it?

Q9. Currently, the Hawai'i Department of Agriculture lacks adequate funding to inspect all cargo and goods entering Hawai'i for invasive species. Would you support a law that allows the Department to charge those sending cargo here an appropriate service fee if their items are found infested with pests? This fee would ensure that funds for inspection keep pace with the amount of infested cargo entering the State. Would you support such a law or not?

CGAPS would like to thank the following agencies for supporting the Silent Invasion public outreach effort: Hawaii Department of Agriculture, Hawaii Department of Land and Natural Resources-Division of Forestry and Wildlife and Division of Aquatic Resources, Hawaii Invasive Species Council, Hawaii Tourism Authority-Natural Resources Program, U.S. Department of Agriculture-Animal and Plant Health Inspection Service, U.S. Department of the Interior-Office of Insular Affairs, U.S. Geologic Survey-National Oceanic and Atmospheric Administration, U.S. Fish and Wildlife Service, The Nature Conservancy of Hawaii, Pacific Cooperative Studies Unit, and the University of Hawaii. Mahalo.