

Report to the Legislature on Efficacy of Public Outreach on Invasive Species

Submitted to Gov. Lingle's Communications Office by request on 8/16/07 by Christy Martin, Public Information Officer, Pacific Cooperative Studies Unit—Coordinating Group on Alien Pest Species, Honolulu, HI.

Introduction

The coordinated effort to educate the public about invasive species by the Coordinating Group on Alien Pest Species (CGAPS), the Invasive Species Committees (ISCs), and the Hawaii Invasive Species Council Public Outreach Working Group (HISC POWG) has been successful, as measured by professional public awareness surveys and other indicators.

Since 1996, CGAPS has conducted two television/print/radio media campaigns, both titled the Silent Invasion, and has taken advantage of outreach opportunities via the news media in non-campaign years. The overall goal of CGAPS outreach efforts is to raise awareness in Hawaii residents about invasive species in order to foster a sense of concern and result in supportive actions. Therefore, virtually all media buys have been aimed at the 18-55 year old demographic, for the widest possible reach.

The formation and funding of the HISC POWG has added needed capacity to the overall outreach efforts. This group is comprised of HISC member agency public information officers (PIOs), the CGAPS PIO and the outreach staff of the ISCs, and has met every 4-6 weeks since its formation in March 2004. With an outreach staff person hired for each county, invasive species information was taken to communities via booths at public events, public presentations and contacts with local media outlets.

Outreach efficacy has been measured by CGAPS using professional research companies to conduct periodic telephone surveys of a representative number of residents statewide, to gain a sense of public awareness, concern, and support. Another measure of efficacy can be seen in the number of calls to the pest hotline.

The efforts and progress made by CGAPS, HISC POWG and outreach specialists spans more than ten years of concerted effort. The timeline below is provided to gain a sense of the major outreach projects and progress between 1996 and 2007. All items in bold were listed in the PSAs Spots Log for DLNR, HISC, and CGAPS, and in most cases the type of funding support is listed.

- December 1995: Formation of CGAPS and the outreach strategy on invasive species.
- October 1996: CGAPS conducts first statewide public awareness survey on invasive species.
- 1997-98: CGAPS conducts first Silent Invasion media campaign with television public service announcements (PSAs) and a 26-page printed booklet distributed to school classes, legislators and community leaders. Private and contributed funds.
- August 2002: CGAPS public information officer hired to evaluate strategy and promote awareness of invasive species. Federal funds.
- November 2003: CGAPS conducts focus groups using Ward Research to explore public sentiment and new awareness campaign ideas. The Hawaii Department of Agriculture (HDOA) pest hotline is identified as a major problem area by focus group participants. Federal funds.
- 2004 – 2005: CGAPS and partner agencies address concerns by researching, planning a new toll-free statewide pest hotline for HDOA. CGAPS plans five new Silent Invasion campaign messages, secures funding from multiple sources.

- March 2004: HISC POWG forms and meets for the first time to plan strategy and coordinate efforts.
- April – August 2004: CGAPS and ISCs produce and air radio ads to garner reports on coqui frog locations in Kauai, Oahu and Maui Counties. HISC funds and private contributions.
- August 2004: CGAPS conducts baseline public awareness survey (Ward Research) in preparation for the second Silent Invasion media campaign. Federal funds.
- **May – September 2005: HISC funded coqui frog radio PSAs to gain reports on Kauai and Oahu.**
- **October 2005: Miconia vignettes on “Outside Hawaii.” HISC funded production costs.**
- December 2005: HDOA begins using new, toll free statewide pest hotline goes online, 643-PEST, and modifies the INVICTA pest interception database to add a hotline call report and tracking section. HISC funded the new hotline.
- **January – April & May – July 2006: CGAPS airs five Silent Invasion television PSAs using state and federal funds. Federal and state funding for broadcast (see list under Acknowledgements).**
- **April – May 2006: Coqui vignettes on “Outside Hawaii.” HISC funded production costs.**
- June 2006: CGAPS conducts a benchmark public awareness survey (Ward Research) to gauge changes in awareness and plan the most effective method of utilizing remaining resources. Federal funds.
- **May 15 – June 15, 2006: Invasive alien algae and Supersucker vignettes on “Outside Hawaii.” HISC funded production costs.**
- November 2006: CGAPS and POWG produce a radio PSA utilizing Frank DeLima singing a jingle about the pest hotline to promote awareness and aid in memory retention. HISC funded production cost.
- February 2007: CGAPS and POWG conduct benchmark public awareness survey (Qmark Research and Polling). HISC funded survey cost.
- **February – April 2007: HISC airs pest hotline jingle on radio stations statewide. HISC funded broadcast cost.**
- **March 2007: CGAPS airs Silent Invasion “Report a Pest: Snakes” PSA on television. Federal funding.**
- **March 2007: HISC and ISCs air coqui frog pest hotline PSA on Kauai and Oahu radio stations. HISC funded broadcast time, private contribution for production costs and Maui broadcast time.**

Measures of Efficacy

All surveys and focus group work was conducted by professional survey companies. Survey participants were registered voters interviewed by telephone in a random sample, balanced according to all known demographic factors, for a margin of error of +/- 4% at a 95% confidence level. For full reports on the 1996, 2004, 2006, and 2007 statewide public awareness telephone surveys, and the 2004 Focus Groups Summary, please contact Christy Martin at CGAPS, christym@rocketmail.com (808) 722-0995. Reports from HDOA regarding snake sightings were furnished by Keevin Minami and Darcy Oishi of HDOA.

1. Public awareness of the concept is rising. Survey results show that public awareness has risen over the past eleven years of concerted efforts, particularly after television, radio and print campaigns.

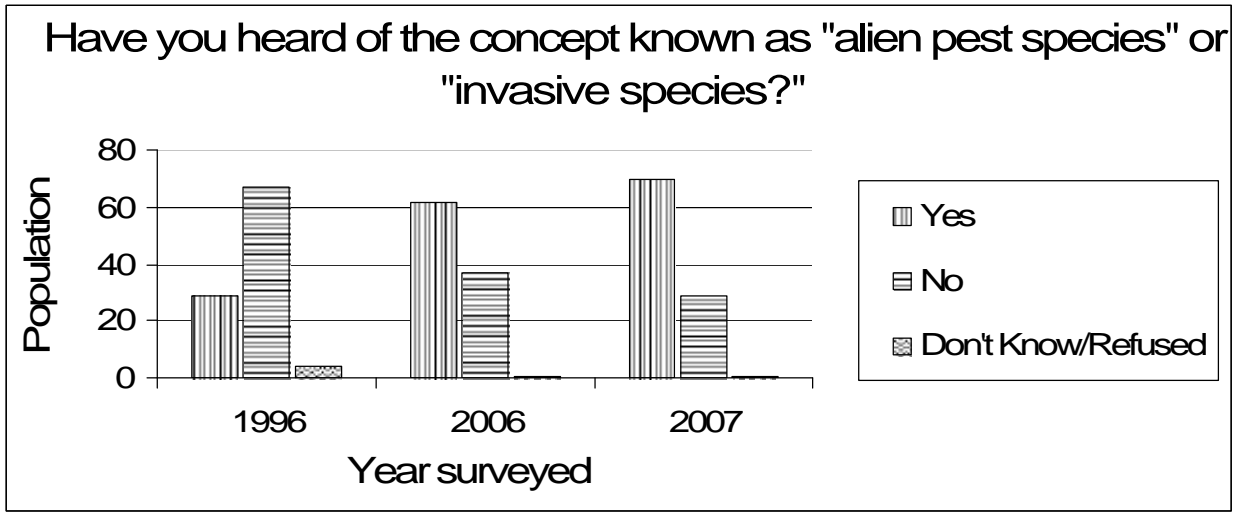


Figure 1. General concept awareness started at 29% of people that said that they had heard of the concept of invasive species in 1996, to 62% in 2006, and 70% in 2007.

2. The number of people that view invasive species as a serious problem is rising. Ongoing efforts to convey the threat and costs of invasive species such as snakes, red imported fire ants, invasive seaweeds, and miconia to the public is working.

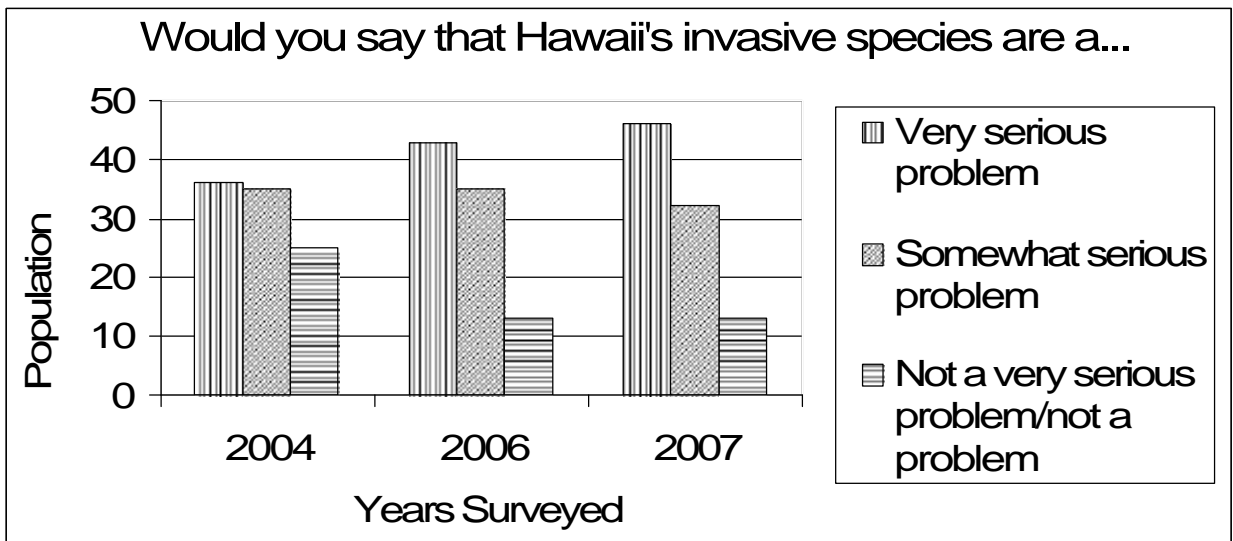


Figure 2. In 2004, prior to the second Silent Invasion television campaign, 36% of survey participants thought of invasive species as a “very serious problem.” After airing the television PSAs, radio ads and other outreach, 43% of participants in 2006, and 46% in 2007, felt that it was a very serious problem. Also, the number of people that don’t view invasive species as a problem has decreased.

3. Awareness of key “poster species” is rising. One of the outreach topics that CGAPS has focused on since 1996 is the brown treesnake (*Boiga irregularis*), and the threat that these and

other snakes pose to Hawaii. Working together with the HISC POWG, the key messages for the public are that:

1. Snakes are bad for Hawaii;
2. Snakes are illegal to import or own;
3. If you see a snake, call the Hawaii Department of Agriculture (HDOA) pest hotline immediately to report it;
4. People with illegal pet snakes should take advantage of the amnesty program by calling the pest hotline to surrender snakes without fear of prosecution.

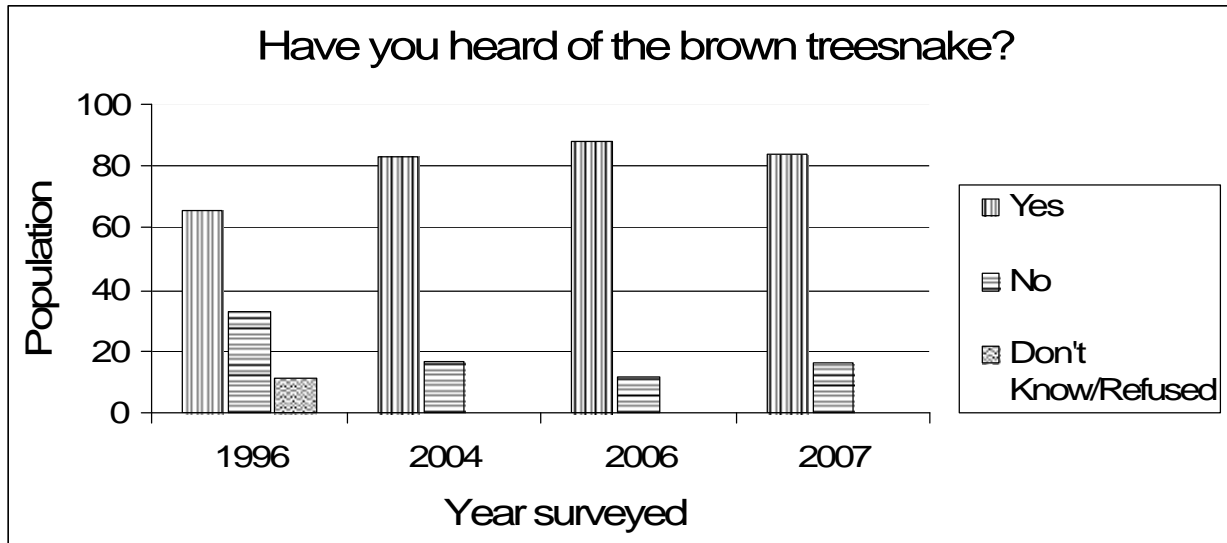


Figure 3. Public awareness of brown treesnakes started at 66% in 1996, increased to 83% in 2004, 88% in 2006, and in 2007 a slight (but not statistically significant) decrease to 84% saying that they had heard of the brown treesnake (Figure 3).

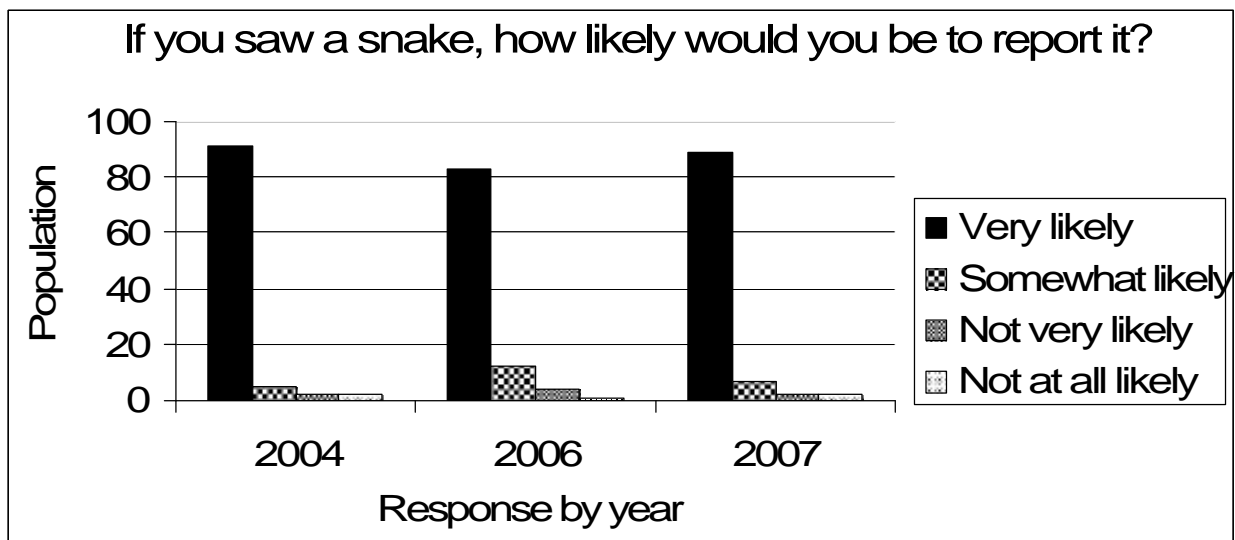


Figure 4. When asked how likely they would be to report a snake sighting, the public continues to be very motivated. A slight dip in the number of people that are “very likely” to report a

snake in 2006 was part of the motivation for adding more television time for the snake PSA in 2007, and for highlighting snakes via other outreach methods.

4. Public awareness of the other key species has also increased with television and radio exposure. Species (besides brown treesnakes & other snakes) that outreach efforts have focused on include West Nile Virus, Red Imported Fire Ant, coqui frogs, miconia, invasive seaweed, and snowflake coral. Table 1.

Although included in the survey, *Salvinia molesta*, the floating water fern that covered Lake Wilson in 2003 was NOT part of outreach efforts. It was included in surveys because it was mentioned more than 600 times in newspapers and on the television news for countless other times, for almost three months straight. With this sort of media attention, one would expect to see higher public awareness, but this is not the case. This provides some evidence that a multi-faceted media campaign in addition to using the news media is absolutely necessary for keeping invasive species issues in the minds of the public and decision makers.

Have you heard of...	Response	2004 (Percent)	2006 (Percent)	2007 (Percent)
West Nile Virus	Yes	83	85	80
	No	17	15	19
	Don't know	0	0	1
Red Imported Fire Ant (RIFA)	Yes	69	75	71
	No	31	25	28
	Don't know	0	0	1
Coqui Frog	Yes	69	82	86
	No	31	18	14
	Don't know	0	0	0
Miconia	Yes	47	50	58
	No	53	49	40
	Don't know	0	1	2
Invasive Seaweed	Yes	46	55	49
	No	54	44	50
	Don't know	0	1	1
Snowflake coral*	Yes	26	26	26
	No	74	74	72
	Don't know	0	0	2
Salvinia**	Yes	38	35	32
	No	61	64	64
	Don't know	0	0	4

Table 1. Public awareness of the Red Imported Fire Ant peaked during the airing of the Silent Invasion television PSAs in 2006, and invasive seaweeds also peaked during this time, which

coincides with the invasive seaweed and Supersucker vignettes on Outside Hawaii in 2005. Awareness about miconia is still low in general, but continues to rise. Awareness of West Nile Virus peaked in 2006, perhaps coinciding with outreach efforts and media attention on the bird that tested a false-positive on Maui that year, and coqui frog awareness has risen, probably through a combination of the radio ads, the Outside Hawaii vignette and the exploding Hawaii Island population.

**Note that snowflake coral was mentioned very briefly in one of the television PSAs, and very few news media stories were done on this species in 2004 and 2005.*

***Also note that Salvinia was not part of the outreach campaign between 2004 and 2007, and awareness is declining each year since the 2003 infestation of Lake Wilson.*

5. Pest Hotline awareness is slowly rising. The 586-PEST pest hotline number has been in operation since 1992, yet there was very low awareness of the existence of the hotline, the actual number to dial, or even the agency and department where pests could be reported.

In addition, the 2004 focus group study by Ward Research on behalf of CGAPS found that neighbor island residents were opposed to calling the number, which is based on Oahu. Calls from outside of Oahu are long distance, and callers would be charged long distance tolls, even if they were reporting important invasive species such as snakes. The new 643-PEST hotline was set up in December 2005, and is functioning in addition to the 586-PEST number (since many HDOA printed materials still referred to this number). Table 2.

Whom would you call to report a snake?	2004 (Percent)	2006 (Percent)	2007 (Percent)
586-PEST	5*	1	6
643-PEST (est. 12/05)	(N/A)	0	6
HDOA (no branch or office mentioned)	18	18	17
Pest Hotline (no number mentioned)	0	3	2
Humane Society/Animal Control	29	27	21
Police/911	27	30	38
DLNR	6	8	5
I would look in the phone book	2	7	10
State Department of Health or DOH	6	5	3
Zoo	2	2	1
University of Hawaii	2	2	2
Friends/Family	2	2	2
Other (Fire, USDA, etc.)	18	7	12
Don't know/Refused	7	14	0

Table 2. When asked, “Whom would you call to report a snake,” respondents replied with one or more of the answers above (therefore totals may exceed 100%). Outreach efforts on the new pest hotline number, 643-PEST, is having some effect, particularly with radio outreach efforts

via the new hotline jingle by Frank DeLima, and the fact that coqui ads in 2007 used 643-PEST instead of local office numbers.

** Note that in 2004, survey respondents that were able to recite the 586-PEST number, or stated “pest hotline” as the place to call were lumped together, adding up to 5%. These responses were separated in subsequent surveys for planning purposes.*

6. Public use of 643-PEST is rising. Although Hawaiian Telcom (the provider of the 643-PEST number and service) was supposed to provide monthly reports on number of calls since that time, data and billing issues within Hawaiian Telcom prevented these reports from being generated. The first report received was for March 2006, with reports not generated (and Hawaiian Telcom unable to furnish any data) until December 2006. Table 3.

643-PEST Call Report	Number of Calls
Mar-06	26
Dec-06	17
Feb-07	69
Mar-07	234
Apr-07	284
May-07	123
Jun-07	147
Jul-07	118

Table 3. Use of the 643-PEST hotline rose during radio outreach on the pest hotline (coqui PSAs aired on Oʻahu and Kauaʻi, and the Frank DeLima jingle).

7. Snake sighting reports, from information logged in the INVICTA database, shows that snake reports increased during media outreach periods, particularly the television Silent Invasion messages in January – July 2006.

The sightings investigated by HDOA total 33 calls since December 2005, with the recovery of 2 live snakes, 1 snake skin, 3 sea snakes, and 4 “blind snakes” (the non-native worm-like blind snake that lives in the soil, erroneously called the “Hawaiian blind snake.” This is the only known snake to have become naturalized in Hawaii). Figure 5.

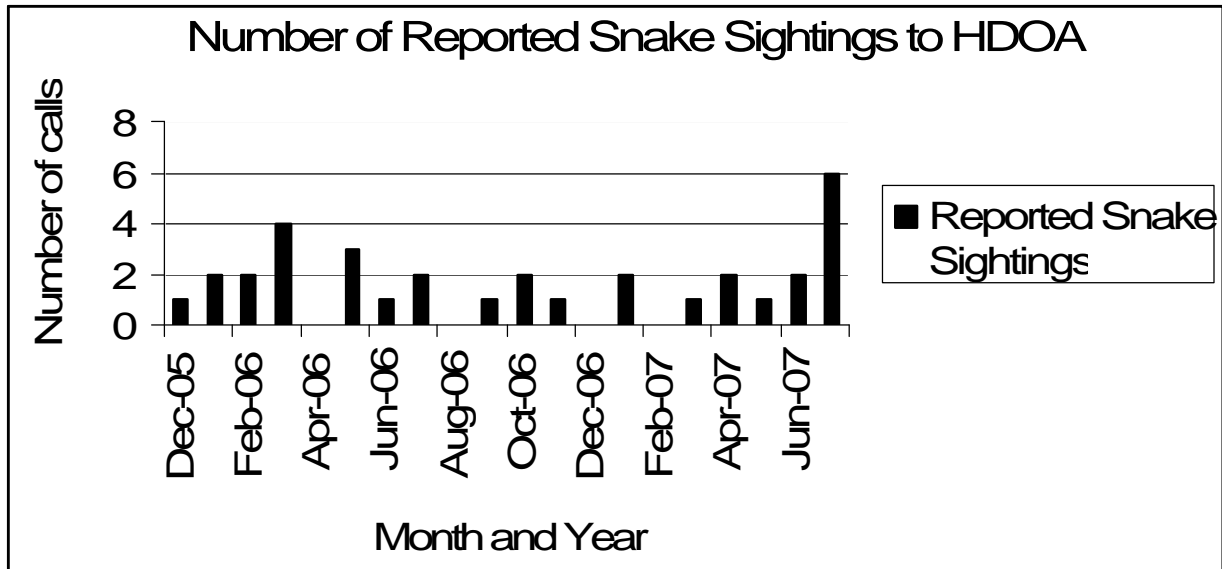


Figure 5. Although the number of snakes present in Hawaii should not fluctuate (indeed, they should theoretically be “0”), the number of people calling to report snakes rose during the airing of the television Silent Invasion PSAs between January and July 2006. It is unknown why there are more snake reports in July 2007, although this pattern may be similar to previous years (there may be more outdoor activity, etc., accounting for the rise).

Discussion

The results of the public awareness surveys and pest hotline reports reflect the success of concerted outreach efforts using short-term media campaigns, opportunistic news media stories, and other techniques. Survey results also highlight the challenges of educating the public and fostering desired actions, particularly when different messages require multiple delivery methods. Careful planning and testing of messages with focus groups have helped to ensure that messages are appropriate, but there may be no way to ensure that we are selecting the right outreach method for the message and audience until the campaign is underway. Benchmark surveys are therefore important to help determine if our messages are sticking.

As a side note, there continues to be significant concern about snake sightings. For a state that has made the importation and keeping of snakes and other harmful reptiles illegal, there continues to be an unacceptable number of snakes that show up in Hawaii. Between 1990 and 2000, HDOA reports that there were 236 credible snake sightings, and 137 snakes captured or received via the amnesty program, the vast majority of these were pet-trade species of snakes such as boa constrictors and pythons. This means that there is a subset of the public that willfully engages in smuggling, and our outreach efforts have not worked on them. Indeed, there is another message that has been received and spread among this group—although there are penalties, it is relatively easy and safe to smuggle snakes into Hawaii (Kraus and Cravalho, 2001). This issue must be addressed, or this unintended message will continue to spread amongst that portion of the population that does not view it as a serious issue. Furthermore, repeated snake sightings and news of snakes found roaming free or turned in to the amnesty program may have a negative effect on the currently supportive public.

Also, the plant importation laws virtually ensure that new invasive plants will be introduced via the nursery and ornamental trade. Outreach efforts cannot keep up with the multitude of new invasive plants being distributed, and it is unreasonable to view outreach as a viable option for detecting or controlling the next miconia or fountain grass. The only thing that wide scale public outreach can do in this regard, is to let the public know that new invasive plants are still being sold, and that they should ASK for non-invasive or native plants. Outreach will also continue on key invasive plants such as miconia, since the airing of the first Silent Invasion PSAs in 1997 resulted in the reporting of a new miconia population on Kauai.

Acknowledgements

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