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GOVERNOR OF
HAWAII



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COMMISSION ON WATER RESOURCE MANAGEMENT

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ENGINEERING
FORESTRY AND WILDLIFE
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KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

Testimony of
SUZANNE D. CASE
Chairperson

Before the Senate Committees on
HIGHER EDUCATION
and
WATER AND LAND
and
AGRICULTURE AND ENVIRONMENT

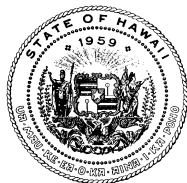
Monday, February 6, 2017
1:30 PM
State Capitol, Conference Room 224

In consideration of
SENATE BILL 272
RELATING TO RAT LUNGWORM DISEASE

Senate Bill 272 proposes to appropriate funds to support research, control, and outreach activities relating to rat lungworm disease. **The Department of Land and Natural Resources (Department) supports this measure provided that its passage does not replace or adversely impact priorities indicated in the Executive Budget request.**

The Department recognizes the threat of rat lungworm disease and the lack of information on statewide distribution of the parasite *Angiostrongylus cantonensis* and its hosts. The Department also notes that the Hawaii Invasive Species Council (HISC), which is administered by the Department, received proposals for research and education regarding this disease in Fiscal Year (FY)16 and FY17 but was unable to identify adequate resources to support all of these efforts. In FY17 the HISC is providing partial funding support to a project developing outreach programs and materials regarding rat lungworm disease under the direction of the University of Hawaii at Hilo. Additional funding support for a more comprehensive research, control, and outreach program, as described in this measure, would be strongly beneficial. The Department supports this measure, provided that the appropriations described therein do not impact appropriations to the HISC or other priorities indicated in the Executive Budget request.

The Department appreciates the opportunity to provide these comments.



**STATE OF HAWAII
DEPARTMENT OF HEALTH**

P. O. Box 3378
Honolulu, HI 96801-3378
doh.testimony@doh.hawaii.gov

**Testimony COMMENTING on SB 272
RELATING TO RAT LUNGWORM DISEASE
SENATOR KAIALI‘I KAHELE, CHAIR
SENATE COMMITTEE ON HIGHER EDUCATION
SENATOR KARL RHOADS, CHAIR
SENATE COMMITTEE ON WATER AND LAND
SENATOR MIKE GABBARD, CHAIR**

SENATE COMMITTEE ON AGRICULTURE AND ENVIRONMENT

Hearing Date: February 6, 2017

Room Number: 224

1 **Fiscal Implications:** The Department of Health appreciates the intent of SB272 but defers to the
2 priorities set forth in the Executive Biennium Budget. The Department estimates at least
3 \$650,000 in additional resources (supplies, staff time, trainings) would be necessary to fulfill the
4 requirements of this measure for fiscal year 2017–2018.

5 **Department Testimony:** This measure seeks to appropriate funds to the University of Hawaii at
6 Hilo, the Department of Health, Department of Land and Natural Resources, and the Department
7 of Agriculture for programs, studies, and activities related to rat lungworm disease. The
8 Department recognizes public concern over angiostrongyliasis (or rat lungworm), one of several
9 emerging diseases of public health concern. At the Governor’s request, DOH assisted the
10 Governor’s office in initiating a Joint Rat Lungworm Task Force in 2016, which also includes
11 membership from the Department of Tropical Medicine, John A. Burns School of Medicine
12 (JABSOM), University of Hawaii at Hilo, University of Hawaii at Manoa, State Department of
13 Agriculture, U.S. Department of Agriculture, and clinicians. The Department of Health concurs
14 with and supports the consensus of the Joint Rat Lungworm Task Force, which is that outreach
15 and education are essential priorities in addressing the risk of angiostrongyliasis in Hawaii’s
16 communities.

17 DOH educational efforts, in conjunction with partners, have included statewide school garden
18 food safety workshops and the distribution of flyers to at-risk communities as well as

- 1 commercial food establishments. We welcome the opportunity to continue our work with
- 2 partners to improve public health education and planning regarding this important concern.
- 3 Thank you for the opportunity to testify.



UNIVERSITY OF HAWAII SYSTEM

Legislative Testimony

Testimony Presented Before the
Senate Committees on Higher Education, Water and Land, and
Agriculture and Environment
February 6, 2017 at 1:30 p.m.
by
Donald O. Straney
Chancellor, University of Hawai'i at Hilo

SB 272 – RELATING TO RAT LUNGWORM DISEASE

Chairs Kahele, Rhoads, and Gabbard, Vice Chairs Kidani and Riviere, and Members of the Committees:

My name is Donald Straney, Chancellor of the University of Hawai'i at Hilo and I support the intent of SB 272 to fund programs, studies and activities to prevent and eradicate rat lungworm disease.

UH Hilo views the proposal as a positive solution to address a critical health issue in the state.

Thank you for the opportunity to testify on SB 272. Aloha.



P.O. Box 253, Kunia, Hawai'i 96759
Phone: (808) 848-2074; Fax: (808) 848-1921
e-mail info@hfbf.org; www.hfbf.org

February 6, 2017

SENATE COMMITTEE ON HIGHER EDUCATION
SENATE COMMITTEE ON WATER AND LAND
SENATE COMMITTEE ON AGRICULTURE AND ENVIRONMENT

TESTIMONY ON SB 272
RELATING TO RAT LUNGWORM DISEASE

Room 224
1:30 PM

Aloha Chairs Kahele, Rhoads, and Gabbard and Vice Chairs Kidani and Riviere, and Members of the Committees:

I am Randy Cabral, President of the Hawaii Farm Bureau (HFB). Organized since 1948, the HFB is comprised of 1,900 farm family members statewide, and serves as Hawaii's voice of agriculture to protect, advocate and advance the social, economic and educational interests of our diverse agricultural community.

Hawaii Farm Bureau supports SB 272 relating to Rat Lungworm Disease.

Providing safe and wholesome food is a priority for the Farm Bureau and its members. Unfortunately, not enough is currently known about Rat Lungworm Disease, or angiostrongyliasis, to fully protect the public. For example, although we know that people in Hawaii can get the disease by eating food contaminated by the larval stage of *A. cantonensis* worms found in raw or undercooked snails or slugs, and we know that people have also become infected by eating raw produce that contains a small infected snail or slug, or part of one, it is *not* known whether even just the slime left by infected snails and slugs is able to cause infection.

This is critical information since the disease can cause a rare type of meningitis (eosinophilic meningitis) that is extremely painful, debilitating, and can be deadly. Because there is no specific treatment for the disease, patients are only given supportive therapy and pain medication.

As more people are encouraged to grow their own food in backyard gardens, and school gardens are becoming more prevalent, the risk of being infected with this disease increases. Nutritionists advise the public to eat plenty of fresh leafy vegetables. However, without knowing enough about the transmission of rat lungworm disease, this advice may be risky in areas infested by snails and slugs. We need to know if the slime alone can cause the disease, and if washing or other pre-consumption measures will prevent transmission. Backyard gardeners and others who may not practice pest management to effectively control snails and slugs, or those who purchase greens from these sources, may be particularly at risk.

HFB supports funding of the University and the appropriate state agencies to help learn more about the disease and to prevent the spread of it and other food-borne diseases, especially to children through school garden projects.

Thank you for the opportunity to provide testimony on this measure.



23 E. Kawili St, Hilo, HI 96720 • Phone: (808) 933-3340

TESTIMONY OF THE BIG ISLAND INVASIVE SPECIES COMMITTEE
SUPPORTING TESTIMONY RELATING TO RAT LUNGWORM DISEASE
S.B. 272

Aloha, and thank you for the opportunity to express our support for SB 272. BIISC considers rat lungworm to be a serious threat to the people of Hawaii and to our food supply. We have seen the main vector of the disease, the semi-slug, rapidly expanding its each range each year, and are highly concerned that it will spread into the Hamakua and Waimea regions where much of our state's agricultural production is located, threatening food security.

Over the past 15 years cases of rat lungworm disease in Hawaii have been increasing in number and severity, costing people their lives, livelihoods, savings, health, and well-being. The priorities for rat lungworm disease research and education outlined in this bill must be addressed in order to ensure that the health and mental well-being of Hawaii's residents and visitors are protected. The research team and working group dedicated to increasing public awareness and research into this disease system is of the highest quality and caliber, and we have had a very positive working relationship with them.

In our role as educators in how to control threats from invasive species, we find we lack the information about semi-slug and the parasite adequate for public education. For instance, a significant number of our residents are on catchment water. Currently, research suggests that some of the systems people rely on for safe water - such as UV - is nor sufficient to kill the parasite. It is critical that we research this question and determine how people can create safe systems for delivering water.

SB 272 is necessary to ensure that Hawaii residents of every island will have the information necessary to protect themselves and their families from this deadly disease.

Mahalo for your time and consideration.

Springer Kaye
Manager

The Big Island Invasive Species Committee (BIISC) is a partnership of private citizens and public agencies working to address invasive species issues on the island of Hawaii. Our mission is to prevent, detect, and control the highest risk invasive species threats to the Big Island environment, economy, and way of life.

From: mailinglist@capitol.hawaii.gov
Sent: Sunday, February 5, 2017 12:09 AM
To: HRE Testimony
Cc: legechair@gmail.com
Subject: *Submitted testimony for SB272 on Feb 6, 2017 13:30PM*

SB272

Submitted on: 2/5/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Simon Russell	Hawaii Farmers Union United	Support	No

Comments:

Please note that testimony submitted less than 24 hours prior to the hearing, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

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From: mailinglist@capitol.hawaii.gov
Sent: Friday, February 3, 2017 4:42 PM
To: HRE Testimony
Cc: nredfeather@kohalacenter.org
Subject: Submitted testimony for SB272 on Feb 6, 2017 13:30PM

SB272

Submitted on: 2/3/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Nancy Redfeather	Hawaii Island School Garden Network	Support	No

Comments: RLW is a serious threat to our food self-reliance and community health. Supporting this Bill, will help Hawaii Island and then the rest of the state, have proper protocols, educational programs, and reduce exposure for everyone.

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Sent: Sunday, February 5, 2017 8:09 AM
To: HRE Testimony
Cc: dmitts@kohalacenter.org
Subject: Submitted testimony for SB272 on Feb 6, 2017 13:30PM

SB272

Submitted on: 2/5/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Donna Mitts	Hawaii Island School Garden Network	Support	No

Comments: Rat Lungworm Disease has been underfunded far too long. This public health risk deserves support and attention. Please support SB272.

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Testimony Presented Before the Senate Committees on Higher Education, Water and Land, and Agriculture and Environment February 6, 2017 at 1:30 p.m

My name is Dr. Susan Jarvi and I am a Professor in the Department of Pharmaceutical Sciences at the University of Hawaii at Hilo, Daniel K. Inouye College of Pharmacy.

I am speaking as a concerned individual in strong support of SB 272 Relating to Rat Lungworm Disease (RLWD).

Hawaii is the epicenter for rat lungworm disease (angiostrongyliasis) in the United States, and is among the most serious threats to human health of all diseases carried by wildlife in Hawaii. Most infections are presumed to be due to the ingestion of infected slugs or snails on fresh produce or from unfiltered water. The nematode reproduces in rats and develops in slugs and snails. Although most human cases have originated in east Hawaii Island, there have been cases reported on all of the major Hawaiian Islands. Why so many cases originate on Hawaii Island is unclear. Thus, funding is needed to address this grave issue.

Rat lungworm is a preventable disease, but only if one is informed about it. A significant component of this bill is geared toward prevention through education. My lab (largely through the efforts of Kay Howe) has been the first in the US, and in the world, to develop and implement curriculum to educate our keiki, who can then educate their `ohana on how to best prevent RLWD. While this RLWD curriculum currently only involves 5 schools on Hawaii Island, funding is needed to develop this into a statewide program available for all keiki (especially those in schools with school garden programs). Funding is needed for tracking the spread of highly infected slugs throughout the islands and pinpoint areas of high transmission. In these areas we could run experiments necessary to evaluate the possibility of using rat baits containing anti-parasitic drugs to deworm rats and break the disease cycle.

Funding is also needed to determine which approved vegetable washes are most effective at killing larvae so people can better wash their produce, and continue to eat local and fresh produce safely. East Hawaii has the highest use of catchment water in the state. We need to know the best practices for treating catchment water as RLW larvae can live in rainwater for many weeks.

RLWD has already caused multiple deaths; many victims suffer long-term disability.

RLWD impacts the people of Hawaii and its visitors, it impacts public health as a global emerging infectious disease, it impacts agriculture through the loss of public confidence in locally grown produce, and it puts food self-sufficiency and food security (especially with the Farm to School Bill) for all of Hawaii at risk.

Our research group has already built a strong research and education foundation with which to carry out these studies – with relatively very little funding. We are poised to provide the research and educational efforts needed to truly begin to prevent rat

lungworm disease in Hawaii and elsewhere. The state of Hawaii needs to take immediate action. Please support SB 272 with full, necessary funding.

From: mailinglist@capitol.hawaii.gov
Sent: Friday, February 3, 2017 2:10 PM
To: HRE Testimony
Cc: panther_dave@yahoo.com
Subject: Submitted testimony for SB272 on Feb 6, 2017 13:30PM

SB272

Submitted on: 2/3/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Dave Kisor	Individual	Support	No

Comments: I realize this is mostly a Puna thing, but if it were to become epidemic in the other districts of Hawai'i County and the other islands, especially in the wealthier districts, it could easily become a high priority issue. Now wouldn't that be fun? I know someone who was affected, presumably by food in a restaurant that hadn't been properly prepared. From what I understand, it's a painful and an extremely unpleasant experience you wouldn't want to risk.

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From: mailinglist@capitol.hawaii.gov
Sent: Friday, February 3, 2017 1:37 PM
To: HRE Testimony
Cc: malamaopuna@yahoo.com
Subject: Submitted testimony for SB272 on Feb 6, 2017 13:30PM

SB272

Submitted on: 2/3/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Rene Siracusa	Individual	Support	No

Comments: I live in Puna on the Big Island, where rat lungworm disease is a major health and environmental problem. I know several people who have been infected and some of them, even years later, are still suffering from it. I therefore strongly urge you to help science learn all they can so that we can defeat this disease and end the suffering. Mahalo, Rene Siracusa

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From: mailinglist@capitol.hawaii.gov
Sent: Sunday, February 5, 2017 7:30 AM
To: HRE Testimony
Cc: richard@bidleman.net
Subject: Submitted testimony for SB272 on Feb 6, 2017 13:30PM

SB272

Submitted on: 2/5/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Richard Bidleman	Individual	Support	No

Comments: This is a terrible debilitating disease. I'm a board member of the Puna Community Medical Center in Pahoā. One of our board members contracted the disease was disabled for months, is still not fully recovered. She was having to go to the mainland for additional treatments. Eventually, she and her husband had to move back to the mainland for ongoing treatment. They were pillars of our community.

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From: mailinglist@capitol.hawaii.gov
Sent: Saturday, February 4, 2017 10:27 PM
To: HRE Testimony
Cc: 333cory@gmail.com
Subject: Submitted testimony for SB272 on Feb 6, 2017 13:30PM

SB272

Submitted on: 2/4/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Cory Harden	Individual	Support	No

Comments: Aloha legislators, Please protect us against the steep costs to individuals and the community from rat lungworm disease. I personally know two people who had it. One had to move to the States to get ongoing treatment, and her contributions to the local community are sorely missed. mahalo, Cory Harden, Hilo

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From: mailinglist@capitol.hawaii.gov
Sent: Friday, February 3, 2017 1:31 PM
To: HRE Testimony
Cc: johnnaylor@kula.us
Subject: Submitted testimony for SB272 on Feb 6, 2017 13:30PM

SB272

Submitted on: 2/3/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
John NAYLOR	Individual	Support	No

Comments: Please find a solution to this terrible disease!

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From: mailinglist@capitol.hawaii.gov
Sent: Friday, February 3, 2017 1:29 PM
To: HRE Testimony
Cc: richkoob@kalani.com
Subject: Submitted testimony for SB272 on Feb 6, 2017 13:30PM

SB272

Submitted on: 2/3/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Richard Koob	Individual	Support	No

Comments: Please support. Very important to assure wellness for our local 'ohana as well as visitors.

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From: mailinglist@capitol.hawaii.gov
Sent: Friday, February 3, 2017 12:14 PM
To: HRE Testimony
Cc: ckosora@aol.com
Subject: Submitted testimony for SB272 on Feb 6, 2017 13:30PM

SB272

Submitted on: 2/3/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
catherine kosora	Individual	Support	No

Comments: PUNA District is the epi center for Rat Lung Worm. PLease help fund for research and education for public awareness. MAhalo

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From: mailinglist@capitol.hawaii.gov
Sent: Friday, February 3, 2017 12:11 PM
To: HRE Testimony
Cc: kking@hawaii.rr.com
Subject: Submitted testimony for SB272 on Feb 6, 2017 13:30PM

SB272

Submitted on: 2/3/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Kerrith King	Individual	Support	No

Comments: Thank you.

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From: mailinglist@capitol.hawaii.gov
Sent: Sunday, February 5, 2017 11:02 AM
To: HRE Testimony
Cc: kelpal2003@yahoo.com
Subject: Submitted testimony for SB272 on Feb 6, 2017 13:30PM

SB272

Submitted on: 2/5/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Sheryl Palmer	Individual	Support	No

Comments:

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From: mailinglist@capitol.hawaii.gov
Sent: Sunday, February 5, 2017 11:10 AM
To: HRE Testimony
Cc: milleratlarge@mac.com
Subject: Submitted testimony for SB272 on Feb 6, 2017 13:30PM

SB272

Submitted on: 2/5/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Mauree Miller	Individual	Support	No

Comments: My husband, Craig, and I are testifying in support of SB 272 as the need for funding for research and education in Hawaii for rat lungworm disease is critical!

Please note that testimony submitted less than 24 hours prior to the hearing, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

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From: mailinglist@capitol.hawaii.gov
Sent: Sunday, February 5, 2017 11:53 AM
To: HRE Testimony
Cc: junkbox666666@gmail.com
Subject: Submitted testimony for SB272 on Feb 6, 2017 13:30PM

SB272

Submitted on: 2/5/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
JeanE Monnier	Individual	Support	No

Comments: Having witnessed the devastation of this parasite and its life long consequences I firmly support government intervention for education, research and irradiation.

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From: mailinglist@capitol.hawaii.gov
Sent: Friday, February 3, 2017 11:39 AM
To: HRE Testimony
Cc: hourandahalf@icloud.com
Subject: *Submitted testimony for SB272 on Feb 6, 2017 13:30PM*

SB272

Submitted on: 2/3/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Rosemarie Patronette	Individual	Support	No

Comments:

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Testimony relating to Rat Lungworm measure (SB272)

February 5, 2017

From: Rex Palmer
P. O. Box 637
Pahoa, HI 96778

Senators, please support this measure to give funding for further research into rat lungworm disease. Although the parasite that causes the disease has been in Hawaii a long time, the recent introduction of an invasive slug resulted in spread throughout Puna district and a huge increase in number of cases of the disease over the last several years. The research being carried out at UH Hilo is very important for understanding how to control and treat this very serious disease.

Infection with the parasite that causes rat lungworm can produce anything from mild symptoms to severe life-threatening illness. I know of several cases where the victim went into a coma and nearly died. In speaking with neighbors throughout Puna, I've found many people who have had the disease either mildly or seriously. Unfortunately, many health care professionals do not seem familiar with the disease and people often report misdiagnoses. The work being done at UH is critical to making doctors and other health care workers familiar with the disease and its treatment.

Unsuspecting people can easily contract the parasite from improperly washed raw vegetables like lettuce that may harbor slugs or slug slime. My wife and I both contracted the disease from eating at a pot-luck dinner where someone who was unaware had made a dish we both consumed.

This is a parasitic nematode that burrows into the brain stem and brain. It is urgent that you fund the work at UH to protect public health.

Thank you for your consideration of these remarks.

Sincerely,

Rex Palmer

Thomas Lee Travis

930 Tahoe Blvd STE 802-387

Incline Village, Nv 89451

email: ttravis12@mac.com

mobile: (757) 639-7364

Sunday, February 5, 2017

COMMITTEE ON HIGHER EDUCATION

Senator Kaiali'i Kahele, Chair

Senator Michelle N. Kidani, Vice Chair

COMMITTEE ON WATER AND LAND

Senator Karl Rhoads, Chair

Senator Mike Gabbard, Vice Chair

COMMITTEE ON AGRICULTURE AND ENVIRONMENT

Senator Mike Gabbard, Chair

Senator Gil Riviere, Vice Chair

Re: Testimony in support of SB 272 (Relating to Rat Lung Worm (RLW)) for the hearing scheduled at 1:30 pm on February 6.

Aloha,

This letter is in strong support of SB 272.

I am writing for myself and my wife Laura. I am a retired Navy captain that served as Commanding Officer of both a Submarine and a Submarine Squadron and Laura is a retired registered nurse. At the time Laura contacted Rat Lungworm Disease, we owned a small farm on Papaya Farms Road in Lower Puna. Since she has had the disease, we have had to move from our retirement home in Hawaii, both to avoid reinfection with RLW and to reduce medical costs in dealing with RLW complications.

Summary of Lessons Learned:

- **Diagnosis of RLW is difficult and often delayed, causing risk and hardship for the patient. Often the main symptom is extreme headache with no or low fever. It is possible the underlying cause of the headache can cause death.**
- **Costs to treat RLW are similar to other major diseases.**
- **Determining the cause of infection is often difficult and despite claims by the Department of Health, no one other than the UH School of Pharmacy under Dr. Susan Jarvi is looking at each case.**

- **The career of a RLW patient suffering a moderate form of the disease will be interrupted or permanently ended.**
- **The close family or friend who cares for someone experiencing a moderate case will be unable to continue a career for some months to years. Lives will be permanently changed.**
- **Some patients experience moderate to severe pain from one to several years after having the disease.**
- **Semi slugs, an invasive species, apparently are enabling more rapid spread of the disease.**
- **Animals other than humans also suffer from this parasite.**
- **UH School of Pharmacy has led the charge in research and understanding the disease, including establishing a post-hospitalization survivor network and including managing survivor expectations.**

Background:

My wife Laura developed what experts at Hilo Medical Center classified as a “moderate” case of RLW. Her symptoms began on September 19, 2015 and she was diagnosed on October, 2015.¹

Diagnosis of RLW followed three visits to the Emergency Room, one visit to urgent care, and three visits to a primary care physician. Hospitalization lasted about two weeks, post-hospitalization emergency room visits totaled five, health care specialists referred to numbered seven, and contact with primary care providers was daily to weekly for several months. The current health care cost (paid by our medical insurance) is over 300,000 dollars.

When we permanently retired to a farm on Papaya Farms Road in lower Puna. I personally designed the catchment and water delivery system to prevent RLW (among other dangers). Laura studied and took precautions to prevent RLW. Our precautions included thoroughly washing vegetables and carefully handling fruit. Our drinking water passed through one, ten, and thirty micron filters, as well as an ultra-violet filter. The system was also treated with chlorine. Because we did take precautions, we do not know how she contacted the parasites.

Although the Department of Health has said they investigate each case to help the survivor determine the cause, we have never been contacted.

After our own careful reconstruction and study, Laura probably got the disease from eating greens in a restaurant or from cleaning filters on the water catchment system. Many experts do not believe RLW can be spread through skin contact, but many anecdotes lead me to believe it is possible.

¹ Laura’s symptoms during the duration of the disease included headaches, itchiness, extreme skin sensitivity and burning pain, nerve pain, double vision, loss of balance, impaired short term memory, difficulty in urination. earaches, neck pain, and hair loss.

It appears that dozens of people have RLW and are not diagnosed. The cases diagnosed are more likely to include severe or moderate cases. Research has not established whether the severity of a RLW case is predominately a result of the number of parasites that enter the body or predominately a function of the individual body's response to the invasion of parasites. Although the number of parasites that invade may be important, it is possible—and in my mind likely—that the severity is determined by the response of the body after the parasites invade. If so, those that develop RLW must take extraordinary precautions to prevent additional contact with the parasites.

Laura's case of RLW has upset and redirected our lives. Personally I have had to resign or suspend support for three community groups and Laura has had to resign from the Puna Medical Center Hospital Board, I have had to spend over 20,000 dollars of personal funds for temporary lodging and travel to Honolulu to support medical care and testing, Subsequently, Laura and I have had to sell our retirement home in Hawaii and move to the Mainland.

Laura still experiences considerable nerve pain as a consequence of the disease. After a year from onset of the disease, she was able to stop use of opioid pain relievers but still requires medication.

In short, this is an awful disease with profound consequences for even those that develop "moderate" cases. I seriously doubt the accuracy of the Department of Health data on the number of cases, I believe there is a strong increase in the numbers as a dangerous invasive species (semi-slugs) spreads the disease over an ever-increasing area. Based on discussions with horse owners, I think some horses may have been killed or ruined by the disease.

Laura and I have found only two reliable sources of information on RLW on the Island of Hawaii. One is Dr. Martel at Hilo Medical Center and the other is Dr. Susan Jarvi and her team at the UH School of Pharmacy.

The time to act is now. Thank you.

Thomas Lee Irwin

Laura Jarvi

Our Names are Lyn Howe and Geoff Rauch and we are testifying in support of SB 272 as the need for funding for research and education in Hawaii for rat lungworm disease is essential for the following reasons.

- Over the past 15-years cases of rat lungworm disease in Hawaii have been increasing in number and severity, costing people their lives, livelihoods, savings, health, and well-being. There have been deaths and disabilities from the disease, many people never recover fully.
- Case numbers are under-reported because many doctors are not familiar with the disease and there is no easy diagnostic. Often, diagnosis currently requires a spinal tap, which is a costly dangerous procedure, and therefore many, many cases go undiagnosed.
- Rat lungworm disease, a food-borne illness, is detrimental to Hawaii's efforts to become food secure. This problem will hurt our farmers, grocers, school gardens and consumers. Already there are those of us who do not purchase fresh vegetables grown in Hawaii, and many of us will not consume salads at restaurants because we don't know how well the lettuce has been washed. Education for food handlers is important!
- There is a need for more education available for residents, especially new residents, and visitors who know nothing about the disease. Additionally there is a need for education for the school garden projects so our keiki are safe and Non-residents that contact the infection as they have a difficult time getting proper treatment as there is no educational material to give to their physician.
- The vectors of rat lungworm disease are all invasive species, as is the parasite itself, and there is a need for host control. When case numbers started to rise 10 years ago control efforts should have begun. The semi-slug is an important carrier of the rat lungworm, and it has spread around the island because there has been no education or efforts for host control. All slugs and snails, and some flatworms can be carriers, and they all are invasive species. Rats are also bad for Hawaii and should be controlled.
- Studies are showing the potential for infection through water, and Hawaii Island relies heavily on rainwater catchment, which may be a reason cases of rat lungworm disease are higher in Hawaii County. We need to know if filters, what size filters, and if UV light will keep the parasite out of household water in a catchment system. There is a need for education for those using rainwater catchment. The use of rainwater catchment for agriculture needs to be explored to ensure prevention of crops.
- People who know about rat lungworm disease and are taking precautions and some are still getting sick. This problem is endangering residents and visitors, as well as Hawaii's reputation as a tropical vacation paradise. I am in support of SB

272 because rat lungworm disease must be addressed in order to ensure that the health and mental well being of Hawaii's residents and visitors are protected. Please fully support SB 272. Mahalo.

Aloha Senators Kai Kahele, Mike Gabbard, and Karl Rhoads,
My name is Krystal Yamamoto. I am testifying in support of SB 272 as the need for funding for research and education in Hawaii for rat lungworm disease is essential for the following reasons.

- Over the past 15-years cases of rat lungworm disease in Hawaii have been increasing in number and severity, costing people their lives, livelihoods, savings, health, and well-being. There have been deaths and disabilities from the disease, many people never recover fully. Those of us who know about the disease are afraid of getting it as we have seen or have heard about the impact it can have on one's health.
- Case numbers are under-reported because many doctors are not familiar with the disease and there is no easy diagnostic. Diagnosis currently requires a spinal tap, which is a costly dangerous procedure, and therefore many, many cases go undiagnosed.
- Rat lungworm disease, a food-borne illness, is detrimental to Hawaii's efforts to become food secure. This problem will hurt our farmers, grocers, school gardens and consumers. Already there are those of us who do not purchase fresh vegetables grown in Hawaii, and many of us will not consume salads at restaurants because we don't know how well the lettuce has been washed. Education for food handlers is important!
- There needs to be more education available for residents, especially new residents, and visitors who know nothing about the disease. There also needs to be education for the school garden projects so our keiki are safe.
- The vectors of rat lungworm disease are all invasive species, as is the parasite itself, and there is a need for host control. When case numbers started to rise 10 years ago control efforts should have begun. The semi-slug is an important carrier of the rat lungworm, and it has spread around the island because there has been no education or efforts for host control. All slugs and snails, and some flatworms can be carriers, and they all are invasive species. Rats are also bad for Hawaii and should be controlled.
- Studies are showing the potential for infection through water, and Hawaii Island relies heavily on rainwater catchment, which may be a reason cases of rat lungworm disease are higher in Hawaii County. We need to know if filters, what size filters, and if UV light will keep the parasite out of household water in a catchment system. There is a need for education for those using rainwater catchment. The use of rainwater catchment for agriculture needs to be explored to ensure prevention of crops.

People who know about rat lungworm disease and are taking precautions and some are still getting sick. This problem is endangering residents and visitors, as well as Hawaii's reputation as a tropical vacation paradise. I am in support of SB 272 because rat lungworm disease must be addressed in order to ensure that the health and mental well being of Hawaii's residents and visitors are protected. Please fully support SB 272. Mahalo.

Contact Info

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Cc: alinhawaii98@hotmail.com
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SB272

Submitted on: 2/4/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
dennis kitsman	Individual	Support	No

Comments: I URGE YOU TO PASS THIS BILL AS IT IS A VERY BIG PROBLEM ON THE BIG ISLAND, ESPECIALLY IN PUNA WHERE WE RELY ON CATCHMENT FOR OUR WATER. RATLUNG WORM DISEASE IS A SERIOUS THREAT TO US ALL. IT IS A HORRIFIC DISEASE THAT CAN KILL OR HAVE LONG LASTING SYMPTOMS.

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SB272

Submitted on: 2/3/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Micah Alameda	Individual	Support	No

Comments:

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SB272

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Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Lowana Richardson	Individual	Support	No

Comments: Please note I am really concerned about assuring your support for SB272 regarding Rat Lungworm Disease (RLWD) research and education. We would appreciate it you assure this bill gets passed. Once one gets infected by RLWD, it is a debilitating disease which could throughout the population. It will ultimately impact upon tourism also.

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Submitted By	Organization	Testifier Position	Present at Hearing
Mary Albin	Individual	Support	No

Comments: Rat-lung worm disease is a debilitating disease, occasionally leading to death. Much research is needed to find a cure.

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SB272

Submitted on: 2/4/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Deane Kysar	Individual	Comments Only	No

Comments: I strongly support this measure for research and education for Rat Lungworm Disease. I am aware of several people in my home town of Hakalau Hawaii who have been infected and seriously debilitated by Rat Lungworm Disease. The economy is also affected by this disease as it is spread through eating infected leafy vegetables, in salads for example. Unknowing visitors could contract the disease. Our puppy contracted Rat Lungworm by coming in contact with an infected slug. Please support this measure. Thank you.

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SB272

Submitted on: 2/4/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Susan Blau	Individual	Support	No

Comments: These bills SB272 and SB474 are so important for the health of all islanders and visitors. This devastating illness caused by rats and slugs MUST be addressed IMMEDIATELY. The fact that it has gone basically ignored for over 10 years is criminal. Kay Howe is our leading island expert and has been unheard all this time. The deaf ears must listen to her. We don't want poison spread aerially, or test in military areas to harm our entire ecosystem, and pollute our water supply, (like the government did in Brazil, poisoning the pregnant women, harming their babies) We want EDUCATION. People don't understand that when they put food trash in bushes in parks they are feeding rats and the slugs transfer the bacteria to humans. People who live here and those who come from America or any other foreign lands have no idea that they can't pick up food fallen from a tree, or even from the tree or the garden, without inspection and forcefully washing and scrubbing food with hot water, before eating it. Fresh food purchased from stores is still being found to contain slugs in the packages from the farms. Guidelines must be created and enforced. Every store that sells fresh food, must educate the people eating their food. Water catch systems must be upgraded with small enough micron water filter cartridges. The planning dept. need to get up to bat with this to mandate this for water systems in new and already built homes. The fact that these slugs (and other crop damaging pests) were allowed to be introduced to Hawaii shows that agricultural inspections are also not adequate at controlling these types of infiltrations. This MUST CHANGE. This illness has ruined so many peoples' lives already. We must be heard, because everyone's lives are at stake. Mahalo,

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SB272

Submitted on: 2/4/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Rodger Hansen	Individual	Support	No

Comments: Dear Senators: Please support this bill for research against this most terrible disease - Rat lungworm disease (RLWD). It is essential we have research to find out how to prevent this disease and to assure others do not continue to get infected by this. RLWD has severe permanent neurological damage for many. It is a terrible health problem. When tourists learn about RLWD, they will fear to come here to visit. Please support this bill. Thank you. Rodger Hansen

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Submitted on: 2/4/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Geoffrey Lasr	Individual	Support	No

Comments: I live here in Ground Zero Puna for Rat Lung Disease I know personally know of the devastation it has caused to families and friends here. This action is long overdue and measures need to be taken please pass this bill Sincerely Geoffrey Last

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SB272

Submitted on: 2/4/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Kat Culina	Individual	Support	No

Comments:

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SB272

Submitted on: 2/4/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
elizabeth hansen	Individual	Support	No

Comments: Dear Senators- I am so so concerned for my ohana, and my community regarding Rat Lungworm Disease (RLWD). I personally know three people who have been permanently neurologically damaged by this severe health problem. The community does not like to talk about it - it is too scary. The tourism also does not like to speak about it. But people must be protected. The results are too damaging. Please support this bill for research it is essential. Thank you for your support. More facts are included below: Over the past 15-years cases of rat lungworm disease in Hawaii have been increasing in number and severity, costing people their lives, livelihoods, savings, health, and well-being. There have been deaths and disabilities from the disease, many people never recover fully. Those of us who know about the disease are afraid of getting it as we have seen or have heard about the impact it can have on one's health. • Case numbers are under-reported because many doctors are not familiar with the disease and there is no easy diagnostic. Diagnosis currently requires a spinal tap, which is a costly dangerous procedure, and therefore many, many cases go undiagnosed. • Rat lungworm disease, a food-borne illness, is detrimental to Hawaii's efforts to become food secure. This problem will hurt our farmers, grocers, school gardens and consumers. Already there are those of us who do not purchase fresh vegetables grown in Hawaii, and many of us will not consume salads at restaurants because we don't know how well the lettuce has been washed. Education for food handlers is important! • There needs to be more education available for residents, especially new residents, and visitors who know nothing about the disease. There also needs to be education for the school garden projects so our keiki are safe. • The vectors of rat lungworm disease are all invasive species, as is the parasite itself, and there is a need for host control. When case numbers started to rise 10 years ago control efforts should have begun. The semi-slug is an important carrier of the rat lungworm, and it has spread around the island because there has been no education or efforts for host control. All slugs and snails, and some flatworms can be carriers, and they all are invasive species. Rats are also bad for Hawaii and should be controlled. • Studies are showing the potential for infection through water, and Hawaii Island relies heavily on rainwater catchment, which may be a reason cases of rat lungworm disease are higher in Hawaii County. We need to know if filters, what size filters, and if UV light will keep the parasite out of household water in a

catchment system. There is a need for education for those using rainwater catchment. The use of rainwater catchment for agriculture needs to be explored to ensure prevention of crops.

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SB272: RELATING TO RAT LUNGWORM DISEASE
February 4, 2017

Comment Only

Angiostrongyliasis is one cause of meningoencephalitis, caused by a nematode parasite of rats. Humans become infected by ingestion of infectious larvae, usually by the ingestion of an infected slug or snail. Cases are found on all islands, however, the majority of cases occur on the Big Island. The reason for this appears to be the introduction of an invasive slug, *Parmarion* (semi-slug), which because of its small size can be overlooked when preparing food.

I believe the best way to reduce the number of cases is public health education, including the need for thorough washing of home-grown vegetables, controlling rats and slugs/snails around home gardens, commercial farms, vegetable distributors and food establishments.

I encourage increase funding for education of the public, farmers and produce distributors to minimize contamination of food sources with slugs and snails. Current State Departments, such as the Health Department, Department of Agriculture Department of Food Safety, are in the best position to promote safety measures throughout the State.

Thank you.

Kenton Kramer

Aloha Senators, Mike Gabbard, Kai Kahele, and Karl Rhoads,

My name is Kathleen Howe and I am a member of the Hawaii Island Rat Lungworm Working Group at the University of Hawaii at Hilo. I am testifying in support of SB 272 as the need for funding for research and education in Hawaii for rat lungworm disease is essential. Annual cases of rat lungworm disease continue to be reported and serious cases have resulted in deaths and permanent disability in Hawaii. We can no longer ignore this serious health problem. Every year since my son's case of angiostrongyliasis, or rat lungworm disease in 2008, I have been contacted by multiple victims of the disease. In the past year two toddlers were infected and sent to Honolulu for treatment. In December of 2014 and March of 2015 two people of more advanced age were infected and both succumbed. This disease is costing all of us money, health, and peace of mind. In January I completed a Masters of Science degree, and for the past five years I have been conducting research and education outreach on this issue. I feel I can speak with some authority on the subject.

At the 59th annual meeting of the American Society of Tropical Medicine and Hygiene in Atlanta, Georgia, information was presented on the results of the Center for Disease Control (CDC), Hawaii Department of Health (DOH), and the United States Department of Agriculture (USDA)/Pacific Basin Agriculture Research Center (PBARC) study on Hawaii Island in 2005- 200. Investigators showed the infection rate in mollusks (slugs and snails) ranged from 24 to 78%, depending on species analyzed, and they confirmed that 57% of the rats were

positive by examination, having active infection with worms found in the heart and lungs, and 100% were positive by examination of lung tissue sample using realtime PCR, providing DNA evidence of current or past infection. Of the rats tested by PCR, 32% had very high infection levels, which corresponded to more than 100 larvae in ~25mg of tissue. The presenters remarked at the conference that “the severe cases of eosinophilic meningitis being reported could be due to overexposure of humans to highly infected mollusks: there are no measures in place in Hawaii to control the spread of *A. cantonensis*.” The authors concluded “angiostrongyliasis may be a more serious public health issue in Hawaii than currently estimated and measures to control its spread in mollusks and rodents may be warranted” (Banda et al. 2010). From my research I can attest that infection levels on Hawaii Island continue to be extremely high, and all of the main Hawaiian Islands have infection.

The State of Hawaii estimates it imports 85-90% of its food, making it vulnerable to natural disasters and world events should there be a disruption in the shipping and the food supply. The public has shown avid interest in supporting local food production and proof of support can be seen in the growing number of farmers’ markets, grocery stores, and restaurants selling locally grown produce and products. As the interest in the local food movement has grown so has the support for school garden projects. Each of the main Hawaiian Islands now has a school garden hui (group) and there are an estimated 200 school and youth gardens in the State of Hawaii, with almost 70 of these located on Hawaii Island. To further promote healthy diets and local agriculture, in 2015 the Hawaii Farm to School Bill, a program intended to introduce students to healthier eating habits by introducing them to new vegetables and fruits that are procured from local farmers, was signed into law. However, some nine years after the 2007 CDC and DOH

study was conducted in Hawaii, there has been no concerted effort made by any county, state or federal agency to control the spread of *A. cantonensis* in mollusks and rats, nor has there been a public education campaign to encourage residents to control these hosts. While public support of the local food movement has grown, efforts to control the spread of the rat lungworm parasite and its hosts, and to educate the general public of risks and disease prevention has not followed a similar trend.

In 2012 I co-authored a 2nd grade activity book on rat lungworm disease, based on the Hawaii State Science Standards. We've distributed all 10,000 copies printed and would like to print more, as they are frequently requested. In 2015-2016 I worked with five partner schools on Hawaii Island to develop an Integrated Pest Management plan for invasive slugs and snails for school gardens, and accompanying STEM curriculum. While we've received partial funding to continue the project through the Hawaii Invasive Species Program (HIISC), so that the management plan and curriculum is available throughout the state, more funding will be crucial for implementation.

Much of my graduate research looked at the potential for infection by water, as we have many residents living in Hawaii County, who rely on rainwater catchment, as do many farms. My studies show that drowned slugs and snails, particularly the very effective semi-slug, can indeed shed large numbers of infective stage rat lungworm parasites when drowned, and the larvae can live for some time outside of the slug/snail host. Funded studies are crucial to know what size filters will keep the parasite out of the water, and if UV light is effective. Transmission may also be possible through skin. A mouse study conducted in 1991 showed that skin or mucosa contact with infective stage larvae may cause angiostrongyliasis. The worm recovery ratio efficiency from lacerated skin

infection (40%) was higher than those from the unabraded skin (6%) or the foot pad infections (4%). Anal infection had higher worm recovery (51%) than vaginal (28%) or conjunctival (21%) infections. Mice infected by subcutaneous inoculation had a significantly higher worm burden than those infected orally. The simple act of bathing or washing in inadequately filtered catchment water could theoretically be a source of exposure. Water transmission may be one of the reasons the case numbers of angiostrongyliasis are highest for Hawaii County.

In lieu of the continued number of cases occurring annually, the need for funding for research and education in Hawaii for rat lungworm disease is not just crucial it is essential. Initiating host control measures and de-worming rats may be a way to reduce parasite load in hot spots. Farmers need to implement control measures. Food handlers need to be educated. Farm to School workers and school garden teachers need to be educated. Rainwater catchment users need to be educated. Medical professionals, residents, and visitors to Hawaii all need to be educated about rat lungworm disease. An easy diagnostic tool is essential and work on that is in progress but funding is necessary to make this simple blood test available and in use throughout the state. On behalf of the people of Hawaii, and to ensure the health and mental well-being of both residents and visitors alike, I ask you to fully support SB 272 and help us reduce or eliminate more cases of this horrific disease. Mahalo nui loa.

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Denise Key	Individual	Support	No

Comments:

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Submitted By	Organization	Testifier Position	Present at Hearing
Luana Jones	Individual	Support	No

Comments: STRONG SUPPORT!!! MAHALO.

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Submitted By	Organization	Testifier Position	Present at Hearing
bradley hashimoto-martin	Individual	Comments Only	No

Comments: this debilitating disease has left me with nerve damage even after 16 year! the nerve damage and discomfort and aches are a mental as well as physical strain. Not sure what kind of testimony youre looking for. but I was one of the earlier cases and at the time is was not even diagnosed on the island. My brother had to diagnose it as he was one of the very first cases on the island. please call if you have questions. 808-640-7774 I contacted this disease in 2001 on papaya farms road.

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To: HRE Testimony
Cc: dancingdrdonna@yahoo.com
Subject: Submitted testimony for SB272 on Feb 6, 2017 13:30PM

SB272

Submitted on: 2/4/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Donna Rivette	Individual	Support	No

Comments: Aloha Senators Kai Kahele, Mike Gabbard, and Karl Rhoads, My name is Donna Rivette. I am testifying in support of SB 272 as the need for funding for research and education in Hawaii for rat lungworm disease is essential for the following reasons.

- Over the past 15-years cases of rat lungworm disease in Hawaii have been increasing in number and severity, costing people their lives, livelihoods, savings, health, and well-being. There have been deaths and disabilities from the disease, many people never recover fully. Those of us who know about the disease are afraid of getting it as we have seen or have heard about the impact it can have on one's health.
- Case numbers are under-reported because many doctors are not familiar with the disease and there is no easy diagnostic. Diagnosis currently requires a spinal tap, which is a costly dangerous procedure, and therefore many, many cases go undiagnosed.
- Rat lungworm disease, a food-borne illness, is detrimental to Hawaii's efforts to become food secure. This problem will hurt our farmers, grocers, school gardens and consumers. Already there are those of us who do not purchase fresh vegetables grown in Hawaii, and many of us will not consume salads at restaurants because we don't know how well the lettuce has been washed. Education for food handlers is important!
- There needs to be more education available for residents, especially new residents, and visitors who know nothing about the disease. There also needs to be education for the school garden projects so our keiki are safe.
- The vectors of rat lungworm disease are all invasive species, as is the parasite itself, and there is a need for host control. When case numbers started to rise 10 years ago control efforts should have begun. The semi-slug is an important carrier of the rat lungworm, and it has spread around the island because there has been no education or efforts for host control. All slugs and snails, and some flatworms can be carriers, and they all are invasive species. Rats are also bad for Hawaii and should be controlled.
- Studies are showing the potential for infection through water, and Hawaii Island relies heavily on rainwater catchment, which may be a reason cases of rat lungworm disease are higher in Hawaii County. We need to know if filters, what size filters, and if UV light will keep the parasite out of household water in a catchment system. There is a need for education for those using rainwater catchment. The use of rainwater catchment for agriculture needs to be explored to ensure prevention of crops. People who know about rat lungworm disease and are taking

precautions and some are still getting sick. This problem is endangering residents and visitors, as well as Hawaii's reputation as a tropical vacation paradise. I am in support of SB 272 because rat lungworm disease must be addressed in order to ensure that the health and mental well being of Hawaii's residents and visitors are protected. Please fully support SB 272. Mahalo.

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To: HRE Testimony
Cc: kaloli.pt@gmail.com
Subject: *Submitted testimony for SB272 on Feb 6, 2017 13:30PM*

SB272

Submitted on: 2/3/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Ann Strong	Individual	Support	No

Comments:

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Sent: Friday, February 3, 2017 4:42 PM
To: HRE Testimony
Cc: steve_hirakami@notes.k12.hi.us
Subject: Submitted testimony for SB272 on Feb 6, 2017 13:30PM

SB272

Submitted on: 2/3/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Steve Hirakami	Individual	Support	No

Comments: I personally know many victims of this debilitating disease caused by people simply not washing their vegetables or living on catchment water, or simply contracting the disease somehow without knowing the cause. This disease is horrible because it attacks even the nervous system. People lives are changed forever. Please pass this bill.

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To: HRE Testimony
Cc: dbicakci@hawaii.edu
Subject: *Submitted testimony for SB272 on Feb 6, 2017 13:30PM*

SB272

Submitted on: 2/3/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Deniz Bicakci	Individual	Support	No

Comments:

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DAVID Y. IGE
Governor

SHAN S. TSUTSUI
Lt. Governor



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DEPARTMENT OF AGRICULTURE
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SCOTT E. ENRIGHT
Chairperson, Board of Agriculture

PHYLLIS SHIMABUKURO-GEISER
Deputy to the Chairperson

LATE

TESTIMONY OF SCOTT E. ENRIGHT
CHAIRPERSON, BOARD OF AGRICULTURE

BEFORE THE SENATE COMMITTEES ON HIGHER EDUCATION, WATER & LAND,
& AGRICULTURE & ENVIRONMENT

FEBRUARY 6, 2017
1:30 P.M.
CONFERENCE ROOM 224

SENATE BILL NO. 272
RELATING TO RAT LUNGWORM DISEASE

Chairpersons Kahele, Rhoads, and Gabbard and Members of the Committees:

Thank for the opportunity to testify on Senate Bill No. 272, relating to rat lungworm disease. The Department supports the intent of this measure provided it does not impact the Department's priorities submitted in the Executive Budget.

Rat lungworm disease is a serious and relatively new pathogen to plague the consumption of fresh produce grown in the islands. There is a great need to conduct research into the biology of the carriers of the disease, the ways in which it can be spread, outreach to the public in understanding the condition, and methods that can be employed to control and/or contain it.

The department supports the intent of SB272 provided it is funded at a level in which research can be conducted and carried out to achieve implementation of prevention measures. It is especially critical that Integrated Pest Management practices can be identified that minimize the use of chemicals and employ a variety of management techniques that will provide long term control of the pathogen. Outreach is an especially critical component of any IPM tactics. The more that the public understands the hazards of the disease, the less of a public health issue it will become.



As noted in the bill, the medical expenses associated with contracting the disease can run into the millions. Research dollars spent in developing long term and effective management programs are minor compared to the expected medical bill associated with those who contract the illness.

Thank you for the opportunity to testify on this measure.

LATE

From: mailinglist@capitol.hawaii.gov
Sent: Monday, February 6, 2017 7:52 AM
To: HRE Testimony
Cc: christym@rocketmail.com
Subject: Submitted testimony for SB272 on Feb 6, 2017 13:30PM

SB272

Submitted on: 2/6/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Christy Martin	Coordinating Group on Alien Pest Species (CGAPS)	Support	No

Comments: We support funding for this important work on rat lungworm and its hosts/vectors. This is another example of the need for a strong interagency biosecurity program. Neither the rat lungworm parasite, nor its primary vectors are native to Hawaii. Mahalo for your consideration.

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Sent: Monday, February 6, 2017 8:02 AM
To: HRE Testimony
Cc: hkimball@hawaii.edu
Subject: Submitted testimony for SB272 on Feb 6, 2017 13:30PM

SB272

Submitted on: 2/6/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Heather Kimball	Individual	Support	No

Comments: Rat Lungworm Disease is a devastating illness. I have seen its effect first hand and consider this one of our most dangerous public health issues. Some consider this a disease that only affects Puna on the Big Island. It is not. Snails and slugs carrying the parasite have been found all over the Big Island. Some think that this disease is the result of unhygienic practices. It is not. Individuals have contracted this disease eating at restaurants and there is evidence that the parasite can persist in catchment systems and be transported through filtration systems. Some think this is only a Big Island issue. It is not. A resident of Maui contracted the disease and it is only a matter of time before rat lungworm, like some of our other invasive species (like the coqui and little fire ant) makes it way to the other islands. The response to this disease by the state has been woefully inadequate to date. It as not been addressed with the seriousness which it deserves. I am a mother with small children. Since I have seen the effects of this disease I do not buy local greens for my family. This disease has both health and economic impacts on our community. I urge this committee to support this bill to address this urget public health crisis. Thank you, Heather Kimball

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Cc: akamaimom@gmail.com
Subject: Submitted testimony for SB272 on Feb 6, 2017 13:30PM

SB272

Submitted on: 2/6/2017
Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Felicia Cowden	Individual	Support	No

Comments: We are fortunate on Kauai to not yet have to be anxious about Rat Lung Disease. It is in every islands best interest to help Hawaii island and the State of Hawaii, study this disease pathway to eliminate it for the pro-active health of all of the islands. Mahalo, Felicia Cowden Kilauea, Kauai

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To: HRE Testimony
Cc: hypnosusan@sbcglobal.net
Subject: Submitted testimony for SB272 on Feb 6, 2017 13:30PM

SB272

Submitted on: 2/5/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Susan Bambara	Individual	Support	No

Comments: Please support this very important bill! Rat Lung is a terrible and worsening public health issue that must be researched and addressed with more public education, as soon as possible. The public safety truly is at a rapidly growing risk. Thank you for your important support of this bill.

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To: HRE Testimony
Cc: begoniabarry@gmail.com
Subject: *Submitted testimony for SB272 on Feb 6, 2017 13:30PM*

SB272

Submitted on: 2/5/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Barbara Barry	Individual	Support	No

Comments:

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To: HRE Testimony
Cc: john@sustainableislandproducts.com
Subject: *Submitted testimony for SB272 on Feb 6, 2017 13:30PM*

SB272

Submitted on: 2/5/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
JOHN ELKJER	Individual	Support	No

Comments:

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SB272

Submitted on: 2/5/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Merle Hayward	Individual	Support	No

Comments: Rat Lung Worm disease destroys lives and creates people dependent on welfare.

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Sent: Sunday, February 5, 2017 3:48 PM
To: HRE Testimony
Cc: steven_jacquier@hotmail.com
Subject: Submitted testimony for SB272 on Feb 6, 2017 13:30PM

SB272

Submitted on: 2/5/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Steven Jacquier	Individual	Support	No

Comments: Please support SB 272. Research and prevention will save Hawaii's economy many millions of dollars in the long run, plus boosting both community health and food self-reliance in the islands. Mahalo.

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Sent: Sunday, February 5, 2017 2:59 PM
To: HRE Testimony
Cc: kirsten.snook@gmail.com
Subject: Submitted testimony for SB272 on Feb 6, 2017 13:30PM

SB272

Submitted on: 2/5/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Kirsten Snook	Individual	Comments Only	No

Comments: As someone who lives on catchment water and likes to eat locally grown produce, I have many concerns about RLW disease and how little we know about its transmission and severity. More research and education about this seemingly random lurking killer would help us find ways to reduce our risk of infection here on the Big Island. I know people who have contracted RLW and have seen the devastating effect it has on lives and families. Please support SB 272 so we can protect our 'ohana and our visitors from this foodborne tropical disease. Mahalo nui loa, Kirsten Snook

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Cc: doran_vaughan@yahoo.com
Subject: Submitted testimony for SB272 on Feb 6, 2017 13:30PM

SB272

Submitted on: 2/5/2017

Testimony for HRE/WTL/AEN on Feb 6, 2017 13:30PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Doran Vaughan	Individual	Support	No

Comments: Please vote "yes" on SB 272. Rat lungworm disease threatens the health of Hawaii's agriculture, local community, tourism, and the state economy as a whole. We are money ahead to support research and prevention. Mahalo.

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