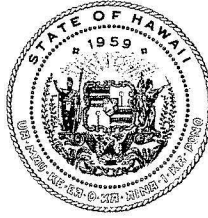
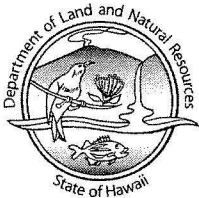


LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

RUSSELL Y. TSUJI
FIRST DEPUTY

KEN C. KAWAHARA
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
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HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

TESTIMONY OF THE CHAIRPERSON OF THE
BOARD OF LAND AND NATURAL RESOURCES

On House Bill 2828 – RELATING TO THE SUPER SUCKER

BEFORE THE HOUSE COMMITTEE ON
FINANCE

February 22, 2008

House Bill 2828 appropriate funds to support operation of the “Super Sucker” device for control of invasive marine algae in Kaneohe Bay for one year, and would also appropriate funds to purchase one portable “Super Sucker Jr.”. While the Department of Land and Natural Resources (Department) is in concert with the intent of this bill, which is congruent with its objectives, the Department nonetheless has concerns with budgetary implications this bill will have on the Executive Supplemental Budget request.

The Department appreciates the Legislature’s acknowledgment of the very serious threat that invasive marine algae pose to Hawaii’s coral reefs. It has taken many years of partnerships forged among researchers, resource managers, non-government organizations (NGOs), and community groups to reach the current high level of awareness in regard to this increasing threat to the State’s coral reefs. However, despite the large amount of time, effort and money put forth by the many different groups already dedicated to this problem, it has been a struggle to establish an appropriate level of response to this very prolific and destructive set of alien invasive species.

In 2003, Hawaii was confronted with the spectacular consequences of an unchecked alien invasive species when the freshwater weed *Salvinia molesta* overran Lake Wilson on Oahu. Government agencies, including city, state and federal military branches, joined forces with community members in an eradication effort that ultimately cost over \$1.3 million. State biologists were told at the time by experts that the situation was beyond reclaim, but faced with community pleas for action, coupled with outstanding dedication on the part of all parties involved, it was possible to not only remove the plant, but to eradicate it from Lake Wilson completely. Today, *Salvinia molesta* is no longer seen in the lake, which stands as a true success story in the battle against invasive species.

Meanwhile, on the State’s nearshore reefs, alien marine algae continue to spread.

Although there are many differences between marine alien algae and *Salvinia*, the resulting energy and focus of the response should be the same. Certain species of alien algae are more readily contained than others, and these species should be the first targets for control. Given the size of the marine environment, the scale and level of impact is also far greater for marine alien

algae than it was for *Salvinia* in Lake Wilson. A cohesive program of action at the County, State and Federal level will be required to address this problem. The "Super Sucker" is one part of such an integrated solution.

The Department has been a partner in the "Super Sucker" project from its conception. To date, this technology has been deployed in research and testing phases. The Department has now proven that the device is effective, and is ready to move towards its deployment in large scale management operations. There still remain a number of research questions surrounding the project, and the Department fully recognizes that multiple factors contribute to increases in marine algae and concurrent decrease in coral cover on many of Hawaii's reefs, but still feels that this project should move into full time deployment at the earliest available opportunity. If the Department waits until all of the contributing factors such as land-based pollution, nutrient enrichment and decreased herbivory are clarified and resolved through detailed research, the loss of coral cover could be so severe that it would take hundreds if not thousands of years for our reefs to recover.

Testimony of The Nature Conservancy of Hawai'i
Supporting H.B. 2828 Making an Appropriation for the Super Sucker
House Committee on Finance
Friday, February 22, 2008, 2:15PM, Room 308

The Nature Conservancy of Hawai'i is a private non-profit conservation organization dedicated to the preservation of Hawai'i's native plants, animals, and ecosystems. The Conservancy has helped to protect nearly 200,000 acres of natural lands for rare and endangered native species in Hawai'i. Today, we actively manage more than 32,000 acres in 11 nature preserves on O'ahu, Maui, Hawai'i, Moloka'i, Lāna'i, and Kaua'i and also work closely with government agencies and private landowners on cooperative land and marine management projects.

The Nature Conservancy of Hawaii supports H.B. 2828 Making an Appropriation for the Super Sucker.

Alien algae are overgrowing and killing coral reefs in Hawai'i. The Super Sucker was developed by the State Division of Aquatic Resources (DAR), The University of Hawai'i (UH), and The Nature Conservancy (TNC) in 2005 to begin to address this critical threat. The Super Sucker is very effective at removing mass quantities of alien algae from heavily impacted reefs.

We also developed the Super Sucker Junior because the large size of the Super Sucker Senior make it impractical and/or unsafe to operate in many other shallower reef habitats currently being degraded by alien algae on O'ahu, Maui, Moloka'i and the Big Island.

Due to limited funding, we have been operating with an inexperienced crew from multiple partner agencies on an infrequent schedule. While this has allowed us to learn how to most effectively use these machines in portions of Kāne'ohe Bay and a few other locations, it has prevented us from attacking the problem at the scale at which it must be addressed to stop the spread of alien algae throughout the islands and restore impacted reefs.

With an initial investment of \$500,000, we will be able to operate Senior full-time, and clear several hundred tons of alien algae from the reefs of Kāne'ohe Bay. At this rate, we believe we will be able control alien algae in the north end of the bay, and stop the northward spread of algae to new reefs. We will also be able to determine how quickly a trained crew can clear entire reefs, and the rate at which algae re-grow when cleared over a large area.

With an initial investment of \$256,000, we will be able to operate Junior full time, and remove algae from impacted reef habitats that have not yet been addressed by Senior in Kāne'ohe Bay, Maunalua Bay, Waikīkī, and priority sites on the island of Maui. In addition, another version of Junior is being developed for use in Hilo, and Mini Suckers are being tested by community members to remove alien algae from He'eia fishpond and Maunlaui Bay.

A combined budget as well as individual budgets for Super Sucker Senior and Junior are attached.

Attachment

BOARD OF TRUSTEES

S. Haunani Apoliona Peter D. Baldwin Christopher J. Benjamin Zadoc W. Brown, Jr. Carl A. Carlson, Jr. David C. Cole Samuel A. Cooke
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Super Sucker Senior and Junior Budget - Year 1

| Salaries | Unit Cost | Total | Notes |
|---|------------------|--------------|-------------------|
| Aquatic Biologist IV (SR22 Step E) | \$49,332 | | |
| Aquatic Biologist III (SR 20 Step E) | \$45,576 | | |
| Fishery Technician IV (SR13 Step C) 7 @ \$33,756 | \$236,292 | | 4 Sr, 3 Jr |
| subtotal | | \$331,200 | |
| Fringe (41.13%) | | | |
| Aquatic Biologist IV | \$20,290 | | |
| Aquatic Biologist III | \$18,745 | | |
| Fishery Technician IV (x7) | \$97,187 | | 4 Sr, 3 Jr |
| subtotal | | \$136,223 | |
| Equipment | | | |
| Replacement pump | \$25,000 | | Sr only |
| 25-foot escort boats with shared trailer (3 @ \$35,000) | \$105,000 | | 2 Sr, 1 Jr |
| 2 full size 4x4 trucks with tow hooks | \$70,000 | | 1 Sr, 1 Jr |
| subtotal | | \$200,000 | |
| Supplies and Misc Costs | | | |
| Super Sucker, boat, truck repair & maintenance, gas | \$15,000 | | \$10k Sr, \$5k Jr |
| Computer (2) | \$4,000 | | |
| Field gear (scuba, GPS, safety gear, etc...) | \$15,000 | | |
| Training | \$4,000 | | \$2k Sr, \$2k Jr |
| HIMB dock fee | \$12,000 | | |
| subtotal | | \$50,000 | |
| Travel | | | |
| Transportation | \$1,000 | | |
| Per Diem | \$36,000 | | |
| subtotal | | \$37,000 | |
| Total | | \$754,423 | |

Super Sucker Senior - Year 1

| Salaries | | Category Total |
|---|-----------|-----------------------|
| Aquatic Biologist IV (SR22 Step E) | \$49,332 | |
| Aquatic Biologist III (SR 20 Step E) | \$45,576 | |
| Fishery Technician IV (SR13 Step C) 4 @ \$33,756 | \$135,024 | |
| subtotal | | \$229,932 |
| Fringe (41.13%) | | |
| Aquatic Biologist IV | \$20,290 | |
| Aquatic Biologist III | \$18,745 | |
| Fishery Technician IV (x4) | \$55,535 | |
| subtotal | | \$94,571 |
| Equipment | | |
| replacement pump | \$25,000 | |
| 25 ft escort vessels w/ shared trailer , 2 @ \$35,000 | \$70,000 | |
| Full size truck 4x4 w/ tow hook | \$35,000 | |
| subtotal | | \$130,000 |
| Supplies Misc costs | | |
| supersucker, boat, truck repair maintenance, gas | \$10,000 | |
| Computer (2) | \$4,000 | |
| Field gear (scuba, GPS, safety gear, etc...) | \$15,000 | |
| Training costs | \$2,000 | |
| HIMB dock fee | \$12,000 | |
| subtotal | | \$43,000 |
| Total Directs | | \$497,503 |

Super Sucker Junior - Year 1

| Salaries | | Category Total |
|--|-----------|-----------------------|
| Fishery Technician IV (SR13 Step C) 3 @ \$33,756 | \$101,268 | |
| subtotal | | \$101,268 |
| | | |
| Fringe (41.13%) | | |
| Fishery Technician IV (x3) | \$41,652 | |
| subtotal | | \$41,652 |
| | | |
| Equipment | | |
| 25 ft escort vessel w/ trailer | \$35,000 | |
| Full size truck 4x4 w/ tow hook | \$35,000 | |
| subtotal | | \$70,000 |
| | | |
| Supplies Misc costs | | |
| boat truck repair maintenance, gas | \$5,000 | |
| Training costs | \$2,000 | |
| subtotal | | \$7,000 |
| | | |
| Travel | | |
| Maui | \$37,000 | \$37,000 |
| | | |
| Total Directs | | \$256,920 |



The House of Representatives
Committee on Finance
Friday, February 22, 2008
2:15 p.m., Conference Room 308
State Capitol

Testimony in Support of HB 2828

Aloha Chair Oshiro, Vice Chair Lee, and Members of the Committee,
The Coordinating Group on Alien Pest Species (CGAPS) **supports HB 2828**, *Making an appropriation for the Super Sucker*.

HB 2828 would provide the support necessary to operate the Super Sucker to begin the control of invasive seaweed in Kāneʻohe Bay and to build a second mobile unit that could be used around the state.

Invasive seaweeds have truly been a silent invasion, forming dense mats over the reef, overgrowing and killing coral, and reducing habitat and food for a multitude of reef dwellers.

The steady spread of seaweeds like gorilla ogo and Kappaphycus seemed inevitable, and studies quantified the loss of diversity on reefs from 60 different species the 1970s, to 20 different species in 2002. Although community alien algae clean-ups help to remove some of the seaweed, these are localized events near shore where there is easy access, and it does not begin to touch the huge amounts of invasive seaweed in less accessible areas such as the patch reefs of Kāneʻohe, and deeper reefs.

Today, we see that the Super Sucker and Super Sucker Jr. can be used to help remove the mass amounts of invasive seaweeds choking the reef, and studies have shown that native grazers like collector urchins and some species of fish can then help keep seaweed overgrowth down. Further studies on water quality could also provide some localized help, but we need to remove invasive seaweed TODAY to protect the coral that provides our shorelines protection from waves and storms; we need to protect the native seaweeds, fish and invertebrates that feed our families and support our economy.

CGAPS respectfully asks for your support of HB 2828. Mahalo.

CGAPS--Coordinating Group on Alien Pest Species
Ph: (808) 722-0995

Testimony by Celia M. Smith
Supporting H.B. 2828 Making an Appropriation for the Super Sucker
House Committee on Finance
Friday, February 22, 2008, 2:15PM, Room 308

As a private citizen and marine botanist with over 20 years of research experience working in Hawaiian coastal habitats, I support H.B. 2828 Making an Appropriation for the Super Sucker.

The last decade of research has shown us that alien algae are overgrowing and killing coral reefs in Hawai'i. The Super Sucker was developed by the State Division of Aquatic Resources (DAR), The University of Hawai'i (UH), and The Nature Conservancy (TNC) in 2005 to begin to address this critical threat, because in earlier years research, we determined that manual harvesting (hand-picking) simply is not an efficient option. The Super Sucker is very effective at removing thousands of pounds of alien algae a day, from heavily impacted reefs.

We also developed the Super Sucker Junior because the large size of the Super Sucker Senior make it impractical and/or unsafe to operate in many other shallower reef habitats currently being degraded by alien algae on O'ahu, Maui, Moloka'i and the Big Island.

Our major source of funding has been spread across three important areas – supersucker development and its proof of concept, urchin cultivation as well as outreach activities. While this effort has allowed us to learn how to most effectively use these machines in portions of Kāne'ōhe Bay, we have not been able to attack the problem at the scale at which it must be addressed to stop the spread of alien algae throughout the Kāne'ōhe Bay. Without this step, there is little hope of restoring impacted reefs.

As detailed in earlier testimony by TNC, an initial investment of \$500,000 will operate Senior full-time, and likely lead to clearing several hundred tons of alien algae from the reefs of Kāne'ōhe Bay. At this rate, we believe we will be able control alien algae in the north end of the bay, and stop the northward spread of algae to new reefs. We should also be able to determine how quickly a trained crew can clear entire patch reefs, and the rate at which algae re-grow when cleared over a large area.

With an initial investment of \$256,000, we will be able to operate Junior full time, and remove algae from impacted reef habitats that have not yet been addressed by Senior in Kāne'ōhe Bay, Maunaloa Bay, Waikīkī, and priority sites on the island of Maui. In addition, another version of Junior is being developed for use in Hilo, and Mini Suckers are being tested by community members to remove alien algae from He'eia fishpond and Maunaloa Bay.

This tool offers new opportunities to help return our reefs to good health. I support H.B. 2828 Making an Appropriation for the Super Sucker.

FINtestimony

From: carl [mjellings@hawaii.rr.com]
Sent: Tuesday, February 19, 2008 11:28 PM
To: FINtestimony
Subject: 2/22/2008 HB3176 Agenda #5

HB 2828

MAKING AN APPROPRIATION FOR THE SUPER SUCKER.

DATE: FRIDAY, February 22, 2008
TIME: 2:15 P.M.
PLACE: Conference Room 308

COMMITTEE ON FINANCE

Rep. Marcus R. Oshiro, Chair

Rep. Marilyn B. Lee, Vice Chair

*Aloha Chair Honorable Representative Marcus Oshiro,,, Honorable Vice Chair
Representative Marilyn B Lee ,*

*My name is Carl P Jellings Resident of Nanakuli Oahu in strong support of this measure
mahalo for allowing me to testify*

*This would be a big win for our reefs and for the state to bind communities in the fight
against alien species in this case alien algae.*

FINtestimony

From: vivien lee [leereppun@hotmail.com]
Sent: Thursday, February 21, 2008 9:30 PM
To: FINtestimony
Subject: HB2828
Categories: Printed

To: Marcus Oshiro: Chair
Marilyn Lee: Vice Chair
Subject: HB 2828, Supersucker, appropriation
2/22/08, 2:15PM, RM 308

I am in favor of HB2828. Today we picked up 2500 pounds of alien limu that the super sucker cleaned off of a small part of one patch reef in Kaneohe Bay. For a number of years I have participated in the various alien limu clean-up events. We use the limu whenever we can get it on our farm. We have always had good working relationship with the supersucker crew. They call us whenever they go out and we meet them at the end of the day to pick up the limu. We have also worked with the College of Agriculture on experiments using the limu as a fertilizer. The supersucker crew is hardworking, knowledgable, ready and willing to do a job that desperately needs to be done. While we, as farmers, are happy to turn something bad into something good, we wish there was none of this limu. As lifetime residents of the Kaneohe Bay area, who go out on the bay often, we, along with many others, are frightened and dismayed at how fast this alien limu has spread, and at the damage it has done. There have been too many delays. This project needs to go forward as quickly as possible. Please fund the supersucker. It can make a big difference.

Thank you,

Charlie Reppun, Waiahole Valley farmer

Climb to the top of the charts! Play the word scramble challenge with star power. [Play now!](#)

Representative Marcus R. Oshiro, Chair
Representative Marilyn B. Lee, Vice Chair
Committee on Finance

Friday, February 22, 2008
2:15 pm, Conference Room 308

In Support of HB2828, Making an Appropriation for the Super Sucker

Chair Oshiro and Vice Chair Lee, and honorable committee members. I am Roy Morioka, an Oahu resident, fisherman and retiree and I thank you for this opportunity to testify in support of funding the "super sucker" in its effort to control the invasive algae that has established itself in Kaneohe Bay and altering its fragile and unique marine ecosystem. Such mitigation and control efforts are essential to the health and protection of the native species that inhabit this bay, before irreversible damage occurs.

Additionally, I call your attention to another introduced invasive species, the leather mudweed (*Avrainvillea amadelpha*) that is devastating weke nono (*Pfuegers* goatfish, sometimes erroneously referred to as weke ula) grounds off the leeward coast of Oahu. This invasive seaweed has blanketed the habitat preferred by the weke nono and is rapidly spreading its range from Kalaeloa (where it is thought to have been introduced via ballast water discharge) all the way now to Waianae as observed by fishermen from the area. Such displacement of essential habitat for the weke nono will eventually result in the loss of another prized food fish in Hawaii. It would be interesting to learn if the "super sucker" could be effective in mitigating this new invasive species before it further expands its range.

Thank you for addressing and providing the necessary funding to control the spread of alien algae in Kaneohe Bay and I truly hope that similar attention will be given the leather mudweed invasion off the leeward coast.

Sincerely Yours,
Roy Morioka