

**STATE OF HAWAII**  
**DEPARTMENT OF HEALTH**  
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WRITTEN  
TESTIMONY ONLY

**Testimony COMMENTING on HB1894**  
**RELATING TO HUMAN REMAINS**

REPRESENTATIVE RYAN I. YAMANE, CHAIR  
HOUSE COMMITTEE ON HEALTH, HUMAN SERVICES, & HOMELESSNESS  
Hearing Date: 2/1/2022 Room Number: 329

- 1 **Fiscal Implications:** None.
- 2 **Department Testimony:** The Department of Health (Department) has comments for this
- 3 measure. The alkaline hydrolysis process produces a high organic content and high pH
- 4 wastewater that cannot be properly treated by an onsite wastewater treatment system that is
- 5 regulated by the Department. For States that allow alkaline hydrolysis, wastewater from the
- 6 process is required to be discharged into a municipal sewer system for treatment and disposal.
- 7 The Department does not object to allowing the alkaline hydrolysis process to treat human
- 8 remains as long as it is specified that the wastewater shall be discharged into a municipal sewer
- 9 system as approved by the counties.
- 10 **Offered Amendments:** None.
- 11 Thank you for the opportunity to testify on this measure.



DAVID Y. IGE  
GOVERNOR

JOSH GREEN  
LT. GOVERNOR

**STATE OF HAWAII  
OFFICE OF THE DIRECTOR  
DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS**

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CATHERINE P. AWAKUNI COLÓN  
DIRECTOR

JO ANN M. UCHIDA TAKEUCHI  
DEPUTY DIRECTOR

**Testimony of the Department of Commerce and Consumer Affairs**

**Before the  
House Committee on Health, Human Services, & Homelessness  
Tuesday, February 1, 2022  
9:00 a.m.  
Via Videoconference**

**On the following measure:  
H.B. 1894, RELATING TO HUMAN REMAINS**

Chair Yamane and Members of the Committee:

My name is Catherine P. Awakuni Coloñ, and I am the Director of the Department of Commerce and Consumer Affairs. The Department offers comments on this bill.

The purpose of this bill is to (1) create a new licensing requirement for hydrolysis facilities; (2) amend 327-32 Hawaii Revised Statutes (HRS) regarding the disposition of unclaimed dead human bodies; (3) amend 327-36 HRS regarding disposition of anatomical gifts; (4) amend 346-15 HRS regarding cremation of unclaimed dead human bodies; (5) amend numerous sections of Chapter 531B HRS, Disposition of Remains; (6) amend 841-10, HRS relating to the decent burial of the dead body of a stranger or indigent person.

The Department is unfamiliar with the public health and environmental issues relating to the disposition of dead human bodies and as such takes no position on whether hydrolysis facilities should be made available in the state as an alternative to other methods of disposition of human remains as may be provided under existing law.

Testimony of DCCA

H.B. 1894

Page 2 of 2

The Department's familiarity with cemetery operations is focused on the consumer protection aspects of ensuring that a cemetery handles consumer funds appropriately and makes price disclosures to consumers incident to the sale of goods and services. As such, the Department is ill-suited to establish licensing requirements for hydrolysis facilities and does not support the reference to the Department in section 2 of the bill.

Thank you for the opportunity to testify on this bill.



Hawaii Funeral & Cemetery Association, Inc.  
1330 Maunakea Street, Honolulu, Hawaii 96817

Written Testimony providing comments on  
HB 1894– Relating to Human Remains

January 31, 2022

To: Representative Ryan I. Yamane – Chair- Committee on Health, Human Services, & Homelessness  
Representative Adrian K. Tam, Vice Chair- Committee on Health, Human Services, & Homelessness  
Committee Members

HEARING DATE/TIME: February 1<sup>st</sup>, 2021 / 9:00am

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STATEMENT FROM THE HFCA BOARD OF DIRECTORS

*The Hawaii Funeral & Cemetery Association, Inc. is a Domestic Nonprofit Corporation, comprised of 12 independent Board of Directors representing 14 mortuaries and 10 cemeteries that serve the largest majority of Hawaii's families. The HFCA is an independent association that acts in the best interest of its members and the community. The HFCA Board of Directors would like to provide comment on HB1894 in its current form.*

Dear Chair Yamane, Vice Chair Tam and Committee Members

My name is Jay Morford, President and Legislative Chair for the Hawaii Funeral and Cemetery Association, Inc. ("HFCA"). The HFCA would like to provide the following comments on **HB 1894** ("Bill") "Relating to Human Remains".

The HFCA believes that given the potential environmental effects of Alkaline Hydrolysis, proper regulatory oversight should be required. The HFCA fully supports individual choice for alternative forms of disposition. However, to ensure the safety of safety of Hawaiian residents and protection of consumers, this Bill must provide for oversight by regulatory agency(s) over the technology, facilities, environmental impact and the operators licensing.

Prior to HB1894 moving forward we are requesting an amendment to **§ - 2 Licensing; human remains.**

**Proposed Amendment**  
**Prior to Licensing of an Alkaline Hydrolysis Facility**

**Proposed amendment to § - 2 Licensing; human remains.**

**§ - 2 Licensing; human remains. (a) Any hydrolysis facility in the State shall be subject to licensing established by the department. {All regulatory agency and licensure requirements must go through the administrative rule process prior to licensing an Alkaline Hydrolysis Facility or Alkaline Hydrolysis Facility Operator.}**

We would like to highlight just a few issues related alkaline hydrolysis that warrant consideration of our legislators. We respectfully request an amendment to this Bill to address these issues and ensure full regulatory oversight of this new means of disposition.

**Alkaline Hydrolysis (AH) Environmental Impacts:** The amount of water required to complete the AH process of one decedent and the discharge resulting raise concerns about the potential environmental impact to our water supply. Approximately 300 gallons of water (Source: <https://www.joincake.com/blog/alkaline-hydrolysis-water-cremation-explained>) is used in this process. It has been reported the discharge into the sewer system exceeds a Level of PH 11. In areas like San Francisco, the legal limit for the water to be released in the sewer system is PH 9. The overall AH process can take up to a full day and there is approximately 20%-30% more cremated remains to return to the family after processing.

**Traditional Disposition:** While the HFCA strongly supports cultural traditions and providing people choices of disposition, it is still unproven that AH is cleaner process than a traditional process of cremation in a crematory or burial. In regards to embalming fluid and other chemicals, there are no studies in Hawaii that show there have been any water or ground contamination from embalmed bodies. In fact, studies to prove otherwise. Hawaii has a 65% cremation rate, much of that related to cultural preference. To our knowledge there have been no air quality studies that show crematories contribute to poor air quality. The Department of Health Clean Air Branch regulates the crematories in the State of Hawaii.

There have been groups that have questioned if alkaline hydrolysis is a respectful and dignified way to handle human remains. For example, the Catholic Conference of Ohio has contributed to the defeat of alkaline hydrolysis legislation in that state, arguing that “Dissolving bodies in a vat of chemicals and pouring the resultant liquid down the drain is not a respectful way to dispose of human remains.” *Source: [nolo.com/legal-encyclopedia/alkaline-hydrolysis](http://nolo.com/legal-encyclopedia/alkaline-hydrolysis)*

**Cost Effectiveness.** Alkaline hydrolysis equipment is expensive; it may cost a provider between \$150,000 and \$400,000 to purchase an AH unit, depending on the size of the machine as well as the temperature and pressure at which the system can operate. (Higher temperature and greater pressure result in faster decomposition, which allows a provider to handle multiple bodies per day, if necessary.) Because the equipment costs more than traditional cremation machinery, the procedure may be more expensive for consumers. That said, the costs of burial and cremation services vary widely and AH may cost more, about the same, or less than traditional methods, depending on the provider and options you choose. For example, in Minnesota, basic alkaline hydrolysis costs about \$2,400, while the cost of direct cremation -- that is, simple cremation without an on-site ceremony -- ranges from about \$800 to more than \$4,300, depending on the provider. *Source: [nolo.com/legal-encyclopedia/alkaline-hydrolysis](http://nolo.com/legal-encyclopedia/alkaline-hydrolysis).*

In Hawaii you can get a simple cremation for approximately \$1000.

In closing, we will restate our position that there needs to be a full discussion of regulatory agency(s) oversight over the technology, facilities, environmental impact and the operators licensing prior to moving this bill forward.

The HFCA is requesting the HFCA’s amendment to “**§ - 2 Licensing; human remains**” be added to the bill.

Mahalo,

HFCA Board of Directors



# ALOHA MORTUARY

CREMATION & FUNERAL SERVICES

155 Kapalulu Place Suite 202 Honolulu, Hawaii 96819

Phone: (808) 470-3434

Fax (808) 204-4277

## Testimony in Support of HB 1894 Health, Human Services, & Homelessness

Aloha Honorable Chair Ryan Yamane Vice Chair Adrian Tam, & Committee Members,

I am honored to submit this testimony to you for your consideration to pass into law legislative bill #HB1894. My name is Kawehionapua Correa, President of Aloha Mortuary, located in Honolulu, Hawaii. I was born and raised in Waimea, Hawaii Island and earned a Bachelors of Sciences degree in Chemistry with a focus in Genetics from Florida International University in 2013 in Miami, Florida.

Aloha Mortuary is a majority-native Hawaiian owned funeral business dedicated to serving the Hawaiian People, and the people of Hawaii. Our company motto is “serving with Aloha & Compassion”, we use the Native to Native business model. We are committed to two things: 1) providing our Hawaiian community with a culturally appropriate method of burial, and 2) transforming Hawaii’s death care industry with more affordable and environmentally responsible technology through the integration of modern innovation, technologies and practices. Our Team Advisors, Ken Ordenstein and Dr. Alin ‘Pono’ Ledford (Woolsey) are members of the Hawaiian families who have been in the Funeral Services Industry for 150 years. We strongly support this Measure because it provides our native people and all consumers in Hawaii with an option for burial that is cultural, clean and environmentally responsible, and because it provides our State with new opportunities for research and protection from future pandemics.

### I. Integrating Culture and Funeral Services in Hawaii: The Time has finally come!

In traditional times, Native Hawaiian burial practices were undertaken by the steaming of the deceased body in an imu until the flesh could be easily removed from the bones Which werethereafter wrapped in Kapa and returned to the ohana (family). In the case of Alii, the long bones were secreted away to burial caves at sacred locations and the water returned to the sea. [See: Notes on Hawaiian Burial Customs, Umu & Pulo Hulohu, David Malo, Chapters 27 & 29, 1951 Translation].

For over a century, Hawaiians have had no culturally appropriate way to bury their loved ones other than: 1) Christian Full Body Burial in a Casket in a plot of earth or 2) by Flame Cremation with ashes and bone fragments, in a Vase or Urn. The second option has always been favored by Hawaii’s Asian population.

**In 2012 the Hawaiian Civic Clubs Statewide, undertook an effort to facilitate Hawaiian Style Burial practices in the State Legislature.** While it gained much media attention [See Citation: Group wants to bring back Native Hawaiian burial traditions (2015, April 18) <https://phys.org/news/2015-04-group-native-hawaiian-burial-traditions.html> ], **it did not result in the hoped for outcome, a Hawaiian Cultural Funeral Service option that was affordable, sterile and adaptable to Hawaiian cultural needs.** In 2015 the State Legislature amended HRS "§711-1108 Abuse of a corpse to de-criminalize Hawaiian traditional cultural “handling” of a corpse to clarify that “*traditional Hawaiian cultural customs and practices*” was not a criminal misdemeanor. The 2015 amendment de-criminalized Hawaiian Burial practices but failed to facilitate Hawaiian Style Burials. What was missing was the technology to facilitate traditional practices, that technology, known as Alkaline Hydrolysis.

## II. Alkaline Hydrolysis (aka AH) – Clean, Green, Sterile, Energy Efficient and Affordable

Flame Cremation uses fire to burn the body leaving toxic emissions to be discharged into the air, and sand, bone and mercury and other byproducts by products.

Instead of flame, alkaline hydrolysis uses water and an alkali solution of potassium hydroxide (KOH) commonly found in household products, which when heated, dissolves the body, leaving behind bone fragments and a sterile liquid. Alkaline hydrolysis is the natural process a body undergoes after burial, which can take up to 25 years. Green cremation essentially accelerates this natural process to 2-3 hours in a very quiet, controlled environment.

The alkaline hydrolysis (AH) technology being introduced to Hawaii’s consumers in this Bill is not new. The patent was issued in the US in 1988 and medical schools and research companies utilize it as a preferred method of human burial. 20 States including California and Washington, now license AH technology, and a recent study by the Funeral and Memorial Information Council found that 64% of adults ages 40 and up said they would consider what’s called green funeral options up from 43% from the previous year.

### A. Energy Efficiency & Environmental Toxicity:

AH or Water cremation or Green Cremation is a much more eco-friendly process. Compared to fire cremation, alkaline hydrolysis offers:

- More than 75% reduction of carbon footprint
- Uses 1/8 the amount of energy of flame-based cremation
- Pacemakers and some other medical devices do not need to be removed prior to the process as with flame-based cremation
- Mercury from dental amalgam is contained and recycled, not vaporized
- Preserves 20+% more bone fragments than flame cremation

The old fire Cremation process uses fire, cremating one corpse requires two to three hours and more than 1,800 degrees of heat. That’s enough energy to release 573 lbs. of carbon dioxide into

the atmosphere. In many cases, dental compounds such as fillings also go up in smoke, sending mercury vapors into the air if the crematorium does not have a filter.

#### B. How AH technology works:

During AH, a body is placed in a steel chamber along with a mixture of water and potassium hydroxide. Air pressure inside the vessel is increased to about 145 pounds per square inch, and the temperature is raised to about 355F. After two to three hours, the corpse is reduced to sterile sand and water that can be returned to the (Hawaiian) family for internment by families or placed in an existing or new burial plot. Dental fillings & metal implants are separated out for safe disposal.

In order to accommodate Hawaiian Style burials, the AH procedure is halted in order to remove the sterilized long bones before they are rendered to sand & water. This allows for the sterile bones to be returned to the Hawaiian Ohana (family). This option is not available in flame cremation because when the flame process is halted, the bones have sinew, tissue and a smell that permeates them and attracts not only animals, including rodents, but insects.

#### C. Cost Effectiveness and Affordability:

##### (a) Cost for AH technology in Hawaii: NO FISCAL IMPACT TO THE STATE

The cost of AH technology for treatment of human remains averages \$400,000.00 per-unit. Packing, shipping, transportation & insurance of the unit to Hawaii is an additional \$50,000 + dollars. **Aloha will assume these costs as a business expense, there is no fiscal ramification to the State of Hawaii if this measure passes.**

##### (b) Cost to consumers:

When AH technology is used, there is no need or use for an expensive Casket for a body cost: \$2500 nor is there a need for a casket liner cost: \$500 or a plot of land for burial cost: \$7000. In some instances, there may be a need for an Urn or container to hold sterile water &/or sand remains, but Aloha will give our clients the choice of providing their own containers or utilizing containers provided by Aloha for a nominal price. Long bones will be returned in wood boxes provided by Aloha.

In addition, Aloha will be facilitating other options for Hawaiians including burial at sea by canoe, distribution of ashes at WahiPana, and propagation of Koa seedlings with sterile water in the Forests of Hawaii Island where they will be maintained for future generations.

These services & savings are not available in Hawaii's Funeral industry a present.

#### II. Alkaline Hydrolysis in Hawaii: Hawaii has used this technology for a long time.



**AH technology is not ‘new’ in Hawaii. It has been in our State for years & has been used by the private sector veterinarians as well as the State itself.**

For years, AH technology has been available to Veterinarians in the U.S. who not only offer medical treatment for pets but who help pet owners take care if their pets remains when they die. Many pet owners are attached to their pets and do not want to throw way their remains in the trash.

**The State of Hawaii itself has utilized AH technology for medical & vet related scientific research & testing for 15 years.** It is used by the AVS (Animal and Veterinary Services). AVS operates two vivaria on Oahu, one located in the Biomedical Sciences Building on the UH Mānoa campus and the other at the John A. Burns School of Medicine (JABSOM) campus in Kaka‘ako. AVS provides daily care of animals in the vivaria used for biomedical and neurosciences research, teaching, and testing.

The Office of the University Veterinarian (UV), organized under the Office of Research Compliance (ORC) Animal and Veterinary Services Program (AVS), has system-wide responsibilities for overseeing the health and well being and clinical care of vertebrate animals used by the University of Hawai‘i, as required by US federal law (PL 99-158, PL 89-544 and its amendments). As such, the AVS veterinarians do at least semi-annual scheduled visits to facilities where vertebrate animals are housed or used for research, teaching, or testing. In some cases the AVS veterinarians may provide veterinary care for animals used on specific protocols. The AVS veterinarians also provide guidance on the development and review of IACUC protocols, and have Program oversight responsibilities. AVS veterinarians help fulfill the federal mandate that personnel involved with care and use of vertebrate animals are adequately trained, and/or qualified in the basic principles of animal care and use to ensure quality research and animal well-being. As such, the Office of the UV provides education and documentation of demonstration of proficiencies for personnel using or caring for animals at UH.

[See [researchcompliance.hawaii.edu](http://researchcompliance.hawaii.edu)].

Their research follows strict safety protocols that can be viewed at [Biological Safety](#) to wit....

- “Ensure the protection and safety of university personnel and students, the general public, and Hawaii’s environment from exposure to potentially hazardous biomaterials and contagious or infectious biological agents (including select agents and toxins), microorganisms, and recombinant genetic materials.
- Administers the Institutional Biosafety Committee (IBC), which reviews registrations, determines approval, and assesses investigator adherence to laboratory and field research, testing, and instruction procedures that involve potentially hazardous biomaterials and contagious or infectious biological agents (including select agents and toxins), microorganisms, recombinant genetic materials, and emerging technologies which utilize or depend on biological materials.”

III. Quality Control: Regular testing to maintain State, County & Federal Standards:

Because Hawaii has not technically licensed the AH technology, there is a need to establish a mechanism in our State for ensuring that there is regular testing of the AH technology being used in Hawaii.

There are two cost effective options to consider:

1. Work with the State & the University of Hawaii AVS Program to use the same procedure for testing that is now in place. Aloha and other Hawaii companies would compensate the University program (or their contractor) for testing of effluent & discharge and agree that Results are shared with County & State Agencies ( State Dept. of Health etc.) or
2. Contract with an independent lab or medical research facility on the Continent for water samples to be sent to them for testing with results forwarded to appropriate State & County Agencies and the Companies using the technology in Hawaii.

These options are being used in other States by government and private sector companies to ensure that government standards for water & air discharge are met without the necessity of the State & County having to create & assume costs for hiring & training new employees, laboratories for testing and monitoring of applicable State health standards.

These options meet “Industry Standards”, ensure that there is independent & regular review & testing of discharge and guarantee that the results will provide not only to governmental bodies but to the Companies as well.

#### IV. Other potential applications for Hawaii from AH/R technology:

The State of Hawaii could benefit greatly from research into other applications of AH/R technology for Hawaii. These include: use of the technology for environmental clean up, agricultural applications including irrigation, propagation of livestock feed (duckweed) and use for composting.

Most importantly, AH technology can be of great significance for protection for our State in the event there is another pandemic that can be transmitted by air or the soil. If and when this occurs, AH technology would be critical in facilitating the sterilization & disposal of the human remains of victims who die of a contagious disease that may be spread by Cremation &/or full body burial. Alkaline hydrolysis is being used in the agricultural industry to sterilize animal carcasses that may pose a health hazard, because the process inactivates viruses, bacteria, and prions causing [transmissible spongiform encephalopathy](#). [ See: "Alkaline hydrolysis". [Managing Contaminated Animal and Plant Materials: Field Guide on Best Practices](#) (PDF). Texas A&M University. Retrieved 4 September 2017; Kaye, G; Weber, P; Evans, A; Venezia, R (May 1998). "Efficacy of Alkaline Hydrolysis as an Alternative Method for Treatment and Disposal of Infectious Animal Waste". *Contemp Top Lab Anim Sci.* **37** (3): 43–46. [PMID 12456159](#);

Hawaii will not meet the Sustainability goals that it has set for itself, in part because of the closure of the Dairy's on Kauai & Hawaii Islands. The reason for the closure was animal waste and effluent draining into streams & the ocean when heavy rains & flooding occur. AH technology can & should be applied to facilitate cleanup of these problems. There is also

significant data that verifies that the sterile water discharged in the AH process can be used for irrigation and propagation of agricultural crops. Hawaii has not yet begun research and testing in these areas, but passage of this legislation will facilitate this research.

The University of Hawaii Willard Body Program is also interested in utilizing this technology in their program. [See testimony of Steve Labrash, Director of the UH Willard Body Program.]

#### IV. How opposition from the Hawaii Funeral Industry Monopoly of Houston Texas Killed HB 1602 in the 2020 Legislative Session.

In 2020, a Bill on AH technology was introduced in the Hawaii Legislature. It was killed because of opposition by Hawaii's Funeral Industry Monopoly, also known as the SCI Hawaii group. Testimony in Opposition to the Alkaline Hydrolysis technology (House Bill 1602) came from Borthwick, Ballard, Normans and Hawaii Memorial Park. The testimony filed against the Bill was identical and limited to 1 paragraph that said the Bill should be deferred because 1) there was not enough information about this "new" technology, and 2) concerns about the impact on the environment and community. [See: Testimony on HB 1602 Re: Human Remains]. These testimonies are patently false. There is significant data available on AH technology easily accessible on the Internet and from other sources including the World Health Organization, Mayo Clinic and UCLA. Alkaline hydrolysis has also been adopted by the pet and animal industry.

What these companies did not tell the Legislature is that **they are not really Hawaii Companies**. The buy-out of Hawaii local owned funeral companies occurred 17 years ago. This became public in 2003 after the Advertiser published an article on the acquisition that said....

"Ballard, 46, and his wife, Laura, sold their two funeral homes in Kentucky and two others in Indiana and opened Ballard Family Mortuary in Kahului, Maui in 1996. Ballard wanted to expand and began talking to SCI Hawai'i, which owned seven Hawai'i funeral operations, including four Borthwick mortuaries.

SCI Hawai'i is an arm of Houston-based Service Corporation International, "which went through the process of determining which locations it wanted to keep ... and those that it wanted to spin off," ... "..." [See: State funeral homes changing ownership, Dan Nakaso, Advertiser, February 6, 2003].

Last Session the State Legislature killed a Bill that would have facilitated a Hawaiian Style Burial option for Hawaiians and brought into wider use a technology that has been in Hawaii for 15 years and is operated by the State of Hawaii through the University of Hawaii Animal and Veterinary Services division.

The Legislature should not be dissuaded from passing this Bill for our State, for Hawaiians and for Hawaii's future protection from contagious pathogens. There is significant data on AH technology from many sources. The State of Hawaii has used this technology for 15 years for medical research. It's time to allow its use for Hawaiians and Hawaii based local companies.




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C. Kawehi Correa  
President of Aloha Mortuary  
155 Kapalulu Place  
Honolulu, Hawaii 96819

## Carbon Footprint Comparison

	<b>Flame-Based</b>	v	<b>Green</b>
Container Production	28		3
Fuel Consumption	201		25
Electrical Consumption	10		7
NOX Emissions	3		
Other Emissions	1		1
KOH Production / Transport			16
CH <sub>4</sub> /NOX from Water Processing			4
Energy at Processing Plant			3
<b>Total Kg CO<sub>2</sub> Equivalents</b>	<b>243</b>		<b>59</b>

**75.72%**  
**less carbon impact on environment**



Cremation  
Remains



Aquamation  
Remains



# Flame Cremation



Alkaline Hydrolysis





**HB-1894**

Submitted on: 1/29/2022 12:46:40 PM

Testimony for HHH on 2/1/2022 9:00:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Remote Testimony Requested</b>
David O. Carter	Individual	Support	No

Comments:

I support this bill. Alkaline hydrolysis has proven effective and reliable in several parts of the world. This bill is a good first step toward providing a range of green burial options to the State of Hawaii.

**HB-1894**

Submitted on: 1/30/2022 2:17:57 PM

Testimony for HHH on 2/1/2022 9:00:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Remote Testimony Requested</b>
Dean Fisher	Individual	Support	Yes

Comments:

I was unable to get my written testimony to transfer over to your website, but I look forward to speaking with everyone on Tuesday.

Thank you

**HB-1894**

Submitted on: 1/30/2022 3:08:17 PM

Testimony for HHH on 2/1/2022 9:00:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Remote Testimony Requested</b>
Ann Chung	Individual	Support	No

Comments:

Aloha:

I strongly support HB1894. We have buried or cremated our loved ones the same way for centuries. With the important need to protect our environment, water cremation offers an eco-friendly, cleaner, gentler alternative to flame cremation.

- Already available in 21 states in the U.S.
- Used by highly respected institutions such as the Mayo Clinic & UCLA School of Medicine
- Recently, Archbishop Desmond Tutu chose water cremation upon his passing
- Destroys pathogens, protects the operator and returns a safe byproduct to the family
- No DNA left in water or cremated remains
- 75% reduction in carbon emissions vs flame cremation
- 1/8 the energy usage than flame crematories
- Effluent goes into holding tank for treatment prior to release
- Water is sent for treatment and is easily recyclable
- No ground water contamination vs burials
- Pacemakers and Implants can be left in the remains and can be recycled.

*From the Desk of:*

Luana Alapa

2935 Farrington Ave  
Ho'olehua, HI 96729  
luanaalapa@gmail.com

January 15, 2022

**Testimony in Support of HB1894 Hawaiian Style Burials & Alkaline Hydrolysis**  
Committee on Health, Human Services, & Homelessness

Aloha Honorable Chair Ryan Yamane & Honorable Vice Chair Adrain Tam,

I am Luana Alapa, a Native Hawaiian and graduate of the Kamehameha Schools. I am of native Hawaiian ancestry, raised in Laie, Oahu and currently residing in Ho'olehua, Hawaiian Homelands on Molokai Island. I attended the University of Hawai'i at Manoa, and received my Bachelor of Arts degree in Psychology in 1985. I was crowned Miss Hawaii in 1987, traveled the world promoting Hawaii and later became an entrepreneur owning several businesses including several retail stores and a production company specializing in fashion, entertainment events. Currently working as an insurance agent. In 2020, I was elected as the Office of Hawaiian Affairs Trustee for the Island of Molokai.

I strongly support this legislation and urge the State Legislature to pass this measure. I support this Bill for two reasons:

**1. Alkaline Hydrolysis technology will allow & facilitate the effort of our Hawaiian community to bury our ohana (family) in a more 'Hawaiian' way.**

The traditional Hawaiian burial practices are well known & documented. They involved the steaming of the body in an imu (earth Oven) and the removal of the long bones which were secreted away to a location known only to the family. The rest of the remains were taken to the sea.

For several generations, Hawaiians have not been able to engage in these practices because there was no technology available in Hawaii that could provide the desired results in a sanitized, safe and culturally appropriate way. This measure will bring that technology to Hawaii and raise the number of U.S. States currently benefitting from Alkaline Hydrolysis to 21 nationwide.

Hawaiians have not had any cultural option for burial since the Overthrow. Because of this, the HCC (Hawaiian Civic Clubs) sponsored legislation to gain support for a more cultural method for burial in 2012. The outcome was not what was expected and did not facilitate Hawaiian style burials. The outcome resulted in an amendment to HRS sec. 711- 11 that said.....

"§711-1108 Abuse of a corpse. (1) A person commits the offense of abuse of a corpse if, except as authorized by law, the person treats a human corpse in a way that the person knows would outrage ordinary family sensibilities.

**(2) The preparation of a corpse for burial or cremation in a manner consistent with traditional Hawaiian cultural customs and practices shall not be a violation of this section.**

1.

**(3) The burial or cremation of a corpse prepared consistent with traditional Hawaiian cultural customs and practices shall not be a violation of this section."**

The changes decriminalized Hawaiian Burial practices but did not legalize them because there was no technology to facilitate the burial process in Hawaii.

In reality, the technology has been in existence in the U.S. & throughout the world for over 20 years, but it is not in Hawaii because the Funeral Industry in Hawaii has not wanted to upgrade their old technology with new technology at a cost of approximately \$200,000.00 dollars. Funeral Companies in Hawaii have only offered two choices for services: 'whole body burials' (for Christian) and Flame Cremation (for Buddhists). To this day there is no funeral service in Hawaii that can return to families the clean sterile long bones of their deceased and clean sterile water for the sea. Fortunately for Hawaiians, there is now a local Hawaiian Funeral Service Business that is making a commitment for our people. They are **Aloha Funeral Services**

**2. THIS LEGISLATION HAS NO FISCAL RAMIFICATION FOR OUR STATE BUT IT HAS A HUGE BENEFIT FOR HAWAII IN THESE TIMES OF GLOBAL PANDEMICS BECAUSE IT CAN TREAT HUMAN REMAINS & STERILIZE THEM REGARDLESS OF THE CAUSE OF DEATH.**

Alkaline Hydrolysis, is also a critical component of scientific research relating to contagious diseases (human & animal) and is used globally by laboratories conducting research into pandemics for this reason.

This technology can protect Hawaii from the spread of contagion in the event that Hawaii has another COVID-like problem in the future with a virus or other fatal epidemic. There is significant data on the Internet that reviews the use & development of AH technology, as well as data from research conducted by the Mayo Clinic and UCLA. Please watch these videos, they are brief & informative...

[https://www.youtube.com/watch?v=G9HMKF\\_sFV8&t=7s](https://www.youtube.com/watch?v=G9HMKF_sFV8&t=7s)  
<https://www.youtube.com/watch?v=7Le7rLbkFe4>  
<https://www.cnet.com/features/the-misunderstood-funeral-tech-thats-illegal-in-30-states/> <https://newrepublic.com/article/148997/fight-right-cremated-water-rise-alkaline-hydrolysis-america>

Mahalo for Supporting this Bill,

*Luana Alapa*

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Luana Alapa, Trustee, Office of Hawaiian Affairs,  
Molokai Island



## Testimony in Support of Water Cremation / Alkaline Hydrolysis

Bill Number: HB1894

Committee(s): HHH

Hearing Date & Time: 02-01-2022, 9 AM

Last year, a bill was introduced for a new, environmentally friendly cremation technology for the funeral industry and specifically, Native Hawaiian burials. It is called Alkaline Hydrolysis. This bill easily made its way through the House and Senate but was stalled at the rules committee level. While this was disappointing, it told me that we had more work to do in educating our legislators and the public on the benefits of this technology. Over the summer, we provided educational briefings, received positive media attention and most recently Archbishop and “eco-warrior” Desmond Tutu chose this technology as his final disposition. A true testament of the technology.

Alkaline hydrolysis is a water-based dissolution process for human remains that uses alkaline chemicals, heat, agitation, and pressure, to gently accelerate natural decomposition. In 2010, the Cremation Association of North America changed its definition of cremation to include alkaline hydrolysis. (2) There are 3 byproducts of the alkaline hydrolysis process: liquid water, prosthetics in the body, and bone fragments or cremated remains.

The liquid is considered a sterile wastewater, with no remaining DNA and is discharged with the permission of the local wastewater treatment authority, in accordance with federal, state, and local laws. This technology has already been used in Hawaii for the past 15 years for veterinary purposes at the University of Hawaii. The volume of liquid is under 300 gallons per cycle and is easily treatable by the local municipality and released back into an aquifer. There are current studies being conducted at this time to apply the effluent to land applications as a fertilizer for different crops. The prosthetics are recycled by the same companies that service the flame cremation industry, and the sterile cremated remains are returned to the legal next of kin.

The environmental benefits from alkaline hydrolysis in comparison to current traditional cremation and burial practices includes the following:

- Greater than 75% reduction of carbon footprint
- No mercury emissions from dental fillings
- Uses 1/8 the amount of energy of flame-based cremation
- Battery-operated pacemakers and other medical devices do not need to be removed prior to beginning the process
- Harmful poly-carbons from catheters, breast implants, and hernia mesh are not emitted into the air or ground water

To fully understand alkaline hydrolysis, you must understand autoclave technology. An autoclave sterilizes doctor's and dentist's instruments after a surgical procedure. It is critical that the instruments used in surgery are sterile to eradicate the spread of potential harmful pathogens, such as Covid-19, Anthrax, Tuberculosis, Diphtheria, Influenza and other airborne diseases. The CDC guidelines (1) requires the sterilization process to achieve 250F for a minimum of 20 minutes to destroy any remaining pathogens that might be present. By heating to this temperature, the autoclave technology destroys the pathogens on the instruments; AND it also destroys any viral pathogens that might be in and around the airspace.

Famous institutions such as the Mayo Clinic and UCLA use alkaline hydrolysis equipment, which operates at 302F for a minimum of 1 hour, destroying pathogens 60,000 times greater than the CDC guidelines. The remaining sterile fluid, which contains no DNA, is safely released to the city sanitation department for recycling; the prosthetics (hips, knees, pacemakers) that remain are sterile and sent to an approved metal recycling agent; and the sterile, cremated remains are safely returned to the next of kin.

Currently, 20 states have passed legislation in support of the alkaline hydrolysis technology, including the entire west coast of Washington, Oregon, and California. It is legal in several provinces in Canada, Scotland, Ireland, the Netherlands, and the United Kingdom. (2) When given the option of flame or alkaline hydrolysis, we are seeing that 60% of cremation customers are selecting alkaline hydrolysis due to its gentleness and its environmentally friendly attributes.

The citizens of Hawaii deserve the opportunity to select alkaline hydrolysis when choosing final disposition. The Hawaiian culture is deep rooted, supports the stewardship of the environment and respects the Earth. With limited space on its islands for cemeteries and the continued threat of global warming, this technology would fit perfectly into the Hawaiian culture. I urge you to support alkaline hydrolysis into law as it will allow the citizens of Hawaii who are seeking a more cultural, gentle and environmentally friendly disposition, a greener option than burial or flame cremation.

Kindest Regards,

*Dean R. Fisher*

Dean R. Fisher- Funeral Director  
Fisher and Associates  
deanfisher5995@gmail.com  
507-269-8906

1.) <https://www.cdc.gov/infectioncontrol/guidelines/disinfection/sterilization/sterilizing-practices.html>

2.) <https://www.cremationassociation.org/page/alkalinehydrolysis>

Honorable Vice Chair Adrian Tam

Phyllis Coochie Cayan  
94-1429 Polani Street #V  
Waipahu, HI 96797

Testimony in Support of Hawaiian Style Burials & Alkaline Hydrolysis

Aloha Legislators,

I am Phyllis Coochie Cayan. I am a Native Hawaiian, born, raised and educated in Hawaii. For many years, I have been an intermittent member of the Hawaiian Civic Club of Honolulu. I was one of the first board members of Hui Malama I Na Kupuna O Hawaii Nei, the group that is identified in federal legislation to facilitate repatriation of Hawaiian Iwi (human remains & bones) from Museums & private collections back to Hawaii.

I strongly support this legislation for the following reasons:

1. This Bill will finally address the right of Hawaii's native people (Kanaka Maoli) to have a culturally appropriate method for treatment of the remains of their family and Kupuna. In traditional times, the bodies of the deceased were steamed in an imu by the sea, and following this, the long bones which were sterilized by steam were removed & the rest of the remains were returned to the sea. (See links.)
2. For the past several years ( 2012-2015) members & Chapters of the Hawaiian Civic Clubs have sought a solution to the need in our community for a more traditional process for burial. Our efforts were brought to the State Legislature, but no workable solution has emerged because the traditional Imu approach is no longer feasible and the funeral industry in Hawaii has not wanted to assume the cost (\$200,000.00 per unit) for the technology to facilitate Cultural burial practices for our Hawaiian people.
3. Today there is new technology that can achieve our goal with the complete cleansing of human bones and their sterilization, and a sterile water based solution that can be safely treated as effluent or returned to the Sea. This technology is Alkaline Hydrolysis. It is now being utilized in 20 States. It is also a critical component of scientific research into contagious diseases (human & animal) and is used globally by laboratories conducting research into pandemics for this reason.

1.

4. I recommend that the Legislators read the following information on this technology because I believe that this technology can facilitate our people with culturally appropriate burials and it can protect Hawaii from the spread of contagion in the event that Hawaii has another COVID-like problem in the future with a virus or other fatal epidemic.

- [https://www.youtube.com/watch?v=G9HMKF\\_sFV8&t=7s](https://www.youtube.com/watch?v=G9HMKF_sFV8&t=7s)

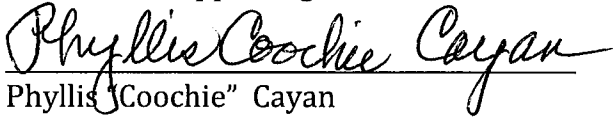


- <https://www.youtube.com/watch?v=7Le7rLbkFe4>
- <https://www.cnet.com/features/the-misunderstood-funeral-tech-thats-illegal-in-30-states/>
- <https://newrepublic.com/article/148997/fight-right-cremated-water-rise-alkaline-hydrolysis-america>

Conclusion:

For many generations, Hawaiians have wanted a better, more cultural process for treatment of our Iwi Kupuna. We now have an option that not only meets our needs but can and probably will be needed in the future to protect Hawaii's residents from global pandemics which cannot be eradicated from the bodies of those who have died without further risk of contamination.

Mahalo for Supporting this Bill,

  
Phyllis "Coochie" Cayan

Credentials are to experience in Hawaiian culture and burial practices, and not as a spokesperson for the Hawaiian Civic Club of Honolulu, a board member of the Kupuna Hui - Ka Lei Papahi O Kekuhihewa. as the former first chairperson/member for 13 years of the O'ahu Island Burials Council, and a former SHPD History & Culture Branch Chief.

## TESTIMONY IN SUPPORT OF HB 1894

Committee on Health, Human Services, & Homelessness  
Honorable Chair Ryan Yamane & Honorable Vice Adrian Tam

Steven Labrash  
Director Willed Body Program  
University of Hawaii  
808-692-1441 (work)

My name is Steven Labrash and I am the Director of the University of Hawaii's Willed Body Program, John A. Burns School of Medicine, a position I have held since 2004. I'm a graduate of Cypress Mortuary College, a funeral director and licensed embalmer for 25+ years and I strongly support the Bill for the 4 reasons listed below.

**Background:** Willed Body Programs are governed under the Anatomical Gift Act. They allow people to donate their bodies after death, to be used for purposes of research and education. Our Willed Body Program is a self-enrolled program, which means 90% of our silent teachers requested and filled out their own donor forms. By filling out the donor forms themselves, there is no question as to if they wanted to be silent teachers.

Currently we have over 4,000 people in Hawaii registered to come teach with us after they die. Pre-covid, we received approximately 150-180 donated bodies per year. In 2019, we provided mentors (another name for donors) to teach gross anatomy courses at JABSOM to not only our medical students but also graduate students from Manoa. Our donors also taught advanced surgical training to over 600 medical doctors from Hawaii, USA and international. We also offer "Anatomical Reviews" to over 600 local high school students in our anatomy lab as a community service. During these reviews the students are able to handle real human organs to round out their understanding of human anatomy. We've had to temporarily close our Willed Body Program due to Covid-19 but we hope to open it up again when we are allowed to teach cadaver based classes. We honor our silent teachers in an annual Willed Body Memorial service each year and in 2020, this meant holding the service online: <https://jabsom.hawaii.edu/donors/willedbody/> (from this link you can see our donor forms, an explanation of Body donation as well as links to the last few memorial services)

#1 As the Director I am constantly looking for technologies that will have a positive impact on our medical students, the surgeons we provide advanced training for as well as the incredible donors of our willed body program. I have been aware of Alkaline Hydrolysis for over 20 years and I have always been impressed with the clean environmental process. The possibility of having an alkaline hydrolysis option for human disposition is something that can benefit our program both ethically and financially. From an ethical perspective, it will allow us to house our donors from the time they are received after death, until the time we are able to return the

cremains to the family. Financially we would save money by offering disposition directly for our silent teachers (donors).

#2 This technology is not new to Hawaii, we are already successfully using it at the university for disposition of research animals. It was put into place at the time we built the medical school and it has been successfully operating for over a decade. The unit uses water, alkaline chemicals, heat and pressure to greatly speed up the process of natural decomposition. The process leaves bone fragments and a neutralized liquid effluent that is tested for safety before being released with other wastewater.

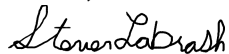
#3 I was saddened to see a large funeral corporation stand in opposition to this environmentally friendly technology. There is no more environmentally friendly technology available today than Alkaline Hydrolysis for human disposition. The corporations' position is reminiscent of the opposition the funeral industry had when the first public crematories were brought into existence over 100 years ago. When I was studying the history of funeral service, it was apparent that the opposition from the funeral industry to cremation was based on finances and not what was best for the community. They routinely vilified the technology, playing on the fears of the families and church to successfully hold off its wide acceptance for several decades. Decision makers then didn't have the benefit of technology that we do today, where we all have access to information.

<https://www.cremationassociation.org/page/alkalinehydrolysis>

#4 Covid-19 has been difficult for everyone but one of the silver linings is that as a society, we are thinking more about future pandemic issues. Alkaline Hydrolysis had its genesis due to Mad Cow Disease in the early 1990's. Over 4 million cows were killed in England to try and stop the spread of the disease and this caused the governments to look for a safer option for disposal for the slaughtered cows. Bovine spongiform encephalopathy (BSE) is a variant of Creutzfeldt-Jakob disease, a human prion disease. There was the potential for the prions to be released if the soil where the cows were buried was disturbed. Prions and spores can stay viable in soil for years making its eradication difficult.

I sincerely hope you pass this measure. Passage of this Bill will not only give the Hawaiian consumer a greener and less expensive option than the ones currently available. It will also provide Hawaii with a technology that could be of critical importance in the event of future pandemics.

Aloha,



Steven Labrash

Director Willed Body Program

University of Hawaii

808-692-1441 (work)

## **Testimony in Support of Hawaiian Style Burials & Water Cremation**

**Carmen Hulu Lindsey**  
**52 Alokele Place**  
**Makawao, HI 96768**

**Bill Number: HB 1894**

**Committee: HHH**

**Hearing Date & Time: 02/01/2022 9:00AM**

### **Water Cremation Technology Supports Traditional Burial Practices**

I am a Native Hawaiian who is proud to have lived to see the renaissance of our culture and traditional Hawaiian ways after years of suppression and near erasure. That renaissance did not happen by accident but was accomplished through years of activism and struggle by generations of Hawaiians to restore time-honored practices imparted to us by our kūpuna.

Burial practices using the traditional imu method of steaming the human remains to separate the bones from the fluids and human tissue are among the customs that have been constrained and prohibited for decades because of contemporary Hawai'i health laws. The good news is that a new technology is now available that will allow us to safely prepare the remains of our loved ones in a manner consistent with longstanding Hawaiian traditions.

Water cremation is now available in 21 states and recently Archbishop Desmond Tutu, Nobel Peace Prize winner, human rights activist, and anti-apartheid hero chose to have his remains aquamated as an environmentally friendly alternative to fire cremation.

Aquamation, also known as alkaline hydrolysis, involves liquefying the body under pressure in a mixture of potassium hydroxide and water. The process is the same as that which occurs naturally when a body is buried, though at an accelerated rate.

A bill to legalize this new technology as an alternative to existing cremation practices is now being considered by the Hawai'i State Legislature. Kawehi Correa of Aloha Mortuary is an advocate of water cremation who has been on a quest to educate the mortuary industry, the Hawaiian community, and the general public of the advantages of water cremation as a means of honoring Hawaiians' traditional cultural practice of preparing a deceased loved one for their final resting place. Ms. Correa and other Hawaiian practitioners will be continuing their efforts in the 2022 legislative session.

The advantages of water cremation over flame cremation are significant. Compared to traditional flame cremation, water cremation uses one eighth of the energy and delivers 75%

fewer carbon emissions. It returns clean, sterile, long bones to families, and the water-based solution used in the process of alkaline hydrolysis will not contaminate the ground or sea.

Today, laboratories around the world are using alkaline hydrolysis in their research into highly contagious diseases and as an effective means of destroying prions, the infectious agents responsible for several neurodegenerative diseases in humans and animals. After two years of living in the shadow of COVID-19, what better time to embrace processes that protect public health and stop the spread of dangerous human-derived pathogens?

Change is always daunting and burial rites are matters that touch at the core of who we are and how we choose to express our final farewell to our loved ones who have passed on. This is an intensely personal and emotional matter and it reassuring to know that water cremation may soon be available as a way to honor and abide by our traditional values and beliefs, not only in life but also in death.

As the late Dr. George Kanahale reminded us, this technology will allow us to “enjoy the look back into the future.” It is time for us to use contemporary technology to preserve all that we cherish in our culture, including the traditions that help us manage our departure as well as the departure of our loved ones from our earthly world. I look forward to seeing water cremation become available as another means to prepare the remains of our loved ones for their final resting place consistent with our Hawaiian traditions.

# Ken Ordenstein Funerals

“Grief shared is grief diminished” Rabbi Earl Grollman

Testimony in Support of Bill HB 1894  
Committee(s): HHH  
Hearing Date & Time: 02/01/22 9:00AM

Re: Water Cremation/Alkaline Hydrolysis

Aloha

My name is Ken Ordenstein. My family, the Ordensteins, have been in funeral service in Hawaii for nearly 160 years. My great, great, grandfather, Manual Silva was famed for his artisanship on Queen Emma's casket. My great grandfathers disinterred Saint Damien and sent his remains back to Belgium. I represent our families' fifth generation of service, my daughter, also working in the profession, is generation six.

I was president of Ordenstein's Hawaiian Memorial Park Mortuary Corporation, Williams Funeral Service established in 1859, Windward Crematory, and the Center for Pre-arranged Funeral Planning among other positions involving Valley of the Temples Memorial Park and Mortuary, Maui's Nakamura Mortuary and Crematory, Maui Memorial Park, and Homelani and Kona Memorial Park on the Big Island. I served as president of the Hawaii Funeral Directors' Association and sat on the Policy Board of the National Funeral Directors' Association.

In June of 2015 I had the privilege of witnessing Governor David Ige sign a Bill for an Act to amend the law so that the treatment of a corpse in a manner consistent with traditional Hawaiian cultural customs and practices shall not constitute the abuse of a corpse within the penal code. Mahealani Cypher, former president of the Oahu Council of Hawaiian Civic Clubs and current member of the Koolaupoko Hawaiian Civic Club and others worked so hard and spearheaded the effort

“This measure makes it very clear that the most sacred traditions are allowed to be exercised by our Native Hawaiian community,” the Governor said at the signing ceremony that day in his office. “It needs to be crystal clear that our laws make it OK for anyone wanting to exercise traditional burial practices to do so.” The question then becomes how do we do this?

Water Cremation also known as Alkaline Hydrolysis provides an answer and I support the introduction of Alkaline Hydrolysis Technology. This technology gives us the means to fulfill the promise of the bill the governor signed over six years ago.

I like the name water cremation. In cremation by fire, a body is placed in a special chamber. Heat, air, and fuel, usually diesel or natural gas are applied until combustions occurs. The body is converted to heat and light energy, carbon gasses and solids. Heat and carbon gases are expelled through the crematory stack and the carbon solids, the bones, are left in the chamber. The bones are brittle and break apart easily as they are swept from the cremation chamber. These bones and bone fragments are put into a processor that makes the bones unrecognizable as human remains. That is what we call ashes or cremated remains.

Like cremation by fire, with water cremation, a body is placed in a special chamber. This one made of steel. Heat, water, pressure (the container is sealed) and a BASIC solution like lye fill the chamber. In a few hours, the body is converted to what it mostly is, water, and carbon solids, the bones. In this process the bones are not brittle.

For traditional practices, the long bones can be retrieved whole for wrapping and ceremony, or the bones can be put into a processor like cremation by fire. An article in Reuters about the bill Governor Ige signed into law in 2015 calls the custom of retrieving the bones, wrapping, and burying them a “clean burial”.

Alkaline Hydrolysis provides an environmentally cleaner process. The carbon footprint of the technology is smaller using about one twelfth to one eighth the energy of cremation by fire with none of the carbon and heat emissions. Water use is relatively small, and the water left over from this process can be sent down the drain into our current wastewater system. You have expert testimony on the process and its light footprint. In this context it can be considered a clean and green technology.

In summary this process answers the only relevant question arising from the bill Governor Ige signed over six years ago. Water cremation answers the question and provides a clean, and green choice to care for our dead whether Hawaiian or not. Mahalo Nui for your kind attention.

Respectfully,

A handwritten signature in black ink, appearing to read 'Kenneth Ordenstein', with a long horizontal flourish extending to the right.

Kenneth Ordenstein

[kenordensteinfunerals.com](http://kenordensteinfunerals.com)

K.W. Ordenstein L.L.C. 45-1029A Waialele Rd. Kaneohe, Hawaii 96744 Phone: (808) 254-6222

Testimony of Paula Aila in SUPPORT of HB1894 Hawaiian Style Burials & Alkaline  
Hydrolysis Technology

Committee on Health, Human Services, & Homelessness

Date: 02/01/2022 9:00AM

Aloha Honorable Chair Ryan Yamane & Honorable Vice Adrian Tam,

I am Paula Aila, a Native Hawaiian raised in the Waimanalo homestead community. I am a graduate of St. Andrew's Priory and received a BA-Communications Degree from the University of Hawaii, Manoa.

In general, I am an advocate for choices in life including end of life options. After much research about the Alkaline Hydrolysis decomposition burial method, it appears this offers an alternative to end of life burial options.

The Alkaline Hydrolysis concept dates to 1888 in Middlesex, England with the patent of the first alkaline hydrolysis machine by Amos Herbert Hobson and was used to dispose of animal carcasses. Overtime this method has progressed to include humans.

“The process is straightforward. Bodies are placed in a machine containing a chemical mixture of water and alkali. The mixture is then heated and cycled. Over the course of hours, the body is accelerated through its natural decomposition process, resulting in a residual liquid made up of amino acids, peptides, salt, soap and bones—the last of which is broken down into white ash.” (Panecasio, 2020)

The Alkaline Hydrolysis process, as described, feels less intrusive and calming for me personally due to the use of water vs. the more accepted flame-based process we are accustomed to. It also provides me with another choice to plan for my burial. These are just a few of the reasons that I strongly support passage of this measure.



Paula Aila





## **E. Pohai Ryan**

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### Testimony in **SUPPORT OF HB 1894**

Committee of Health, Human Services, & Homelessness

Aloha Honorable Chair Ryan Yamane & Honorable Vice Chair Adrian Tam,

I am submitting this testimony in SUPPORT of Alkaline Hydrolysis, a technology that can & should be available to Hawaii's consumers, including Hawaiians, who want a clean, modern and culturally appropriate alternative to Cremation or Full body burials.

I am Pohai Ryan. I was born & raised n Hawaii on Molokai. I am a 1980 graduate of Kamehameha Schools and attended and received a degree in political science from Whittier College. I have served as a State of Hawaii Senator from Kailua Hawai'i . For years I have been a member of the Hawaiian Civic Clubs, and was the President of the King Kamehameha Civic Club.

In 2012 the Hawaiian Civic Clubs took action to support the right of Hawaiian to engage in 'Hawaiian Style Burial' practices that were not "recognized" in the State of Hawaii. In Traditional times, Hawaiians utilized a process that steamed the flesh tissue & sinews from the body of the deceased, removed the clean long bones and put the remaining fluid and solid material into the Sea. Long bones were returned to the family (ohana) to be secreted away on land. In the case of the Alii & high bloods, , the bones were often taken to sacred burial caves, whose exact location was unknown to others. Such caves are known to exist on the summits of Mountains, including Maunakea. There is significant data on Hawaiian historic burial practices and the treatment of human remains including the works of ES. Craighill Handy, & Mary Kawena Pukui, see he Polunesian Family System in Ka'u, p. 151 and Samuel Kamakau, see Ka Poe Kahiko, The People of Old, p.38.

As a result of three years of effort, the State Legislature passed an Amendment to HRS Sec 171-1108 in 2015. The new language stated ..." (2) The preparation of a corpse for burial or cremation in a manner consistent with traditional Hawaiian cultural customs and practices shall not be a violation of this section (3) The burial or cremation of a corpse prepared consistent with traditional Hawaiian cultural customs and practices shall not be a violation of this section." This outcome made clear that traditional Hawaiian burial practices could not be considered a criminal misdemeanor in Hawaii, but it did not facilitate Hawaiian Style Burials which require a process steam clean the ones and reduce remains to water for the Sea.

Today, we do have a choice for a traditional burial practices, through the use and application of Alkaline Hydrolysis, also known as Aquamation. This process uses steam to thoroughly clean human bones and also results in clean & sterile water which can be released into the Sea. This process has been legally approved in 20 States and is currently being utilized by laboratories worldwide who are researching fatal diseases and in need of technology to protect the public and medical researchers from contamination.

For many generations, our people, Kanaka Maoli, have been prevented from engaging in our cultural and traditional burial practices because of State laws have prevented us from steaming our dead in a burial who are preparing for the possibility imu by the sea, and retrieving the cleaned long bones for burial on the Aina (land). All these years, funeral processes licensed in Hawaii only provided for Asian & Christian burial processes. Its time for a change, its time for Hawaii to have the benefit of technology that serves not only Hawaiian cultural needs but those of our public, medical researchers & those who are preparing for the possibility of another global pandemic in Hawaii.

Mahalo for supporting thus Bill,

**Pohai Ryan**

Pohai Ryan

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Dr. Alin "Pono" Ledford. M.D., Big Island Family Medicine Inc

607 Ponahawai Street, Suite #207 Hilo Hawaii , 96720

January 10, 2022

Bill Number: HB 1894

Committee: HHH

Hearing Date & Time: 02/01/2022 9:00 AM

Aloha Legislators,

My name is Alin Vaun Pono Ledford, I am a native Hawaiian physician born and raised on the windward side of Oahu. Graduate of Castle High school in Kanehoe, BYU-Hawaii in Laie and the John A. Bruns School of Medicine at Manoa, June 2004. Currently practicing medicine in Hilo, Hawaii.

My family, Ida K. Woosley has been in the funeral business for over 40 years here in Hawaii.

I strongly support this Bill because it will give Hawaiian consumers a culturally appropriate alternative to funeral services for their loved ones & family which is more affordable, and because it will bring to Hawaii a new technology that will be of critical importance to our State if, when another global pandemic arises.

- I. A new technology that addresses Hawaiian cultural needs and Hawaii's need for protection from global pandemics

Alkaline Hydrolysis (Water Cremation) was a concept that was brought up over 30 years ago as how it would relate to native Hawaiian burial, because it causes little destruction of the bones. Water Cremation has been used in Hawaii for many years for pet cremations in veterinarian clinics water cremation is a natural process in which body decomposes. it speeds up this natural process by using heat, water,

alkaline reagent, increased pressure and gentle agitation. The process occurs by placing the body in a pressure vessel with potassium hydroxide (KHO) and sealed. Water is then pumped in and heat increased to 302 degrees F. and the pressure increased. An agitator gently circulates the water and KHO that effectively breaks down the remains into a nutrient rich fluid containing amino acids, peptides, sugars, salts, porous white bones made of calcium phosphate. The resulting fluid is completely sterile, destroying all pathogens including bacteria, viruses, and prions, with a pH is 11, the same pH as milk of magnesia. The fluid can then safely be disposed of via the drain.

For Hawaiians, this means that our loved one's bones can then be given back to us native Hawaiians so that we can care for them in our traditional way. Others, can have their loved one's bones turned into ash and given back to them in the same manner as they do in flame-based cremation. The nutrient dense disease-free fluid could also be given back to the families to be used in their family garden as a fertilizer, completing the circle of life.

We can all agree that human waste in the form of feces, urine, blood, and other bodily fluids are contaminated with disease and toxins such as bacteria, viruses (including COVID-19 and its many mutated forms), medications etc. These deadly bio-hazards are simply flushed down the toilet or washed down the drain and sent to the wastewater treatment plants. In fact, the current practice in the morgue during an autopsy or at the mortuary during the embalming process, is to drain the blood and other bodily fluids directly down the drain.

None of these toxic disease-ridden human waste products are treated or regulated as they leave our toilets, hospitals or funeral homes as they make their way to our local wastewater treatment facilities where they are finally treated. As we all know living here in Hawaii, there are many sewage spills. These sewage spills pollute and destroy our rivers, beaches and reefs with human waste, feces, urine, blood, other bodily fluids, bacteria, viruses and other toxic chemicals. All of these are pollutants that we pour down the drain or flush down the toilet. Yet the fluid from the Water Cremation process is sterile, disease free and has no harmful chemicals.

Water Cremation is sometimes referred to as a green cremation because as it uses less than one fourth the energy as a flame-based cremation and the process does not release any harmful chemicals or toxins into the air. As Hawaii is the leader of safe green and renewable energy. Water Cremation is safer than flame-based cremation, and fits perfectly in Hawaii's goals of keeping our people and our lands safe.

## II. Why the Funeral Industry in Hawaii needs alternatives to flame based Cremation

Flame based cremation produces harmful toxins, pollutants and carcinogens, into the air including carbon monoxide, nitrogen oxide, sulfur oxide, hydrogen chloride, hydrogen fluoride and mercury. The mercury that is released into the air and settles into soil and waterways in the area surrounding the crematorium. When humans and animals come in contact with the contaminated soil and water it is absorbed into our bodies and stored in the adipose tissue. Other compounds such as acetones, benzenes and furans are emitted and react with hydrogen chloride and hydrogen fluoride forming polychlorinated dibenzodioxins and polychlorinated dibenzofurans, these carcinogens. These pollutants and carcinogens that are aerosolized from the crematorium exhaust into the air can cause short- and long-term health problems. Mercury emissions alone create exposure risks that can have devastating effects on body systems. It can also have detrimental effects on an unborn child. It can also cause cancers, decrease our immune system etc. Water Cremation does NOT do these things.

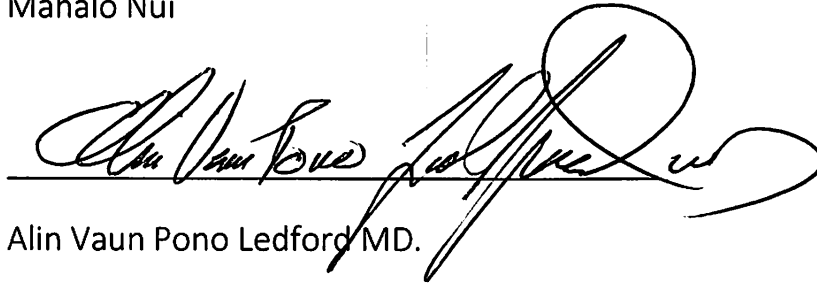
Although, most modern crematoriums have filtering systems in place to minimize emissions, regulations do not exist for the emissions and toxic pollutants that are released into the environment. As with sewage spills, these filtering systems also fail, releasing even more of the toxic pollutants in to our environment. In the event of an AH system failures, the waste is contained. The approximately 300 gallons is contained to sealed, self-contained vessels in a single room. Clean-up is simple and contained to the unit and room. There are no risks to the air or environment with a Water Cremation system failure. So, there is no risk of toxins being released into the air or environment by aerosolization, leakage or spillage

Conclusion:

As our beautiful Hawaii continues to grow in population, we have less and less clean spaces and limited resources. There are more and more pollutants and toxins from many different industries due to overcrowding. More people, more waste. Our current way of disposing of waste will eventually destroy our beautiful Hawaii. Water Cremation is ideal for Hawaii. It is a green form of taking care of our loved ones who have passed. It has no harmful effects on our environment. It uses far fewer fossil fuels and energy, leaving a significantly smaller carbon foot print. Most importantly, it satisfies Native Hawaii burial customs and traditions.

We need a better way, a safer way, a more culturally sensitive way, a greener way to save our Hawaii. Water Cremation is the way. I have listed below several references for your use & information.

Mahalo Nui

A handwritten signature in black ink, written over a horizontal line. The signature is cursive and appears to read 'Alin Vaun Pono Ledford MD'. The signature is written in a fluid, connected style with some loops and flourishes.

Alin Vaun Pono Ledford MD.

Big Island Family Medicine Inc.

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Year	Month	Day	Event
1912	Jan	1	...
1912	Jan	2	...
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1912	Jan	31	...

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**TESTIMONY OF:           HINALEIMOANA K.K. WONG-KALU  
IN SUPPORT OF  
HAWAIIAN STYLE BURIALS & ALKALINE  
HYDROLYSIS TECHNOLOGY**

Aloha esteemed Legislators of Hawai‘i,

My name is Hinaleimoana K.K. Wong-Kalu, better known in the Hawaiian community as Kumu Hina.

My community holds regard for me as a Kumu Hula, Hawaiian practitioner, and one of the longest serving former chairpersons for the O‘ahu Island Burial Council, an advocate for environmental and human rights issues impacting Hawaii, and Hawaiian and other indigenous peoples of the Pacific Region and globally.

For many years Hawaiians have tried to facilitate the burials of their ohana (family) in a manner that is culturally appropriate. The Hawaiian Civic Clubs initiated an effort in 2012 and in 2015, but the outcome was not what was targeted nor hoped for.

In traditional times, the bodies of those who had passed, including the Ali‘i, were set into an Imu (underground earth oven) so that the flesh and tissue could be stripped from the long bones and secreted away to a private place on land, and the remaining water based residue, returned to the sea. The process is described by Handy & Pukui in the following manner....

*“A relative tended the corps, removing the decaying flesh and organs by hand, to clean completely (ho‘okele) the bones. This was a labor of love, for a devoted relative. The flesh refuse (pela) was thrown into the sea ..... The cleaned bones were Made into a lite compact bundle, tied with sennit cords, and borne to a place of concealment. It was carried on the back of a Kahu (guardian) who went along in the*

*night so that no one would know where they were placed. .... for the ali'I, it was a cave that was known only to his kahu. But generally, the bones were taken to a place Identified with the aumakua of the family, because the uhane is with the aumakua."*

See The Polynesian Family System in Ka'u, Hawaii Handy & Pukui, (Hawaii Mutual Publishing, 1998 at p. 151.

Hawaiians have not been able to engage in this practice for generations, but now with the advent of new & clean technology, we can once again follow our traditions and return our iwi kupuna (bones of the ancestor) to the aina in a culturally appropriate way that is clean, sterile and safe.

What is most interesting and beneficial about this technology, (referred to as Alkaline Hydrolysis, ( also known as Green Cremation, Aquamation) is that it has many potential benefits for our State and others who are not Hawaiian because it has the ability to thoroughly sterilize bodily remains. Consequently, the science research labs throughout the US & globally, researching pathogens & and other dangerous and contagious diseases, can be assured that the byproducts & waste from their labs are sterile & safe.

There is significant data on this available on the Internet, including data from UCLA and Mayo Clinic.

I strongly urge passage of this measure. It resolves a long standing problem for Hawaii's' Native people and increases our States capacity to address evolving health & safety threats that are likely to continue because of global travel.

Mahalo for your consideration. I place my faith and trust in your decision making.  
Aloha

A handwritten signature in black ink, appearing to read "K.K. Wong-Kalu". The signature is stylized and cursive.

Kumu Hialeimoana K.K. Wong-Kalu (808) 225-4123

Mililani B. Trask  
P.O. Box 6377,  
Hilo, Hawaii, 96720

Testimony in Support of Alkaline Hydrolysis/ Water Cremation

Bill Number: HB 1894

Committee: HHH

Hearing Date & Time: 02/01/2022 9:00 AM

Aloha Legislators:

I am a Hawaiian Attorney, a past OHA Trustee, and a strong advocate for Hawaii & Hawaiians. I strongly support this Bill because it addresses and facilitates traditional Hawaiian practices, and provides a cleaner, greener, and more responsible alternative to 'Flame Cremation' which discharges toxic chemical into the air as well as the soil.

A few days before Christmas, Civil Beat published the following article which I submitted. IT sets for the my mana'o.

Community Voice – by Mililani B. Trask

**Water Cremation Is A Culturally Appropriate Way To Leave This Planet**

Alkaline hydrolysis allows for the practice of traditional rites. Let's make it Hawaii law.

Death is writ large over the landscape of our minds and hearts these past two years as we have had to grapple with the hundreds of thousands of deaths from Covid-19. Loss of life has also marked the long and painful history of these islands since colonization and the illegal overthrow.

The Navy's current intransigence and disrespect for the people of Hawaii in refusing to shut down Red Hill even as families see and smell poisoned water coming out of their faucets is just the latest chapter in the disgraceful history of the militarization of these islands.

Hawaiians have dealt with the burden of what has been done to us in large part by drawing on the strength of our cultural traditions. Yet the very protocols around death that have sustained Hawaiians in their times of loss have not been available to us.

The law says the observance of Hawaiian customs is protected. However, the practices of 150 years ago have run up against contemporary health and environmental regulations.

So, for many years now Hawaiians have not been able to bury their loved ones and preserve the iwi in accordance with ancient practices. We have had only two options: the full body burial preferred by Christians, or flame cremation, preferred especially by Asian Buddhists.

These options do not give Hawaiians the desired outcome: clean, sterilized long bones that can be placed with reverence in a land crypt or burial cave.

The old way of steaming the dead body in an imu (earth oven) yielded this outcome. Not so flame cremation, where bits of sinew and flesh might still be attached to the bones, causing it to smell and attract rodents.

But today we have the technology to allow for the practice of traditional rites and it is called alkaline hydrolysis — or, as it is commonly referred to, water cremation. The technology is already in use in Hawaii by veterinarians and at the University of Hawaii Research Lab at Manoa.

Water cremation has been legalized in 21 states in this country and is in use in other developed countries. The reason is as simple as its urgent and profound: It is sterile, clean and green. Alkaline hydrolysis does not discharge toxic elements into the atmosphere. So, unlike the flame crematoriums, operators do not need to install a filter to capture air-borne toxic elements. As we wring our hands over the climate crisis and the build-up of carbon emissions that is hurtling the planet to disaster, there is real value in the fact that water cremation offers a 75% reduction in the carbon footprint compared to the flame process and uses a fraction — literally one-eighth — of the energy of a typical crematorium.

Pacemakers and implants do not have to be removed prior to water cremation. They are left behind and can be recycled. Mercury from dental fillings is not vaporized and released into the atmosphere: It is contained and recycled. These are real gifts to the environment.

Bereaved families that choose water cremation can take comfort in the fact that they are helping to malama aina by saving land and avoiding the cost of funeral plots or crypts and other burial accessories that have sprung up around the funeral industry over time.

Alkaline hydrolysis does not discharge toxic elements into the atmosphere.

The final remains the family receives are free of pathogens and disease — something that is especially important as we live through this pandemic and think about others yet to come. This green approach to disposition of the body is far preferable to the groundwater and atmospheric contamination that happens, but is not often talked about, with embalming or flame cremation.

It's time for Hawaii to make alkaline hydrolysis/water cremation an option for everyone wishing to ensure a green and culturally appropriate exit from our beleaguered planet for themselves or for their loved ones. The bill to make water cremation available in Hawaii will be introduced again in the legislative session in 2022.

There is absolutely no reason why it should not pass and be enacted into law. We deserve to have it as an option for how we leave this Earth.

Aloha,



Mililani B. Trask



***Testimony in Support of HB 1894***  
***Committee of Health, Human Services, & Homelessness***

Aloha Chair Ryan Yamane & Vice Chair Adrian Tam,

I am Piliialoha Lee Loy. I am a Native Hawaiian, a graduate of the Kamehameha Schools and a member of the Hawaiian Civic Club of Honolulu since the 1970s. I taught at Aliamanu Middle School for 46 years and served as a trustee of the Hawaii State Employees' Retirement System Board of 24 years.

In 2012 members of the Hawaiian Civic Clubs moved to have State facilitate "Hawaiian Style Burials. This legislation would allow for an alternative that will enable families to receive the clean sterile long bones in clean sterile water..

This process is used in 20 states of the Union and the John A. Burns School of Medicine Willing Body Program last session requested legislation for Aquamation. Passing this legislation will provide Hawaiians and hawaii's consumers a clean affordable technology that is culturally appropriate and environmentally responsible disposition option.

Mahalo for supporting this Bill.

*Piliialoha E. Lee Loy*

Piliialoha E. Lee Loy

*Jan. 13, 2022*