

# Kilo iā

2014 JUL | AUG | SEP



**MARINE PLASTIC POLLUTION  
BRINGING AWARENESS ONE OF THE  
OCEANS' GREATEST HAZARDS**

*page 4*

**BEHIND-THE-SCENES  
THE RETURN OF  
HŌ'AILONA**

*page 5*

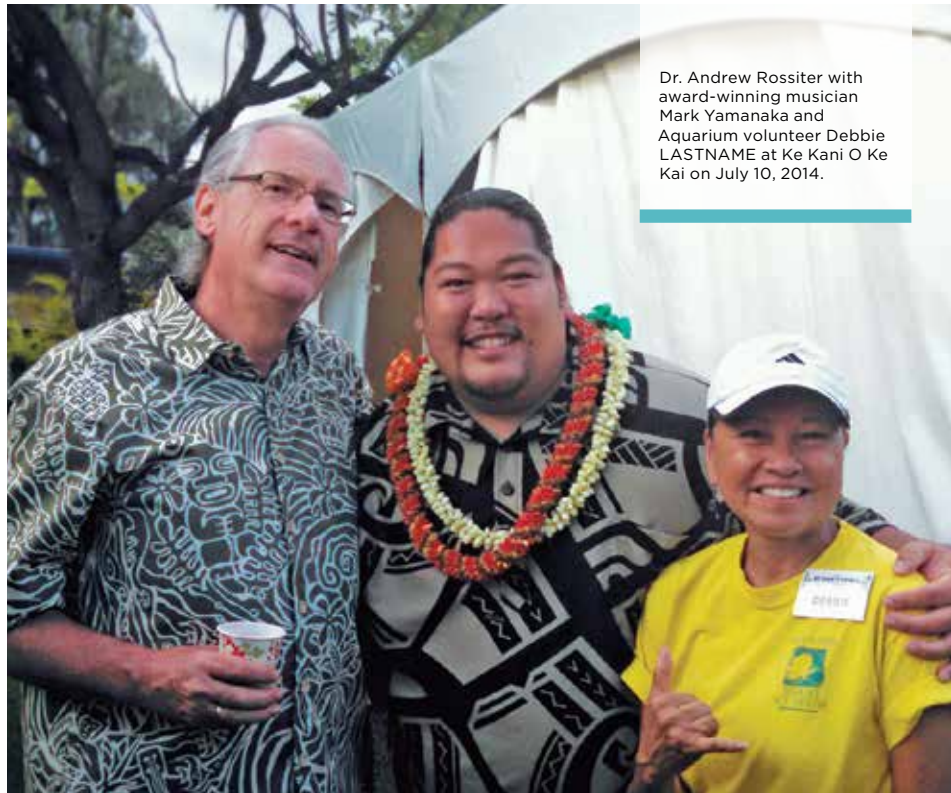


Summer is over, and with it, another successful Ke Kani o Ke Kai concert series. This year, the five concerts were attended by 3,333 guests. Given that the last concert took place in the face of an incoming typhoon, when attendance was lower than usual, this total speaks highly of the immense popularity of this event. Thanks to the staff, volunteers, the sponsors and the various musicians, caterers, emcees and sound crew who together helped make it happen. The proceeds from this year's series will be allocated towards the upcoming Ocean Discovery Center, which is planned to be open late next year.

And prior to that, most likely before the end of this current year, we should have a new animal holding area, which will serve the Edge of the Reef touch pools and provide holding space for animals due to go on display and for research, and a completely renovated public bathrooms at the Aquarium. An additional project relating to the monk seal display is mentioned elsewhere in this issue.

In May we held the first of four scheduled presentations in our Distinguished Lecture Series, featuring Dr Chip Fletcher, who spoke about global climate change, its effects on the oceans and the implications of these changes for Hawaii in particular. Over 350 400 people attended the presentation, and I think all who were there learned from hearing a fascinating and complex topic explained in clear terms by one of the experts in this field. The next lecture in this series is by Dr David Karl and takes place on the 25th September. Details can be found elsewhere in this issue, or on our website. We hope to see you there.

Those of you who visit the Aquarium recently may have noticed several examples of coral bleaching, both in our indoor exhibits and in the Edge of the Reef. Our



Dr. Andrew Rossiter with award-winning musician Mark Yamanaka and Aquarium volunteer Debbie LASTNAME at Ke Kani O Ke Kai on July 10, 2014.

coral specialist, Mr Mark Dimzon, has consulted with professional coral researchers on island and elsewhere, to diagnose this problem. It seems that the UV index is especially high at this time of year, and that this has caused some bleaching in exhibits exposed to direct sunlight and where the water surface is not turbulent enough to break up the sun's rays as they enter the water. NOAA has informed us that an exceptionally high UV index is predicted for the coming month, and so we have placed shade cloth over many of our exhibits, and also adjusted water flow so as to ripple the water surface. Just like people, corals need some protection from the harsh, direct rays of the sun!

And a heads up! The New Year issue will be a jumbo 20-page edition. Along with the standard array of interesting articles, this special edition will highlight the plans the Aquarium has going into the future. At 110 years old, the Aquarium acknowledges our past achievement with pride, but are now planning for an even more exciting future that involves changes throughout the exhibit galleries and behind the scenes, all while staying true to our education, research and conservation mission. Stay tuned!

## Kilo i'a

Issue Number 190  
2014 JUL | AUG | SEP

EDITOR  
Dr. Andrew Rossiter

ART DIRECTOR  
Kelsey Ige

PRINTING  
Reskyu

*Kilo i'a* is published quarterly by the University of Hawai'i and the Friends of Waikiki Aquarium and is dedicated to increasing the community's knowledge of the Waikiki Aquarium and Hawai'i's marine life.

Waikiki Aquarium  
2777 Kalākaua Ave.  
Honolulu, HI 96815-4027  
PHONE (808)923-9741  
FAX (808)923-1771  
www.waquiurium.org

© 2014 Waikiki Aquarium

PRINTED ON RECYCLED PAPER WITH ENVIRONMENTALLY FRIENDLY INKS

### MANA'O

Traditionally, the *kilo i'a* was an expert of fish and marine life. He studied the behaviors and movements of *i'a*. The *kilo* stood at a high point of land overlooking the ocean to watch for an expected school of fish and steered the fishermen in the school's direction. The success of surrounding the school was entirely up to the *kilo*.

Dr. Andrew Rossiter  
Director, Waikiki Aquarium



PHOTO JIM E. MARAGOS, USFWS

## Expansion of the Pacific Remote Islands Marine National Monument

President Obama's recent proposed expansion of the Pacific Remote Islands Marine National Monument (PRIMNM) in the southwestern Pacific Ocean would be a historical win for ocean conservation. Citing the Antiquities Act of 1906, the same act former President George W. Bush used to create four marine monuments in his second term, Obama declared that he was going to use his presidential authority "to protect some of our nation's most precious marine landscapes," something that has been done since the time of Teddy Roosevelt for special areas of land, but only in recent decades for

marine areas.

The expansion of the existing protected area would more than double the area of all marine protected areas in the world combined. The proposed plan would increase the Pacific Remote Islands National Monument's current size from around 87,000 square miles to approximately 782,000 square miles. The new protected area would also include the Exclusive Economic Zones (EEZ) of several territories, encompassing 200 nautical miles from the shoreline around those uninhabited islands.

Currently, less than two percent of our global ocean is protected. The expanded

monument would protect over two-hundred and forty underwater sea mounts teeming with a plethora of diverse marine life. Scientific expeditions to the area, notably by National Geographic's Enric Sala, have reported that at least twenty-two species of marine mammals and five species of sea turtles frequent the waters of the proposed monument area.

The plan was delivered at the State Department's Our Ocean Conference on June 17th with the news that the federal government plans to crack down on the global black market fish trade and on seafood fraud. There was also a mention of looking to expand the area of the

current Papahānaumokuākea Marine National Monument of the North West Hawaiian Islands, but no official comments were made of how or when that would be done. From a global perspective, the expansion of the Pacific Remote Islands Marine National Monument is a step in the right direction for the preservation and maintenance of one of our planet's most valuable resources. As part of its galleries renovation project, the Aquarium plans to install several new exhibits highlighting the marine reefs of some PRIMNM islands and atolls. More on this in our New Year issue.

### GIVE ALOHA CAMPAIGN

SEPTEMBER 1-30

Foodland and the Sullivan Family supports local schools, organizations and community groups throughout the year. Shop at your favorite Foodland, Sack N Save and Foodland Farms during the month of September, enter our code 77702 and your donation will be partially matched by Foodland and Western Union Foundation.

### KAPIOLANI COMMUNITY COLLEGE SERVICE LEARNING

To complement Kapiolani Community College's 2014-2015 Service Learning Program, the Waikiki Aquarium has created student volunteer programs. Each 20-25 hour Service Learning module incorporates active learning through a combination of training and hands-on experience throughout the semester. It is the goal

of Waikiki Aquarium to strengthen the partnerships between community institutions and organizations and this program does just that.



### SUMMER SERVICE

This summer's volunteers have generously donated their time and talents to help the Aquarium pull off new and old traditions. Did you know that Aquarium volunteers donate over 1,000 hours

just for Ke Kani O Ke Kai! Other summer volunteer events included Algae and Beach Clean-ups, Members night, and the Amazing Adaptations exhibit opening. As back to school shopping begins, we look forward to welcoming new and returning Docents in September.

### DISTINGUISHED LECTURE SERIES: "SCIENCE, SOCIETY AND SUSTAINABILITY" WITH DR. DAVID KARL

SEPTEMBER 25, 2014, 7:00 P.M.

Dr. David Karl, internationally renowned oceanographer will present on September 25th at 7pm, Mamiya Theatre. This presentation will outline some of Dr. Karl's findings that have revolutionized our understanding of oceans. Mahalo to Matson Navigation; McCabe, Hamilton and Rennie; and Honolulu Star Advertiser for their support of this series. Tickets are \$10. Visit our website for more information.

SAVE THE DATE



# Marine Plastic Pollution

Plastic products have made their way into nearly every aspect of everyday life, from food storage and toys, to medical equipment. The inexpensive and durable nature of plastics has resulted in their use skyrocketing, with approximately 300 million tons of plastics being produced each year. Of the plastics that are discarded, only about 10% are recycled. A significant portion of the remaining 90% ends up in the ocean, where it can degrade and fragment into persistent microplastic debris.

Plastic pollution is one of the most serious threats to the ocean. Plastic debris enters the marine environment through illegal dumping from recreational fishing and boats, litter transported by rivers and public drainage systems, and improperly disposed of garbage. It impacts marine life in many ways, including through ingestion, entrapment, and exposure to harmful chemicals released from plastic debris. Plastic pollution is a global problem, with plastics even being found in remote areas of the open ocean, and the Arctic and Antarctic.

Ingestion of plastics by marine animals can cause intestinal blockages, decreased gastric secretions, lowered steroid hormone levels, and reproductive issues, and given that plastics absorb other pollutants from seawater, this further increases the hazard of ingestion. As plastic debris in the ocean ranges from large pieces to small pieces of microplastic debris, a wide range of marine animals, including fishes, birds, marine mammals, turtles, plankton and filter-feeding animals ingest plastics. In some species, plastic ingestion is found at alarming rates. For example, a study of Laysan albatross chicks in the Hawaiian Islands found that



PHOTO DAVID BURDICK, NOAA

90% of surveyed chicks had plastic debris in their upper gastrointestinal tract. Entanglement can cause animals to be strangled by plastic rings, and affect their ability to catch food or avoid. Discarded fishing gear is an especially significant hazard, with abandoned nets continuing to catch and kill animals after

sinking or being lost on the seabed.

In addition to damaging marine life, plastic pollution also directly impacts human communities by contaminating food sources, decreasing the aesthetic value of beaches and producing navigation hazards.

## What can you do to reduce plastic pollution?

### Reduce plastic use

Choose reusable products when possible and look for alternatives, such as bringing your own bags to the grocery store, using reusable water bottles instead of buying bottled water, and buying a set of silverware for your workplace instead of using plastic utensils.

### Attend a beach cleanup

Our next beach clean-up is scheduled for Saturday, September 20th. Contact the Waikiki Aquarium Volunteer Office at volunteer@waquarium.org or (808) 440-9020 for more info.

### Recycle

Many plastics can be recycled. Recycling products can reduce the amount of potential plastic debris entering the ocean.

### Support Honolulu City Council Bill 40

This bill requires restaurants and food take-out businesses to use compostable containers and bans the use of expanding polystyrene containers. Expanded polystyrene products are rarely recycled and break down into microplastic contaminants. Contact your local Honolulu City Council members to express your support for the passage of Bill 40.

# Return of Hō'ailona

Visitors to the Aquarium this summer will have noticed that Hō'ailona, one of our two Hawaiian monk seals, was not on exhibit for a few months. Many have enquired as to his whereabouts. In late May, Aquarium monk seal biologist Jesse Ciletti and her crew noticed that Hō'ailona had become inattentive and easily distracted during their interaction sessions with him, and that he had gone off his food. At this time of year, when the annual molt takes place, short-term anorexia is a common occurrence in both our seals. But Hō'ailona was not yet in molt. As is routine whenever anything out of the ordinary takes place with our seals, we called in the University veterinarian to examine the seal. He saw nothing obvious, but as a precautionary measure, recommended that we sedate and X-ray the seal in order to check for issues in his alimentary tract and to allow for injection of medications and appetite stimulants.

And so a carefully orchestrated operation went into effect. Plans were put in place to drain the exhibit the next day, and to notify visitors that this was being done. Jesse and her crew, and a few live exhibits staff were briefed on what to do. The NOAA 'seal wranglers' were contacted. This group of individuals conduct monk seal research in the Northwestern Hawaiian Islands that involves them restraining wild monk seals to take measurements and check their body condition. An acquired art! The University veterinary team was contacted, both the primary vet responsible for our monk seals and another with expertise and equipment for X-raying.

With the pool drained, the wranglers restrained a sedated Hō'ailona, he was examined thoroughly, the X-ray photos and a blood sample were taken, and his medications administered. The team retreated and the pool was refilled, a process that takes six hours, under the continuous watch of the monk seal crew. Although nothing abnormal was detected in the X-rays, two days later he still

had not eaten, and so Plan B went into effect. Hō'ailona was coaxed into a specially designed cage, which was then forklifted into the behind the scenes holding area, and then lifted by crane into the holding pool. Fifteen people were involved in this process, which was run with almost military precision.

The following day, Hō'ailona ate a few pieces of herring, and promptly vomited them, along with two small pieces of plastic. We surmise that a plastic object had dropped into his exhibit and that he had ingested it. The object was not visible in the X-rays of his alimentary canal, and so may have been lodged in his esophagus. Thankfully, the object seems to have been dislodged completely, as thereafter his appetite returned to its usual ravenous level, his attention recovered, and he became the personable, energetic monk seal we all know him to be. As a precautionary measure we retained him in the holding tank for observation, until he was given the all clear by the veterinarian. Hō'ailona went back on display in late July, none the worse for his gastronomic mishap.

On a more serious note, this incident has underlined the dangers imposed by foreign objects falling into the monk seal exhibit. Despite ample signage requesting visitors to not lean over the exhibit, and to take care with sunglasses, hats, audio wands and cameras, the emergency retrieval of such objects from the pool before the monk seals can chew upon or eat them is a not a rare occurrence. For the continued wellbeing of the animals we have therefore decided to revamp the viewing area, increasing the height of the acrylic viewing panels such that it is not possible to lean over the exhibit, and also to add an awning over the deck area so that visitors can view the animals, sheltered from the rain or hot sun.

► Fundraising for this project is just started, and if you are interested in supporting this, please contact Marylou Foley at 440-9027. Thank you!



## WALL of FAME

APRIL 2014 TO JUNE 2014

The beautiful exhibits at the Waikiki Aquarium and the valuable research and conservation efforts that go on behind the scenes are the result of the work of many. Mahalo to all those who support us through their generous donations.

» CORPORATE SUPPORT  
Aqua Hospitality  
Bamboo River LLC  
dba Eden In Love

Hard Rock Café  
Hawaiian Electric  
Matson Navigation Co.  
Honolulu Star Advertiser

Whole Foods- Kahala

» FOUNDATIONS, TRUSTS + GRANTS  
Freeman Foundation

» DIRECTOR'S CIRCLE  
Martha (Mahi) Riley  
Judi & Don Young

» IN SUPPORT OF OUR MISSION  
Marcus & Emma Boland  
MaryLou Foley  
Gail Grabowsky  
Rodney Hill  
Wayne Kamaura  
Myra & Rodney Kawamura

William L. Little  
Nicholas Latulip  
Ronn Miyashiro  
Billie Nelson  
Joyce Nouchi  
Steve & Janis Parker  
Tara & Arvind Patel  
Greg Pentcost  
Ernest Sato  
Jennifer & Norman Shishido  
Jocelyn & Douglas Wong  
Judi Wright

» CONTRIBUTIONS IN KIND  
Barefoot Wine & Bubbly  
Hard Rock Café  
Hasr Wine Co.  
Hawaiian 105.KINE

JMJ Rentals  
Kona Brewing Company  
Lucoral Museum  
Reskyu

» MATCHING GIFTS  
Bank of America  
Northwestern Mutual Foundation

» KE KANI O KE KAI  
Title Sponsor:  
Outrigger Hotels & Resorts

Northwestern Mutual  
Michael Marks Foundation  
Pepsi

Aqua Hospitality

Bank of Hawaii Foundation  
Alexander & Baldwin  
Prime Builders of Oahu

Aloha Petroleum  
Alston Hunt Floyd & Ing  
Armstrong Builders-Armstrong  
Foundation

Becker Communications  
Armstrong Consulting  
Paul & Diane Bennett Family  
Cades Shutte  
Beth Chang, Realtor  
Hawaii Dental Service  
Hawaii USA Federal Credit Union  
Izuo Brothers  
King Windward Nissan/  
Infiniti of Honolulu

Kualoa Ranch  
Leavitt, Yamane and Soldner  
Marr Jones Wang  
McCabe, Hamilton & Renny  
Pono Pacific  
Joseph Rothstein  
Michael D. Rudy  
Starn, O'Tolle, Marcus & Fisher  
Surf 4 Hugs  
Dr. Curtis Takemoto-Gentile  
Team Real Estate/  
Kawela Kai Nani  
Title Guaranty  
Trinity Properties-Annie Kwok  
Tyson Charitable Foundation

McKeague and Haley  
Russell Gifford



# NEW + RENEWING FOWA MEMBERS

The Membership Office recorded these new and renewing memberships between March 6 and July 31, 2014.

Frank Ahern & Joy Boonar  
Patrick & Jamie Ahler  
Jennifer & Ashley Aiton  
Leonard & Erin Aiu  
Denis & Kathleen Akimoto  
Steve Allen  
Carla Allison  
Mr. T. Allison & Mrs. C. J. Allison  
Mr. & Mrs. Almony  
Marilyn Alper  
Jacqueline D. Ames  
Dr. Bud Antonelis & Ms. Brandy Antonelis  
Josephine Aoki & Kathleen McAngus  
Dr. Elizabeth Aparicio  
Thomas & Monique Appleton  
Helene Y. Arata  
Nobuhiro & Yuka Ariyoshi  
Richard & Judith Arnsby  
Emmy Lou Armstrong  
William & Gretchen Arnemann  
Terri Ann & Rollins Asato  
Mr. & Mrs. David F. Asmus  
Julie & Mattias Atterbom  
Kenneth & Mae Au  
Chad & Erin Awai  
Mr. & Mrs. Awakuni  
Patricia and Timothy Aylward  
Jeffrey Babb & Nyla Fujii-Babb  
Michael & Junim Babineck  
Drs. Christine & Richard Badke  
Mrs. Judith Baird  
Denise Baldwin  
Lesley & Eric Ballaw  
Richard Barboza & Puanani Connelly  
Mr. & Mrs. Malcolm Barcarse  
Henry & Malia Barrett  
Mrs. Greta Barron  
Robert Barry  
Mr. William M. & Dr. Carol Bass  
Nathaniel & Melissa Beaty  
Brenda L. Becker  
Ronald & Susan Beers  
Dr. David P. Behling  
Renee & Miles Bellis  
Chris & Katie Bennett  
Mr. & Mrs. Paul G. Bennett  
Adam & Kina Bensley  
Paula & Gideon Berger  
Margaret & Chadwick Berryman  
Heidi Better  
Mr. & Mrs. Michael Beverly  
Brian Bilodeau & Nicole Randall  
David & Kristen Bokor  
Marcus & Emma Boland  
Marilyn & Emily Boock  
Wayne Borth & Eileen Herring  
Ashley Bowman & Amy Nguyen  
Linda Bowman & Shayna Chung  
Pierre Bounaud  
Shane K. Boyle & Julie B. Tomei  
Douglas & Keiko Brand  
Jason Brand & Malindi Fickle  
Dr. & Mrs. Barry Brennan  
Dr. Kim Bridges & Dr. Nancy L. Furumoto  
Benjamin & Alison Bright  
Karen Brittain  
Nathan & Nancy Brooks  
Frederick & Darnell Bryan  
Christie & Janine Bryant  
Karen & Bob Bryant  
David & Meghan Buck  
Dr. J. Stephen Buck & Mrs. M. Janann Gallagher-Buck  
Cong Bui  
Robert & Shino Burgos  
Ms. Shoko Burkett & Mr. Brian Foster

Adelaida Busiamante-Aguilar & David Kalahiki  
Norman & Desiree Cabalo  
Anthony Cabrera & Jennifer Riel  
Hannah Caddle  
Herman & Evelyn Calbero Jr.  
Jose & Miriam Caliboso  
Ms. Barbara A. Campbell  
Xiaowei Cao  
Carmine & Eva Capparello  
Nara & Henry Cardenas  
Nathan & Kimberly Carl  
Justin Carland  
Dave Carlon & Jenny Davidson  
Dr. Bruce Carlson and Mrs. Marj Awai  
Mr. Stanford Carr & Mrs. Kathy Carr  
Fredrica & Paul Cassiday  
Mary A. Caywood  
Kathy Cazares & Trisha Webb  
Janice Cha & Andrew Wu  
Edward & Yoko Chan  
Michael & Qiangqian Chan  
Jeffrey & Cynthia Chang  
William & Jacquelyn Chappel  
Charaspoen Charoenpakdi & Frank Kim  
Edith H. Chave  
Cynthia Chen & David Wong  
Janny Chen & David Cho  
Elizabeth Cheng-Leever & Won-Yee Cheng-Leever  
Jeannie Chesser  
Eddie Ching  
Paul & Jolene Ching  
Mr. Saree Chirayunon  
Keri Ann & Carrie Chock  
Brandon & Grady Choi  
Kendra & Min Choi  
Clayton and Bridget Choo  
Carole Chun  
Melanie Chun  
Penelope & Katherine Chun  
Tony & Lynne Chun  
Miwa & Robert Chung  
Mrs. Louise Chung  
Edward & Janet Clark  
Edward Clark & Jaymie Lewis  
Jean Cochrane  
Brandon & Elizabeth Cody  
Makena Coffman & Brian Rochelleau  
Nicole & Dennis Coglietta  
Jenny & Matthew Cohen  
Teta & George Collins  
Bryson Comilang & Cheronda Lewis  
Beth Comunale  
James Cook  
Charles & Sue Cooke  
Jack Covington  
Val Crabbe & Matthew P. Gora  
Aaron & Catherine Crawford  
Camilla Crescenzo  
The Crosswell Family  
Jason & Vicki Crowder  
Paul & Kirsten Cuprowski  
Ruth Cushman  
Mrs. Christine Dannaepfel  
Peter Daspit  
Dr. & Mrs. Louis D'Avanzo  
Mr. & Mrs. Brian M. Davis  
Mr. & Mrs. Earl & Aloha Dayton  
Denise & Joshua de Laura  
Mr. & Mrs. Sean Dee  
Mrs. Traci De La Torre  
Lee Denison & Georgine Perez  
Bernard & Sandra Deysson  
Dan Dillon  
Mr. & Mrs. James G. Dittmar  
Jamie & Tuyen Dixon  
Allen & Christian Doane  
Mary Y. Doi  
Nyle K. Dolera

Dianne Donegan  
Mark Douglas & Kristen Reed  
Mr. Dennis Drake  
Mr. Liloa Dunn  
Jamie & Rachel Dupuis  
Mike & Jen Eberlein  
Jennifer Eck & Kevin Fox  
Ryan & Jaimie Eck  
Elisabeth Edgreen  
Bryon & Michelle Edwards  
Megumi Endo & Hironobu Fujiki  
Peter Englert & Donna Vuchinich  
Nina & John Enomoto  
John & Amanda Eppley  
Mark & Joseph Esposito  
Darren & Jennifer Evans  
Ms. Jessie Evans  
Nelson & Mapuna Faulkner  
Dr. & Mrs. Michael Fazio  
Keaka Fernandez  
Kulani Fernandez  
Mr. & Mrs. R. Fickett  
Baird & Karena Fleming  
Mr. James Saari  
Leilani Fortuno & Mark Ozawa  
Mr. & Mrs. Scott Frank  
Richard & Donna Frankel  
David & Jocelyn Franks  
Andrea Freeman & Joseph Speciale  
Jack & Karen Frutchey  
Kenneth K. Fujii  
Kenneth & Stacie Fujikami  
Mr. James & Mrs. Jinny Fujimori  
Elaine Fujimoto & Bessie Au  
Randal Fujimoto & Sarah Neal-Fujimoto  
Robyn & Shawn Fujimoto  
Alvin Fujioka  
Mr. & Mrs. Roger Fujioka  
Darin Fukunaga & Andrea Tomita-Fukunaga  
Todd & Kimberly Funasaki  
Andrew J. W. Fung  
Phillippe Fernandez Galicinao  
Julie & Jennifer Galves  
Pat & Hoagy Gamble  
Charmaine Garcia  
Mr. & Mrs. Hank Gellert  
Mr. & Mrs. Ken Gershman  
Katelyn & Mike Gibb  
Matt Gilbert & Noriko Bansai  
Mr. Charles W. Gill  
Kevin and Vickie Gleed  
Crystal Gledon  
Robert Godbey & Ellen Carson  
Katie & Hector Gonzalez  
Mr. & Mrs. Brent Goodrich  
Tracy & Tami Goya  
Dr. Gail Grabowsky  
Mr. & Mrs. Julian & Trisha Gray  
John & Christine Greer  
Matthew Griffin & Zheng Chen  
Matthew & Allison Guard  
John Guinan  
Mr. Gordon Gum  
Mr. Alexei Guren  
Mr. & Mrs. Michael G. Hadfield  
Jennifer Hahn  
Heidi Haliniak & Dandi Ahuna-Haliniak  
Todd & Nami Hamada  
Mike & Cori Hamilton  
Kay Hampton  
Mr. & Mrs. Allen H. Hanamoto  
Shizuko & Ernest Hanaumi  
John & Barbara Hanoa  
Kasumi Hara & Evan Mau  
Mr. & Mrs. Nathan Harada  
Mr. Willard Haraguchi & Rev. Hannah Haraguchi  
Gayle & Ilene Haraki  
Mr. & Mrs. Joe Hardin  
Sarah Hargest

Cosette Harms  
Harlan H. Hashimoto & Patty Oda  
Gary & Kimberly Hashiro  
James & Helen Hauger  
Hawaii Association of Environmental Professionals  
Mr. & Mrs. John W. Hawkins III  
Mr. & Mrs. Fred Hawley  
John Hawthorn  
Mr. John W. Hayden  
The Hazens  
Mr. Troy Hazzard  
Mr. Alfred Hee  
Daphne Hemmings  
Mr. & Mrs. Rick Hendrix  
Robert & Jessica Henrikson  
Mel Hertz and Marlene Hertz  
Lewis & Dominique Heuermann  
Wendy Higashihara  
Rod Higuchi  
Mr. & Mrs. Randall M. Hiraki  
Atsushi & Akiko Hiramatsu  
Michael & Caroline Hiraoka  
Hazel Hirayama, Joy Matsukawa & Dayle Hirayama  
Ms. Jacqueline S. Hironaka  
Barbara Ho & Keahi Tucker  
Becky Hommon  
Tom & Anna Hoover  
Brad & Margaret Hovas  
Amy & Maksine Hromiak  
Anthony Huang & Xiao Si Xu  
Dr. & Mrs. Christopher Huang  
John & Michiko Hudson  
Jonathan & Amy Hung  
Celeste Ibara  
Scott Ibara & Tannya Kanei-Ibara  
Preston Iha  
Koji & Katsura Iizuka  
Wendy Ikeda & Glenn Melchinger  
Mr. Steven Imai  
Mr. & Mrs. Imanaka  
Russell & Aura Imasaka  
Junko & Thumeki Inayama  
Errol & Evangeline Inoue  
Amy & Jason Isa  
Randall & Noladeane Ishihara  
Mr. & Mrs. Brian T. Ishii  
Gary & Beryle Ishizaki  
Ronald M. Iwamoto  
David & Iris Iwana  
Greg & Elizabeth Jackson  
Morgan, Elika, & Laverne Janus  
Claudia Jarquin & Justin Nissel  
Leonard D. Jenkins  
Drs. Kate & Kevin Jim  
Laurel Johnston & Randall Young  
Dorothy & Patrick Jorgensen  
Mr. Dieudonne Joseph  
Mr. Jason Jou  
D. Wayne & Nanette Judd  
Mr. Rene Julian & Mrs. Lauren Araki  
Steven Kaahanui  
Jean and Taylor Kaaina  
JoAnn & Joe Kaakua  
Mr. Richard and Mrs. Amii Kahikina  
Mrs. Leila Kajiwaru  
Lisa Kaluhiwa  
Dr. Janet Kalus  
Ms. Andrea L. Kamahale  
Aziem Kamal  
Wayne T. Kamaura  
Allen & Carol Kamemoto  
Dereck Kami & Chiaki Tanabe  
Dennis & Diane Kamimura  
Mrs. June Kamioka-Fuller & Ms. Reina Tolbe  
Troy Kanemura & Wendy Akiyama  
Mindy and Steve Kao  
U'ilani Kapuaakuni

Mr. & Mrs. Terrance  
Kashima & Ohana  
Samantha Kashimoto  
Jordan & Beth Kass  
Mr. & Mrs. Bruce Katsura  
Richard Kawachi  
Callie, Jovie, & Duke Kawaguchi  
Mr. & Mrs. John W. Hawkins III  
Chad & Jenny Kawakami  
Mary Ann & Stewart Kawakami  
Mrs. Karen Kawakami  
Stanley & Rachel Kawakami  
Mr. & Mrs. Rodney M. Kawamura  
Mr. & Mrs. Thomas N. Kawamura  
Thomas & Ethlyn Kawamura  
Hiroko Kazama  
Jason & Nicole Keifer  
Mrs. Charles & Jennifer Kelley  
Col. Marie Lorraine Killwey USAF  
Chong & Renita Kim  
Deborah Kim  
Harold Kim  
Keanu Kim  
Kevin & Pikake Kimata  
Ms. Elizabeth Kimura & Ms. Shayna Bing  
Angela & John King  
Izumi Kinney  
Mr. Ross Kinser  
Joy & Bob Kinzie  
Loriann Kira & Wilcy Look  
Ms. Jenia Kiseleva & Mr. Daniel Gittelman  
Kory & Janell Kitagawa  
Mr. & Mrs. Ko  
Kris & Patrick Kobayashi  
Heidi Koch-Showe & Hugh Showe  
Dennis & Wendy Kodama  
Masahiro & Yuko Kokami  
Jonathan & Lysa Kono  
Kazuo Kosaki  
David H. Kotomori  
Ryan & Jennifer Kozuma  
Donald Kroessig  
Juniper & Peter Krog  
Mrs. Nicole & Mr. Brett Kuamoo  
Gary Kuhlmann  
Suresh & Venkatalaksami Kumar  
Sherrie Kuroda & Myung Cha Yoneda  
Haruhiko & Yukiko Kuzukawa  
Nurry & Essence Kwan  
John & Cathryn Langan  
Johnathan & Leanne Lannan  
Brenten & Jocelyn Lau  
Dennison Lau  
Mr. & Mrs. Denis Lau  
Mr. & Mrs. Norman R. Lau  
Ronald & Valerie Lau  
Lilly Layton & Bill Byers  
Alexander Le Bon  
Ricky & Brandy Leal  
David & Karen Leatherman  
Jim Leavitt  
Minhye & Minhwan Lee  
Mr. & Mrs. Clarence Lee  
Mr. & Mrs. Vincent Lee  
Sun Ah & Taek Jin Lee  
Mami Takahashi LeMaster  
Mr. Harry F. Lenahan IV & Mrs. Bridget M.O. Lenahan  
Ms. Leslie Lewis  
Rogers Liddle III  
Phillip & Wen Wan Lieu  
Magdalena & Peter Liew  
David & Patricia Linde  
Marsha & Robin Lo  
Pamela Logologo  
Michelle Look & Allan Donis  
Dr. & Mrs. David G. Lord  
Jennie Lou & Derriel Bantolina  
Chauncey & Catherine Lovell  
Nelson & Tertia Low  
Harry & Amy Lu  
Rey + Rozlyn Luber  
Randy & Billie Lueder  
David & Nancy Luke

Bernard & Pamela Lum  
David & Itsumi Lum  
Luella Lum  
Luoma Family  
Bud and Laurie Lush  
Mr. & Mrs. Sam & Shannon Lynch  
Karin Lynn  
Dr. & Mrs. Colin Macdonald  
Mr. & Mrs. Andrew Machamer  
Dana Madison & Isabella Ludwig  
David Madison  
Aiko Mandis  
Michael & Jennifer Mannino  
Kimo & Jenny Marion  
Christine S. Marks & William F. Marks  
Michael & Natalie Martin  
Shannon A. Martinez  
David & Kamal Masaki  
Mr. & Mrs. Claude Matsui  
Dr. Robin Matsukawa  
J. Scott & Brit Matsumoto  
Susan Matsuura  
Wade & RoAnne Matsuura  
Michael M. May  
Molly Mayher  
James & Stacy McGarrah  
Kyle & Marites McKee  
Bonnie B. McMullen & Rabbi Melvin L. Libman  
Ann Medeiros  
Candes Meijide Gentry & Steve Shropshire  
Richard & Charlyn Meinel  
Geoffrey Michaelson & Lehua II-Michaelson  
Carol & Mark Middleton  
David & Healani Mielke  
Evelyn-Gail Y. Mike  
Jon H. Miki  
Jeremiah & Sarah Miller  
Carole R. Milner G.G.  
Maydeen Minami & Traci Domingo  
Chiyoiko Mirikitani & Yaeko Moritomo  
James & Hannah Miyachi  
Mr. & Mrs. Edward Miyahira  
Gary S. Miyamoto  
Robert & Teresa Miyasaki  
Peggy K. Miyashiro & James T. Hall  
Moats Family  
Joshua & Jenelle Mobley  
Mrs. Amber Momblow  
Cliff & Tamara Montgomery  
Clayton Mori  
Ronald Mori  
Ms. Christine Morita  
Laura & Burt Moritz  
Brent & Katrina Morris  
Mr. & Mrs. Rod Moux  
Tewhatu & Suzanne Mulitalo  
Wendell Murakawa  
Gavan & Lynn Muramoto  
Mr. Darren Muranaka  
Shareen Murayama  
Matthew & Jennifer Murray  
Nora Nakahara & Iris Stremick  
Ms. Nobuye T. Nakamura  
Ricky & Stacie Nakamura  
Cynthia Nakasato & Cheryl Sugiyama  
Chad & Lindsay Nakashima  
Reyn Nakayama  
Wylie Nash & John Holzach  
Ms. Linda C. Nelson  
Karen Nervell  
Robert & Giovanna Neuman  
Maxwell & Erica Neves  
Ms. Jeanine Ng  
Thalia Ng  
Mrs. Annie Ngo  
Mrs. Nolan S. Nip  
Alan & Nancy Nishiguchi  
Keith Noble & Janice Tso

Dr. & Mrs. Walter & Marguerite Nobuhara  
Roy & Kathy Noda  
Masayuki & Fumiko Nogi  
Evan & Stephanie Nomura  
Myles & Miwa Nomura  
Katherine & Joshua Nordgren  
Eric & Maya Nouchi  
Steve Nyman  
Dr. Catherine Oberholzer  
Brian & Rebecca O'Connor  
Mr. & Mrs. Walter I. Oda and Family  
Mr. & Mrs. Quin and Gail Ogawa  
CDR & Mrs. James O'Harrah  
Barbara Ohta  
Yusuke & Mika Okada  
Ms. Paula Kimiko Keanuwailelehua Okamoto  
Okamoto Family  
Mr. & Mrs. Miles Okano  
Mr. & Mrs. George M. Okinishi  
George & Naomi Okino  
Colin Okutsu & Yvonne Okutsu  
Earl & Hope Oliver  
Gilbert Olivera  
Bridgette Catherine Olsen & Richard Nakatani  
Atushi Onishi  
Miles & Lorene Ono  
Eden & Alfred Orpilla  
Alexander & Xuemel Ortiz  
Mr. & Mrs. Paul Oshima  
Valerie Ossipoff  
Russell & Heather Osterfeld  
Lisa Ota & Jane Ota  
Mr. & Mrs. Oxley  
Alysia Paaluhu & Nick Latulip  
Mr. & Mrs. Ray Pace  
Hyung Kwan Pae  
Michael & Gindale Page  
Mr. & Mrs. Leonard K. H. Park  
Rhonda Park  
Janis & Steve Parker  
Marcia Pasqua  
Mr. Randy & Mrs. Heather Paulino  
Ina S. Peel  
Luisa Pelletier & Frances Finau  
Fred R. Pepper  
Henry & Simone Perez  
Ms. Diane Peterson  
Michael and Ellen Pietzsch  
Mr. & Mrs. Pignataro  
Charles & Deborah Pratt  
Joan C. Pratt  
Edward Pressley  
Nathan Preston  
Dana Quealy & Vince Hazen  
Paul Quintiliani & Natalia Li  
Chris & Yoko Quisote  
Craig Rae & Marna Baricuatro-Rae  
Michael Ericson Ragasa  
Judi Victor Ragsdale  
Dr. David J. Randell & Ms. Rosemary Fazio  
Dave Raney  
James Rapisarda  
Jennifer Rasmussen  
Shirley Recca  
Robert & Carissa Reed  
Mr. & Mrs. David Reid  
Jason & Deidre Revestir  
Gregory & Jan Reyes, Jr.  
Amy Rice  
Joan H. Rich  
Mr. & Mrs. Benjamin Richards  
Brenda Riley  
Angel & Daphne Riveira  
Kristin Rivers  
Randi & David Roberts  
Catherine Roberts Carrasco & Tina Bodner  
Mr. & Mrs. Steve Robertson  
Michael Robin & Maria Setiowati  
Steven Robinow & Rena Duhl

Tomoko Sekikawa Robinson  
Jonathan & Norma Rodriguez  
Francois Rogers & Sonja Swenson-Rogers  
Julie Rogers & Rueben Flores  
Erin Roh  
Mr. & Mrs. John Romanowski  
Jason Rosado  
Robin Ross-Duggan & Nathan Pilon  
Waileia & Cade Roster  
Shannon Rumpf & Maelin Ibara  
The Ryckman Family  
Karl & Masuyo Sadanaga  
Dale & Russell Saiki  
Michelle L. Sajona  
Masashi & Yukari Sakai  
Francis Y. Sakamoto  
Mr. Ivan & Mrs. Rita Sakamoto  
Mr. Robert Sakuda  
Ryan & Jodie Sanada  
Ernest A. Sato  
Wesley & Rhonda Sato  
Mr. Kingsley Saturno  
Robin Scanlon  
John Schmeelk  
Carolyn Schnack & Cynthia Schnack Lee  
Sharon Schroeder  
Robert & Mai Ly Schultz  
Scialabba Family  
Mr. Gabe Scotti  
Mitch & Yumi Seavey  
Viji Shilhi Seibel & Jesse Seibel  
Tetine Sentell  
Mr. & Mrs. Joseph F. Seward  
Mrs. Maile Shea  
Phyllis N.T. Shea & Carolyn Hee  
Matthew & Sheri Shido  
Adam & Nikki Shinsato  
Mr. & Mrs. Norman Shishido  
Dick & Sharon Shlegeris  
Cheryl & Todd Shozuya  
Linda K. Sieling  
Allan & Beverly Silva  
Ruth Simmons  
Judy & Ted Simon  
Mrs. Sandra Simonds  
Lani & Paul Simonsen  
Dr. Arleene D. K. Skillman  
Andrea Smith  
Aston & Alice Smith  
J. David & Beverly Smith  
Patricia M. Smith  
Eduardo & Jessica Soboll  
Steven & Pamela Sofos  
Patrick Soma  
Wu Chul Song & Minjung Kim  
Andrea & Victor Stafford  
Laura Staley  
Gary Steele & Denise Mills  
Tammara & Christopher Stefanelli  
Mr. & Mrs. Lawrence J. Stenek  
Orlando & Michelle Stephenson  
Kyle Stevens  
Mei Hui & Gwen Strawn  
Ann & Kelsy Suen  
Alan Suetsugu  
Ben Suiso & Gail Tice  
Barry & Jennifer Sullivan  
Donna & Scott Sullivan  
Holly Sullivan & Marlene Chong  
June & John Sullivan  
Ms. Susan Sunderland  
Jay & Hyun Jung Sung  
Steven & Holly Sung  
Louann Suppa  
Victoria Sutton  
Mr. & Mrs. Marcus Suzuki  
Rachel Joy Soy  
Jeremy & Carrie Sylva  
Calvin & Elaine Tadaki  
Kathie Taitano  
Mr. & Mrs. Wayne I. Takabayashi  
Hitoshi & Kana Takahashi

Jennifer & Kevin Takahashi  
Dr. Ryan & Mrs. LuAnn Takamori  
June M. Takayama  
Lynn & Brian Takeuchi  
John & Alice Takizawa  
Chris Talbert  
Steven & Remee Tam  
Dave & Melissa Tamura  
Amy & Dennis Tanaka  
Jonelle Tanaka & Charlzetta Narvaez  
Lauralei & Jordon Tanaka  
Mr. & Mrs. Russell M. Tanaka  
KINH Tang & Amy Saiki  
Brian & Janice Taniguchi  
Guy & Delle Tanioka  
Mr. & Mrs. Chester K. Tatsumura  
Rian & Jennie Tatsutani  
Mike Taylor & Sarah Sarkis  
Charles & Cathy Temanaha  
Bryan & Alison Tepper  
Harry & Barbara Teruya  
Conrad Tesarek  
Dianne Thibeault  
Mr. & Mrs. John Thomas  
Ms. Elaine M. Thomas  
Mrs. Joann Thomas  
Pornchai & Shirlee Thompson  
Carl Thudium  
Barbara Tinebra  
Tammy H. Ting-Beach  
Mr. & Mrs. Steven T. Togami  
Mr. & Mrs. Tyler Tokioka  
Vance Tokumoto  
Vera & Korianne Tom  
Samuel & Kristy Tong  
Anthony Torio & Nekita Kennedy  
Marie Torreano  
Reggie & Tamar Torres  
Pat & Jen Tosaki  
Jennie Tran & Akban Kamaliam  
Craig & Karen Tsukiyama  
Brian & Junko Tsuzaki  
Loretta & San Fu Tuan  
Dr. Cynthia F. Tucker  
Chris Turner Family  
Dean & Nicole Uchimura  
James & Wendy Umino  
Mr. & Mrs. Joe & Aloma Uno  
Richard and Joan Ushijima  
Dwain & Angela Uyeda  
LiAnn Uyeda & Shannalei  
Allison-Tavares  
G. Wayne & Louisa Van Citters  
Mr. Alan Van Etten & Hon. Leslie Ann Hayashi  
Mr. Michael & Mrs. LeeAnn Van Woerkom  
Shari Vasconcellos & Flory Visoria  
Mr. Edward Vernon  
Ms. Denise Viesta  
Duane & Jacque Vilorio  
Mr. & Mrs. Scott Vuillemot  
Melinda Pratt Walker  
Drs. Robert & Dominique Wascher  
Gary, Pat, & Julie Ann Wassel  
Corine & Blaine Watanabe  
Mr. & Mrs. Kevin Watanabe  
Mr. & Mrs. Lance Watanabe  
Tia Waxman  
Christopher & Amie Welden  
Daniel & Lynnette West  
Nancy D. Westcott  
Grace Wheeler & Emily Vanderpool  
Adam & Rebecca White  
Debbie White  
Marsha L. White  
Tammy Whitten & Bryan Born  
Erik & Christina Wierschem  
Dave & Kristin Wietlisbach  
Bryan & Rita Wilcox  
Christina Willems  
Hiram Patrick & Brittany Williams  
Luke & Lauren Williams

Yuka Willis  
Mr. & Mrs. Scott Wilson  
Wendy Wiltse  
Renee & Kawai Winchester  
George & Nicole Wismer  
Mr. & Mrs. Kevin Won  
Denise & Lyle Wong  
Drs. Jeffrey & Rupa Wong  
Mr. & Mrs. Harry Wong  
Mr. Sharon Wong & Mrs. Juli Matsuzaki  
Mrs. Lena Wong  
Terri & Joe Wong  
Jenjira Yahirun & Carl Bergquist  
Davin Yamada  
Dr. & Mrs. Clayton & Liane Yamada  
Mr. Scott Yamada & Mrs. Lori Yamada  
Richard & Florence Yamada  
Brian & Sandi Yamagata  
Gay Yamagiwa & Michael Riger  
Bryce Yamamoto & Kelly Little  
Jennifer F. Yamamoto & Steven M. Yamamoto Jr.  
Kalani & Ashlee Yamamoto  
Ms. Lisa Yamamoto  
Robert & Blessing Yamamoto  
Mr. & Mrs. Earl Yamashita  
Drs. Deborah Yang & Andrew Perry  
Mrs. Julie & Mr. Andrew Yani  
Patrick & Charlotte Yee  
Joanna Yeh  
Mr. Calvin Yokoo & Mrs. Sylvia Koo  
Craig & Gayle Yonezawa  
Kenneth & Janice Yoshida  
Ryan & Mimi Yoshida  
Kari Ann & Nelson Yoshino  
David H. Yoshishige & Nadine Doi  
Joni S. Young  
Keola Young  
Lindsay Young  
Lockwood Young  
Melia Young & Norman Kato  
Mr. & Mrs. Young  
Stephen & Christy Young  
Jeong Hee Yu  
Mr. & Mrs. Jerry Zak  
Ms. Alison Zecha  
Jason Chen Zhao & Christine Chan Rodillas  
Derek & Tasheena Zickgraf  
Stan & Janet Zisk  
Caroline & Paul Zweng

*If your name is not listed or is listed incorrectly, please accept our apologies for the error and our most sincere thanks for your support.*



University of Hawai'i at Mānoa  
Waikiki Aquarium  
2777 Kalākaua Avenue  
Honolulu, HI 96815-4027

KILO I'A No. 190  
2014 JUL | AUG | SEP

NON-PROFIT ORG.  
U.S. POSTAGE PAID  
HONOLULU, HI  
PERMIT NO. 278



**THE WAIKĪKĪ AQUARIUM'S MISSION**

To inspire and promote understanding, appreciation and conservation of Pacific marine life.