

WHALE TALES

VOL. 4 ISSUE 1

NEWS FROM WHALE TRUST



News from
Meagan . . .
and Karyn

Dear Friends,

During these economically challenging times, we would like to thank you for your continuing support of Whale Trust, and the research and educational programs that are the cornerstone of our organization.

With your support, we have been able to continue the research programs that focus on behavior, social organization, and communication of humpback whales that we have detailed in prior newsletters. Due to the economics, we have rebalanced our research focus somewhat this year, in that we scaled back the field research, and focused more on analysis (p. 1) in order to bring the latest findings to publication. An example is Jim Darling's latest book "Hawaii's Humpbacks – Unveiling the Mysteries" just released earlier this year (p. 3). This book presents exactly what researchers have learned about Hawaii's humpback whales through decades of research in a reader friendly format, with amazing photographs by Flip Nicklin and enlightening illustrations by Sue Barnes.

Our educational programs continue growing as well. As promised, Whale Quest 2009 hosted by the Ritz-Carlton Kapalua was indeed another unforgettable weekend (p. 3). This year's presenters from around the world took audiences on a journey into the underwater world of whales, to the frontlines of research and the many conservation challenges facing whales and the oceans today. A special arts program was also included this year. This turnout was bigger than ever with an estimated attendance of around 6,700 people for the weekend-long event, which raised approximately \$60,000 for whale research in Maui.

Lastly, there are a few changes to our organization, as we continue to evolve and grow. I'd like to introduce one of Whale Trust's founding board members, Karyn Cochran, Ph.D., who has agreed to step in as Interim Director (to allow me time to write and finish my Ph.D. dissertation.) Karyn and her husband (Pat Cochran, M.D., also a founding board member) have recently relocated to Maui. Karyn brings a wealth of grant writing and administrative experience to Whale Trust and plans to focus on grant development and strategic planning for the organization. We are thrilled and appreciative that Karyn is willing and able to continue to help Whale Trust grow in sustainable directions.



Meagan Jones & Karyn Cochran

Research Update

Whale Trust has several ongoing research projects that focus on behavior, social organization, and communication of humpback whales, which we detailed in our last newsletter. The primary objective of these projects is to contribute to the understanding of natural behavior patterns in whales and provide critical insights into how living in a marine environment may impact mammalian biology. Here, we provide an update on the most recent studies, as well as provide more information as to what is done with all the data that is collected.

THE FUNCTION OF THE SONG

One of our on-going studies, led by Jim Darling, currently is testing the hypothesis that the song may function as an index of association between individual males. That is, the song may be a means for individual males to recognize how closely associated they are with other males, and may determine if

specific males cooperate or compete for females in the presence of estrus females. Studies to examine the validity of this hypothesis are the core of current work, and involve song playback experiments, investigation of the relationship of song similarity and geographic separation of singers, and analysis of male-male relationships on the breeding ground.

Much of the song research effort in 2009 was directed towards the second of the three aspects of this study – investigating if there is a relationship between the geographic distance separating singers and the similarity of the song. The expectation would be that the closer two whales are together the more similar the song. This is not nearly as simple as it may sound, as at this stage we have no idea of the scale that this

might work on, or of the specific metric or level of detail that should be the basis of the song comparison.

For the first step in this study we choose a large geographic distance between comparison points. Songs recorded in the Babuyan Islands in Northern Philippines, Ogasawara in Japan and in Hawaii at the same time were compared. The recordings were collected with the collaboration of researchers, Jo Marie Acabes in Philippines and Manami Yamaguchi in Japan. The Philippine and Japanese locations are about 1500 miles apart, with relatively common interchange of whales and each is about 5000 miles from Hawaii (with less interchange of whales). The



Researcher, Jim Darling, working off Maui.

hypothesis would predict that the songs of the closer locations would be more similar than the further location.

The recorded humpback whale songs are analyzed using bio-

acoustic software programs that create spectrographs (visual representations of the sounds), which allows the composition and patterns of individual songs to be described in themes, phrases and units. (Songs are composed of several single units of sound that are arranged in phrases that are repeated over and over as a theme, with each full song containing 4-6 different themes – see WT website.) So far, we have determined that songs from all three locations are all very, very similar at any large-scale comparison. That is the all three locations had all themes in common, although there may be some different in composition of phrases that make up some of the themes, or proportion of time spent in any one theme.

What does this mean? With this type and scale of comparison, it would seem the songs between all the locations are more similar than what might be expected at first glance. Many questions arise, not the least being how do the whales maintain this degree of similarity of the ever-changing song over thousands of miles? Probably more important to our specific study, it may point us in the direction of focusing more effort on song comparisons between two individual males interacting on one breeding ground, rather than a population level where there are few differences.

FEMALE MATING STRATEGIES

The mating strategies of female humpback whales are currently under investigation, led by Meagan Jones. It is this type of study that will ultimately



Meagan Jones, matching fluke photos to assess sighting and life history information of individual humpbacks photographed by Whale Trust.

move us forward in better understanding the mating system of humpbacks in Hawaii by delving into the social dynamics of males and females during the breeding season. The research is important because despite females being described as the lynchpin of reproduction, virtually nothing is known about female reproductive behavior.

Fieldwork consisted of ‘focal follows’ where individ-

ual females in different reproductive phases (female without calf versus female with calf) and with different companions (female with male, female with calf and male, female with calf only) were followed for defined periods. Their course, speed, behavior and all interactions with other whales were documented. Playback experiments were also conducted where the sounds of mating males were broadcast to females in different reproductive phases. The reactions of the females indicated their willingness to interact with males.

Identifying individuals is one fundamental component of this research, and is done by photographing the flukes, organizing them into a photo-catalogue and entering into a computer database. From this data, we can

learn vital information about populations and individuals, ranging from age, lifespan, reproductive histories, migration patterns, and population estimates to association patterns between individuals.

The most striking findings of the study to date are evidence of females exercising choice in selection of male partners, and how the presence (or absence) of a calf is important in determining how males and females interact during the breeding season.

In relation to ‘choice’, it has been shown in other mammals that females choose the male partner, but only speculated on for humpbacks. Our new research demonstrates that here is great range in how an individual female behaves when accompanied by a male during the breeding season. She may accept the male, or be completely intolerant of his presence. This suggests that females are not just passive as to their partners, exercising some level of choice of males.

Results also suggest that the presence (or absence) of a calf is important in determining how males and females interact during the breeding season. Females with newborn calves utilize more strategies to avoid (sometimes overly attentive) males and are less likely to tolerate a male companion than females without calves. In addition, when sounds produced by male humpbacks were played back to females, 90% of females with calves moved away from the sounds, while 62% of females without a calf remained neutral. And those that did move away did not move as far as those females with calves.

Thus, this research is beginning to shed light on how females behave specifically during the mating season.

DATA ANALYSIS AND PUBLICATION

In prior years, we have collected large amounts of raw data - at sea, under water, or in the air. It is perceived to be the ‘exciting’ part, close to the whales, and usually with the highest profile. However, most of the scientific insight comes during analysis of the data in a laboratory or office. This is where we organize and archive our thousands of photographs of individual whales, assess behavior that is captured on video, analyze the song acoustics, and assess geographic motion. It can be as exciting as the fieldwork at times, for it is during this part of the study when the breakthroughs (small and large) occur. Whale Trust is determined to give all three parts of any project equal weight, and we sincerely appreciate your support in this work.

How you can help Whale Trust

- **Make a Cash Donation:**
 - Paypal at www.whaletrust.org
 - Visa or Mastercard by calling us at 808-572-5700
 - Or mail your tax-deductible donation to:
Whale Trust, 300 Paani Place, Paia, HI 96779
(Whale Trust U.S. Fed. Tax ID Number 91-2144632)
- Buy Whale Trust books or give copies as gifts to your friends (order copies by contacting us)
- Purchase any Randy Puckett sculpture and 25% of the sale will go directly to Whale Trust (if donor directed). www.randypuckett.com
- **NEW OPPORTUNITY** Purchase a Douglas Hoffman print, and 50% of the profits from art sales goes to Whale Trust. www.douglasjhoffman.com/DH/Conservation/whale-trust.htm
- Recruit five friends to join the Whale Trust team (gifts of over \$1,000 receive a personalized and complementary gift)
- Host a fundraising reception with Flip, Jim and/or Meagan in your city
- Bid on the silent auction trip to Southeast Alaska with *National Geographic Society* (value \$12,980), all proceeds benefit Whale Trust
- Sign-up for the Whale Trust Charity Golf Tournament, to be held January 17, 2010 at King Kamehameha Golf Club. Contact us at 808-572-5700.
- Come and dine with us at one of our ‘benefit nights’ in Maui and a portion of your meal expense will be donated to Whale Trust. December 10, 2009 at Ruby’s Restaurant, Kahului, or January 19, 2010 at Flatbread Pizza, Paia.

LOOKING FOR AN UNUSUAL CHRISTMAS GIFT THAT MAKES A DIFFERENCE?

GIVE A TRIP OF A LIFETIME AND SUPPORT WHALE TRUST

Southeast Alaska with *National Geographic Expeditions*

Where can you wake to the cry of a soaring eagle, watch tons of ice thunder from the face of a glacier, walk in a spruce forest, and observe lunge-feeding whales, in complete comfort aboard a nimble cruise expedition ship? In Southeast Alaska — a land of fjords and islands teeming with wildlife.

National Geographic Expeditions has generously donated a cabin for two people from May 15 – 22, 2010, departing from Juneau, Alaska. Explore the magnificent Inside Passage of Alaska with an intimate number of guests in the company of *National Geographic* naturalists. Walk forest trails to cascading waterfalls, bird-watch, and identifying wildflowers as you go. During your Alaska tour, enjoy Zodiac and kayaking forays, whale watching, and learn about Alaska’s rich Native American heritage. A full day is spent in Glacier Bay National Park.

This trip is valued at \$12,980 (\$6,400 p/person)

Win this trip by submitting your bid by fax or e-mail to Whale Trust by 3:00 pm (EST) on December 20, 2009.

Minimum bid: \$7,000. (Bids can be raised by increments of \$500 or more.)
Winning bids over the value of the trip receive a tax-deductible donation from Whale Trust.

Education Update

Whale Quest Kapalua 2009 - a HUGE SUCCESS!

Whale Quest Kapalua was indeed another unforgettable event with a lineup of speakers from around the world.

This year's presenters took standing room only audiences on a journey into the underwater world of whales, to the frontlines of research and the many conservation challenges facing whales today.

As always, Whale Quest Kapalua had a little something for everyone, including free presentations by world renown researchers and cinematographers, a sold-out charity golf tournament, education and art expo featuring



Attendees at one of the live presentations, with incredible film footage and fascinating information presented by world-renown researchers.

artists and non-profits from around the world, a free educational program for Maui's schools, daily whale watches, and interactive educational activities for over 200 children led by Jean Michel Cousteau's Ambassadors of the Environment program.

The number of people attending Whale Quest continues to grow each year.

This year, Kapalua estimates that nearly 7,000 people participated in this weekend long event. Despite challenging economic times, Whale Quest Kapalua still raised approximately \$60,000 for whale research, bringing the total to nearly \$250,000 over the last four years.

The annual event benefits a number of local research organizations including Whale Trust, Center for Whale Studies, and Hawaii Whale Research Foundation, the Dolphin Institute, Hawaii Marine Mammal Consortium, and the Marine Mammal Institute at Oregon State University.



Children participating in the Ambassadors of the Environment /Whale Quest Kapalua program learn about whales.

Unfortunately, Kapalua is not able to go forward with hosting Whale Quest in 2010 due to the economic challenges facing them at the moment. We are obviously disappointed that we will not be able to go forward with this event, that has been so successful, and such a benefit for the community as well as the research groups.

We will be exploring different venues and opportunities for the future. In the meantime, a sincere thank you to all our supporters who have helped with the event over the last four years in so many ways.

Whale Trust and Whale Quest Kapalua Connect Students in Hawaii and Alaska

In addition to our ongoing outreach into Maui's schools, Whale Trust initiated a collaborative arts and education project to help connect schools from Hawaii and Alaska through humpback whales. Students participating in the project spent 5 months researching humpback whales, which included speakers from the scientific community coming to their classrooms, and sharing their learning experiences with each other through a blog sharing questions, comments, insights and observations of their own. The students gathered primary sources on whales in their communities, wrote reports, created plays, made DVD's of their experience, and created a traveling mural of whale art that was unveiled at Whale Quest. The mural will travel to Alaska in the spring to be shown at a variety of venues.

Whale Trust in the News

Hawaii's Humpbacks: Unveiling the Mysteries

by Jim Darling with Photographs by Flip Nicklin

and Artwork by Susan W. Barnes

It's impossible to be in Hawaii in winter and not see whales offshore.

They are everywhere! But what are they actually doing out there? This book – ideal for both novice and experienced whale watchers – answers all of your questions and tells you exactly what researchers know about the humpbacks that gather annually on the Hawaiian breeding grounds.

The reviews are already coming in:

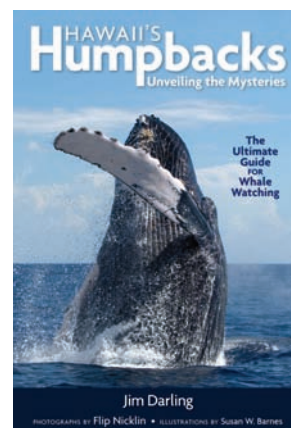
Hawaii's Humpbacks: Unveiling the Mysteries is indispensable for anyone with a sense of wonder about whales. It's a field guide, primer and fascinating read all in one. If you've ever wondered why whales sing, what researchers do, and where best to see humpbacks, this is a must-read.

— Chris Johns, Editor in Chief, *National Geographic Magazine*

Hawaii's Humpbacks - Unveiling the Mysteries is a splendid and colorful handbook about the creatures, which visit Hawaii every winter. Written by cetologist Jim Darling, photographed by National Geographic's Flip Nicklin and charmingly illustrated by Susan W. Barnes, the book is a handy guide - not to everything we know about humpbacks, but to everything we know so far about humpbacks.

— Burl Burlingame, *Honolulu Star Bulletin*

All profits from sales of this book will benefit Whale Trust's research programs. Now Available in Hawaii at Borders, Borders Express and Barnes and Noble, or buy directly through the Whale Trust website!



Still Blue

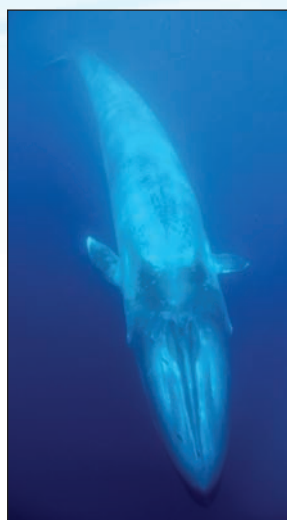
National Geographic Magazine, March 2009

The March issue of *National Geographic* featured an article by Ken Brower, with photographs by Flip Nicklin about blue whales. Off the shores of Costa Rica, scientists studied a stronghold of whales that once hovered near extinction. The photography is amazing, and the story about these giant creatures is outstanding.

Kingdom of the Blue Whale, March 8, 2009

National Geographic Channel, with film footage by Flip Nicklin

Blue whales are the largest animals to ever live on earth, yet they are



difficult to find or track. Even some of the locations where they birth their young are great secrets. This outstanding program allows you to join some of the world's eminent blue whale scientists as they embark on a revolutionary mission to identify and tag California blue whales as they migrate to a spot known as the Costa Rica Dome. This incredible voyage yields unforgettable new footage and insight into these amazing creatures' lives. DVD and Blu-Ray versions are available through *National Geographic*.

People Who Made A Difference In 2009

JORENE AND GUNARS VALKIRS

Whale Trust would like to express its sincere appreciation to Maui supporters JoRene and Gunars Valkirs, who held a special reception to support Whale Trust at their home in Kapalua. Approximately 100 guests were invited to share the blessing of their just completed, spectacular home, and were treated to a wonderful evening filled with great food and wine, friends, and wonderful conversation. In addition, the Valkirs have helped to make possible the publication of Whale Trust's latest book, "Hawaii's Humpbacks – Unveiling the Mysteries".



LIZ STAHL, THE ALASKA AND HAWAII STUDENTS AND SCHOOL STAFF VOLUNTEERS

Whale Trust would like to give special thanks to Whale Trust/Whale Quest Kapalua volunteer, Liz Stahl. Liz spent many, many hours working with the teachers and students to make this happen. Our thanks also to the teachers at Pomaika'i



Elementary, Donelle Bancaco, Krys Kawamura, Margaret Tobita, and Rae Takemoto on Maui who supported us with their enthusiasm and time to bring this project to fruition. A huge Mahalo to the students at both schools, Harborview Elementary in Alaska and Pomaika'i Elementary on Maui for the incredible job they did on the project. Thank you all!

SPECIAL THANKS TO THE FOLLOWING PEOPLE WHO CONTINUE TO MAKE A DIFFERENCE

Phylecia Platte for donating and hosting the 2009 Whale Quest Kapalua final reception and thank you party. **Mark and Jeri Robinson, Tad and Cindy Luckey, Doug and Kathy Gray, Barry and Irene McPhee** for ensuring that our boats (and trailers) have safe homes in the harbor and on land. **Tracey Harrap** for spending many hours carving and painting life-sized whale tails! Thank you to **Patty Hackney** for her ongoing support of Whale Trust in so many ways.

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*A portion or all of the donation was made to Whale Quest Kapalua.