



# "On Effort"

Newsletter  
January 1, 2012

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All members in The Dolphin Project are volunteers and receive no compensation for their services

## FROM THE HELM

Happy New Year Crew!

Hope y'all have had a wonderful Christmas or Hanukkah. It's been a busy 2011 for The Dolphin Project and 2012 looks to be the same. The new schedule for surveys and training is posted on the website and within this newsletter. The TDP 2012 calendar already has Education Outreach programs scheduled for schools and community events. Every year we add more events to our schedule. Check your schedules and sign up in advance for surveys and volunteer shifts for festivals.

We have a new Board of Directors for 2012. Officers will be chosen from and voted by the Board at our January meeting. Normally this is done prior to the start of the new year but the end of 2011 was a bit hectic with the international marine mammal convention, work and family obligations. Please welcome aboard: Don Bender, Donna Calendine, Karen Stack, Tara Cox, Krystal Goodwin, Frank Sitera, Cheryl Tilton, George Scuorzo, Gayla Jones and Peach Hubbard.

Speaking of the convention – I represented TDP in Tampa for the 19<sup>th</sup> International Biennial Conference on the Biology of Marine Mammals from November 27<sup>th</sup> to December 2<sup>nd</sup>. I took lots of notes – most of which I have been able to decipher! It was an intense, exhausting but fascinating experience. The acronyms alone can overwhelm a person! In this newsletter I have an overview of some of the topics presented as well as my notes on the Deep Horizon Oil "Spill" panel discussion. I think I missed the boat by not being a marine mammal scientist – so many exciting opportunities to work with animals and travel – but then again, chemistry was never my strong suit. All those young folks (and older ones) who have dedicated their lives to protecting our marine wildlife and environment deserve our admiration and gratitude.

Due to the information from the Convention, this is a lengthy newsletter but I think you'll find it interesting and worth the read. We have photos of 2011 TDP events but I didn't add them to this newsletter to keep the size suitable to send via email. However they will be added to this newsletter prior to posting it on our website.

I'd like to extend special thanks to Charlotte Keenoy who has served tirelessly for many years on our Board. She will continue to serve as the Adoption Chairperson and offer her comments and advice. She has been a valuable resource

# FROM THE HELM continued

for historical information about TDP due to longevity as an active member.

We're trying out a new format for our socials this year – instead of a full meal, we'll present our speakers with dessert. The socials will be held in Savannah at We hope more high school and college students as well as the general public will attend our socials to learn about the coastal environment and marine mammals. The socials will be held in Stewart Hall at the First Presbyterian Church. Details are on the website and in the newsletter.

Deepest gratitude to everyone who volunteered for surveys and education outreach events in 2011. We couldn't achieve our mission without you. You make The Dolphin Project a success!

We're looking forward to an exciting 2012 – with your help.

Peach

gadolphin@comcast.net

## TDP remembers a devoted Skipper...

The Dolphin Project extends sincere sympathy to Nancy Fetter and the family of Dr. Charles W. "Bill" Fetter who passed away at his summer home in Michigan after a brief battle with pancreatic cancer on September 10th. Bill was retired professor of Geology at the University of Oshkosh- Wisconsin. As one of our devoted skippers, we will surely miss him. On September 1st, Bill emailed me to say that he could no longer take part in TDP surveys but that volunteering for TDP research was one of his favorite activities on Hilton Head.

## 2012 SURVEYS

January 21  
February 11 - Dessert Social  
March 17  
April 21  
May 19 - Dessert Social  
June 23  
July 14  
August 11  
September 15 – Dessert Social  
October 13  
November 10 – Dessert Social

## 2012 TRAINING SCHEDULE

ATLANTA at REI  
March 3  
May 5  
July 28  
November 3

SAVANNAH at MEMORIAL HEALTH HOSPITAL  
January 14  
March 3  
May 5  
July 28  
November 3 Check website for directions

## 2.11.12 SOCIAL

Dessert service with begin at **7:00 pm in Stewart Hall**, First Presbyterian Church, Savannah Biologist **Kris Williams of the Caretta Project** will be our speaker at our dessert social after the February survey. She will speak about Georgia's sea turtles on Wassaw Island at 7:45.

A **\$5.00 donation** for desserts and beverages is appreciated.

Bring your friends and learn about our local seaturtles and updates on our dolphins.

First Presbyterian Church, 520 Washington Avenue, Savannah GA. Stewart Hall is located in Ardsley Park close to Rt. 204/Abercorn, Hwy 80, Interstates 16 & 516. Check the Church's website for directions: <http://savannahfpc.org/> Please **RSVP to Dolores** at [doloresdysonengle@att.net](mailto:doloresdysonengle@att.net) or 912-236-2790

# TDP APPRECIATES . . .

## The Dolphin Project has much to be thankful for in addition to our volunteers:

... Republic Services (recycling) for sponsoring our Education Outreach program. Republic prints our 'Georgia Wild Bottlenose Dolphin' activity books. We give them to teachers when we do dolphin programs in their classrooms so they can follow up our programs with quizzes and activities with their students. We also sell them at festivals and socials for \$5.00 each

... Gregg Cassel, SCAD student, for his documentary which features our local dolphins and The Dolphin Project. Portions of this film have been very beneficial in enhancing our training and education outreach programs.

... Rob Miller, SCAD sound professor, for remixing the sound tracks of Gregg's film to better serve our programs.

... Richmond Hill Historical Museum for hosting a TDP training workshop

... Memorial Health for hosting the Coastal training workshops

... REI for hosting the Atlanta based training workshops

... the Geechee Sail Club for their generous donation

... Kay Ingram and the Ingram Family Foundation for their generous gift which purchased our new Bottlenose dolphin skull replica which will be used for Education Outreach

... our speakers this year for taking their time to educate TDP members and friends... Robin Perrtree and Dr.

# THANK YOU to our Survey Crews . . .

Big hugs and sincere gratitude to **Herb Joe** – our survey coordinator – who tirelessly puts our crews together for our research surveys. **Thank you** to all who surveyed our dolphins in 2011 with extra thanks to our \*skippers:

Joyce Albrecht  
\*Dennis Bazemore  
Tracey Bazemore  
Maureen Bozovich  
Margaret Ann Brown  
Donnissa Busch  
\*Doug Busch  
\*Robert Calhoun  
Joni Chastain  
Barbara Conway  
Linda Copeland  
Amanda Coward  
\*Walt Coward  
Carole Crowe  
\*Richard Crowe  
Katie Elder

Dolores Engle  
\*CW 'Bill' Fetter  
Deborah Fields  
Rosemary Gillet  
Anne Gilliam  
Raymond Gilliam  
\*Ron Goldfarb  
Krystal Goodwin  
Steve Graham  
Carol Hartley  
Marissa Hoppe  
\*Peach Hubbard  
\*Roy Hubbard  
Sandra Hudson  
Jackie Huffman  
Herb Joe

Karla Johnson  
Gayla Jones  
Charlotte Keenoy  
Joanne Long  
Connie Marcy  
Pat McGuire  
Janet Miller  
\*Barry Moore  
Carole Moore  
Barbara Moorehead  
Ellen Maureen Morales  
Lori Muskat  
John Neiman  
Sallie Neiman  
Don Nelson  
\*Joe Olive

## **THANK YOU to our Survey Crews *continued* . . .**

Katie Olive  
Mary Lee Pennington  
\*Joe Powers  
Carolyn Rasche  
Katy Rasche  
Richard Rasche  
Teffany Ann Reaves  
Christie Reed  
\*Kenneth Rombouts

George Scurzo  
Joanne Schulte  
\*Frank Sitera  
\*Shawn Smith  
\*Vince Sowerby  
Lisa Sowerby  
Michael Tiemeyer  
Robert Visconti  
Lindsay Brooke West

Blake Wiggins  
Sandy Workman  
Tom Workman  
Amanda Wyatt  
Cheryl Yeoman  
Ann Yukna  
\*Andrew Zeigler  
Clare Zeigler

## **EDUCATION OUTREACH . . .**

Deep appreciation to all of you who volunteered for Education Outreach programs and special events. Big hugs to **Cheryl Tilton, Don Bender, Gayla Jones, Peach and Roy Hubbard** for their continual dedication. The following are 2011 events and lectures hosted by TDP...

**May Howard Math & Science Night (Sav)**  
**Woodbine Crawfish Festival**  
**Tybee Seafood Festival**  
**Bahia Blue Boat Show (Sav)**  
**Geechee Sail Club, (Sav)**  
**Savannah Earth Day**  
**Sun City Boat & RV Club**  
**Brookwood High School, Snellville GA**  
**Sunrise Rotary, First City Club (Sav)**  
**Earth Day Kid's Fest in Roswell GA**  
**Blessed Sacrament Enviro-Group (Sav)**  
**Richmond Hill Middle School Career Day**  
**St. James Catholic School (Sav)**  
**"Dolphin Tale" movie promotion (Atl, Sav, Pooler)**  
**AASU Volunteer Fair**  
**Atlanta Friends School**  
**Georgia Envirothon, Tybee Is.**  
**DNR Beach Week, Tybee Is.**  
**Johnson High School, (Sav)**  
**Philanthropic Educational Organization, Landings Chapter**  
**Atlanta Sail & Power Squadron**  
**Richmond Hill High School**  
**Skidaway Institute of Oceanography Science Day**  
**Charles Ellis Montessori Academy (Sav)**  
**Bluffton Art & Seafood Festival (SC)**  
**Callawassie Island Ecology Club (SC)**  
**AASU Anthropology Club**  
**Sun City Fish & Hunt Club**  
**Richmond Hill Christmas Stroll**  
**Fellowship Christian School (Atl)**  
**Savannah Ocean Exchange**

### **EDU OUTREACH VOLUNTEERS**

Archie Andrews  
Lola Barker  
Nikki Ballentine  
Don Bender  
Donna Callendine  
Stacy Diehl  
Reed Engle  
Nancy Geller  
Carol Hartley  
Peach Hubbard  
Roy Hubbard  
Gayla Jones  
Caleb Jordan  
Gina Jordan  
Augusta Livingston  
Bob Livingston  
Connie Marcy and son  
Joanne McMenamin  
Barry Moore  
Carole Moore  
Lori Muskat  
Rose Padgett  
Linda Porras  
Maria Porras  
Kirby Pruett  
Debbie Rauers  
Michelle Riley  
George Scurzo  
Karen Stack  
Tom Stack  
Cheryl Tilton  
Tom Workman

**The 19<sup>th</sup> International Biennial Conference on the Biology of Marine Mammals** was held in Tampa FL from November 27<sup>th</sup> to December 2<sup>nd</sup>. It was attended by 1,988 Marine Mammal experts from all over the world -plus me! This is the first time that The Dolphin Project attended this event. Every other year it takes place in a different location around the world. Two years ago it was held in Montreal. Future conferences are being planned for New Zealand and Western North America.

Over the weekend, workshops were held. Sunday night a reception was hosted at the Tampa Aquarium. On Monday, plenary speakers gave talks throughout the day with an evening of videos. Four 15-minute talks by international researchers were held simultaneously and continuously in 4 ballrooms from Tuesday through Friday. Running between ballrooms A, C, D, B, A, D, etc. for my chosen lectures was a challenge! (All the acronyms were also challenging! I could fill pages with them but promise not to inflict them on you.) At the same time as the lectures, poster presentations were held in a conference room with the authors explaining their projects.

Awards were given for these research talks and projects at the end of the Conference. I was able to renew alliances for TDP and clarify some issues relating to our residential dolphins. Overall it was a fabulous and educational experience.

Congratulations to our friend Dr. Tara Cox of Savannah State University who coordinated all of the science programs at the conference—while teaching at SSU and caring for 2 small children!!!! She's a super-woman!

One of our skippers, Shawn Smith was a volunteer at the Conference and is currently a student of Tara's at SSU. TDP member Marilyn Sobowick joined the conference on Tuesday and we drove home together on Saturday via the Clearwater Aquarium so we could meet 'Winter' – the star of "Dolphin Tale". More on our visit later.

## CONFERENCE HIGHLIGHTS...

**Some of the notes I took at the Conference follow here. My comments are *in italics (Pch)*.** If you would like details on any of these reports, contact me at [gadolphin@comcast.net](mailto:gadolphin@comcast.net). In the subject line type: Marine Mammal Conference. I can send you a synopsis from the Book of Abstracts or the email contact of the author.

New marine mammal species are still being discovered - like the Mexican spinner dolphins which have a backwards dorsal fin, abdominal (ventral) lump and turned up fluke tips.

Dolphin free tuna.... In the 1960's, an estimated ¼ to ½ million dolphins died every year in tuna nets. The boycott ended the deaths to where an estimated 1000 dolphin per year now die. However the population is not recovering.

The Caribbean Monk Seal is officially now extinct.

Resident Killer Whales eat fish. Migratory/transient Killer Whales eat mammals.

85% of the seafood we eat is imported into the United States. *(Pch) Support your local fisherman! Buy American!*

HAB's (Harmful Algae Blooms – 'Red Tide') are on the rise globally. *(Pch) HAB's are expected to arrive in Georgia - no time frame given.*

*(Pch) I attended several lectures on critically endangered marine mammal species throughout the world:*

Elephants and sea cows are expected to become extinct. They are worth more dead than alive to the local populations.

The Steller Sea Cow became extinct in the 18<sup>th</sup> century. It was the largest sea cow in the world, dwarfed only by whales.

Several species of marine mammals, particularly in undeveloped, third world countries are expected to become extinct in the near future because resources to protect them are limited, they are accessible, live long but are slow to breed, and are good to eat. Sirenias are the most at risk. This species includes manatees and dulongs. The West Indian Manatee, Amazonian Manatee and Dulong are critically endangered with the West African Manatee expected to disappear very soon.

*(Pch) The new technology of graphics and animation is now being used by marine scientists. I attended a lecture which featured the diving characteristics of whales through animation. Data was processed by computer and transferred into animation which even showed the fin strokes of the whales as they dove deep for prey. This research determined the energy levels used by whales to dive deep vs shallow. It was awesome!*

Poop from free-ranging whales can determine stress values. Poop is collected from whales in the wild and tested for cortisol and hormone levels. For example whale poop was able to identify females nursing their first calves, a resting female critically injured by a ship strike and an immature animal with substantial infections. This research crew has a black lab that stands on the bow of the boat and alerts the crew when the whale poop floats to the surface so it can be gathered for collection!!!

The advancements in the strength of rope has greatly impacted the threat to the endangered Right whale. Before the 1950's, manila rope was used in the shipping and fishing industries. From the 50's to the 90's polypropylene was used. From the mid 90's to present, polysteel is the norm with a typical  $\frac{3}{4}$  inch diameter. Adult whales are inclined to break free or disentangle themselves from the lower breaking strength ropes with minimal damage. Calves and juveniles are less able to break free even from lower strength ropes resulting in life threatening situations. *(Pch) The researcher suggested that reducing rope breaking strengths for fishing should be considered to reduce entanglements. This is wishful thinking by the researcher. Fishermen are going to use rope that lasts long to reduce costs. Money is the bottom line.*

Studies were conducted to determine the lethal outcome of injuries to free whales based on available reports collected along the east and west coasts of the US and adjacent Canadian Maritimes from 2004-2008. Entanglement events involving constricting wraps of line/rope were fatal 99% of the time. 83% of whales struck by vessels 65 ft. or more in length and traveling more than 10 knots resulted in the whales' deteriorating health and likely death.

Collisions with ships are the greatest threat to North Atlantic right whale. Speed is a factor is ship strike injuries/deaths of whales. Vessels greater than 65 feet in length are required to keep the speed at 10 knots in the seasonal management area. Foreign ships have a higher number of violations than domestic.

Ship noise causes chronic stress in Right whales. The low frequency of ship motors travels long distances – overlapping the echolocation communication low frequency of Right whales. The noise stressors depress immune systems, reduce growth and reproduction. Similarly snowmobile noise stresses elk and wolves.

95-97% of world commerce is on ships. For dolphins, sound is their life. They live in an acoustic habitat. Right whales have lost 65% of their communication space due to the increase in ship traffic on the Eastern seaboard.

An international effort is underway to reduce underwater noise caused by ships through propeller cavitation – the largest noise from ships. Current propeller design results in wasted energy and reduces fuel consumption. The International Maritime Organization is promoting new hull and propeller designs to reduce the noise levels.

Dr Eric Montie (speaker at our October social) gave a presentation on live CT imaging of sound reception anatomy and hearing measurement in the pygmy killer whale. Exposure to PCB's during development result in hearing loss. *(Pch) PCB's also affect dolphins and all other marine mammals. Marine mammals need their hearing to survive.*

A study by Leslie Hart Burdett (NOAA) with credit to The Dolphin Project, compared skin lesions of Bottlenose dolphins in Brunswick/Sapelo to those in Charleston and Sarasota. There are 10 types of skin lesions in Georgia – far more than the other locations. One type of lesion is found only in Georgia – a vesicular dark-fringed bump. Lesions are indicators of disease pathogen exposures, emergence and distribution. *(Pch) We need to be alert during our surveys for dolphin skin lesions. In early 2011, a TDP survey boat spotted a dolphin covered in 'bumps'. I sent the photos to all of our science alliances. No one could identify the lesions. So we don't know if this condition is contagious or lethal. Scary stuff!*

Many of the bacterial pathogens in the Brunswick/Sapelo Bottlenose dolphins are human pathogens.

## Some excerpts from **MOVIE NIGHT . . .**

Rescue of Valentina: <http://www.youtube.com/watch?v=EBYPlcSD490>.

*(Pch) If you haven't already seen this video of the rescue of a young whale, I encourage you to do so. Michael Fishback presented his video on movie night and explained that he broke all the rules by getting in the water with the whale but as you will see, the end justified the extreme measures.*

A movie was also shown about a pod of Orcas killing a Brutus whale. The Orcas would bite the flukes and fins of the whale. An attack of Orcas could go on for hours and hours. Male Orcas were not in the attack, it was the females doing all the work while the males were nearby. Orcas would take turns pushing the whale down under the water and covering the blowhole so it couldn't breathe. Once dead, the Orcas feast on the tongue. This is not the same movie but it is similar: <http://www.youtube.com/watch?v=cjQddAAjk9M>

One of the movies was about Beluga whales in Russia's White Sea. Remote control boats and airplanes were used to survey the whales.

During a 30 year study of Humpback whales in Prince William Sound, Alaska, it was determined that male-female relationships are strong when females are reproductive. Females prefer younger males; older males have saggy, droopy tails. Females prefer female companionship when females are older. *(Pch) sound familiar? LOL!*

Data can be retrieved from ear wax plugs of Blue whales. DDT, cholesterol and lipid levels can be determined from ear wax!

On March 4 2011, 7.5 pounds of C-4 explosives was exploded 1500 feet from shore at a 4 foot depth in San Diego. A pod of dolphins were seen swimming toward the site just prior to the explosion. Three dolphins died immediately – a lactating female, 10 month old calf and a 24 month old male. The dolphins were approximately 700 feet from the charge. Cause of death was acute air embolism with myocardial infarction. *(Pch) The details of the blast damage to the dolphins was explained. It wasn't pretty.*

The impacts of dolphin feeding by humans on dolphin calf mortality: In Shark Bay Australia Bottlenose dolphins are allowed to be fed by humans at the shoreline under the supervision of the government. Bottlenose dolphin calves typically nurse for 3-8 years. Calves born to hand-fed mothers have reduced maternal care and a high mortality rate. Calves did not get the normal rest or mother's milk due to the human interference. Question – Is this educational? *(Pch) I can't see how this is educational to the public especially if it is un-natural dolphin behavior and the public is contributing to the mortality rate of calves in particular. It seems to me it's all about the money. Same old story- swim with dolphin venues and captive dolphin circuses – all about the money*

Whale watching tours in Ireland disrupt the natural foraging of the Minke whales. The tours have long-term negative effects on the survival and reproduction of these whales. In another study of dolphin tours in Namibia, the dolphin population was decreasing. There is only one bay where dolphins congregate to forage. This bay also has 8 tour companies with 28 boats. Scientists have suggested that a protected area be set aside, but so far there is no legislation to mandate this. *(Pch) I've witnessed SC and GA dolphin tours which inhibit the natural behaviors of our local dolphins. They ignore the MMPA and need to be stopped.*

A study was done in Sarasota regarding the begging of dolphins and human interaction. The dolphins were fed from boats by the public with human snacks, chicken, fruit and beer. Most of the people were local and knew that feeding dolphins was illegal. Dolphins do not forage when boat people are feeding them. Boat rental businesses voluntarily added "Do not Feed Dolphin" tags to the boat keys. And yet one photo showed people in such a rental boat feeding dolphins – the tag on the boat key was clearly visible in the photo. Enforcement by patrol boats was the best deterrent. But lack of funds prevents adequate patrols. Education remains the key to informing the public about the law and the feeding consequences for the dolphins. *(Pch) The Dolphin Project remains committed to its Education Outreach program. I firmly believe our program has an impact in the protection of our dolphins. Our multi-media presentation impresses people of all ages on the reasons why and importance of preserving these amazing animals and our shared environment.*

In Sharks Bay Australia, Bottlenose dolphins use conical shaped sponges to protect their rostrums while foraging in coral. This behavior is taught by mothers to their young. However it seems that females of all ages are primarily the ones that use this feeding strategy. The sponging technique is difficult. It involves deep diving, picking out an appropriate sponge, removing it, applying it to their rostrums, etc. Since male and female calves did not differ in time spent with their mothers or in dive duration capabilities, it is suggested that sex-biased copying is the primary proximate cause for the sex difference. Male dolphins bond with a buddy at a young age and bond for life. The social and ecological limits of sponging most likely interfere with the male alliance formation. *(Pch) Mother dolphins are the teachers. I have witnessed a mother teaching her calf how to forage using the mudding technique. It would be interesting to know how many of our mudding dolphins are females vs males.*

“Dolphins, like humans, elephants and apes demonstrate Mirrored Self Recognition (MSR). MSR first emerges in children at the age of 18-24 months and in chimpanzees between 2.5 and 4.5 years. A study was conducted with nine Bottlenose dolphins, the youngest being 14 months, at the Baltimore Aquarium to determine the age of onset of self-directed behavior and MSR. Dolphins are precocious at birth and exceed humans and apes in motor skills and coordination.” [Diana Reiss] The dolphins (in the study) exhibit advanced cognition at the age of 14 months. *(Pch) The video of the dolphin checking itself out in the one-way mirror was delightful. It was as if it was making faces, playing peek-a-boo, etc. Further studies need to be conducted to determine if younger dolphins might also show advanced cognition. It's always been my personal opinion that Bottlenose dolphins are smarter than we are.*

Water conducts heat from the body 25 times faster than air. Dolphin body temperature is typically 37C/91F. Dolphins develop a thicker blubber layer in winter to weather the colder water temperatures. The dorsal fin temperature is comparable to water temperature. The dorsal fin has a central artery and superficial veins. The dorsal fin is a dynamic thermal window. El Nino affects the ocean temperature and availability of prey. Overall health of marine mammals involves complex interactions and environmental factors

It has been determined that Bottlenose dolphins in the Little Bahama Bank have distinct calving seasonality due to the hurricanes and cyclones. Dolphins are apparently forced into deeper water due to the weather and wave conditions making them more vulnerable to shark attacks. There is a higher risk of injury and mortality during and right after these storms. Raising a calf during the hurricane season is a disadvantage due to shark predation so most of the calves in this area are born during the winter.

Contrary to popular belief, single dolphins CAN be successfully released back to the wild. A single dolphin, (rather than a group of dolphins) can integrate into the population and survive.

Signature whistles determine social recognition for Bottlenose dolphins. Dolphins are able to recognize each other's whistles even after separations of 15 years or more. This implicates impressive signal memory and strong social bonds. Potential benefits: antagonist avoidance, alliance formations, mate identification, inbreeding avoidance.

Dolphin calves form their own signature whistles by the age of two. From birth they listen to their mother's whistle and other dolphins around them. The young males tend to imitate or choose something similar to their mother's whistle. Since males don't stay with their mothers very long, this isn't a conflict. Females stay with their mothers several years longer than males. Having a signature whistle similar to mom would be a problem. Female calves tend to combine whistle sounds of other dolphin whistles, developing a unique whistle of their own.

Vocalizations vary during pectoral fin contact in Bottlenose dolphins. Initiators of the contact whistled more frequently; receivers of the rubbing and fin touching produced click trains and blended vocalizations more frequently. Males were generally more vocal. Results of the study suggest that whistles may be used to request or initiate contact or show preference for a particular partner while click trains could be used to show disinterest or to end contact. These vocalizations in conjunction with body contact could be useful for analyzing social alliances.

Bottlenose dolphins vocalize for distinct purposes: whistles are Identification signatures; squawks relate to emotion; whistle plus burst pulse sounds are used for distress, excitement, protest or social isolation.

Whistle emission rate varies with the presence of engine noise in calving Bottlenose dolphin groups in Panama. Whistle rate increases with a boat presence as strategy to avoid drowning out mother-calf communication. Groups with calves increase whistles with two boats are present but lower signals when three or more boats are present. They don't bother trying to communicate when the boats make too much noise.

At the Dolphin Research Center, a Bottlenose dolphin (1) was trained to imitate another dolphin (2). Dolphin #1 was then blindfolded and dolphin #2 made the movements again. Dolphin #1 was able to duplicate the movements of #2. The first dolphin was then instructed to imitate the movements of humans and other dolphins in the water. The first dolphin was blindfolded again. The humans and other dolphins recreated their movements and dolphin #1 while blindfolded was able to imitate the others.. The first dolphin was able to use sound (either passive listening or echolocation) to recognize the motor actions in order to recognize them. Blindfolded echolocation significantly increased when imitating the human compared to the other dolphins. this study suggests that dolphins recognized behaviors based on their sounds when possible but switched to echolocation when imitating the unusual behaviors of humans.

*(Pch) it was interesting and sometimes comical to see how some of the researchers retrieved their data. Marine mammals had suction cups attached to their eyes and ears... headphones on seals! Dolphins wore backpacks and jackets embedded with electronics. None of these attachments affected the animals.*

*In some cases researches based all their behavior data on captive dolphins in aquariums. Studies were done on caloric intake and mating behaviors among other activities. I question whether these dolphins know how to BE dolphins, thereby altering the data. For example, I would think that the caloric intake of a wild dolphin would be different from a captive one. I realize it is more difficult and more expensive to study dolphins in the wild but to get accurate data, it seems to me that for behavior studies, that's the way they should be done.*

## Deep Horizon Oil 'Spill'

**An overview of my notes on the panel discussion on the DEEPWATER HORIZON OIL 'SPILL' follows here:**

The BP oil disaster happened on April 20, 2010 in the Gulf of Mexico affecting the coasts of Alabama, Mississippi, Louisiana and Florida.

Just a few acronyms: Deepwater Horizon Oil Spill = DHOS Exxon Valdez Oil 'Spill' = EVOS  
NOAA = National Oceanic & Atmospheric Administration NRDA = National Resource Damage Assessment BSE= bay, sound, estuary

*(Pch) Initially I must say that the term 'spill' is ridiculous. That word makes this disaster sound like someone spilled their coffee. The government needs to call it like it is.*

The panel consisted of: Dr. Charles 'Pete' Peterson [UNC-Chapel Hill], Dr. Tim Regan [Director of the US Marine Mammal Commission], Tom Brosnan [ NOAA's NRDA], Dr. Teri Rowles [NOAA Fisheries], Dr. Lori Schwacke [NOAA] with Dr. Andy Reed [Duke University] as panel chair.

Pete Peterson referenced the findings from EVOS which he refers to as the 'Old Dogma'.

OLD DOGMA: smart animals would avoid the oil

**WRONG!** – no matter the intelligence, animals on land and sea will stay in their environment- their home territory- since they don't understand the danger.

OLD DOGMA: only real concern is for fur animals. The oil would cause loss of insulation because it would stick to fur.

**WRONG!** – animals breathe in and ingest oil. River otters and oystercatchers up stream fed oil-covered mussels to their young, affecting population abundance. The oil resulted in food shortages for all wildlife. There was a 20% mortality rate for Orcas in Alaska after EVOS. Transient populations disappeared for the next several years. The sea otter population also decreased.

OLD DOGMA: there would be rapid weathering of oil and plants would regenerate.

**WRONG!** – weathered oil becomes highly toxic and stays indefinitely. Oil goes deep into habitats affecting microscopic life forms. Animals that dig for their food were at high risk. 2001 retesting in Alaska found that subsurface oil ranged from light to heavy. Seals, otters and sea ducks dig into soil for prey. Many succumbed to acute LC50 narcosis. Deformities were up for all wildlife in the area. Growth rates declined and reproduction rates plummeted. Hydrocarbons were detected in fish membranes. Toxicity of oil and disbursements (including smothering and fouling) have long term effects.

NOAA's NRDA determines what – if anything – needs to be done and will be done to save wildlife and the environment from oil damage. Their goal is to a) compensate the public, b) do pre-assessment, c) restoration planning, d) restoration implementation.

For more information go to:

<http://deepwaterhorizon.noaa.gov> or [www.gulfspillrestoration.noaa.gov](http://www.gulfspillrestoration.noaa.gov)

There are many species of marine mammals in the Gulf: 21 cetacean species in 58 stocks... Sperm & Brydes Whales, several species of dolphins, otters, etc. Their habitats consist of oceanic, continental shelf, coastal and bay/sound/estuary (BSE). The problems for these animals post-DHOS consists of bronchial, dermal, endocrine, hematological, gastro-intestinal, immunological and reproductive. In the spring of 2011 there was a very high death rate for newborn (neonates) and aborted Bottlenose dolphins. Necropsies showed they had oil in their systems. Bottlenose dolphins continue to die in the Gulf every day at a much higher rate than normal. Capture-release studies have been done in Louisiana with control capture-release in Sarasota for comparison. It was no surprise to find that Louisiana's dolphins are not healthy.

Those working with BP have to sign a gag-order/non-disclosure. The properties of BP oil are known but not the percentages. (secret formula?)

89% of the marine mammals that have died in the Gulf as a result of DHOS were Dolphins. From January to April 2011, 40% of the stranded Bottlenose dolphins that stranded were premature or prenatal. The highest number of strandings is in Louisiana.

There is chromium and nickel in crude oil. Sperm whales and Bryde's whales in the Gulf of Mexico post-DHOS were tested for toxicity. Chromium and nickel were found in the skin of these whales. These tissue samples were above the global mean.

Veterinarians from around the U.S. and the world responded to the Gulf crisis. They were turned back because they were not licensed in the states affected by the oil disaster! This will change for future events.

One idea is to add nutrients to dead zones...ie: fertilize....transport sargassum (seaweed) to dead zones.

No one has any idea of the long-term effects of the oil or the disbursements. The disbursements are as damaging as the oil. The marsh is totally different from the rocky shores of Alaska. The Exxon Valdez oil is still in the soil under the rocks in Alaska. Oil won't kill rocks but it will destroy fragile marsh and all the life within it.

The area from Apalachicola Florida (southern tip of the FL panhandle) to DeSoto Canyon (the continental shelf in the Gulf) is still considered pristine and must be preserved to provide marine reserves that will reduce stressors for marine animals. Who will do this?

Aerial surveys were conducted in May and August 2011. Dolphins were sighted covered in oil.

Ten points for consideration:

- 1) Responsibility ... industry , regulators, oversight agencies, others,
- 2) Service and coordination... lives were disrupted
- 3) Prevention
- 4) Pre-spill information
- 5) Baseline info ... Didn't we learn a lesson from Exxon Valdez?
- 6) Decision making ... Conflicts of Interest, Control of Resources
- 7) Expertise ... Do we have it? Did we use it?
- 8) Limiting Factors ... Science vs Infrastructure
- 9) Restoration ... What does it mean for marine mammals?
- 10) Truth ... Science vs Law vs Politics

After the panel discussion I asked Dr. Teri Rowles (NOAA) about the effects on the marsh since that would be a big concern for us in Georgia and South Carolina if an oil disaster ever occurred here. The marsh wasn't her expertise but she did say that some areas will not be cleaned because the clean-up process would cause more damage than leaving it alone. NOAA is still working on relocating (hazing) birds from affected marshes.

Obviously there are more questions than answers when it comes to DHOS.

I have my own conclusion about the Deepwater Horizon Oil DISASTER. I add my take from the discussion to what was broadcast in the media at the time of the 'disaster' - what was said and what wasn't—and the truth came out after the fact. From past history, it seems we don't learn our lessons, especially those in government where the environment is concerned. Will they learn any lessons from this last oil disaster? Will they listen to the experts –the scientists? I know from personal experience it's a rare event in the state of Georgia when the experts are consulted where the coastal environment is concerned. Will politics get in the way of protecting the environment again next time or will they listen to the experts? Governor Jindal of Louisiana was forced by US politicians to delay Louisiana's response to the disaster. Local people, governments, scientists and experts should have priority in handling disasters in their backyards. The US government must enforce their regulations for oil companies. Oil drilling can be safe and beneficial to the marine environment if it is done responsibly and strictly regulated. Both the US government and BP shamefully failed. I believe that we the people have a voice and must demand that policy be implemented NOW before another disaster takes place. NOAA's marine scientists believe this too and are working on it. But funding has been cut from NOAA so it's working with one hand tied behind its back. The damage to the Gulf, the marshes, the wildlife – from the phytoplankton to the largest whales - and the people who live there will continue for generations.