

The Dolphin Gazette

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From the Dolphin Communication Project

www.dolphincommunicationproject.org
P.O. Box 711, Old Mystic, CT 06372-0711

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A Note From Kathleen:

Happy Autumn! In Connecticut, we are finally experiencing the cooler temperatures of the season. I'd prefer to keep the warmer weather, but we now enter the time of year when data analyses take priority. We have so much packed into this issue of the *Gazette*, you are sure to enjoy each & every page! The most exciting event is the revision of the DCP web site. Justin Gregg is to be commended on his redesign, which now truly represents an online community. You can join the web site & receive the latest news just by logging in to our home page, or the DCP/Dolphin News page. You can create your own biography & chat with other members online. We have lots of new items at the DCP store, which feature our new logo as well. All proceeds continue to support our research & education programs. We have our regular features & will continue to offer the *Gazette* quarterly. You can sign up at the web site to receive the newsletter electronically & help us keep costs down, as well as conserve paper. This issue also includes the last two updates from this year's field seasons: Bimini & Roatan. Also, we have added two new ecotour sessions. You will find more details in the *Gazette*, as well as on the DCP web site ecotour pages.

We are proud to have several students completing their graduate degrees in collaboration with DCP. Three of these students will attend an international conference & present their work - their abstracts are featured in this issue of the *Gazette*. With our younger students, we outline details for the next DCPYP & DCPDRT classes. Also, Umi contributes a few Haiku for light reading.

As you read through the Gazette & our web site, you will notice that DCP is once again an independent organization, which will continue to pursue its mission of research, science & education. Thank you for your continued support! Enjoy.

Cheers,
Kathleen

Director, DCP

New things are happening at our Web site!

www.dolphincommunicationproject.org

The Dolphin Communication Project has launched a brand new website! Our website facelift introduces a user-friendly menu, new dolphin merchandise at our brand new storefront, videos & image galleries, RSS news feeds, a guestbook, updated research & ecotour information & much more! Aside from a fresh new look, the website also has some amazing new community features. Once registered as a DCP community member, you will gain access to these features, which include:

- * A forum where you can discuss all things dolphin
- * A live chat function - chat in real time with other members currently online
- * Newsletter access - subscribe to the DCP newsletter: the *Dolphin Gazette*
- * Profile Management - create your own image and edit your details so other members can learn more about you
- * Send private messages to other members
- * An image gallery - upload a few of your own images in your own gallery
- * Create connections with other members



Cape Town, South Africa ... or Bust!

DCP researchers Kathleen Dudzinski, Justin Gregg, Kelly Melillo, and Kristy Beard will travel to Cape Town, South Africa in November to present their research at the 17th Biennial Conference on the Biology of Marine Mammals. The conference is 5 days long and features the latest information and research on all marine mammals and all related topics. It is an international conference and DCP is well represented this year. For details on the specific research projects, visit our website at www.dolphincommunicationproject.org and check out the ongoing projects section. The four abstracts that will be presented at the conference are:

Flipper's flipper - a comparison of how, where, and why spotted and bottlenose dolphins from two locations use their pectoral fins to exchange contact

Kathleen M. Dudzinski^{1,2}, Stan Kuczaj², Christine A. Ribic³

¹Dolphin Communication Project, Old Mystic, CT 06372-0711; ²Psychology, University of Southern Mississippi, Hattiesburg, MS 39406; ³USGS Wisconsin Cooperative Wildlife Research Unit, Dept. Wildlife Ecology, Univ. Wisconsin, Madison, WI 53706.

Tactile behavior is an important part of dolphin social life, functioning in stress reduction, discipline, bond maintenance, and signaling. Individuals from two groups of resident dolphins were observed under water at two locations: on the Little Bahamas Bank, The Bahamas (*Stenella frontalis*) and around Mikura Island, Japan (*Tursiops aduncus*). Data were collected from 1992-1995, 1997, and 2000-2002 in The Bahamas and from 1997 - 2004 at Mikura Island and were recorded with a mobile video/acoustic system that permits synchronous recording of individual dolphins under water. An event sampling protocol was applied to video data analyses with each tactile exchange involving at least one dolphin pectoral fin as the identified unit of interest; both initiator and receiver during each exchange were documented. Adjusting for effort, dolphins around Mikura (58.4 CNT/hr) seem to use more contacts those in the Bahamas (33.7 CNT/hr); at both sites dolphins use more rubs than touches. Also at both sites, rubs and touches were most common on the body, rubs were more likely when multiple body parts were involved, and more touches were used when only fins were involved in contact. Around Mikura, more touches were given during travel activities while more rubs were given during social activity. Sub-adults and adults and juvenile spotted dolphins in the Bahamas engaged in flipper contact more than other social groups. Differences in flipper versus body rubbing might be explained by social uses versus habit effect: dolphins in the Bahamas are often observed rubbing their bodies in the sand whereas the rocky substrate around Mikura may preclude habitat use during body or fin contact. Younger dolphins might express their social bonds in a different manner from the adults thus lending flipper/body contact a dual function depending on dolphin age, as well as habitat.

Interactions between Atlantic spotted (*Stenella frontalis*) and bottlenose dolphins (*Tursiops truncatus*) off Bimini, Bahamas 2003-2007

Melillo, Kelly^{1,2}, Dudzinski, Kathleen², Cornick, Leslie¹

¹Alaska Pacific University, 4101 University Drive, Anchorage, AK 99508; ²Dolphin Communication Project, Old Mystic, CT 06355-0711

Hybridization among marine mammals is a little understood, but increasingly observed, phenomenon in sympatric populations. Resident Atlantic spotted dolphins (*Stenella frontalis*) off the coast of Bimini, Bahamas have been the subject of ongoing photo-ID and behavioral studies since 2001. A lesser known population of bottlenose dolphins (*Tursiops truncatus*) has been observed interacting with *S. frontalis* on multiple occasions. These interactions have been systematically documented every summer since 2003 and during the winter of 2007. Mating or sexual play are the primary activities observed in approximately 50% of these interactions, with male *T. truncatus* as the initiators. Data, including



Kelly & White Blotch
near Bimini.

those collected during the current field season (2007), will continue to be analyzed; however, it seems unlikely that these behaviors are driven by population stress or confusion from either species, as has been hypothesized for interacting species elsewhere in the world. Rather, the *T. truncatus* males may be failing to gain access to *T. truncatus* females because of immaturity or social status or, alternatively, these interactions may be attempts to diffuse aggressive tensions that may exist between the populations.



Do you hear what I hear? Testing the eavesdropping hypothesis on a population of wild Indo-Pacific bottlenose dolphins (*Tursiops aduncus*)

Gregg, Justin D.^{1,2}, Dudzinski, Kathleen M.², Smith, Howard V.¹

¹School of Psychology, University of Dublin, Trinity College, Dublin 2, Ireland; ²Dolphin Communication Project, Old Mystic, Connecticut, 06372-0711 USA

Experimental work has provided initial evidence that dolphins are able to use the information present in click echoes generated from the echolocation of conspecifics to succeed in object detection and discrimination tasks. The 'eavesdropping hypothesis' suggests that dolphins in the wild may behave in ways that exploit this ability. We tested this hypothesis using data collected from wild Indo-Pacific bottlenose dolphins (*T. aduncus*) inhabiting the waters around Mikura island. A method developed to accurately measure distance and head angles between dolphin dyads was employed during analysis of underwater video in conjunction with echolocation information collected on a 3-hydrophone system. During investigative events (N=170) in which one dolphin initiated echolocation on a specific target (i.e., the camera system), the behavior of a potential eavesdropping dolphin was analyzed in order to determine if it: 1) remained silent, and 2) remained within an hypothesized 'ideal eavesdropping position' (i.e., measurements between rostrums of ≤ 1 m, and $\leq 10^\circ$). It was found that the dolphins in the potential eavesdropping scenario were significantly more likely to remain silent than those in the baseline condition ($p < 0.001$). However, the dolphins did not enter into or remain in an ideal eavesdropping position during eavesdropping events. A decrease in head angle during eavesdropping events was observed, although smaller head angles were correlated with more echolocation from the eavesdropper rather than more silence. These results suggest that dolphins may limit their own echolocation emissions when given the opportunity to eavesdrop, but that close swimming proximity and head alignment do not seem to be required for echoic eavesdropping to occur. These findings suggest that the spacing and social dynamics of wild odontocete groups may be influenced by individuals' reliance on information derived from conspecifics' biosonar, but that the spacing required for eavesdropping is likely to be larger than is currently suggested.

Use of Bubble Emissions in Bottlenose (*Tursiops truncatus*) and Atlantic Spotted Dolphins (*Stenella frontalis*) Relative to Age and Sex

Kristy L. Beard^{1,2}, Kathleen M. Dudzinski², Peter M. Scheifele¹, Michael J. Darre¹

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²Dolphin Communication Project, Mystic Aquarium & Institute for Exploration, 55 Coogan Boulevard, Mystic, CT 06355 USA

Communication is a combination of acoustic, visual, and tactile signals. While most cetaceans use visual signals as communicative displays, current literature reveals little on visual versus acoustic communication in dolphins. Dolphins produce bubbles from the blowhole and streams of bubbles have been recorded synchronously both with and without whistles. Still, the function of bubble emissions is not known, and there is debate about whether their presence with whistles is representative of an entire repertoire, or used as a visual cue that accompanies certain whistles in certain contexts. In this study, it was hypothesized that calves and juveniles produce bubble streams more often than sub-adults and adults, and that females produce more bubble streams than males. Data were collected from bottlenose dolphins at Dolphin Encounters (DE) in Nassau, and Atlantic spotted dolphins around Bimini, The Bahamas. At DE, seven of 20 dolphins were videotaped producing bubble streams. Females produced 82% of bubble streams, while males contributed 18%. Adults produced 59% of bubble streams, sub-adults 21%, juveniles 13%, calves and neonates 7%. In Bimini, 12 dolphins were videotaped producing bubble streams. Females produced 83% of these bubbles, while males contributed 17%. Adults produced 2% of bubble streams, sub-adults 54%, juveniles 44%, calves and neonates 0%. At both locations, females produced the majority of bubble streams; calves and neonates produced the least. The difference between sexes and age classes indicates that bubble streams may not function the same for all dolphins or in all situations.



Well Done!

Students working with DCP have been busy, several individuals are completing their graduate degrees this year. Join us in congratulating each of these individuals!

Congratulations to Dr. Robin Paulos for completing her doctorate in Psychology from the University of Southern Mississippi this summer! Robin has worked with Kathleen and DCP since 2001.

Congratulations to Shawn Makepeace for successfully defending her Masters Thesis this October! Shawn receives her MS degree in Animal Science at the University of Connecticut.

Congratulations to Kristy Beard who defends her thesis in early November. She will graduate with her MS degree in Animal Science at the University of Connecticut.

Congratulations to Justin Gregg who defends his dissertation later this autumn. He'll graduate with his doctorate degree in Psychology from Trinity College Dublin in Ireland.

New Publications

Check out the DCP web site to download PDF files of these articles:

Paulos, R.D., Dudzinski, K.M., Kuczaj, S.A. 2007. Non-vocal communication in the Atlantic spotted dolphin (*Stenella frontalis*) and the Indo-Pacific bottlenose dolphin (*Tursiops aduncus*). **Ethology** (Online publication in 2007).

Gregg, J.D., Dudzinski, K.M., Smith, H.V. in press. A method for estimating relative head angle and spatial distance of dolphins from underwater video footage. **Animal Behaviour**. (volume, issue & page numbers pending)

Dudzinski, K.M., Thomas, J., Gregg, J. in press. Communication. In (W.F. Perrin, B. Würsig, H.C.M. Thewissen, eds) Encyclopedia of Marine Mammals, second edition. Academic Press, Inc.

Bimini, The Bahamas -- End of Season summary:

WOW! What a season ... DCP's 7th field season in Bimini came to an end mid-September. That reality did not quite set in until mid-October, when, back in Alaska, I awoke to 6 inches of snow! We're not in Bimini anymore Toto...

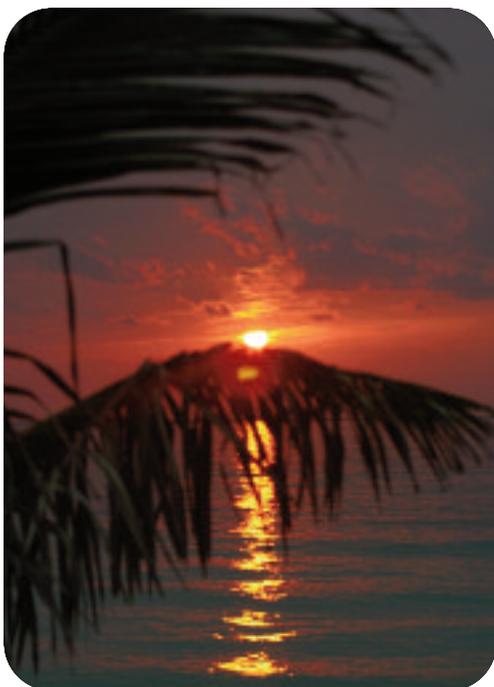
This season was jam-packed with 57 boat trips between 30 April – 16 September. These trips resulted in over 240 hours of on-water effort, 96 dolphin sightings (Atlantic spotted and bottlenose) and 57 underwater encounters. Over 20 video tapes later, we re-identified 37 spotted and 4 bottlenose dolphins and added 3 spotted and 8 bottlenose dolphins to the photo-ID catalogs. Of course, included in those numbers are some of our most regularly observed dolphins, including Freckles (#15), Lil' Jess (#35), Swoosh (#36), and Nemo (#76). Our two summer interns, Maria Baetti and Tabitha Baker

are back at school, hard at work no doubt. (Side note from Kathleen: Marie is actually in France on a semester abroad while Tabitha continues to volunteer with DCP, see the volunteer section, this issue.), but their efforts this summer both in Bimini and at the DCP office were invaluable. Thank you! We also thank our gracious ecotour hosts, Bimini Undersea (www.wilddolphins.com) and each and every one of their passengers who were so very engaged in their dolphin interactions. We also thank Al Sweeting, Jr. for his assistance throughout the season (www.biminiadventures.com) and all the people of Bimini for welcoming us back once again. We'll see you next season!

You can relive the summer season by reading the field reports from Bimini on our web site at: www.dolphincommunicationproject.org. The field reports are Bahamas/Bimini 2007 under the "keep in touch" menu item.

-Kel

Kelly Melillo, DCP Research Associate



Rims 2007 Field Season Summary

This season was shorter than usual but produced seven hours of video tape from both groups of dolphins at the Roatan Institute for Marine Sciences at Anthony's Key Resort. Yes, you read that correctly. AKR created a second dolphin area near Osgood Cay on the southern side of Roatan. Rita, with her new calf (Ozzy), Gracie, Jack, French and Fiona spend their days & nights at Osgood Cay, while Cedena, Bailey, Alita, Anthony, Hector, Ken, Carmella (and her new calf!), Mrs. Beasley (and her new calf, Dixon!), Ritchie & Paya reside near Bailey's Cay closer to AKR. We were also joined by one trip of seven ecotourists at RIMS this September. Dates for data collection were from 6 – 16 September. We are currently processing the data from this and previous seasons. For example, with Tabby and colleagues at USM and University at Wisconsin, Madison, we are putting the final touches on the statistical analyses of our study into how dolphins use their



Dave Stryker with a new friend, 2007.



Roger Brown with his new friend at RIMS, 2007.

pectoral fins to exchange contact (both touches and rubs). See my abstract in this issue of the Gazette, and watch our web site and future issues of the Gazette for updates and reports on this topic.

You can relive the summer season by reading the field reports from Bimini on our web site at: www.dolphincommunicationproject.org.

The field reports are Roatan 2007 under the "keep in touch" menu item.

-Kathleen

Kathleen Dudzinski
DCP Director



Madison & her uncle Ron are all smiles with Alita.

Join DCP on a Research Trip!

We are expanding our Ecotour offers through DCP. A long weekend to Bimini to assist Kelly Melillo is planned for mid-month in January 2008, while a second session of data collection with ecotourists will begin in May 2008 at the Roatan Institute for Marine Sciences (RIMS). We will continue with the RIMS program each September, but also add the second session each May beginning this coming spring. Check out www.dolphincommunicationproject.org for details and dates for each ecotour as they become available. Let us know if you have any questions. We look forward to having you join us on an ecotour to learn more about DCP, our research, and, of course, the dolphins.



Anthony looks forward to greeting you at RIMS!

The *Dolphin Gazette* is printed on 100% recycled paper!



Volunteer Updates:

I interned with DCP from June to August this year. Since school started, I visit DCP twice a week to help out in the office - with data processing, data entry and to work a bit on my own thesis project. Not only is my time at DCP an escape from the stresses of school life and Rhode Island, but it is also relaxing on the days I am at DCP to do something outside of school work. At DCP, I assist with a variety of different tasks: logging of the videos that were taken at the four different sites (with a focus on the RIMS videos); entering data into the computer; and keeping track of inventory are just a few of the many things that need to be achieved. By working at DCP and doing the background work of an organization I feel that I am a part of the important research that is happening around the world. Without volunteers in a small organization like this DCP, then some of the minor details that regularly need to be completed could take away from the main objectives of the research and education mission.

~Tabby

Tabitha Baker, DCP Volunteer, 2007

DCP Youth Program & DCP Dolphin Research Trainee Program

The DCP Youth Program (DCPYP) was postponed from this autumn semester until the spring because of scheduling conflicts. Thus, both the DCPYP and DCP Dolphin Research Trainee (DRT) programs will be offered from January through May, 2008. Each class will meet once a week afterschool for about 1.5 hours. More details for the schedules and programs will be available on the DCP web site under the Pine Point School section. Each class will be open to 15 students. Both classes are open to students in the Stonington School district, and each program will be taught on the Pine Point School campus. DCPYP is open to 4th and 5th graders. DCP DRT is open to 6th, 7th and 8th graders.

Umi's Haikus ... a few 'new' ones for the season

As some of you may recall, Umi is DCP's honorary land-based mascot. She believes that DCP actually means "Dog" Communication Project. Umi returns to this issue of the Gazette with a couple of Haiku. She writes these haiku with her nose on every possible glass surface at home.

Here she comes with it.

No! My nails are not too long.

Instrument of doom.

1998

Hey, can you hear me?

LISTEN TO ME! I AM RIGHT!

ARF! ARF! WOOF! IT'S ME

2000

work, work, always work.

Now, later. Playtime is here.

Varied toys -- a perk.

1999

Adopt-a-Dolphin

DCP currently has 25 dolphins from our catalog of Atlantic spotted dolphins residing around Bimini, The Bahamas available for adoption. While adoptive parents do not get to take their dolphins home, they will receive a certificate of adoption, a photo of their adopted dolphin, some facts about Atlantic spotted dolphins, information about DCP and our research around Bimini, and a dolphin video. They will also receive the most recent edition of the *Dolphin Gazette*, DCP's quarterly newsletter, with three more issues to be mailed or e-mailed over the one-year adoption period.

All dolphin adoptions through DCP help support our dolphin research throughout the world, as well as the creation & implementation of local, national, & international education programs for students of all ages.

Biographies of the dolphins available for adoption can be read on the Adopt-A-Dolphin page at the DCP website at: www.dolphincommunicationproject.org. Adoptions can be purchased via the website or by using the form at the end of this newsletter.



Ways to Support DCP

DVDs

Bridging the Ocean Divide \$19.95 + \$2.95 S&H

Dolphins The Lighter Side \$19.95 + \$2.95 S&H

Book Marks \$0.25 each/ 5 for \$1.00

Note cards \$2.50 each/ 3 for \$6

Postcards \$1.00 each/ 3 for \$2

DCP T-Shirts \$15 + \$3.95 S&H

DCP Long Sleeve Shirt \$20 + \$3.95 S&H

Eco-Tours at Roatan Institute for Marine Sciences (RIMS) in Roatan, Honduras, and to Bimini The Bahamas. (See below & the Ecotour page on the DCP web site)

Please send check or money order to DCP at **P.O. Box 711, Old Mystic, CT 06372-0711.**

All products can also be purchased online through PayPal at www.dolphincommunicationproject.org.

EcoTours

Roatan Institute for Marine Sciences, Honduras:

In 2008, DCP will offer two ecotours to Roatan: May 2008 and September 2008. The trip costs \$1,600 per person per week, which includes lodging and 3 meals a day at Anthony's Key Resort and 2 dolphin encounters and 2 dolphin swims per trip per person. Airfare & Honduran departure taxes are NOT included. Information on the exact trip dates and other details are available at: www.dolphincommunicationproject.org. Contact Bill at bsperling@idyllwild.com to sign up.

Bimini, The Bahamas:

In 2008, DCP will offer a long weekend ecotour to Bimini in The Bahamas. The trip runs from Friday to Monday and weather-dependent, participants will spend 2-3 afternoons searching for and swimming with dolphins as part of our research program from Bimini. Kelly Melillo, DCP Research Associate, has led the Bimini field program since 2003 and will lead this ecotour program. Information on trip dates & other details are available at: www.dolphincommunicationproject.org.

We look forward to having you join us on an ecotour!

Yes! I want to Adopt a Dolphin!

Some of our dolphins are listed below. For a complete list & all dolphin biographies, check out www.dolphincommunicationproject.org/adoption

Juliette	Niecey	Swoosh	Stefran	Cleopatra	Lil' Jess	Vincent
Nemo	Dolphin Dandy	Lone Star	Tim Tina	Lumpy	Freckles	SplitJaw

Or, Write your choice below, fill out the information & send \$30.00 per adoption.

I would like to adopt a dolphin: \$30 for one year. Dolphin name: _____

Please mail your order form, with check, to **DCP at P.O. Box 711, Old Mystic, CT 06372-0711.**

Credit card payment is available online through our web site at www.dolphincommunicationproject.org/adoption.

Please **SEND** my adoption package to: If this is a gift, please note gift GIVER address:

Name: _____

Name: _____

Address: _____

Address: _____

City: _____ State: _____ Zip: _____

City: _____ State: _____ Zip: _____

Email: _____

Email: _____



Volunteering

DCP accepts **local** volunteers for data analyses any time during the year at our office in CT. We **DO NOT** accept volunteers, except for ecotours, for field work at any of our field sites. If you'd like to become a DCP volunteer and help with data analyses and other details then please contact us at **info@dolphincommunicationproject.org** or call at 860-535-8031 x156.

For more information on volunteering or internships, please visit our web site: **www.dolphincommunicationproject.org**.

Internships:

If you are interested in interning with DCP during an autumn, fall or summer semester, more information is available on our website. Please note, internships are office-based and do NOT include field work. Check out the web site or contact us at **info@dolphincommunicationproject.org**.

Thank you to DCP volunteers!!

DCP would like to thank Binti Ackley, Tabby Baker and Whitney Greene for all their help this autumn. Without your effort & assistance, DCP's office could not run so smoothly throughout the year. You all do a great job processing data and helping to keep things organized. Well done!

Dolphin Communication Project
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To:

