

The Conservation Behaviorist

Animal Behavior Society

ABS Conservation Committee

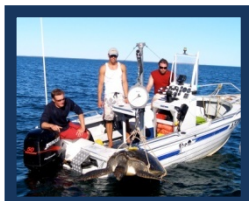
The Conservation Behaviorist, an electronic news-update, informs ABS members about the Conservation Committee's activities, research trends in behavior and conservation, and relevant scientific news in conservation research where behavior plays an important role. www.animalbehavior.org/Committees/Conservation

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The ABS Conservation Committee

Created in 1997, the Conservation Committee aims to encourage ABS members to participate in research programs addressing the interface between animal behavior and conservation science. By identifying and evaluating the areas in which behavioral research has contributed to conservation, as well as the fields that need development, the Committee seeks to generate discussion and promote studies in behavior and conservation



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Interact with the Conservation Committee

Send letters, announcements, comments and contributions to
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Deadlines for articles are the 15th of the month preceding the next news update. The next deadline is April 15th. Contributions submitted by members of the Animal Behavior Society and judged by the Conservation Committee to be appropriate will be published in **The Conservation Behaviorist**. The publication of such material does not imply ABS or Conservation Committee endorsement of the opinions expressed by contributors.

Editor Guillermo Paz-y-Miño C.
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Behavior and Conservation at the 2007 ABS meeting

Conservation Behavior: From implications to applications

By Colleen Cassidy St. Clair



Conservation Behavior is a burgeoning field at the interface between Conservation Biology and Animal Behavior. In the last decade, several review papers and four edited collections have described the potential for knowledge of animal behaviour to contribute to conservation solutions. Dozens of research articles have demonstrated the relevance of behavioural data to conservation planning and management. Nonetheless, a couple of recent reviews suggest that the potential integration of conservation and behaviour has fallen short of expectations and a few behaviorists have concluded that the actual relevance of behaviour to conservation is limited.

The Conservation Committee of the Animal Behaviour Society hosted a symposium at the 2007 meeting to explore this debate. Specifically, we sought to demonstrate the range of behavioural information being applied to conservation contexts, to assess the degree to which behaviour and conservation are being integrated, and to invite ongoing discussion about the future of the nascent discipline, Conservation Behaviour. We were interested in identifying not only the contributions behaviour is making to conservation, but also the insights offered by conservation problems to advances in behavioural theory.

To set the stage for the symposium, Colleen Cassidy St. Clair (University of Alberta) summarized the conservation topics to which behaviour is anticipated to make a contribution. She contrasted the traditions of the two parent disciplines and acknowledged the debate about relevance now brewing in the literature. Ron Swaisgood (UCLA and San Diego Zoo) followed by demonstrating how manipulations of social behaviour can aid management of small populations, both *in* and *ex situ*. John Eadie (UC Davis) explored the links among behavioural ecology, life history evolution, and harvest

strategies with an emphasis on waterfowl. Bruce Schulte (Georgia Southern University) examined behavioural solutions for human-wildlife conflict and explored behavioural approaches to managing conflict with elephants. Dan Blumstein (UCLA) outlined a Darwinian approach to adaptive management, emphasizing the value of alternative management strategies as multiple working hypotheses. Jan Komdeur, one of the meeting's plenary speakers, showed how some small populations may avoid inbreeding with behavioural adaptations.

The first several speakers emphasized the contributions of behaviour to conservation, whereas the final three showed how conservation problems can contribute to basic behavioural theory. Judy Stamps (UC Davis) examined this reciprocity by testing behavioural assumptions about habitat selection in conservation contexts. Debra Shier (San Diego Zoo) explored reciprocal contributions of behaviour and conservation through the lens of reintroduction programs. Scott Creel (Montana State University) described the behavioural responses of elk to wolves to demonstrate that anti-predator behaviour may be as important as direct mortality to population demography. Colleen Cassidy St. Clair wrapped up the symposium by synthesizing its contributions and evaluating the integration of conservation and behaviour. She cautioned that we should promote the full diversity of behavioural approaches to conservation issues and avoid the prescriptive approaches that might be engendered by the recent debate about relevance. The session concluded with a discussion about the current approaches and future directions of conservation behaviour.

In addition to the symposium, the Conservation Committee hosted a brown bag lunch, which was attended by a whopping 75 participants. These attendees provided excellent suggestions for advancing the profile of Conservation Behaviour within the society and beyond. More information about the Conservation Committee of the Animal Behavior Society is available at www.animalbehavior.org/Committees/Conservation. Interested readers may also choose to join the Conservation Behavior listserver at www.animalbehavior.org/Committees/Conservation/abs-conservation-mailing-list ■

Conservation Tips by Dan Blumstein

Is there anything a behaviorist can do to help conservation?

"Teach conservation behavior. Conservation behavior can be integrated into traditional courses in behavior, ecology, and conservation biology. There are a number of excellent books and reviews that can form the subject of a seminar course. It is our fault if the next generation of conservation biologists does not think about behaviour."



Jordan Thomson, Simon Fraser University, receives E.O. Wilson Conservation Award

... I believe that research in the field of animal behaviour constitutes an important part of the foundation for effective management planning – management that is necessary to preserve biodiversity and functional ecosystems," said Thomson on learning that the ABS chose to fund his proposal "Predation-sensitive behaviour by marine turtles: The effects of tiger shark predation risk on diving and habitat use." He will receive the E. O. Wilson Student Research Grant for Conservation.

Thomson will examine the effect of tiger shark predation risk on habitat use and diving behaviour of green and loggerhead turtles in Shark Bay, Australia. Worldwide declines of top predators are a major conservation concern because the reduction or loss of top-down predation effects can destabilize lower-level trophic relationships. His study will be the first to investigate the behaviour of threatened marine turtles under predation risk by Tiger sharks.

"Jordy's work will help identify the critical habitats of these threatened sea turtles, and importantly, will provide an understanding of precisely why some habitats are more valued than others" says advisor Larry Dill, professor at Simon Fraser University. "That's because his work is being conducted within the theoretical framework of

behavioural ecology and considers how different habitat attributes are traded off against one another, and how this varies seasonally. Jordy has a long-term commitment to marine conservation biology, and to applying behavioural methods to solve real world problems. After his PhD work in Australia, I expect him to seek academic employment in Canada, and continue this sort of research and teaching."



Weighing loggerhead turtle. Derek Burkholder © photo

The Conservation Behaviorist talked with Jordan Thompson about the E. O. Wilson Conservation Award:

TCB: What was your immediate reaction to receiving the E.O. Wilson award?

JT: I was thrilled and honored to learn that I had received this award. E.O. Wilson is a prominent scientist and author in Conservation Ecology and to have my work recognized through this particular award from the Animal Behavior Society is truly special.

TCB: What do you think about the award? Will it encourage students to present more proposals with conservation content?

JT: Absolutely. I think increasing numbers of students of animal behaviour are taking part in research that is designed to contribute to solving specific conservation Issues. Awards such as the E.O. Wilson student research award provide motivation and incentive for (continues on page 4)

...continued *E.O. Wilson Award*

students to gear their research toward important, current issues in conservation.



Loggerhead turtle with time-depth recorder. Jordan Thomson ©photo



Processing tiger shark. Derek Burkholder © photo

TCB: Why do you work in the interface of animal behavior-conservation biology?

JT: There are many pressing issues that require applied behavioural research in order to be addressed effectively. I believe that research in the field of animal behaviour constitutes an important part of the foundation for effective management planning – management that is necessary to preserve biodiversity and functional ecosystems.

TCB: How did you become interested in the influence of tiger shark presence on the behaviour of marine turtles?

JT: I travelled around North America and volunteered on a variety of marine ecology research projects before starting grad school. Through these experiences, I became interested in the behaviour of diving marine foragers and their relationships in marine communities

The E. O. Wilson Conservation Award Deadline for Registered ABS students: 14 January 2008

The Edward O. Wilson ABS Student Research Grant for Conservation seeks to encourage graduate students of animal behavior to participate in meaningful conservation-related research. The award is part of the **ABS Student Research Grant Program** and it supports a *proposal* considered meritorious for its science and conservation component.

E. O. Wilson, professor at Harvard University, who in 2002 received the ABS Distinguished Animal Behaviorist Award, is one of the world's most eminent scientists and pioneers in biodiversity conservation.

Applicants must be: (1) currently enrolled in a graduate program; and (2) active student members of ABS, enrolled or renewed as of 31 December, 2007. The DEADLINE for receipt of completed applications is Friday, 14 January, 2008 (midnight, Eastern Standard Time). Late applications will not be accepted. If your proposal is short-listed for possible award, you will be contacted to provide a letter of support from an advisor or scientist. All applications will be reviewed by members of the ABS Student Research Grant Committee, and decisions will be announced by 1 April, 2008.

For additional information on this award see the website www.animalbehavior.org/ABSGrants or contact the **Conservation Committee** cstclair@ualberta.ca

(e.g. predator-prey). My advisors introduced me to the Shark Bay ecosystem, a spectacular study site from a marine ecology point of view. Shark Bay provided an ideal opportunity to study the effects of tiger shark intimidation on marine turtle behaviour and begin to reveal the importance of top predators like sharks to preservation of functioning coast ecosystems.

TCB: How do you see yourself in the future? Academic work? Conservation-oriented work?

JT: I see myself pursuing conservation-oriented marine research in the future, whether it be in government, academia or for a non-governmental group. My goal is to focus on questions with relevance to pressing marine conservation issues and, in addition to conducting research, be a liaison with managers to assist in planning and implementing conservation programs ■

Perspectives

What's it like to "do" conservation behaviour research? A personal story

By Ron Swaisgood

Author's note. Many stories in conservation behavior—or any discipline—remain untold. These are the personal stories, the events that shaped the outcome of the science and those that had profound personal impacts on the researcher. In this essay I share a pivotal moment in my personal career as a conservation behaviorist and reflect on a decade-long effort to "save the panda." This essay is adapted from an earlier version, "To see a panda: a researcher's journey," published in Zoonooz in August 2007.

At the top of the ridge I sit down to catch my breath. I'm in the dense bamboo forest in the mountains of China once again and have set out on my mission to see a giant panda in the wild. We left at dawn and fought our way through miles of dense bamboo, struggling up the slippery slopes of the Foping Nature Reserve in China. Exhausted from the climb, I look down and admire the tangle of bamboo-afflicted scratches up my arms. This formidable terrain is just one of many obstacles encountered in my decade-long mission to see wild panda—and ultimately to help "save the species."

While the sweat cools on my back, I ponder the years of work that brought me here. In 1995 I was first introduced to the challenges facing panda conservation and—under the auspices of San Diego Zoo's center for Conservation and Research for Endangered Species—embarked upon this conservation science journey. I was shocked to learn that so little was known about this most popular of species and set out to discover its secrets and apply the new-found knowledge to improve conservation efforts. Initially, I focused on the notorious problem of getting pandas to "do what comes naturally" in captive environments. We tackled the problem from a number of angles, but our primary work addressed chemical communication, reproductive behavior, and psychological wellbeing. For months each year I lived at the breeding center at the Wolong Nature Reserve. At this time the captive population seemed doomed, but less than a decade later the pandas were breeding naturally and we



*A typical ridge trail traversed by pandas.
(Ron Swaisgood © photo)*

had turned this problem around, largely by applying what we learned in our behavioral research. Today, I reflect with pride on the accomplishments of the cross-Pacific team of researchers who met this challenge head on. Just last year 17 cubs were born into the booming panda population at Wolong! Still, I was concerned that my studies of captive pandas could only go so far in helping us learn about the nature of pandas in the wild. A field biologist at heart, I was eager to get my boots dirtier.



*Panda sign. Droppings accumulate under a resting spot.
(Ron Swaisgood © photo)*

But how could I learn more about wild pandas? How could I even see a panda? Every year I made treks up into the steep treacherous mountains of Wolong. Panda signs were ample. Finding panda droppings and feeding sites was easy and I frequently located their marking trees along ridge trails. I spent days looking and each time I found fresh sign I thought my moment of truth was coming. Inevitably, I returned with memories of serene ancient spruce-fir forests, lush nearly impenetrable carpets of bamboo, and an incredible diversity of all kinds of life forms, but never the holy grail. I consoled myself that I was not alone. Many of my colleagues had the same experience. To see a panda—and study it—was going to take an extraordinary effort.



Find the panda! It's there, a typical view.
(Ron Swaisgood © photo)

Fast-forward several years and we have our research team in place. We have begun to place radiocollars on pandas so we can overcome the dilemma of trying to learn about pandas without seeing them. And we have learned that we can find pandas during the mating season with the help of people like "Lao Zhang" (literally, "old Zhang," but a term of respect). Lao Zhang has lived his entire life in Foping and knows the mountains and the wildlife like no one else can. It's spring now and the pandas are in the midst of their once-a-year mating ritual, the only time the normally quiet and solitary pandas come

together and make quite a ruckus. Now, if you know where to look—or rather listen—you can find pandas.



CRES postdoc Zhang Zejun attaching radiocollars
(Ron Swaisgood © photo)

Here I am sitting on this ridge, wondering, "Would today be the day?" With hopes high, we resume our climb, up along the ridge, stopping here and there to listen to the quiet bamboo stands below. Suddenly, "Bark! Bark! Bark!" From far down the valley we hear these telltale signs of a "disagreement" among pandas, probably a female protesting the approach of a suitor or a squabble between rival males. We descend into the valley, and the signs grow fresher. Everywhere are recently marked trees and large gaping wounds in the trunks where males, high on testosterone, have sunk their teeth in. We kneel down and can smell the sweet, acrid odor of panda scent marks. One tree has large drops of blood, probably from a male wounded in contests for the female.

My sprits dwindle as the forest grows quiet and we cannot find the pandas. We keep searching, but as the sun begins to sink lower on the horizon, we reluctantly give up and begin the trek back to the field station. Suddenly, just below the ridge, we hear a loud crashing and see the bamboo swaying to and fro. A big male, panting with exhaustion, emerges from the bamboo right in front of us. He lumbers over to a large rock, plops down, and gazes directly into my eyes, apparently indifferent to my presence. My heart pounds with excitement and before I can begin to fully contemplate this very close encounter, a second male, bloodied about the face, steps out and wanders past us. For an hour or so these two beautiful animals—recent rivals to be sure—share their space with us. We surmise that the mating is over and that one of these

males (the unbloodied one?) was the victor. And then the defining moment comes. One male makes his way over and is about to climb up to share my rock with me, probably just desiring to get a good whiff of me to see what I'm all about. I'm not totally comfortable with an encounter that close, so I ease off the rock. He moves off, but pauses to urinate on a tree—a message for me?



My first sighting. A panda emerges from the bamboo and looks me over. (Ron Swaisgood © photo)

Of course, in theory I am here as a scientist. I am here to address a number of questions important to conservation behavior programs: mating strategies and effective population size, communication, dispersal strategies, habitat selection, use of dens and other limiting resources. The goal is to collect data, not share an experience with another form of life. But for now, I am not a scientist, and just enjoy the moment. The science will come later. After years of observing pandas in enclosures and tracking their signs in the wild, I suddenly feel somehow better connected to the animal than ever before.

It's a little late and we hurry back up and over the ridge, buoyed up by our close encounter. In a state of euphoric distraction and in a rush, I crash down the slope through the bamboo and "WHACK!" Something hard and sharp gouges my eye, stopping me dead in my tracks and knocking me down. I examine the culprit with my good eye and find that it is a bamboo stem, severed by a feeding panda. Half blind and in some pain, I manage to make it back to camp and find, in the mirror, that I have a swollen, bloody hematoma on my eye. We decide that I should evacuate tomorrow, making the 11 kilometer trek back to the road, the 3 hour drive to the airport, and the hour plus flight to Beijing for medical care. I hate to leave in the midst of so much excitement, but know I will be

returning soon, hoping to see more pandas with *both* my eyes.

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Announcements

upcoming meetings

First International
Wildlife Reintroduction Conference
Applying Science to Conservation
April 15,16, 2008, Chicago

Hosted by: IUCN Reintroduction Specialist Group (RSG) and Lincoln Park Zoo for more information see the website at: <http://www.reintroduction.org>

10th Annual Bay Area Conservation
Biology Symposium
February 2, 2008, Davis, CA

Hosted by: The Davis Chapter of the Society for Conservation Biology for more information see the website at:
<http://scb.ucdavis.edu/Meetings/BABCS/index.html>