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International Bear News

*Quarterly Newsletter of the
International Association for Bear Research and Management (IBA)
and IUCN/SSC Bear Specialist Group*

August 2010 Vol. 19 no. 3



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The cruel practice of dancing sloth bears in India has nearly been extinguished through concerted efforts of NGOs. For the full story, see page 19.

*IBA websites: www.bearbiology.org www.bearbiology.com
Ursus website: www.ursusjournal.com*

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Cover photo courtesy of Neil D'Cruz.

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Editorial Policy

International Bear News welcomes articles about biology, conservation, and management of the world's eight bear species. Submissions of about 750 words are preferred, and photos, drawings, and charts are appreciated. Submissions to ibanews@bearbiology.com are preferred; otherwise, mail or fax to the address above. IBA reserves the right to accept, reject, and edit submissions.

Deadline for the November 2010 issue is 5 October 2010.

Thank you to everyone who contributed to this issue. Artwork is copyrighted – Do not reproduce without permission.

Membership

Use the form on **page 34** or go to www.bearbiology.com to order or renew memberships, make donations, and/or update member information.

From the President

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Georgia Conference a Great Success

The 19th International Conference on Bear Research and Management in Tbilisi, Georgia was a tremendous success! Much of the credit goes to the host organization, NACRES Centre for Biodiversity Conservation and Research, particularly Levan Butkhuzi, Bejan Lortkipanidze, Irakli Shavgulidze, Nino Dadiani, and many others who helped out. The technical program was of high quality and careful planning of the presentations, breaks, and social events provided plenty time for networking and socializing. You will find a summary of the sessions in this issue of the newsletter. This was the first conference where we had a Bear Specialist Group (BSG) session as part of the regular conference program and I advocate we make this session a standard part of the conference program.

Once, again, our IBA "Conference formula" for the mid-week field trips was very successful, allowing us to break away from the formalities and enjoy the incredible scenery and culture that Georgia has to offer. The gala dinner, with Georgian song and dance, was equally memorable and I hope I got away without any compromising photos from the dance floor! Photos of the conference and other information will soon be available so please visit the website: <http://www.nacres.org/bearconference/index.html>

Next Eurasian Conference: India!

We received two excellent bids for the next Eurasian Conference in

2012: one from Greece (ARCTUROS) and one from India (Wildlife Trust of India and Wildlife Institute of India). After long but constructive deliberations, Council voted to accept the India bid. An important consideration for this decision was the current status of Asian bear populations and the critical importance of drawing attention to the conservation plight of sun bears, Asiatic black bears, and sloth bears. As Dave Garshelis pointed out during the Bear Specialist Group (BSG) session at the Georgia conference, some populations of these species may be disappearing before our eyes in some instances without anyone noticing (e.g., it seems sun bears and sloth bears in Bangladesh have gone extinct over the last decade or so). As IBA members I am sure you share my concerns about such situations. It was Council's firm belief that IBA has a duty to act upon this. We have always regarded our conferences as a way to draw attention to local and regional bear conservation concerns and Council felt that this is the time to do so in Asia. The conference will likely be in late 2012 and will be held in Delhi. More information will be forthcoming in upcoming newsletters.

2009 President's Award goes to Mei-Hsiu Hwang

It has been a long tradition for the IBA President to annually recognize someone who has made significant contributions to bear conservation or our organization. I am very pleased to announce that Mei-Hsiu Hwang is the recipient of the 2009 President's Award.

As many of you know, Mei-Hsiu has tirelessly pursued the goal of securing the future of Asiatic black bears in Taiwan (Formosan black bear) and elsewhere. Her field studies on the Formosan black bear began about 12 years ago in the inaccessible Dafen mountain area in Yushan National Park, where she worked closely with the native Bunun people. This was the first field study of Asiatic black

bears in Taiwan, ultimately leading to capture and radiotracking of 15 bears. Ever since, her life has been devoted to learning more about this elusive animal and to raise awareness among the public and policymakers, which has been extremely challenging. Although exact estimates are not available, this population is small and very likely decreasing. Mei-Hsiu has been a major force in getting much needed recognition of this species in Taiwan. She developed a website (<http://meibear.npust.edu.tw/English/index.asp>) to inform the public about the Formosan black bear. Her dedication to this cause has earned her the nickname of "Mother Bear" among the native people, an appropriate name for someone who cares deeply about the plight of this species and the health of the forest ecosystems that it needs for survival. That dedication was again evident recently as she organized the International Symposium for Conservation of the Asiatic Black Bear in Taipei in November 2009, which was very successful and brought together scientists and managers from many of the Asiatic black bear range countries.

Mei-Hsiu received her Ph.D. from the University of Minnesota in 2003 and is now an Assistant Professor at the Institute of Wildlife Conservation at National Pingtung University of Science and Technology. She is a co-chair of the Asiatic Black Bear expert team and is currently serving on IBA Council as well. Mei-Hsiu, many thanks for all your efforts on behalf of bear conservation!

Council Business

Before the start of the Georgia Conference, Council met for a full day to deal with a number of important issues. Besides attending the presentations of the two bids for the next Eurasian conference, we also discussed a number of other conference issues, including getting back on track with our conference schedule. Our upcoming conferences should go a long way in doing so. We also discussed IBA finances and options to

better deal with operating costs in the long term. Our journal *Ursus* is doing well: *Ursus* is the prime source for scientific information and thought-provoking essays on bears and articles are now more accessible than ever thanks in large part to Editor Rich Harris. Given the taxon specific nature of the journal, the impact factor (0.911 and increasing) and journal ranking (70 among 125 zoology journals) are great and I strongly encourage you to keep submitting your articles to *Ursus*. International Bear News is undergoing a gradual transition and so far the response to the electronic newsletter in February has been positive. This is the second electronic newsletter and I again encourage you to provide any suggestions for improvements. Our website will also undergo gradual changes and we will be investing more volunteer labor into keeping the site updated and relevant. Given that IBA Council members all do their work for IBA in addition to their normal jobs, we discussed assignment of specific tasks to each Council member as a way to become more proactive.

Finally, we developed the outline for a strategic plan, which should help us guide our efforts in the long run. For example, in five years, we hope to double the amount of grants that IBA gives out through its Research and Conservation Grants, travel Grants, and Experience and Exchange Grants programs and to have as many members in Eurasia and South America as we have in North America. Regarding that second goal, we already are on our way with many new members signing up in recent months (we now have more than 500 members). Clearly, we have a long list of "action items" that we will be tackling in the coming months and we will keep you informed through the newsletter, website, and occasional IBA "e-blast."



IBA Experience and Exchange Grants 2011: Deadline for Applications – 1 December 2010

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Please note that the deadline for applying for IBA's Experience and Exchange (E&E) grants program for 2011 is **1 December 2010**. This means that both of IBA's grants programs, E&E and Research and Conservation (R&C) grants, now share the same application deadline.

E&E grants are an excellent way to gain experience and international perspective, benefit from others' expertise in a field setting, and initiate or strengthen across-project collaborations. Exchanges should be designed to last several weeks to several months, must be of mutual interest for both hosts and visiting researchers, and should lay the groundwork for continuing partnership. Grants are awarded for up to US\$1500 to help offset the costs of travel. Applications should demonstrate efforts by both parties to find and provide supplemental support for the exchange project, e.g. in-kind support such as complimentary food and lodging for the visiting exchange partner.

Application information and forms can be found on the IBA website, at www.bearbiology.com. For other questions, contact Ole Jakob Sorensen, E&E program chair, at the above address. ■

Election of IBA Officers and Councilors

The Nominations Committee is pleased to announce the following list of candidates, thus far, for the fall, 2010, election of IBA Officers and Councilors. The role of the Nominations Committee, in assembling this list, has been to 1) accept nominations and self-nominations from the membership and 2) recruit additional candidates where necessary to provide voting members with a spectrum of strong candidates to choose among.

- For President:
Frank van Manen (incumbent)
- For Vice President:
Harry Reynolds (currently on the Council as Past President)
Chris Servheen
- For Secretary:
Diana Doan-Crider (incumbent)
Jeff Stetz
- For Treasurer:
Cecily Costello (incumbent)
- For Council:
Mike Proctor (incumbent)
Brian Scheick
Andres Ordiz
Martyn Obbard
S. Sathyakumar
Lily Peacock
Wong Siew Te
Toru Oi

Please note that nominations are still open. Any IBA member is eligible to run for office. You may nominate yourself or someone else by providing name and contact information to the IBA Secretary, Diana Doan-Crider, diana.crider@gmail.com, by 30 September. You must verify that the nominee is an IBA member in good standing (dues are up to date) and will

serve if elected. Candidates will be asked to provide personal statements regarding their qualifications and interest in seeking office, which will be published and distributed to IBA members at the time of the vote.

Council seats are “at-large” and will be filled from a pool of candidates by the three receiving the highest number of votes. If Frank van Manen is re-elected as president, then the position of IBA past-president becomes vacant

and a 4th Council seat will be filled from the pool of candidates. However, if he is not re-elected, he automatically serves as past president for the next term. ■

IBA Conference

19th International Conference for Bear Research and Management – Tbilisi, Georgia

Reports of the Sessions

Session 1 - Conservation of Brown Bears

Session Chair:

Frank T. van Manen, U.S. Geological Survey

Email: vanmanen@utk.edu

The opening session of the conference was an excellent example of how far we have come along in our science of estimating and monitoring bear populations, thanks primarily to advances in DNA sampling and analysis techniques. The session began with a presentation by **Alberto Fernández-Gil** et al. (Estación Biológica Doñana), who developed a systematic survey method of the western Cantabrian brown bear population in Spain. Based on direct observation from 69 fixed locations, which were visited five times in Spring, they obtained 84 observations of bears. Accounting for detection probability as a function of the size of the area being surveyed, search duration, time of day, observer, and distance from the observers, they determined density was 2.4–3.1 bears/100 km². **Georg Rauer** et al. (University of Veterinary



IBA President Frank van Manen

Medicine Vienna) presented the second paper, featuring the failure of a reintroduction of brown bears in central Austria, which started in 1989. Although the results were promising early on, the population steadily declined since reaching a high of 12 in 1999. High mortality was the primary reason for the decline and illegal killings are suspected as one of the causes. The authors did a great job identifying the socio-political issues that played a role, with the lack of political will being a primary issue. We do not often hear about failures but the lessons from this project are profound. **Ivan Seryodkin** (Pacific Geographical Institute, Russia) and **John Paczkowski** focused on a globally important population of brown bears in the Kamchatka peninsula.

Based on a combination of data sources, the population seems to be stable or increasing and harvest pressure has remained stable over the past decade. Although poaching for bear parts may have decreased, poaching for meat and sports may be on the increase. Human-bear conflicts remain an issue, of which a sizeable proportion (11%) involved attacks on humans. Clearly, increased public awareness of bear safety will be important. **Jon Swenson** presented a paper on behalf of **Jonas Kindberg** (Swedish University of Agricultural Sciences) and several other co-authors. They used an innovative approach to determine brown bear population trends in Sweden using an effort-corrected index based on observations from moose hunters. Besides being cost-effective, an

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important advantage was that many observation hours were obtained (>2 million hours/year in this study). The index corresponded well with density estimates from DNA surveys, suggesting that reliable population data can be obtained using volunteer effort. Using Monte Carlo procedures, the combination of the two population survey techniques resulted in a population estimate of 2950 to 3492 bears in Sweden in 2008. The next paper was presented by **Paolo Ciucci** et al. from Sapienza University of Rome. They discussed the demography of the small brown bear populations in the Apennine Mountains in central Italy. This study is a good example of pilot studies in early years leading to well-designed studies, incorporating multiple data sources, in later years. The study generated estimates of 40 in 2004 to 43 in 2008. Based on age-structured models, population growth was primarily affected by adult female survival. Conservation of this population will depend on reducing human-caused mortality, particularly of adult females, and allowing natural expansion of current bear range. **Kate Kendall** et al. (U.S. Geological Survey) indicated

that the conservation status of grizzly bears in Northern Continental Divide Ecosystem may be improving. Based on the most extensive DNA-based surveys of any bear population to date, the estimated population size of 765 was greater than previous estimates. Occupied habitat also has increased substantially since 1993 and genetic interchange may have increased in areas where gene flow has historically been low. However, there are several concerns, including relatively high human-caused mortality of females and genetic data indicating fragmentation in association with a major highway/settlement corridor in the region. The final paper in this session was presented by **Alexander Kopatz** (University of Oulu, Finland) and included 17 co-authors! The authors studied genetic structure and diversity of brown bears among four study areas in the border region of Finland, Norway, and northwestern Russia. Based on a sample of 159 bears, analyses showed little differentiation between the four populations. There was evidence of isolation-by-distance and genetic assignment tests indicated a few migrants per generation. This is just the beginning of a long-term

genetic monitoring program in this region so expect more detailed information coming out on this study in the future.

Session 2 - Engaging People in Successful Conservation

Session Chair:

Mike Gibeau

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By design this session focused on people rather than bears and highlighted four talks about our role in bear conservation. The session started with **Mike Gibeau's** discussion of ways to involve people in meaningful dialogue using the example of grizzly bear issues in Banff National Park. Resolving these "wicked" problems hinges upon a willingness for organizational change and active learning by participants. **Ali Nawaz** then presented a case study from Pakistan where community participation has been a strong element in brown bear and snow leopard conservation. These community projects offer opportunities to livestock owners and

general community members to increase their household income in return for a commitment to protect predators and their natural prey. Next, **Seth Wilson** presented a case study from the northwest United States where a prototype conservation effort is underway which actively engages the local community in data collection, community-based monitoring, and participatory projects. Wilson argues that grizzly bear population persistence is largely governed by



Main Session

the choices people make, their behaviors and practices, and ultimately where people choose to allow bears to live. The session concluded with **Alistair Bath** discussing how he used a human dimensions facilitated workshop approach as an alternative to gain complete consensus between all interest groups in building a brown bear management plan in Bulgaria. This approach allowed a diverse group of interests to effectively work toward a common agreed upon vision.

This session was a response to several suggestions to see more talks on conservation or management applications and successful examples of conservation actions. The intent of this effort was to harvest lessons from others, hear about what works and what does not, how involvement of local people and political forces shape conservation and share specific success stories in conservation. To that end the session met the objectives and we look forward to future conferences where more success stories can be highlighted..

Session 4 - Bear Management

Session Chair:

Djuro Huber, Veterinary Faculty of the University of Zagreb, Croatia
Email: djuro.huber@gmail.com

On the second day of the Conference in Tbilisi, during the whole morning from 09:00 till the lunch break, the Session on Bear Management was held. The conference room was full with nearly all registered participants. The whole organization was superb, so even the presenters fitted by giving their maximum and complying with the time limits. Eight studies were presented in the session.

Miha Krofel with three co-authors from Slovenia referred to the Guidelines for population level management plans for large carnivores in Europe (by the Large Carnivore Initiative for Europe) in the presentation of the ef-

fects of harvesting on demography of a population that is shared by Slovenia and Croatia. Approximately 25% of the bears living in Slovenia were removed each year. Using virtual population analysis and stochastic age- and sex- structured models the authors

visits at the baiting sites but the fat depths of bears shot near baiting sites were greater. It was concluded that in eastern Finland bears are actively hunted with dogs which may keep them adequately wary of humans.

Shyamala Ratnayeke (in co-au-



Banquet Mixer

have shown that such high removal rates were only possible because of a steady influx of immigrating bears from neighboring Croatia. Slovenia thus represents a sink for the Dinaric-Pindos brown bear population which may appear as a problem with the recent increase in bear hunting quotas in Croatia and requires coordinated management.

Ilpo Kojola (with two co-authors) presented how the bear watching and photographing is a profitable wildlife tourism venture in easternmost Finland. Roughly 100-120 brown bears, nearly 10% of Finland's bear population, visit 94 sites each year where baits in the form of salmon leftovers, dog food and carcasses of domestic pigs are offered to bears. The primary concern in public debate about feeding is possibly making bears less wary of humans which might increase the risk of bear attacks. By monitoring GPS-collared animals it was shown that the size of the annual home ranges were not linked with the number of

thorship with Frank Van Manen) presented how camera trapping can be used as a tool to test the hypothesis that site occupancy by sloth bears (*Melursus ursinus*) is associated with species richness of Carnivora in Wasgomuwa National Park (33,765 ha) in Sri Lanka. During 2002–2003 they detected sloth bears at 39 camera sites for a total of 61 of 379 sample nights, as well as 13 of 14 species of Carnivora of Sri Lanka's. The model suggested that sloth bear occupancy and carnivore species richness were closely linked. The results support the hypothesis that sloth bears may serve as an umbrella species whose habitat conservation would also protect a high richness of mammalian carnivores.

Harry Reynolds (with four co-authors) presented the latest efforts to preserve the Gobi brown bear (*Ursus arctos isabellinus*) in the Gobi Desert in Mongolia. After the international workshop in 2004 the team initiated the project resulting in capturing

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and fitting with GPS satellite collars 10 bears and using camera traps that helped to identify at least 18 individual bears. Additionally, 13 hair snag sites provided over 900 samples for genetic analysis. Complex local capacity building is expected to help implement the strategic plan for recovery of Gobi bears which includes exploring potential for enhancing water sources, increasing presence and availability of favored bear foods, and livestock management to eventually allow occupation of former Gobi bear range.

Jon Swenson, in the invited speech, presented how brown bears are coping with the human dominated landscape in Europe. Even large and increasing populations of brown bears occur in many densely populated European countries. Studies showed that bears learned to avoid humans but in the case of encounter do change their behavior for the next 12 hours. European brown bears also avoid towns, tourist developments, open habitats, and roads both during the active and winter season. Within a home range, bears with more human habitation use rugged terrain more, particularly during midday, when humans are most active. This will hopefully help us determine the limits of human presence that European brown bears can tolerate.

Michael Proctor and his six co-authors used multi-scaled ecological modeling to approach understanding the causes of depressed brown bear populations in Southern Canada. They tested how a suite of habitat, terrain, ecological, and human-use variables predicted bear densities at three spatial scales. To estimate the

probability of bear occurrence across our study area they used logistic regression within a GIS environment to compare sites that captured bears (DNA hair-snagged) against sites that did not. They captured 188 different bears in 452 capture events. The road densities and human densities were the best predictors of bear occurrence at fine and large scales. Unreported backcountry bear mortalities may be responsible for low bear densities due to the strong association with high road and human densities. The



Dave Garshelis tries to recruit a new BSG member

authors believe that their technique may be applicable for populations of bears around the world where DNA abundance and density surveys are appropriate not only to for descriptive work (how many bears) but also towards explanation (why that many bears).

Richard Bischof with Jon Swenson attempted to delineate the trans-border reproducing brown bear females. Norway's bear management goal is to have 15 reproducing females per year. As the number is so low the accurate estimation is crucial. To accomplish this, they developed a simulation model to calculate the number of

annual reproductions based on the number and location of individual female brown bears detected in Norway during genetic mark-recapture monitoring. Swedish and Norwegian bears are parts of the same population, and home ranges of bears near the Norwegian borders do cross borders. The model was designed to reduce the likelihood of double-counting bears and reproductions over multiple jurisdictions. The model-predicted estimates of the number of reproductions in Norway (including their upper

95% CI limits) fell short of their target both on the country and regional level. Model sensitivity to violating key assumptions and cross-validation with a data set that was not used in model parameterization encourage confidence in the predictions.

Jack Hopkins with Paul Koch, in their complex evaluation of human-bear interactions in Yosemite

National Park (California, USA) used even stable isotopes. Incidents between humans and American black bears (*Ursus americanus*) occurred for over hundred years. In 1975, the park initiated a Human-Bear Management Plan to tackle the issues associated with conflict between humans that included removal of unnatural food sources, enforcement of regulations regarding food storage and feeding animals. Currently, managers report that bears have less access to human food compared to bears prior to 1999, however there is currently no quantifiable measure besides comparing the number of annual incident reports to

determine program success over time. In this study, the authors estimated the contribution of human food in food-conditioned bear diets over time to evaluate management success over the past 100 years. They used stable isotope analysis to determine the isotopic composition of historic and contemporary bears tissues as well as their food sources. Hierarchical Bayesian stable isotope mixing models were used to determine the relative contribution of foods assimilated in bears' diets.

As a chair, I can conclude that the bear managers recognized and used a variety of modern research tools ranging from satellite telemetry, GIS, genetics, camera traps and stable isotopes, and all processed by sophisticated software, to make sound management decisions and improve the overall management. The room for errors is disappearing and we should ensure that all bear populations receive such a treatment and secure their long-term future.

Session 5 – Bear Genetics

Session Chair:
Michael Proctor
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The genetics session had a few cancellations, but nonetheless had an interesting set of presentations from several Estonian researchers. First was **Marju Korsten**, a fourth-year PhD student in University of Tartu, Estonia. Her paper "Brown bear phylogeography in northern continental Eurasia: comparative analysis of partial and complete mitochondrial genomes" explored the influence of the Pleistocene ice age expansions and contractions on north Eurasian brown bear recolonization. Marju concluded that a demographic expansion occurred from a single refugia after a severe bottleneck event sometime between 22,000 to 17,000 years ago.

Egle Vulla, another fourth-year PhD-student in University of Tartu, Estonia, presented a look at the cur-

rent genetic structure of northeastern European brown bears using nuclear microsatellite markers in her paper "Genetic structure of the brown bear population in north-eastern Europe based on analysis of microsatellite data" She reported that genetic structure is developing in several areas, particularly in Estonia. Her results suggest recent events may be in the process of fragmenting the Estonian brown bear from the rest of northwest European bears. The remaining bears (not in Estonia) had a slight substructuring.

Finally, **John Davison**, a post-doctoral researcher at the University of Tartu (Estonia) on the phylogeography of brown bears presented a stimulating paper on "Timing estimates enhance our understanding of brown bear phylogeography." Newer calibration techniques suggested the split of polar bears from brown bears occurred 150,000 to 170,000 years ago and all modern brown bears share a common ancestor 250,000 years ago. Further he suggested that divergence of modern brown bear lineages may have been influenced by past climate change and glacial events associated with the Pleistocene.

Session 6 - Bear Behavior and Behavioral Ecology

Chair:
Jon Swenson
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Andreas Zedrosser presented a paper on "Female fitness in relation to sexually selected infanticide in a hunted population of brown bears" co-authored by Fannie Pelletier, Marco Festa-Bianchet and Jon E. Swenson. This was a rare study conducted in Sweden looking at factors affecting the life-time reproductive success of female brown bears in two hunted populations. The number of yearlings that females weaned in their lifetime increased with their longevity (of course!) and tended to increase

with female body size, although this influence decreased with increasing age. Factors significantly influencing cub survival were: male turnover (a proxy for sexually selected infanticide, negative), mother's body size (positive), population density (negative), study area, the interactions of food conditions in the previous year, spring litter size; population density (with the negative effect of litter size increasing with increasing density) and body size. Food conditions in the previous year (positive) and the interaction between male turnover and population density (the negative effect of male turnover increased with increasing density) were also significant. Litter size did not influence cub survival. This study documented that female lifetime fitness was influenced by hunting, directly by reducing longevity and indirectly by reducing litter survival due to sexually selected infanticide.

Jeff Stetz presented a paper on the "Evaluation of bear rub surveys to monitor grizzly bear population trends" co-authored by Kate Kendall and Chris Servheen. This study was an enormous effort to determine whether rub tree surveys could yield reliable estimates of population size, trend, and distribution of grizzly populations. Using encounter data from 379 grizzly bears identified through bear rub surveys in north-western Montana, USA, they parameterized a series of model simulations to assess the ability of noninvasive genetic sampling to estimate population growth rates. Simulations indicated that ecosystem-wide, annual bear rub surveys would exceed 80% power to detect a 3% annual decline within six years. Robust design models with two simulated surveys per year provided precise and unbiased annual estimates of trend, abundance, and apparent survival, suggesting that systematic, annual bear rub surveys may provide a viable complement or alternative to telemetry-based methods for monitoring trends in grizzly bear populations.

M. Clapham presented a paper on "Preliminary findings assessing the

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olfactory communication strategies of brown bears”, co-authored by O. T. Nevin, F. Rosell, and A. D. Ramsey. This study discussed an olfactory communication, as a relatively new study area in bears (except the giant panda). The authors found that brown bears selected the two tree species that were least represented in the landscape for marking and showed a slight preference for larger trees. Adult males were significantly more likely to mark than females or subadults, relative to their presence in the population. The authors concluded that assessing how olfactory communication plays a role in the social organisation of solitary carnivores will allow us to understand the processes involved in territoriality, dispersal and reproduction, and better interpret the results of DNA surveys that use scent lures.

Ole-Gunnar Støen, with Gro Kvelprud Moen, Veronica

Sahlén, and Jon E. Swenson presented a paper on “The behavior of Scandinavian brown bears when meeting humans.” The brown bear population is increasing in numbers and distribution in Scandinavia, as is the number of people who are injured or killed by bears. All the 27 people who were injured or killed were men and most were armed. Most of these cases occurred during the hunting season and most of the armed men had shot at the bear before they were injured. The authors approached 42 bears equipped with GPS transmitters 261 times at a distance of 50 m, upwind, while talking at a normal tone of voice while

the bears were in a daybed. None of the bears showed aggressive behavior and they either left the area before, during, or after they were passed or just stayed in the daybed. The daybeds were placed in very dense vegetation,



Banquet performers checking out the bear people

where people rarely go. Bears chose denser vegetation for daybeds when closer to human habitation or when there were more people in the forest. All our results were consistent in showing that bears were trying to avoid meeting people.

Ami Nakajima with Shinsuke Koike, Takashi Masaki, Koji Yamazaki, Chinatsu Kozakai, and Koichi Kaji presented on “Foraging behavior of Asiatic black bear in relation with the temporal change of fruit abundance of various species in cool temperate forest, Japan”. This was an ambitious study to explain the feeding behavior of Asiatic black bears in relation to the

masting of 11 species of trees. The authors found that bears faced a low abundance of fruits (hard mast) in summer and, in contrast, they foraged on *Q. crispula* acorns selectively in autumn. They apparently ate new food items after the abundance of more preferred items had declined. The spatial and temporal pattern of masting affected the distribution of bears in this mountainous area.

K. Kobayash presented a paper on “Brown bear predation on sika deer fawns following its population growth in eastern Hokkaido, Japan” co-authored by Y. Sato and K. Kaji. This interesting study documented how apparent learning by bears has influenced predatory behavior on sika deer fawns. Brown bears apparently learned to eat deer during the 1990s, when an over-abundant deer population was reduced by hunting, and many carcasses were available to bears. The bears ate more fawns in 2006-2008, when the deer population was low, than in 1999-2000, when it was much larger. Thus, predation pressure has apparently increased, in spite of the decreasing deer

population.

O. Frøbert with K. Christensen, Å. Fahlman, S. Brunberg, J. Josefsson, E. Särndahl, J. E. Swenson and J. M. Arnemo presented on “Platelet function in the Scandinavian brown bear compared to man.” This paper demonstrated another connection between bears and man. Scandinavian brown bears hibernate for 5-7 months, but do not develop coagulopathy. Because physical inactivity and lying flat on the ground are thrombogenic in humans and because the brown bear apparently is free from thromboembolic events, the authors hypothesized that brown bears would

demonstrate reduced platelet activity shortly after leaving the den. This is potentially important for human medicine, because cardiovascular disease, including acute myocardial infarction, is a leading cause of death in humans globally and platelet inhibition is a cornerstone in the treatment of cardiovascular disease. The authors found that platelet function was less in brown bears than humans, which may help explain how bears can den without obvious thrombus building.

Sam M. J. G. Steyaert with Klaus Hackländer, Jon E. Swenson, and Andreas Zedrosser presented on "Intersexual brown bear associations during the breeding season in central Sweden." This was a detailed GPS-based study of the mating behavior of brown bears. The authors defined an intersexual association as an event with two or more individuals of different sexes at the same location (within 60 m) simultaneously (within 10 min). Associations varied in duration between less than 1 day (42.2 %) to 12 days (0.9 %) and were recorded between 6 May and 15 July, with a peak during the first week of June. Half of the male-female combinations were repeated more than once during a breeding season; one pair was associated 11 times, totaling 26 days, in one breeding season. During a breeding season males were with 0-8 marked females, and females with 1-4 marked males and both sexes showed roam-to-mate behavior. Almost all of the marked bears in an approximately 13,000 km² area were somehow interconnected within one network of "social relations." The authors found that the mating system of the brown bear is complex, and consists of various strategies.

It is difficult to summarize these eight papers. All but one were about brown bears, the exception being Asiatic black bear, and they focussed on the relationships between individual bears (2), between bears and people, including hunting (2), foraging behavior (2), the relationship between

behavior and monitoring of bear populations (1), and the relationship between hibernation physiology and cardiovascular disease in humans (1). I was happy to observe that these papers were usually based on hypotheses found in the general behavioral ecology literature, which is a trend that will strengthen bear research and put the results into a more general perspective. From the many good questions, the session was a success.

Session 7 - Bear Movement and Habitat Use

Session Chair:

Andreas Zedrosser

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This session was very international, with high quality contributions from Asia, Europe and North America, covering three bear species, brown bears, Asiatic black bears and sun bears.

Bejan Lortkipanidze et al. started the session with a presentation about the modeling of brown bear habitat in Georgia. There is considerable debate in Georgia about the number

of bears and how many bears could be supported by the habitat. Bejan and his colleagues found that the size of habitat suitable for brown bears was smaller than previously estimated. They suggested that mountain forests should be classified as main brown bear habitat in Georgia, but that its actual suitability was largely dependent upon human accessibility.

Shinsuke Koike et al. gave a presentation on the relationships between the behavior of Asiatic black bears, autumn food habits, and hard mast production in Japan. Based on GPS locations, they showed that the locomotion of male bears was bigger than that of females, however, movement was over long distances regardless of sex, and occurred more in autumn than in summer. Movement rates increased especially in autumns with poor hard mast crops.

Leonardo Bereczky et al. presented a comparison of home range size, movements, habitat use and activity patterns of released orphan brown bears and wild captured brown bears in the Carpathian Mountains of Romania. Leonardo and his colleagues are using a "soft release" technique



Georgian boys who performed at the banquet

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(i.e. large enclosures, minimal human contact, etc.) to reintroduce orphaned bear cubs from a rehabilitation center into the wild. A comparison of the ecological and behavior characteristics of released bears and wild captured bears revealed no significant differences between the groups. Home range sizes were similar of released and wild bears and the activity patterns of both groups were more nocturnal when the animals were close to settlement and more diurnal in remote areas.

Isao Arimoto et al. talked about autumn food habits and movements of Asiatic black bears in Japan in relation to hard mast production. The food habits of individual bears were evaluated with feces found at GPS locations. The results suggested that food habits and movements correlate with annually changes in the hard mast production. When both of beechnut and Mongolian oak acorn were abundant, all bears fed on beechnut selectively. Isao and his coauthors observed a large variation in individual food habits and concluded that the autumn food habits and home range elevation of bears were influenced not only by hard mast production, but also by regional or individual variation.

Tabitha Graves et al. presented how landscape characteristics (habitat and human) influence local grizzly bear abundance in northwestern Montana using a hierarchical Bayesian model. Over 1500 genetic samples of 545 grizzly bears were formatted as a spatial mark-recapture data set to estimate local bear abundance. Local male and female bear abundance at the 49 km² scale was influenced by

the amount of mesic habitat, land management practices, and historical presence of bears. Female abundance was also influenced by the amount of meadow and shrub habitat, while male abundance was also influenced by the number of deer and elk hunters in an area.

Robert Steinmetz et al. gave a presentation on the shared preference niche of sympatric Asiatic black bears and sun bears in a tropical forest mo-



Duro Huber

saic in western Thailand. The research goal was to evaluate overlap in habitat use and spatial co-occurrence of the two bear species, and thereby assess evidence for the mechanism of their coexistence. Rob and his colleagues found that fruiting tree density was the best predictor of occurrence for both species. The co-occurrence at both coarse and fine spatial scales and use of the same resources (fruit trees) indicated common niche preferences. However, the habitat use of the species differed in ways expected from their physical differences: larger black bears dominated in the most fruit-rich, higher elevation habitat, and smaller sun bears took advantage of less-preferred insects.

Patricia Reynolds et al. gave the final presentation of the session on movement rates and denning chronol-

ogy of 11 different bears (10 adult males and 1 adult female) grizzly bears in northeastern Alaska with the use of GPS-collars. The mean rate of movement for all bears was 0.44 km per hour. Adult male bears entered dens on average on 12 October and emerged on average on 25 April. Male bears were in winter dens for an average of 195 days, indicating that arctic grizzly bears spend half of their lives in dormancy.

The audience was able to take home three major messages from Session 7: 1) the importance of the “new technology” of GPS-collars as well as new statistical approaches for habitat and movement studies, 2) which factors influence individual movement rates, and 3) how the habitat use of bears is driven by food habits as well as food abundance, but also how it is shaped by interspecific competition and human influence.

Workshop on Captive Bear Issues and their Management: the bear sanctuaries

José Kok, Koen Cuyten and Agnieszka Sergiel

The objective of this workshop was to discuss issues related to sanctuaries and other bear holding institutions for mistreated or orphaned individuals. The purpose was to share experiences and provide a forum to foster information exchange that is critical to building a network of professionals to address captive bear issues and their welfare.

In Session I, seven speakers presented issues related to aspects of bear sanctuary management and welfare. The first speaker, **Leonardo Bereczky** (Association for Conserving Natural Values), presented “Reasons why bears arrive in captivity - the European experience” The Orphan Bear Rehabilitation Centre, accepted 40 bears for a rehabilitation and reintroduction project beginning in 2003. The

bear restoration effort was designed to return bears to the Romanian Carpathian mountain range. According to the results of the assessment, there are three main reasons why the cubs became orphaned: (1) Winter den disturbance caused by timber exploitation, tourism, and hunting (2) Accidental separations between cub and sow due to weather or other disturbing factors and (3) Death of the sow (Accidental killing by hunters or poaching). The Romanian experience can be projected on to situations of other European countries hosting bear populations. Considering the annual number of orphan cubs, the speaker emphasized that the sustaining professional rehabilitation centers provides an effective solution for the existing orphan cubs. It doesn't prevent the animals from becoming orphaned.

Heather Bacon (Animals Asia Foundation) presented "The Trade in Bear Bile - A One-health Approach." Animals Asia offers a comprehensive veterinary medical program (including expertise in surgical and pathological services). The facility has catalogued hundreds of pathological case studies of bears subjected to the invasive bile extraction process that provides bile for the traditional Chinese medicinal market. From the trauma inflicted, histopathology, cytology and gross pathological examination was documented and recorded via catalogue through an assessment protocol developed in bear rescue centers in Vietnam and China. These centers provide a lifetime of care for over 300 bears. Individual animals range from physically and mentally 'damaged' animals to bears that were considered candidates for rehabilitation (reintroduction) into the wild. Rehabilitated animals are selected as ambassadors for education

programs. In conclusion, the speaker stated that, by bringing together stakeholders through a progressive and holistic approach, the Animals Asia Foundation aims to provide multiple solutions to the problems generated by the bear bile trade, in a long-term effort to ultimately end this trade, and the significant threat it poses to bear populations around the world."

Lazaros Georgiadis (ARCTUROS) presented "Bear Sanctuaries, their standards and their contribution



Kazbegi Field trip

to the bear conservation: The case of ARCTUROS Bear Sanctuary in Greece." There is a need for clear definition of what a sanctuary is and what standards need to be met to care for bears in a sanctuary. He outlined three strategic questions: (1) What does one do with a wild animal in need of sanctuary (e.g., bear)? (2) What guidelines should we follow to care for a bear for the duration of its life? And (3) How do captive bear facilities contribute to bear conservation in the wild?

According to ARCTUROS, the contribution of Bear Sanctuaries to bear conservation can be achieved through (1) public awareness campaigns and special environmental education projects, (2) participating in special wildlife conservation projects and (3) contribution to scientific research.

Marion Schneider (Zoo Koeln) gave a presentation on "Integrating behavioural aspects into planning and running bear sanctuaries". The speaker emphasized how essential it is to keep animals in large, naturalistic, well structured enclosures that provide sufficient stimuli to allow for the maintenance of critical inter-individual distances regardless of dominance hierarchy. The ability to stimulate a wide variety of species-specific behaviours was also deemed important. According to inter-specific differences, enclosure design and daily management strategies should meet the biological needs of the respective species.

Jan Schmidt-Burbach (World Society for the Protection of Animals) presented on "General veterinary procedures for bear sanctuary settings." The speaker pointed out two diagnostic procedures that are recommended for sanctuary settings: (1) Necropsy procedures, which simultaneously allow for the practice of surgical procedures and/or familiarize the vet staff with bear anatomy and (2) Diagnostic cytology which allow many pathologic situations (relatively easy to diagnose) to be recognized at an early stage, (e.g., bacterial and mycotic infiltrations, necrosis, and inflammation, etc.) As a main conclusion, there is a need for detailed guidelines for the most common procedures and references on diseases should be made available to the resident veterinary staff.

Irakli Kutsia (NACRES) presented on "Welfare problems of captive bears in Georgia." Since the 1990s captive bears were displayed at restaurants and petrol stations to attract visitors or were kept as pets. They are often not properly cared for, do not get appropriate nutrition and often do not have access to drinking water. Owners do not observe even the most basic safety rules. Since 1995 NACRES has

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been working on the problem of these captive bears situations. A comprehensive database was designed to include all detailed information about the bears, their condition, owner information, cage sizes, etc. There is a need for a bear sanctuary in Georgia. This should go along with actions from the government to improve the control on illegal capture and trade of bears.

Agnieszka Sergiel (University of Wrocław) presented on “Captive bears welfare monitoring - Poland 2007-2009.”

The main objective of this project was to assess the welfare of bears and their housing conditions. The study evaluated if the biological needs of the bears were fulfilled and examined the type and intensity of aberrant behaviors. A detailed catalogue describing age, sex, origin, physical and psychological condition was compiled. The primary welfare problems of the 52 bears living in captivity in Poland were specified. The project findings will serve to improve the welfare of bears and to initiate legislative change to improve the captive lives of bears.

In Session II, two presentations were given on examples of existing large bear enclosures or sanctuaries for different bear species. A presentation on “A sun bear sanctuary in Indonesia,” by **Gabriella Fredriksson** (Environmental Education and Recreation Center), provided an excellent example of education programs and their benefit to conservation education initiatives. Indonesia covers some 45% of the sun bears’ geographic range. Unabated forest loss and poaching seriously threaten this species. As general knowledge and concern about

sun bears in Indonesia is virtually lacking, a first of its kind environmental education center, with a strong focus on sun bears in East Kalimantan (Indonesian Borneo) was developed. The sun bear became the mascot of the local Balikpapan district in 2002. In 2006, a 1.3 ha forest enclosure was built for five confiscated ex-captive (pet) sun bears with an adjacent education exhibit was finalized in

two sections by means of sliding gates. The third section is the quarantine area where bears can recuperate after arrival, have examinations done by the zoo’s veterinarian. Alertis has developed a special diet which stimulates the natural (foraging) behavior of bears. By means of its website www.largebearsenclosures.com. Alertis wants to share knowledge and information to improve

management and welfare of captive bears. An online database of individual cases of bears in peril will be created next to this.

The workshop concluded with a discussion on the concept of a bear network for information exchange, including list of sanctuaries to be updated, relevant websites, NGO’s working on the issue, contact details of all involved parties,

etc. This workshop was the first step towards creating such a cooperative network of captive bear experts.

The captive bear news correspondent, **Jordan Schaul**, could not attend the workshop, but suggested that information be sent to him to upload to the Bear Keepers’ Forum (<http://bearkeepers.wordpress.com>), a website dedicated to sanctuaries, rehabilitation facilities, zoos and other bear holding institutions. The new site is under construction and was formerly hosted under the domain www.bearkeepers.net. A passcode protected directory is available on the new site, as is a link to a mailing list that has been managed for seven years (catering to clinicians, pathologists, keepers, and managers). Please send your contact information and website links to jordan@alaskawildlife.org.



Georgian conference staff at closing

2009. Some 50,000 local people visited the education center in 2009. The center is being developed by a combination of small foreign grants and collaboration with local government which covers much of the ongoing operational costs. The next challenges will be to evaluate the effectiveness of the education programs and whether changes in attitudes towards conservation and more importantly, changes in practices are being achieved.

The concept of “large bear enclosure for brown bears” was presented by **Koen Cuyten** (Alertis – Fund for Bear and Nature Conservation). The Bear Forest in Rhenen, the Netherlands is a large bear enclosure for mistreated dancing, circus and film bears. Raising awareness and education are the most important aims, next to fundraising. It is a semi-natural 20,000 square meter enclosure, located in a natural forested area. The enclosure is divisible into

All photos by John Hechtel. 📷

Status and Conservation of Eurasian Bears

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The IBA conference held in Tbilisi, Georgia, a site at the crossroads of Europe and Asia, provided an opportunity for the BSG to discuss and present updated information on status, threats, and conservation of Eurasian bears. BSG members held separate small meetings on sloth bears and Asiatic black bears, as well as a plenary session on the status and conservation of all the terrestrial (excludes polar bear) Eurasian bears (five species). This session was composed of a series of reports from relevant Expert Teams, dealing with changes in distribution, trends in abundance, main limiting factors, conservation programs, research programs, accomplishments or goals of their team, and proposed future efforts. Inter-mixed with these reports were related special reports on bear distribution, threats, and conservation challenges and initiatives in Eurasia.

A few common threads emerged from this series of reports. Notably, conservation successes are most apparent in Europe, with just a few bright spots in Asia (e.g., Japan). In southern Asia, bears are continuing to lose ground, both figuratively and literally. The ironic exception appears to be the giant panda, which being the only officially endangered bear, also seems to be the only one in Asia where the overall range area is expanding.

Equally notable is the astoundingly poor quality of information that exists for bears in Asia. Several expert teams lack any representatives from some range countries, and among the existing membership of country "experts," knowledge about the status of bears and threats against them is (to put it mildly) wanting. To a large extent this is due to inadequate funding, manpower, infrastructure, and training, but is also due to conflicting priorities among the many species that vie for conservation attention.

With this poor state of knowledge, how sure are we that Asian bears are really faring poorly, despite increasingly stricter laws and establishment of more protected areas? Can we really tell what is happening when all we have are crude statistics on forest cover and sporadic records of confiscated bear parts? Might we be fooled into thinking that the situation is gloomier than it really is? Unfortunately, we don't think that's the case, based on data available for some selected areas.

Below are brief abstracts from the reports presented in this session,

which give a sense for the status of bears across this broad region. Following these are two longer reports (not from the Tbilisi meeting) about some important conservation endeavors also occurring in Asia, which we think demonstrate why there is justification for hope in turning the tide on these bears.

European Brown Bear Expert Team (EBBET) Report

Presenters: Djuro Huber and Jon Swenson

European brown bears range across 28 countries, 26 of which are represented on the EBBET (Belarus and Ukraine are missing). These bears occur in nine discrete populations: Scandinavia (3,300 bears), North-eastern Europe (38,000), Carpathian Mountains (8,100), Dinara -Pindos (2,800), Alps (35-40), Appennini Mountains (40-50), Balkan (720), Cantabrian Mountains (60-90) and Pyrenees (15-17). The largest populations are found in northern



Recently orphaned brown bear cub in Croatia

© Agnieszka Sergiel

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and southeastern Europe whereas the populations in south-western Europe are small and endangered (Austria, Pyrenees in France, Abruzzo and Trentino-Alto Adige in Italy and Cantabria in Spain). Population sizes and trends are estimated in various ways including: DNA extracted from scat collections, counts of females with cubs, counts at feeding stations, opportunistic observations by hunters or by expert opinion. Conflicts that lead to threats include: sheep depredations in Norway and France; problem bears in Slovakia, Croatia, and Poland; illegal killing in Austria, Spain and France. Bears are threatened by isolation (but not conflict) in Abruzzo, Latvia and Cantabria. Future efforts should include finding and "building" experts in some countries, as well as obtaining international projects on the level of bear populations.

Status and Conservation of Brown Bears in the Pyrenees

Presenter: Pierre-Yves Quenette

The brown bear population in the Pyrenees is one of the smallest in Europe (and the only remaining population in France). Nearly extirpated, with only 5-6 individuals left in 1995, the population was augmented in 1996-1997 and 2006 with three and five bears, respectively, from Slovenia. A minimum of 17 individuals were detected in 2009. Special challenges are posed by the fact that this is a transborder population, covering 5000 km² in France, Spain and Andorra. Monitoring is based on systematic hair trapping and trail surveys as well as opportunistic bear sightings and records of sign. The main limiting factors are human-caused mortalities (e.g., hunting accidents, car collisions), conflicts with livestock breeders, and the innate characteristics of a small, fragmented population with a skewed sex ratio. A new conservation plan for the period 2010-2014 must be presented by the French Ministry of Ecology.

In the framework of this new plan, we will focus on transborder monitoring and on an awareness campaign for hunters.

Past and Present Distribution of the Black and Brown Bears of Asia

Presenter: Dave Garshelis

In October 2006, bear experts from Asia gathered in Japan to map the distribution of four Asian bears: brown bears, Asiatic black bears, sun bears, and sloth bears. Participants mapped point locations, definite range (polygons extending from points), probable range (acceptable habitat but no definitive evidence of presence), and extirpated range (absence within historic range); areas not so designated were categorized as uncertain. Brown bears presently occur in 19-21 Asian countries; occupancy is uncertain in Iraq and Bhutan. The most recent known whole country extirpation was Syria (last documented there in 1955). Asiatic black bears occur in 18 countries, with no country extirpations, but 10 countries with >75% of the historic range extirpated. Sun bears occur in 9-11 countries; occupancy is uncertain in China and Bangladesh. Sloth bears occur in India, Nepal, and Sri Lanka; are probable in Bhutan (although documentation is lacking) and likely recently extirpated in Bangladesh. A large share of the range of each of these species occurs in a single country: Russia = 66% of brown bear range; China = 50-59% black bear range; Indonesia = 45% sun bear range; India = 97% sloth bear range. Protected areas (PAs; IUCN categories I-VI) comprise 13-14% of brown and Asiatic black bear range, and 25% of sun bear range. Digitized PAs for India were not available, so the protected area of sloth bear range is not known. Asian bears occupy 49 priority eco-regions: brown bears = 29, black bears = 29, sun bears = 17, sloth bears = 12. Each of the latter three species has been nearly extirpated from two eco-

regions. Conservation priority should be given to saving bears in each of the eco-regions that they historically occupied and to maintain functional ecosystems.

North Asian Brown Bear Expert Team (NABBET) Report

Presenters: Tsutomu Mano and Larry Van Daele

NABBET members are from six countries, four in Asia (China, Japan, Mongolia, and Russia) and two in North America (Canada and United States). There are no representatives from two range countries, Kazakhstan and North Korea. There have been no notable changes in the distribution of brown bears in Asia. No reliable population trend information exists in the entire region as population trend monitoring is generally lacking. While the brown bear is a game species in Japan and Russia, hunting is prohibited in China and Mongolia. Poaching for bear parts is a common issue in the continental countries. Depredation kills of nuisance bears are increasing and are the principle issue in Japan. Many of the ET members are active participants of the Northern Forum Brown Bear Working Group and we try to improve communications among researchers and managers in various regions of Northern Asia through Northern Forum activities (see more detailed report below).

South Asian Brown Bear Expert Team (SABBET) Report

Presenters: O. E. Can and S. Sathyakumar

The SABBET has 13 members representing 11 countries in South Asia (China, Georgia, India, Iran, Kyrgyzstan, Nepal, Pakistan, Tajikistan, Turkmenistan, Turkey and Uzbekistan). There have been minor changes in the distribution of brown bear in



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Village interviews and awareness campaign about three species of bears in Bangladesh. Sloth and sun bears may already be extirpated.

the region. No information exists on population trends and no systematic monitoring occurs. Main threats are: poaching for bear parts, retaliatory killings to reduce crop and livestock depredation, infrastructure development, activities of military and border security agencies, and ecotourism. Recent conservation initiatives include: landscape level planning and management in the Indian Himalaya, development of a community-based brown bear action plan for Nepal, and 1st national workshop on brown bear-human interactions in Turkey. The team is searching for representatives for Afghanistan, Armenia, Azerbaijan, Bhutan and Iraq. SABBET strives to improve communications among members and promote regional cooperation for brown bear research and conservation.

Asiatic Black Bear Expert Team (ABBET) Report

Presenter: Dave Garshelis

Asiatic black bears range across 18 countries, 16 of which are represented on the ABBET (Nepal and N. Korea are missing). Recent known changes in distribution include range expansion in Japan and decline in Vietnam. Largest numbers of Asiatic Black Bears occur in China and Japan. Main human-caused mortalities are from poaching for parts and retaliatory killing for damage to crops. Additionally, extensive habitat loss is occurring in several SE Asian countries. Conservation efforts include awareness campaigns, establishing more PAs, increased anti-poaching patrols, and population augmentation. Camera trapping and radiotelemetry are the main research methods being

employed. The newest initiative is a bear monitoring network to combine the efforts of field projects on a variety of species to gather information on population status of bears.

Dachigam National Park, Kashmir, India: why are black bears so abundant?

Presenter: S.Sathyakumar

Dachigam National Park (141 km²) and adjoining forested areas, located near Srinagar in the Zabarwan hills of Zaskar mountain range in the Kashmir Himalaya, encompass one of the best habitats for Asiatic black bears in India. In the fall, large numbers of bears congregate (and are easily observed) in a plantation of English oak (*Quercus robur*), which was planted along with other bear foods by Maharaja Hari Singh during

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his rule (1925-1947). The conservation-minded Maharaja also relocated 10 villages in order to protect the Dachigam catchment area. The forested habitats of Dachigam NP now provide a variety of bear food resources, which along with orchards and croplands in the vicinity have led to high bear numbers and consequently human-bear conflicts. The Wildlife Institute of India initiated investigations of bear ecology and human-bear interactions in 2007 using a variety of conventional and modern field methods: sign surveys along transects and trails, camera trapping, hair snare stations, and GPS satellite telemetry are all being employed. Surveys of human-bear interactions have been completed and provided to the park management for use in adaptive management. This project is expected to produce interesting insights into bear ecology and human-bear interactions in an area with exceptionally high bear density.

Sun Bear Expert Team (SBET) Report

Presenters: Gabriella Fredriksson and Robert Steinmetz

Sun bear occurrence has been confirmed in nine countries, eight of which are represented on the SBET (Brunei is missing). The presence of sun bears in Bangladesh and China (Yunnan Province) is uncertain. Populations are decreasing in at least six range countries, based on habitat loss trends and evidence of increased poaching. Commercial poaching for bears is rampant, particularly in mainland SE Asia. Recent reports suggest sun bear bile is increasing in value relative to black bear, portending increased stimuli to hunt sun bears. Habitat loss, mainly for expansion of commercial agriculture, is continuing throughout the range, particularly in Indonesia and Malaysia. Two sun bear conservation/education centers have been developed in Malaysia and Indonesia, and additional bear

conservation awareness programs are being carried out in Bangladesh and India. Research projects on the status or ecology of sun bears are ongoing in northeast India, Lao PDR, Thailand, Malaysia, Indonesia, and Bangladesh. There is a need to build capacity in the region in bear sign survey methods, which offer a realistic way to monitor and evaluate the status of sun bear populations.

Sun Bear Conservation Issues in Indonesia

Presenter: Gabriella Fredriksson

Indonesia makes up 45% of the overall sun bear distribution, with bears occurring throughout the islands of Sumatra and Borneo (Kalimantan: Indonesian Borneo). Sun bears are present in all forest types, from peat swamps to lower montane areas with records up to 2300 m elevation. Sun bears are forest dependent; the biggest threats in Indonesia are habitat loss followed by hunting pressure. Forest loss is mainly caused by plantation development (oil palm), forest fires, unsustainable logging practices and an astounding over-capacity of the wood processing industries. Hunting of sun bears in Indonesia appears on the increase, and this, combined with unabated forest loss and lack of law enforcement, bodes poorly for sun bear conservation in the country. The main efforts needed to increase sun bear conservation are extension of the protected area network (and management of these) and enforcement of existing wildlife and conservation legislation.

Confronting the Trade in Bear Parts and Bear Farms of Southeast Asia

Presenter: Matt Hunt

The trade in bear parts remains rampant in Southeast Asia. This market stimulated the farming of bears for bile, initially in Korea and China, then spreading to Vietnam and recently to

Laos. Bear farms have been stocked with cubs taken from the wild. Orphaned cubs also become part of the pet trade. Other bears are brought to restaurants to supply meat and bear paw soup for wealthy consumers. A number of NGOs have been working in Southeast Asia to assist governments in eradicating the trade in bear parts and bear farming. The task is so enormous that collaboration among NGOs is paramount. Sanctuaries have been established in a number of Southeast Asian countries where government-confiscated bears (mainly Asiatic black bears, but also sun bears and brown bears) can be housed and rehabilitated. With hundreds of bears now in sanctuaries in Southeast Asia, the commitment to provide lifetime care for them is monumental. However, these rescued bears also can serve as ambassadors for conservation in the region by providing research and educational opportunities. Free the Bears is considering ways of releasing some young confiscated bears back into the wild.

Sloth Bear Expert Team (SLBET) Report

Presenter: Harendra Singh Bargali

The sloth bear, endemic to the Indian subcontinent, is still widely distributed in India, but faces severe threats from continued deforestation, isolation of habitats, and poaching. Retribution against bears involved in conflicts with people (crop-raiding, attacks) is another serious issue. The species is believed to have been recently extirpated in Bangladesh, and its presence in Bhutan remains undocumented. In Nepal, populations are fragmented and likely diminishing outside of Royal Chitwan National Park (which remains a stronghold). In Sri Lanka vast areas of forests have been cleared to accommodate refugees. The SLBET is seeking representation from Nepal and Bhutan in order to gain more information about the status of sloth bears there. Protec-

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Giant pandas photographed with a trip-camera at a waterhole in Changqing Reserve, Shaanxi Province

tion of habitats outside the Protected Area network is a prime conservation objective. Considering sloth bear conservation at the level provided to tigers (before they diminish to the dire state of tigers) is needed to ensure the continued viability of this species.

Status of Indian Dancing Bears

Presenter: Neil D'Cruz

Kalandars have performed with dancing sloth bears since medieval times. Cubs taken from wild populations to fuel this practice create a constant drain on bear numbers. The tradition also raises serious welfare issues. The Wildlife Protection Act of 1972 and a ban on street performances using bears (1998) made this practice illegal in India, but poor enforcement and a lack of acceptable alternatives allowed it to continue. Over several years of effort by a number of NGOs, dancing bears have been confiscated and brought into sanctuaries, and Kalandars trained in alternative trades. A recent survey, coordinated by Wildlife Trust of India

(WTI) staff over eight weeks across 13 states, provided evidence of 28 bears/handlers remaining in eight states. Dancing bears no longer occur in urban and accessible rural areas, but still exist in some hard-to-reach areas of India and bordering areas of Nepal. Through the provision of lifetime care to ex-dancing bears, alternative livelihoods to Kalandars, enforcement and public awareness related activities it will be possible to end the tradition of dancing bears in India.

Giant Panda Research and Conservation in China

Presenter: Dajun Wang

Giant panda populations and their habitat are protected by a system of 64 nature reserves; 40% of panda habitat is covered by this system. Panda habitat has also improved as a consequence of a logging ban and reforestation effort, but remains fragmented in 23 disjunct patches. A number of field studies are ongoing. The Chinese Academy of Sciences and San Diego Zoo are collaborating on a study in Foping Nature Reserve

(using GPS-collared pandas) investigating chemical communication, dispersal, spatial ecology, foraging, denning, mating, human impacts and molecular ecology. Another study, conducted through a collaborative effort by Peking University and the Smithsonian Conservation Biology Institute, is utilizing camera traps to investigate corridor use by pandas. Several studies have been conducted to evaluate the impact of the massive earthquake of 2008. As yet, they have found no serious impacts on wild panda populations although some large areas of habitat were damaged. Panda reserves have initiated a systematic monitoring program for pandas, forests, and biodiversity. Range-wide panda population estimates have been conducted at about 10-year intervals: the 4th national survey is planned for 2011.

Captive Bear Expert Team (CBET) Report

Presenters: José Kok and Lydia Kolter

The CBET currently has information on approximately 560 bear-keeping facilities in Eurasia: 70% are zoos, 7% rehab centres; farms, circuses, hotel and road zoos make up the remaining 23%. However, the proportion in the latter category might be severely underestimated. Data from the Near East and several countries of Southeast Asia are lacking or at least incomplete. In most of Europe and in India, with strong zoo associations/zoo authorities, husbandry guidelines, education, management and collection plans are available; these are prerequisites for using captive bears in conservation education and conservation research. The development of collection plans in other regions is considered a high priority for our team. Efforts will be increased to recruit more members from Southeast Asian countries to close these gaps. A workshop of the CBET is planned to discuss how to better use captive bears to enhance bear conservation activities in the wild. 🐻

Bear Specialist Group

European Carnivore Campaign: raising awareness and funding for bear conservation

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Since 2000, the European Association for Zoos and Aquaria (EAZA) has organised annual conservation campaigns to raise public awareness for conservation, increase the cooperation between EAZA and conservation organisations, and support *in situ* projects. A number of conservation organisations received funding through money raised during these campaigns.

In September 2008, the EAZA launched the European Carnivore Campaign. The theme of the first year (2008-2009) was "Living together," that of the second year (2009-2010) "Poison." This campaign has been addressing problems arising from both an increase and decrease in numbers of various European carnivores. On the one hand, actions are needed to improve the survival of threatened and endangered species; on the other, it means learning to live with species that are expanding their ranges and causing conflicts with human interests. Strategies are needed to secure the survival of carnivore species in co-existence with humans.

The following aims are addressed by the campaign:

1. To make people conscious of the diversity of wildlife that still survives in their own country;
2. To raise public awareness of the expansion in both numbers and range of several large carnivore species;

3. To draw attention to the way in which our life styles and activities endanger the future of many of our rare and endangered carnivore species;

4. To explain why the presence of carnivores is a good indicator of the health of our environment;

5. To demonstrate to EAZA members and the public that conservation is needed at home, not just in the far flung corners of the earth;

6. To raise money in support of specific projects that facilitate 'living together'

7. To stop the use of poisoned baits to control carnivores;

8. To raise money in support of specific projects that monitor the use or mitigate the effects of poison affecting European carnivores.

The campaign started by focussing on 12 flagship species referred to as the "Dirty Dozen": European mink, marbled polecat, wolverine, European otter, European lynx, Iberian lynx, European wild cat, grey wolf, Arctic fox, golden jackal, polar bear, and brown bear. In the second year four more species, "The Fantastic Four," were added to the list: Imperial eagle, Egyptian vulture, European black vulture and harbour porpoise.

Unlike former years when EAZA office supplied all participants that registered for the campaign with information on paper, the information this time was provided through a specially designed website: www.carnivorecampaign.eu. On the site, visitors can find detailed information about the various carnivores and conservation projects that are supported by the campaign, as well as wallpapers, a rap, ring tones, fundraising ideas, videos and of course a quiz. Björn the brown bear acts as guide through the kids' corner. On average, there are about 1700 visits (both participants and other visitors) to the website per month.

In order to bring the campaign even more under the attention of the broader public, zoos that participated in the campaign organised several events, one of them being a "Teddy Bear Picnic," which was held on 21 June 2009. Although this was mainly an awareness creating event, it also acted as a fundraiser. Kids and their families were invited to the zoos with their teddy bear and participated in a large group picnic. A total of 24,621 teddy bears were counted among the 34 zoos that simultaneously held this event. Standing before exhibits on the



Teddy bear picnic in Zoo Mulhouse (France)



Footprint sweets for sale in Aalborg Zoo (Denmark).

featured carnivores, kids and their parents participated in various games, storytelling, guided tours, puzzles, quizzes etc. They were asked questions like: "What carnivores live in your area? Why is it important that carnivores survive? What would you do if you met a carnivore?" This year participating zoos will hold another awareness-creating event called the "Carnivorous Carnival" (late June), which will also bring a lot of media attention to European carnivores.

So far, nearly €250,000 has been received in the campaign account. This money will be used to support, among others, three projects targeted at brown bears:

1. Techniques for reducing conflicts between humans and brown bears in Albania.

In Albania, brown bears cause damage to crops, fruit trees, vegetable gardens, beehives and, to a lesser extent, livestock. Currently there is no compensation system for these economic losses. Bear hunting and shooting is forbidden by law, but illegal killing of bears has been increas-

ing. Also, the number of bears captured and kept as pets has been on the rise (see IBN 19(2):7). This project aims to reduce human-bear conflicts: (1) by using electric fencing, and (2) by increasing bear food availability outside cultivated land by creating plantations of experimental crops and native wild fruit trees.

2. Reduction of poisoning of wolves and bears that depredate livestock in Bulgaria.

Farmers in Bulgaria are often unable to defend their cattle against attacks by wolves and bears, and authorities provide little help in this regard. As a result,

local people attempt to kill the offending predators with poison baits, even though this is a strong offence against

several acts (Biodiversity Conservation Act, Hunting Act and Bern Convention). This project aims to: (1) increase tolerance of local people toward predators; (2) reduce livestock damages without killing predators; (3) reduce the use of poisoned baits; and (4) ensure proper collection of samples for legal persecution when poisoning incidents occur.

3. Preventive measures to reduce conflicts and enhance bear conservation in Slovakia.

Increasing human-bear conflicts in Slovakia have led hunting groups to call for a substantial reduction in bear numbers; meanwhile, others have sought non-lethal means of reducing these conflicts and ensuring the conservation of bears. Waste management is a big issue. Special bear-proof waste bins have been developed and tested with zoo animals. In the coming years more bins will be produced and distributed over the country. Other preventive measures such as electric fences and deterrent sprays will also be promoted. 🐾



Information panel in Zoo Decin (Czech Republic).

Bear Specialist Group

International Team Cooperates on Kodiak Bear Research

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In late May 2010, two biologists from eastern Siberia and their translator traveled to Kodiak Island, Alaska, to spend three weeks assisting Alaska Department of Fish and Game (ADF&G) and United States Fish and Wildlife (USFWS) biologists with aerial surveys and a subsequent capture operation of Kodiak bears in southwestern Kodiak Island, Alaska. Egor Nikolaev, the deputy head of Sakha's hunting management department and Egor Kirillin, a predator research biologist with the Institute for Biological Problems of Cryolithozone, Russian Academy of Sciences, along with translator Sophia Kholomogorova were invited to Kodiak by the co-investigators on the project, ADF&G wildlife biologist Larry Van Daele and USFWS researcher Bill Leacock. All are members of the Northern Forum Brown Bear Workgroup, and the project was funded by the Institute for Biological Problems of Cryolithozone, Russian Academy of Sciences, ADF&G, USFWS, and the Kodiak Brown Bear Trust.

The Sakha Republic, also known as Yakutia, is a vast region of central Siberia that stretches from Lake Baikal



Russian bear biologists assist with bear capture operation at Karluk Lake, Kodiak, Alaska, USA. Left to right: Sophia Kholomogorova, Egor Nikolaev, Egor Kirillin, Bill Leacock, and Larry Van Daele.

© Alaska Department of Fish and Game (ADF&G)

to the Arctic Ocean. The region is characterized by extensive expanses of tundra, taiga, and mountain ranges. Yakutia is bisected by the Lena River, one of the ten longest rivers in the world (4,500 km). The arctic/sub-arctic continental climate is characteristically dry with hot summers and extremely cold winters, and the coldest temperature recorded in the Northern Hemisphere occurred in Oymyakon, Yakutia (-71.2°C; -96°F).

Yakutia is the largest republic in Russia and the largest sub-national political unit in the world (over 3,000,000 km²), yet it is home to less than a million people, about half of which are indigenous Sakha, Even, and Evenk. Hunting, fishing, and reindeer herding were traditionally the mainstay of the local economy, however recent developments include mining for diamonds, gold, coal, and other valuable minerals, as well as rich deposits of oil and gas. Though these endeavors now provide most of the income from the region, overland transportation infrastructure is extremely limited due to challenges

associated with building in remote areas underlain with permafrost.

Extensive tracts of pristine habitat support healthy populations of large mammals including stone sheep, moose, elk, deer and brown bear. In Yakutia, bears occur in low densities in most habitats south of the Arctic Circle. There are an estimated 14,000 bears in the Republic, yielding an average density of less than 5 bears/1000 km². Brown bears are culturally important to indigenous groups of the region, and many people respect bears greatly. Rarely do they refer to bears (known as "ehe") directly, and before going on a bear hunt, the hunters carefully prepare and offer sacrifices to *Baianai*, the god of the hunt. Immediately after a successful hunt, bear heads are left in trees and bear meat and fat are respectfully distributed and consumed.

In Yakutia, legal hunting is not a major source of bear mortality. Although the hunting department has a harvest quota of up to 700 bears per year, less than 25 permits are typically issued annually. However, bear man-

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Egor Nikolaev and Egor Kirillin investigate fresh bear scat at Karluk Lake, Alaska.

agers and researchers in Yakutia are growing concerned about the Republic's bear population, because growing industrial development and resource extraction are increasing bear/human interactions, with a majority of these encounters ending in negative consequences for the bear. As such, Sakha's biologists are eager to increase their knowledge of the region's bear population by developing a unified and consistent method of accurately enumerating bear populations, and gaining a better understanding of bear movement patterns, habitat use, and population dynamics.

During the summer of 2009, the Sakha Republic invited bear biologists from the Northern Forum Brown Bear Workgroup and the North Asia Brown Bear Expert Team to spend a week in Yakutia learning about the challenges facing wildlife biologists in the region. The group visited resource-extraction and transportation sites, a local reindeer-herding village, and typical brown bear habitat. They also met with researchers, managers, civic leaders and representatives from large local industries. At the culmination of the visit, the teams drafted recom-

mendations and strongly encouraged further communication, including an invitation to visit Kodiak Island to assist with on-going bear investigations.

ADF&G and USFWS have been intensively managing brown bears on Kodiak since the 1970s, with on-going hunting, viewing, and research programs. During the past decade, these programs have been conducted in conjunction with an active citizen's advisory group (Kodiak Unified Bear Subcommittee) and a portion of the funding has come from a non-profit trust fund (Kodiak Brown Bear Trust) that was initially established by construction of a hydro-electric facility. Bear densities on Kodiak average 220 bears/1000 km², and are slowly increasing even while supporting an average annual harvest of about 200 bears per year, with some of the largest brown bears ever reported in North America being taken on the Kodiak Archipelago.

This spring's research activities were centered around the Karluk Lake drainage on the southwest end of Kodiak Island. We started with an intensive aerial survey of bear habitat surrounding Karluk Lake. These surveys entail use of small two-seat



Sophia Kholomogorova and Egor Kirillin join ADF&G biologist Matt Van Daele in analyzing bear survey data amidst posters used to translate important phrases and words for our bear capture work.

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aircraft (Piper Cub and Aviat Husky) flying low-level surveys of specific quadrants at a rate of 2 minutes/km². After several replicates of each quadrant during a week-long operation, density estimates and confidence intervals can be determined. While our Russian guests had used similar techniques for moose surveys, modification of the technique for use on bears was very interesting to them. They were particularly enamored with our "Lilliputian" survey planes because the smallest aircraft available for aerial surveys in their region is the lumbering 12 passenger An-2 biplane.

Soon after the surveys, we began our capture operation. We used a Hughes 500-D helicopter to dart 28 adult bears and deployed 22 GPS and 3 VHF radio-collars. The remote release, downloadable GPS technology on the transmitters seemed especially applicable to future studies in Yakutia where aircraft support is expensive and difficult to obtain. Our Russian colleagues were active participants in all aspects of the captures, and in spite of language differences we learned a tremendous amount from each other.

Among the most productive and informative aspects of the meetings in Sakha and field work in Alaska were long evenings spent discussing everything from politics, culture, and biology - all with remarkable support and patience from our translator. We have a tremendous amount to share with each other and immersion into each other's culture during these exchanges is far more effective than only attending professional meetings. Hopefully, our cooperation and work this summer will continue to benefit bears and researchers on both sides of the Bering Sea in the years to come.



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One Very Old Bear

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It is rare in bear studies to get the opportunity to follow a bear into old age. In hunted populations of American black bears, *Ursus americanus*, (which most populations are) few bears live to be 20, and fewer still live into their mid- to late 20's. Among the more than 550 black bears that we have radio-collared in various studies around Minnesota, USA, since 1981, however, one female has defied the odds. Bear #56, radio-collared at 7 years old in July, 1981, the first summer of our studies, turned 36 years old this winter, outliving any other bear we have encountered in our work by 13 years. Moreover, since the year of bear #56's birth, we have collected and aged 55,000 teeth from hunter-killed bears – only three (0.005%) lived past 30, the oldest being 33.

Bear #56 passed one milestone in 2002 at 28 years old, when she became the only bear we have monitored to reach reproductive senescence. Signs of reproductive slow-down had first appeared five years earlier in 1997, when, at 23 years old, she uncharacteristically lost two of three cubs born to her that year, before they reached a year old. In her previous eight litters, she had successfully reared a remarkable 21 of 22 cubs (95%) through their first year. In 1999, at age 25, #56 bore only a single cub, which she brought through the year in good shape. However, in 2001, the next year she was due to have cubs, we found her, by then 27 years old, lactating but alone. This was the last sign of reproductive activity we observed. The apparent loss of #56's cub(s) at that time could not be attributed to nutrition, as she was in excellent condition, weighing

114 kg, scoring 19 of a possible 20 in bone prominence condition index (Noyce et al. 2002), and registering 38% body fat using bio-impedance analysis (BIA; Farley and Robbins 1994).

After 2001, we discontinued routine tranquilization and handling of #56, except to replace her radio-collar every three years. We did not guess at the time that she would still be roaming her woods nine years later. In March 2010, #56 was due for collar replacement. We found her in a well-made underground den and administered about 2/3 the Telazol dose that we would normally give for her expected weight. She weighed 4 kg more than expected, so the actual dose was 2.7 mg/kg. Her response to the anesthesia was rapid and smooth, with no complications. She weighed 87 kg, scored well (11) in bone prominence index for late winter, and registered 19% body fat using BIA. This was similar to the last time she had been handled in March 2007, when she weighed 82 kg and also tested at 19% fat. The most noticeable changes were in her mouth: since 2007, #56 had lost a canine and several incisors were missing or worn to or below the gum line. Her molars were still present, however, with several millimeters showing above the gum line and plenty of grinding surface. Gums appeared to have receded somewhat and there were three 5-10 mm sores on the gums near the base of the roots of remaining canines.

In the 29 years that she has worn a radio-collar, #56 bore 10 litters and 26 cubs — 18 females and 8 males. When first captured in 1981, she had three cubs at her side. She was 7 years old and weighed 65 kg. Spacing of cementum annuli indicated that she had already raised one litter of cubs at age 5. Of her 18 known daughters, three disappeared in their first year. The 15 surviving daughters received radio-collars at 1 year old, though one removed hers shortly thereafter. Of the 14 remaining, all were shot by hunters except one born in 1995 that is still alive at 15 years old. Four died

at age 1, three at age 2, one at age 3, two at age 5, two at age 7, and one at age 16. Six lived to produce cubs of their own, totaling at least 47 known grand-daughters of #56, and 30 great-granddaughters, of which 22 were produced by a single granddaughter that lived to be 22 before she was shot by a hunter. Many more descendants are unaccounted for, including, of course, all those sired by #56's male offspring.

Information on natural longevity and reproductive senescence in bears is rare and slow to accumulate. Schwartz et al. (2003) compiled data from 20 studies from North America and Sweden and modeled reproductive maturity and senescence in brown bears (*Ursus arctos*). Modeling estimated rapid rates of senescence between 28 and 30 years old, but even in this large data set, only one individual was handled or observed beyond the age of 30 (she was monitored to age 34).

We are interested in compiling data on old age and senescence in black bears from other studies across North America. We would be interested in hearing from others who have data on condition and reproduction in black bears over the age of 20.

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Soliciting Public Input on a Draft Bear Management Plan

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The Florida Fish and Wildlife Conservation Commission (FWC) is soliciting public input on a draft bear management plan. This plan sets up the framework for the FWC to make effective bear management decisions in conjunction with stakeholders and the public who live in bear country. The goal of the plan is to maintain sustainable bear populations in suitable habitats throughout Florida for the benefit of the species and the public.

As a result of human population growth and loss of habitat, the Florida black bear's population varies greatly from region to region, which requires a management plan that is adaptable to address the needs of the bear population and the residents living in those areas. Therefore, the plan creates bear management units across the state, which will specifically address the challenges and characteristics of the different areas. Within those units, black bear assistance groups will work with the FWC to set management objectives and standards for resolving human-bear conflicts.

Currently, the two most serious threats to bears are negative interactions with humans and habitat loss and fragmentation. As a result, the draft plan sets objectives, which include conserving an adequate amount of bear habitat, stabilizing bear complaint levels and securing adequate funding for implementation.

FWC staff drafted the plan with assistance from a technical advisory group that included representatives from environmental groups, hunting clubs and state and federal agencies.

"We encourage the public to help us improve this draft and develop the final plan," said Dave Telesco, the FWC's bear management coordinator. "Feedback from the public will undoubtedly improve this plan and make it as effective as possible."

The draft plan is available online for public review and comment, and public meetings will be held in multiple locations across the state.

The plan is available for viewing at <http://share2.myfwc.com/BearMP/default.aspx>. Public comments will be accepted until 31 August. Public meeting dates and locations will be announced after the FWC meets with public and private representatives. 📧

Facial markings of Andean bears – Can YOU tell one from another?

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Camera traps have become a mainstay of population estimation

for bears, and the reliable identification of individuals is integral to this technique (e.g. Ríos-Uzeda et al. 2007, Ngoprasert et al. 2010). Authors have long stated that facial and frontal markings can be used to identify individual Andean bears (e.g. Roth 1964), often likening them to a human fingerprint. Considerable work has gone into developing methods for individually identifying felids from their spots and stripes (e.g. Karanth and Nichols 1998). What about the Andean bears? Are the differences in Andean bear markings sufficiently great for this to be a reliable technique?

Please help answer this and other long-standing questions by participating in an online assessment of your ability to recognize individual Andean bears from photographs. We anticipate that this will require no more than 20 minutes of your time, and your participation will directly support Andean bear conservation.

The survey will be open from 1 August until 30 September and can be found at: www.andeanbearsurvey.cbg-umss.org. Thank you for your time and participation.

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Presence of the Andean Bear (*Tremarctos ornatus*) in the Yungas of Puno, Peru's Southernmost Record

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The spectacled bear (*Tremarctos ornatus*) is an endemic species of the Tropical Andes and is the only representative of the Family Ursidae in South America (Ríos-Uzeda et al. 2005). In Peru, the Andean bear is distributed along the three chains of the Andes, and the largest bear population within the country is found on the eastern slopes of the Oriental Range (Peyton 1999). The Oriental Range crosses the north from Departamento Puno, where Bahuaja Sonene National Park (BSNP) is located. This natural area is very important for Peru, because it belongs to the core of the Conservation Corridor Vilcabamba - Amboró, one of the most important conservation corridors in the world due to its location in a region of high biological and cultural diversity (Ministerio de Agricultura 2003). Information

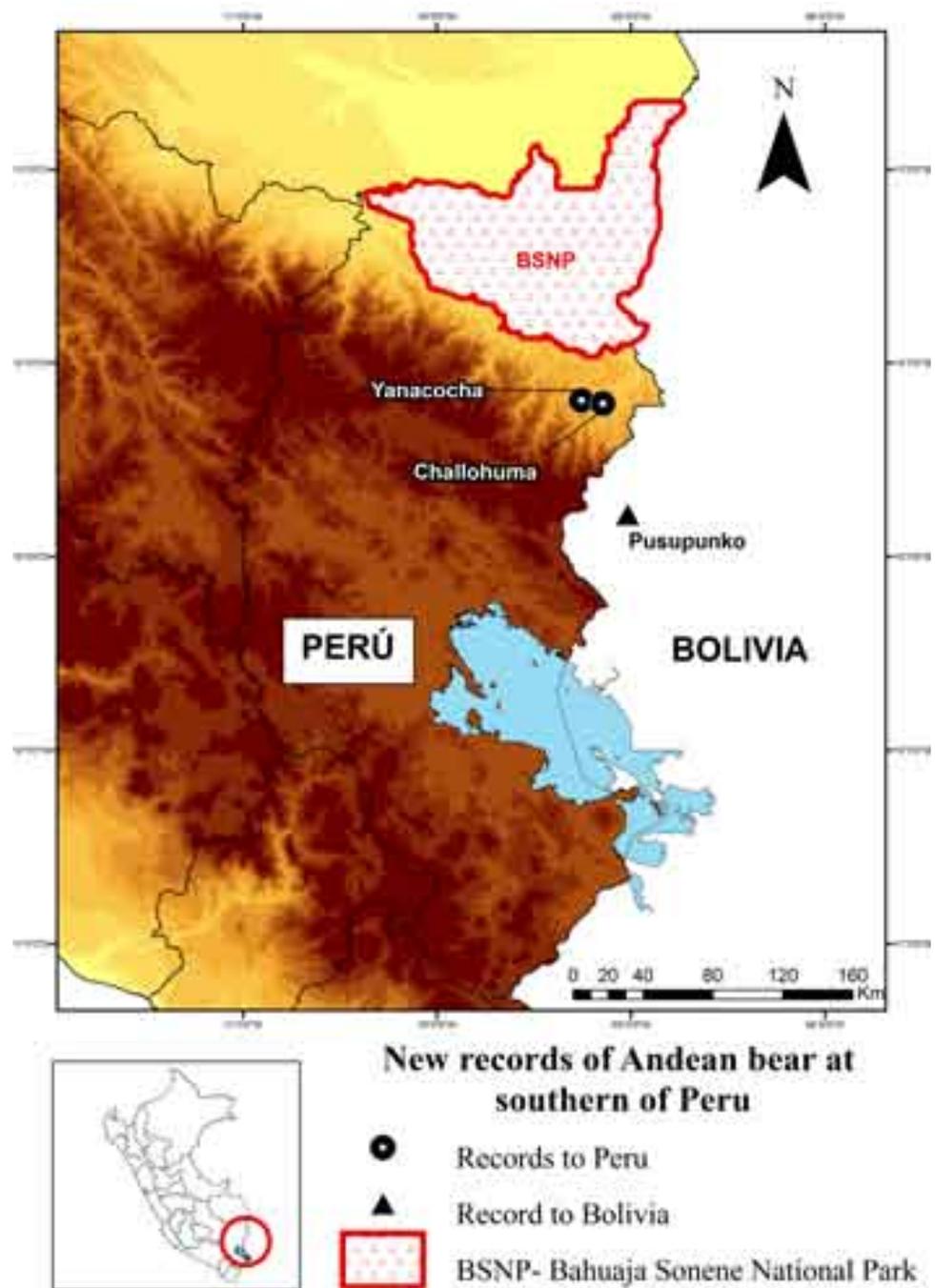


Fig. 1 Map of the Andean Bear's records at southern of Peru.

regarding the diversity of mammals around and within BSNP is scarce. Thus in August 2009, the Natural History Museum of San Marcos University organized an expedition to evaluate mammalian species richness in the area.

The study area included three sites located outside of the buffer zone (BZ) of BSNP: Challohuma,

Yanahuaya and Yanacocha, with elevations of 1200, 1600 and 1985 m, respectively. Lower cloud forest can be found across Yanacocha and Yanahuaya while premontane forest dominates Challohuma (Young 1992). At Yanacocha, the large-mammal sign-censuses were carried out along a vertical linear transect (470m × 2m) of strong slope, where an Andean bear



Fig. 2 Scat of Andean Bear with seeds of Lauraceae at 2,000 m of elevation approximately, near to the town of Yanacocha.

scat was found containing seeds of Lauraceae (Fig. 2) at 2,000 m of elevation approximately, near to the town of Yanacocha. Three days before, very close to the place where the scat was found, there was a strong burning of a patch of forest for farming purposes.

In Challohuma, tracks left by large mammals were evaluated through an intensive observation while installing a line of traps to assess non-flying small mammals. The total distance traveled in this transect was approximately 380 m. As result of that evaluation, the second record of Andean bears was found on this location at 1265 m, including bear claw-marks on a tree of 20 m of height approximately, likely left while the bear was climbing in search of food (Fig. 3). Previous records in the Departamento Puno are based on indirect information gathered through interviews with local people (Figueroa and Stucchi 2009, Tapia 2008) and the only skin collected of the species in Puno in 1950 (GBIF 2010) does not provide explicit information about its location. Thus, the record found in Challohuma appears to be the southernmost evidence of Andean bear presence in Peru.

Challohuma also borders Bolivia (the Integrated Management Natural Area Apolobamba and Madidi National Park), where Paisley and Garshelis (2005) reported the most northwestern record of Andean bear in Bolivia, in the Madidi National Park (Fig. 1). This information gives



Fig. 3 Bear claw-marks on a tree at 1265 m of elevation, likely left while the bear was climbing in search of food, near to the town of Challohuma.

importance to the records found in Puno because it shows continuity in the distribution of this species along the eastern slopes of the Andes from southern Peru to northwestern Bolivia.

Unfortunately, numerous threats are evident for Andean bear conservation within the region, being remarkable the level of deforestation, informal mining and the construction of a road which will facilitate the access to BSNP. These activities affect Andean bear's habitat availability in this region. Also, in the near future, activities so close to Bolivia's border could act as a barrier, isolating part of the bear populations from southern Peru from those in northwestern Bolivia.

Therefore, we suggest that the Peruvian State and the regional government of Puno together with region's university conduct studies about the status of bear populations in this region, especially regarding habitat use and availability to identify the factors that could impact the local bear population and to establish its long-term viability within the region.

In conclusion, these two records based on indirect evidence of the presence of Andean bear to the south

of the BZ of BSNP suggest their presence in the Departamento Puno and in the extreme south of Peru. Furthermore these records indicate that the bears move outside protected areas and biological corridors, so that conservation strategies should include activities both inside and outside of the buffer zone of the BSNP. Finally, we suggest developing binational projects (Peru-Bolivia) to help establish management and conservation plans for the spectacled bear in adjacent areas to the Conservation Corridor Vilcabamba -Amoró.

This expedition was made possible by funding from Centro de Investigación de la Universidad San Marcos and the Asociación Peruana para la Conservación de la Naturaleza (APECO).

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Captive Bear News: highlighting professionals behind the scenes

Jordan Schaul, Conservation Biology/Curation
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Siew Te Wong, Bornean Sun Bear Conservation Centre

Siew Te Wong is a Malaysian wildlife biologist who has been studying and working on the ecological conservation of the Malayan sun bear since 1998. Commonly known as “Wong” to his colleagues and friends and sun bear enthusiasts worldwide, he has a long history of working with wildlife and animals dating back to his

childhood. Wong grew up surrounded by animals. He is originally from Penang, a northern state in Peninsula Malaysia. Before entering elementary school, he had already hand-raised many house sparrows and common myna chicks, nursed a baby civet (cat-sized mammal of the Family Viverridae), and took care of many household pets.

In high school, Wong bred dogs, fish, and birds, and by that time had already decided on a career working with animals. He first studied abroad in 1989, obtaining a diploma in Animal Science and Veterinary Medicine from National Pingtung University of Science and Technology, Taiwan, in 1992. He then began his wildlife career working as a research assistant with the Wildlife Research Lab of Professor Kurtis Pei from the same university. For two years, Wong spent

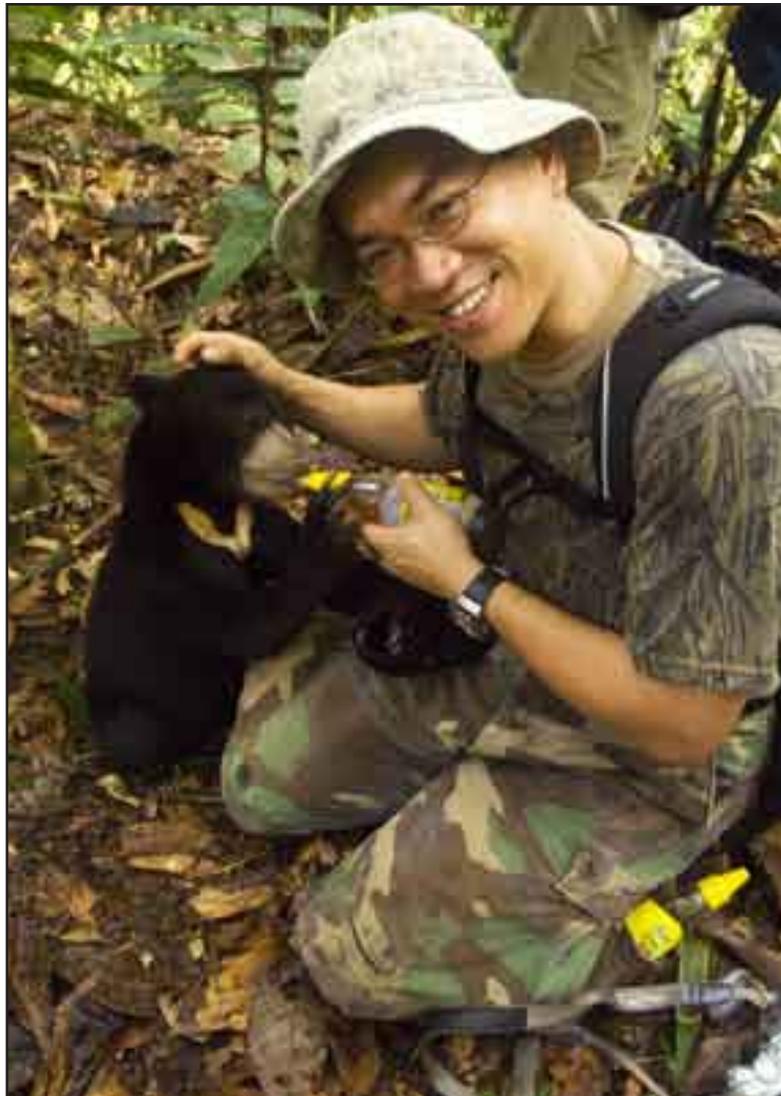
the majority of his time working under difficult conditions in the remote forest and rugged mountainous terrain of Taiwan. His duties included setting up camera traps and small mammal traps to record mammals, and conducting surveys of birds, reptiles and amphibians. Wong also assisted on one of the first radio-telemetry studies of Formosan Reeves's muntjac in Taiwan, working closely with the local aboriginal hunters in trapping, radio-collaring and radio-tracking wild muntjacs for an ecological study of this small-sized ungulate. He spent the rest of his time in the lowland working at the newly established Pingtung Rescue Center for Wild Endangered Species, another long-term project run by Professor Pei. At the wildlife rescue center, Wong applied his animal husbandry skills and veterinary knowledge in taking care of many wildlife species,

Captive Bears

Captive Bears

including orangutan, gibbons, macaques, sun bears, civets, tigers, and snakes, all victims of the pet trade and illegal wildlife market in Taiwan.

In early 1994, Wong left Taiwan to work with the Malaysian Nature Society, one of two local conservation NGOs in Malaysia. It was then, at the age of 25, that Wong first learned about the flora and fauna of the Malaysian rainforest and realized the importance of conserving the vanishing rainforest and its wildlife. He decided to continue his study in Wildlife Biology at the University of Montana, MT, in the USA later that year. There he met Dr. Chris Servheen, who then co-chaired the IUCN/SSC Bear Specialist Group and was looking for a Malaysian student to conduct the first ever study of sun bear ecology in Malaysia. Over the following three years, Wong and Chris worked closely together to prepare a sun bear study in Borneo to begin in 1998 as Wong's masters project. Even during his time in the US, Wong's passion to learn more about Malaysian wildlife never stopped. In the summer of 1995, he worked as a volunteer in Peninsular Malaysia mist-netting and banding birds in day time and trapping bats at night. According to Wong, that summer was the most extensive and laborious field work that he ever conducted, working both day and night in the rainforest. Twice, he almost succumbed to severe dehydration. The following summer,



Wong returned to Taiwan to work at the Pingtung Wildlife Rescue Centre, again caring for wildlife species in captivity.

As the date to begin his study of the sun bear got closer, Wong began to learn about bear handling and other aspects of bear research. In the summer of 1997, he worked with US Fish and Wildlife Service's Cabinet-Yaak Ecosystem Grizzly and Black Bear Research Project in Montana, USA. In 1998, Wong finally started his masters program and began his field work studying sun bear ecology at Danum Valley, Sabah, Malaysia Borneo. This research lasted until the end of 2000. His pioneering studies of sun bear ecology in the Borneo rainforest

revealed the elusive life history of the sun bear in the dense jungle and other important aspects of rainforest ecology. Subsequent to obtaining his masters of science in 2002, Wong decided to continue working with the sun bear for his doctorate degree, again under the supervision of Dr. Servheen at the University of Montana. In 2005, Wong returned to Danum Valley to investigate the effects of selective logging on sun bears and bearded pigs as his doctoral research topic. He completed the field work in 2008.

Upon beginning his research on the sun bear, Wong noticed that sun bears as a bear species are virtually unknown by the general public and reflected by a corresponding lack of conservation interest. Yet there were serious threats to the species due to habitat loss and fragmentation, poaching for body parts, and the illegal pet trade. Moreover, there were many captive sun bears being

kept as pets in substandard conditions with virtually no effort taken by local conservation NGOs and government agencies to improve captive conditions or efforts to conserve the sun bear in the wild. In view of the bleak future for the sun bear and paucity of significant action taking place to change the current situation, Wong founded the Bornean Sun Bear Conservation Centre (BSBCC) with the help from LEAP, a newly established NGO based in Sabah, and in collaboration with Sabah Wildlife Department and Sabah Forestry Department in 2008. The Centre aims to promote sun bear conservation by (1) creating the capacity to rehabilitate and release suitable orphaned and ex-captive bears (pet)

back into the wild; (2) providing an improved long-term living environment for captive bears that cannot be released; and (3) educating the public and raising awareness about this little-known bear and threats to its survival through visitor programs, outreach and support for further research.

Wong is the CEO and founder of the BSBCC. He was also named a fellow of the Flying Elephants Foundation, which awards individuals from a broad range of disciplines in the arts and sciences who have demonstrated singular creativity,

passion, integrity and leadership and whose work inspires a reverence for the natural world. Wong is also the former co-chair of the Sun Bear Expert Team, under the IUCN/Species Survival Commission's Bear Specialist Group and a current member of three IUCN/SSC Specialist Groups. Siew Te Wong is currently living in Montana, preparing his doctoral dissertation. He plans to return to Sabah at the end of this year to continue his work with the sun bear on the ground. He can be reached at:

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Student Forum

Georgia Student Session

Alexandros A. Karamanlidis, PhD
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Ever since the inaugural session in 2004, at the 15th IBA Conference in San Diego, student sessions have become an integral part of each IBA Conference. Since then, students have had the opportunity to ponder over their academic and professional future while munching on burgers and tacos in various "exotic" places around the world and student coordinators have been able to gain valuable experience in setting up these sessions.

All this valuable experience went to waste, however, when the volcanic ash over Iceland, the current financial crisis and the organizational skills of a student session coordinator from ...Greece (!) prevented several students from attending the 19th International Conference on Bear Research and Management in Tbilisi, Georgia. During the first four days of the Conference it seemed as if Georgia would receive the sad distinction of not holding a student session.

On the last day however of the Conference the IBA students showed,

yet again, some of their exceptional "survival" skills and why the IBA continues investing in student activities. Without any preparation and within the shortest of notices, the IBA students managed almost on their own to gather together and drag several IBA professionals to the small conference room and hold the student conference. The final head count was 22 student and IBA professionals from various countries, such as Japan, USA, UK, Romania, Finland, Iran and Germany.

Over almost one and a half hours the attendants of the session discussed the most urgent student issues and even managed to formulate several suggestions for improving student participation in the IBA. These include:

1. All students believe that student sessions during the IBA conferences are of major importance and would definitely like to see them continuing. However, there is a general agreement that student sessions would be more effective if they took place at the be-



IBA President Frank van Manen addressing the IBA students during the student session of the 19th IBA conference in Tbilisi, Georgia.

gining of the conference (even before the ice breaker) so that students have more opportunities to spend “quality” time with IBA professionals.

2. Student sessions should be well advertised and planned ahead of the conference.

3. The IBA student projects website should be updated and include also information on the academic/professional activities of previous IBA students.

4. The IBA should explore ways for involving students more actively in the day to day operation of the IBA and the newsletter (i.e. as regional correspondents).

Despite the initial difficulties, this year’s student session was, under the given circumstances, a great success. Congratulations to all the students who made this happen – see you next year in Ottawa! 📧

Brasov to Tbilisi – a road trip to the IBA

Karen Noyce

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Their arrival in Tbilisi for the 19th Conference on Bear Research and Management may not have been marked by fanfare, but it was a momentous occasion for four Romanian students and their mentors. They pulled into the city in the early morning hours of 17 May, just in time for the beginning of the conference, but still a bit punch drunk from a marathon 55-hour, 2500 km drive through Romania, Bulgaria, Turkey, and Georgia, that included a wrong turn that took them 200 km out of their way and an off-road mountain adventure. Though some might have described it as a “trip from hell”, Alexandru Gridan, Cristina Putanu, Andra Vacaru, and Flaviu Voda laughed their way through the telling of their adventure.

They had left Brasov at 7:00 p.m. Friday, 14 May, in an 8-person bus with biologists Joe Sarbu, Georgetta Ionescu, Jurj Ramon, and Marius Popa, all scientists at the Forest and Wildlife Research Institute, Brasov, Romania. Bound for Tbilisi via an arc around the south side of the Black Sea, they drove bad roads through the first night, crossing into Turkey from Bulgaria early Saturday morning. All agreed they made “very fast time” the next day whenever Georgetta (fondly known by the four as “Mom”) slept and could no longer keep driver Joe (a.k.a. “the pilot”) under her watchful eye. They described animals and people scattering as they flew through villages along the sea coast, eventually pitching a tent for a few hours of exhausted sleep in eastern Turkey and waking early Sunday morning to the call to prayer and dolphins playing in the surf.

Crossing into Georgia Sunday morning, they thought their destination was almost within sight, but soon thereafter, a wrong turn landed them on a road that took them high into the Lesser Caucuses, becoming smaller and smaller until finally they could drive it no further and were forced to admit that there was nothing to do but retrace nearly 100 km. With only a bit of Romanian chocolate to keep them going, they pushed on, eventually finding their way back to where they began by 8 p.m. that evening.

Alex, Cristi, Andra, and Flaviu had nothing but praise and gratitude for their mentors, and proclaimed a special thanks to Georgetta Ionescu, who had arranged grant funds making it possible for them to attend the IBA conference. Dr. Ionescu, in return, had nothing but praise for these hard-working and high-spirited students, all of whom volunteer their time in the field and lab on projects at the Institute. Attending the IBA Conference, they said, was a rich experience they won’t forget, and one that has introduced them to a world of new colleagues. Welcome to the IBA! 📧

Truman’s List Serve

- For students only
- Discussions pertaining to bear biology, management, or study design challenges
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- Job searches, announcements, information regarding the IBA and student membership
- Planning for IBA student activities and meetings
- IBA membership is *encouraged*, but not required, for initial sign-up

**If You’re
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A Review — Shooting in the Wild: an insider's account of making movies in the animal kingdom

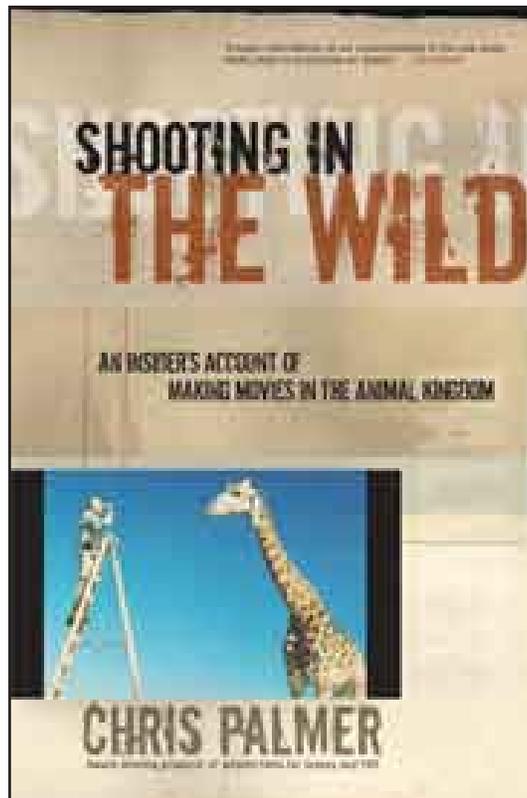
by Chris Palmer
Sierra Club Books, San Francisco.
US\$24.95 (softbound)

Sterling Miller
National Wildlife Federation
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Email: millers@nwf.org

Biologists of all kinds but especially those working with bears and other large carnivores frequently have to deal with filmmakers. Those of us working in parks frequently have to design and issue permits to filmmakers while those of us doing field studies get numerous requests to film our activities. For all who are in this situation, and others who are interested in how wildlife films are made, this book is worth reading. Chris Palmer has had a long career as a wildlife film-maker for National Audubon and National Wildlife Federation so he knows the ins and outs of the business very well. He is currently the Founder and Director of the Center for Environmental Filmmaking at American University's School of Communications in Washington DC. From this academic perspective, Palmer is able to think and write philosophically and insightfully about his own experiences as a wildlife filmmaker and also comment on what constitutes ethical and unethical filmmaking practices based on the experiences of his many colleagues. Many of his colleagues may not appreciate being exposed in the way Palmer does, especially those who pass off footage of captive animals and created circumstances as shots of animals behaving naturally in the wild.

I worked with Palmer as scientific advisor on his IMAX film "BEARS" released about eight years ago. Much of this was filmed Alaska. Throughout this process Palmer listened closely to advise he was given. This is reflected in the second of Palmer's "8 steps" to wildlife filmmaking reform: "Work closely with reputable scientists."

Palmer recognizes the frequent fiscal imperative of putting interesting spokespersons into films. Although it is my personal preference to leave actual or self-proclaimed experts out of wildlife films, many wildlife films benefit from this. For "BEARS", Chris listened to me when I commented on the unsuitability of some



early-suggested spokespeople, who would have provided human interest but also would have given a platform to individuals who did not merit it. Although it is frequently difficult to draw the line between shots which have high human interest but provide misleading information on scientific or technical matters, the guidelines Palmer presents in this book will

help filmmakers be more honest and ethical and audiences better informed about what they are seeing. Palmer recognizes that conservation films have to entertain. Indeed, this is the third of his "8 steps."

Since Palmer has been involved in several bear films, many of his examples deal with bears. They include an accurate analysis of Timothy Treadwell's incorrect messaging. Treadwell and his girlfriend were killed by a bear in Katmai National Park in 2003 so Palmer treats him with perhaps more sympathy than I would have preferred.. Palmer correctly concludes that Treadwell did more harm for grizzlies than good. Steve

Irwin of Animal Planet is another who built his reputation by getting too close to animals and setting a bad example for his viewers. As Palmer points out, Irvin - like Treadwell - ultimately he was killed by one of the animals he abused while professing to love.

From my perspective, one shortcoming of the book was the absence of anything beyond anecdotal information about the efficacy of wildlife films in influencing audiences' views about nature and conservation issues. There is a strong presumption that this link exists but, according to Palmer when I asked him about this, there is a lack of empirical evidence showing the link. This is a fruitful area for some future social scientist to examine.

As a child, I remember seeing in the 1958 Disney film *White Wilderness* shots of lemmings leaping off of arctic cliffs in what was described as "mass suicides."

I believed this for years until I discovered in college that lemmings did not do such a thing. In Alaska, I learned that the Disney filmmakers actually paid native kids to capture lemmings which were then driven en-mass off cliffs to their deaths in the sea below. *Shooting in the Dark* lifts the veil off such practices that are still used by far too many filmmakers. ■

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About the International Association for Bear Research and Management (IBA)

The International Association for Bear Research and Management (IBA) is a non-profit tax-exempt organization open to professional biologists, wildlife managers, and others dedicated to the conservation of all bear species. The organization has over 550 members from over 50 countries. It supports the scientific management of bears through research and distribution of information. The IBA sponsors international conferences on all aspects of bear biology, ecology, and management. The proceedings are published as peer-reviewed scientific papers in the journal *Ursus*.

IBA Mission Statement

Goal: The goal of the International Association for Bear Research and Management (IBA) is to promote the conservation and restoration of the world's bears through science-based research, management, and education.

Objectives: In support of this goal, IBA's objectives are to:

1. Promote and foster well-designed research of the highest professional standards.
2. Develop and promote sound stewardship of the world's bears through scientifically based population and habitat management.
3. Publish and distribute, through its conferences and publications, peer-reviewed scientific and technical information of high quality addressing broad issues of ecology, conservation, and management.
4. Encourage communication and collaboration across scientific disciplines and among bear researchers and managers through conferences, workshops, and newsletters.
5. Increase public awareness and understanding of bear ecology, conservation, and management by encouraging the translation of technical information into popular literature and other media, as well as through other educational forums.
6. Encourage the professional growth and development of our members.
7. Provide professional counsel and advice on issues of natural resource policy related to bear management and conservation.
8. Maintain the highest standards of professional ethics and scientific integrity.
9. Encourage full international participation in the IBA through the siting of conferences, active recruitment of international members and officers, and through financial support for international research, travel to meetings, memberships, and journal subscriptions.
10. Through its integrated relationship with the Bear Specialist Group of the World Conservation Union (IUCN)/Species Survival Commission, identify priorities in bear research and management and recruit project proposals to the IBA Grants Program that address these priorities.
11. Build an endowment and a future funding base to provide ongoing support for IBA core functions and for the IBA Grants Program.
12. Support innovative solutions to bear conservation dilemmas that involve local communities as well as national or regional governments and, to the extent possible, address their needs without compromising bear conservation, recognizing that conservation is most successful where human communities are stable and can see the benefits of conservation efforts.
13. Form partnerships with other institutions to achieve conservation goals, where partnerships could provide additional funding, knowledge of geographical areas, or expertise in scientific or non-scientific sectors.

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