International Bear News

Tri-Annual Newsletter of the International Association for Bear Research and Management (IBA) and the IUCN/SSC Bear Specialist Group

Summer 2015 Vol. 24 no.2

A bear in an enclosure at the Thessaloniki Zoo. This picture is iconic of the current situation of bears and humans in Greece. Photo: K.Tsakalidis/ARCTUROS. Read more on Greece's brown bears on page 30.

IBA website: www.bearbiology.org
Table of Contents

INTERNATIONAL BEAR NEWS
3 International Bear News, ISSN #1064-1564

IBA PRESIDENT/IUCN BSG CO-CHAIRS
4 President’s Column
7 Publication Gradient Among Bear Species Tied To Conservation Needs

IBA GRANTS PROGRAM NEWS
10 Research and Conservation Grants Awarded for 2015
12 Experience and Exchange Grants

BEAR CONSERVATION FUND
13 Bear Conservation Fund

CONSERVATION
14 A Tale of Two Bears: the Release of Two Brown Bear Cubs in the High Pamirs of Tajikistan
16 Working Together for Northwest Alberta’s Grizzly Bears
18 Some Insights into the Sun Bears of Brunei Darussalam

ILLEGAL TRADE
20 Hard to Bear - Tackling the Trade in Bear Parts and Derivatives in Malaysia

HUMAN BEAR CONFLICTS
22 Context-Sensitive Vocalization Among Brown Bears
24 Human-Bear Coexistence: An Interdisciplinary Student Workshop in India, Supported by IBA’s Experience and Exchange Grant

BIOLOGICAL RESEARCH
26 Status of the Brown Bear Population in the Central Alps (Trentino, Italy), 2014
28 Coat Color Morphology of American Black Bears Changes as Rapidly as the Landscape
29 Apprentices from SENA Prepare Study on Andean Bears in Central Colombia

MANAGEMENT CORNER
30 White-tailed Deer Fawn Predation in Pennsylvania

ZOO AND CAPTIVE BEAR ORGANIZATIONS
31 The Plight of the Zoo Polar Bear

CONFERENCE REPORTS
32 Reflections of a Conference Organizer: Greek Bears at the Crossroads

WORKSHOP REPORTS
34 22nd Eastern Black Bear Workshop - April 2015
36 12th Western Black Bear Workshop – May 2015

CONFERENCE ANNOUNCEMENTS
37 24th International Conference on Bear Research & Management, June 11-16, 2016, Anchorage, Alaska, USA

FORUMS
37 Student Forum

PUBLICATIONS
38 Recent Bear Literature

IBA OFFICERS & COUNCIL
43 Executive Council Members and Ex-Officio Members

BSG COORDINATING COMMITTEE
44 BSG Expert Team Chairs
Table of Contents

International Bear News, ISSN #1064-1564
Tri-Annual newsletter of the International Association for Bear Research and Management (IBA)

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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 regional correspondents by email are preferred; otherwise, mail or fax to the address above. IBA reserves the right to accept, reject, and edit submissions.

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Deadline for the Fall 2015 issue is 5 October 2015.

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Go to www.bearbiology.com to order or renew memberships, make donations, and/or update member information.

The use of the IBA logo at the end of an article indicates articles submitted via the IBA regional correspondents and the IBN editorial staff.

The use of the BSG logo at the end of an article indicates articles submitted via the Bear Specialist Group.
**Strategic Planning Survey**

Charting the evolution of any organization reveals a story of personalities, passions, changing historical and social context, and chance occurrences. The environmental and social changes of each decade since IBA’s inception have shaped our growth in programs, international scope, and organizational culture. Our needs as professionals remain largely the same: access to accurate information, training in emerging techniques, connections with others in the profession, helpful critical review, and financial and logistic support to pursue work. However, the ways in which IBA helps provide these things for members must evolve to keep pace with an ever faster society. Colleagues around the world need quick access to data and to the collected wisdom of their peers. The information that we want to put in the hands of environmental policy makers must be as accessible as the information put there by those who would undermine conservation. We compete for an audience to hear our message within a cacophony of other voices, both to gain support for our work and to have an effect on policy.

In a changing environment, it is easy for an organization to evolve through reaction to demands and crises rather than with thoughtful intention. To have foresight requires making time for periodic reflection, assessment, and evaluation of programs and mission. In 2009, IBA Council conducted a member survey asking for input on IBA governance, conferences, website, publications, and public policy involvement. The survey was very helpful in identifying what IBA was doing well, what needed improvement, and what members were looking for. An example was the clear message that members wanted more management-oriented articles in IBN. Manager’s Corner is now a welcome and valuable feature of the newsletter.

At our meeting in Thessaloniki, Greece, last October, Council decided that it was again time to step back and think strategically about where to focus energy and limited financial resources over the next decade. An ad-hoc committee was formed to oversee a strategic planning process. As the first step in this process, IBA members will be invited to complete a short online survey this summer, in which we ask for your thoughts on where we should focus efforts in the coming years. Please watch for this survey notification and take advantage of this opportunity to provide your input.

**New IBN Feature**

Every day when I open my IBA email, I am reminded of how many people it takes to make IBA function. These people all volunteer their time and effort, often working “under the radar”, largely unknown to most members. They get far too little recognition for what they do. IBA Volunteers will introduce 1 or 2 such people to the membership with every issue of IBN. First and foremost, we want to recognize and thank them for their contribution to IBA, but also this will make them better known to other IBA members who may have questions or ideas for them. In this issue of IBN (see below), I thank 2 people for their extraordinary work, 1 who has helped produce and distribute IBN for >15 years and 1 who jumped headfirst only 8 months ago into running one of IBA’s key programs.

**Council Activities**

Letter to the Mongolian Ministry of Green Development regarding Gobi Bear conservation

Last October, Dr. U. Batbold, the Mongolian Minister of Green Development and Sustainability at that time, attended the IBA Conference in Thessaloniki. In addition to making a presentation at the conferences, he asked Council for input on plans for conserving the Gobi bear (Mazaalai) population in the great Gobi Protected Area. One proposal that had been gaining favor in the government was to capture wild bears for breeding and then augment the wild population with captive-bred
individuals. During an informal meeting with Dr. Batbold and several other Mongolian colleagues in Thessaloniki, we advised against captive breeding for this population and were invited to send a letter to the Ministry addressing this issue. In March, Council sent a letter to the Ministry, congratulating government leaders for recognizing and championing the need to take action for Gobi Bear conservation, however, we also strongly discouraged the idea of captive breeding, due to the already critically small existing population, the extremely harsh environment into which captive-raised bears would be released, making survival of introduced animals tenuous, the generally low survival rate of reintroduced captive-raised carnivores, and the many uncertainties of success in captive breeding efforts. It is a basic tenet of conservation practice that captive breeding programs, if they are going to be used, need to be established before wild populations are reduced to critically low numbers (IUCN) and that removing animals from the wild for captive breeding programs should never endanger the survival of already vulnerable populations (WWF). The letter can be viewed at http://www.bearbiology.com/index.php?id=letts. Recent news from Mongolia is that the letter was well-received and that momentum is shifting away from pursuing captive breeding as a conservation strategy.

Website

There has been consensus for several years that the IBA Website needs improvement, with greater flexibility, greater accessibility, interactive capabilities, and automated membership management functions. The cost of making these improvements has been a barrier. During the spring we started discussions with a small company that specializes in websites for non-profit conservation and natural science oriented organizations. Although we still hope to work with this company, there have been unanticipated delays in the web designer’s availability to take on a large new project. The good news is that an anonymous donor has come forward with a generous pledge in order for us to build a new, more functional website. This keeps many more options open for us as we continue to explore different possibilities.

Upcoming Conferences

The next IBA conference, in June 2016, Anchorage, Alaska, is now less than a year away. The planning committees have been hard at work for over a year already and it promises to be a great conference. In April, Council received and approved a formal proposal from a group interested in hosting an IBA conference in Ecuador in 2017. Santiago Molino, representing the group, had presented the idea to Council in Thessaloniki, which was received enthusiastically. This will be the first IBA conference ever to be held in South America and will bring us in touch with many new bear biologists. After Ecuador, we are looking at the next Eurasian conference likely being held in 2018. We enthusiastically anticipate a formal proposal to hold that conference in Slovenia.

Species Information Pages

The information that our website currently provides on the 8 bear species of the world is outdated and inadequate. Mark Edwards and Ximena Velez-Liendo have been overseeing the process of rewriting all of the current species information pages. Mark and Ximena first developed a new template to standardize content and format and then recruited, where possible, current or recent graduate students to write the new species accounts. Drafts were reviewed by 2 species experts in most cases. Council has approved hiring Tracy Estabrook, technical editor of Ursus, to copy edit and standardize the “voice” among the 8 species pages. The new accounts are nearing completion and will be added to the website as they are completed.

Management Committee

Council approved the printing of 300 brochures designed by IBA’s Management Committee, chaired by Rich Beausoleil. These brochures were specifically designed to inform North American bear managers about IBA and recruit more people from the wildlife management community in North America to become participating members. Brochures were distributed to jurisdictions across North America, roughly to coincide with the Eastern and Western Black Bear Workshops that took place during April and May, respectively. Rich made a great presentation about IBA and IBN at the western workshop and Management Committee member, Dave Telesco, made a similar pitch for IBA at the eastern workshop. An IBA Google discussion group has been set up for bear managers, with Rich managing that group. Anyone interested in joining can contact Rich Beausoleil (richard.beausoleil@dfw.wa.gov).

IBA Volunteers

Jim Tomlin

Sometimes IBA volunteers come from unexpected places. Jim Tomlin has been a computer scientist for the US government for 30 years, designing software systems for genomic mapping at the National Institutes of Health and designing and managing databases for handling precise geodetic survey data. Jim first volunteered for IBA in the early 1990s, when he helped create the first IBA website. His love of natural history, science, outdoor activities, and volunteerism drew him to IBA.
He subsequently volunteered to manage the proof-reading, printing, and mailing of International Bear News (IBN), a job that he has continued to perform, under the radar of most IBA members, for over 15 years (this will be his last IBN issue). When he started, he often had to take a day or two off his regular job in order to handle the 800+ copies and get them mailed, 4 times each year. The work load lightened when IBN went mostly electronic, but there are still some hard copies to mail and the proofing still takes as long. Jim has been personally donating the money for mailing for some years now.

Jim will be retiring from his job with the US government at the end of August. At the same time, he is stepping down from printing and mailing IBN, though he will continue to be our proof reader. Amy MacLeod, layout editor for IBN says, “Jim has been great to work with ... and he has very good attention to detail. He is dedicated to doing a good job.” Of retirement, Jim says, “I have so much going on between volunteering for the C&O Canal National Park, and the Potomac Appalachian Trail Club that I doubt I’ll be any less busy upon retirement. Much of my time is spent supervising a cast of 130 GPS survey volunteers, a project I started two years ago to provide free volunteer GPS surveying for trails and trail features for any land management agency. The group loves its work and I have trouble keeping up with getting enough new projects for them to work on. We have already surveyed about 8,000 miles of trails in the mid-Atlantic in the last two years. We will be taking the show on the road and working at any National Park or Forest in the country that would benefit from having a volunteer crew walk their trails collecting data and assessing trail conditions. This work ties in nicely with my years of service for the National Geodetic Survey.” He also hopes to help out local bear researchers with some of their “boring tasks”.

Our sincere thanks go to Jim for his many years of dedicated and unselfish work for IBA and for bears and our wishes for a happy and fulfilling retirement.

Paolo Ciucci

Dr. Paolo Ciucci took an active volunteer role in IBA just last fall, but his work in that position already deserves special recognition. I am incredibly thankful to Paolo for his extraordinary efforts this year when he accepted our invitation to take over as chair of the Research and Conservation Grants Committee after the death of Fred Dean, who headed the committee for many years, in November. Paolo took the reins on short notice, just as proposals were arriving for the 2015 grant cycle. He got right to work deciphering a complicated process and time schedule, managing all correspondence with applicants, coordinating input from the grant review committee members, BSG chairs, and the advisors of IBA’s internal endowment, the Homer Fund. He credits the other committee members, Georg Rauer, Gordon Warburton, Ali Nawaz, and Shaenandhoa Garcia-Rangel, for helping him make the transition to committee chair.

Paolo is a fairly recent member of IBA. He received his MSc in 1990 from the University of Minnesota, studying wolves. He returned to Italy for his PhD in Animal Ecology from the University of Rome and joined the faculty there in 1999 as a Wildlife Researcher. In 2006 he became Principal Investigator of the bear study in Abruzzo National Park and in 2009 joined the IBA. Paolo has broad expertise in ecological research, large carnivore conservation, and in working with students, professionals, and policy makers, alike. He handled the grant review process with attention to detail and with an eye to fairness and efficacy. Paolo noted, “Julia Bevins once told me that the work of the Research and Conservation Grants Committee is powerful in its consequences for individual lives, for science, for bears and nature. That’s all I needed to know to make my decision to step in.”
Publication Gradient Among Bear Species Tied To Conservation Needs

Quick — What Order of mammals dominates the peer-reviewed conservation literature? If you guessed Carnivora, you are correct (Amori and Gippoliti 2000). Among the Carnivora, what family has the highest mean number of published scientific papers per species? If you thought Ursidae, you would again be correct (Brooke et al. 2014). Over 2,000 papers have been published on bears from 1900 through 2010, or an average of 250 per bear species. This would seem to be a very positive thing, as bears are among the most threatened mammalian families — for families with 8 or more species, only 4 have a higher percentage of species that are globally threatened (Schipper et al. 2008, Fig. 3).

But among the 8 bear species, there is a strong disparity among peer-reviewed publications: brown bears (n = 787), American black bears (n = 531), and polar bears (n = 299) account for >80% of published papers (Brooke et al. 2014, Table 3). These 3 species are among the 20 most studied carnivores in the world (brown bear is #3 overall, #2 in most recent 5 years). We did not do a formal literature search to examine the order of the other bear species, but from our own collections of literature and a count of articles indexed in Web of Science, it appears that Asiatic black bears (mainly studies in Japan) and giant pandas (a host of recent studies) are next among the Ursids, with sun bears, sloth bears, and Andean bears being at the bottom (not necessarily in that order).

We think it is interesting, but not unexpected, that the most studied bears are in the north, and the least studied in the south. Why would this be, and does it relate to or impact conservation?

Why Southern Bears are Less Studied

The latitudinal gradient in publications on bears is largely a reflection of the much longer history and tradition of scientific pursuits in natural history and taxonomy in European cultures. Collecting, classifying, and interpreting nature became both a hobby and a scientific discipline during the mid-1700–1800s in Europe, and naturalists traveling to far-flung lands could be supported by selling exotic specimens to the general public (Farber 2000). Darwin and Wallace, both British, collected specimens around South America, and in the Malay Archipelago, respectively. Ultimately, professional societies were formed for scientists interested in natural history, allowing for publication of their work (the Linnean Society of London, the first natural history society, founded in 1788, still publishes the Biological Journal of the Linnean Society). The scientific method, with its principles of empiricism and hypothesis testing, is a global intellectual heritage developed over centuries through the cumulative inputs of physicians, philosophers, and scientists from many regions, from ancient Greece and Persia to renaissance-era Europe. But the later maturity of the scientific method into a dominant approach to inquiry and investigation over the past 200 years seems to have occurred mainly in Europe and North America (after colonization by European countries). This scientific tradition, which is the basis for journal publication, thus has deeper roots in the north, and more recent and shallower roots in the south. The relatively recent culture of publishing short papers in dedicated scientific journals has thus been dominated by northern authors studying northern bear species.

One of the best accumulations of bear literature, from the mid-1800s to mid-1900s was by Dutch naturalist D.P. Erdbrink, author of the treatise "A Review of Fossil and Recent Bears of the Old World" (published 1953). Interestingly, at that time, the number of citations to published literature did not vary that much among the (Old World) bear species. Most of the cited literature was by European or American authors, many of whom were stationed in, or travelled to parts of Asia. For example, William Hornaday, an American zoologist and conservationist — who is credited with saving the American bison from extinction and discovering (to science) and naming the white Kermode bear of British Columbia — spent 2 years travelling, collecting, and observing wildlife in India, Ceylon (Sri Lanka), Malaya and Sarawak, and published about the habits of sloth bears and sun bears, and people’s interactions with them (e.g., native people in Sarawak wearing bear skins jackets!) (Hornaday 1885).

Since the mid-1900s, exploratory missions by naturalists declined, and bear studies became more intensively focused in the U.S., Canada, and certain European countries, related especially to population recovery and eventually, sustainable harvesting. Many studies were done by government biologists or at least with government funding. By contrast, governments have had little to do with direct management of the lesser-studied bears, and have taken a more passive role in their conservation. Moreover, countries with more robust economies enable scientists to use the most modern methods (these
IUCN BSG Co-Chairs

days – GPS collars, genetics, satellite imagery), and therefore produce results that are more likely to be published. These countries also provide more opportunities for educational training and better access to literature.

Conditions on the ground also likely impacted the number of bear studies. Whereas the Arctic may be the harshest habitat in which to study bears, polar bear biologists typically have the “luxury” of helicopters and high-tech cold weather gear; moreover, they can choose field seasons when conditions are not inhospitable. Conversely, southern bear species live in places where access is impeded by lack of roads, thick forest, extreme topography, governmental restrictions, and armed conflict; additionally, this may be compounded by the presence of diseases, biting insects and other dangerous animals.

An examination of variation in research efforts among the species of Felidae found that larger cats have attracted more attention (Brodie 2009), maybe because they are more charismatic or easier to study. Additionally, the advent of camera-trapping spurred numerous recent studies of striped and spotted cats. These same factors, however, have not had much impact on numbers of studies of different bears (their sizes and coloration being similar, except the giant panda and polar bear).

Impacts on Conservation

A recent study showed that conservation practitioners in countries with low and middle-income economies (often having the most severe conservation issues) indicated that restricted access to scientific journals has hampered the usefulness of peer-reviewed literature in conservation decisions and actions (Gossa et al. 2014). To the degree that evidence-based decision-making improves conservation outcomes, this disconnect between peer-reviewed papers and conservation need is problematic. It is easy to conceive of a host of studies that should be done to improve the conservation prospects for the southern bears. However, it is well known that more research doesn’t necessarily produce better conservation: at least 2/3 of conservation assessments in the peer-reviewed literature do not convert to conservation actions on the ground, and most implemented actions arising from scientific studies are considered marginally effective (Knight et al. 2008). There are many reasons for this disconnect between research and conservation: one important distinction is that researchers may choose topics that are publishable, advance their careers, and add something novel to the body of science, rather than topics designed to address a local conservation issue.

On the other hand, it has recently been recognized that researchers, by their very presence, often enhance conservation. A number of studies have found that researcher presence may deter poaching (Campbell et al. 2011, Piel et al. 2015, Tagg et al. 2015) or promote nature conservation among local people (Laurance 2013). Researchers may become local conservation advocates. And as researchers publish their findings, and hence become more well-known beyond their local research realm, they may become recognized and respected by governments, and thus better able to effect conservation on a larger scale. Researchers also often become intimately dedicated to the species they have studied, become keenly aware of their conservation needs, and strive hard to design novel solutions (e.g., Arlettaz et al. 2010; also see many of the actions of bear biologists described in the pages of International Bear News). Moreover, researchers often possess unique skills and knowledge about certain species, making them particularly well-suited to implementing conservation actions and monitoring responses. These attributes represent strong potential links between research and conservation.

For those wondering whether it is really worth it to research these neglected, threatened bears, and whether it is worth the significant effort necessary to publish results of such research – rather than engaging directly in conservation – we hope we have convinced you that there is great merit, and need for both.
Literature Cited
Hornaday, W.T. 1885. Two years in the jungle. The experiences of a hunter and naturalist in India, Ceylon, the Malay Peninsula and Borneo. Charles Scribner’s Sons, New York.
Research and Conservation Grants Awarded for 2015

Dr. Paolo Ciucci, Chair
IBA Research and Conservation Grants Committee

In my first year as chair of the Research & Conservation Grant Committee (RCGC), 25 proposals were submitted for the 2015 grant cycle, requesting a total of $170,675. The amount available for us to work with was $71,100. We selected 11 applications for funding (Table 1), and each was funded 77-95% of the amount requested. Congratulations to these grant recipients! We originally refrained from reducing the amount of funding requested so as not to compromise the likelihood of successfully completing the project. However, the ability of some grantees to make slight adjustments or to get additional funds from other sources allowed us to include a couple more well-ranked proposals and all RCGC members felt that this final balancing of funding was worth being able to fund these additional projects.

Even so, at least 4 proposals that did not receive funding had particularly sound project design and received scores very close to those of approved projects. It was difficult to be unable to offer grants to these applicants in the final analysis. In accordance with IBA’s guidelines with respect to these difficult cases, we made our final decisions by taking into consideration the conservation priorities, the uniqueness of the species or population, and the goal of spreading projects across species and geographic regions. If more funds are available in future years, chances are that with this high proportion of good quality proposals, an increasing number of suitable applications could be approved.

Our final selection work took us until late March, with grants announced at the beginning of April 2015. This was almost a month after the date we initially anticipated; I offer my sincere apologies to applicants for any inconvenience this might have caused. Grasping all the details and technicalities of the process took some time for me this year and I wanted to proceed in keeping with the procedures and the criteria used in the past.

Research & Conservation Grants Committee members (Ali Nawaz, Jörg Rauer, Gordon Warburton, Shaenandhoa Garcia-Rangel), the BSG co-chairs (Dave Garshelis and Rob Steinmetz), and the Homer Fund Committee members (Gabriella Fredericksen and John Hechtel) all worked hard reviewing the proposals received last December. I’m also personally indebted to Karen Noyce, IBA’s president, for the diligence and patience she had in initiating and guiding me to chair the RCGC committee. Our thanks go to all those responsible for soliciting and donating the funds, which together support the grants program. It is amazing to realize that their support truly benefits such diverse work going on in the world of bear conservation.

Table 1. – Recipients of IBA Research and Conservation (R&C) Grants 2015. A total of 25 applications were received, of which 11 were selected to receive grants totaling USD 71,100, provided by IBA’s Bear Conservation Fund (BCF). One additional project (*) received funds reserved from the 2014 available BCF funds for a second year of work.

<table>
<thead>
<tr>
<th>Principal Investigator(s)</th>
<th>Project’s Title</th>
<th>Species</th>
<th>Project Region</th>
<th>Amount Awarded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elizabeth Flaherty (Purdue University, U.S.A.)</td>
<td>Photographic monitoring of the Western Hudson Bay polar bear population</td>
<td>Polar bear</td>
<td>Canada (Manitoba)</td>
<td>$3,300</td>
</tr>
<tr>
<td>William J. McShea and David Garshelis (Smithsonian Institute and Bear Specialist Group)</td>
<td>Population trends, bear poaching, and bear farming in China</td>
<td>Asiatic black bear</td>
<td>China (Sichuan)</td>
<td>$9,500</td>
</tr>
<tr>
<td>Evelyn Merrill (University of Alberta, Canada)</td>
<td>Spatial interactions in multi-carnivore communities and ungulate predation in the Rocky Mountains of Alberta</td>
<td>Brown bear</td>
<td>Canada (Alberta)</td>
<td>$4,260</td>
</tr>
</tbody>
</table>
## IBA Grants Program News

<table>
<thead>
<tr>
<th>Principal Investigator(s)</th>
<th>Project’s Title</th>
<th>Species</th>
<th>Project Region</th>
<th>Amount Awarded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Najeeb Ullah (Quaid-i-Azam University, Pakistan)</td>
<td>Status and conservation challenges for Baluchistan black bear (<em>Ursus thibetanus gedrosianus</em>) in Balochistan, Pakistan</td>
<td>Asiatic black bear</td>
<td>Pakistan</td>
<td>$9,550</td>
</tr>
<tr>
<td>Anthony Pagano (Alaska Science Center and University of California, Santa Cruz, U.S.A.)</td>
<td>The effects of declining sea ice on polar bear behaviors and energetic rates</td>
<td>Polar bear</td>
<td>U.S.A. (Alaska)</td>
<td>$4,700</td>
</tr>
<tr>
<td>Liya Pokrovskaya and Ivan Seryodkin (Lomonosov Moscow State University and Russian Academy of Sciences, Russia)</td>
<td>Kamchatka brown bear: movements, habitat selection, behaviour, genetics and human-bear conflicts</td>
<td>Brown bear</td>
<td>Russia (Kamchatka)</td>
<td>$9,800</td>
</tr>
<tr>
<td>Alexandra Sallay (University of Natural Resources and Life Sciences, Austria)</td>
<td>Assessing ecological connectivity and kin-related social organization among brown bears around the wildlife migration zone and human-bear conflict area Baile Tusnad, Romania</td>
<td>Brown bear</td>
<td>Eastern Europe (Romania)</td>
<td>$6,750</td>
</tr>
<tr>
<td>Stefano Orlandini (Salviamo l’Orso NGO, Italy)</td>
<td>Marsican Bear Smart Community</td>
<td>Brown bear</td>
<td>Western Europe (Italy)</td>
<td>$8,000</td>
</tr>
<tr>
<td>Chihiro Takahata (Shinshu University, Japan)</td>
<td>Spatial distribution of critical food of Asiatic black bears in rural fringes: development of monitoring scheme to reduce negative human-bear interactions, Japan</td>
<td>Asiatic black bear</td>
<td>Japan</td>
<td>$6,100</td>
</tr>
<tr>
<td>Rachel Wheat (University of California - Santa Cruz, U.S.A.)</td>
<td>Evaluating the feasibility of the use of Pacific salmon (<em>Oncorhynchus</em> spp.) carcasses as sources for brown bear (<em>Ursus arctos</em>) DNA</td>
<td>Brown bear</td>
<td>U.S.A. (Alaska)</td>
<td>$4,700</td>
</tr>
<tr>
<td>Brian Crudge (Free the Bears)</td>
<td>Snare collection and conservation of bears in Nam Kan Protected Area, Lao, PDR, and work with villages to start alternate wildlife-based income sources</td>
<td>Sun bear</td>
<td>Lao, PDR</td>
<td>$7,500*</td>
</tr>
</tbody>
</table>

Experience and Exchange Grants

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2015 Experience and Exchange Grant Recipients

IBA's Experience and Exchange (E&E) program awarded a grant to just one proposal in 2015. The collaboration between Ine Dorresteijn of Leuphana University, Lueneburg Germany and Nishith Dhariya of HNG University, Pata India aims to identify the social drivers to human – sloth bear coexistence in Gujarat and Rajasthan states of India, the western most edge of the sloth bear distribution range worldwide. To facilitate sloth bear conservation in these regions efforts do not only need to focus on reducing direct conflict, but also to minimize hostility towards sloth bears. Hence, a thorough understanding of the factors underlying people's attitudes towards bears is needed. The project involved holding both theoretical and field-based workshops to introduce participants on how the integration of social science can aid human-wildlife conflict research. Read their summary report on page 24.

Applications for Experience & Exchange Grants due in November

Are you interested in participating in the work of other bear researchers or partnering with biologists in other places to learn more about bear management and conservation outside your region? If you've never let yourself consider this possibility because of the expense, think about applying for an IBA Experience & Exchange (E&E) Grant.

The E&E Grants program began in 2006, with the express purpose of helping fund travel for bear biologists wanting more cross-project experience. Young biologists seeking to develop specific technical expertise can benefit from hands-on training with more experienced professionals. Biologists dealing with difficult research questions can benefit from hosting a field visit from another colleague with pertinent experience and knowledge. Mid-career biologists sometimes wish to broaden their global conservation perspective or initiate collaboration with colleagues elsewhere in the world. Despite the mutual benefits of such exchanges, it can be difficult to find financial support for the travel involved.

E&E Grants provide up to $1500 per proposal. Applicants must show that the exchange is a collaborative arrangement between two parties, from which both benefit. Host and visitor must demonstrate their intent to keep costs low: for example, a host or host project might provide living space, local transportation, and/or food, while the visiting party often provides volunteer labor or training in his or her own expertise for the hosts.

E&E grants are meant to encourage people to extend their horizons and create new opportunities for longer term collaboration. They are not generally intended to supplement R&C Grant funds, i.e. covering travel expenses for successful R&C grant recipients, though this can sometimes be appropriate. Grants are awarded each year through a competitive process based on submitted proposals. Priority is given to project visits lasting several weeks to several months in which tangible benefits are identified for both host and visitor.

For more information and application instructions, go to the IBA website at: http://www.bearbiology.com/index.php?id=eeg01. Applications are accepted once per year on or before November 30, with decisions announced before March.
Bear Conservation Fund

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We have a new donor to the Fund, and this one is fun. AVES France, recently launched a new project, “Bearz”, to collect funds for bears. Project Bearz is a collection of ecofriendly wristbands featuring one of 5 species of bears. The wristbands cost 10€ and from each sale of a polar bear wristband, 5€ will go towards IBA’s grants for polar bear research. Check out the website at www.bearz.org/en (in english).

Christophe Coret, President of AVES France, and IBA member says “There’s no easy solution to save the polar bear, a victim of global warming, pollution and the loss of its habitat. Promoting research projects in the field seems to be the only way for us to bring our support to this endangered bear.” The IBA has made 4 grants to polar bear projects in the last 3 years. We are happy to partner with AVES in support of the polar bear, listed as ‘vulnerable’ in the IUCN Red List of Threatened Species™.

My first husband, John Bevins, died while radiotracking polar bears at the young age of 35. He left no will and that meant headache for me at a terrible time, because his estate had to go to probate. I attended an estate planning seminar last week and apparently, 60% of adults have no will when they die. Bear biologists, do you have your will in place? Would you like to leave an additional legacy by including a charitable clause in your will? Would you consider including the Bear Conservation Fund? There’s another very interesting statistic from Great Britain in which researchers found that people who die without a will, die on average at the age of 69. People with a will die on average at the age of 79, and then people who include a charitable clause in their will die on average at the age of 82. The same study found that there was no correlation between income or wealth and the likelihood of giving by bequest. Speculation on cause and effect aside, for me this is a fascinating statistic.

The IBA received its second known bequest this year. I would like to think that these mark the beginning of a trend. We’re here for the long haul and have a great record. If you are interested in including the IBA in your will and would like assistance with this, please contact me, Julia Bevins, at BCF@bearbiology.com.

It can be as simple as the following: I hereby give, devise and bequeath __% of my total estate, determined as of the date of my death, (alternatively,” __dollars”) to the International Association for Bear Research and Management, a non-profit organization, Federal Tax ID # 94-3102570.

Most of you have a legacy for bears and bear conservation of which you can be proud. Here is one more significant way to add to that.
Very little is still known about the status of brown bears in Tajikistan, although since 2011 (when our work in Tajikistan started), brown bears regularly appear on many of our camera traps across the Pamirs and most recently in the Hissar range in the north of the country. However, the densities of bears in the eastern Pamirs appear to be low. The eastern Pamirs, at 4000 m and above, are not very productive and there is very little for bears to forage on. However marmots (Marmota caudata) are abundant.

The brown bear is included in the Red List of Tajikistan as Ursus arctos isabellinus. In Tajikistan, taking brown bears is strictly regulated, although illegal hunting, especially for medicinal purposes (bear parts) occurs and human-bear conflict is also common: there are many reports of livestock depredations, especially in the Hissar range. There, during the summer of 2014, Tara Meyer, our colleague from Yale University, was sleeping in her tent, while a bear proceeded to kill a sheep a few meters from it. Whether it’s the result of a conflict situation or intentional killing of bears for their parts, many cubs are orphaned, caught and traded. Many bears have ended up in the Dushanbe zoo in the past, others become pets.

During the spring of 2014 we were informed that a herder in Tamdeh, in the Alichur range in the eastern Pamirs had found a 3-month old brown bear female cub. Given that bear rehabilitation is outside of the scope of Panthera’s work, our organization’s focus is on the conservation of wild cats, we discussed with the Nature Department of the Gorno-Badakshan region, the options available: take the bear cub to Dushanbe zoo; release the bear immediately, which would mean sure death, or euthanize it; or in our free time, with remote advice from international experts, seek to rehabilitate the bear and return it in the wild as soon as ready. The Nature Department favored this last option and with support from rangers of the Burgut Conservancy, the young bear cub, called Mishka, was cared for following as close as possible John Beecham’s “Orphan Bear Cubs - Rehabilitation And Release Guidelines”.

Mishka spent most of the remaining of the spring and summer with the herder that found her, largely in the company of a dog that grew up with her. She was fed baby milk formula composed of close to 24% fat and 12% protein as well as dog food for puppies (which for the first few months was not able to chew). Mishka grew and gained weight. However, the orders to minimize interactions with humans were not strictly enforced, causing worry as to her habituation and the possible failure of a release.

Meanwhile, during the summer, we learned of the existence of a second female bear cub, of same age and provenance. We found here in a village close to Khorog. Masha was sold by a herder in Bulunkul, close to the Alichur village in the Pamirs, to a man from Khorog. She had been well cared for and fed fresh fruits all summer (which are not available in the eastern Pamirs). The Nature Department asked us to collect her and at that point we discussed the feasibility of bringing the two bears together and eventually releasing them.

In October 2014, we drove Masha from Khorog to Alichur and prepared for the joint release of the two bear cubs. The Burgut Conservancy rangers identified a release site with no livestock presence at that time of year (to avoid potential conflict) that they normally patrol and that would allow them to keep an eye on the 2 young bears.

The 2 bears were never aggressive to each other, however they remained fairly shy toward each other. When we reached the release site and let them go, they took off quickly. For several days they were seen exploring the landscape and digging the still available roots. While Masha eventually found a suitable cave where to den (and camera trap pictures confirmed that she successfully hibernated), Mishka returned to the village a few days after the release. Two attempts were made to re-release her, however she returned each time to the Alichur village. The Conservancy rangers thus decided to keep Mishka for the winter in a corral in relatively isolated location.

In late April 2015, when the first marmots came out, the rangers drove into the mountains and re-released her. Five weeks
after this release, Mishka is roaming the valleys living her wild life. Both Mishka and Masha have been spotted by herders who commented that both bears seem to exhibit a healthy fear of humans.

Panthera’s work in predator-proofing of corrals in this area for the sake of eliminating conflicts between farmers and snow leopards will indirectly benefit bears as bears shot and trapped in retaliation and orphaned cubs are often a sad consequence of a conflict situation.

We would like to thank the following individuals who provided advice along the way: Agnieszka Sergiel, Jennapher and Frank Teunissen Van Manen, Lori Homstol and Stephane Ostrowski.
Conservation

Working Together for Northwest Alberta’s Grizzly Bears

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In Alberta, grizzly bears are designated as a “threatened” species with a recovery plan identifying various management strategies and actions including: improving knowledge of grizzly bear populations; managing access in bear habitat; managing attractants to reduce conflicts; and, improving public awareness and understanding of bears (AGBRP 2008).

In regards to a population inventory across Bear Management Area (BMA) 1, the number and distribution of grizzly bears in this region of NW Alberta is not well known or documented. This is largely due to the nature of the boreal forest – wet, boggy and difficult to traverse conditions – as well as the constraints imposed by various management priorities, limited funding, and limited number of staff and equipment to conduct this arduous work. But it’s not all boreal forest that must be inventoried. BMA1 also includes an area referred to as the “agricultural interface” at the southern and eastern boundaries of BMA1 – areas where the forested zone meets crop and grazing lands, and land is both privately owned and Crown managed. The people living, working and recreating across BMA1, whether boreal or agricultural interface, often have a detailed, working knowledge of the landscape and of the grizzlies that roam here. Engaging people in the science of population inventorying, in addition to implementing other recovery actions (e.g. attractant management) not only makes good sense, it’s considered essential to achieving recovery objectives.

Citizen science is becoming an increasingly popular method used to assist researchers and practitioners in collecting large amounts of data, or difficult to obtain data, to support studies and practical management. Additionally, citizen science has the advantage of offering hands-on educational experiences for those involved, which can encourage stewardship alongside building scientific literacy. Today a proliferation of projects engage citizens in addressing various environmental challenges; these include ecological effects of roads on wildlife, invasive species management, and migratory bird and other wildlife monitoring (Sharp and Conrad 2006, Cooper et al. 2007, Morissette et al. 2008, Lee et al. 2010, Weckel 2010, Gallo and Waitt 2011). Government agencies are also a part of this movement, engaging citizens to help meet their mandates of managing land use and wildlife needs. For example, Parks Canada visitor staff work closely with park biologists to engage the public in research that not only helps generate information to assist in managing for ecological integrity, but simultaneously enhances visitor experiences (Waithaka, 2010).

The increase in utilizing citizen science in research and management is likely due to the fact that new technology is making data collection, dissemination of information and communication more fluid and accessible; acknowledgement that engaging the public in science activities promotes literacy and demonstrates how people can be part of addressing environmental problems; and, the realization that the public can be a large source of experienced volunteerism, and in certain cases, a financial contributor (Silvertown 2009, Jordan et al. 2011). However there are challenges to engaging the public in scientific activities, of which include ensuring the quality of data collected is a certain rigor; integration of citizen data into other datasets or scientific methods; maintaining volunteer engagement; and, in the case of BMA1’s grizzly bear work,
ensuring both people and bears are safe while collecting data (e.g. avoiding encounters, avoiding habituation of bears) (Galloway et al. 2006, Whitelaw et al. 2006, Conrad and Daoust 2008, Schmeller et al. 2009, Bonardi et al. 2011, Kremen et al. 2011). That said, many issues can be mitigated with a thorough design and by working with experienced practitioners.

To help address recovery objectives for BMA1, Alberta Environment and Parks (AEP) staff Lyle Fullerton, Courtney Hughes, and many others have been working with industry personnel (e.g. oil and gas and forestry) in the boreal forest, and with agricultural producers and landowners (who, in some cases are also employed in the industry sector), to gather critical information on grizzlies. This includes asking individuals to help identify sites where camera traps or hair snag sites should be set up, given their in-depth knowledge of the land; opportunistic scat collection while working in the field; and, reporting grizzly sightings, particularly sows with cubs. These efforts have helped provide insight into the utility of population inventorying techniques, and importantly, offered opportunities to engage people in the science and implementation of grizzly bear management.

Through this engagement, people are not only learning about the difficulties, processes and rigor required for a robust grizzly bear population inventory, they are also gaining a better understanding of the complexities involved in overall grizzly bear management; are becoming more adept at identifying bears and specific habitat features (e.g. rub trees); and, have learned (and are spreading the message) of how to stay safe in bear country. Engaging citizens in grizzly bear science has also, and most importantly, acknowledged that local knowledge and expertise are important contributors to recovery efforts, and that fostering positive relationships with people, built on a foundation of trust, reciprocity and exchange, is vital to the long-term recovery of the species in Alberta (Bodin and Prell, 2011, Hughes, 2013). Next steps in the work for BMA1 is to roll out a “GrizzTracker” smartphone app and website in partnership with Miistakis Institute and industry cooperators across the region. Through these tools, citizens will be able to report their grizzly sightings in seconds, and include pertinent details such as time, date, geo-referenced location, photos, and sampling effort.

In closing, Lyle, Courtney and other AEP staff know that working with people will ultimately help conserve and manage grizzlies for the long-term. After all, it’s not really about the bears – it’s about the people (Hughes, 2013).

Literature Cited
... for complete list of Literature Cited contact lead author, Courtney Hughes.
Some Insights into the Sun Bears of Brunei Darussalam

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The sun bear (Helarctos malayanus) is the only bear species on Borneo. Borneo is divided into 3 countries, and sun bear research and conservation work has been conducted in 2 of these — Malaysia and Indonesia. By contrast, sun bear presence in the small country of Brunei Darussalam has attracted little attention. Here I provide some insights as to the situation for sun bears in Brunei, based on my first-hand experience and the experience of members and friends of my conservation group – 1StopBruneiWildlife.

Sun Bear Status in Brunei

The sun bear is present throughout the country and reported from all of the 4 districts; Brunei Muara, Tutong, Kuala Belait and Temburong. Records include those collected by me, our members, the public, and anecdotal historical records. I have seen bears on 3 occasions, twice in the evening (8 pm and 11 pm) and once in the late afternoon (5 pm) during a heavy rain, invading a stingless bee nest. In general, sightings have predominantly been in forest reserves in the deeper parts of Brunei. However, on several occasions sun bears have been observed crossing highways, even in the heart of the city.

There is limited data on local threats to sun bears. Keeping them as a pet may occur but this seems not to be a major issue. Also, killing for medicine is not as big a problem in Brunei as it is in some other parts of Asia. However, some tribes have informed us that in Brunei bears are consumed locally for medicinal purposes. Some local Bruneian groups may still hunt sun bears as they believe that sun bears can cure illnesses or can be used for food. We have no records of international trade.

In early 2014, 1StopBruneiWildlife recorded 1 public selling of a sun bear cub being openly sold in a wildlife market (Jerudong Fish Market: http://bt.com.bn/frontpage-news-national/2014/08/23/protected-sun-bears-sale- jerudong). Photos and news of this illegal activity went viral in Brunei, generating a lot of public outrage. To hunt and trade animals from the jungle in Brunei, a permit is needed.

Sun bears have been recorded in and around human use areas. Farmers growing durian fruit commonly report that sun bears come and feed during the fruiting season. In late 2014 a sun bear was killed on the road in the heart of the capital (Bandar Seri Begawan) near a recreational park (Tasek Lama). There have been at least 2 other documented cases of bears killed on highways.
Conservation of Sun Bears in Brunei

Although the sun bear is listed as Vulnerable on the IUCN Red List and trade is restricted internationally under CITES, this species is not listed in Brunei’s Wildlife Act (1984). In late 2014 1StopBruneiWildlife created a petition called ‘Stop Poaching in Brunei’ in which we requested to have animals such as bears and pangolin protected by the Wildlife Act (http://www.gopetition.com/petitions/stop-poaching-in-brunei.html). We targeted 2000 signatures but received almost 6000 and counting. We sent this petition to the Wildlife Division of The Minister of Industry and Primary Resources and the Attorneys General Office. So far only the Attorneys General have acknowledged it. Brunei has other general laws that loosely protect sun bears: for example, most recreational parks close by 6 pm and no one is allowed to enter a Protected Forest without a permit.

The Future for Sun Bears in Brunei

Brunei Darussalam’s population is only 400,000, and the good news is that educational awareness is spreading fast. Information and the plight of bears and other wildlife are circulating widely on social media. 1StopBruneiWildlife has an extensive education program whereby we go to schools and inform children about the problems facing wildlife and what we need to do to better protect them. To date we have been to 44 schools (reaching more than 5500 students). Our goal is to reach out to 100 schools in the next 5 years.

In February 2015 we had a national Pangolin week, which was sponsored by the British High Commission in collaboration with 1StopBrunei Wildlife. Pangolin expert Louise Fletcher flew in to Brunei and conducted several workshops and school talks. Brunei Darussalam’s first Pangolin video was launched in 2015 in which it gives the public information about the pangolin and why we must protect them. We are also planning to create posters and information leaflets on sun bears to distribute to the public. In addition to public education we sometimes assist wild animals in need — we have rescued 51 animals to date. We are now building Brunei’s first mini-rehabilitation center, the next milestone in our country’s progress.

There has been very little research into sun bears in Brunei. A large organization, called the Heart of Borneo Brunei Research Team, is conducting a big and expensive research project at the Sg Ingei Reserve near Mulu. However, we have limited knowledge as to their findings. We are aware that their camera traps have captured photographs of sun bears on many occasions, and we expect that they may eventually be a good source of data.

Brunei Darussalam still has 70% forest coverage, of which over 50% is primary forest. This forest has the potential to provide sanctuary for sun bears and other species. However, better monitoring of populations and threats is needed. 1StopBruneiWildlife is working to protect the sun bears, but we seek the support and expertise of others. We would welcome guidance and support from the Bear Specialist Group to run a national sun bear workshop to raise awareness on the status of sun bears and increase in-country capacity to research and conserve these bears.
Hard to Bear
Tackling the Trade in Bear Parts and Derivatives in Malaysia

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By right, bears should have a safe haven in the remaining expanses of tropical rainforests in Malaysia, ‘totally protected’ as they are legally meant to be here. But that is wishful thinking. In fact, the survival of the one and only native bear species in Malaysia, the sun bear, is under significant threat owing to the demand for their bile and gall bladder that is used in traditional medicines. TRAFFIC Southeast Asia has been on a mission to clamp down on the illegal trade in bear parts in Asia embarking on a series of studies to understand the trade in an effort to enhance enforcement, policy and advocacy, and to reduce consumer demand. Hard to Bear is a recently published TRAFFIC report that highlights such efforts in Malaysia.

After a 2010-2011 study by TRAFFIC assessing the scale and availability of bear parts in 13 countries and territories across Asia, Malaysia was red-flagged for being #4 both as a source and consumer of bear parts. This begged further investigation particularly on the use of bear bile within the Traditional Chinese Medicine (TCM) industry that is used to treat various ailments such as the flu, sores, hemorrhoids, sprains, epilepsy and liver diseases. In 2012, a second survey was carried out in 365 TCM shops randomly selected within each State throughout the country. The primary objective was to get an idea on quantities, authenticity, origin, price and popularity of bear products as well as alternative medicines to bear bile, where possible.

There were certain limitations TRAFFIC had to work around however. For one, considering that the trade in bear products is largely concealed in Malaysia, data were only obtainable from retailers willing to discuss their stocks. Second, evidence that products contained genuine bear derivatives had to be taken on the word of retailers, as it is almost impossible to determine the biological origin and authenticity by sight alone in field situations.

Nevertheless, the analysis of the survey results revealed that 48% of the TCM retailers surveyed, across all states, openly claimed to be selling authentic bear products. Much of this was in the form of bile pills (ca. 65%) and whole gall bladders (ca. 43%) and to a lesser extent, pure bile extract, flakes, dried gall bladder skin, and other manufactured products.

Bile pills, also known as Xiongdan pills, are clear gelatin capsules filled with bear bile extract or powder and come in various shades of yellow, brown, white or black. These were openly sold from anywhere between $0.13 USD to $32 USD each and reportedly manufactured locally using imported ingredients. The sale of whole gall bladders was more discreet, usually only to known customers, and were priced between $10 USD and $80 USD, although prices were recorded as high as $1,120 USD. Nearly 60% of gall bladders observed were apparently locally sourced and provided to the TCM retailers through opportunistic or deliberate poaching by locals.

This was a significant finding as it revealed the imminent threat to wild bear populations throughout the country. TRAFFIC also discovered that at least 50% of retailers they spoke to were aware that selling bear products was against the law, suggesting a significant level of illegal trade continues despite widespread awareness.
Some retailers expressed a dramatic decline in demand for bear products attributed to consumers preferring cheaper alternatives and to a well-educated younger generation that favour conventional medicines. However there were also retailers who stocked up on gall bladders to supply regular customers. A few retailers also suggested alternative remedies like musk, ox gallstone, snake gall, porcupine bezoar among various herbal alternatives, highlighting other conservation threats. Others downplayed the impact and severity of the trade on the premise that bears were not always killed in the process of bile collection or conceded that human health took precedence over the survival of bears.

In any event, this study still reveals the open and widespread availability of bear products in the Malaysian market, which violates national laws and international regulations.

TRAFFIC has initiated dialogue with relevant departments within the Ministry of Health (MOH) in Malaysia to improve their screening process. This is to weed out TCM products containing bear bile particularly those not labelled as per local regulations. As the TCM businesses operate under the auspices of the MOH, the Ministry has a critical role in ending the trade of bear bile products through improved oversight of processes, protocols, regulation and enforcement.

TRAFFIC is also collaborating with The Federation of Chinese Physicians and Medicine Dealers Association of Malaysia to spread awareness among TCM practitioners and stop the prevalent sale of illegal products to help protect endangered species.

Such collaboration is key to bringing about an end to the illegal trade in bear products in Malaysia.

Acknowledgements

The study on the illegal trade of bear parts and bear bile products in Malaysia was generously funded by Animals Asia. This report was coordinated through the Trade in Bear Parts Expert Team, Bear Specialist Group.
Bears have captured our imagination throughout centuries. Ancient Finnish and Lappish myths and legends are probably one reason why these powerful animals are still held in great respect today in these areas and referred to as the King of the Forests. Worldwide, according to our current knowledge based on DNA analysis, the bear taxonomy includes 8 still living species: brown bears, polar bears, American black bears, Asiatic black bears, sun bears, sloth bears, spectacled bears and pandas. The focus of our study is on brown bears and their communication in certain contexts.

Bears are not only wandering by themselves around forests or glaciers but they are also communicating with each other and – when needed – for humans as well. The behavioral and communication schema of the bear seems to be very goal oriented and situation specific. It is often believed that bears behave in an unpredictable way. However, as with all mammals, bears’ behavior is governed by a combination of genetic programming and social and environmental factors. Once we understand bears’ behavior and communication, it won’t be random for us anymore.

In addition to biological research, bears are constantly contributing to our environmental research as well – if only we could understand their signals. It is important to increase the competence of modern humans – especially that of environmental researchers and decisions makers – to interpret weak signals from the nature early enough for environmental protection initiatives and programs to avoid for example the current predicament of polar bears and pandas.

The focus of our research is on context-based bear communication – especially on bear vocalization and body language in certain situations (Heimbürger and Kärkkäinen 2014, Heimbürger 2014). We introduce a context-based schema for brown bear communication research, which is based on the sensing, processing and actuating (SPA) architecture. The system described here is in its early stage of implementation. The system is under construction in a Matlab environment with Signal Processing Toolbox (Matlab 2015). The 3 main SPA phases and preliminary results are shortly described as follows.

**Sensing**
In Finland, the Predator Center in Kuusamo (PCK) (http://www.kuusamon-suurpetokeskus.fi) offers unique opportunities to study contextual bear communication in a fixed, but quite wide space. At the moment, there are 6 bears in PCK. The space is divided into 5 sub-spaces: i.e. 2 bears are sharing 1 space, and the rest have a sub-space of their own. Each sub-space has a den, eating area, tree area, play area, grass area, pond area and wild nature. The movements and voices of individual bears are easy to follow by means of web cameras and human perception. In addition to PCK, there are 2 fixed space parks with bears in Finland: Ranua Zoo (http://www.ranuazoo.com/English) near Oulu and Rovaniemi and Ähtäri Zoo (http://www. ahtarinelainpuisto.fi/index.php/en/) near Jyväskylä. Situations as context classes are shown in Figure 1.

**Processing:**
Voice signal classification consists of extracting and selecting physical and perceptual features from a voice signal. By using these features it is possible to identify into which situation class the voice is most likely to fit. Feature extraction is a process where a segment of a voice signal is characterized with a compact numerical representation. Feature selection is the process of removing features from the feature set which are less important with respect to the classification task to be performed. We study the feature extraction of context-dependent vocalization of bears by means of temporal (features are calculated from the input waveform), spectral (features are computed from short-time Fourier transform of the input signal), perceptual (features are computed from the human perceptual model) and harmonic features (features are computed from the sinusoidal harmonic model of the signal).
Actuating:
We describe here 3 examples of how the created multimedia bear database can be used in addition to our bear vocalization-context-analysis. The bear database includes voice and video sequences, still images and textual information, numerical features of bear communication together with contextual and temporal information. Firstly, the database provides valuable information for biological and environmental research forums and for authorities. Secondly, it can also be used for biological and environmental education in schools and universities. Thirdly, by means of the database and icons we can create a mobile bear communication ABC for hikers. In “On Demand ABC” the hiker can send a bear picture taken by her/his mobile phone to the server. The input picture is compared to database image groups according to situations and related voices. An icon representing the most similar image group will be selected. This icon with a voice sample will be sent to the hiker with some guidelines about how to behave. In “Fixed ABC” hikers can browse a set of icons by their phone and get bear communication information with voice samples and guidelines about how to behave.

![Diagram](image1)

**Figure 1:** A context-based schema for brown bear communication research based on the sensing, processing and actuating (SPA) architecture.

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Human-Bear Coexistence: An Interdisciplinary Student Workshop in India, Supported by IBA’s Experience and Exchange Grant

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Understanding human-wildlife conflicts and potentials for coexistence is a major concern for wildlife conservation that still receives too little attention. Part of the general problem is a lack of interdisciplinary research that could explain the interactions between social and ecological factors in landscapes where humans and wildlife co-occur. A young generation of scientists is now called upon to make use of recent advances in interdisciplinary research, and to draw on both social and ecological sciences to improve our understanding and management of human-wildlife conflicts.

With the support of an IBA Experience and Exchange grant we therefore organized a workshop at HNG University in Patan titled “Humans and wildlife: conflicts or coexistence” for students from different Indian states. The main goal of the workshop was to work towards a more holistic understanding of human-wildlife interactions, with a main focus on interactions between humans and sloth bears. The workshop was organized into 2 main parts, consisting of a 2-day theoretical workshop with 15 students, and a 9-day practical workshop with 6 students. Because not all important and complex aspects of human-wildlife conflicts could be dealt with due to time constraints, the workshop was intended as an eye-opener and a source of inspiration for a future generation of researchers on human-wildlife conflicts. And since most students participating in the workshop had a mainly ecological background, we focused on the importance and integration of social science into research on human-wildlife conflicts rather than ecological aspects.

During the theoretical workshop we focused on the interdisciplinary nature of human-wildlife interactions and on methods to conduct interdisciplinary research. Students first shared their experiences, knowledge, and opinions on the current state of conservation research in India through group discussions. Discussions were centered on conservation efforts inside and outside protected areas and their implications for human-wildlife conflict research and management. After creating a common understanding on human-wildlife interactions, we discussed how we could obtain a more holistic understanding of these interactions through interdisciplinary and transdisciplinary research. Systems thinking helps to create this more holistic understanding; a large part of the workshop was dedicated to discussing what (social-ecological) systems are, how these can be analyzed, and how thinking in systems is different from the more traditional top-down analytical thinking. To get a more practical understanding on how systems thinking can be useful in human-wildlife conflict research, students generated causal loop diagrams including both social and ecological variables of bear management. The second day we focused on more tangible aspects of conducting and designing social science studies on human-wildlife conflicts. We mainly focused on the use of questionnaires and semi-structured interviews, the types of data generated by these methods, suitable data analyses, and the differences between inductive
and deductive research. Important discussions were on differences between quantitative and qualitative data with most students having very little experience using inductive semi-structured interviews and qualitative data. We therefore practiced formulating appropriate open-type questions and the use of probing and prompting questions during interviews. Finally, students analyzed interview data using qualitative content analysis. We received very positive feedback from the students with an enthusiastic emphasis on the sessions about systems thinking and the design of questionnaires and interviews.

During the second, practical part of the workshop we implemented methods learned in the theoretical part by designing, conducting, and analyzing a study on the social drivers of human-sloth bear coexistence. Using Jassore Sloth bear Sanctuary of Gujarat as our study site, students obtained hands-on field experience by conducting qualitative semi-structured interviews. After designing the interview guide, the students conducted multiple interviews with important stakeholders in the region, such as forest guards, cattle herders, farmers, and victims of sloth bear attacks. Throughout, both content of interviews as well as interview techniques were evaluated and discussed (e.g. how to ask questions, the type of questions that generated especially interesting answers, and the problem of leading or too direct questions). After recording all interviews and transcribing them into Gujarati (the local language), interviews were translated into English. Following the field trip, students learned to analyze interview texts using qualitative content analyses. Students first coded all interviews for the most important themes. After compiling the different themes from all interviews, we combined them into a conceptual framework of drivers contributing to or preventing human-sloth bear coexistence. Many interesting aspects emerged from the interviews. For example, local people felt disempowered by current bear management. They perceived that through the sloth bear’s protection status, bears had more rights than humans while their community’s problems were ignored by current management bodies.

Probably the most important outcome of the workshop was the generation of interest for interdisciplinary research on human-wildlife conflicts among the students. Students that participated in the theoretical workshop were inspired with new ideas for their own research, while students that also participated in the practical part obtained hands-on experience with inductive and qualitative research. Both workshops challenged the participants’ way of thinking and conducting research, but provided them with a toolbox of social science methods for future interdisciplinary research on human-wildlife conflicts.

Acknowledgements

We thank the International Association for Bear Research and Management (IBA) for the Experience and Exchange Grant that made this workshop possible. We are grateful to the Gujarat Forest department for giving their permission to conduct the field study. We sincerely acknowledge the local people of Jassore Sloth bear sanctuary for their warm hospitality and participation in the interviews. We thank Ms. Nisha and Mr. Harish Patel for helping us to organize the workshop. We also thank the Head, Department of Life Sciences, HNG University for extending necessary facilities for the workshop and his support and encouragement. The fieldwork was approved by the Ethics Committee of Leuphana University Lueneburg.
Ten bears were reintroduced to the central Alps of Italy during 1999–2002, bolstering the remnant population of 3 or 4 bears, which was on the threshold of extirpation. Since then, the increase in this population has been observed via genetic monitoring. As of the end of 2014, at least 41 bears (and as many as 51) were present, with 5 new litters recorded in 2014.

Detailed results of this monitoring are reported in the eighth edition of the Bear Report (2014), edited by the Forest and Wildlife Department of the Provincia Autonoma di Trento, with the cooperation of the Science Museum of Trento. The English version of the report is available as a PDF (http://www.orso.provincia.tn.it/rapporto_orso_trentino/). The document gives an update on the status of the bear population, providing data concerning monitoring, damage compensation and prevention, emergency management, communication, personnel training, international networking, and research carried out on this topic.

The current population of bears is comprised of at least 22 males, 17 females and 2 (cubs) of undetermined sex. Twenty of these bears (49%) were adults, 14 juveniles (34%) and 7 surviving cubs (17%). The effective population (Ne = number of bears reproducing that year) was estimated to be 14.5.

Annual survival rates (from 13 years of data, 86 different bears and 393 bear-years) were 91.2% for adults, 92.4% for juveniles, and 78.5% for cubs.

Since 2002, 41 litters have been recorded with at least 88 cubs born (average 2.15 cubs/litter), with a sex ratio biased toward males (45 males, 33 females, 10 undetermined). Fertility was 33% for females <4 years old (n=15), 53% for females aged 4–8 (n=38), and 100% for females >8 (n=9).

In 2014, for the third time, we employed camera traps to monitor use of 20 selected rub trees. The main purpose was to obtain quantitative and qualitative data on the ways these trees are used by different sex and age groups and during different seasons. The monitoring lasted from March till November (3,318 camera-days), checking cameras every three weeks. We obtained 5,449 videos, 286 of which were bears. Analyses of these data are presented in the report.
The Brenta and Paganella-Gazza ranges remain the strongholds of this population. Females roamed in a relatively small area (958 km²) entirely within western Trentino (density = 3.5 bears/100km²), whereas the area occupied by males, including dispersal movements, is much larger (13,567 km²). Of the 22 young males that have dispersed (2005–2014), 9 (41%) have died or disappeared, 9 (41%) have returned, 2 (9%) emigrated, and 2 (9%) are still outside the province. No females have dispersed.

Of 175 damage claims for livestock depredation (164 caused by bears) in 2014 in Trentino, 99,900 euros of compensation was disbursed. In 2014 the emergency team was called into action 55 times, in most cases following reports of damage or the sighting of bears close to facilities frequented by man or inhabited areas. Twice the staff carried out aversive conditioning.

One case for the emergency team involved an attack on a man, the first in ca.150 years in Italy. On 15 August, above the village of Pinzolo in the Val Rendena a mushroom-picker inadvertently came upon a female named Daniza (age 19) resting with her two cubs. The man immediately began to move away but was followed and attacked by the bear. It was decided to capture the bear (already collared) for reasons of public safety, following an order of the President of the provincial government. The Ministry of the Environment and ISPRA confirmed the decision, as it had been made in accordance with the provisions of the National Action Plan PACOBACE. Three weeks of attempts to capture her in a trap were unsuccessful. On 10 September, Daniza was captured free-ranging, but she died from the anaesthesia.

During 2014, 5 cases of false attacks (close encounters, chasing, bluff charges) were recorded. In 2015, 2 more bear attacks were reported: 1 with a man seriously injured, and 1 false attack. These instances are instilling fear among the public and reducing their tolerance for bears in the central Alps.
Coat Color Morphology of American Black Bears Changes as Rapidly as the Landscape

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The American black bear exhibits a multitude of color morphs including the white Kermode bear in British Columbia, Canada, and the blue phase glacier bear in parts of Alaska (Rounds 1987). In the continental United States (lower 48 states), black bear coat color exhibits a stark contrast between the eastern and western populations. In the eastern US black phase coats predominate, presumably to help bears stay camouflaged in the shadows of their primarily forested habitat. However, in the western US, most black bears are brown or cinnamon in color, which may help them blend with the shrubby vegetation, bare rock, and soils of the more arid and open landscape. We compared the prevalence of brown/cinnamon color phase coats among bear populations living in relative close proximity to determine if the percentage of bears exhibiting brown/cinnamon coats would correlate with the increasingly open, agricultural bear habitat.

We examined coat color data from 675 bears handled for research by the Minnesota Department of Natural Resources during 1989 to 2013. The bears were located in 3 distinct study sites: 1) Voyageurs National Park (VNP; n=214), situated in far northern MN, is primarily covered in coniferous sub-boreal forests transitioning to northern mixed hardwoods, 2) Chippewa National Forest (CNF; n=360), in central Minnesota, also contains a mix of hardwood and conifer forest types, but the forest is more predominantly deciduous, especially in upland habitats and, 3) northwestern Minnesota (NW; n=101), where historically the eastern forests met the prairies of the upper Midwest, is today comprised of over 50% agriculture and only 17% forest. Northwestern Minnesota marks the western edge of the eastern population of the American black bear within the continental United States. The NW study site is located ca. 350 km west of the VNP study site and ca. 220 km from the CNF. We report the percentage of bears within each study area classified as being completely brown or cinnamon in color morph and the total percentage of all or partially brown or cinnamon (e.g., black with brown underfur) colored individuals and test for differences among the study areas using a Pearson’s chi-squared test.

Bears in VNP, the most northern and eastern of the study areas, rarely had brown/cinnamon color phase coats (3.9% of bears were classified as brown or cinnamon and 6.5% of individuals had at least some amount of brown noted in their coat). In the CNF, approximately 215 km southwest of VNP, 11.1% were considered completely brown or cinnamon and 6.5% of individuals had at least some amount of brown noted in their coat). In the CNF, approximately 215 km southwest of VNP, 11.1% were considered completely brown or cinnamon and 13.6% of bears had at least some observable amount of brown or cinnamon. Brown and cinnamon color morphs were most common in the far northwestern study site where 16.1% (an increase of 12.3% and 5.0% compared with the VNP and CNF, respectively) and nearly a quarter of sampled bears (22.8%) had at least some brown or cinnamon present (an increase of

Figure 1: Location of 3 study sites within Minnesota’s bear range where we classified the coat color of bears involved in research by the Minnesota Department of Natural Resources: CNF (Chippewa National Forest, central bear range; 1989–2013); VNP (Voyageurs National Park, northern fringe of range; 1997–2013); NW (northwestern fringe of range; 2007–2013). Original map appeared in: Garshelis et al. 2010. Note: This map does not depict the southward expansion of the NW area from 2010 to 2013.
16.2% and 9.2% compared with the VNP and CNF, respectively). The observed differences in coat color counts resulted in P-values < 0.05 when comparing all 3 study sites and the NW against a combined VNP+CNF for both completely, and partially plus completely, brown/cinnamon individuals. These results suggest that bear coat color can deviate greatly at relatively small distances in association with rapidly changing land cover.

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Apprentices from SENA Prepare Study on Andean Bears in Central Colombia
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The north area of the Department of Meta, in central Colombia, is organized in 2 municipalities, San Juanito and Calvario. It is a mountainous area predominated by cloud forests and it defines the limits of Chingaza National Park, probably one of the most representative areas for Andean bears in Colombia.

This is a remote and isolated area that was, until recently, considered dangerous to visit because it was occupied by armed rebels who, for 57 years, tried to destabilize the country. For this reason, it is one of the areas where information on the current status of the Andean bears is practically unknown or outdated. This information void was highlighted by Daniel Rodriguez in his lecture on the state of knowledge of Andean bears in Colombia during the III International Symposium on Andean Bear.

The National Learning Service, better known by its acronym SENA, fulfills the mission of investing in technical and social development by offering free professional training for people involved in activities that contribute to Colombian social, economic and technological development. I have been employed by this institution to train technicians in a career that SENA calls “Ecological Farming Systems”. When I saw the opportunity to go to these 2 municipalities I took it immediately, considering the possibility of doing something positive for the Andean bear, through SENA.

From field biologists I have learned that to study a species in a given area, the first thing to do is to gain the trust of the
locals – farmers, hunters, authorities, etc. In this case, being the teacher of the resident’s children, and with them as intermediaries and with the endorsement of schools in both towns, we initiated a series of studies, surveys, analyzes, evaluations and excursions in order to better understand the current status of Andean bear populations in both municipalities; additionally, we will help design livestock grazing strategies appropriate to coexist with bears, and help develop education and tourism programs related to wildlife conservation.

Obviously this process will take several years but with the hard work of the students we are already compiling a large dataset, including bear sightings.

For more information, suggestions or comments, please contact me with the subject “Andean Bear”.

White-tailed Deer Fawn Predation in Pennsylvania

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In the spring of 2015, the Pennsylvania Cooperative Fish and Wildlife Research Unit at Penn State University and the Pennsylvania Game Commission began a 3-year study of white-tailed deer fawn survival and cause specific mortality. A similar study was conducted in 2001 (Vreeland et al 2004), but changes in black bear, coyote, bobcat, and fisher densities during the past decade, as well as complaints of too few deer, have prompted a re-examination of fawn survival and predation in Pennsylvania. The study will attempt to transmitter 80 fawns annually across 2 study areas, with approximately half being captured by monitoring vaginal implant transmitters (VITs) affixed to adult female deer during winter capture efforts, and the remainder captured by hand during foot-searches in May-June. Fawns will be monitored daily and mortality incidents investigated to determine cause. DNA also will be collected to aid in predator species identification. Concurrent with survival monitoring, relative abundance of predators in the 2 study areas will be monitored utilizing a systematic grid of scent stations and trail-cameras for mid-size predators and physical capture-mark-recapture work for black bears.

Monitoring abundance and composition of predator communities, and use of VITs to locate newborn fawns are two ways in which this study will differ from the fawn survival study conducted in 2001. Fawn predation appears to be an emerging topic among sportsmen in the eastern U.S. (Hart 2013, Adams 2014). With this growing interest is the likelihood that wildlife managers will be asked to consider predation impacts more when setting population goals for both bear and deer. Results from this study should help black bear managers respond to questions about the frequency and timing of fawn predation under current predator conditions, and how fawn survival may differ with relative differences in predator communities.

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The Plight of the Zoo Polar Bear

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Bear researchers and managers are sometimes critical of ex situ programs. Skeptical that zoo science confers much, if any value to better understanding polar bears (Ursus maritimus) in captivity or in the wild where polar bear habitat is clearly vanishing, field biologists are sometimes justified in their skepticism. But far more often I hear that field biologists are more concerned about the opportunities for bears to “be bears” in a captive setting. And in the case of polar bears, in particular, there are valid concerns that even the most naturalistic zoo enclosures can rarely mimic a polar bear’s natural environment. Hence, a common argument against zoos among wildlife biologists is that even the most state-of-the-art exhibits preclude opportunities for bears to behave normally or exhibit any natural behaviors whatsoever. This is an entirely legitimate argument, but I contend it is not the most important issue, nor is it the most critical mission of the conventional zoological park.

Polar bears and bear species, in general, are obviously cognitively advanced compared to a multitude of species typically managed in zoos. The behavioral plasticity that polar bears exhibit is also relatively profound compared to many zoo animals cared for in these natural history institutions. So perhaps, a less contentious view, and one adopted by some of my colleagues in the ex situ community, is that in zoos these animals live a far different existence, but not necessarily a lesser existence. In zoos, they are not entirely void of exhibiting natural behaviors, but they are certainly limited in opportunity to behave as a free-ranging bear might behave. With that said, a polar bear in a zoo likely experiences something more comparable to that of our companion animals. This may generate some eye wincing, but one can’t deny that zoo bears develop strong relationships with their caregivers and conspecifics, as they are managed in groups in most captive situations. Captive bears are also exposed to an array of different stimuli and they readily “adapt” to more routinized schedules, which obviously cater to the work day and temporal provisions for the animal care staff.

This is not to say that I advocate for placing free-ranging polar bears in zoos, but that the welfare and experience of polar bears currently in zoos is not necessarily compromised from a perspective often shared by popular media publications; it is just starkly different for the captive population.

I contend that polar bear ambassadors in zoos are very well cared for and that due to relatively new national zoo association recommendations and federal legislation and guidelines, polar bears in North American zoos are affording even more optimized care than some lower profile species on display. Once considered menageries and “edutainment” attractions, conservation breeding and education facilities are serviced by trained staff from behaviorists to veterinary clinicians, and pathologists to a cohort of educated animal keeper staff. Today’s animal keeper is dedicated to enriching the environment of individual animals under their care. Furthermore, intensive study by ethologists and endocrinologists working in zoos permits more than anecdotal evidence to shape the experience for polar bears in zoological facilities. In fact, some zoo scientists have spent their careers dedicated to studying enrichment programs with the intention of improving them for the psychological benefit of future generations of zoo animals.

While at one time, a main objective of zoo behaviorists and animal managers was to reduce inherent stress from dated enclosures void of much behavioral stimuli and interactions with conspecifics, revolutionized exhibits have made it possible to not only carefully consider the welfare of these animals, but to encourage behavior that is educational for zoo patrons. Again, I suspect some wincing may be generated here, but the truth is that what constitutes education is quite relative.

In a related article discussing the educational value of marine parks holding cetaceans, which also generates significant controversy, I argued that these wildlife attractions are not intended to inspire every patron to become a marine mammalogist. Rather, exposure to zoo animal ambassadors is intended to cultivate some appreciation for the biology of wildlife species, but much more importantly it is intended to foster more interest in the wild and wild places and promote the stewardship of nature.

What compelled me to write this opinion article as the IBN’s captive news correspondent was an announcement of a newly opened exhibit at the St. Louis Zoo, which I came across a few days after opening on June 6th 2015. The Zoo’s webpage dedicated to the “McDonnell Polar Bear Point” (http://www.stlzoo.org/visit/thingstoseeando/thewild/mcdonnell-polar-bear-point/) exhibit describes the features of the $16 million, 3716 m2 display. It may not simulate polar bear habitat as you may wish, but it provides exposure to these magnificent species that few will otherwise get a chance to see in the wild.

There is no question that zoo exhibits are still largely designed for zoo patrons, but what percentage of inner city or suburban kids in St. Louis are going to ever get an opportunity to see polar bears in the wild. It would be nice to think that many spend evenings watching documentaries of polar bears or that they are required to be given access to such footage at school, but I suspect they aren’t.
Reflections of a Conference Organizer: Greek Bears at the Crossroads

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In the beginning it is all about the number of participants, the number of abstracts submitted and the number of grants provided. Then, as the days draw closer, it all turns out to be about the difference between income versus expenses [... and the sleeping does get better once (and if) you realize that you will not have to pawn your wife’s jewelry to pay off your debt]. The Conference days are always a blur. [...] and then, everything gets back to normal (including your blood pressure) long after [...] you are sure that John Hechtel has left the country. But, what might seem initially as a numbers game is definitely NOT the essence of organizing an IBA Conference. And although it is always good (especially for ones’ ego) to get your numbers straight, the true essence of an IBA Conference is its legacy, its impact on what matters the most, our beloved bears! True to its principles, the IBA Conference Selection Committees have always tried to select for Conference locations where the event was likely to have a significant impact on the conservation of a particular bear species: in India a couple of years back it was 4 bears species at once, in Quito in 2017 it will be the elusive Andean bear.

Now, almost a year after the 23rd IBA Conference in Thessaloniki, Greece it is time to ask ourselves “What has the IBA Conference done for bears in Greece?” Sitting at the boulevard of Thessaloniki and sipping on a cold glass of …milk, I try to reflect over the past year and answer the question, as objectively as possible, if and how the life of bears in Greece has been affected by the last IBA Conference.

It should be said here that despite bears being one of the more iconic terrestrial animals in our country, they have rarely (and together with them also most other wildlife species) topped the conservation priorities of local and national authorities. It has always been the task of environmental organizations, such as ARCTUROS, to fight to help safeguard the future of the species in the country. It should therefore be considered a major conservation success for bears in Greece that the bill setting the framework for dealing with human–bear conflicts that was prepared by ARCTUROS and other wildlife organizations became national legislation just before the conference. Building upon this momentum we managed to persuade the competent Hellenic authorities of the necessity to attend the 23rd IBA Conference in Thessaloniki in order to build local technical capacity and promote the conservation of the species in the country. More than 10 officials from various Greek governmental agencies attended (the annoying chatter from the back of the auditorium was from their translator) and were particularly impressed by the scientific knowhow and the technical expertise presented to them by the Scandinavian Bear Project and the Slovenian Forestry Department during the special workshop on human–bear conflicts.

However, conservation always depends on the human settings in which it takes place. Therefore, what started as a very promising post-conference time has since turned rather bleak. Greece has been in the midst of an unprecedented financial crisis. With GDP and public spending falling a quarter in just a few years and unemployment skyrocketing; public tolerance and acceptance of bears appears to have decreased, especially in areas with high levels of human–bear conflicts. The following 2 incidents vividly exemplify the threats bears face nowadays in the wild in Greece:

• Acquiring a sweet tooth for garbage, 3 bear cubs became local celebrities in the small town of Metsovo in northern Greece during their nightly quests for food. This seemingly “harmless” behavior had a tragic end, when 1 of the cubs was found severely injured. Poor organization and communication between local authorities and local NGOs resulted in a long delay in the transportation of the animal to the ARCTUROS Rehabilitation Center and from there on to the Veterinary Department of the Aristotle University of Thessaloniki. Thorough veterinary examinations revealed that the animal had been shot in the head but that its condition was not critical. Today after several months of treatment at the ARCTUROS Bear Sanctuary, little “George” has still not recovered from his X-ray of a juvenile bear shot in the head in the small town of Metsovo in Northern Greece.
injuries and will most likely spend the rest of his life in captivity.

• A couple of months after the incident at Metsovo, a similar incident occurred at the village of Vrodero near the Albanian border. Responding to a call from local authorities, the ARCTUROS Emergency Team rescued 2 bears at once! The first bear was a subadult male that had also been shot in the face. Although the wounds again were not life threatening, both eyes were severely damaged; as a result, the animal is completely blind and will also spend the rest of its life in captivity. The second bear rescued was a 2 month old cub that had been removed from its den for reasons that are not yet clear. It has been speculated that there is a local demand for bear cubs that are being sold to Albania but this could not be verified by the local authorities. Little “Patrick” is now the fourth bear that is going to be rehabilitated by the ARCTUROS team in Greece; if everything goes according to plan, he will be released next year in spring back to the wild.

However there have also been some reasons for hope. After more than 2 decades in captivity, in a 20 x 20-m concrete enclosure, the 2 bears in the zoo of Thessaloniki are finally facing a brighter future in the Bear Sanctuary of ARCTUROS. What started as a small protest action of ARCTUROS and another 4 local NGOs ended in a major public outcry and a petition for the animals to be transferred to the ARCTUROS Bear Sanctuary signed by more than 30,000 people. The press conference given during the IBA Conference managed to draw attention once again to the issue and finally, in March 2015 the municipal authorities of Thessaloniki gave their consent for the transfer of the bears. In a symbolic action that took place on World Environment Day (June 5), “Sascha” and “Alexandra” were transferred to their new home.

Greece is presently at the most important crossroad of its modern history. Only time can tell if the path chosen will provide a safe future for the country and its bears!
Workshop Reports

22nd Eastern Black Bear Workshop - April 2015

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The Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP) and Mississippi State University co-hosted the 22nd Eastern Black Bear Workshop (EBBW) at Lake Tiak O’Khata in Louisville, MS from April 26 – 29, 2015. Ninety-nine persons registered for the workshop and attendees represented 25 states and 2 Canadian provinces, including 4 Federal agencies, 21 State agencies, 15 universities, and 8 related organizations. Mississippi last hosted the EBBW in Vicksburg in 1997. The purpose of the EBBW is to bring together state/provincial biologists, federal biologists, and university researchers with responsibilities for managing black bear populations in the eastern USA and Canada to discuss issues integral to the management and conservation of those populations. The EBBW is a working meeting and is held every 2 years with meetings rotating among the eastern states and Canada. In addition to formal presentations, a poster session was also held for presenters.

The main theme of the 2015 workshop was “Improving Our Understanding of Black Bear Behavior”. Day 1 began with a summary of state/provincial status reports presented by Steve Dobey of the Kentucky Department of Fish & Wildlife Resources. This was followed by a Conflict Management Workshop which included formal presentations by agency representatives from Florida, Louisiana, New Jersey, and Virginia on various direct management-related actions within their respective jurisdictions. An interactive panel discussion followed the formal presentations allowing all workshop attendees the opportunity to pose questions, share management strategies and experiences, and offer conflict solutions or suggestions. Concluding the session was a presentation by Larry Lewis of the Alaska Department of Fish & Game (ADFG) entitled, “Using TASER™ Conducted Electrical Weapons Within A Force Continuum During Wildlife Management Actions”. Workshop attendees were allowed to participate in a demonstration of the use of TASERS™ by ADFG for the short-term restraint, hazing and aversive conditioning of wildlife.

Day 2 of the EBBW opened with a presentation by invited speaker Dr. Stephen Herrero entitled, “Understanding Aggression in Black Bears”. Dr. Herrero, of course, is recognized throughout the world as a leading authority on bear ecology, behavior, and attacks and is the author of Bear Attacks: Their Causes and Avoidance. Dr. Herrero’s presentation was followed by 9 in-depth case studies of black bear attacks in the eastern US presented by attendees from Florida, Tennessee, Kentucky, West Virginia, North Carolina, and New
Workshop Reports

Following the formal presentations, all presenters, including Dr. Herrero, engaged in a lengthy panel discussion with workshop attendees. A significant and notable common denominator among all presentations was each speaker’s reference to the training they had received at the Bear Attack Response Training (BART) Workshop in Gatlinburg, TN in 2014 and how they had incorporated that training into subsequent bear attack response or how they would have applied the training to earlier attack responses.

To kick off the Field Techniques Workshop, invited speaker Dr. Marc Cattet, Wildlife Veterinarian, Canadian Wildlife Health Cooperative, presented “Drugs, Delivery, Darts, and Distress: Selected Topics From the Field Anesthesia of Bears”. Dr. Cattet shared his extensive expertise in the field chemical immobilization of polar, brown, and black bears and initiated thought-provoking and lively discussions on such topics as exertional myopathy and antibiotic use during capture procedures. Other presentations in this session included the use and demonstration of bear den video cameras; use of potassium chloride to humanely euthanize black bears; and scoring bear skulls.

Dave Telesco, Florida Fish & Wildlife Conservation Commission and member of IBA’s Management Committee, addressed workshop attendees and provided IBA brochures and explained how IBA serves North American bear managers. Dave also provided to each attendee, copies of “Responding To Human-Bear Conflict & Capture-Handling of Black Bears: A Field Techniques Guide for Agency Bear Biologists and Officers”, written by Richard A. Beausoleil (Washington Dept. of Fish & Wildlife) and Carl Lackey (Nevada Dept. of Wildlife).

Two regional bear groups also took the opportunity to meet prior to the start of the EBBW. The Northeast Black Bear Technical Committee (NBBTC) and the Large Carnivore Working Group of the Southeastern Association of Fish & Wildlife Agencies (SEAFWA) met separately and later convened to discuss a region-wide bear education initiative.

The 22nd EBBW would not have been possible without the support of our sponsors: Anderson-Tully Co., BEaR Group of Mississippi, MDWFP Foundation, Mississippi Wildlife Federation, Wildlife Mississippi, U.S. Fish & Wildlife Service, Black Bear Conservation Coalition, SE Section – The Wildlife Society, MSU College of Forest Resources. Additional support was provided by Duke Pecan Co., Forestry Suppliers, Inc., Kate Marshall Graphics, Mississippi Chapter – The Wildlife Society, and Mississippi Dept. of Transportation.

23rd EBBW in 2017 – During the 22nd EBBW business meeting, it was announced that the 23rd EBBW will be held in Pennsylvania in 2017.
Workshop Reports

12th Western Black Bear Workshop – May 2015

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The 12th Western Association of Fish and Wildlife Agencies (WAFWA), Western Black Bear Workshop (WBBW) was hosted by Alberta Environment and Sustainable Resource Development and the Alberta Conservation Association in Canmore, Alberta Canada May 12-14, 2015. The theme of the Workshop was Managing Bears in a Socially Diverse Landscape and, given the location, considered both black and grizzly bears in the sessions and workshops.

Day 1 of the WBBW kicked off with a presentation by Dr. Stephen Herrero titled Understanding Black Bear Aggressive Behavior which was followed by Jurisdictional Updates from, Nevada, Washington, Colorado, Alberta, Idaho, Wyoming, and Montana. The jurisdictional updates were followed by a presentation from Dr. Joseph Clark which looked at Agency data collection and interpretation and included discussions with bear managers in attendance. The first day of the Workshop concluded with an evening session discussing rehabilitation of orphaned black bear cubs. The inclusion of a cash bar at this session lead to lively and productive discussions on the management of populations vs. individuals.

Day 2 of the Workshop started with a panel of managers, consultants, business people, and ranchers discussing Bear Conflict Management in the Private Sector. This panel lead to interesting discussions about regulatory challenges private sector folks face regarding bears as well as broader societal values. The afternoon fieldtrip on day 2 was an opportunity for Canmore and the Bow River Valley of Alberta to showcase some of their ground-breaking Proactive Bear Management Activities in a Highly Developed Landscape, which have been developed over the last couple of decades. The field trip highlighted wildlife corridors, highway fencing and crossing structures (over and under passes), natural attractant removal, and electrified matting in highway junctions where the fence can't cross. Many of these installations are literally right out of our conservation biology, ecology, and wildlife management text books. Day 2 wrapped up with Dr. Ian Stirling presenting on Polar Bears, Northern Cultures, and Global Warming at the dinner banquet held jointly with the WAFWA Deer and Elk Workshop that was being held in Canmore at the same time.

The final day of the workshop started out with a panel discussion on aversive conditioning applications by managers in different jurisdictions. Panel members presented aversive conditioning methods used in Alberta, British Columbia, Nevada, Montana, and Washington. Conclusions were that nearly everywhere aversive conditioning is used it produces positive benefits for bears and the public. Following this discussion, WBBW participants joined folks at the Deer and Elk Workshop for a well-attended session on predation.

The Thursday afternoon session was a panel and discussion titled Managing Bears in a Socially Diverse and Risk Varied Landscape. This panel was made up of First Nations representatives, wildlife managers from Federal, Provincial, and State agencies, a rancher, a conservation writer, and a research biologist. Each panel member presented a bit about the perception of risk from their point of view and was followed up with thoughtful and respectful questions presented by the audience. The variety of viewpoints regarding risk and perceptions of risk by people living, working, and recreating in bear country reminds us of the diverse public views and values that we have to consider when managing bears in North America.

The WBBW wrapped up on Thursday evening following a public presentation by Dr. Chris Servheen, the Grizzly Bear Recovery Coordinator for the U.S. Fish and Wildlife Service. Dr. Servheen presented about 34+ years of grizzly bear recovery in the lower 48 United States and how that experience may relate to the Threatened grizzly bear population in Alberta. One of the main messages in Dr. Servheen’s talk was the importance of working with people that live, work, and recreate in bear country when developing and implementing recovery strategies for grizzly bears. Having been involved in drafting the revised Grizzly Bear Recovery Plan for Alberta, it was encouraging to hear Dr. Servheen express the importance of the public process in successfully recovering grizzly bears, as the new Plan is big on stakeholder involvement.

During the WBBW business meeting, those member jurisdictions present discussed the development of the Western Black Bear Technical Committee which will be an annual forum for agency representatives of the western jurisdictions that want to participate to come together and discuss common management challenges and look for workable solutions. The first WBBTC meeting will be hosted by the Idaho Department of Fish and Game in spring of 2016. It was also decided that the next WBBW will be hosted by Colorado Parks and Wildlife in 2018.
24th International Conference on Bear Research & Management  
June 11-16, 2016  
Anchorage, Alaska  
USA

Join us in Anchorage, Alaska for the 2016 IBA conference June 11-16. The conference is hosted by World Wildlife Fund and will be held at the Denaina Civic and Convention Center. The conference theme is “Learning from the past to inform the future”. The conference will focus on various aspects of global bear ecology, management, and conservation and include numerous events geared towards public education and outreach. Look for more details on lodging, air travel, associated trip opportunities, registration, and a call for papers in August.

Call for Evening Workshop Ideas for 2016 Anchorage IBA Conference.

The IBA Program Committee for the 2016 Anchorage Conference is soliciting ideas from its membership for evening workshops to be held during the conference. If you have a topic you would like addressed, please email Grant at grant_hilderbrand@nps.gov.

Truman’s List Serve

• For students only
• Discussions pertaining to bear biology, management, or study design challenges
• Assistance with proposals and study design through IBA professionals
• 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

Instructions

• Visit: http://ww.bearbiology.com/iba/stu.html
• Follow the links to request an invitation
• Do NOT reply to list serve messages using your “reply” button. You must return to Truman to respond within the list serve or else other members will not receive your response.
• If you’re a new member, please submit a paragraph about your project and include your contact information so we can all get to know you.
Recent Bear Literature

Agnès Pelletier
Email: asg.pelletier@gmail.com

It is my great pleasure to present you the second issue of the Recent Bear Literature of 2015. If you have an article recently published please email the citation for inclusion in the next issue of Recent Bear Literature.

The deadlines for the next issues are:
• Fall Issue: 5 October: Marion Schneider: mfschneider@gmx.de
• Winter Issue: 5 February: Agnieska Sergiel: agasergiel@gmail.com
• Summer Issue: 5 June: Agnès Pelletier: asg.pelletier@gmail.com

For easy access to articles, we are now including the DOI citation and corresponding author email address, if available. To open articles from their DOI, enter the DOI citation in the text box provided at the following website: http://dx.doi.org


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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.

Deadline for the Fall 2015 issue is 5 October 2015

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