Sloth Bear. Credit: David Kirshner.
Read articles about sloth bears in Bhutan, India, and Nepal on pages 5-8, 14-15, 16-17, and 24-25.
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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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- Zoo and Captive Bear Organizations: Jordan Schaul, Email: jordan.schaul@gmail.com
- Bear Specialist Group: Dave Garshelis, Email: dave.garshelis@state.mn.us
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Deadline for the Fall 2014 issue is 5 October 2014.

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

For Membership Information and Publication Ordering
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.
IBA President

President’s Column

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IBA THESSALONIKI fast approaches, and with it the attendant flush of activity making travel plans, preparing presentations, wrapping up field projects, reports, and otherwise putting things in order before embarking for Greece. I find that IBA Conferences punctuate my years as a bear biologist: I first met so-and-so in Victoria, it was in Steinkjer that I realized such-and-such, it was in Monterrey that Council decided (whatever), and how about that dancing in Tblisi (!!) To borrow the phrase from a well-known book of my childhood, each conference is like a “wrinkle in time” that transports me outside the usual flow to a place and time of intense learning, listening, thinking, working, interacting, and building relationships — a week that leaves its unique mark on the timeline of my professional and personal story. Each conference is different, each one important, each experience generating change of some sort.

Thessaloniki will be no different. I am excited. We are advised to MAKE OUR RESERVATIONS NOW, rather than later, as forecasts are for Greece to experience a particularly intense volume of tourist visits this season.

From what I have seen of the conference program thus far, the scope of the presentations, posters, workshops, and other events is broad. I am particularly pleased to see the workshops on the schedule. The first, entitled “Are we solving the right problem? Working for human-bear conflict resolution in developing countries”, is being organized by Drs. Emre Can and David McDonald. Their goal is to take a fresh look at how to effectively deal with human-bear conflict, particularly in low-income regions of the world where human economies are not secure and where most human population growth is expected to occur in coming decades. An emphasis will be on identifying principles that are transferable to many situations and places. The second workshop, entitled “Strategic planning for recovery of Mongolia’s Mazaalai, or Gobi bear: finding the right solutions for a critically endangered population in a warming world”, is being convened by Gobi bear project members with the goal of generating ideas for the outlines of a strategic conservation plan. Organizers of both workshops specifically seek to draw on the gathered experience and expertise of IBA’s assembled members to help formulate ideas for action and problem-solving. In other words, these workshop organizers hope to engage us all as the experts they want to hear from — not just the most esteemed among us, but all of us, and are asking for our help to brainstorm approaches to issues without easy solutions.

For me, this is so central to what IBA is for — bringing together colleagues to share our perspectives, knowledge, and experience, and thereby advancing the understanding of bears and the management and conservation of populations. Each of us works in a unique place, with issues that inevitably require customized approaches. Yet finding effective answers, making breakthrough changes, and “thinking outside the box” are more likely when we engage colleagues in our efforts.

As a closet introvert and someone whose first impulse is to go it alone, this is a skill I have had to learn. It is a practice that I will have to continue to actively cultivate daily, as I still have much to learn and practice. I admire those who so naturally engage others in collaborative efforts: who know how to stimulate ideas from others, extract the best, and synthesize solutions from there. The rewards are enormous and it is a skill well worth cultivating.

One mistake I often make is to arrive at conferences without giving adequate forethought to the conversations I want to have with others while I am there. Before I know it, the week is gone and I have missed opportunities to renew and deepen connections, forge new ones, and take advantage of face to face brainstorming. This year, I have resolved to think about these things before I fly off to Greece. I will start the conference week with a list in hand of people and topics I want to engage while I am there. And I will be intentional about meeting new people and familiarizing myself with their work. I urge you to do the same.
Council and Membership meetings in Thessaloniki

IBA members should be aware of 2 important meetings that will occur during the upcoming IBA conference. Immediately prior, on Sunday, October 5, IBA Council will meet all day to assess progress on projects, hear from committee chairs, discuss new issues, finish old business, and plan priorities for the coming months. The meeting is open, and IBA members that have an interest in what Council does are welcome to drop in and observe. Likewise, if there are issues or requests you wish to bring to Council for discussion, feel free to contact any Council member prior to the conference so that it can get on our agenda.

On Tuesday afternoon of the conference, after the day’s technical sessions, there will be an IBA Members Meeting. There, I will update IBA members on Council actions, projects, and discussions. An agenda will be posted at the beginning of the conference for members to see. This is YOUR meeting, where you can ask questions and raise issues in the presence of a large number of members. I urge you to be there.

Elections 2014

At the end of November, we will hold elections to fill several positions on IBA Council. The office of Vice-President Eurasia and 2 general Council seats come open. Current Eurasian Vice-President, Andreas Zedrosser and Council member Emre Can are eligible to run for second terms. Andreas was originally appointed to his position to replace Piero Genovesi who had vacated the spot mid-term. Andreas was re-elected in 2011, so has served 4+ years, but not 2 full terms, the term limit for Councilors and Officers. Emre is currently serving his first term on Council. Emre is currently serving his first term on Council. Ximena Velez-Liendo leaves her position after 2 full terms.

In April, I asked Koji Yamazaki, Mike Proctor, and Marta deBarba to comprise the nominations committee for the upcoming election, with Koji as chair. The committee has submitted their recommended slate of candidates as follows: For vice president (Eurasia): Andreas Zedrosser and Djuro Huber. For 2 Council seats: Emre Can, Alex Kopatz, Shaenandoah Garcia Wrangel, and Liu Fang. IBA members can submit additional nominations between now and September 30 by contacting IBA Secretary Jennapher Teunnissen van Manen. To submit a nominee, however, please first confirm that he or she is willing to run for office and willing to serve, if elected.

IUCN BSG Co-Chairs

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What began as a foothold by a British trading company on the eastern shores of the Indian subcontinent, developed into the British-controlled Indian empire, and this, ironically, led to a plethora of English language accounts of the natural history of various “game” species, including bears. Yet somehow, this literature has rarely surfaced as a resource for bear biologists and conservationists. We became aware of the extent of this resource when endeavoring to learn about the existence of sloth bears in Bhutan.

In December 2012, we ventured with 2 colleagues to Royal Manas National Park (NP), in the “duars” (narrow strip of floodplains and low foothills) of Bhutan; we were trying to ascertain why there has been only 1 verified recent record (2009 camera trap photo) of a sloth bear in this country (yet more records directly across the border in Manas NP , Assam, India). Our search for sign, although not definitive, came up empty. This led to the intriguing question: have sloth bears historically resided in Bhutan (as claimed in some recent books, field guides, and an IUCN conservation action plan authored by one of us: Garshelis et al. 1999)?

A search of the historical literature, dating mainly from the latter half of the 1800s, revealed an abundance of books and articles with information about sloth bears on the Indian subcontinent. A number of well-known British zoologists who produced treatises on wildlife on the Indian subcontinent - people like Jerdon, Sterndale, Blanford, Lydekker, and Pocock - derived much of their information on distribution and habits of bears from accounts made by big game hunters.

Who were these hunters? They were primarily forest officers assigned to a post by the British government. One of the perks of the job was to go hunting, which they did often and relentlessly. And then, after a stint of a number of years in

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India, they gained notoriety by publishing their adventure-filled stories in books with colorful titles such as Thirteen Years Among the Wild Beasts of India (Sanderson 1879) and Rifle and Romance in the Indian Jungle (Glasfurd 1906). Baker (1887) says he wrote his book Sport in Bengal: How, When and Where to Seek it “in the hope that a plain, unvarnished record of forty years’ life and experiences among savage beasts and more savage men may prove useful and instructive.”

Stebbing (1911: viii) characterized the Forest Officer’s job as one that provided “unique opportunities for observing and studying the animal life of the great forests and jungles which he administers. Indeed, it would be difficult to find a profession affording greater interest in its daily avocations, whilst yielding at the same time greater facilities for the enjoyment of first-class sport amongst both large and small game. And, as such, the Forest Service of India can be commended to all young Britons possessed of a love of science, a love of natural history, and a love of sport.” Forest officers often took pride in taking meticulous notes about the animals they saw, the habitats they lived in, and the sign they left. This was useful natural history information, but also served in aiding their hunts.

Whereas tigers were certainly the prize quarry, pretty much every Indian hunting book also had accounts of bear hunts. Baker (1887: 223) commented that “the sloth bear (Ursus labiatus) is much the largest and fiercest, and the most worthy of the sportsman’s pursuit, and accordingly it is regularly sought where it abounds in any numbers.”

Hunting sloth bears by “beating” them toward a hidden shooter in a tree. Picture is from a book by Captain Thomas Williamson of the Bengal Army, originally published in 1807. The author described the scene thus: “To the native he [the bear] is a foe to be shirked unless under the protecting convoy of European sportsmen, when a whole village will gladly turn out to beat a khet (field)” (Williamson 1892). Note the termite mounds in the foreground. When a bear finds a nest of these “white ants”, says the author, he is “in his glory”.

A popular form of late 1800s sloth bear hunting was to sit and wait in rocky hillocks. It was well known that these bears slept in caves during the day, so hunters could either go out on moonlit nights (left, from Brown 1887) or hunt in early evening when bears were exiting, or early morning when they were returning to their dens (right, from Sanderson 1879).
There were 2 common methods of hunting sloth bears. One was to set shooters behind boulders, or up in trees or macháns (elevated platforms) and then have a large group of “beaters” with drums drive the bears past the shooters. Another approach was to scout a boulder field either in the early morning, when bears were returning to their caves from a day of foraging, or in early evening when they were just heading out. Some hunters described this as being too easy, because the habitat was very open and the black, shaggy sloth bears were completely unwary of a human with a gun in their midst. Hunters typically carried 2 guns, so they could shoot families of bears.

A less commonly used approach was to wander or prowl around on a moonlit night, looking for silhouettes of bears in forest openings or under mowha trees (feeding on dropped flowers), and listening for their distinctive sucking sounds. A Hindustani word for such prowling is “ghooming” (Glasfurd 1906). Ghooming forest patches today in south Asia, one would have a low probability of encountering a bear.

The success of the Indian big game hunters was not so much due to their superior skills, but to an astounding abundance of wildlife, an abundance that we can scarcely fathom today. Stebbing (1920:33) commented that sloth bears were “as plentiful as blackberries” on the bouldery, scrub covered hills. One “Old Shekkary” (Levesan 1860), as he called himself (shakári is the Indian word for hunter), led a hunting party that killed 11 sloth bears and captured 1 cub in one morning’s outing on a boulder-strewn hillock. Another hunting party reported killing or wounding 8 sloth bears in a morning’s hunt (Baker 1887). These hunts were sometimes described as “hunting picnics”, where fine dressed ladies would come to watch (if it wasn’t too hot).

Sloth bear hunting was considered more exciting and sporting, though, than hunting Asiatic black bears because sloth bears were considered more “plucky and aggressive” (Stebbing 1920: 33). Wounded bears attacking hunters, leading to close range skirmishes with flailing claws and knives and even “bear hugs” provided exciting stories for the hunting books.

Most striking to us in reading these many accounts is the natural history information they contain - about bear diet, activity patterns, cub rearing, habitat use, behavior, and body size. Most of this information seems to have been overlooked by today’s biologists. Indeed, these hunters had, by virtue of the extraordinary density of bears living there at the time, a chance to observe bears more frequently than we ever could today, and many of these hunters were very good naturalists. Eardley-Wilmot (1910: 229), a British Indian forest officer and hunter, called people like himself “philosophers of the jungle.”

Just imagine having the chance to observe bears under these circumstances. Today, bear conservationists are perpetually fighting to stem threats and reduce rates of population decline. We cannot venture to think about trying to build populations back to what they once were. This results in a shifting (sinking) baseline - in part because circumstances are radically different today (far more people, far less bear habitat), and in part because we have no firsthand recognition of the true historic baseline. The old hunting literature has been neglected or under-appreciated in terms of providing documentation of the remarkable abundance of bears that once existed. And even more remarkably, many of the hunters of that era bemoaned that the large game were already much reduced from so much uncontrolled hunting, and were not as abundant as they once were.

We scoured this literature (which now, fortunately, is available digitally online*) looking in particular for some evidence of sloth bears in Bhutan. We read 1 account of hunters who traveled around Assam (just south of Bhutan) and killed a large number of Asiatic black bears, but they remarked on killing only 1 sloth bear - “How it came there, I do not know” (Pollok
IUCN BSG Co-Chairs

and Thom 1900: 456). This suggested that sloth bears were much rarer in this northeastern part of India than elsewhere, and led some zoologists to question whether sloth bears existed in Assam at all.

But unfortunately for our search, the big game hunting that was rampant across India did not occur in Bhutan, and few British entered this country. We uncovered just 1 English language account from the late 1800s – early 1900s, which although mainly about geography, people, and customs, mentioned (in the appendix) brown bear presence in the high Himalaya, common black bears (*Ursus thibetanus*) throughout the country, and “a third species, also said to be common, inhabiting the lower valleys” (but never seen by the author) (White 1909: 323). That, presently, is the only historical “evidence” that we have found of (presumably) sloth bears in Bhutan.

Today, camera trapping and sign surveys are our only viable tools for determining whether sloth bears exist in Bhutan. Dreaming, though, of 120 years ago, it would have been far more fun if we could just go ghooming for bears (with a camera, instead of a gun).

Literature Cited


Sanderson, G.P. 1879. Thirteen years among the wild beasts of India: their haunts and habits from personal observations; with an account of the modes and capturing and taming elephants. W. H. Allen, London.


* see especially: https://archive.org/details/texts and http://biodiversitylibrary.org/

Bear Conservation Ambassador

Bear Conservation Ambassador Mi Ton Teiow Ready for More Adventures

Mi Ton Teiow
Bear Conservation Ambassador

I was born in a village in Lao PDR, and as the saying goes, I was “cut from a different cloth”. I was given the unusual name, Mi Ton Teiow, meaning “The Travelling Bear”, and with that the desire to promote bear conservation around the world. Recently, I have had the good fortune of spending an exciting year with the San Diego Zoo Institute for Conservation Research. Three BSG members there, Russ Van Horn, Ron Swaisgood, and Megan Owen, have treated me to field experiences with Andean bears in Peru and pandas in China, and took me to see an area with hibernating American black bears in the U.S. I also travelled to Ohio to attend the annual meeting of the Polar Bear Species
Survival Plan, and to learn about the effects of climate change. Being stationed in San Diego, I had the opportunity to learn about the extirpation of California grizzly bears and visited the horticultural center of the zoo where I gained an appreciation for the diversity of plants that play a part in supporting bears around the world.

Along the way, I have been posting blogs and photos (http://www.sandiegozooglobal.org/search_results?cx=003586353649748028178%3Aqpp8fly12ym&cof=FORID%3A11&ie=UTF-8&q=mi+t&denySubmit=&ACTION_SUBMIT_SURVEY_RESPONSE=). The blogs are not simply travelogues, but commentaries about bear conservation. I am hoping that my colorful appearance and personality attract attention in the public arena. For example, maybe the photo of me sitting on the shredded stump of a pasallo tree in Peru will help people recall that the tree itself was eaten by an Andean bear in a dry forest during a season when there is little else available.

My year-long stay in San Diego will soon be drawing to a close. Lately my hosts have been busy with data analysis, which is of course an important aspect of conservation; but frankly, a photo of me sitting at a desk in front of a computer screen is likely not going to be too memorable.

So, it’s time to move to another host. Can you envision a way for me to promote your bear conservation work? If you feel you are up to this challenge, please send an informal short description of what you can offer Mi, the whimsical bear ambassador, to Dave Garshelis (dave.garshelis@state.mn.us). There is no need to try to outmatch the experience with San Diego Zoo, which has more resources (including an online forum for blogs) than are available to most researchers and conservationists. The idea is to utilize Mi in some way to enhance a bear conservation message. A committee will decide which offering is best for Mi for the next year. The exchange will occur at the IBA conference in Greece in October 2014.

In the future, Mi’s travels and promotions will be highlighted on the BSG webpage.

Membership Expiration Notification

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After completing the switch to an all electronic newsletter we had to work through some logistics of notifying members of their expiring membership. There are now two ways you will be notified when your MEMBERSHIP EXPIRES.

1- With each IBN issue (3 per year), we send out EMAIL NOTIFICATION to members that have expired memberships and memberships that will expire with the current issue. Please pay attention to emails from IBA that are sent at the same time as the eBlast for each newsletter.

2- On the MAILING LABEL OF Ursus (2 per year), we now show when your membership expires, so do not throw the plastic wrapper away without checking out the mailing label. Above your name appears the following: Membership Expires YEAR End IBN Issue #. The “membership expires” is the year your membership will expire and the “End IBN Issue” is the newsletter issue number that your membership expires with (not the Ursus issue). The End IBN Issue may not coincide with the month of your registration; it is simply the last issue of the year your membership expires that you would receive.
The 2013-2014 proposal review resulted in a number of noteworthy points, and proceeded remarkably well considering some of the conditions that some members of the committee were working under. As you may recall, Venezuela was heavily involved with political protests, which were characterized by considerable instability, uncertainty, and even risk of well-being and freedom. On top of that very real situation there were the “normal” occasional difficulties with internet communications around the world, challenges catching people between extended field trips, and the fact that bears often live in regions of considerable political unrest and tension (i.e. increasing the difficulty of inter-project cooperation and of obtaining required permits).

By the December 1 deadline we had received 19 proposals with budgets totaling more than $125,000. We were able to allocate almost $75,000 in grants; thanks to the endowment funds set up to further IBA’s grants program as well as from donations to the Bear Conservation Fund received during the year ending in February 2014. The actual funds distributed in April-May totaled $67,121; the difference resulting from our finally being able to make a multi-year commitment to a project pending good performance during the first year. This difference will cover the Free the Bears (Crudge et al.) proposal’s second year budget, which was set aside and will be awarded early in 2015 if their project goes well. This small step into providing multi-year funding will relieve some of the pressure and distraction that always accompanies proposal preparation.

We were able to fund 10 of the 19 proposals received. We were pleased to get a proposal for work in Bolivia, and hope that next year there will be even more proposals regarding the biology and conservation of Tremarctos.

Even though results are seldom directly applicable to other species, this year’s group of projects include some good examples of the value of using the relatively easy accessibility of large sample sizes obtainable with Ursus americanus. We see high potential for developing methods useful around the world with work done on these “lab rats.”

Several proposals were ranked as sound enough to be worth funding but not of high enough in global priority, in terms of bear conservation, to warrant a higher spot in this year’s final ranking. We wish those who did not receive grants success in getting support and in the execution of their proposed studies.

The accompanying tables summarize the 2014 grants information. More detail will be posted on the Website.

Once again I extend my sincere thanks for a lot of hard work on the part of the members of the Research and Conservation Grants Committee, the BSG Co-chairs, and the Bear Conservation Fund Chair.

<table>
<thead>
<tr>
<th>Grantee</th>
<th>Project Area</th>
<th>Species</th>
<th>Topic</th>
<th>2014 Grant</th>
<th>Amount transferred in 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crudge, Brian</td>
<td>Laos</td>
<td>Asian Black Bear &amp; Sun Bear</td>
<td>Snare collection and conservation of bears in Nam Kan National Protected Area, Lao PDR, and work with villages to start development of alternate wildlife-based income sources.</td>
<td>$15,000</td>
<td>$7,500</td>
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<td>Brocklehurst, Mike</td>
<td></td>
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<td>Scotson, Lorraine</td>
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</tr>
<tr>
<td>Ditmer, Mark</td>
<td>U.S.A. (Minn.)</td>
<td>American Black Bear</td>
<td>Evaluating the feasibility of unmanned aerial vehicle technology for monitoring and observing free-ranging bears</td>
<td>$2,500</td>
<td>$2,500</td>
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<tr>
<td>Evans, Michael</td>
<td>U.S.A. (Conn.)</td>
<td>American Black Bear</td>
<td>Density Indices from Photographic Data for Management of Black Bears in Connecticut [genetic mark-recapture calibration of camera-trap data]</td>
<td>$10,000</td>
<td>$10,000</td>
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<tr>
<td>Kleiner, Jack</td>
<td>Bolivia</td>
<td>Andean Bear</td>
<td>Territorial Tree Marking Preferences of Andean bears of the Bolivian Dry Forest</td>
<td>$3,326</td>
<td>$3,326</td>
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<td>Ladle, Andrew</td>
<td>Canada (Alberta)</td>
<td>Brown Bear</td>
<td>Human access management in west-central Alberta: Influence of recreational use on the movements and behaviour of grizzly bears.</td>
<td>$9,250</td>
<td>$9,250</td>
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## IBA Grants Program News

<table>
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<tr>
<th>Grantee</th>
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<th>Species</th>
<th>Topic</th>
<th>2014 Grant</th>
<th>Amount transferred in 2014</th>
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<tr>
<td>Morehouse, Andrea</td>
<td>Canada (Alberta)</td>
<td>Brown Bear</td>
<td>Evaluating the efficacy of intercept feeding in reducing spring grizzly bear-ranching conflicts</td>
<td>$6,000</td>
<td>$6,000</td>
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<td>Pagano, Anthony</td>
<td>U.S.A. (Alaska &amp; zoos)</td>
<td>Polar Bear</td>
<td>The effects of declining sea ice on polar bear behaviors and energetic rates</td>
<td>$5,000</td>
<td>$5,000</td>
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<td>Sharp, Thomas &amp; Satyanarayanan, Kartick &amp; Seshamani, Geeta</td>
<td>India</td>
<td>Sloth Bear</td>
<td>Sloth Bear Attack Behavior and a Behavioral Approach to Safety</td>
<td>$3,545</td>
<td>$3,545</td>
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<td>Weckworth, Byron</td>
<td>China (Tibetan Plateau)</td>
<td>Brown Bear</td>
<td>Brown bear ecology and human conflict on the Tibetan Plateau, China</td>
<td>$10,000</td>
<td>$10,000</td>
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<td>Wong, Pamela</td>
<td>Canada (Nunavut)</td>
<td>Polar Bear</td>
<td>Integrating Inuit traditional knowledge and telomere quantification toward novel methods of ageing polar bears</td>
<td>$10,000</td>
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<td><strong>TOTALS</strong></td>
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<td><strong>$74,621</strong></td>
<td><strong>$67,121</strong></td>
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## Conservation

### News from the GLOBE – Disentangling the Impacts of Global Climate Change on Brown Bear Populations

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This year we started a research project entitled GLOBE “GLObal climate change and its impact on brown BEar populations: Predicting trends and identifying management priorities.” GLOBE aims to establish solid cooperation between Polish and Norwegian bear researchers in order to exchange knowledge and experience to better understand climate change impacts on large carnivore ecology and conservation. The partner institutions are, from the Polish side, the Institute of Nature Conservation of the Polish Academy of Sciences and the Faculty of Economic Sciences of the University of Warsaw, and from the Norwegian side, the Norwegian University of Life Sciences, Telemark University College, and the Norwegian Institute for Nature Research. Tatra National Park (Poland) is involved in GLOBE as a third party. The project GLOBE will last 3 years, until December 2016. The kick-off meeting was held in Krakow, Poland, on March 3-5, 2014. The funding for the project comes from the Polish-Norwegian Research Programme, which aims at promoting bilateral cooperation through popularization and support of scientific research. Climate change is one of the research areas prioritized by the Programme.

Our main goal is to assess the effects of climate change on 2 brown bear populations (Carpathian Mountains and Scandinavia), and how these effects are mediated by humans. We aim to contribute to a better understanding of the mechanisms for climate-change adaptation in large carnivores in boreal and alpine ecosystems. We hypothesize that climate-related factors, interacting with non-climate factors, particularly human-driven habitat changes, are affecting wintering patterns, physiological state, and foraging ecology of brown bears, and human-bear interactions. Assessing climate-induced responses by brown bears and predicting future trends in bear ecology, behavior, distribution and relations with humans may have important implications for brown bear conservation and ecosystem management.

Large carnivores inhabiting northern latitudes are considered good indicators of ongoing climate and environmental changes. The best example is the polar bear, which has become the iconic symbol of a melting Arctic. Its sister species, the brown bear, may be a model species in climate change research, particularly in Europe, where boreal and alpine regions are likely to be especially affected by climate change (IPCC 2007). The Carpathian (7,200 bears) and Scandinavian populations (2,800 bears) are among the largest in Europe and inhabit alpine and boreal ecosystems, respectively. Brown bear ecology and physiology are largely influenced by climatic factors (Bojarska and Selva 2012, Steyaert et al. 2012). Recent observations from the Carpathian population suggest behavioral modifications that may be linked to changes in winter conditions. For example, non-hibernating bears are being observed increasingly more often during winter in the eastern Polish Carpathians. Winter is a period of low food availability and hibernation is an adaptation to those conditions.

Climate-induced changes in bear wintering patterns may trigger a cascade of ecological, behavioral, and physiological responses, including an increase in baseline stress levels or in human-bear conflicts. Most injuries caused by brown bears to humans occur during the denning period, including the den entry period (Sahlén 2013). Shortening of the bear denning period or increased bear activity during winter may produce a trophic mismatch. Such mismatches in the availability of key bear foods during crucial periods may have important consequences. Given that temperature and snow conditions are the main determinants of brown bear diet (Bojarska and Selva 2012), and that the availability of some crucial bear foods (e.g.
ungulate carrion after wintering or berries during hyperphagia) may be affected by global warming, we expect a long-term change in brown bear diet. This trophic shift may be accompanied by latitudinal and altitudinal range shifts. A climate-induced increase in bear numbers, in bear winter activity, or an expansion of their range into new areas may translate into higher probability of occurrence of human-bear encounters and affect how bears are perceived and valued. We expect that individual ecological responses will be linked to physiological stress and that the overall response will have consequences for fitness.

To address these research questions, we are combining different methods, such as GPS telemetry, stable isotope and hormonal analyses, climate envelope and predictive models, spatial analysis and socio-economic surveys. One general limitation in understanding how climate change affects animal populations is the lack of long-term datasets. The Scandinavian Brown Bear Research Project (SBBRP) has been gathering data and biological samples from captured and radio-collared bears, including detailed data on individual life histories, since 1984 and therefore offers a unique opportunity for climate change research involving a large predator. A long-term dataset on bear records, including winter observations and bear-caused damage, is also available for the Polish Carpathians. The comparative analysis of these long-term datasets and the comparison of climate-induced responses in both bear populations provide an exceptional opportunity to advance our current understanding of climate change impacts on biodiversity and ecosystem functioning.

During this spring trapping season, 4 male bears (3 adult and 1 subadult) have been equipped with GPS collars in Poland in the Tatra mountains and 16 previously unmarked bears have been captured and radiomarked in Sweden. The collection of bear foods and the collation of bear hairs for stable isotope and hormonal analysis are ongoing. The socio-economic surveys in the 2 countries will start soon. For more information, visit our website (www.globeproject.pl).

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Human Bear Conflicts

Opportunistic Observations and Camera Trapping of Sloth Bears in Parsa Wildlife Reserve, Nepal

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Parsa Wildlife Reserve (PWR) lying in the Churia Range of the Himalayan foothills is the largest wildlife reserve of Nepal, with an area of 499 km². Lying contiguous to Chitwan National Park to the west and Balmiki Tiger Reserve (India) to the south, this reserve supports habitat for various endangered species, such as the greater one-horned rhinoceros, Asian elephant, Bengal tiger, great hornbill, black stork, and a host of others.

Of the 3 bear species in Nepal (brown bear, Asiatic black bear, and sloth bear), only the sloth bear inhabits the lowland Terai, including 3 protected areas: Chitwan, Parsa, and Bardia National Park (west of but not adjoining Chitwan). A 1993-1994 survey across the length of the Terai indicated that sloth bears did not overlap the range of Asiatic black bears to the north, and were most prevalent in Chitwan-Parsa (Garshelis et al. 1999a, b). Sloth bear density is reflected by abundance of their sign, mainly diggings in termite mounds or underground termite colonies. Sloth bears are considered Endangered in Nepal, with populations threatened by poaching for parts, human-bear conflicts, and habitat destruction outside the protected areas.

During our fishing cat (Prionailurus viverrinus) study in PWR, we heard several stories about the presence of sloth bears from the park staff. Our study area was concentrated in Ramauli-Pratapur and Bhata-Rambhori area of PWR. During our field work, we observed deep holes in the ground made by bears. In Ramauli-Pratapur, the holes were in the dry sal (Shorea robusta) forest whereas in the Bhata area, the hole was in grassland beside an artificial pond made for water harvesting. That hole was within 500 m of where park staff (elephant drivers) resided. The staff explained to us that they filled the hole with soil before it could be inhabited by the bear, so as to avoid potential conflicts. (This was likely a misperception, as the hole was probably not a den or rest site, but just a feeding site.) The staff indicated that they regularly saw bears in the reserve.

For our fishing cat study, we deployed 13 camera traps (Reconyx RM45) in the Ramauli-Pratapur area and 19 traps in Rambhori-Bhata. We used a 500 x 500 m grid, with 1 or 2 cameras per grid, in sites that looked likely for carnivores, and without any attractant. In ~200 trap nights, we successfully photographed 26 species of wildlife including 19 mammalian species, of which 8 were carnivores. We obtained 9 images of sloth bears, all apparently the same individual in 1 night at 1 station in Bhata.

Both of the study areas were previously human settlements, which were relocated for the purpose of providing better habitat for wildlife. The Bhata settlement was relocated in 2010 to restore this important wetland. Pratapur, which had...
Human Bear Conflicts

contained about 300 households, was relocated in 2013. Park staff informed us of several bear-inflicted human casualties, both locals and army staff, before the relocation. The sloth bear hole in the grassland of Bhata provides evidence that the relocation has provided expanded habitat for this species.

On a negative note, however, 3 times a year Bhata celebrates a festival where thousands of people enter the core area, disturbing wildlife and enhancing the chance of an attack by a bear (although there have been no incidents yet).

Park staff report a good population of sloth bears in PWR. However, unlike neighboring Chitwan National Park, which hosted extensive research on the species (during the 1990s), no studies have been conducted in PWR. One area of potential research concerns the impacts of human use of the reserve. Besides the large festivals, we observed much human pressure in the park for fishing, collecting fodder and fuel wood, grazing and many other purposes. These not only degrade the habitat and provide cover for poaching, but also may lead to human-bear conflicts, negatively affecting both people and bears. Significant human-wildlife issues have likewise occurred in neighboring Chitwan, due to heavy human use of the park and wildlife roaming outside the park (Sharma 1990, Nepal and Weber 1995).

Acknowledgements

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A Sloth Bear Rescued from Retaliation Killing in Eastern India

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Sloth bears are considered Vulnerable on the IUCN Red List, are in Appendix I of CITES, and are completely protected under Schedule I of the Indian Wildlife Protection Act (Anon. 2005). Sloth bears play an important role in forest ecosystems. They are seed dispersers through their fruit-feeding and defecation in nutrient rich piles of manure. Their insect feeding may regulate termite populations, and in breaking down logs in search for ants and grubs, sloth bears help the process of decay in the forest, which returns nutrients to the soil to the benefit of plants.

But sloth bear populations are declining in many areas due to habitat loss, degradation, and fragmentation. The social and economic impacts to humans from human-sloth bear interactions also create a negative outlook toward the protection and conservation of this magnificent species in its natural habitat. Sloth bear habitats are often significantly altered for settlements, agricultural development, stone and red soil quarries, and other developmental projects. As a result, sloth bears increasingly come into direct interaction with people. Here I report on recent human-sloth bear conflicts in Odisha state, which provides an example of these recent trends, but also a glimmer of hope for the future.

Sloth bears tend to be nocturnal, searching for food from early evening to early morning. During this period if they encounter humans they might attack in self defense. This behavior puts both people and sloth bears at risk.

A case in point is Malyani, a small hamlet consisting of 245 households (980 people) of the Jamudia Gram Panchyat village in the Nilgiri Subdivision in the state of Odisha in eastern India. Malyani is near the Sawarnachuda Reserve Forest. In and around Malyani, 14 bear maulings were reported (out of a total of 141 for the Swarnachuda Reserve Forest) during 2002-2009. One of these involved a human death, which prompted a counter attack by villagers and the killing of a sloth bear.

The main causes for these attacks appear to be habitat destruction due to encroachment of forest land for agriculture and mining. There are five active and three postponed stone quarries, three soil quarries, one brick factory and two stone crushers adjacent to the Swarnachuda Reserve Forest. The activities associated with quarries appear to be extremely damaging to sloth bear habitats, which might be increasing the number of aggressive encounters with bears. Victims and eyewitnesses of recent attacks report that since the quarries started, sloth bears now chase people long distances whereas previously they would usually run away after seeing people. Thus, regular disturbance might make the bears more aggressive. Another new trend seen in this area (Nilgiri Range) is of sloth bears attacking and killing goats and chickens in pens (Mardaraj et al. 2012).

Among the eight existing reserved forests in Nilgiri Subdivision, Swarnachuda Reserve Forest has the highest number of human-sloth bear conflicts (Mardaraj and Dutta, 2011). Sloth bears frequently enter villages and raid kitchen gardens. The villagers have acquired a negative attitude toward sloth bears due to this high intensity of conflict. Thus, when a sloth bear is seen in or around the village, local people generally try to kill it.

(left) An active soil quarry adjacent to sloth bear habitat. (right) Private lands adjacent to Reserve forest are leased for stone mining.
In the early morning of February 9, 2014, a female sloth bear cub (possibly a year old, and abandoned by its mother) was noticed in the Malyani village by local people. The cub managed to hide inside a house. A village mob was organized with the intention of killing the cub. Fortunately I was informed by a villager about the developing situation and could intervene. Upon arriving in the village, I convinced the villagers not to kill the bear, and instead hand the cub over to the forest department. Then, with our combined efforts, the villagers and I rescued the bear, which was later released into the wild by the forest department. Unfortunately, the next time such an incident occurs I might not be informed.

It is essential to understand the nature of these conflicts, develop strategies for minimizing socio-economic loss to humans, and seek solutions for better co-existence of humans and sloth bears in the same habitat.

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areas of the park and adjacent areas and is considered one of the park’s conservation objectives.

Unfortunately, the Andean bear, along with the puma (*Puma concolor*), are also the main source of conflict between the park and local communities in the highland areas. The bears are blamed for livestock predation and crop damage and the economic losses incurred. Local people associate the bears with coming from within the Manu National Park, and blame the park management for the problem. Expressions like “Take your bear away” and “Fence the park so the bear does not come” reflect decades of frustration and hostility to a protected species, and towards the authorities that protect the park and who are not seen to be willing to look for solutions for the local people.

Whilst it is clear that Andean bears do damage crops, as is usual in these situations, it is likely that local people have an exaggerated perception of the extent and value of the damage and the bears often get blamed for livestock disappearance where no evidence supports the claim. Andean bears have regularly been shot or captured in the valley in the past.

**Objectives and Activities**

As part of a new integrated conservation project, ProBosque Manu, that aims to involve local people more in conservation action and reduces deforestation rates in the Manu Biosphere Reserve, the Frankfurt Zoological Society and SERNANP (the Peruvian Protected Area authority) are working to reduce conflict between local people and Andean bears in the Mapacho valley. The work consists of the following actions:

1. A participative diagnostic study to document the real extent of the problem and analyse when and where damage is being done with a view to developing control or mitigation measures in the long-term. This includes documenting interaction events using interviews and field visits to interaction locations.

2. The development and training of a rapid response unit of park guards to be called when a conflict occurs. This unit will help assess what really happened and allow local people to report problems and receive a response from the authorities.

3. Environmental education of local people about the status of the Andean bear and its ecological role.

4. Ecological studies of the Andean bear focussing on its spatial-temporal distribution to characterize their habitat use, their movement patterns and their behavior; and estimating the species’ population density.

5. Collection of data on land use within the communities.

We hope that by involving local people in gathering all this information, we and they will develop a better understanding of the real impact of the bear and be able to provide innovative solutions. The project is being very careful to make sure the communities understand that there will not be compensation for damage but that we are working with them to seek solutions.

**Diagnostic study in Lucuybamba and Otocani communities**

For this study we chose the areas from which most complaints of conflict have been received by the park authorities. The project was accepted by the communities and a field base has been established in Otocani from where we are able to work in both Lucuybamba and Otocani communities. From October 2013, we have recorded cattle depredation events to understand the involvement of Andean bear, but we have not found reliable evidence of the bear killing animals yet. There is evidence of consumption of cattle based on analysis of scats found. During the maize season (April to July) we have recorded bear activity in maize fields and camera traps have been placed at 8 locations in Otocani. Preliminary results indicate
that the maize fields that are most impacted by bears are those that are located closer to forest patches and streams, and where human activity is minimal.

Ecological Study
As a start to the ecological studies, exploratory visits were made inside the Manu National Park where we identified about 40 puyas that had been fed on by bears in the puna grasslands. We collected more than 10 scats and found two platform nests and made a sighting of an adult male Andean bear near Qurqurpampa control post on the morning of February 19. Unfortunately, no photographic record was obtained because of bad weather conditions. Seven cameras traps have been installed, 5 of them in grassland and 2 in cloud forest. After a month and a half we had obtained 3 photos of Andean bear within Manu National Park. This work is being undertaken in conjunction with park guards in order to allow them to develop first hand knowledge of these issues and to be able to better interact with neighbouring communities.

Environmental Education
Parallel to the research activities, we are implementing an environmental education campaign focusing on the Andean bear using especially designed materials. This campaign is based around local schools and is supported by the local teachers and education authorities.

Challenges for the future
The conflict situation with the bear is obviously complex and there are no clear solutions yet. It will require an integrated approach supported by open-minded local communities and park staff to be able to accurately document the conflict and develop innovative solutions to reduce the damage bears do, and to develop tolerance for the species amongst the local people.

Acknowledgements
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Andean Bear in field crop, Otocani community.

Biological Research

Co-occurrence of Andean Bear and Mountain Tapir at Papallacta Region, Cayambe-Coca National Park, Ecuador: A Brief Description

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In November 2010, 3 Ecuadorian NGOs began a mountain tapir conservation program in the Cayambe-Coca National Park. At that time 5 individuals were tagged with satellite collars to obtain preliminary data of their home ranges, population density and health status (Castellanos, 2013). When the monitoring phase ended in June 2012, data revealed that some of the collared mountain tapirs (Tapirus pinchaque) had been attacked by Andean bears. Consequently, it was decided to expand the existing tapir research project by incorporating a study of the Andean bear within the same time frame in order to explore the ecological interactions of these charismatic mammals. The main objective of this simultaneous co-occurrence study is to create a joint species distribution model and in turn generate a predictive map highlighting the threats faced by both populations.

The study area is located in the Rio Papallacta watershed in the Cayambe Coca National Park, on the eastern slopes of the Ecuadorian Andes (0°18'8.60"S, 78° 8'36.38"W). Within this region is the internationally important Ñucanchi Turubamba Wetland System, classified as a RAMSAR site due to its biological, cultural and hydrological importance. The site is of glacial origin, being formed at the time of the last ice age, and encompasses both upper montane forest and paramo habitats (Sierra, 1999), ranging from 3,500 to 4,000 masl. The Ñucanchi Turubamba is a unique aggregate of ecosystems, and is home to a wide diversity of species, many of which are endangered including the oncilla (Leopardus tigrinus), and the pudu (Pudu mephistophiles) among others. The area is bisected by the busy Inter Oceanica highway that connects the Ecuadorian Andes to the Amazon region, and a network of minor dirt tracks mainly used by the Municipal Potable Water Company of Quito, sport fishermen and tourists visiting the Papallacta, Baños, Loreto and Mogotes lagoons, and trails encircling the Sucus and Parcacocha.

Since February 2013, 3 more mountain tapirs have been fitted with satellite collars and tapir population data continues to be collected. On December 2, 2013, a female Andean bear, we named Delia, became the first of her species to be fitted with an Iridium/GPS satellite collar in paramo habitat. Previously, we have fitted satellite and GPS collars to bears that spend the majority of their time under the thick canopy of the cloud forest which has severely obstructed satellite/GPS signals, leading to lost data. Due to the open nature of the paramo and the lack of obstructions to signal emissions, we hope that Delia will be the first of many bears we collar in the study region that will provide us with comprehensive home range, habitat use and movement pattern data. This data in turn will be used in concurrence with simultaneous tapir data in order to study interspecific interactions and co-occurrence patterns.

On February 15, 2014, whilst conducting a tracking survey with my assistant Felipe Fernández, and 2 students, Gabriela Viteri and Julie Callebut, we noted that Delia was not alone. We observed 2 bears following her in the distance. To avoid disturbing them, Felipe quickly snapped some photos and it became apparent that indeed 2 further male bears were also pursuing her. None of the male bears actually went on to engage with Delia or with each other, though it was a fascinating encounter to witness 5 adult Andean bears, 4 males and 1 female, in such close proximity! Was this event an indicator of mating season or simply a procession of bears in the study area? The sighting poses many questions that stimulate my investigatory sense. I recall the anecdotal report of a local farmer, Rafael Santillan, who once related to me that he had seen something similar in the cloud forests of Intag, Imbabura Province, in the northwest of the country, where 5 large bears were pursuing a female, and he compared it to male dogs following a bitch in estrus.
In the hope of gaining more clues into the social gathering behavior of Andean bears, which has never been reported on such a scale, we returned to the site the next day and saw Delia on top of an outcropping of rock with a single large bear standing a short distance from her. We can presume that Delia was in estrus and must now wait 7 or 8 months to know if she in fact conceived and successfully carries cubs to birth. Fortunately, Delia is collared with a satellite collar and it is my hope she will soon lead me to her maternity den, providing yet more clues to the reproductive behavior of Andean bears.

In the Intag study region, cubs of about 3 or 4 months of age are frequently seen with their mother during the maize season (between March and July) on a level that seems more than purely coincidental (Castellanos, 2010). We believe that the occurrence and timing of Andean bear courtship behavior has a direct link with the spatial seasonality of wild fruit and domestic crop maturity in different geographical regions within the bears’ range.

In the Papallacta study region, Andean bear females with young cubs have also been observed between August and September. Interestingly, there is no correlation between these dates and the predicted birth of Delia’s cubs following a normal gestation should copulation have been successful. Perhaps in this study area there are 2 estrus cycles for female Andean bears or no defined periods of estrus. Perhaps this variation in parturition period can be explained by embryonic diapause prolonging the gestation period as a reproductive strategy. Clearly, more research is required to clarify the breeding season and reproductive behaviors of Andean bear populations in different regions of Ecuador.

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Using Regional Extent Habitat Suitability Modeling to Identify Population Recovery Areas for the American Black Bear in Northeast Texas

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Northeast Texas was historically range to American (Ursus americanus americanus) and Louisiana (U. a. luteolus) black bears. Although bears have been considered extirpated from east Texas since the 1940s, reliable sightings have been recorded with increasing frequency since the late 1970s. American black bears were translocated to Arkansas in the 1950s and 1960s and populations have since recolonized counties in Oklahoma adjacent to the northeast Texas border. In 2011, the first female bear in the past 20 years was confirmed in northeast Texas. The occurrence of a female bear emphasizes the increased likelihood for population reestablishment and the necessity for identifying potential population recovery areas in the region.

Habitat assessments during 2007 and 2008 indicated that suitable bear habitats exist within northeast Texas. However, study areas were localized to 3 river basins and accounted for <5% of the north black bear recovery zone (NRZ; 1 of 2 population recovery zones in east Texas). In 2013, Stephen F. Austin State University in partnership with the East Texas Black Bear Task Force initiated a regional extent habitat suitability modeling project for the 22,512 km² NRZ. Our goal was to identify recovery units capable of sustaining viable bear populations throughout the NRZ.

Habitat suitability index (HSI) models quantify wildlife habitat based on known life requisite variables for a given species. Habitat variables (e.g., food availability) are evaluated on an index scale from 0 (unsuitable) to 1 (optimum suitability). Final HSI scores are typically the weighted mean of the multiple suitability index (SI) scores calculated according to the hypothesized relationship between variables.

To assess habitat suitability throughout the NRZ we used a spatially explicit HSI model recently developed to identify population recovery areas for the Louisiana black bear in southeast Texas (Kaminski et al. 2013). Because of the large spatial requirements of bears and increasing confirmed reports of bears throughout northeast Texas, our objective was to apply NRZ habitat data to the southeast Texas HSI model framework to develop a regional extent HSI model capable of evaluating year-round black bear habitat requirements in the NRZ.
In 2009, the Texas Parks and Wildlife Department (TPWD) released a geospatial land cover model comprising 97 habitat classes within the NRZ. Using data from 712 NRZ habitat survey points, we calculated habitat suitability information for 31 land cover classes (83% of the land area in the NRZ). To supplement low sample sizes and to provide habitat suitability information for unsurveyed classes, we included habitat data collected for the development of the southeast Texas HSI model (516 surveys in 34 classes). In total, we incorporated survey data for 45 classes (88% of the land area).

Using empirical habitat data we estimated SI scores for summer food availability; fall food availability, diversity, and productivity; protection cover, and tree den availability for each survey point and calculated mean scores per land cover class among points. To estimate suitability for unsurveyed classes (12% of the NRZ) we pooled data by cover type (e.g., pine and hardwood) and estimated scores for each SI variable per type.

We developed impact models for road and human development by buffering all state and county roads (10 m increments to 800 m and a single buffer from 800 m to 1,600 m) and low (1.1 km) and high (3.9 km) density urban development. We based buffer sizes on the mean female home range size for established black bear populations in Louisiana.

We assigned SI scores to all habitat classes and human-impact buffers and generated spatially explicit index models for food, cover, and human-impact components in ArcGIS 10.0 (ESRI, Redlands, CA). To develop our final HSI, we combined component models and calculated HSI scores per pixel in a continuous dataset.

Habitat suitability index scores ranged from 0.00-0.78 in the NRZ. We considered scores ≥0.75 as highly suitable, 0.50-0.74 as moderately suitable, and <0.50 as marginal or unsuitable. Our model indicated that highly (<1%) and moderately (6%) suitable habitat existed in the NRZ although most area (94%) was classified as marginal habitat.

To identify units capable of sustaining viable bear populations (areas ≥20,700 ha with a mean HSI≥0.5), we used a neighborhood analysis consisting of a circular moving window (r=1,950 m; mean female Louisiana black bear home range) to reassign the mean value of pixels within the window to the central focal pixel. We extracted all pixels with mean HSI≥0.5 and applied buffers of 1,950 m to pixels. We identified 2 recovery units in the Sulphur and Upper Sabine River Basins (mean HSI=0.5) which totaled 34,402 ha and 28,530 ha, respectively.

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Minimizing Stereotypic Behaviors in Captive Blind Sloth Bears

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Wildlife SOS (WSOS) houses roughly 270 sloth bears at the Agra Bear Rescue Facility (ABRF). The majority of these captive bears were rescued from the streets where they were owned as ‘dancing bears.’ The ABRF is broken up into 14 different enclosures. One of the enclosures, enclosure number one, houses only blind bears or partially sighted bears. There are a total of 10 bears in this enclosure, eight of these bears are completely blind and the other two are partially sighted. These visually challenged bears tend to exhibit both swaying and pacing behavior to a greater extent than do the bears with normal vision. Pacing is defined as ambulating short distances repetitively. Swaying is defined as a movement where a bear weight shifts its head and body continuously from left to right. This represents stereotypic behaviors that are undesirable in a captive bear population.

These behaviors are often very difficult to change, especially given the past lives that most of these sloth bears had endured before residing in the ABRF. This past life included living on the streets of India as ‘dancing bears’. When these bears weren’t performing, they were usually tied to a post with a very short tether that measured about 3 feet. Therefore, many sloth bears already have these stereotypic behaviors upon entering the ABRF. This paper documents the effort on behalf of WSOS to reduce or eliminate these behaviors.

The behavior of the blind bears was observed from sunrise to sunset with particular attention paid to the individual’s time spent pacing or swaying. It was observed that the frequency and intensity of these behaviors was not consistent but rather changed throughout the day. It was also determined that the time leading up to the evening meal showed the most significant swaying and pacing behaviors. The time of day leading to the morning meal also showed some swaying and pacing though not to the level that was exhibited prior to the evening meal. Minimal swaying and pacing behaviors were exhibited prior to the mid-day meal. There was a strong correlation between an increase in swaying and pacing when 1) the feeding time was delayed, 2) when they didn’t have access to their dens (due to them being cleaned) and 3) when they could smell food that they did not yet have access to. The time before the evening feeding encompassed all three of these factors.
Therefore, the morning feeding time was adjusted to half an hour earlier to see what impacts, if any, this would have on the undesirable behaviors. We observed no changes in the swaying or pacing. However, we did observe that if feeding time was delayed a half an hour, the bears would show a significant increase in swaying and pacing.

The time before the noon meal was associated with the least amount of undesirable behaviors. We surmised this to be due to the fact that the bears have full access to their dens at this time, and at midday they are given fruits. This is important because the fruits can be fed without the delay of preparation. This combination resulted in little or no pacing and or swaying.

The evening feeding time was associated with the highest level of stress. This was due to the cleaning of dens, which meant the bears did not have access to their dens, and food getting cooled which the bears could smell and anticipate. Keeping the feeding time consistent and not delaying was not effective like in the morning. Changing the time earlier or later was not effective either. However, swaying and pacing behavior was reduced by introducing enrichments to the bears just prior to feeding them when the dens were being cleaned. The types of enrichment that made the biggest difference were items that increased their foraging behavior. Different types of food items were used for this. However, there were other types of enrichments including structural and olfactory fruit essences. These enrichments that weren’t food in nature helped with preventing the bears from skipping their meals.

The study yielded practical results for housing and caring for ‘blind dancing bears.’ Swaying and pacing behaviors were dramatically reduced by changing when the bears were fed, how they were fed, and when the enrichments were provided. Although this study focused on blind sloth bears, the results proved useful for improving the welfare of the sighted bears as well. We believe that the results of this study may prove useful in terms of relieving stress to captive sloth bears found at other institutions.
Southwest Alberta is a unique part of both Alberta and North America. This region of the province is “where the mountains meet the prairies,” and is home to a range of large carnivores and multiple human land uses. Facilitating coexistence between people and carnivores in multi-use landscapes is a fundamental challenge of contemporary conservation. One of the main challenges in this region is managing grizzly bear (a provincially threatened species)-agricultural conflicts, which have been steadily increasing over the last 15 years.

One potential reason for this increase in grizzly bear agricultural conflicts is an increasing bear population. The last provincial population estimate occurred from 2004 to 2008, used DNA-based, capture-mark-recapture methods, and estimated a population of 691 grizzly bears (Alberta Sustainable Resource Development and Alberta Conservation Association 2010). Based largely on these results as well as concern over the small size of the breeding population, increasing human activity and unrestricted road access within grizzly bear habitats, the grizzly bear was listed as a provincially threatened species in 2010. In our study area, the last population estimate occurred in 2007 and estimated a population of 51 grizzly bears (Alberta Sustainable Resource Development and Alberta Conservation Association 2010). However, public perception of grizzly bear numbers in southwestern Alberta tells a different story. Landowners in southwestern Alberta are increasingly encountering grizzly bears in areas where they have not been common for generations, and believe grizzly bear numbers in the area are increasing (Quinn and Alexander 2011). We are working to evaluate the hypothesis that increasing grizzly bear populations have led to increasing grizzly bear agricultural conflicts. To do so, we must first show that the grizzly bear population has increased since the previous population estimate. A robust, transparent monitoring framework is crucial not only from an ecological standpoint but also for gaining local confidence in the data – which in turn makes management actions more readily supported.

Grizzly bear life histories and dominance hierarchies might confound our ability to determine accurate population sizes. To address this, we are using hair snares to monitor grizzly bear population sizes. Hair snares are a non-invasive method that allows collection of DNA samples from the hair of animals. This method is less invasive than mark-recapture methods and can provide more frequent estimates of population size.

Figure 1. Rub objects (blue dots) identified 2011-2013 within our southwestern Alberta study area.
to estimate population size using traditional mark-recapture methods. For example, sampling designs that sample only high-quality habitats (e.g., high RSF scores), might be biased towards dominant individuals if a dominance hierarchy exists. Dominant individuals might show higher recapture rates (Fretwell 1969). Additionally, seasonal variation in density will not be captured by the typically short survey windows of mark-recapture designs that are used to minimize the violation of the closure assumption. Failure to account for behavioural differences between sexes also could influence population estimates. For these reasons, we are monitoring grizzly bears using rub trees following the methods of Stetz et al. (2010) rather than bait sites, and are surveying for a longer time period than the 2007 estimate to capture seasonal variation. Bears rub on trees and other objects apparently as a form of communication (Green and Mattson 2003). In partnership with Alberta Environment and Sustainable Resource Development; Parks Canada; and Alberta Tourism, Parks, and Recreation, we have established 879 rub objects across the study area on both public and private land (Figure 1) by surveying existing trail networks and working with landowners to identify travel corridors. Rub objects are visited every 3 weeks from approximately late May through mid-November for a total of 8 visits per field season (1st visit to clean, 7 subsequent visits to sample). After each field season, hair samples are sent to Wildlife Genetics International. Hair samples will be used to identify species, individual identity, and gender via analysis of nuclear DNA extracted from hair follicles following the protocols outlined in Paetkau (2003, 2004). To date, we have genetically identified 133 individual grizzly bears, substantially more than identified in 2007. We will use spatially explicit-capture-mark-recapture (SECR) models to estimate abundance and density across the study area (Efford et al. 2004, Borchers and Efford 2008, Efford and Fewster 2012). SECR models offer advantages over conventional capture-mark-recapture methods because they automatically allow for capture heterogeneity and abundance estimates relate to a specified geographical region (Efford and Fewster 2013). Because there is a male bias in use of rub trees (Harting et al. 1987), we will estimate male and female grizzly bear density separately, and then combine the results for a total population density estimate. Further, to ensure no hair collection opportunities are missed, to provide a second data source to improve estimate precision, and to engage the public, we also will include opportunistically collected hair samples. These come primarily from landowners and Fish & Wildlife Officers, allowing us to detect bears not detected by our rub-object methods. Examples include hair samples from bears trapped for management purposes and samples collected at bear-conflict sites. The inclusion of land-owner knowledge within our study design has resulted in large community support and confidence in our preliminary results.

The first year that our entire study area was sampled with equal frequency on both private and public lands was 2013. We anticipate having the genetic data from 2013 available by early July 2014. Results will be posted to the website: http://esrd.alberta.ca/fish-wildlife/wildlife-management/bear-management/grizzly-bear-research/southwest-alberta-grizzly-monitoring.aspx. Field work will continue for 1 more season, which began in late May 2014, and will be followed by analysis in 2015.
**Acknowledgements**

Project support from Alberta EcoTrust; Alberta Environment and Sustainable Resource Development; Alberta Innovates – Bio Solutions; Alberta Parks, Tourism and Recreation – Parks Division; Disney Worldwide Conservation Fund; Drywood Yarrow Conservation Partnership; Environment Canada Science Horizons; Hunting for Tomorrow – Minister’s Special License Grant Program; International Association for Bear Research and Management; Miiistikas Institute; Natural Sciences and Engineering Research Council of Canada; Nature Conservancy Canada; Safari Club International Foundation; Safari Club International – Northern Alberta Chapter; Shell Canada; TD Friends of the Environment; and Waterton Biosphere Reserve Association.

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**Management Corner**

**Nevada’s Karelian Bear Dogs**

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Once again the Nevada Department of Wildlife’s Karelian Bear Dog (KBD) program has partnered with Wind River Bear Institute to sire a litter of KBD puppies, making for some excellent working bear dogs from female Wind Rivers Soledad and male Sierra Fronts Rooster. The previous litter, whelped in 2011 to Baloo of Wind River, produced dogs that are now working in Washington and Montana. This 2014 litter will spread this lineage to Alaska and Japan, with 1 of the pups coming back to Nevada to help promote our KBD program.

Nevada acquired its first KBD, Mountain Front Stryker, in 2001 initiating our use of KBDs in human-bear conflict work. That lineage continued with Rooster, and now Dazzle, our new female KBD puppy. Whether you’re a fan of aversive conditioning or not, it’s hard not to be a fan of these dogs once you’ve worked behind them managing bears, or as Washington has done, capturing cougars for research. Nevada’s dogs are used primarily on releases of conflict black bears and combined with on-site aversive conditioning, but not necessarily with the intent of converting a habituated bear back to a wild bear or causing it to permanently leave an urban area. We view it as a success if the bear becomes less bold around people or reverts to more nocturnal behavior, and our KBDs have exceeded in this over the years.

Even when aversive conditioning is less successful, the dogs act as ambassadors in schools and for our public education message, helping achieve our goal of trash/human-food storage compliance. Additionally, the dogs assist in finding and tracking bears reported in downtown areas, and in evacuating bears from inside homes and crawl spaces.
As part of our Bear Smart Big Sky Council we recently updated the Center for Wildlife Information’s refrigerator magnets to better fit the Big Sky community in Montana. We produced three different templates for a more custom application which may be applicable to other efforts throughout North America; including residential, rural, and rental properties. If there is interest, I will be glad to coordinate an order to get a larger bulk order rate. Thanks to the Inter-agency Grizzly Bear Committee for sharing their standard sign template and for all of those that participated in the messaging (FWP, IDFG, IGBST, USFS, Bear Smart Big Sky, Big Sky rental property managers, & bear biologists throughout the US). While all reviewers agreed that fewer bulleted items would be more readable, all felt that the bulleted list reflected the attractants that need to be addressed in our area. Hope you find these useful.

Residential: Bear education magnet for residential communities where curbside trash service is common.

Rural: Bear education magnet used for rural communities where curbside trash service is not common.

Rental: Bear education magnet used for rental properties where trash is commonly handled by a rental company.
Management Corner

California officials working with communities to reduce human-bear conflicts near Los Angeles

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California’s black bear population has increased both in distribution and abundance over the last 25 years. The range expansion of black bears, coinciding with increased human development and recreation in and adjacent to bear habitat, has increased the incidents of human-bear conflicts throughout the state. This has been particularly evident in the foothill communities of Los Angeles County, where the media often creates frenzied interest in human-wildlife conflicts.

While human-bear conflicts have increased, the California Department of Fish and Wildlife (Department) has elevated its efforts to provide solutions and recommendations to municipalities, homeowners associations, and individual residents. Until recently, bear-inhabited foothill communities such as Altadena, Pasadena, Arcadia, Monrovia and Duarte have been reluctant to provide bear-resistant garbage cans to residents, because the lid-locking mechanisms do not support automated trash collection. However, upon Department recommendation, residents persuaded several cities to provide bear-resistant garbage containers to individuals who request them. Results have been varied, depending upon the number of residents within each community who choose to pay the extra initial and monthly costs. And many residents eventually return to standard garbage containers because of the inconvenience of the latching mechanism.

The Department was recently made aware of a product from Northland Products, Incorporated, which shows promise in resolving the design problems of most residential bear-resistant cans. The fully-automated, 96-gallon curb-side waste receptacle has an ingenious side locking mechanism that is released as the truck’s hydraulic arm lifts the can (http://www.kodiak-products.com/). This container has been tested by the Living with Wildlife Federation (http://www.lwwf.org/index.php/products-testing), and is included on the Interagency Grizzly Bear Committee’s list of certified bear-resistant products (http://www.igbconline.org/). In recent months, local Department personnel have targeted several communities and waste management companies which might potentially offer this product to residents. While interest is high, most have cited prohibitive cost as the primary obstacle. Nevertheless, the Department will continue to pursue this and other promising products as part of a comprehensive plan to minimize human-bear conflicts in Los Angeles County.

Management Corner

First Ever Bear Attack Response Training (BART) Workshop Held in the Southeastern U.S.A.

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The Wildlife Resources Committee’s Large Carnivore Working Group (LCWG) of the Southeastern Association of Fish and Wildlife Agencies (SEAFWA) met in conjunction with the Eastern Black Bear Workshop in Maine in April of 2013. One of the topics discussed was the need for state and federal agencies to be better trained to properly respond to suspected bear attacks on humans. State wildlife agencies are charged with the responsibility of investigating and responding to suspected bear attacks and must be adequately prepared to respond effectively in the event of an actual attack. Adequate preparation requires both a well-tested plan and field-level training in implementation of a response plan. The response must deal with a complex set of issues and may require a multi-agency response. Our western counterparts have recognized the need for attack response training in the past. In fact, several western states and Canadian provinces meet annually to train and prepare for such an event as part of a multi-agency sanctioned Wildlife/Human Attack Response Team (WHART).

With support from the SEAFWA, and with the Tennessee Wildlife Resources Agency serving as our host (and fully funding this workshop), we successfully held the 1st Bear Attack Response Training (BART) workshop in the southeastern United States.
Management Corner

Florida Starts Local Bear Stakeholder Groups

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The Florida black bear was removed from Florida’s State Threatened Species list in 2012. As part of that process, the Florida Fish and Wildlife Conservation Commission (FWC) created the Florida Black Bear Management Plan, which detailed how bears will be managed for the next 10 years. The Plan set a statewide framework within which seven Bear Management Units (BMUs) will be created, with each BMU centered on a bear subpopulation. The BMU approach will allow the FWC flexibility to manage bears based on the local characteristics of both the bear and human populations. Within each BMU, the FWC will lead a Bear Stakeholder Group to provide local input on bear management. Stakeholders could include state and federal partner agencies, local governments, law enforcement, non-profit organizations, businesses, and residents.

Public meetings were held to introduce the concepts of the BMU and the Bear Stakeholder Group, collect local opinion on bear issues, and recruit previously unknown stakeholders to participate. The meeting style was set to maximize public input and contact with FWC staff. FWC staff gave a 10 minute presentation, and then split the audience into small groups to speak with FWC staff in different parts of the meeting room. Staff at each location engaged the public on a specific topic for 10 minutes. In each of the four topic areas, people completed a short survey card and then spoke with staff about 1) their experience and attitude towards bears in Florida, 2) individual willingness to take actions to reduce conflicts, 3) public support of FWC bear management actions, and 4) open discussion (i.e., public can discuss anything they feel has not been covered). The audience then regrouped for a question and answer session.

The FWC has started the West Panhandle, Central, and East Panhandle BMUs. Thus far, 618 people have participated in 16 public meetings and 57 officials have participated in 15 government briefings. The Bear Stakeholder Groups have started meeting every three months for two of the three BMUs, resulting in an excellent exchange of ideas on bear conservation and management. Stakeholders are pursuing tasks associated with bear management, such as researching local zoning regulations and setting up trainings with FWC and local police on how they can respond to human-bear conflict situations. FWC will continue starting up the rest of the BMUs and set up Bear Stakeholder Groups through the rest of 2014.
Agency and University Collaboration for Black Bear Management in Washington State

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In Washington state, the population of black bears is generally considered to be healthy with Washington Department of Fish and Wildlife (WDFW) estimates ranging between 25,000 and 30,000. These estimates were calculated using home range data from the literature and applying average densities to available habitat using average home range size and overlap, and the population managed accordingly ever since (Beausoleil et al. 2012). Additionally, WDFW uses harvest trend and extrapolation of hunter effort to estimate population size. However, recent research suggests that black bear home ranges in Washington may be larger than originally expected (Koehler and Pierce 2003, Sager-Franklin et al. 2008, Beausoleil et al. 2012), resulting in potentially lower densities and higher harvest rates. As a protected big game species, agency personnel are responsible for managing black bears in accordance with management plans and agency goals.

In 2013, in conjunction with Washington State University (WSU), WDFW began a collaborative research project where the primary objective is to obtain a more robust estimate of population density. The study design focuses on a diverse approach where 2 independent population estimators will be employed: DNA mark-recapture using hair collected at barbed-wire enclosures and a separate capture-collaring effort. The GPS collars used will provide home range estimates by sex and age class as well as a validation method for examining the reliability of the activity center concept in spatially explicit capture-recapture (SECR) models. This research is being conducted on two 500 km² areas of Washington which encompass much of the variation in environmental conditions and human activity within the state. Hair sampling and trapping efforts will be systematically distributed on a 4 km x 4 km grid and consist of alternating field schedules so as to not interfere with each other; overall, each summer season will be comprised of 4 DNA mark-recapture sessions and 2 physical capture sessions on each study area.

Data collection began in May 2013 and the first field season was successful with over 2,300 hair samples collected at 148 sites and 42 bears (16 males, 26 females) collared between the 2 study areas. To manage costs, we subsampled and approximately 800 samples were sent to the University of Idaho’s genetic lab (Dr. Lisette Waits) to be genotyped and individually identified; 100 replicate samples were also submitted to evaluate error rates. Although the dataset for 2013 has not been finalized, we have successfully genotyped over 80% of the samples, despite wet conditions in the western Washington study area, and identified a minimum of 13 of the 42 radiocollared bears (lab analysis still ongoing). Preliminary analysis also suggests that detection rates were high, which bodes well for precision in the analysis. Data collection is expected to run through 2016 with an initial density estimate completed in 2015.

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Management update from North Carolina, U.S.A.

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North Carolina’s first Black Bear Management Plan (BBMP) was developed in 1981. Since the development of the 1981 plan, the State’s black bear populations have grown dramatically despite increasing human populations. Managing a large carnivore in a state with diverse and increasing human populations and associated development requires the North Carolina Wildlife Resources Commission (NCWRC) to address management issues never before experienced in North Carolina. In order to more effectively manage black bears now and in the future, the NCWRC approved a newly developed 10-year BBMP in July 2012. The plan is available at www.ncwildlife.org/bear. Since approving the 10-year plan, the agency has gained support for adding necessary tools that will greatly improve our ability to monitor and manage our black bear populations.

First, the NCWRC received legislative approval to create a $10 bear stamp, which beginning with the 2014 season will be required of anyone hunting bears in North Carolina. Prior to the establishment of this stamp, our agency had no method for identifying bear hunters, making it difficult to ascertain cause-effect relationships of several factors that influence harvest levels, such as regulatory and statutory changes, number of bear hunters, changes in hunting methods, and hunter effort and bear population levels. The bear stamp will aid us in identifying bear hunters, which will help us measure hunter effort and success through surveys, as well as increase targeted outreach efforts to improve participation in our voluntary tooth submission program.

Second, we received regulatory approval to open our remaining 29 counties to bear hunting opportunities. These remaining closed counties occur in our Piedmont Bear Management Unit (PBMU), where our objective is to limit the establishment of a bear population due to the high degree of fragmented habitat and high human populations. In addition, the majority of PBMU residents wanted either no change in the bear population or preferred a decrease. Due to the fragmented land ownership patterns and low bear densities, most of the bear harvest that occurs in the PBMU will likely be opportunistic to deer hunting. Unless there is legislative action to amend the approved regulation, all 100 counties in North Carolina will be open to bear hunting in fall of 2014.

Lastly, the BBMP helped us gain support for increasing our research efforts. In cooperation with North Carolina State University, we are starting a multi-year study in Asheville, North Carolina, in order to improve our knowledge on the population dynamics of black bears in an urban/suburban environment. The project will help us effectively address current and future bear management issues in these settings by answering several questions including: Do developed areas serve as a source or sink for bear populations?; How vulnerable are these bears to harvest and other mortality factors?; Are there habitat features that bears select when traveling into and out of developed areas?; Are human-bear interactions the result of a few bears or many bears? Fieldwork will start in April 2014 and the study will conclude in December 2018.

In other news, a regulation was approved to allow still hunters to take bears with the aid of unprocessed foods (e.g., corn, raw peanuts, sweet potatoes) on private lands only. The regulation was approved to accomplish two goals: address the inequity that exists between still hunters, who may not use any form of bait to take bears, and houndsmen, who may strike bears with their dogs off of unprocessed foods; and resolve the complexity of enforcing, and complying with, prohibitions on taking bears with aid of bait while deer bait is legally and abundantly placed on the landscape. In regards to the latter goal, we suspect that a vast majority of bears are currently taken under the influence of bait due to the amount placed on the landscape by both deer hunters and bear houndsmen. While proposed by biological staff, it was not politically feasible to prohibit bait from the landscape for bears, or for other game species (i.e., deer). This regulation will take effect for the 2014 fall bear hunting seasons unless amended or disapproved by the General Assembly. Our bear population management objectives are to stabilize bear population growth in a majority of the state, and the increased harvest by still hunters using unprocessed foods may assist in accomplishing this objective.
Conference Announcements

The theme of the Conference is “Bears and humans in the 21st century: challenges and solutions for a peaceful coexistence”. With this theme we aim to draw attention to the problems bears are facing in Greece, and hopefully garner public interest and support for their effective solution. The Conference theme is also representative of one of the major challenges for bears around the world: in midst of an enduring global financial crisis, national economies are reshaping and restructuring themselves in order to become more competitive and resilient in the new world of the 21st century. These structural changes have significant effects on the conservation of global biodiversity, including bears. From the effects of global warming on polar bears to the problems arising from bears living in the proximity of humans in Europe and North America, all bear species are affected by the new realities of the 21st century. Identifying these conflicts in a world that is changing rapidly will be the major step towards finding the solutions that will ultimately secure the survival of these species on a world-wide scale.

PLEASE, help us out by taking care of pending registrations, travel grant acceptances, etc.

Registration Deadline
If you have not registered yet you have missed the Early Registration Deadline, however, there is still time before the conference, visit the website to register. http://www.iba-greece-2014.com (Section: Registration and Fees)

Preliminary Program now online
We have just uploaded on our website a preliminary program of the 23rd IBA Conference. We will be working hard to finalize this as soon as possible. http://www.iba-greece-2014.com (check out the section: Conference program)

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- Our regular e-newsletters! You can subscribe to our mailing list by emailing iba2014@symvoli.gr

Workshop Announcements

22nd Eastern Black Bear Workshop, April 26-29, 2015. Louisville, MS

The purpose of the Eastern Black Bear Workshop 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 important to the management, conservation, and perpetuation of those black bear populations. EBBWs are inherently different from general conferences. Whereas conferences have the purpose of sharing information through the presentation of research and management papers, EBBWs are designed not only to share information, but more specifically to discuss and find solutions to problems of managing bear populations at the regional level.

Papers and Posters
There will be a poster session and a limited oral paper session. The poster and limited oral paper session are open to anyone wishing to submit an abstract. Consult the website http://www.easternblackbearworkshop.org/ for more information.
Do you know this Man?

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This is Frank Craighead. Did he or his twin brother John influence your life at all? Please tell us how.

Frank Craighead established the Environmental Research Institute in 1964, a non-profit organization to explore the cause and effect relationships of man and his environment. While our name has changed to The Craighead Institute, we remain true to Frank's original mission. Although Frank died in 2001, we’re holding a 50th year celebration to remember him, and commemorate the 50th anniversary of the conservation organization that he founded. Please help us celebrate 50 years of the Craighead Institute by sending us memories and testimonials of Frank and John and how their work either influenced your career or lives. Help us continue the work that Frank began so that we can continue to conserve wild species and wild landscapes into the future.

Please send testimonials (500 words or less) to april@craigheadinstitute.org or via regular mail to:
Craighead Institute
Attn: April
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Bozeman, MT. 59715

For more information on our celebration please see our website: http://www.craigheadinstitute.org

Although the celebration will have passed by the time you receive this newsletter your memories and testimonials of Frank and John are a welcome addition to the Institute.
IBA Member Discussion Forum

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The new IBA Member Discussion Forum gives you, the members, an opportunity to discuss issues relevant to bear research and management, share new findings that may help other researchers and managers, and strengthen connections among bear biologists. To become a discussion forum member, you must be an IBA member. Discussions will be monitored and, if necessary, moderated by Tabitha Graves and John Hechtel.

Sign Up:
Ideally, you’ll create an account with Google Groups (if you don’t already have one) so that you can interact with any Google discussion group. Be sure to use the same email that you used to enroll. Contact Tabitha Graves (tabgra@yahoo.com) or John Hechtel (john.hechtel@gmail.com) with the email(s) under which you would like to be registered.

Email Only:
You don’t have to create a Google account if you don’t want to. Contact Tabitha Graves (tabgra@yahoo.com) or John Hechtel (john.hechtel@gmail.com) with the email(s) under which you would like to be registered.
Once your enrolled and receive a confirmation message you will receive email messages sent to the group.

Student Forum

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

- 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
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If you have an article recently published please email the citation for inclusion in the Recent Bear Literature. The deadlines for the next issues are:
• Fall Issue: 5 October: Marion Schneider: MFSchneider@gmx.de

For easy access to articles, we are now including the DOI citation if available. To open articles from their DOI, either click on the hyperlink within the citation or 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.

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