Large adult male brown bear in the Brenta Dolomites range, northern Italy.
Read more about these bears on page 21.
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International Bear News, ISSN #1064-1564
Tri-Annual Newsletter of the International Association for Bear Research and Management
Editors: Mark Edwards (Managing Editor)
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Back issues are available at www.bearbiology.org

Editorial Policy
International Bear News welcomes articles about biology, conservation, and management of the world’s eight bear species. Submissions of about 750 words are preferred, and photos, drawings, and charts are appreciated. Submissions to regional correspondents by email are preferred; otherwise, mail or fax to the address above. IBA reserves the right to accept, reject, and edit submissions.

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Consult website for submission guidelines. Deadline for the Fall 2020 issue is 05 October 2020.
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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.

Bear Specialist Group

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

The use of the IBA-BCF logo at the beginning of an article signifies work that was supported, at least in part, by the Bear Conservation Fund through an IBA grant.
As of late June, the world remains unsettled and uncertain with no end to the pandemic in sight. I suspect most of us are suffering not only from COVID effects on life and work, but also pandemic fatigue. I’m luckier than most and grateful to be in a position of relative privilege and security, with good access to the natural world. But I know most people are facing some combinations of personal, professional and financial hardships, and hope conditions for everyone start to improve soon. I suspect COVID issues, however, will impact our lives for quite some time. And even as we move beyond the immediate health crisis, there will likely be longer-term financial hardships for many individuals, businesses, governments and other institutions. I know the world will weather the current crisis as it has so many others in the past, but I also hope the pandemic might help us think about how we live and what’s truly important. And maybe change our course a bit towards a fairer, more sustainable world.

Science and Uncertainty

Grounding conservation in good science is an important aspect of IBA’s approach and a great goal. But what does that really mean from a practical standpoint? We constantly strive to ask and answer relevant questions, but that doesn’t mean we’ll have all the necessary knowledge when needed. Issues and approaches are rarely as clear cut as we’d like, and bear conservation will always involve uncertainty and the need for more, and better science. Even when a lot of good data are available, there are often disagreements about their implications, as we’ve seen for example with Yellowstone grizzly bear management. Watching the COVID crisis unfold was an interesting instance of the challenges of trying to use best available science during a crisis when the consequences of mistakes are serious.

The need for urgent action to combat COVID was soon apparent, but best strategies were less clear. Various government agencies, NGOs and other groups had to try to limit the virus’s spread and educate people about changing their behavior even without adequate proof of the efficacy of recommended actions. There were risks of getting mandates wrong, not acting quickly enough, and a wide range of potential errors from overreacting to not doing enough. The science was inconclusive and somewhat contradictory. And a rush to do research and collect data was taking place even as policies were evolving. Early mixed messages going out to the public created confusion and cost some credibility, further complicating a difficult state of affairs.

A strong scientific basis for action may be the ideal, but rarely will there be enough definitive science to guide policy and prescribe actions during such crises. Even when you have what seems like the best plan, you must continue to question, evaluate, and refine as necessary while proceeding. Something the public often fails to understand.

In the US, discussions about the seriousness of COVID, problems with the science, and merits of various ways to deal with the virus were constantly appearing in the media. This complicated efforts, fueled mistrust of government, and eroded confidence in expertise. The uncertainty also allowed extremists to exaggerate doubt and promote conspiracies. However, there were also opportunities to help interested people evaluate information for themselves and understand the strengths and limitations of science. The “flattening the curve” explanation was a good
example demonstrating the importance of slowing the spread of the virus even if it couldn’t be stopped.

Science is rarely the only, or even the main consideration in real-life situations either. People’s values, as well as economic, political, and public perception concerns affect, even limit, the ability to do what the best science suggests. In the US there has been strong pressure to reopen the country as soon as possible in spite of warnings and risk assessments from health experts.

Parting Thoughts

These are tough times for nonprofits, but IBA is strong. I hope everyone keeps in mind that membership shouldn’t only be about the benefits you receive, but also about how you can contribute to the organization and to bear conservation. IBA must stay relevant, mobilize volunteers, improve communication, raise our profile, and increase our capacity to support important conservation work. Luckily, over the years we’ve had many dedicated volunteers. These days we especially need our younger members with their new insights, ideas and skills to come forward and help better prepare IBA for the future. Don’t be shy!

I look forward to working with everyone over the next couple years. Many years ago, I joined IBA and found a supportive, fun group of colleagues who shared my passion for bears and taught me a lot. I hope others find our group as welcoming and rewarding a community as I have. Try to stay safe, healthy, and sane!

John Hechtel
IBA President
Email: john.hechtel@bearbiology.org

Photos credit: John Hechtel
COVID Spurs Thoughts about Stuck Trucks and Capacity Building

COVID-19 divided workers into those deemed “essential” and those not. As a government bear research biologist, I (like most of you reading this) was categorized as non-essential, meaning that work could only be conducted at home. My fieldwork was considered so unessential that I was not even allowed to do it by myself. The supposed rationale was that I might get the truck stuck, and need people to push me out, and then could be involved in spreading the virus. This unlikely scenario got me to thinking (which it turns out I could do better at home), initially about people pushing out stuck trucks, and then how this might relate to people pushing conservation forward.

I’ve been in the stuck truck situation a number of times, but 2 of them stand out. My very first fieldwork (1974), before I ever got involved with bears, was a project on lizards in Haiti. Our jeep got stuck on a muddy hill, behind a stuck bus, in an area where foreigners were rare and not especially welcomed. It would take more than people-power to extricate the bus, and we were behind it, with no way to drive around, even if we managed to free it from the sticky mud. Surprisingly, a crowd of people from the bus came out to help us. They cut several nearby trees, shoved them under the jeep, and then carried the jeep around the bus. I had never seen that done before (or since), but clearly they knew what they were doing.

In the second example, I was in Nepal, mapping sloth bear presence across the Terai, when our jeep rolled upside down into a deep ditch. Gas was leaking out and one member of our research team was pinned underneath, out of sight and not speaking. The other 5 of us could not get him out, despite our adrenaline rush. A group of people from a nearby village rushed over and carefully righted the jeep, and all ended well, fortunately.

In both cases, there was a crowd of people — far more than needed. The positive outcomes were due in part to their physical efforts, of course, but more than that to their coordinated problem-solving. An ill-considered brute-force approach could have had disastrous results in both cases. In Haiti, without the trees underneath, the crowd would not have been able to carry the jeep, and likely would have buried it further in the muck. In Nepal, there was utmost concern about crushing our companion or the gas igniting, so both caution and haste were required. There was a period of “group think” in each case that yielded the solutions (in truth, lots of jabbering and some shouting in languages that I didn’t understand). Thankfully, in both cases, people with experience and practical knowledge worked in a coordinated fashion.

The stuck truck scenarios made me think about analogies to bear conservation. We could certainly use more people pushing, but honestly, we need more than brute force. We need fresh ideas on more effective approaches. Ideas are borne from knowledge, experience, thoughtfulness, and a clear understanding of specific local conditions. In many areas, conservation is constrained not by insufficient effort, but by limitations on training, experience, and a capacity for novel thinking.

Current Chair of the IUCN Species Survival Commission, Jon Paul Rodriguez and colleagues published a letter in the journal Conservation Biology in 2006 titled “Professional Capacity Building: the Missing Agenda in Conservation Priority Setting” where they argued that “it makes little sense to create elaborate conservation investment plans for needy regions without considering who will implement them.” They explained that education and training is lacking in most of the world where conservation is most needed. That limits the effectiveness of the work being done.

To me, this should be our foremost aim: not to just fund projects, but to help those doing the projects to accomplish them effectively so they have the most impact. I think Jon Paul’s concluding sentence is still very apt: “Unless the people of biodiversity-rich countries in the developing world are able to take the lead in the conservation of their own regions, long-term, sustainable solutions are unlikely to be found and the limited funds for conservation are likely to be misspent.”

This is an important warning to remember. Others have echoed that call, and some have made efforts to help better understand and resolve the current constraints (e.g., Rao et al. 2014, Souter et al. 2017). I hope that we can all commit more to helping younger people in those nations where bears are threatened. There is already a lack of resources in those places, but we can help to make up for that by doing things more effectively — basically recognizing that well-trained people are our most valuable resource.

Elliott et al. (2018) recently conducted a global survey of capacity development in conservation and found it notably lacking in just the places where many species (including bears) are most threatened. They stressed that required capacities in conservation involve much more than abilities
in science, but also understanding social dimensions and ways of communicating in contentious environments, to help close the ‘knowing-doing’ gap. Further, they argued that an often-neglected aspect of capacity is leadership. In that respect, the BSG will be striving to increase leadership capacity by creating more “deputy” positions, where younger members will have opportunities for greater responsibilities and growth.

We’ve all been stuck in the mud, literally or figuratively, and oftentimes it takes innovative thinking to find a solution. It is now time to find solutions for significantly improving the capacity of those in the trenches. Training a handful of “bright stars” at universities in the U.S., Canada, or select sites in Europe, while useful, is unlikely to be the answer.

Literature Cited

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A Message from the Executive Director

“It is not the strongest of the species that survives, nor the most intelligent that survives. It is the one that is most adaptable to change.”

Whether scientifically accurate or not, Darwin’s paraphrased words are a fitting backdrop for the times we are living in and provides an overarching strategy for IBA in the coming months as the organization continues in its evolution and transition.

COVID-19 has caused a multitude of unique challenges (and dire consequences) and it is expected that for much of the world, the new business, as usual, has yet to be determined. For IBA members, we have heard from many of you and know your work and lives have been affected.

We know the funding landscape is even more competitive than normal and in for a bumpy ride, with funding being diverted to support COVID-19 related emergency response worldwide, global financial impacts expected for 1 – 2 years or more, an upcoming US presidential election, and social issues garnering widespread attention.

IBA is working to adapt to this new funding landscape. We are at the beginning stages of developing a global IBA community of supporters. It is a process that will continue to expand through time as we work to engage and develop relationships with new foundations, governments, and individual donors. However, to meet our immediate financial needs, it is our current and past donors, members, and friends who can best help keep the important work of the organization moving forward, through the following 5 funding endeavors:

Members Supporting Members – Among IBA’s greatest strengths is our close-knit network of members. To help further support members and their vital work, IBA is developing a fund where members can donate to support colleagues, whether long-time members or those new to the field of bear biology. For more information about this effort, email Julia Bevins, Bear Conservation Fund Chair at julia.bevins@bearbiology.org.

IBA Transition Process – IBA continues its work to expand its offerings, become more visible and grow our resources through Stage 3 of the Structural Evolution Plan (page 12), which includes the development of governance, financial, IT and related organization structures and a Strategic Plan (look for highlights of the plan in this year’s fall edition of IBN). Our goal is to raise $300,000 by December 2020 to ensure the transition process continues. To learn more about the transition process, plans and strategies, contact me at christopher.kelley@bearbiology.org or 415-902-8115.

Bear Conservation Fund – IBA’s desire is to grow BCF total grants to over $100,000 and increase the number of funded grants by 25%. For more information on the BCF and past projects, please visit https://www.bearbiology.org/bear-conservation-fund, contact Julia Bevins at julia.bevins@bearbiology.org, and be sure to view our research video presentations coming soon to the IBA website.

IBA Fellowships – a new program to expand grants for projects. IBA will begin offering fellowships to support researchers and new projects this fall. Fellowships will be offered as they are formed separate from the normal BCF process. Announcements about specific fellowship offerings will be made fall 2020. If you or anyone you know are interest in naming a fellowship, please contact me at christopher.kelley@bearbiology.org.

IBA Ambassadors – to build a community of engaged supporters and increase IBA’s visibility in cities and countries throughout the world. IBA invites anyone interested in bear, wildlife conservation and the environment to be a community ambassador. Advisory groups are being established where there is volunteer interest including the UK, the San Francisco Bay Area, Alaska, and locations far and wide. Contact me at christopher.kelley@bearbiology.org or 415-902-8115 for more information.

IBA is only as strong as its members, partners and supporters. We thank you for all your tireless efforts that makes IBA unique and vital in our continuing mission to support science-based conservation and management of the world's bears. As we continue to gauge and traverse the rugged terrain ahead, we keep in mind the words of Martin Luther King – “We must accept finite disappointment but we must never lose infinite hope.”
Transition News

Dear IBA Members,

We hope you are doing well at this difficult time and are all healthy and safe. Here, we are back to you with another portion of transition news.

Structural Transition Level

As you remember, the current transition was implemented in response to a Strategic Member Survey conducted in 2015. We are transitioning in a way so we can provide the services and benefits members want. Council was tasked with carrying out and implementing the transition process to help better serve our membership to help protect bears. The Structural Evolution Plan, which is the guiding document for this transition can be found on the IBA website. The Structural Plan was voted in by Council but is a guiding document meant to have the flexibility for adapting as we move forward and learn what works and what does not work.

We are currently on Structure Change Step 3 (Page 12 of Structural Evolution Plan) and the Council has recently begun the process for establishing 3 standing committees in addition to the basic Council structure. The 3 standing committees are:

The Governance and Internal Affairs Committee is responsible for making sure that IBA functions effectively, ethically, sustainably, and in compliance with the law and best practices. They assess the personnel needs of the Council and recruit appropriate members for appointment or election. The Committee oversees IBA’s financial management, bookkeeping, investments, audits, and contracts, and also oversees compliance with non-profit legal status, employee relations, hiring and firing, and setting terms of employment.

The External Affairs Committee oversees fund-raising, public relations, publications, and marketing. This includes assuring compliance in fund-raising, advising, and supporting efforts of staff and volunteers to publicize programs, raise funds, and produce public reports on programs.

The Programs Committee oversees the evolution and growth of programs, including 1) professional development and capacity-building, and 2) grants for science, management, and conservation. They work closely with the Executive Director, and, in the future, the Directors of Capacity Building and Conservation.

By organizing the Council into 3 committees, the intent is to spread decision-making and lighten the workload placed on the full council. Most discussions, research, drafting of motions and policy, will take place at the committee level. The 3 committees will be entrusted with researching and deliberating issues and putting forward recommendations to the Council. In this way, each council member has more time to focus on the specific issues related to the committee they serve, and still keeping up to date on the general Council business through the regular reporting of each committee to the full Council.

Executive Director

Christopher Kelley is working diligently bringing his many years of experience and expertise with transitioning organizations to provide more services to their members resulting from increased resources. The times are difficult, but we do not stop in our efforts. Chris and Julia (Bevins) have worked together on the idea of how IBA members can support other members. Please have a look at Chris’s column (Page 8) and contact him if you are interested in any of the fundraising efforts he and Julia are developing.

Members’ Videos

With the conference postponed due to the epidemiological situation, we came up with an idea to keep members engaged with the research of other members. We thought to highlight the work members will present at the upcoming conference with a self-made video. This pilot program of brief video presentations is meant also to use our online resources, even more, to connect while we cannot meet in person. If the pilot program is successful, the program will expand to grant recipients and all IBA members to provide short videos of their work with bears. If you are interested in this project, please contact Jennapher Teunissen van Manen.

What is Next?

In the world of fundraising and philanthropy, an organization needs to have certain structures and policies in place to approach potential funding sources. When Chris Kelley was hired, he began the work for helping IBA develop a strategic plan that can be used going forward making IBA more visible to more bear biologists and the general public. There are currently 3 teams working on this and we will present the results of our effort this fall.

The continuation of the transition process is critical to increase IBA’s resources, which will allow us to provide
more funding for quality projects worldwide, services to our members and programs that support the conservation of bears, bear habitat and their coexistence with people. We are seeking immediate funding to support the continuation of the transition process and our 2 staff positions. For more information on how you or those you know can help, please contact Chris Kelley.

If you have more questions about the transition, please do not hesitate to contact Jennapher or us. We will be glad to help and walk you through it. Also, follow IBA's website and emails to keep updated on the newest announcements.

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Photos credit: Annemarie Weegenaar
2020 IBA Election Information

The 2020 IBA Election for your Council will open this coming November. The Council positions open for election this year are: Vice President, Eurasia, Secretary, and 3 Council seats. The term for each position is 3-years, begins on 10 January 2021 and ends on 9 January 2024. In accordance with the IBA bylaws, a nominations committee was appointed by the IBA President this past May. The Chair of the nominations committee is Andreas Zedrosser and members are Djuro Huber and Ximena Velez-Liendo. Candidates will be announced on the IBA website once the list is finalized. All candidates (nominated either by the nominations committee, another IBA member, or self-nominated) will be provided information about the position and what is expected in their specified role so that potential candidates are aware of the commitment and workload if elected to Council.

Member Nominations

IBA is an inclusive organization and we value member input and encourage all members to participate however they can. The elections are no exception. Part of the nomination process is an open period, during which members can either nominate other members or self-nominate if interested in getting more involved through Council participation. Once the nominations committee list of candidates is finalized, the period for member nominations will open for 30 days. A member can self-nominate or nominate another member as long as the nominee’s membership is current, they have agreed to run for office and agreed to serve if elected. To nominate a member, you will need to email the IBA Secretary, Alex Kopatz at: alexander.kopatz@bearbiology.org by the deadline announced when the member nominations period opens; provide the nominee’s name, email, and Council position they are being nominated for. The Secretary will contact all nominees to certify that they agree to run and serve if elected, and their names will be placed on the ballot with the candidates from the nomination committee.

Balloting

Voting will be done electronically through our online membership system. Voting will be open between 1 – 20 November 2020. As the election approaches, we will provide instructions and all necessary information via emails and publishing on our website.

Member Voting Eligibility

In 2016 the membership ratified the current bylaws that made some changes to the voting eligibility requirement for members. The new requirement states that anyone joining IBA for the first-time or whose membership has been expired for 3 years must establish membership 3 months prior to the distribution of ballots. The ballots will open between 1 – 15 November 2020. Emails have been going out since June 2019 to make members aware of these requirements. If you have not received these emails, you will need to log in to your IBA membership account and verify that you have provided us with your current email address. If your email address is current and you still have not received any emails, then you will need to check with the email account system and verify that our emails are not going to your junk folder. For any questions about your account, you can contact me at: jennapher.teunissen@bearbiology.org
Specialist Group Memberships

As was announced in June 2019, IBA Council voted to change the terms of the complimentary memberships that any Polar Bear or Bear Specialist (PBSG or BSG) group member has been eligible to receive from IBA. The previous type of membership was indefinite and included voting privileges but did not include access to our peer-reviewed journal, URSUS. The new type of membership, an Introductory Specialist Group Non-Voting Membership, will now include a subscription to all IBA publications, including URSUS, will be for 1-year, but will not include voting privileges. If a Specialist Group member would like to vote in IBA elections, an IBA membership can be purchased. If you are currently receiving an Introductory Specialist Group Non-Voting Membership and would like to purchase an IBA voting membership, you can log into your account on the IBA website and select ‘My Membership’ from the drop-down menu and renew. From there you will be able to select the type of membership you would like to join with. If there are any issues with the system, please contact me and I will get it fixed. For new Specialist Group members that have never before been an IBA member, if you would like to purchase a voting membership, the membership needs to be established 3 months prior to the distribution of ballots (see above information on bylaws and voting eligibility).

For detailed information on IBA elections, nominations, and voting, please refer to the IBA bylaws on our website.

If you have any questions about your membership or voting eligibility, please contact Jennapher Teunissen van Manen at jennapher.teunissenvanmanen@bearbiology.org.

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Photos credit: Andy Derocher
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I manage human-bear conflicts in the Cabinet-Yaak Ecosystem, Montana, USA. Our busy season is April through November, with much of my work requiring going from house to house in the wake of some sort of human-bear conflict. Right now I can respond to these incidents by telephone and make house calls while social distancing, but with the pandemic, some people are not comfortable with house visits. In a normal year, February through June, we are engaged in prevention and outreach through schools, community centers, clubs, festivals and specially created “bear socials.” All have been cancelled. Our bear spray trainings have all been cancelled. We’ve also missed out on collaborative education efforts with the Forest Service and the Corps of Engineers. All these activities are our bread and butter and I wonder “who have we missed this year?” We don’t want people to have conflicts with bears, we don’t want bears killed.

Photo credit: Kim Annis
Bear Research and Management in the Time of the Pandemic: Three Interviews

Rajan Paudel
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Rajan is a Nepalese Bear Biologist undertaking a PhD at Hokkaido University, Japan, with Dr. Toshio Tsubota. His project title is, "Assessment of Distribution, Habitat Use and Genetic Structure of Sloth Bear in Fragmented Foothills of Nepal Himalayas." Here is what Rajan explained about his work and how it is affected during the pandemic...

COVID-19 has brought uncertainties and challenges to my PhD work on sloth bears (Melursus ursinus) in Nepal. Right now we are under lockdown and any field work is impossible. Nepalese cases of COVID-19 are still going up. I'm attending my lab meetings and research seminars online, but my research project is halted.

My field work in Chitwan National Park prior to the lockdown was difficult. My supervisor and team from Hokkaido University had to cancel their flight to Nepal and this required a major change in my field research plan. We faced problems working in Chitwan National Park during March-April, because whenever you meet new people, they perceive you as a 'corona carrier' and my field work requires lots of local travel through small communities. We were stopped many times. In 2 instances we encountered a blockade of rocks on the only road through a village. We had to abandon our cars and walk a good part of a day to the research sites, losing time. Interfacing with local people in these buffer zones around the park was problematic and slow. What's more, ensuring our team's safety from COVID-19 was challenging.

We've been identifying bears through DNA in bear feces, and we'd planned to add hair traps and train local staff to monitor them, but COVID-19 has put that training and collection on hold. I'm really disappointed. Now Chitwan National Park has limited entries and movement during lockdown is not possible anyway.

Meanwhile, ensuring me and my family's well-being during the pandemic in a poor country like Nepal with its unreliable health system is challenging. Returning back is uncertain and as a foreign student in Japan, I have to learn new platforms for online meetings and seminars. I have a scholarship to pay for my tuition and monthly rent for 3 years but if I’m not able to wrap up the field work as planned, it might be difficult to finish while I still have support. If I had more funding, I could do so much more for sloth bears in Nepal.

Going forwards, I believe COVID-19 will change some things permanently and we will have to adjust our work with sloth bears accordingly.
Free the Bears, an international NGO, provides sanctuary for bears confiscated from illegal situations in Cambodia, Laos and Vietnam. We have 4 sanctuaries in these 3 countries in which we currently care for 92 sun bears (Helarctos malayanus) and 146 Asiatic black bears (Ursus thibetanus).

Although our work is primarily rescue, we also have locally led education teams in each country and an active research program that focuses on wild bear populations, human behavior around bear products, and what might reduce demand for those products. Our mission is “To protect, preserve and enrich the lives of bears throughout the world,” with both animal welfare and conservation aims. In each country, the motivations for people to poach, trade and keep bears vary – from bile extraction to the illegal trade in bears for pets, for display and for meat and various other products. A confiscated adult bear is not easy to deal with. Providing our government partners with an option for the placement of confiscated bears is an essential part of ensuring effective law enforcement. The absence of a sanctuary can deter confiscation of wildlife, lead to inappropriate release or perpetuate illegal activities.

What has the pandemic meant for Free the Bears? We’ve lost a big portion of our income because we rely on fundraising events globally, and public events have had to stop everywhere. We’ve had to be creative. Recently we held a virtual “night in a cage” where people raised money by sleeping in a bear farm-sized cage for a night. We also rely heavily on in-country revenue generation through sanctuary tours, paying volunteer programmes, and merchandise sales, all of which are halted. Tourism may not fully rebound for a long time. Our focus has been making sure our bears are fed, that they have adequate care, and our 90+ staff are paid.

In my own work, I spend 1 month in 3 traveling to these sanctuaries to provide oversight of our veterinary care, otherwise I’m based in Australia. We have a small regional management team that relies on being able to travel between the 3 countries, and at the moment we are all grounded. A big focus of my work over the past few years has been building the capacity of local vet teams and right now it’s good to see how well they are doing. This is the longest I’ve been away from our sanctuaries since 2014 and my feet are itchy!

Prior to the pandemic, we were well set up with help from professional veterinary volunteers in Vietnam and Laos but they all had to return home when it struck. I’m undertaking a PhD looking at tuberculosis in sun bears and spend most of my time on this project in Cambodia. That work is on hold.

In summary, the pandemic sets everything back, both in terms of time and money. Even more importantly, our team is afraid that illegal wildlife activity will only increase as a result of economic hardship, and on top of that, lockdowns will hinder enforcement efforts.
It is with great sadness that we announce the passing of Dr. Michael J. Hooker, known to his friends simply as “Hooker.” Hooker passed away unexpectedly Friday, June 12, 2020 at home in Harrisburg, Pennsylvania.

Hooker spent his childhood and teenage years among the hills and hollows of South Bolivar, New York. His fascination with wildlife led him to obtain an Associate of Applied Science Degree in Fisheries and Wildlife Technology from the State University of New York at Cobleskill, and a Bachelor of Science Degree in Wildlife Biology from Colorado State University. After his 1989 graduation from Colorado State University, he spent many years in the western United States conducting wildlife research projects for the University of Wyoming where he first got his hands on a bear. Mike spent the remainder of his life committed to researching and managing black bears, brown bears, and other large carnivores. He held jobs with the University of Tennessee, Wyoming Game and Fish, the Louisiana Department of Wildlife and Fisheries, the University of Montana, the University of Georgia, and finally the Pennsylvania Game Commission. Although he would tell you that he wasn’t very smart, a B.S. at Colorado State, a M.S. at the University of Tennessee, a Ph. D at the University of Georgia, and a long list of publications including a Wildlife Monograph would suggest otherwise. He worked with a number of small and imperiled American black bear populations in the southeastern U.S. and played a key role in reestablishing populations in Louisiana and Arkansas by ascending tall trees to extract hibernating mother bears and their young for transport. Many of the bears walking around in those areas today owe their existence to Mike Hooker.
Mike thrived in the field and was well respected for his >25 years of knowledge of trapping and handling bears. While he epitomized the persona of a “grizzled ol’ bear trapper,” he was also an effective teacher, passing his knowledge and skills on to so many of us. Hooker seemed equally at home in the flooded bottomlands of Arkansas to the Rocky Mountains of Wyoming. He was at his best when he was working a trap line with the hopes that tomorrow would bring a bear. Hooker was the “go-to” guy whenever a cantankerous bear had to be dealt with or a difficult den tree had to be climbed. Despite his “cynicism ain’t what it used to be” philosophy, he was a “can-do” guy when crunch time came.

It would be an understatement to say that Hooker lived a life of adventure. He spent 13 years of his career living and working in Wyoming. In addition to live-trapping grizzly and black bears in the backcountry, he competed in saddle bronc at local rodeos, and left part of his ring finger in an arena after a wild horse race at Cheyenne Frontier Days. Other passions included hunting, running, hound dogs, NASCAR (yes NASCAR), and -often to his chagrin- University of Tennessee football.

Hooker was an IBA member for 22 years and had a remarkable streak of IBA conferences that he attended (16 out of 17 domestic and international), beginning with Graz, Austria in 1997. Most of those trips he paid for himself. The IBA was Hooker’s professional community, but most importantly, his personal community as well. At IBA conferences, Hooker was always surrounded by people that impacted his life and career, and those he had impacted. He was a humble scientist, a mentor, and an accomplished field biologist. More importantly, to many he was a man who could always make you smile and a steadfast friend. We will forever miss his quick wit and endless field stories.

Mike’s favorite movie was “Conagher” (based on a Louis L’Amour book starring Sam Elliot) and his mantra was “What would Conagher do?”. Watch that movie and that is all you need to know about Mike Hooker.

Hooker is survived by his mother, Betty J. Hooker of Cuba, N.Y.; sisters Jamie (David) Greene of Olean, Jodie (Matt Printup) Hooker Sacramento, Calif. and Wendy Lawrence of Buffalo, N.Y.; several nieces and nephews; and his beloved Walker coon hound, Rooster.
Pay it Forward

Have you ever received a grant from the IBA for travel or research? Have you been assisted in your career by other members of the IBA? Would you like to “Pay it Forward”? According to Dictionary.com, this expression is used when “the recipient of an act of kindness does something kind for someone else rather than simply accepting or repaying the original good deed. The concept of pay it forward is ancient. We can find it explored in literature ranging from Ancient Greek comedies to Benjamin Franklin’s letters.”

One of the best ways to repay this kindness is through some form of planned giving. Some of our members have already chosen to make the IBA a recipient in their wills, trusts, retirement accounts or life insurance policies. This year when the pandemic hit, I updated my own will to reflect a gift to the IBA. It’s a relatively simple thing to do and ensures that your legacy is something that you love – extant bear populations on this beautiful earth. I know that most bear biologists live on meager salaries, but this way of “paying it forward” is affordable and practical. Please join me and other members who love our organization and want it to succeed in its mission to conserve bears.

Please feel free to contact me or Chris Kelley, our new Executive Director at christopher.kelley@bearbiology.org or +14159028115. If you are considering a planned gift and you live outside the USA, we would be happy to take a look at how that can happen and report back to you.

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Capacity Building for Species Conservation: Protecting Asiatic Black Bears in Machiara National Park, Kashmir Himalaya, Pakistan

The Valley of Azad Jammu and Kashmir is a mountainous area of northern Pakistan. Here lies Machiara National Park (MNP), which contains habitat for Asiatic black bears (Ursus thibetanus). Machiara was established as a Game Reserve in 1982 and as a National Park in 1996, and is classified as an IUCN Category IV protected area (Dudley 2008). MNP covers an area of 135 km² at an elevation of 2,000–4,700 m above mean sea level and is an important site for a number of mammal and bird species, including Kashmir musk-deer (Moschus chrysogaster) and Kashmir gray langur (Semnopithecus ajax)(Endangered and Vulnerable, respectively).

Over the years, there has been a decline in the range of Asiatic black bears in Pakistan due to an increase in human population and a host of direct threats, namely: loss of habitat from logging, access to firearms by farmers in areas where bears raid crop fields or depredate livestock, uncontrolled forest fires, and illegal trade in bear parts and live cubs. Communities depend upon the natural resources of the area, and enter the reserve to graze their cattle and cut trees for timber and firewood. Trunks of older trees are sometimes partially burnt to make them easier to cut. This has had a direct effect on the habitat and population of Asiatic black bears by bringing them in direct contact with humans (Khan et al. 2012).

The species is considered a threat by the locals because it causes damage to crops and kills livestock. Hunting of Asiatic black bears can often be associated with the retaliation by the local communities who act to defend themselves and their livelihoods from future attacks. Larger bears are also hunted for their fat. The fat is used locally for medicinal purposes and also sold to dealers (Wildlife of Pakistan).

Despite these threats, there are some successes by local communities playing a role in conservation of this species. For example, in District Diamer (Gilgit-Baltistan), a community-based conservation program was started by the Wildlife Conservation Society (WCS) in 1997. As a result of the local empowerment through the establishment of resource committees and the active involvement of the local Wildlife and Forest Departments (which is in charge of this habitat), Mountain Conservation and Development Programme (MCDP) and WCS, the Asiatic black bear populations are doing well in the region (Khan et al. 2012).

The MNP is an important habitat for the Asiatic black bear but the increasing human population is damaging its habitat, and as a consequence, human-bear conflicts are becoming more frequent (Kazmi et al. 2019). Similarly, crop damage has been reported as a major cause of human-bear conflict in Dassu Valley of Indus Kohistan (Shah et al. 2017). In order to be able to ensure the conservation of the species, it is important to understand the pattern of human-bear interactions along with the area presently occupied by the species. The lack of data regarding the species' status hampers conservation activities, as progress often cannot be measured. Only when one understands the behavioral patterns of the species and establishes a population baseline can an effective conservation strategy be established. Collecting data in a consistent manner is equally important for monitoring the species’ population trends.

With financial support from the International Association for Bear Research and Management (IBA), we were able to initiate a project to assess the distribution of the species and its conflicts with the locals within the park area. Besides research, one of our important goals was to build the capacity of the field staff of the forest and wildlife department to help monitor the species using standardized monitoring techniques.
Workshops were organized to help build the capacity of the field staff in conducting occupancy sampling surveys and data collection on human-bear conflicts using questionnaires. We divided the study area into 5 x 5-km grid cells using ArcGIS, and land use patterns were classified into different categories (i.e., forestland, shrub, grassland, water, agriculture, and non-forest). Participants were trained in conducting sign surveys, recording feeding platforms, footprints, marks on trees, and feces as a positive indication of bear presence inside each grid, and marking these signs with GPS. Furthermore, staff were trained in collecting data through questionnaire surveys to establish a database on bear depredations during the last 10 years. Staff were taught to collect data on bear encounters, human and livestock attacks, cropping pattern, and type and extent of crop damage.

On the special occasion of the 50th anniversary of Earth Day and at the same time, 50 years of efforts for bear research and protection (Garshelis 2020), we conducted an event under the theme “Protect Our Species”, which heralded the Asiatic black bear as one of the flagship species of the MNP. On this occasion we joined both events to build the capacity of more than 50 staff of the forest and wildlife department and to highlight 50 years of efforts for bear research and protection. Our effort has also been highlighted by the Earth Day Network on their website (https://www.earthday.org/middle-east-and-north-africa)

Acknowledgments
We are thankful to IBA for the grant which provided us an opportunity to initiate a long term conservation program for Asiatic black bears in Machaiara National Park in Kashmir Himalaya, Pakistan. A more detailed report of results will be forthcoming. We are also thankful to state Wildlife and Forest Department for helping us in implementing the project.

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Brown Bear Population Surging in the Central Alps (Trentino-Italy)

In the last 5 years (2015–2019) the Trentino, Italy, brown bear (Ursus arctos) population has increased even faster (avg. 12%/year), than it did (avg. 8%/year) in the preceding 4 years (2011–2014). The 2019 monitoring season, marking the 18th year of successive genetic monitoring, indicated a minimum estimated population of 68 individuals (29 M, 39 F), excluding cubs and individuals not genetically identified. Further, we estimate 9–12 females had cubs. The increase in population growth seems due to (1) very good habitat quality, (2) low mortality rates, and (3) the satisfactory level of human acceptance following a lot of work on bear management by the competent authorities.

The western part of the province, in the Brenta, Paganella-Gazza, and Bondone ranges, are still the strongholds of this small and isolated population. Females roam in a relatively small area (~1,500 km²), which is entirely contained within the western Trentino region (estimated density = 4.0 bears/100 km²). The territory occupied by males in 2019, including dispersing movements into surrounding regions and countries was >45,000 km². Of 38 juvenile males that dispersed during 2005 – 2019, 15 (40%) died or disappeared, 10 (26%) returned to the core area, 2 (5%) emigrated east (joined the northern Dinaric population), and 11 (29%) remained outside the province so far.

These data are reported in the “Large carnivores Report 2019” of the Provincia Autonoma di Trento, now at its 13th edition, which is edited by the Forest and Wildlife Department of the Provincia Autonoma di Trento, in cooperation with the Science Museum of Trento, the Edmund Mach foundation, the Adamello Brenta Natural Park, the Paneveggio Pale di S. Martino Natural Park and the National Wildlife Institute. The English version of the report is available as a PDF. The report gives an update on the status of the bear population, providing data concerning monitoring, damage prevention and compensation, emergency management, communication, personnel training, international networking and the research that has been conducted on this population.

Since 2002 there have been 80 – 90 litters recorded, and 150 – 176 cubs born. To date there have been 34 bears found dead, 10 of which died of natural causes, 9 for unknown reasons, and 15 related to human-bear conflict. The 15 related to human-bear conflict included accidental deaths (46%), legal harvests in Italy, Switzerland and Germany (27%), and from poaching (27%). Annual survival rates over the past 18 years (136 individuals, 703 bear-years) were as follows: cubs (89.8%), juveniles (93.6%), and adults (93.5%).

In 2019, damages were recorded in 228 incidences related to bears in Trentino and €152,690 compensated. In 2019 the emergency team (24h available personnel trained to manage problem bears) was called into action 44 times,
Extent of occupancy of male and female brown bears in Trentino population, northern Italy, during 2019 (province of Trento shown in black). Females occurred entirely within western Trentino, whereas young males ranged well beyond, into Switzerland (west) and Austria (north).

following reports of damage or the sighting of bears close to facilities frequented by people or to inhabited areas. In 11 of these instances, staff conducted aversive conditioning (rubber bullets and bear-dogs). No cases of false attacks or real attacks were recorded.

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Recent Killing of an Asiatic Black Bear in Meghalaya, India

The Asiatic black bear (Ursus thibetanus) is found in all the states in northeastern (NE) India, occurring from plains to mountains, up to 4,300 m elevation (Choudhury 2013a). It is globally threatened owing mainly to poaching for its bile and is listed as Vulnerable by the IUCN. Elsewhere in India, the black bear’s range extends along the Himalaya to Jammu & Kashmir.

In NE India, the state of Meghalaya had old records (as previously part of Assam) where occurrence of Asiatic or Himalayan Black Bear was mentioned. Pocock (1932) noted a skin in the British Museum (now called the Natural History Museum) from ‘Duragiri’ (=Darugiri) in Garo Hills. Choudhury (2013b) compiled historic as well as current reports from the region. Owing to severe poaching for bile and also meat (as a by product), most of which go unreported, the species is very rare with occasional reports. Hence, any record of the black bear in Meghalaya is significant.

Here I report on a recent killing of an Asiatic black bear in Meghalaya. On 4 May 2020, a female bear was killed by villagers of Mawpyrthuh village near Pynursla in East Khasi Hills district. It has been reported that the bear was caught by crude snares baited with honey boxes. Pynursla is about 50 km south of Shillong, the capital city of Meghalaya. The village Mawpyrthuh is located south of Pynursla.

The photo of the dead bear went viral on social media following which officials of the Forest & Environment Department rushed to the spot and within a few days arrested 10 poachers who will be prosecuted under the provisions of The Wild Life (Protection) Act of India.

It may be mentioned here that the deep valleys of the Umkrem and its tributaries the Um Longdor and Um Jashar still have some dense tropical evergreen forest. However, in synthesizing the status of Asiatic black bears in NE India I found only 2 records from East Khasi Hills district (Choudhury 2013b). A male cub was rescued from Shillong (general area, apparently from somewhere around but outside the city limits) in 1982 and was brought to Guwahati Zoo on 18 November 1983. It survived until 15 January 1997. The second report was from the forests downstream of the Nohsngithiang Falls where a bear was shot in 2012. This waterfall is near Cherrapunjee or Sohra, a world-renowned site and one of the rainiest spots on the globe. The present case of the poached bear is only the third and most recent record from the district. The approximate location of the area is 25°16’ N and 91°55’ E. The elevation of the exact area of occurrence is not known but is below 1,000 m asl.

This important record indicates that a few of these bears still survive in the forests of the south-facing escarpment with deep valleys of Meghalaya. There are additional recent reports of Asiatic black bears occurring farther west in the Garo Hills region of southwestern Meghalaya (Sharp et al. 2020).

The need of the hour is massive awareness and enforcement of law.
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Photos credit: Thomas Sharp
Conservation Challenges of the Brown Bear (*Ursus arctos*) at the Southern Edge of its Global Range

Interactions between large carnivores and humans are accelerating and receiving increasing attention. Among large carnivores, brown bears (*Ursus arctos*) are known to avoid people, but this behavior is not consistent (Bombieri et al. 2019). Human-bear conflict results in property damage (orchard, beehives and livestock) and, rarely, direct attacks on people. The majority of bear damages in human-modified landscapes may be related to the availability of food resources of human origin, such as beehives and orchards (Naves et al. 2018; Bombieri et al. 2019).

The brown bear is the largest carnivore in Iran and is distributed throughout the mountainous area of the country. In the West of Asia, this species has lost much of its habitats, and only numbers of isolated populations remain in Iran, Iraq, Turkey, Georgia, Armenia and Azerbaijan, as well as rediscovered in Syria (Garshelis and McLellan 2011, Hajjar 2011). In Iran, brown bears belong to a unique clade with limited connectivity due to unsuitable habitats and human pressure (Ashrafzadeh et al. 2016). According to research by Ashrafzadeh et al. (2016), brown bear population in Fars (which is their globally southernmost distribution extent) appears to be genetically distinct from the other populations in Iran, forming a distinct sub-clade. Brown bear habitat in this landscape is semi-arid, and both humans and bears compete for limited water and food resources (Ansari and Ghoddousi 2018). This demand for resource use leads to brown bears conflict with local communities and poses considerable risk of bear mortality due to lethal control measures.

This research addressed this issue by studying the different type of human-brown bear conflict in Roshan Kooh No-Hunting Area, Fars province. Roshan Kooh No-Hunting Area is located in the northern part of Fars province and is one of the key habitats for Persian leopard (*Panthera pardus saxicolor*), striped hyena (*Hyaena hyaena*) and brown bear in the province.

In August 2018 we conducted a questionnaire survey, encompassing 250 randomly chosen households from all county villages based on Daniel sampling methods (Daniel 1999). Using this approach, we calculated the sample size needed based on the family size in rural areas across the area.
Our survey showed that most brown bear attacks belong to fruit orchards (55%), beehives (19%), human (15.8%) and livestock (10.2%), respectively. Most attacks to humans and orchards occurred in the autumn while most attacks to beehives happened in the summer. Most of the local communities believed that drought (51%), lack of fences for the protection of livestock, beehive and orchard (25%), habitat loss (15%), and brown bear access to anthropogenic food such as dumpsites (9%) escalated human-brown bear conflicts. According to the responses, the local households interviewed indicated that mitigation approaches such as compensation schemes (51%), and educating local people about brown bear behavior (49%) are the most appropriate ways to reduce human-brown bear conflicts. Our result showed noise deterrents are a common tool to frighten brown bears.

The majority of local households interviewed disagreed with the removal of bears through hunting. Most of them believed that bears have the right to live in nature and should be protected. Effective conservation and management of the brown bear in its southernmost distribution in the world depend on effective political and local approaches of diminishing brown bear damages and compensating individuals for bear-related damages through innovative mechanisms to boost their tolerance.

Acknowledgments

We would like to thank all the game wardens who helped us in this study and dedicate their life to conserve biodiversity.

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A Record of Scavenging Behavior of the Andean Bear (*Tremarctos ornatus*) on Mountain Tapir (*Tapirus pinchaque*) in Southwestern Colombia

The Andean bear is one of the largest mammals of South America and the only extant member of the family Ursidae with distribution in the continent (Borrero 1967). It is endemic to the tropical Andes in Venezuela, Colombia, Ecuador, Peru, Bolivia, and northern Argentina (Hunter 2011). Andean bears are predominantly herbivores, mainly frugivorous/folivorous, and occasionally predate and scavenge livestock (Rodríguez-Rodríguez and Cadena 1991, Goldstein et al. 2006). Andean bears are known as facultative scavengers: they can prey on live animals and consume dead animals opportunistically (Wilson and Wolkovich 2011, García-Rangel 2012); however, predation and scavenging events on wildlife are scarcely documented (Goldstein et al. 2006). Active predation on a wide variety of wild prey including large species such as mountain tapirs (*Tapirus pinchaque*; Rodriguez et al. 2014) has only recently been described (Parra-Romero et al. 2019). Both the prevalence of predatory and scavenging behaviors is debated (Jorgenson and Sandoval 2005, Goldstein et al. 2006, García-Rangel 2012), but recent observations have described scavenging time patterns on livestock in Colombia (Parra-Romero et al. 2019). In contrast, scavenging on wildlife has not been documented. Here we present an event of an individual Andean bear scavenging on a mountain tapir carcass in Southwestern Colombia.

During fieldwork with “the San Juan de Villalobos Monitoring Group” on 9 December 2018, we were informed by local people that a dead, adult and decomposing mountain tapir had been found (location: 1,5214711 -76,3956017), 2,100 m a.s.l. and 3 km from San Juan de Villalobos, Santa Rosa, Department of Cauca, Colombia. The area and its surroundings are mainly covered by the humid Andean forest that is influenced by the ecosystems of the Andean foothills of the Amazon Basin. Two camera traps (Bushnell® Trophy Cam) were set from 9 December 2018 – 29 January 2019 to detect scavengers. The camera was configured to take 3 photos followed by 20 seconds of video. Further, we reviewed the literature for reported cases of scavenging on Andean tapir carcasses.

We recorded 40 photographic records using the camera trap, of a solitary, adult Andean bear of unknown sex approaching the Andean tapir carcass from 29 – 31 December 2018. All occurred during daytime (09:16 – 12:02) during which the bear performed scavenging behavior, chewing the remains of the tapir’s bones (mainly the limbs and skull). Additional records of the common opossum (*Didelphis marsupialis*) were obtained, were it approached and prowled the Tapir’s carcass but with no evidence of carrion consumption. No cases of scavenging behavior over Andean tapir carcass or documented records of Andean bears scavenging on wildlife were found in the reviewed literature.

Despite the diet of the Andean bear being one of the most studied topics (Rodriguez et al. 2014), this is the first documented scavenging activity on a wild species. The occurrence of scavenging during daytime matches observations of this behavior on livestock in Colombia (Parra-Romero et al. 2019) and our results show that scavenging occurs mainly until noon. This information can be crucial to contribute and mitigate the human conflicts with Andean bears in Colombia, where most aspects of its natural history are still unknown (Vela-Vargas et al. 2011). It also contributes to the knowledge of mammal species consumed by the Andean bear. We had discarded the idea of the tapir being preyed on by Andean bears, even if the species occurs within its range (Castellanos, 2011); perhaps, the tapir died by natural causes or by a big cat attack.
Acknowledgments

The new record was obtained during the implementation of the “Interinstitutional agreement number 33” between Conservación Internacional Colombia and the Agencia Presidencial para la Cooperación Internacional, as part of the implementation of the TEAM protocol for the project “Biocuencas”. We thank the local community of San Juan de Villalobos, Cauca, for help during the fieldwork, JPL thanks to Jorge Contreras and Erwin Palacios by comments on the manuscript; HERC thanks Rufford Small Grants (Grant 29491-2).

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Stimulation of Rubbing Behavior in Sun Bears for Hair Trapping: Results of a Pilot Study

Data on abundance and trends are desperately lacking for sun bear (*Helarctos malayanus*) populations across their range (Crudge et al. 2019). Density estimates based on DNA identification of individuals would be desirable (Garshelis et al. 2020). Sun bears have particularly short hair, so traditional hair traps used for other species do not tend to work.

Follicles of hairs left by bears during marking behavior at rub trees can be sources of DNA (e.g., Lamb et al. 2016, Berezowska-Cnonta et al. 2017, Kendall et al. 2019). Bears may mark trees naturally, or may be stimulated to mark by using a scent. Marking, which includes rubbing of shoulders, back and neck during bipedal stance, or rubbing of head and sides when standing quadrupedal, occur in some bear species (e.g., Clapham et al 2014, Kleiner et al. 2018), but has rarely been documented for sun bears. Fiedler (1957) observed a captive male sun bear rubbing its shoulder at a wall “like a brown bear” after encounters with a male Asiatic black bear (*Ursus thibetanus*) living in the same enclosure. In 2019, Fauna & Flora International posted a video of wild sun bears from the Cardamom Mountains rubbing their shoulders on a tree, with no lure. Trees or power poles that release compounds like resin or tar are preferred for rubbing by brown bears (*U. arctos*) and American black bears (*U. americanus*) (e.g. Ambarli 2010, Taylor et al. 2015). Turpentine, pine needle oil, and also very smelly rotting material induces rubbing in captive brown bears (Meyer-Holzapfel 1968). Captive sun bears occasionally take food, like fish, and rub it on their chest and head (C. Barwick, pers. comm., M. Schneider, pers. comm.)

Here we sought to discover a chemical that could be used to incite rubbing by sun bears, which could then be employed in field studies to obtain DNA samples. This is

Cumulative number of sun bear hairs found on scented hoses used at Cologne zoo according to the tested lure and whether the hose was loose or fixed.

<table>
<thead>
<tr>
<th>Individual</th>
<th>Vanilla oil</th>
<th>Fish oil/fish sauce</th>
<th>Total</th>
<th>Loose hose</th>
<th>Fixed hose</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>66</td>
<td>606</td>
<td>672/527+</td>
<td>421</td>
<td>106</td>
</tr>
<tr>
<td>B*</td>
<td>19</td>
<td>141</td>
<td>160</td>
<td>95</td>
<td>65</td>
</tr>
<tr>
<td>C</td>
<td>96</td>
<td>465</td>
<td>561</td>
<td>338</td>
<td>223</td>
</tr>
<tr>
<td>Total</td>
<td>181</td>
<td>1212</td>
<td>1393/1248</td>
<td>854</td>
<td>394</td>
</tr>
</tbody>
</table>

* Did not rub during the observation periods, but hairs later found.
+ 145 hairs were not assigned to one of the hoses during counts.
part of a larger, coordinated effort by the Bear Specialist Group to maximize the contribution of ex-situ sun bear populations to conservation in the wild, as called for in the Sun Bear Conservation Action Plan (Crudge et al. 2019, Goal #4), which led to a recent prospectus of priorities for ex-situ sun bear research (see Schneider et al., p. 36 this issue).

In a study at the Cologne Zoo, Germany, we investigated the reactions of 3 adult female sun bears to scents of 8 different substances: vanilla aroma (for baking), coconut oil, fresh ginger, cinnamon dissolved in water, fish oil, fish sauce, fresh herring, scent of a male goat, and also a mixture of fish oil/fish sauce. These were applied to 37 x 11.5-cm pieces of discarded fire hoses, which were then vertically fixed to the cage bars at 1.15 m height. The hoses were removed the next morning and not reused.

Each bear had access to a single scent once a day in its individual cage. During the following 45 minutes the behavior towards the hose was recorded continuously. All odors induced sniffing at the hose, in most cases while standing bipedally. The intensity, frequency, and duration differed between individuals and scents. Single bouts lasted on average 3 seconds, and total sniffing duration rarely exceeded 30 seconds. Only vanilla aroma, fish oil, fish sauce, and the mixture of both stimulated rubbing in 2 of the 3 females. They rubbed neck, shoulders, and back as described for other bear species (e.g. Clapham et al 2014), but also wiped over head and face with the paw after contact with the hose. Vanilla extract is effective in Andean bears (Tremarctos ornatus) (D. Garshelis via A. Fuller, pers. comm.), and rotten fish oil attracts American black bears and brown bears to rub sites (Lamb et al. 2016).

Vanilla oil and the fish oil/fish sauce mixture were used in a second test series. Each substance was offered on 5 days, alternating the scents between the days. They were applied on the fixed hose and additionally on a loose hose to determine whether free movability increases the reactions. The same 2 females rubbed their head on the loose hose treated with fish oil/fish sauce mixture. Vanilla oil did not induce these behaviors during the observation sessions. However, checks the next morning revealed hairs stuck on the hoses, indicating that each substance stimulated rubbing in all 3 females. The number of hairs found per day ranged from 0-350. More hairs were found on the loose than on the fixed hoses, and on those treated with the mixture compared to vanilla oil. Hair samples were stored for future determination of whether they contain adequate DNA.

Lastly, the effect of accumulating fish oil/fish sauce was examined by rubbing it on the same vertically fixed hose
prior to each observation over a period of 5 days. The sun bear pair at Berlin Tierpark were included in this test. The Cologne females showed a tendency towards increased olfactory investigations over the course of the 5 test days suggesting increased attractiveness of the accumulating scent. Again, the same 2 females rubbed, but only 1 of them left hairs on the hose: 93, 59, and 129 hairs were found on days 3 to 5, respectively. In contrast, the interest of the pair in Berlin Tierpark decreased indicating habituation to the novel scent. The male displayed the typical rubbing behavior in the first 2 days. The number of hairs retrieved dropped from 97 after the first day to 3 after the last day. The reactions of the 32-year-old female were restricted to short low intensity olfactory investigation.

As our results were based on a very small sample size and few tested scents during just 2 winter months, we recommend further studies in ex situ facilities of range countries. They should include more individuals of different sex, age, reproductive status, and during different seasons. These factors influence rubbing frequency and hair yield in other ursids (e.g. Lamb et al. 2016). However, there are still more issues to solve regarding the suitability of hair trapping for sun bear population monitoring, such as the number and sort of hairs needed for high genotyping success as well as the effect of the tropical climate on DNA degradation. Rainfall affects genotyping success (Lamb et al. 2016). Other smelly substances, like rotten fish oil, as well as different hair trapping devices like brushes or hook-and-loop tapes mounted in baited pipes should to be tested, too.

Acknowledgments

We thank Alex Sliwa (Cologne Zoo) and Florian Sicks (Berlin Tierpark) for their support to include the sun bears under their care into the study and the bear keepers of both zoos for their assistance during the tests.

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“Whack-A-Mole” to Preserve an (Almost) Entirely Wild Black Bear Population

Many national parks have long histories of human-bear conflict (HBC), some historically self-inflicted by promoting viewing of garbage-feeding bears (Schullery 1992, Mazur 2015). On the other end of the spectrum, the rugged 275,530 ha North Cascades National Park in north-central Washington, home to American black bears (*Ursus americanus*) and possibly some remnant grizzly bears (*U. arctos*), has very few developments or roads. HBC was common in the first 20 years after the park’s creation in 1968, reaching a high of 47 incidents in 1975 and a high of 12 black bears relocated/destroyed in 1980 (unpublished park records). Many were associated with solid waste receptacles, yet early recommendations by the park wildlife biologist to install bear-resistant containers (BRCs) were unsuccessful.

Efforts to improve the situation finally gained traction in the early 1990s, spurred by designation of the range as a grizzly bear recovery area (Servheen et al. 1991). Backcountry camps were redesigned to separate food preparation/storage areas from tent pads, and visitor education improved. Installation of food storage lockers (“bear boxes”) in road-accessible campgrounds and some backcountry camps continues, and in 1995 a bear-resistant canister loan program was begun. Installation of effective BRCs is approaching completion. Funding for most of these efforts was justified on the basis of preventing HBC with grizzly bears, but with grizzly restoration efforts on hold, black bears are the sole beneficiary.

A marked reduction in HBC had the unintended consequence of fostering a high level of complacency on the part of both recreationists and managers. The need for better camp design was questioned, and some staff along with the climbing community chafed at the requirement to carry canisters in treeless areas despite the common presence of black bears.

In 2015 a draft Environmental Impact Statement/Grizzly Bear Restoration Plan (EIS) was begun for the North Cascades recovery area. This brought resistance from some in the recreational community who, along with a simple fear of grizzly bears, did not want to change ingrained camping practices, e.g. improperly storing attractants. Conversely, the already growing hiker canister program became untenably popular, as visitors with heightened bear-awareness routinely borrowed all of the park’s canisters. That the EIS has undergone periods of hiatus during the past few years may make it more difficult to foster a continued and heightened concern for preventing HBC with both species. This is a challenge that continues to intensify. If grizzly bear restoration efforts do not occur in the US portion of the international ecosystem, the risk of complacency could grow. An indication of this was demonstrated in 2019, when approximately 3 backcountry bears displayed food conditioned behaviors.

The potential keeps growing. There has been a steady increase in visitor use over the past several years. Backpackers required to obtain a permit to camp receive wildlife education, but day hikers do not pass through any park entry gate and tend not to visit ranger stations. The book and movie “Wild” greatly increased the number of hikers on the Pacific Crest Trail (PCT), and with climate change a new pattern has emerged of hikers beginning the 4,270 km trail from the north rather than the south. This has brought unprecedented numbers of hikers through the park at a time of year when many black bears are using the low-elevation trail corridor. The PCT has long been the most problematic area in the park for HBC; 2 of the food conditioned bears last July obtained anthropogenic...
food along this trail. PCT hikers sleep with or otherwise
do not securely store their attractants. The trail is within
designated Wilderness, where installations such as bear
boxes are typically discouraged. This begs the question:
allow hikers to break the food-storage law, endangering
themselves and bears, or install bear boxes to reduce/
prevent HBC? Our response was the latter. Installation was
timely: within 3 weeks a bear had unsuccessfully tampered
with at least one of the lockers - an 11th-hour win.

Temporary camp closures have long been used successfully
to discourage food-conditioned bears in the backcountry.
Once a bear is not detected after 2-3 weeks, the camp is
reopened. This technique is taking a beating now because
of the burgeoning numbers of backpackers, as each camp
fills up most nights: campers are displaced sometimes
many kilometers, which places pressure on the park to
reopen camps.

The response we need now to keep the black bear
population wild is to ramp up education in the field by
increased ranger patrols. But funds for rangers have
dried up, so while campers receive initial education when
obtaining backcountry permits, there is no one in the
field to ensure compliance. We are exploring potential
methods for working with mildly food-conditioned bears,
such as bringing in one of the state’s Karelian Bear Dog
teams for limited stays at some camps. But these teams
can’t replace full-time rangers, as stays would be short
and bears obtaining anthropogenic food along trails may
not present themselves in camps for aversive conditioning.
Restoration of grizzly bears to the North Cascades requires
long-term funding to continue our proactive efforts to
reduce HBC. Regardless, our mandate to protect a wild
black bear population remains. We will continue “front-
end” education, provide effective waste receptacles and
the means for effective attractant storage, and are working
on strategies to increase bear-awareness.

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Photos credit: A. Braaten

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The Ones We Never Forget

Black bear (*Ursus americanus*) Y27 was first captured as a 4-year-old female in 2004. She was the one hundred and nineteenth bear caught as part of Nevada’s extensive mark-recapture study for monitoring demographics of a population re-establishing itself in the state. Her home range included the west side of Carson City, Nevada, where she occupied the urban/wildland interface. Sightings of her included being up a tree or killing a fawn in a backyard to feed her cubs. As urban bears go, she was habituated but not overly food-conditioned.

I met her in September 2015 when she was hit by a truck crossing the interstate highway that cut through her home range. Too dark to assess her condition, I made the decision to sedate her and her 2 current cubs for evaluation the following day. Despite a good knock upside her head and some road rash, she seemed to be ok. We held them for 36 hours, then released them in their known home range. Exiting the trap with not even a limp, she ran up a nearby hillside and stopped, waiting patiently for her cubs to garner the confidence to join her.

One early morning in October 2019 I was called about a bear wandering in downtown Carson City, Nevada. With children getting ready to go to school, the sheriffs were requesting a response. Upon my arrival, I found the bear walking down the street looking disoriented, its mouth agape and discharge coming out of its nose. As I prepared my dart gun the sheriff commented to me, “It’s been walking around this house over and over again. Just step into the yard and wait for it.” I positioned myself behind a tree and sure enough the bear came walking around the house enabling me to easily land a dart in its shoulder.

As the bear succumbed to the immobilization, I was joined by a colleague and we began the task of identifying it from its PIT tag and confirmed that it was Y27. Her breathing was audibly compromised and 3 times higher than it should have been, her temperature was 40°C despite an ambient temperature approx. 0°C and her heart rate was doubled. Along with poor vitals, her left eye was the size of a pea and the left side of her skull looked collapsed. At 19 years old, her prognosis was poor.

We loaded her up into the back of a state truck and drove her to the nearest culvert trap. I reached out to our wildlife veterinarian to explain the situation and let them know I would be on my way with this bear, most likely for euthanasia. The vet commented that, given her condition, the sedation may do it for us. Sure enough, when we opened the back of the truck, Y27 was still. “I bet this is the bear that was hit by a car up on Spooner Summit last night,” my colleague commented. Spooner Summit being approx. 20 kilometers up above Carson City.

Shortly after, with a wildlife health technician, we began her necropsy. Radiographs revealed no broken bones. Her lungs and heart showed signs of shock, but no trauma was evident on her body. Her kidneys were alarmingly poor, but her fat content was excellent. What we thought was a collapsed skull turned out to be a complete lack of musculature on the left side next to normal muscles on the right. A state veterinarian that visited the necropsy commented to us, “That atrophy can be caused by a brain tumor. It’ll be interesting when you open her skull.”

We documented the abnormal findings as we went then came to the final aspect of the necropsy, opening her skull to access her brain. Upon removing her brain, sure enough, there was the tumor nestled into the bottom left corner of her skull. After working the tumor out we were able to see that it had been eating away at the skull.

Calling my colleague with the findings, he told me that he had contacted the highway patrolman that dealt with the bear up on Spooner Summit. Turns out that the report was not for a bear hit by a car, but rather a bear doing circles next to the highway. That confirmed that Y27 had walked overnight, possibly in circles, the 16-24 kilometers down a mountain to Carson City.
Preliminary results of her pathology from Oregon State University showed a neoplasm tumor associated with a ganglion that damaged associated brainstem tissue as well as affecting her facial muscle. She also was suffering extensive gliosis on her brainstem affecting her central nervous system. While I am no veterinarian, I feel that this explains most of what we saw that morning and I often wonder if it isn’t directly related to being hit by that truck 4 years earlier.

As bear managers, we develop a history with the animals we are the stewards of. While we are charged with managing populations, let us never lose respect for the individuals that have taught us so much and made us experts in our field.

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Priorities for Ex Situ Sun Bear Research

The Malayan sun bear (*Helarctos malayanus*), whose range is almost exclusively within the tropics — where threats of habitat loss and poaching are greatest and most rapidly increasing — may be the least studied bear species, as well as one of the most threatened. Sun bears are listed as Vulnerable on the IUCN Red List (Scotson et al. 2017). They are among the most difficult species to study in the wild due to their large individual ranges, low population densities, elusive behaviour, extremely diverse diet, and challenging field conditions. Reliable methods to monitor sun bear population trends are essential to assess the effects of threats, or of conservation actions designed to reduce threats. At present, monitoring of sun bear populations is almost nonexistent and sun bear conservation is, by necessity, based on sparse data and incomplete knowledge. Research of both in situ and ex situ sun bears is required in order to advance scientific knowledge and improve conservation effectiveness.

Recognizing the urgent need for conservation-focused research on this species, a 10-year conservation action plan for sun bears was launched in June 2019 as a collaboration between Free the Bears, TRAFFIC Southeast Asia, the IUCN Species Survival Commission (SSC) Bear Specialist Group, and the IUCN SSC Conservation Planning Specialist Group (Crudge et al. 2019).

Sun bears are kept in ex situ facilities such as zoos, recognised sanctuaries, wildlife rescue centres, or similar facilities in their natural range states as well as in zoos around the world. These animals make up a significant population of at least 350 individuals, many of which are wild-born. Due to the relative ease of access and controllable environments, captive facilities offer a valuable resource for ex situ research that is capable of benefitting in situ conservation of sun bears.

One of the priority goals identified in the action plan for the long-term survival of sun bears is to maximise the contribution of ex situ sun bear populations to conservation. In order to achieve this goal, it is necessary to improve the quality and quantity of conservation-directed research conducted using ex situ sun bears. However, a coordinated effort is required in order to ensure the efficient use of limited resources and maximise the potential conservation value of ex situ research efforts on this species.

In 2019 an online survey was developed, asking ex situ facilities housing sun bears, researchers, conservationists, as well as in situ and ex situ bear specialists, to propose potential conservation-related research questions and to define priority research activities for the conservation of sun bears. The online survey revealed ~80 potential research questions from 50 survey participants. Subsequently, a workshop was held, which aimed to identify, assess the feasibility of, and define criteria with which to prioritize conservation-directed research needs. A total of 23 potential research questions have been selected and a comprehensive database has been developed, providing details on methods and study design for each topic. The results of the survey, the consultation workshop, and feedback from the sun bear community, as well as a literature review, were used to create a prospectus of priority ex situ research topics that would benefit in situ sun bear conservation efforts (Schneider et al. 2020).

The document provides focus and direction to ensure that ex situ sun bear research activities are effectively and efficiently aimed toward improved conservation of this species. The prospectus is divided according to the research themes: Field Techniques, Behavior, Physiology and Metabolism, Nutrition, Veterinary Health and Disease, Genetics, and Forensics. Each project contains a synopsis, describing the rationale, objective, methods and expected conservation outcome. Since many of the field techniques used for other bear species have shown limited success with sun bears (e.g., they are difficult to radio-collar and
no reliable technique has been developed to trap their short hair for DNA-based population estimates), it is not surprising, that many proposed projects are directed at the improvement of field techniques, including but not limited to the development of standardised remote sampling techniques. Others focus on potential effects of less diverse diets in the wild, or on combating wildlife trade based on scientific evidence.

The prospectus is directed at anyone who would like to contribute to sun bear conservation by ex situ research, aiming to build a formal network of academic institutions and captive care facilities collaborating on applied research programmes to improve effectiveness, reduce unnecessary duplication, and address agreed-upon priorities in a coordinated manner. The document is available to download from the Free the Bears website and here: https://bit.ly/ExSituSunBearResearchProspectus.

It is envisaged that this prospectus will be updated on a regular basis as research questions are addressed and new methodologies emerge. As such, new research suggestions are being accepted on an ongoing basis and will be reviewed periodically. People and organisations carrying out research projects on sun bears are encouraged to notify and communicate their progress in order to better coordinate ongoing projects and combine efforts. Any new projects or major achievements, as well as research ideas that benefit sun bear conservation, can be sent to the Ex Situ Management Focal Point of the Sun Bear Action Plan Implementation Task Force (Marion Schneider: mfschneider@gmx.de).

During the development of the prospectus, pilot projects have already been initiated and it is our hope that this research prospectus will serve to draw further interest to conservation-directed ex situ sun bear research and will contribute to a global effort aimed at reversing the decline of this imperiled species.

We would like to thank all those who participated in the prioritization process by providing their valuable input. Many thanks to Ouwehands Zoo Foundation, Netherlands, for funding this project, and Burgers’ Zoo, Netherlands, and Constanze Mager in particular, for hosting a consultation workshop.

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Researchers examining bear sign in a forested enclosure at Free the Bears Vietnam Bear Sanctuary. Photo credit: Free the Bears

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27th International Conference on Bear Research and Management

May 16–21, 2021
Kalispell, Montana, USA

The IBA conference committee has decided to go ahead and resume conference planning for 16–21 May 2021. If you have already reserved your room with the conference hotel, your reservation will be transferred to the new conference dates. Over the next few weeks, the timeline will be updated with new deadlines for registration to coincide with the new conference dates. Please watch your email for updates and check both the IBA and the Kalispell conference websites. Decisions regarding the acceptance of poster or oral presentation made earlier are final and are not affected by the postponement. If you have specific questions regarding your registration or hotel reservation, please contact Lori Roberts, IBA Kalispell Conference Organizer.

The May 2021 dates are being planned with the contingency that if COVID-19 causes significant challenges again this coming fall or winter, a virtual conference format will be implemented as an alternative. Conference planning will go forward with specific check-in dates to assess the COVID-19 situation as we get closer to the conference to decide if we need to switch to a virtual conference format. The first of those check-in dates will be this coming fall, the last will be in early 2021. We will keep you informed of our planning and decisions.

Visit IBA's YouTube Channel to watch some of our members give a preview of the research they will present during the conference.

If you need an invitation letter for the conference for your VISA application, please contact Jennapher Teunissen van Manen.

Human-Bear Conflict Conference

October 4–7, 2021
Lake Tahoe, Nevada, USA

Save the Date! The next Human-Bear Conflict (HBC) Conference will be October 4-7, 2021 at Harrah’s Resort, Lake Tahoe, Nevada. The conference will be hosted by the Nevada Department of Wildlife. More information will be posted at a later date.

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3rd International Sun Bear Symposium

March, 23–24, 2021
Hanoi, Vietnam

Animals Asia is pleased to announce that the Third International Symposium on Sun Bear Conservation and Management will be held from 23–24 March 2021, in Hanoi, Vietnam. Broad themes for the symposium are:

1. Captive management, welfare, and reintroduction;
2. Trade and demand reduction;

The symposium will bring together field researchers, conservation managers, bear welfare experts, and environmental educators, as well as government and industry representatives to provide a platform for networking, collaboration, and coordination of projects.

The symposium will provide simultaneous interpretation from English to Vietnamese, and Vietnamese to English.

Following the symposium, a 1-day sun bear conservation workshop will be held on 26 March 2021. The primary objective of the workshop will be a red-listing assessment of the status of sun bears in Vietnam, with a subsequent goal of the development of a Vietnam-specific conservation action plan. Note: due to limited availability, participation in the workshop will be by invitation only. Only those who attend the symposium will be eligible to attend the workshop.

For interested parties, there will be a 1-day trip to visit Animals Asia’s Vietnam Bear Rescue Centre on 25 March 2021.

Further details including registration opening and calls for abstracts will be available in July 2020, at http://www.sunbearsymposium2021.org. If you would like to be notified when further details are available, please send an email to coordinator@sunbearsymposium2021.org

Heidi Quine
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25th Eastern Black Bear Workshop

April 26–28, 2022
Tomahawk, Wisconsin

The Wisconsin Department of Natural Resources is proud to host the 25th Eastern Black Bear Workshop, in Tomahawk Wisconsin: www.uwsp.edu/cnr-ap/treehaven/. Due to extended travel and budgetary concerns related to the Covid-19 pandemic, the Eastern Black Bear Workshop is being postponed until April 26–28, 2022.

The purpose of the Eastern Black Bear Workshop (EBBW) is to bring together state/provincial biologists, federal biologists, and university researchers with responsibilities for managing black bear populations in the eastern USA and Canada to discuss issues 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.

Visit www.easternblackbearworkshop.org later in 2021 for more information on lodging, registration, agenda items, and poster submissions. Contact: Matt Gross: matthew.gross@wisconsin.gov or 608-261-7588.
Student Forum

- 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.

Listserv Signup Instructions
Visit: [https://www.bearbiology.org/membership/students/](https://www.bearbiology.org/membership/students/)
Follow the links to request invitation.
If you are a new member, please submit a paragraph about your project ad include your contact information so we can all get to know you.

Facebook Signup Instructions
Visit: [https://facebook.com/groups/IBA.Conference](https://facebook.com/groups/IBA.Conference)
REFERENCE LIST


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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 550+ members from over 60 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. Many of the conference papers 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 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. Support sound stewardship of the 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 setting of conferences, active recruitment of international members and officers, and through financial support for international research, travel to meetings, member ships, 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.
Map of Machiara Park with study grids for occupancy survey based on presence of bear sign.

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Trend of Trento brown bear population (excluding cubs) since the institution of genetic monitoring, 2002–2019, which since 2015 has been carried out in combination with systematic camera trapping. The population has grown steadily since the reintroduction of 10 bears in 1999–2002, bolstering the remnant population of 3 or 4 bears. Ne is the effective population size, which is calculated as the sum of reproductive males plus reproductive females, divided by two (litter interval).
Extent of occupancy of male and female brown bears in Trentino population, northern Italy, during 2019 (province of Trento shown in black). Females occurred entirely within western Trentino, whereas young males ranged well beyond, into Switzerland (west) and Austria (north).

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Map of northeastern India showing the approximate range of Asiatic black bears (Choudhury 2013a) and the site of the recent killing.

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Location of the study area.

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Location where the mountain tapir carcass was found.

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