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International Bear News

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

February 2007 Vol. 16 no. 1



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Polar Bears Feeling the Heat, page 19

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Cover photo courtesy of Susanne Miller

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Editorial Policy

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

Deadline for the May 2007 is April 5, 2007

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

Membership

Use the form on page 35 to order or renew memberships, make donations, and/or update member information.

From the President

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Bear Conservation Challenges

In early January at my home in Alaska, the hours of daylight have already increased by 40 minutes since the solstice. The sky is clear and even though the sun is still low on the horizon, in one's mind, it seems warmer along the frozen river despite last night's temperatures that hovered near -40. Winter is more than half spent. In bear dens, new-born cubs are squirming to reach mother's milk. It is a time of renewal in a bear's life - of unrealized potential for future generations of bears. However, human populations and abuse of the environment are increasing even as global warming is resulting in threats to the bear habitat that are obvious and others that will emerge. Not only is the security of bear dens increasingly at risk, but the habitat necessary to provide for the livelihood of bears is shrinking. Our challenge is to devise effective science-based conservation strategies to provide for both the human and natural world. Every IBA member should be a part of this effort. Members conduct bear research from the arctic to Latin America, delineate bear distribution in Asia to provide focus for conservation efforts, educate visitors to the world's zoos about the plight of wild bears, and increase involvement of local people in conserving bear populations from the northern steppes to the old-growth forests of Indonesia. We are all in this together.

Homer's Bear Conservation Fund

If bear populations are to coexist with humans for generations to

come, development of science-based strategies for their conservation is absolutely necessary. Unfortunately, funding needs for effective conservation are far in excess of funding availability in most regions of the world. Fortunately for bears, a few far-seeing individuals have recognized and helped to address this need.

The Homer's Bear Conservation Fund was established by a donor dedicated to the future of wild bear populations in those areas of the world where bears and their habitat are facing serious threats. The endowment is designed to grow over time, enabling it to become a driving force for the benefit of bear conservation, now and far into the future. Other donors are invited to help this endowment grow. It will be part of IBA's Bear Conservation Fund and submission of proposals should follow the IBA Research and Conservation Grant Program guidelines and deadlines. The primary emphasis is to support bear conservation proposals outside of the USA, Canada and Japan where funding sources and infrastructures are more available than in other countries. All applications for grants will still go through the evaluation and rating process of the IBA Research and Conservation Grant Committee.

Polar Bears Declared Threatened

On 27 December 2006, the US Department of Interior designated polar bears as a Threatened Species under the US Endangered Species Act, following similar concern by the IUCN and its reclassification of polar bears from "species of less concern" to "vulnerable." This is in recognition of the effects that patterns of receding polar ice pack, later seasonal formation of near-shore ice, and reduced thickness of ice will have on polar bear populations. All these factors are related to global warming and affect the ability of polar bears to hunt for the ice seals that constitute

their primary prey. With reduced food availability, polar bear numbers are predicted to decline substantially (Page 20), this issue; for more information review Steve Amstrup's excellent article in *International Bear News* 15(4):8-11; and the Polar Bear Specialist Group's website <http://pbsg.npolar.no/>).

IBA Memberships for Specialist Groups

Although many members of the Bear Specialist Group (BSG) and Polar Bear Specialist Group (PBSG) are also members of IBA, for those residing in some regions, even the cost of an IBA membership at a reduced rate is prohibitive. Many of the most at-risk bear populations are also present in these same regions. Because communication among specialists is so important in developing conservation programs, the IBA Council recently voted to provide specialist group members with complementary IBA memberships. Those with complementary memberships will be provided only electronic copies of *International Bear News*, but not subscription to IBA's professional journal, *Ursus*. This condition was necessary to keep IBA publication and mailing expenditures in check and to enable the association to continue its present level of services and grants. The journal will still be available to all dues-paying members, and complementary copies of *Ursus* will be available for those applicants who meet certain criteria.

IBA members have often provided gift memberships to those who were unable to pay dues. This remains a worthwhile gift since there are still bear conservationists who would benefit from membership but do not belong to a specialist group.

Upcoming IBA Conferences

The 18th International Conference on Bear Research and Management will be held in Monterrey, Mexico

during 4-10 November, 2007 (see page 31.) This meeting promises to continue in the trend of the outstanding IBA meetings in Japan and Italy with associated activities that will prove beneficial to any bear conservationist. The meeting will be held in a beautiful setting and is within sight of bear habitat shared by humans. Count on attending!

The 19th Conference will be held in the ancient city of Tbilisi, Georgia, during October, 2009. The NACRES Foundation will be the primary organizer, with support from government, academic, and private institutions. Look for more information in future issues of this newsletter.

Host a Conference?

Hosting an IBA conference brings international attention to the conservation of bears in the area in which the meeting is held. During any 3-year period, an IBA conference is scheduled to be held in Eurasia and in the Americas. There is also an opportunity to host an IBA conference during the remaining year, but such "off-year" conferences are not limited to world region. IBA Council does not usually solicit bids for hosting conferences but relies on contact from interested parties. Experience has shown that it takes organizing committees at least three years to prepare the event and that the best conferences have the support of government agencies, NGOs, academic institutions and local organizations. Anyone considering hosting a conference should review the IBA Conference Guidelines, available from Michael Vaughan (mvaughan@vt.edu), and let the Council know of your interest. Most groups bidding on hosting a conference prepare a presentation on their bid to Council at a conference at least three years prior to the intended meeting. The next available time slot is for 2010; Council has received one bid, but will entertain others.

Zoo Professionals and IBA

Zoo professionals play a very important role in the IBA. While they actively pursue research, education, and conservation on bears in the wild, they also address questions that lead to greater understanding of bear biology that can only be addressed in captive situations. Even more important, they have a far better opportunity to educate the public about the position that bears hold as a keystone species within wild habitats to maintain biodiversity. Any habitat that can support bears is likely to sustain a more intact ecosystem. Every year many IBA members make hundreds if not thousands of presentations to the public on bear conservation topics. In contrast, hundreds of millions of people across the world visit zoos annually to learn about wildlife biology and conservation challenges. The more the support by the public for bear conservation, the more likely it is that governments will respond to conservation needs. Increased collaboration and inter exchange between zoo professionals and the IBA has the potential to provide great future benefits for bears. Let's work together to make this happen.

IBA Elections

Elections will be held for IBA Council prior to the conference in Mexico. These will include 8 positions: president, vice president-Americas, secretary, treasurer, and 4 councilor positions. These are working positions and not honorifics—all require a substantial commitment of time and effort. Council members are strictly volunteers and do not receive any remuneration; nor do they receive support or consideration to attend conferences different from any IBA member. Their role is to represent members in their support of the IBA goals of achieving conservation and restoration of the world's bears. A nominations committee has been

appointed to search for enthusiastic members who will be effective in performing on your behalf. Candidates will be listed in the May newsletter. In addition, any member may nominate themselves or another member. Ballots will be provided and must be returned by the beginning of the conference in Mexico.

Gobi Bear Children's Club

After I attended IBA's conference in Japan, I traveled on to Mongolia to work with colleagues on conservation programs for the Gobi bear (*Ursus arctos isabellinus*) or mazaalai as it is known in that country. These bears are isolated and critically endangered on a regional basis at the northern extent of their range. Only 20-50 still exist. It is remarkable that the bear is valued by the people of Mongolia as a national treasure for its toughness and persistence in that rugged and harsh environment.

On our return from the field we stopped at the small village of Bayanundor, on the edge of the desert. I learned that children at the local grammar school had formed the Gobi Bear Children's Club. Though our arrival was after school hours, the leader of the club, the club's advisor, and the school's English teacher met with our research team. The club is composed entirely of school children aged 9 to 14. It was formed to support conservation and enhancement of Gobi bears and other wildlife that roam the desert. My heart beat a little faster and my view of the future lightened when confronted with the enthusiasm of the students and teachers. They had prepared a wildlife information center in the school, with a flag proudly displayed that featured a Gobi bear. The impetus for forming the club had been a single presentation at the school by a member of the Gobi Bear Team. Also displayed were 2 posters prepared by the Conservation of the Great Gobi Ecosystem and Its Umbrella Species Project, a coordinated UNDP and Mongolian Ministry of Nature and Environment

program. Pictures and drawings of bears and other wildlife graced the walls of the room. The club leader shyly announced that she intends to attend university so that she can become a conservation biologist and that other children were interested in pursuing similar goals. We discussed what resources the club could use and learned that the children would like to have books written in English on bears and other wildlife. Since then, I have arranged for a school class in Fairbanks to make contact with the Gobi Bear Children's Club, exchange letters, and send books. Certainly, this could develop into a program that could be coordinated through an IBA volunteer, not just for Mongolia, but for other schools across the world. Any volunteers?

IBA President Awarded Mongolian Presidential Friendship Medal

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Harry Reynolds was awarded the Friendship Medal by Mongolian President Nambaryn Enkhbayr on November 2, 2006. This medal is the

highest governmental award given to foreigners working in Mongolia and is for outstanding achievements in their related fields to promote the country's development. The first Friendship Medal was given to former Russian Communist leader Brezhnev. This award was in recognition for significant contributions to the conservation of the rare and Critically Endangered (on a regional basis) mazaalai or Gobi bear. The award ceremony was held in the Presidential Hall of the Mongolian Government House.

Since 2004, Harry Reynolds has helped to establish the Gobi Bear Team to conduct research and provide scientific input necessary for developing strategies to reverse the decline of the 20-50 mazaalai that remain in the Gobi desert. The team is composed of researchers and conservationists from the UNDP/GEF Great Gobi Project, Mongolian Ministry of Nature and Environment (MNE), Mongolian Academy of Sciences (MAS), Great Gobi Strictly Protected Area, Beringia South, a Wyoming research institute, and photographer Jenny E. Ross. The project is successfully working with the UNDP/GEF funded and Ministry of Nature and Environment of Mongolia executed "Conservation of the Great Gobi Ecosystem and Its Umbrella Species Project" to achieve its goals. The study was

initiated through an IBA Research and Conservation Grant that provided remote cameras to estimate minimum population size of Gobi bears.

The award was given for efforts to increase knowledge on Gobi bear population structure, taxonomy and conservation. Members of the Gobi Bear Team made three presentations and one poster for the 17th IBA Conference in Japan to share outcomes of Gobi bear population structure, taxonomy and conservation with the international community. This team also worked on mapping bear habitat together with the IUCN Bear Working Group and discussed extending cooperation on bear research and conservation in Asia.

All this work was completed in partnership with International Bear Association. The Mongolian Government recognition appreciates not only Harry Reynolds' effort, knowledge and leadership on Gobi bear research and conservation but also the teams work. It also demonstrates the Government is concerned about biodiversity conservation in Mongolia. As Harry said to the Mongolian nation on TV and other media during this ceremony, "This is recognition not of my activities, but of the Mongolian team and others who worked with me. It is a product of IBA's efforts toward the conservation of this unique animal."



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Radiocollared Gobi Bear Mongolia

Research & Conservation Grants

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Twenty-six proposals were submitted for consideration in the 2006 – 2007 review. Applicants

were advised of missing references on January 9. As of January 12, some applications were still incomplete or possibly inactive; thus a few may be withdrawn from the final group. At present the group focuses on species and regions as follows:

- American Black Bear (4) U.S. (AZ, CA, GA, TN-NC);
- Asian Black Bear (4) China, Nepal, Thailand (2);
- Brown Bear (6) Georgia, Greece, Mongolia, Romania, Russia (2);
- Sloth Bear (1) India;
- Spectacled Bear (3) Ecuador (2),

Venezuela;

- Sun Bear (3) China, Indonesia, Zoo;
- Multi-species (5) Cambodia, Canada, India, U.S. (AK, WY).

Several of the proposals this year involve the development or testing of techniques that have the potential for significant benefit to bear research and conservation across species and regions.

The committee will start work reviewing the applications very soon. All applicants will be notified of the outcome as soon as possible.

17th IBA Conference

17th IBA Conference: a Huge Success

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The 17th IBA conference was held in Nagano, Japan from October 2-6, 2006 and was a great success. We had 348 participants from 37 countries. Particularly noteworthy, and largely due to this being the first IBA conference in Asia, was the large number of participants from Asian countries (Georgia, Afghanistan, Turkey, Pakistan, India, Sri Lanka, Bangladesh, Myanmar, Malaysia, Indonesia, Cambodia, Thailand, Vietnam, Taiwan, South Korea, Mongolia, China, Japan and Russia). We are also delighted to report that 74 students from around the world participated.

There were 38 papers and 98 posters presented over the 5 day conference. There were also several special sessions to encourage research

and conservation activities in Asia; an opening session (D. Paetkau, R. Steinmetz, M. Hwang and T. Mano), a closing Keynote (J. Swenson, D. Garshelis and K. Yamazaki), and four workshops focused on Asian bears. On October 7, following the conference a special working meeting of the Bear Specialist Group, focused on mapping bear distribution in Asia, was held at a nearby conference venue.

The conference was a milestone for bear conservation in Asian. Extensive television, radio and newspaper coverage enabled news of the conference and the IBA's work to get to individuals concerned about bears as well as promote bear conservation and management issues among the public.

Awards

After careful consideration by the awards committee several awards were given as follow:

- **Best Oral Presentation:** T. Tuya, L. Waits, H. Reynolds, D.J. Craighead, L. Amgakan and B. Mijiddorji. Genetic analysis of the taxonomic status of the Gobi bear.

- **Best Student Oral Presentation:** Eva Bellemain, Muhammad Ali Nawaz,

Alice Valentini, Jon E. Swenson and Pierre Taberlet. Genetic tracking of the brown bear in northern Pakistan and implications for conservation.

- **Best Poster Presentation:** Atushi Takayanagi. How do Asian black bear (*Ursus thibetanus*) select trees to attack?

- **Best Student Poster Presentation:** Liu Fang, Zhu Xiaojian, Wang Dajun, Gong Ji'en, David Garshelis and William McShea. Mapping and monitoring populations of Asiatic black bears in Sichuan, China.

- **Practical Application:** Junpei Tanaka, Hiroshi Higuchi and Carrie L. Hunt. Trials using Karelian bear dogs to release and chase Asiatic black bears in Karuizawa, Nagano

Congratulations to all and we hope to see your papers in our journal "Ursus" soon!

Asian Bears Special Workshop "Understanding Asian Bears to Secure Their Future"

Session Chairs:
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This workshop aimed to share knowledge on the conservation status of bears in Asia, and to encourage research and conservation activities there. Eighteen researchers from 17 Asian countries/regions were invited as speakers for the workshop. Presentations provided a clear picture of the diversity of natural environments inhabited by Asian bears, and included new information on, for example, the status of bears in Bangladesh and Myanmar. Although countries may differ in specific challenges it was also evident from the presentations that bears throughout Asia face similar overall conservation challenges and participants learned much from each other.

In 14 countries/regions the legal (but excessive) or illegal hunting of bears, driven largely by the lucrative

trade in bear parts, is considered a most serious threat to bear populations. Demand for dancing bears as well as human-bear conflict are also identified as driving hunting. In 15 countries/regions, habitat destruction from commercial logging, harvest of non-timber forest products, development projects (i.e. dams) and forest fires have also been identified as serious threats. Bear populations on the Korean peninsula and in Mongolia were identified as the most at threat. While human expansion into bear habitat is a large problem in most of Asia it is the shrinkage of human activities and the expansion of bear distribution that appear to lead to human-bear conflict in Japan.

For further detail on conservation and status of Asian bears see the report, "Understanding Asian Bears to Secure Their Future", published during the conference (see page:29 for details).

Populations

Session Chairs:
Katherine Kendall
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John Paczkowski
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Patrick Skinner, of the United Kingdom, presented an interesting theoretical look at how the biology, ecology and ethnology of bears impacted the Pleistocene/Holocene European and Japanese hunter gatherer societies. The implications of this research indicate that understanding the relationship between bears and past hunter gatherer societies should be incorporated into archeological studies.

Katherine Kendall, of the USA, presented a summary of her work, conducted between 1998 and 2000, on the grizzly bear population density in Glacier National Park Montana. Kate presented that 10,816 and 8,964 samples were collected by these two methods respectively. Results of genetic analysis indicated bear density was highest within Glacier National Park and lower outside the protected area and provide baseline information important for managing bears in the contiguous United States.

Mike Gibeau of Canada presented a sobering review of the efficiency of hair snag sites in Canadian National Parks. The study was designed to determine if bears were displaying aversion to hair snag stations based on previous exposure to electrified fences and to test the efficiency of hair snag sites to actually capture hair. Data was recorded around hair snag stations using three digital video cameras. Mike indicated that a significant proportion of grizzly and black bears at hair snag sites were avoiding the wire and that 63% of bears within 1 km of a hair snag site were leaving hair.

Yoshikazu Sato, of Japan, gave an interesting review of the tolerance of the Urahoro brown bear population to intensive harvest, asking whether



Opening the 17th IBA Conference

17th IBA Conference

this is a source or sink population. Dr. Sato concluded with the sobering conclusion that the Urahoro population is a population sink and under the current intensive harvest, resident females will be exterminated from the region in the near future

John Paczkowski, of Canada, presented a review of bear human conflicts in Kamchatka Russia, between 1981 and 2004. 345 records of conflicts were analyzed including 19 bear caused human mortalities. Since the fall of communism, the nature and frequency of recorded conflicts has changed dramatically due to social, political and agricultural changes. The monitoring of conflicts is being continued as a means of reducing conflicts in the future.

Frank Van Manen, of the USA, finished the session with an interesting presentation on detecting population structure among American black bears. The study compared genetic structure to underlying landscape features, investigating hierarchical levels of genetic structure measured withing small study areas.. His results indicated that black bear population organization could be detected at a relatively low hierarchical level, which provides a powerful means of measuring responses of bear populations to landscape changes.

Habitat Model

Session Chairs:

Djuuro Huber

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Harendra Singh Bargali

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Djuuro Huber and Josip Kusak presented results from their study using satellite telemetry to track seven brown bears since 2003 in Croatia. A total of 6253 locations were mapped and analyzed in GIS. Results clearly showed that bears preferred the forested habitat and strongly avoided human presence.

Leonid Baskin provided an interesting presentation mapping

the historical extent of the southern forest edge in European Russia and the distribution of brown bears. A retreat of the southern forest edge, largely due to human use, ceased by the 1960's and human population declines since this time have led to some re-expansion of shrub/forest area around the edge. Results indicated that although brown bears have expanded their range into these areas densities further north remain quite low.

Natsuko Fukuda used different tools to analyze the human land use change in the habitat of Asiatic black bears in the Tanzawa region in Japan over the past 70 years. Her results showed that although total forest area (as potential habitat) increased from 1935 to 1995, the area of deciduous trees declined, road density increased, and hunting of bears appear to be keeping bear populations very small.

Michael Proctor presented data from a study utilizing genetic analysis (DNA from hair follicles) and satellite telemetry to identify linkage zones in a small, fragmented and threatened population of brown bears on the Canadian-U.S. border. Results helped to reveal corridors utilized by bears and demonstrate the utility of using these techniques together.

Ecology and Behavior

Session chairs:

Mei-Hsiu Hwang

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Robert Steinmetz

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The Ecology and Behavior session included four presentations on feeding ecology, habitat use and management of Asiatic black bears in Japan, and diet of brown bears in China.

Bungo Kanazawa with co-authors K. Yamasaki and H. Kusakari presented details on home range, habitat use, hibernation and den sites of Asiatic black bear in the Tsurugi Mountains, Shikoku of Japan. Radio-tracking 1 female and 2 male bears indicated that bears inhabited forests of 840-1,700 m in elevation and males

had larger home ranges than females.

Aichun Xu from China presented part of his dissertation study on the ecology of brown bears and snow leopards in the Kekexili of Qinghai-Tibetan plateau. He concluded that brown bears were more carnivorous than vegetarian, and they could either hunt prey actively or scavenge.

Rumiko Nakashita presented a study examining the value of carbon and nitrogen isotopes in hair roots and tips to explore feeding history of Asiatic black bears in Japan. Carbon and nitrogen isotopes in the hair of alpine bears with no access to human foods such as garbage or corn were lower than in rural or nuisance bears.

Hirro Tamatani presented results of a study examining the relationship between feeding habits and movement of Asiatic black bears in Karuizawa, Japan. They reported that availability of natural foods, mainly high-quality nuts, in autumn greatly influenced bear movement, whereas human-related foods became one crucial factor which could ultimately influence bear activity and movement in spring and summer.

Ethology and Physiology in Bears

Session Chairs:

Toshio Tsubota

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Brij Kishor Gupta

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This session began with a presentation by Yang et al. on monitoring of reproductive status and changes in social behavior in captive Formosan black bears at the Taipei zoo, Taiwan. He noted that the duration of breeding season and gestation period is longer in low latitudes such as Taiwan than that in high latitudes such as Japan. Analysis of fecal sex steroid (progesterone) concentrations was conducted but results did not detect a definitive change in progesterone concentrations associated with reproductive cycle.

However, increases in behavioral interactions associated with mating between male and female bears were observed.

Okano et al. presented their work using sex steroid concentrations and ovary morphology to test whether female Japanese black bears are induced ovulators. This study looked at female bears housed with males during breeding season, bears housed separately but allowed contact with males through cage bars, and bears with no male interaction during the breeding season. Results support the previous hypothesis that female bears are induced ovulators.

The final presentation by Gupta et al. focused on their study examining enclosure design for Asiatic black bears and sloth bears housed in various captive facilities in India. Results indicated more enclosures were being designed with environmental enrichment in mind. However, a continued emphasis on the valuation of animal ethics and welfare should be applied to not only captive bears but all captive animals.

Present Status and Conservation

Session Chairs:

Jon E. Swenson

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Muhammad Ali Nawaz

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Population size estimates are difficult to obtain for elusive animals like bears, and reliability of the scientific information depends on accuracy of the method used. A major limitation in conservation planning of bears is lack of information on their status from many parts of the world; therefore, documenting the status and distribution of bears has been identified as a priority action by the IUCN/SSC Bear Specialist Group. Five presentations in this session covered methods such as field surveys, remote cameras, GIS and genetic techniques to ascertain status

of bears.

Shinsuke Koike presented the history of Asiatic black bears in Japan. The distribution of the Asiatic black bear in Japan has been greatly affected by past human activities and changes in the natural environment. A total of 10,000 to 15,000 bears were estimated to be on the islands of Honshu and Shikoku. During the period from 1950s to 1970s, deforestation in remote forests destroyed bear habitats and increased conflicts between bears and forestry and agriculture resulted in a large number of killed nuisance bears. Hunting is now prohibited in many regions in West Japan.

Dave Augeri evaluated the effects of disturbance on Malayan sun bears in Indonesia. Based on 335 km of transects, 512 km² of camera trapping, 64.2 ha of fruit and tree stand surveys, and an additional ca. 1,200 km of pre- and post-transect surveying, the author recorded 4,886 distinct sun bear signs and 4,564 animal photos. The direct and interactive effects of habitat disturbance were the most significant influences on sun bear ecology and landscape use. When controlling for habitat type and disturbance, the most important natural factors affecting bear habitat use were cover, tree stand, and diversity variables.

M. Ali Nawaz presented a study where a combination of fecal DNA analysis and field data was used to assess the size and genetic status of a brown bear population in Pakistan. Through fecal genetic analysis, the population in Deosai National Park was estimated to be 40–50 bears. The northern Pakistani brown bear population may have undergone an approximate 200–300-fold decrease during the last thousand years, probably due to glaciations and the influence of growing human population. However, in spite of the presence of a bottleneck genetic signature, the Deosai population has a moderate level of genetic diversity and is not at immediate risk of inbreeding depression.

Harry Reynolds assessed the minimum population size of the critically endangered Gobi bear population in Mongolia using digital remote cameras. A total of 10 remotely-triggered digital cameras were set near springs to provide data on minimum population size and provide an indicator of movement patterns. Using size, color, natural markings and accompaniment by offspring to distinguish individuals, he estimated the minimum population to be at least 18, but adult females may be underrepresented in the sample.

Bejan Lortkipanidze discussed brown bear status in the south Caucasus, Georgia. Bear studies which began in 1996 indicate there has been a dramatic decline in bear numbers since the collapse of the Soviet Union. Most of the bear habitat is in good condition. However, high poaching levels and other human disturbance are a major threat to the bears. Public attitudes toward the brown bear are not as negative as towards other predators.

Phylogeny and Conservation of Bears

Session Chair:

Ryuichi Masuda

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Presentations in this session examined geographic variation in the Asiatic black bear (*Ursus thibetanus*), the taxonomic status of the Gobi bear (*Ursus arctos isabellinus*), and conservation status of Andean bears (*Tremarctos ornatus*).

Sayaka Shimoinaba presented data on analysis of the skull and dental morphology of bear skulls collected from across Honshu Island. Results indicated significant geographical variation among local populations and the author suggested that feeding habits may be the driving force behind the observed variation.

Tateo Itoh presented genetic data collected from the Nagano prefecture (13.5million km²) in central Japan

17th IBA Conference



Rob Steinmetz and Siew Te Wong

which showed high diversity across the region but low diversity within the local populations. She concluded that gene flow between local populations was low and a sound management plans are necessary to protect each local populations.

Hang Lee investigated bear populations of eastern Asia extending from Russia Primorsky to Southeast Asia. His analysis indicated three distinct groups of bear populations and recommended that these groups be managed separately. However, he cautioned that further detailed study was necessary.

The last presentation of this session was from Ecuador and was the only presentation on Andean bears at the 17th IBA conference. Maria Paulina Viteri presented her paper entitled "Integrating the community in the study of Andean bear genetics in Ecuador", which focused on design and sampling strategies. She concluded that there was still much need to obtain information on the extent of connectivity of protected areas for successful conservation. This is especially true in areas where bears and people interact.

Workshop "Conflicts Between Humans and Bears"

Organizer:

Hifumi Tsuruga

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The workshop attracted a large audience and was aimed at sharing information on the background and current situation of bear-human conflicts in Japan and to attempt to find solutions to this issue.

Hifumi Tsuruga began the session by presenting an overview of the historical and current status of human-bear conflicts in Japan and used southern Hokkaido as an example. Masao Kohira then outlined and compared bear management actions inside and outside Shiretoko National Park. Although the bear management team has taken great effort to discuss bear-related issues and means to reduce conflict with locals, the public and farmers living around the park have been reluctant to make necessary changes to prevent and reduce potential for bear-human interaction.

Mayumi Yokoyama discussed the status of conflicts in the Hyogo prefecture and the efforts made to

appoint more wildlife managers. Since 2003 aversive conditioning and other preventative measures have been undertaken in Hyogo. However due to a continued lack of local staff trained to deal with wildlife and a low level of interest from locals problems remain. In an attempt to improve matters the local government will continue efforts to develop and improve the wildlife management system.

The second session of this workshop focused on possible solutions to human-bear conflict. Jon E. Swenson was the first of two invited speakers and discussed bear management in Sweden and Norway. The bear population in Scandinavia, once faced with extinction, has increased dramatically over the past decades leading to an increase in human-bear conflict. Differences between Sweden and Norway in the political response to these conflicts have led to very different results in bear management. Many bears in Sweden cause relatively few conflicts, but few bears in Norway cause great conflicts. In a particularly memorable statement Dr. Swenson said "conflicts are the result of successful conservation efforts".

Malcolm Fitz-Earle from Canada, compared bear management between North America and Japan, and used specific examples from Canada on how one might deal with bear related problems. He emphasized the important role of NGOs and the importance of having wildlife policy, laws, and a wildlife management branch of government. He also made mention of the effectiveness of compensation as a conservation tool for Japan.

Takeshi Komatsu concluded the session with a presentation on human-bear interactions in the Ani matagi ("matagi" is a traditional bear hunter group in Japan) community. Residents of this community live in close contact with and rely on harvesting bears for food. They maintain bear populations by harvesting the minimum number of bears they need

every year and constant exchange of information on bears and their habitat is essential in maintaining this balance.

Workshop “Natural History and Cultural Changes of the Brown Bear in Hokkaido, Japan”

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In this workshop five speakers presented results of recent research on the zoogeography, conservation ecology, molecular phylogeny, archaeology and ethnology of the Hokkaido brown bear. Discussion following these presentations focused on natural history of the brown bear, changes in attitudes about interactions between the brown bear and human, recent human-bear conflict, and future prospects

for human-bear coexistence.

Historical and modern connections between brown bears and humans inhabiting areas of the northern hemisphere, such as Hokkaido, have been strong. Conservation of bears in Japan must rely not only on the study of their ecology but also through the social sciences a better understanding of human's cultural and historical affinity with bears. We have established a scientific study “Ursusiology (Comprehensive Study of Brown Bears)” and presented it to a class at Hokkaido University as well as a citizen's education class. We used our scientific findings in order to reconsider our present society and culture through brown bears. The outline of this trial was also introduced at the workshop. This workshop was supported by the 21st Century Center of Excellence (COE) Program “Neo-Science of Natural History” at Hokkaido University financed by the Ministry of Education, Culture, Sports, Science and Technology, Japan, and by the International Committee of the Bear Culture (ICBC).

Workshop “Trade in Bear Parts”

Organizer:

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This workshop was focused primarily on the trade in bear parts in Japan, while the Fourth International Symposium on the trade in bear parts held at the same time in Karuizawa and organized by TRAFFIC East Asia, focused on the international trade. In addition to focusing on what circumstances lead to increased conflict between people and bears in Japan, the workshop introduced some new ideas concerning the risks posed by the trade in bear parts on a sustainable coexistence between people and bears.

Due to the location of this conference there were many participants from Asia adding the latest data on the trade in bear parts and enhancing discussions. Discussions made clear that the illegal trade is having a negative impact on bear populations throughout Asia.

Yasuo Shimada of the Federation of Pharmaceutical Manufacturers'



A Captive Audience at the Conference Icebreaker

17th IBA Conference



Associations of Japan, presented a report on the utilization of bear bile and the changes in inventory and import quantities based on data that the organization had acquired from its members.

Fusako Nogami from the Japanese animal protection organization ALIVE, made a presentation and stressed his opinion that the trade in bear gallbladder should be prohibited in order to protect bears in Japan and overseas. He pointed to problems with regulating the trade in bear gallbladder as well as the Wildlife Protection and Hunting Law of Japan.

Tsutomu Mano, a research biologist from the Hokkaido Institute of Environmental Sciences, reported on the present situation surrounding the trade in bear gallbladder and stressed the need for an official bear gallbladder trade management system, a community-based system for sustainable use of bear gallbladder, economic incentives for people who coexist with bears to protect them, and for conducting appropriate bear population control measures in Japan.

Hiromi Taguchi, professor of

Tohoku University of Art and Design, pointed out that concerns of local residents living with bears must be considered. All involved in the workshop agreed that it is necessary to control the distribution of bear gallbladder within Japan.

Student Session

Coordinator:

Rumiko Nakashita

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The student session was held on the evening of October 3. The session and subsequent dinner, which were partially sponsored by members of the Shinshu Black Bear Research Group, Nagano, Japan, were attended by over 80 students and IBA professionals. The session was chaired by Thomas Moore, a student from the United States who is currently completing his Masters in population genetics at the University of Tottori, in Japan. Students had the opportunity to introduce themselves and their research projects or proposals, and to get immediate feedback from IBA professionals. Kyoko Kobayashi,

from Nihon University in Japan, commented to me that she felt privileged to have been able to attend. Although delighted that she had the opportunity to sit next to Dr. John Hechtel and talk with him extensively about her research she wondered if other students might not have been as lucky. She suggested that perhaps in the future participants could exchange seats during the session to provide more opportunity for everyone to interact with the many bear specialist at the conference. Kyoko and all the students enjoyed this session and wish to thank the IBA, session and conference sponsors, and all who participated! We hope we will meet again in Mexico!

Photographs from the conference have been posted on our official site so please visit the site listed below and enjoy! Thank you again to all who participated and helped to make the conference possible, Domo Arigato! (<http://www.japanbear.org/iba/005information/information.html>)



To Our Student Volunteers THANK YOU!!!



Bear Specialist Group

Rangewide Mapping of Asian Bears

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Many populations of Asian bears are vulnerable to extirpation from poaching and habitat loss. Obtaining precise estimates of population size, while seemingly desirable, is neither practical nor useful for assessing population trend of small, sparse bear populations, as exist throughout much of Asia. Asian Expert Teams of the IUCN/SSC Bear Specialist Group (BSG) have decided that the



Mapping Asiatic black bears in Afghanistan, Pakistan, India, and Bangladesh: Mayoer Khan, Wali Modaqiq, Sohrab Sarker (face not showing), Anwaruddin Choudhury, and Iftikhar Ahmad

Bear Specialist Group



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Participants in Asian bear mapping workshop, Oct 7, 2006

immediate priority is to attempt to monitor changes in geographic range as an indication of change in population status. However, ranges of Asian bears (other than pandas) are poorly known. In order to better document these ranges, we have pulled together all the information and expert opinion we can find on **brown, Asiatic black, sun, and sloth bears**.

Initially members of expert teams representing these 4 species were asked to provide range maps for bears in their country or region, as well as documentation of specific point locations (dates, types of observation, habitat type). **Karen Minkowski** of the Wildlife Conservation Society collated all the various maps (WCS is a collaborating organization in this effort). Karen then put all the information for each species in each region on large printed maps.

On October 7, 2006, following the IBA meeting in Karuizawa, Japan, we conducted a 1-day workshop where Asian bear experts revised the draft range maps. **Dr. Eric Sanderson** (WCS), who has conducted similar range-wide priority-setting workshops for a number of other species, administered the workshop.

The workshop was attended by 49 Asian bear experts from 20 countries. Groups of people from regional areas huddled over their maps (see photos) and discussed revisions and additions. The process involved mapping known point locations and then delineating 4

categories within the historic range of each species:

- **Definite range** – Places with documented evidence of bears in the past 10 years.
- **Probable range** – Areas with good bear habitat near or adjacent to known current range and no known evidence that bears are not present.
- **Extirpated areas** – Places where bears are known or very likely to have been extirpated.
- **Unknown** – Places where the status of bears (presence or absence) is not known.

After mapping these categories, workshop participants delineated areas within the definite or probable range that should be considered priorities for conservation.

We termed these areas “**Bear Conservation Units**”. These areas might be important because they are strongholds for bears in particular regions; or because they contain adequate habitat that, with more protection, should produce more bears; or because they serve as corridors between populations. The idea here was to highlight these important areas. The chief difference between this workshop and standard WCS mapping workshops is that we did not prioritize these conservation areas.

Finally, workshop participants mapped three types of benchmark areas that they considered especially important for future on-the-ground surveys: sites where there is good reason to believe that population trends reflect trends in the larger, surrounding areas (*long-term monitoring areas*); sites where there is concern that extirpation is imminent (*threatened areas*); sites where there was concern of extirpation but now the area seems to be recovering



Mapping sun bears in Malaysia and Indonesia: Kyeong Soon Kim, Siew Te Wong, Ligaya Tumbelaka, Dave Augeri, Karen Minkowski, and Gabriella Fredriksson

Bear Specialist Group

(recovering areas). Additionally, any areas mapped as “unknown” would be considered priorities for reconnaissance surveys.

Presently Karen is busy creating revised maps for review by all ET members, including those who attended the workshop, those who could not attend but took part in initial mapping efforts, and those who could not be involved in either, but who have expertise on the distribution of bears in certain locales.

We are still missing information for certain areas (e.g., Bhutan, some of the former Soviet “states”, Caucasus), so we welcome further contributions. Please write to Dave Garshelis if you have information that you would like to add to this effort. All contributors will be acknowledged in the final products, which will include a dynamic map posted on a website (complete with metadata), and peer-reviewed publications.

Bear Specialist Group

The Bear Specialist Group (BSG) is organized into species and topical expert teams, each with two co-chairs. These co-chairs, along with some other specialists comprise the coordinating committee, which is listed below.

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Whereas the trade in bear parts appears to remain rampant in China, the trend in the Chinese population of Asiatic black bears is uncertain (and politically controversial), for two main reasons: (1) the level of illegal killing may be sustainable, and (2) a reforestation program (“Grain to Green”) initiated in the late 1990s, combined with the creation of more Nature Reserves (a doubling over the past 5 years), has increased the area of potential bear habitat. How can we learn what is really happening to bear numbers?

Various raw population estimates have been made for Asiatic black bears in China, mostly based on bear signs, interviews and reports from official sources. Certainly none of these estimates are sufficiently rigorous to provide a basis for monitoring population trends. Instead, we believe that population trends may be effectively monitored through changes in geographic distribution. Although the geographic distribution of this species in China is roughly known, finer-scaled information, based on field surveys, is needed for monitoring. Realizing that it was impractical to undertake a mapping project for the whole country, we limited the scope of this project to the Sichuan Province, in south-central China (see map). This province is particularly interesting because it is a stronghold for black bears, due in part to many Nature Reserves (established for other species such as giant pandas, takin,

and golden monkeys) that have rugged forested habitats and allow for better control of poaching. The province also has lowland areas where bears are less well protected and where they often become involved in conflicts with farmers growing crops, such as corn, and raising livestock. Thus, there are likely to be areas of high density contrasting with areas of low density and recent extirpation. Secondly, the province is interesting because the northwestern edge of the range for black bears overlaps the eastern edge of the range of brown bears.

Our study has two basic goals: (1) to map the range of black bears, basically as presence/absence data in grid cells, and (2) to identify the primary factors that impact presence/absence of bears.

The main difficulty in conducting such an endeavor is the extent of the scale. The province is so large (485,000 km²) that sign surveys throughout potential bear range would be impossible without a very large investment of people and time: it took 170 people 3 years to conduct transect sign surveys for giant pandas within a much smaller range within the province. We dealt with this issue on several levels. First, we used a rather coarse grid (15 x 15 km); second, we limited the survey to only grid cells with at least 20% forest

cover; and third, we stratified the cells into low, medium and high quality bear habitat (based on mean elevation, forest cover and road density, taken from available GIS layers) and selected 40% of each of these strata to survey (yielding 372 survey cells). Finally, instead of randomly searching for bear sign in every selected cell, we relied on local knowledge.

Local knowledge can be very helpful, but it is not always reliable. Our approach was to first locate an area within the designated cell that had the best potential habitat, and then find local villagers to interview (photo page 17). We asked not only whether bears were present, but also about perceived population trends, aspects of bear natural history, crop damage and other conflicts and poaching. Generally we conducted many independent interviews in each survey cell.

In order to corroborate bear presence, we asked a willing and knowledgeable local person to take us to some place with bear sign — typically a tree with definitive claw marks or a bear “nest” (see photo); often we found several signs in a clump. In all cases where the majority of local people indicated the presence of bears in the area, someone was able to show us some bear sign. Occasionally, though, the sign was so far away (several hours’ hike) that it





Liu Fang (left edge of photo) interviewing Yi people about bears. Interviews were not always on one.

was actually located in an adjoining cell.

Only in situations where local people were uncertain about the presence of bears, or where they indicated that bears were absent, did we need to conduct our own sign surveys. Here we did strip transects (20 x 100m), preferably in a forest with oak or chestnut trees (as acorns and chestnuts are prime fall foods, and climbing marks last for several years). We examined every tree within the transect for bear claw marks. We did up to five of such transects: if bears were present, then (based on data that we collected in another phase of this study), the probability of non-detection after 5 transects in a mature deciduous forest was <1%. If bear sign was found in fewer than 5 transects, we classified the cell as having bears, and moved on to the next one.

We surveyed 47 cells in 2005, and 129 cells in 2006; these surveys involved 823 interviews. The increased survey efforts in 2006 were the result of splitting the original 2005 survey team into two teams, since they had gained sufficient experience. Among the 176 cells surveyed so far, there were only 16 in which bears were not detected. These 16 cells were distributed mostly along the

northwestern (high elevation) and northeastern edge of the purported distribution. The absence cells along the northeastern edge coincided with the region of highest human density and agricultural development. As we move out of the rugged mountainous areas with our survey efforts in 2007, we anticipate encountering more cells without bears.

There is one big irony in this: while all of us are concerned about the conservation of this species, and thus feel good when we find evidence



Examining bear claw marks and nest located by local people

of its persistence in places with marginal forest quality and continued evidence of poaching, we also have ample evidence that in many such places bear numbers are declining. Most interviews start with villagers reporting less bears than there were 10 years ago. That is where our coarse sampling regime encounters some problems. We recognize that many of our presence cells have only a small patch of habitat with a few individuals. Although we have no intention of producing any sort of population estimate from this work, some might assume just from the presence data that bears are doing far better than they really are. Hence, it would be helpful to find more absence cells. On a positive note, we believe this will ultimately be a good monitoring tool, as we can now identify several areas that will probably lose their bears if populations continue to decline.

Maybe one of the most compelling findings so far is the consistency between the field data (bear sign) and the information obtained from interviewing local people. While we cannot conclude that the local people are providing accurate information about bear conflicts and poaching (as these subjects are much more sensitive than information on simple presence-absence of bears), we find it interesting that there has been significant consistency with the field data in the responses to these questions. If, indeed, the local people are portraying the poaching situation accurately, then the future of Asiatic black bears in China, the country with undoubtedly the largest number of this species, does not look promising.

Collaborators on this project include Dajun Wang (Peking University), Ji'en Gong (Sichuan Forestry Office), William McShea (Smithsonian Institution), and Dave Garshelis (Minnesota Department of Natural Resources). Funding came from Earthwatch, Animals Asia Foundation, the World Society for the Protection of Animals, Friends of the National Zoo and the IBA.

Experience and Exchange Grants Program and Dealing with Non-Invasive Genetic Sampling

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There are times when one really needs plain, dumb luck for things to turn out right. For me, this turning point was at the IBA meeting in Riva del Garda, Italy, when Dr. Lisette Waits invited me for a study visit to her lab at the University of Idaho. To me, it was a light in the dark. Literally.

The situation I was in at the time was somewhat unpleasant. A project involving non-invasive genetic sampling somehow ended in my lap

and I grabbed it with both hands. However, things were not really going all that well. When I had read about it a year and a half earlier, extracting DNA from brown bear scats or hair and then getting useful data seemed much easier. It was the latest and greatest method for studying the biology of elusive animals, and they wanted me to do it! But no one explained the fine print. Actually, there was no one who could - I was the first to try these methods in our lab, quite a handful for a humble graduate student. Spending half a year trying to get the last breath of life out of our old ALF sequencer was no help either, and I felt almost ready to throw the towel. Lisette's proposal couldn't have come at a better time.

Another thing I consider plain luck from my point of view was that the IBA decided to launch its Experience and Exchange Grants program at exactly the time I needed the funds. I would have blundered right past it, but Lisette pointed it out to me. The

amount of money is not really high, but it fits perfectly in the budget hole left by the plane ticket and the living costs needed for a study visit. The paperwork wasn't too much of a hassle, and the money literally solved the budget puzzle. I was all set to go.

I could now go on for a couple of pages describing my life in Idaho. A two month visit that I could probably call one of the most productive times of my life, but still with plenty of time left over for fun and games. Not only did I receive the best training I could hope for and analyzed all the samples I brought from home, I also got to chase ground squirrels and drink beer (which, to my surprise, got much better since the last time I visited the United States). Oh, and I got to castrate lambs using my teeth. Don't ask.

Now I am back home, up to my neck in the data I so eagerly created in Idaho. A sweet problem I did not think I would have during the grinding and screeching start of my project. Management of the Slovenian bear population has been controversial over the last few years, and I am eager to show some hard data to the decision makers. It is a pilot project and it will not solve the myriads of problems our bears face, but it is a start. Our lab equipment is currently receiving a facelift, and thanks to this exchange we can hopefully tackle a larger project utilizing non-invasive genetic sampling without slamming head-first into too many walls. I would like to thank IBA for the grant that helped to make this possible. I am very thankful to Dr. Lisette Waits for providing this great opportunity, and to her family for having me around for so long. I am also thankful to all the people at the College of Natural Resources of the University of Idaho for their warm reception and their help. I hope that our cooperation, as well as our friendship, will continue.



Brown Bears and “Carcass Trees”

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Forest trees sometimes show signs of bear activity. Trees marked by bears serve some social purpose since they provide the means through which bears communicate with each other (Seton 1937, Pazhetnov 1979, Jamnický 1987, etc.). The trees bearing bear signs are usually found on bear trails and other game trails; they are also found on hiking trails and forest service roads (Puchkovskiy & Neyfeld 2005). Such trees are sometimes used by bears over many years and show many different types of sign.

There are some peculiar situations where trees showing bear sign are found (Puchkovskiy 2005). Some trees showing bear sign are found near den sites, meeting/confrontation sites between two adult brown bears, sites where an encounter with a human occurs as well as near the carcasses of prey. For example researchers have found bear marked trees near carcass sites in the proximity of oat fields in Norway as well as in some regions in Russia (Mysterud 1975, Vaisfeld et al 1993).

The focus of our research has been on trees found near carcass site, which I call “carcass trees”. The first time we found evidence of such trees was in the Yar district of the Udmurt Republic, where from 1984 to 1994 we conducted our research. We recorded, numbered and visited every year (two or more times) 114 trees showing bear sign. Trees were generally found along bear trails although three “carcass trees” were located off traditional bear trails.

On September 23 and 24 of



1985, during moose rutting season, we heard moose calls north of our campsite in the morning and evening. On April 23, 1986, we found some bear tracks in the snow not far from the previous year’s campsite and followed them. 500 meters north of our campsite, we found some bear scat with moose hair and one bone as well as a moose carcass and marked trees nearby.

Based on tracks in the snow we deduced that the bear had come from a nearby cultivated field. From there the bear walked over to the moose carcass to feed on it. The bear left signs of a daybed in the snow. The bear walked by the marked trees (keeping a 1 meter distance) and did not mark them again. The signs on these trees were from the year before. The bear then returned to the field by the same trail it used to access the site.

My hypothesis is that the bear killed the moose we heard in the autumn of 1985 and marked three trees, one spruce (dbh 36 cm) and two firs (dbh 20 cm and 32 cm respectively). Signs of bark damage as well as traces of bear hair were found on the trees and there were tracks at the base of the tree.

On May 13, 1986 we discovered that the fir with a dbh of 20 cm was once again marked by the same bear (damaged bark). The bear left tracks in the soil nearby the moose bones. On May 19, 1986 we visited this site once more. Other smaller bears had visited the site the night before. What fir that remained appeared to have been recently moved around by a bear. On July 25, 1987 we discovered that a bear had rubbed against the spruce tree and left some hair on it. During the 1987 and 1988 investigations no new bear signs were found on the trees described above.

In 2002, we conducted field work in the forests of Pechoro-Ilichsky zapovednik. We recorded 198 bear marked trees in the forest of Yaksha (Puchkovskiy 2003). In one instance, we found three trees bearing some markings, 2 pines (dbh 17 cm and 21 cm respectively) and one birch (dbh 18 cm), at distances from approximately 1.5 to 5 meters from each other. Scattered around we found some moose bones covered by fallen leaves.

In 2004, in the Yegro-Laga forest we recorded 402 bear marked trees (Puchkovskiy & Neyfeld 2005). On July 18, 2004 we recorded three trees

with deep claw marks. Nearby we found a moose carcass. Moose hair covered an area of approximately 20 square meters; the moose bones were scattered even more widely (photo page 19). The bear clawed at the moose hair and left some of it on a few trees. The bear also bit and broke ten little birches and spruces. We could not establish whether the bear killed the moose or whether it found a carcass killed by wolves. We believe that the bear marked the trees and fed on the moose carcass in the autumn of 2003. More recent markings were not found. The moose carcass and the marked trees were located 2 to 5 meters from a forest road, where in August 2004 we found many moose tracks and few bear tracks.

On August 22, 2004 a bull moose carcass was found 200 meters away from a stream. A 30 square meter area was covered in moose hair and was trampled. The moose was either killed by wolves in the winter or killed by a bear in the spring after leaving its den. The bear fed on the moose in the spring. The surroundings trees were not marked. However, the bear clawed the carcass and rubbed against the base of some live trees nearby. The bear also scratched at the base and some nearby deadfall.

In 2005, in the Verhne-Pechorskoye forest we recorded 389 marked trees. On July 22, we recorded a marked spruce tree (dbh 8.5 cm) located

on a forest road, 2 km away from Shizhim. According to inspector V.Kudryavtzev, the tree was marked some years before by a bear feeding on a nearby carcass of a moose which it had killed. Remains of the moose carcass could not be found.

"Carcass trees" are very important for the purposes of studying bear communication and behavior. In this respect, it is important to note the following:

1. "Carcass trees" can be found on trails and forest roads as well as away from such trails and roads;
2. "Carcass trees" after they are marked the first time are seldom marked again;
3. Around "Carcass trees" hair from a carcass can be found up to 2 years after the kill. The bones from a carcass can be found many years after the kill but are often covered in moss, leaves and grass.
4. Bear and carcass hair can be found on the marked trees many years after they are deposited when there is some resin (turpentine) on the tree.
5. Sometimes, people may remove the carcass and thus the "Carcass trees" may not be easily identified.

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Americas

U.S. Fish and Wildlife Service Proposes Listing Polar Bear as Threatened

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On December 27, 2006 Secretary of the Interior, Dirk Kempthorne, announced that the U.S. Fish and Wildlife Service (the "Service") was proposing to list the polar bear as a threatened species under the Endangered Species Act. Scientific evidence of loss of sea ice habitat, continued losses projected into the foreseeable future, and consequences

to polar bear populations were the basis for the proposed listing.

Section 4 of the Endangered Species Act (the "Act") sets forth procedures for adding species to the Federal List of Endangered and Threatened Species. A species may be listed on the basis of any of five factors, as follows: (A) The present or threatened destruction, modification, or curtailment of its habitat or range; (B) over utilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D)

the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence. Information regarding the status and trends of the polar bear is considered in relation to the five factors provided in section 4(a)(1) of the Act.

In the context of the Act, the term "threatened species" means any species or subspecies or, for vertebrates, Distinct Population Segment (DPS) that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. The term "endangered species" means any species that is in danger of extinction throughout all or a significant portion of its range.

The proposed listing published in the Federal Register on January 9, 2007 will begin the 90-day public review and comment process. A copy of the proposed rule and other information about the proposal is available on the Service's Marine Mammal website located at: <http://alaska.fws.gov/fisheries/mmm/polarbear/issues.htm>. Within the next year prior to making a final decision on the proposal to list the species, the Fish and Wildlife Service will also continue to gather additional information, undertake additional analysis, and assess the reliability of the relevant scientific models used in drafting a proposed finding.

Comments or information from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning this proposed rule are solicited. Specific information concerning the following is most useful:

(1) Information on taxonomy, distribution, habitat selection (especially denning habitat), food habits, population density and trends, habitat trends, and effects of management on polar bears;

(2) Information on the effects of sea ice change on the distribution and abundance of polar bears and their principal prey over the short- and long-term;

(3) Information on the effects of other potential listing factors, including oil and gas development, contaminants, ecotourism, hunting, poaching, on the distribution and abundance of polar bears and their principal prey over the short and long term;

(4) Information on regulatory mechanisms and management programs for polar bear conservation, including mitigation measures related to oil and gas exploration and development, hunting conservation programs, anti-poaching programs, and any other private, tribal, or governmental conservation programs which benefit polar bears;

(5) The specific physical and biological features to consider, and specific areas that may meet the definition of critical habitat and that should or should not be considered for a proposed critical habitat designation as provided by section 4 of the Act;

(6) Information relevant to whether any populations of the species may qualify as distinct population segments; and,

(7) The data and studies referred to within this proposal.

Details on how to submit comments are contained within the proposed rule and available at <http://alaska.fws.gov/fisheries/mmm/polarbear/issues.htm>.

U.S.-Russia Agreement on the Conservation and Management of Polar Bears

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On December 9, 2006 the United States Congress passed legislation to implement the U.S.-Russia Agreement on the Conservation and Management of the Alaska-Chukotka Polar Bear Population signed in October 2000.

The much awaited legislation provides the necessary authority for the United States to work with their Russian partners to begin implementation of the terms of the agreement. The legislation provides a much needed tool for polar bear conservation in the wake of heightened public concern about the fate of polar bears with changing climate conditions. Important features include establishment of a joint Commission to oversee the many future steps toward conservation, including the development of a unified process to regulate the harvest of polar bears in this area. Alaska and Chukotka native organizations interests will be represented in the decision making process of the Commission. Copies of the legislation are available from Scott Schliebe.

Southeast and South Central USA

News from the southeast and south central USA provided by:

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Bear Management and Research Programs

The Florida Fish and Wildlife Conservation Commission's (FWC's) Bear Management and Research Programs have been working closely with the Agency's Florida Black Bear Standing Team (FBBST) to revise the existing FWC Bear Policies and Guidelines. The FBBST Team's last meet was held October 24th in Tallahassee, Florida to discuss a revised draft bear policy and guidelines document. Further revisions are underway and a final document is expected by early Spring 2007.

The FWC and partners had another successful year at the Umatilla Black Bear Festival; which was held on October 7th in the city of Umatilla, Florida. The FWC's Bear Management and Research

Programs, the Northeast Region, and Community Relations staff participated in both educational booths and field oriented trips located in the Ocala National Forest. Bear Management staff developed and participated at a new "station" that was added to the field trip this year. The station was designed to provide information on living in bear country, common household items that can attract bears to neighborhoods, ways the public can reduce negative encounters, and new approaches (such as aversive conditioning) to address human-bear encounters that will be implemented by trained FWC staff. The Bear Research staff provided opportunities on the field trip to learn about the latest techniques and research projects that are currently being conducted on bears in Florida.

Louisiana Black Bears

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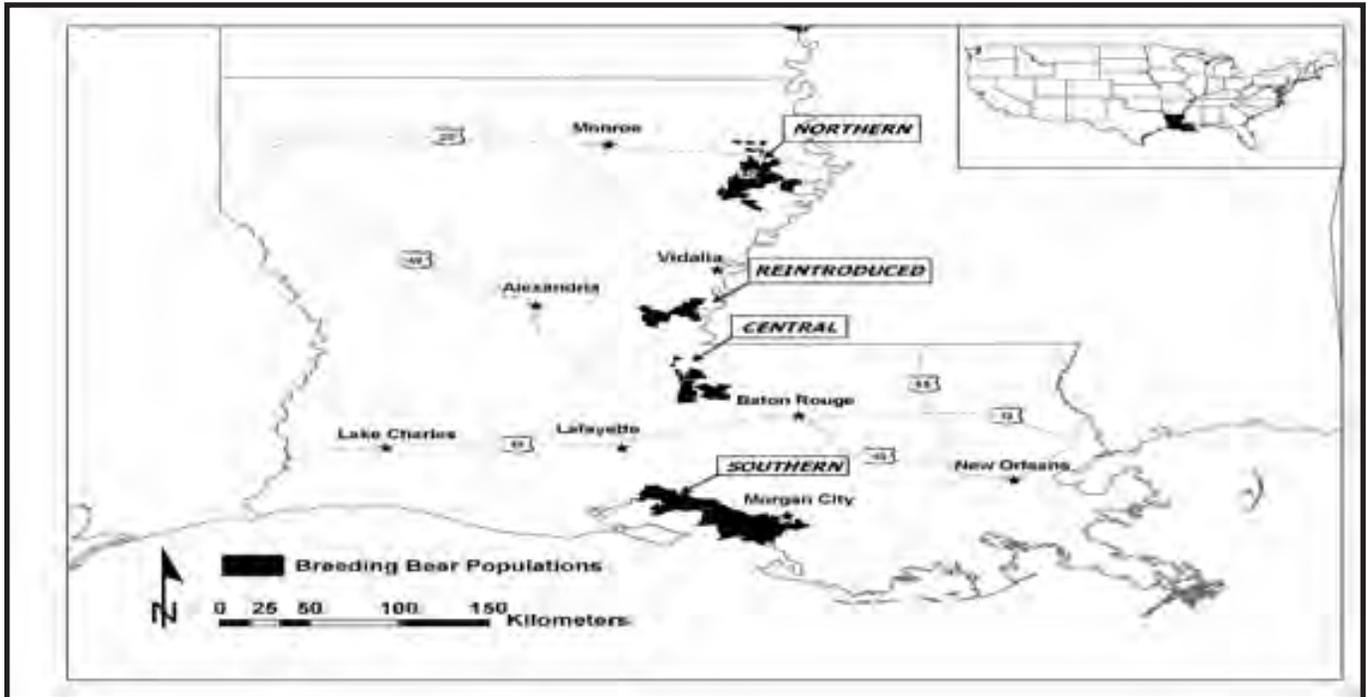
Diversifying Genetics in a Reintroduced Louisiana Black Bear Population

Once found throughout Louisiana, Mississippi, east Texas, and southern Arkansas, the federally threatened Louisiana black bear (*Ursus americanus luteolus*) has been reduced to three relatively isolated breeding populations in northern, central, and southern Louisiana. To increase the genetic exchange between these populations, a reintroduction project is being conducted by a cooperative effort of the Black Bear Conservation Committee, Louisiana Department of Wildlife and Fisheries (LDWF), Louisiana State University, U.S.D.A. Wildlife Services, U.S. Fish and Wildlife Service, and University of Tennessee (UT).

Building genetic diversity into the reintroduced bear population has always been an important goal for the project. The bear population in central Louisiana (just south of the reintroduced population) had their genetics mixed with Minnesota black



This starving black bear cub will be rehabilitated in Tennessee and brought back to Louisiana for reintroduction to the wild.



bears (*Ursus americanus americanus*) almost fifty years ago, which makes getting northern and southern population genetics into the area that much more desirable.

In 2001, the reintroduction project moved four adult females and their cubs into the reintroduction area; two females and cubs were from southern Louisiana. Unfortunately, one of those females left the area and her cubs were subsequently fostered back south. The second southern female was found dead the year after she was released. As a result, almost all of the reintroduced bear population has come from the northern population. While the reintroduction effort has been a success, adding the southern population's genetics into this new population is still an important objective.

Two recent events may have allowed us to introduce some southern genetics into the reintroduced population in the coming year. First, persistent bear conflicts at Morton Salt Company on Weeks Island in southern Louisiana created an unusual opportunity. An adult female bear that was captured several times over the years continued

to cause problems. She had lost all fear of humans and was totally habituated to human garbage. As a result, she was captured and taken to the Alexandria Zoo where she is kept in an enclosure with no public access. The reintroduction project will foster her cubs to the reintroduced bear population this spring.

In another unexpected event, LDWF Biologist Manager Maria Davidson received a call from a hunter on November 13. The hunter found a very small, emaciated bear cub on private land adjacent to the Bayou Teche National Wildlife Refuge in southern Louisiana. The cub was in very poor condition; a fecal sample revealed a severe nematode infestation. The bear was treated with a nematocide (Ivermectin) and spent the next week at the Davidson's getting rations of acorns, pecans, poke berries, yogurt, and rice, mixed with Pedialite and Esbilac. The cub gained about five pounds in a week's time and was much healthier than when he was captured, but still well under an ideal weight for his age. UT graduate student Mike Hooker delivered the cub to the Appalachian Bear Center for rehabilitation in Tennessee. The

experts at the center will get the bear in good shape without habituating him to people. After rehabilitation, the male will be released into the reintroduced bear population.

It is always best to allow bears to remain in the wild. However, when that cannot happen, there will be an intervention and attempt to try to make the most of the situation. We see opportunities to take advantage of recent circumstances to introduce *luteolus* genetics to increase the health and diversity of the reintroduced population.

Captive Bears

Bears Report: Smithsonian National Zoo

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Smithsonian National Zoological Park's New Sloth Bear Habitat on Asia Trail

After decades of living in one of the zoo's oldest exhibits (built in the late 1890's), our sloth bears have finally moved into their new habitat in the zoo's newest exhibit, Asia Trail. Here they have two large, hilly yards, each with plenty of areas for digging, shallow pools and waterfalls, heated rocks to keep them warm in colder temperatures, trees and rock structures to climb on, deadfall to tear apart and large glass windows for up close and personal encounters with the public. One yard also contains three artificial termite mounds with holes in them (on the sloth bear side). Tubes running through the mounds pass through the wall into a public demonstration area where keepers can feed treats like mealworms and talk to the public about sloth bears' unique feeding adaptations. The public can actually hear the bears sucking up the insects through the tubes, feeding similarly to their wild counterparts. The indoor holding area (off exhibit) is also much larger than their previous holding area, with four large rooms and a private cubbing den. The runway connecting the holding rooms has a built-in scale and a removable squeeze cage making it easy to obtain regular weights on the bears. We can also train them in the squeeze cage for injections or blood draws. An outdoor runway connects their indoor holding to the front of the yards so the public can see them entering or leaving the exhibit.

The new exhibit has been open since mid-October and the bears

have settled in nicely. Our cub will be a year old on January 9th. He has enjoyed the new exhibit since day one. He is often seen frolicking in the yards, climbing trees, tearing up logs, and entertaining the public up close at the glass. Our female was a little slower to adjust, but was out there in the spotlight when the media cameras came for their debut. Since then she's been curling up against the windows for her mid-day naps and seems to enjoy close encounters with the public. Our male, who is currently separated from the female and cub, has proved to be a star at termite mound demos. He's also taken to napping and people-watching up at the glass windows.

Outside of the sloth bear yards is the Sloth Bear Conservation Plaza, which highlights conservation efforts in India and Nepal. An interactive Decision Station introduces some of the real-life challenges to saving sloth bears in India. Visitors can try their hand at making difficult choices on a touch screen, and then find out how their decisions affect sloth bears and people. The Conservation Plaza also highlights the work of zoo scientists and their partners studying sloth bears in the wild.

Behavioral Enrichment Workshop, Shanghai Zoo, China, October 2006

This was the second in a series of enrichment workshops conducted in China by staff from the National Zoo. Part of our Giant Panda loan agreement is to share information with China. These workshops provide husbandry, training, and enrichment lectures for zoo personnel who come from all over China. In addition to the lectures, three exhibits at the host zoo are renovated to provide the animals with more enrichment. A sun bear exhibit was renovated for the workshop at the Shanghai Zoo and is a huge improvement over their former Victorian style cages. It was an outdoor yard with trees, grasses, a waterfall and small pool. Since being

introduced to the new yard the bears have been destroying everything in it and are still spending a lot of time begging from the public. Iron fencing was put around the trees and bushes to keep the bears from destroying them further. For our "extreme makeover" of the sun bear exhibit, we made two large deadfall piles for the bears to climb on and tear up. We also drilled holes in the logs for the purposes of hiding food. The iron fences around the trees and bushes were removed (except one shade tree which a smaller fence was wrapped around) giving the bears access to the climbing trees again. These will obviously have to be replaced on a regular basis, but we suggested using deadfall for the bears to climb on and putting smaller tree-guards around shade trees they want to keep the bears off of. A fire-hose hammock was hung using one of the existing trees and three deadfall posts were installed. Two digging pits (one with dirt the other with bark chips) were created using rocks around the exhibit to encircle the area. Treats like mealworms, dried fruits, nuts and diet items were hidden in the digging pits. A boomer ball on the end of a garage door spring covered by a PVC pipe was hung from one of the hammock posts and scents were sprinkled around the yard. Burlap bags, a treat ball, recipes for paper mache and fruitcicles, and a list of forage foods were also given to the staff. Pre-enrichment data was collected before modifying the exhibit. Once the exhibit was modified, we let the bears in and collected post-enrichment data. The bears had a blast in their "new" exhibit. They climbed trees, tore up bark, played in the hammock, foraged and dug in the digging pits, searching for treats in holes in logs, learning to open a coconut for the first time, etc. We hope all the staff at Shanghai Zoo and other participants in the workshop will share their new knowledge with their fellow staff and continue to provide enrichment and improve the habitats of their animals.

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Use vs. Availability – The Habitat Shuffle

For this column, we have invited Dr. Dave Garshelis, Co-chair of the Bear Specialist Group, to give us his insight regarding a common challenge found by students conducting habitat analyses. We appreciate Dave's approach in that we should all be very cautious about the assumptions we make in our study designs, and the implications of our possibly flawed conclusions.

Imagine that you wanted to buy a vehicle for some fieldwork. You go to the used car dealer and find only two vehicles that could meet your needs: a 1985 red, somewhat rusted Ford truck and a 1995 blue, unblemished Toyota SUV. You choose the truck because it is cheaper and can carry large bulky equipment. The dealer who sold you the truck concludes that you prefer red, somewhat rusty, American vehicles, and mentions that he has a red Ford Pinto sedan in the back — interested?

This is the same sort of ridiculous conclusion that biologists often make when they observe an animal choosing one habitat over another. Choices in habitat, food, used cars, or any other resources, are just that: choices among available options, based on costs (e.g., risks) and benefits (perceived or real). A bear would likely prefer a habitat having both hard and soft mast, gentle slopes, shade, cover, no roads, no people, some slow-moving defenseless ungulates, and streams laden with fish. As no

such habitat exists, they have to make choices among what there is, and these choices may vary over time. If they select habitat A most of the time, that does not necessarily mean that they prefer that habitat — it just means that among those available, they perceive habitat A as most beneficial most of the time. It does not even mean that habitat A is most important to their overall fitness, or even that habitat A is suitable in terms of meeting their basic needs.

In order to judge the most preferred habitats among those available, biologists often compare **use** (proportion of time spent in each habitat) to **availability** (proportional area). If habitat A is used 70% of the time, but it represents 85% of the available area, it might be concluded that this habitat is non-preferred, selected against, or even avoided. Imagine, though, a bear using a habitat 70% of the time when it was trying to *avoid* it. Could a bear be so inept as to spend most of its time in a place that it didn't really want to be? Certainly, any habitat that is used often, regardless of its availability, must be purposefully selected.

The issue of availability is relevant only for habitats that are used infrequently. Presume that a bear uses a certain habitat type only 10% of the time. If that habitat is uncommon, say 1% of the area, it seems clear that the bear made a concerted effort to seek it out and use it. We say that it exhibited selection. This means only that it used this habitat more than it would have had it just shuffled aimlessly about. We should not conclude that this habitat was preferred or even suitable: maybe it was just the best of several poor options. Or maybe it was forced to use this habitat because more dominant bears excluded it from better habitats.

There are a host of sophisticated programs that use various procedures to compare use to availability, and then rate habitats based on the extent to which use exceeds availability. The complicated mathematics of these

programs obfuscates the underlying important issue — the comparison of use to availability may itself be rather meaningless. Consider a 10-year-old bear moving about its home range. It probably knows not only every patch of habitat, but also every patch of berries that might be ripe during any given week. Say there are only three habitat types, and the bear spends 70% of its time in type A, 20% in type B, and 10% in type C. Isn't it likely that it chose to use (i.e., selected) ALL of these types? Type C was selected least often, but unless the bear just used habitat C for crossing from A to B, its use of this habitat probably served some specific purpose. Maybe this habitat provided shade in the middle of the afternoon, and thus afforded the bear a reprieve from the heat. The bear likely could have lived without that habitat, but its life was better with it. It may have actually been worse off had there been more of habitat A, the seemingly most preferred type, and less of C.

The tendency to compare use to availability stems from selection studies where, unlike patches of habitat, the location of the items is not readily known. If a zookeeper spreads three types of granulated food around a bear's pen, and the bear is observed to eat 70% of type 1, 20% of type 2, and 10% of type 3, then it is relevant to consider the proportional availability of these different foods. If they were equally available (33.3% of each), then clearly the bear more often sniffed out type 1, bypassing the others, demonstrating preference for this type. Suppose that the following day the keeper doubled the availability of food type 1 (now 67%) and observed the same consumption ratios? Did the bear's preference change, or was 70% consumption of this food all that it wanted? Is there a reason to expect that increasing availability of preferred foods or habitats should inexorably prompt increased use without limit? The premise that it does is a fundamental flaw of many use: availability analyses. (can't page 27)



Are you an IBA Student?
Then you need to belong to the
Student Forum List Serve!

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

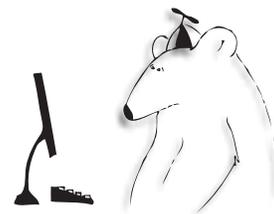
Instructions

- Contact Diana Doan-Crider at d-crider@tamuk.edu to enroll
- After enrollment, go to: <http://aristotle.tamuk.edu>
- Click on *Agricultural Lists*
- Click on *Truman*
- Enter your email address and the password "*Bears01*"
- Go to *Create Message*
- If you're a new member, please submit a paragraph about your project and include your contact information so we can all get to know you.

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Other Important IBA Student Links

- www.bearbiology.com
- Global Bear Research Program Links page — <http://www.bearkeepers.net/GraduatePrograms.htm>



Even if one could demonstrate greater selection for a certain habitat type, based on relative use and availability, what would that mean? It might mean that the most highly selected type was most beneficial, of those available. However, even that being the case, it does not follow that more of this type would be better for the bear's fitness, or that other types are not useful for additional kinds of foods, safety, etc. By observing a static system, it is difficult to discern the relative contributions of each component of the habitat. Maybe the proportional mixture of available habitats could be better, or the interspersed could be better, or additional types would be better in terms of aiding reproduction and survival. From so-called "selection" studies, one cannot tell.

The interactions between a bear and its habitat, and the effects on its reproduction and survival (fitness), are likely to be so complex as to preclude meaningful interpretation from use:availability studies alone. One solution would be to compare reproduction and survival of many individual animals that used different arrays of habitats — more simply, one could compare reproduction and survival of bears occupying two or more study sites with different habitat compositions. Even more simply, one might just apply knowledge of habitat use with some good common sense: if a habitat is used frequently and has lots of bear foods, it's obviously a good habitat. If a fancy computer program says otherwise, it's not the fault of the program, but rather the underlying assumptions about use and availability.

So back to those used cars: If the dealer had 10 rusted red Pintos, would that sway your decision?

IBA Students: if you have any questions pertaining to Dave's discussion, feel free to submit your queries on Truman! This would be a great topic!



Student Highlight

Jeff Stetz Wildlife Biology graduate student at the University of Montana

I first met Jeff during a summer field trip to Montana with my wildlife freshmen. Jeff is a graduate student under Dr. Chris Servheen at the University of Montana. His field research is being conducted in collaboration with Kate Kendall and the Greater Glacier Area Bear

DNA Project, who were kind enough to loan him to us for a day to learn about their research. Not only did Jeff present us with a great slide show of the research, but also took us into the field to check hair collection stations. Not only did the students learn a ton of great information, but Jeff's professionalism really impressed us! Jeff's primary interests are in conducting population- or ecosystem-scale research employing noninvasive sampling techniques. He first developed an interest in what came to be called noninvasive sampling while observing cheetahs during an undergraduate course in

Kenya, before he had ever heard of a hair snag or rub tree. After receiving his B.S., he jumped at the opportunity to work on the Greater Glacier Area Bear DNA Project, which was the largest application of noninvasive sampling methods to date. What should have been a 3 month volunteer position developed into a leadership role with the Greater Glacier project and subsequently the Northern Divide Grizzly Bear Project some four years later (see IBN 14(2), May 2005). This massive project, covering nearly 8

million acres in NW Montana, will yield the first defensible estimate of the grizzly bear population size in the Northern Continental Divide Ecosystem. Furthermore, it continues to present unprecedented opportunities to improve the science behind this type of field research, including study design, error-checking, and the application of multiple sampling methods to improve estimate precision. Beyond these topics, Jeff's focus (and graduate work) is on applying hair collection

from natural bear rubs in monitoring grizzly bear population trend and distribution in the NCDE. Jeff's position also has him working with federal, state, and tribal agencies to develop a database encompassing all relevant grizzly bear data for the NCDE, the first of its kind in this ecosystem. Keep up the good work, Jeff, and I'm sure we'll be seeing more of you at future IBA meetings!

Bears in Culture

Questions

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Bears have stopped hibernating in the mountains of northern Spain, scientists revealed yesterday, in what may be one of the strongest signals yet of how much climate change is affecting the natural world. But many of the 130 bears in Spain's northern cordillera - which have a slightly different genetic identity from bear populations elsewhere in the world - have remained active throughout recent winters, naturalists from Spain's Brown Bear Foundation (La Fundación Oso Pardo - FOP) said yesterday. . . . The behaviour change suggests that global warming is responsible for this revolution in ursine behaviour, says Juan Carlos García Cerdón, a professor of geography at Santander's Cantabria University, and a climatology specialist. . . . We cannot prove that non-hibernation is caused by global warming, but everything points in that direction.

For the past two summers University of Alberta northern researchers have seen, as Robert Service might have phrased it, some

queer sights - namely, grizzly bears roaming where they've never been seen before. . . . Expeditions to Melville Island led by Dr. John England . . . have found evidence of grizzly bears.

In Canada researchers are finding thinner bears, reduced survival rates among cubs and falling reproductive rates among females. Gradually vanishing ice floes mean polar bears must swim farther to hunt, leading to more drownings and more acts of cannibalism by hungry bears.

The US Fish & Wildlife Service has listed the proposed listing (of polar bears under the Endangered Species Act) on the website of its Alaskan division, and notes that it anticipates publication of the proposal in the Federal Register on January 11, 2007. "Polar bears are one of nature's ultimate survivors, able to live and thrive in one of the world's harshest environments," Kempthorne (Secretary of the U.S. Department of the Interior) said. "But we are concerned the polar bears' habitat may literally be melting. Based on current analysis, there are concerns about the effect of receding sea ice on polar bear populations," he said.

Hedgehogs breeding rather than going into hibernation in the fall; primroses, daffodils and other wild plants blooming through the winter in Europe; red admiral butterflies and dragonflies flying in December in England; marmots emerging from

hibernation weeks early in the Rocky Mountains; robins and juncos over wintering in Fairbanks. The world has gone mad!

Camille Parmesan and Gary Yohe (2003) would not be surprised by these oddities. After completing a meta-analysis of 1,700 species they found that there have been, among a myriad of species, significant range shifts toward the poles and significant mean advancement of spring events including arrival times, peak flight date, bud break, nesting, egg-laying, and flowering. They found similar results for fall events including timing of entry into hibernation. They conclude that these trends match what would be expected based on climate change predictions.

An increasing number of resources are being targeted to investigate the effects of climate change and scientists across disciplines are interpreting their work within the context of climate change. But bears abandoning dormancy because the weather is mild enough that food is available well into the winter . . . how is the folk tradition going to handle this?

Think of all of the bears who populate our childhood narratives. Dormancy is one of their essential traits, just as migration is for many birds, and metamorphosis is for frogs. Humans observed these and other natural processes and developed a rich

body of lore based on them to explain the world as they experienced it, and to shape their behaviors. We have relied on these processes as constants in our cultures and now they are changing. If bears don't become dormant in the winter, if birds don't migrate, and flowers bloom all winter, what stories will we tell? What moral conclusions will we draw?

Bears have been integral to human myth and tales since we could communicate. The miracle of remaining underground for months at a time during the harshest time of the year only to emerge in the spring, alive, has led to the association of bears with dreams – sleep being the dormant period – healing, the seasonal cycle, earth's fertility, and the return of spring. A sow bear going into her den before blastocysts implant looks no different than any other bear, but then she emerges with cubs! She becomes the embodiment of the seasonal cycle, the earth's fertility, the possibility of virgin birth, and the return of spring. In oral traditions

across the northern hemisphere the bear, more than any other species, has been the intermediary between humans and animals, the earth and the heavens and the underworld, and between life and death – the virtual embodiment of life after death. Will all of these associations be abandoned if bears cease entering dormancy?

Folklore is the result of a dynamic evolving process: a perpetual interplay of text and context. Every group with a sense of its own identity shares traditions – the things that they, do, know, make, and say. As the context changes, the text does too. Folklore evolves as a reflection of social conditions, cultural experience, and the natural context in which the culture exists. While we document the physical changes that result from climate change, we should also track the folkloric evolution that will inevitably follow. We may learn more than we think.

Selected Literature

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United States Fish and Wildlife Service – Alaska <http://alaska.fws.gov/fisheries/mmm/polarbear/issues.htm>

University of Alberta Express News. 2 Jan 2007.

Asian Bear Country Report is Now Available!

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Asia is home to six of the eight living bear species; including Asiatic black bear, brown bear, sun bear, sloth bear, panda and polar bear. Unfortunately, there is very limited

information available on the status and ecology of these bears in Asia.

The IUCN bear status report published in 1999 provided a comprehensive summary on the status of bear species in the world, and has been a great source of information for researchers and others concerned with bear conservation. However, some of the descriptions on Asian bears in that IUCN report were partially incomplete due to a lack of data. Since publication of the IUCN report research has continued to improve our knowledge of the status of bears in Europe and North America but research and data on status of bears in Asia have developed much more slowly.

Asian bear biologists have been concerned that more data has not become available on the status of Asian bears. As a result the Asian bear country report was written with input

from Asian biologists throughout the region in order to summarize, with updated information, the status and conservation of bears in Asia.

This report appears in print in English (ISBN4-9903230-0-9) and is also available for download from our website. The website will provide an English version as well as eventually versions in the language of each country covered in the report. The purpose of providing the report online and in multiple languages is to not only share scientific information on Asian bears with other scientists and bear managers but to provide this information to the general public thereby creating greater awareness of the status of bears in Asia and the importance of their conservation.

This report is one of a series of commemorative publications published by the Japan Bear Network (JBN), a nonprofit organization

Publications

Publications

established in 1996 and composed of individuals concerned about the conservation of Japanese bears. Members of the editorial board are all volunteers and began their work on this document in December 2003.

At the moment only the English version is available but versions in other languages will be posted on the same site soon! Please visit the website below and download the report today. <http://www.japanbear.org/iba/110information/>

Recent Bear Literature

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Communications

Polar Bears: a Guide to Safety

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The Safety in Bear Country Society (SIBCS) is pleased to announce the release of a multi-language version of their fourth program in the Safety in Bear Country video series: "Polar Bears: a Guide to Safety". This program is now available in English, French, and Inuktitut and all 3 language versions are on the DVD.

Polar Bears: a Guide to Safety

contains important information on how people can reduce their chance of encountering a polar bear and how to best respond if they do meet a bear. This program was a collaborative effort of the SIBCS with many people knowledgeable about staying safe in polar bear country, including Inuit elders and polar bear hunters, other northern residents, research scientists, wildlife managers, and bear viewing operators.

All four SIBCS programs, including Polar Bears: a Guide to Safety, Staying Safe in Bear Country, Working in Bear Country, and Living in Bear Country are available in DVD or VHF formats from Distribution Access at: Toll-free 1-888-440-4640, Fax 1-780-440-

8899, www.distributionaccess.com, or sales@distributionaccess.com

The SIBCS is a non-profit society dedicated to educating the public about safety around bears. All money raised from program sales goes into future education efforts. For more information on any of the SIBCS programs, please see the Distribution Access website or contact myself or one of the other members of the SIBCS below. Please pass this message to anyone you think would be interested.

18th International Conference on Bear Research and Management

November 4-10, 2007

Monterrey, Mexico

<http://ckwri.tamuk.edu/blackbear/IBAconference>

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Summary of Important

Dates:

Conference Dates: November 4-10,
2007

BSG Groups and Student Workshops:
November 10-11, 2007

Abstract Submissions: Begins
February 1, 2006, closes May 1,



2007

Travel Grants: Begins April 1, 2007,
closes September 14, 2007

Early Registration: Begins April 1,
2007, closes October 1, 2007

Location

Monterrey, Mexico, has been chosen as the site for the 18th International Conference on Bear Research and Management, to be held November 4-10, 2007. The IBA conference will coincide with UNESCO's Universal Forum of Cultures (<http://www.monterreyforum2007.org/>), which will take place September-December 2007. Though Monterrey is Mexico's third city, it is beautifully situated at the head of the Sierra Madre Oriental mountain chain. Monterrey is located only two hours south of the U.S. border, and rests in the Tamaulipan thornscrub/Chihuahuan desert at approximately 800 m above sea level. The Sierra Madre dramatically rises up to pine/oak forests at 2000 m within one mile of the city's edge. November was chosen for the conference because of the potential to see high bear activity and experience pleasant weather conditions.

Several key bear areas are within a 1-hour drive of the city. Due to habitat encroachment, an increasing bear population, and possibly drought-related bear movements, reports of

bears and bear-human conflicts have been increasing. Interest in bears is high, both publicly and within management agencies. Bear research and management in Mexico is an issue that has recently received attention at both the state and federal level, but an active conservation strategy is lacking. This conference will bring attention to bear conservation at a crucial turning point and will encourage biologists to seek training in the area of bear research and management.

Conference Program

The conference begins on Sunday evening, November 4, and ends on Saturday, November 10. Bear Specialist Groups will meet on Saturday, November 10. In addition, special student sessions and training workshops will take place on Saturday and Sunday, November 10-11, 2007.

Registration and Travel Grants

Registration will begin April 1, 2007, via website or fax. Early registration will be available and is encouraged. Reduced fees will be available for students and participants from less-developed countries (see list via conference website at <http://ckwri.tamuk.edu/blackbear/IBAconference>). Travel grant applications can be downloaded from the website

Events

beginning on April 1, 2007. Deadline for submission of travel grants will be September 14, 2007. All travel grants will be handled in U.S. dollars, and arrangements will be made to facilitate check cashing on the conference premises.

Facilities and Transportation

Monterrey is a progressive city, and facilities are ideal for the IBA's conference needs. Monterrey has an international airport with 250 daily, direct flights from Mexico City, Dallas, Houston, New York, Chicago, Memphis, Atlanta, and Los Angeles. The recent United Nations International Conference on Financing for Development was held in Monterrey at the CINTERMEX Conference Facility, where they hosted over 50 heads of state. The Monterrey Office of Conventions and Visitors (OCV), which coordinated the UN Summit, will be helping us to organize the IBA conference at the same conference facilities (See <http://www.cintermex.com.mx/> and <http://www.parquefundidora.org/>) and to obtain discount airfare rates for conference participants. More

information on connecting flights from Europe and South America can be viewed at <http://www.ocvmt.com/>. The OCV will be assisting with services such as language translation (Spanish, Russian, Japanese, and others), field trips, immigration permits, and logistics. Excellent lodging facilities (US\$85 per night) are connected to the 350-acre enclosed conference site, which also contains a large eco-park, museums, and family areas, and is conveniently located close to banks and great restaurants. Less expensive hotels (US\$30-45 per night) are within a 5-minute metro-ride of the park. In addition, we will have special housing for students and those that cannot afford lodging. Corporate sponsorship is expected to cover expenses for some conference meals, field trips, and special events; registration costs, therefore, will be kept at a minimum. We will have direct communication with the Mexican Consulate and U.S. Embassy to ensure that immigration procedures go smoothly for conference participants. Any travel into Mexico will require a passport beginning in 2007.

Field Trips

Field trips will include the Chipinque National Park, the Sierra los Picachos, and Cumbres National Park (black bear study areas). Garcia Caves, Horsetail Falls, and the Mina Archeological Area are also close-by. Bird-watching includes a large population of red-fronted parrots and migratory songbirds; monarch butterflies may also be migrating along the Sierra Madre during that time. The conference site is close to the historic downtown area, as well as natural and scenic areas. The Coordinating Committee will assist conference participants in arranging travel for those wishing to visit other natural areas and parks of Mexico before or after the conference.

Workshops and Meetings

IBA committees, working groups, and workshop coordinators who wish to schedule meetings/workshops during the conference, please contact Diana Crider at d-crider@tamuk.edu before April 1, 2007 to schedule these events.

Call for Papers and Posters

The conference will cover all aspects of bear research and management. There will be four types of presentations:

1. Invited speakers (25 minutes, 5 minutes for questions)
2. Invited Panel Speakers
3. Oral Presentations (15 minutes, 5 minutes for questions): Graphics and Powerpoint presentations must be presented in English, the official language of the IBA. However, presenters may *narrate* their presentations in other languages, and simultaneous translation will be provided.
4. Posters and Graphic Displays: LCD panel displays are permitted (no sound), but advanced notice must be given regarding electrical hook-ups or display tables. Each presenter will be given a total space of 90 x 150 cm. Please include a





photo of the presenter for each poster/display. Posters must be presented in English. Presenters will be required to attend their posters during the allotted sessions.

Submissions for Presentations

Authors wishing to present their work in the conference, either as an oral or poster presentation may submit a summary of that work beginning February 1, 2007. Summaries must be submitted electronically via the conference website, though exceptions will be made for participants who do not have access to the internet. Summaries can be up to one page of single spaced text (500-600 words). Summaries should include information on sample size, study duration, major findings, new information gained, and the utility and significance of the study. Submissions should indicate whether the entry is for oral or poster presentation. The number of slots for oral presentations is limited; presentations will be selected to provide a varied and exciting program of papers based on the project summaries submitted. Authors not chosen for an oral presentation are encouraged to present their

work in poster format. Deadline for submission of summaries is May 1, 2007.

Ursus Submissions

Submission of a full manuscript to *Ursus* (the peer-reviewed journal of the IBA) is encouraged and may be a factor in selecting papers for oral presentation. Authors of poster presentations are also encouraged to submit full papers to *Ursus*. Please consult the website for more information about submissions to *Ursus*.

Authors submitting to *Ursus* are reminded that page charges are US\$90 per printed page and are the responsibility of the author. Typically, 2.5 pages of double-spaced manuscript equals one page of final printed text. IBA Publication Grants are available to cover full or partial costs of publications. Contact Frank van Manen at vanmanen@utk.edu for more information.

Website information regarding this conference can be found at <http://ckwri.tamuk.edu/blackbear/IBAConference> beginning December 1, 2007. Registration forms will be available in upcoming editions of the IBN and on the website beginning in April 2007.

19th Eastern Black Bear Workshop

The West Virginia Division of Natural Resources, Pennsylvania Game Commission, and Maryland Department of Natural Resources will be hosting the 19th Eastern Black Bear Workshop, scheduled for Spring 2007.

Dates

April 10-12, 2007

Location

National Conservation Training Center in Shepherdstown, West Virginia, USA

Registration & Lodging

Registration forms and details are available on the internet at <http://bsc.wvdnr.biz/blackbear> Cost for workshop registration is \$125, which includes all socials, breaks, evening guest lecture, and proceedings.

The workshop will be held at the National Conservation Training Center in Shepherdstown, West Virginia. Rooms are available at the Training Center complex for \$110.00 single or \$76.00 per person if sharing a room. These prices include room on night of check-in, dinner that night, and breakfast and lunch the next day. Availability of double rooms is limited. Contact the Training Center at 1-304-876-7900 to make lodging reservations and mention you are attending the 19th Eastern Black Bear Workshop. Rooms will be held at the Training Center until February 9th, after which availability cannot be guaranteed.

Travel

The nearest airports are Dulles International airport in Washington, DC and Baltimore-Washington International Airport in Baltimore, MD. Car rentals are available at both airports. Limited shuttle service from Dulles International Airport to NCTC

Events

also is being planned. Details on shuttle service and driving directions to NCTC are available on the internet at: <http://bsc.wvdnr.biz/blackbear/default.aspx>

Theme

Human-Bear Conflict
Management: aversive conditioning and information outreach

Schedule of Events

Monday, April 9

Afternoon registration
Evening social for those arriving early

Tuesday, April 10

Morning registration
1:00 pm Opening remarks, Status Reports
3:00 pm Selected paper presentations
Evening social sponsored by Bear Trust International with selected posters on display

Wednesday, April 11

Morning workshop session
Aversive Conditioning – state of the science, its use, and developing recommended protocols
Afternoon workshop session
Information/ Outreach Programs – developing and evaluating success of outreach messages
Evening speaker, John Hechtel, Alaska Fish & Game Dept.

Thursday, April 12

Morning: session summaries & business meeting

Questions?

If you have any questions, please contact one of the following individuals.

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10th Western Black Bear Workshop

Spring 2009

The 10th Western Black Bear Workshop will be hosted by the Nevada Department of Wildlife in the Reno/Tahoe area, Spring of 2009. Please feel free to send suggestions on a theme, comments on past workshops, or any other information you feel is important. Exact dates are to be determined, but we are hoping to avoid conflicts with other pertinent conferences. Contact Carl Lackey at cdembears@aol.com or +1 775-720-6130.

2007 Captive Bear Husbandry and Welfare Symposium

The 2007 Bears Informational Exchange for Rehabilitators, Zoos, and Sanctuaries' (BIERZS) Captive Bear Husbandry and Welfare Symposium is tentatively scheduled for August or September of 2007.

Co-Chairs: Else Poulsen and Jordan Schaul

Updates will be posted on www.bearkeepers.net/bierzs.htm



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Fax: +1 865-974-3555 or Email: jclark1@utk.edu

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IBA Member Application, page 2

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Please check columns in which you have expertise and/or are willing to assist / advise IBA

		1. Expertise	2. Advise/Assist IBA			1. Expertise	2. Advise/Assist IBA
Accounting				Legal			
American Black Bear **	years			Legislative Process			
Asiatic Black Bear **	years			Life History			
Andean Bear **	years			Management			
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Bear-Human Conflict				Media Relations			
Bears in Culture				Mentoring / Training *			
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Bylaws *				Nominations *			
Brown Bear **	years			Nuisance / Damage Management			
Conferences *				Nutrition			
Conservation *				Organizational Development			
Disease				Pathology			
Economic Development *				Physiology			
Education / Outreach *				Polar Bear **	years		
Enforcement				Policy *			
Ethics *				Population Dynamics			
Evolution				Quantitative Analysis			
Field Research				Sloth Bear **	years		
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Husbandry / Zoo				Other - Specify			

** Please indicate number of years of experience with each species

* Indicates an IBA committee

Please check all academic degrees earned: BA/BS MA/MS PhD/DVM Other (list) _____

Please list major field of study _____

Please list all countries in which you have worked with bears _____

Please list languages in which you are fluent _____

What changes/improvements would you like to see in the IBA (newsletter, *Ursus*, conferences, etc.)? _____

How can IBA better serve its membership and/or help you? _____

Check here to include your name in the IBA membership directory

Thank you for completing the survey. Please tear out and mail or fax!

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Ursus

Volume 16(2) 2005

An Official Publication of the International Association for
Bear Research and Management



Ninth International Conference on Bear Research and Management
Monograph Series No. 3

Density-Dependent Population Regulation of Black, Brown, and Polar Bears

Edited by Mitchell Taylor

with contributions from
David L. Garshala on black bears
Bruce McLaren on brown bears
Andrew Derocher and Mitchell Taylor on polar bears

An invited paper presented at the Ninth
International Conference on Bear Research and Management

MISSOULA, MONTANA, USA
February 23-25, 1993

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Bear Research and Management



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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 (USA tax #94-3102570) open to professional biologists, wildlife managers, and others dedicated to the conservation of all bear species. The organization has over 550 members from over 50 countries. It supports the scientific management of bears through research and distribution of information. The IBA sponsors international conferences on all aspects of bear biology, ecology, and management. The proceedings are published as peer-reviewed scientific papers in the journal *Ursus*.

IBA Mission Statement

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

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

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

Deadline for the May 2007 issue is April 5, 2007

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