



International Bear News

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

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Contents

Council News

- 2 From the President
- 4 Secretary's Report: IBA Election
- 4 Journal News
- 5 IBA Grants Awarded

Eurasia

- 6 Yakutia Brown Bear Foods
- 7 IBA Supports USA/Russia Polar Bear Agreement
- 8 News from Thailand
- 8 Brown Bears on the Move in Serbia, Slovakia and Turkey
- 9 Brown Bear Attack in Central Sweden

North America

- 10 Bear Numbers Decline at McNeil River
- 11 Alaska: Kodiak Management
- 13 Central USA and Canada: Michigan Staff & Manitoba Big Bear
- 13 Updating American Black Bear Management
- 15 Quebec: Wrong Bear Euthanized
- 15 Grizzly Bears & Army Cutworm Moths
- 16 SE USA: Arkansas & North Carolina Harvests
- 18 SW USA & Mexico: Operation Bear Den, Texas Working Groups, Mexico Meeting

Zoo News

- 21 Webcam Cubs in Sweden
- 21 Bear TAG Assists Sun Bear Study

Student Forum

- 22 New Student List Serve
- 23 Data Collection: Nothing but the Facts, Ma'am

Bears in Culture

- 28 Bear-hunting Dogs

Communications

- 30 New Bear Safety Videos
- 37 15th E. Black Bear Workshop Proceedings
- 31 Polar Bear Specialist Group Home Page



LIVING WITH BEARS

14th IBA Conference
STEINKJER 2002

Events

- 32 Grizzly Bears: Small Populations Workshop
- 32 Eighth Western Black Bear Workshop
- 32 Future IBA Conferences
- 32 2nd International Bear Symposium
- 32 Bryoria Workshop
- 33 14th IBA Conference Information
- 35 14th IBA Conference Program
- 37 14th IBA Conference Excursions
- 38 14th IBA Post-conference Trips
- 39 14th IBA Registration Form

IBA

- 40 About the IBA and Contact Information
- 41 IBA Membership Application & Survey
- 43 IBA Publications Order Form

From the President

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If, 100 years from now, bear populations are at least as secure than they are today, it should be in part due to the commitments made by today's IBA members. It is not enough to view stewardship of bear populations as an intellectual exercise of what *could be* achieved if only others would listen. Rather it is a matter of searching for solutions to persistent problems or questions that affect the continued existence of bears and bear habitat. Achievement of our goals will not come from flashes of brilliant scientific breakthrough but by application of many small but sure steps toward bear conservation.

All IBA members should be involved in this commitment, through research, management, education, or community involvement. Our publications and conferences serve as forums for the exchange of ideas and challenges among members. Education of policy makers is crucial but no more so than that of local people who must share their resources with bears. Commitment of time and energy at all levels contribute to the end goal. It is as a group that we are most effective. Contact me if you are interested in supporting efforts on any front.

Conferences

The 14th international IBA conference will be held in Norway this July (see pages 33-39). This promises to be an outstanding meeting in a spectacular Norwegian fjord setting. The theme of "Living with Bears" is an important one to all of us. See page 32 for information about other conferences.

Elections

During the 13th conference, members voted to improve international representation and to provide better continuity within the IBA council. Because of the importance of international issues in bear conservation and our increasing involvement in such issues, it is crucial that we also have broad-based international representation. Members changed the bylaws to include two vice president positions, one for Eurasia and one for the Americas. In addition, the election of the vice president-Eurasia and two of the five council seats are now held in conjunction with the first Eurasian meeting following the Americas conference. Currently nine of 12 council positions are held by North Americans,

The Nominating Committee provided a slate of excellent candidates for the upcoming election (see page 4). The bylaws also provide that additional nominations will be accepted by the secretary 65 days prior to the conference, until May 24, 2002. These are working positions and require a substantial time commitment. Candidate statements of about 250 words should accompany nominations. Mail-in ballots will be sent to all members.

State of the IBA Economy

Although IBA is growing and now includes about 750 members, some functions are under-funded. We remain an entirely volunteer non-profit organization with no employees; we contract for the editing and production of *Ursus*.

The IBA grants program funds research, management, and conservation efforts, primarily for projects that promise the greatest conservation gain for bears with very modest support. The demand for assistance with at-risk bear conservation issues far exceeds our funding ability, so most of our support has gone to projects in countries with emerging economies.

Sales of institutional or agency memberships and the journal *Ursus* are low and council is exploring avenues to increase these. Suggestions from members will be very welcome. Are *Ursus* and *International Bear News* useful in your efforts? Would you favor IBA membership including both publications for one price?

If your institution or a co-worker would benefit, convince them to become a member. Donations can provide memberships to deserving educators, managers or researchers.

Donations of airline miles for recipients of travel grants to conferences are welcome.

Council approved \$2,250 for the IBA grants program. Including this amount, a total of only \$17,000 was available for the grants program, due primarily to poor stock market performance. See page 5 for a summary of 2002 IBA grant awards.

Donations to any IBA program are used to provide the greatest benefit to bear conservation. If you have suggestions or observations on how IBA could more effectively meet its goals on behalf of bear conservation, contact me.

Bylaws Changes

Council passed a number of interim amendments to the bylaws (see below). The amendments will remain in effect until voted upon by the membership. The interim amendments include a new section stating that IBA will not tolerate discrimination. Another defines the timing and location of conferences. Finally, amendments were made to permit nominations for IBA offices to be accepted until 65 days prior to the appropriate conference rather than 90 days, to allow ballots to be mailed to members; and to prevent incumbents seeking re-election to handle ballots. These last changes are underlined. Any member may propose amendments to the bylaws.

Article II. Memberships.

Section 5 (New). Discrimination.

In any of its functions, IBA will not tolerate discrimination against any person on the basis of gender, sexual orientation, race, religion, country of national origin, or professional discipline. A finding by a two-thirds vote of Council that any IBA member, contractor or employee is guilty of discrimination or sexual harassment will be cause for appropriate disciplinary action.

Article VI. Periodic Meetings.

Section 1. Date and Place.

Periodic conferences and associated general membership meetings shall be set by the Council. Conference Organizers are expected to follow IBA Conference Guidelines and communicate progress regularly with Council.

When choosing conference dates and locations, the Council shall consider both a) the regional make-up of the membership and b) how conference siting can positively influence bear conservation in host locations. Selection criteria for

conference locations and times will be flexible, but generally there will be two conferences every three years with conferences alternating between the Americas and Eurasia. In addition, Council may sponsor additional conferences in "off years," when viable proposals have been received from potential host countries and Council feels that such conferences would further the goals of IBA around the world.

In addition to general conferences, Council may at any time choose to sponsor or provide various types of support for other workshops and meetings. These are typically narrower in scope than general conferences, focusing on specific topics, species, or regional issues related to bear conservation, research, and management.

Article V. Elections.

Section 1. Nominations.

Six months prior to the conference held in the Americas, the President shall appoint a Nominating Committee. Within 30 days of the beginning of this period, the Nominating Committee shall provide to the Secretary the names of at least two regular members as nominees for each of the four offices, including nominees for Vice President (Americas), but not Vice President (Eurasia), and at least one name for each of the three elected Council seats. The incumbent officers can be re-nominated for offices or the Council unless they decline or are elected to another office. The Secretary will compile the list of nominees received from the Nomination Committee along with any additional nominations. Additional nominations, including candidate statements, will be accepted by the Secretary from any member up until 65 days prior to the appropriate conference. Any nominator must certify that nomi-

nees are members, have agreed to run for office, and have agreed to serve if elected. All nominations received will be placed on a ballot and circulated to IBA members, in the Newsletter or by mail. Election of the Vice President (Eurasia) and two elected Council seats will follow the same procedures but the timing of the nominations and election will be related to the dates that the Eurasian conference is held.

Section 2. Balloting.

The election of all officers shall be by mail ballot. Ballots will be provided before the appropriate Conference. Ballots will be accepted by the Secretary until the Association meeting, or by a replacement designated by the President if the Secretary is running for an office. At the Association meeting the Nominating Committee will open and tabulate all ballots. Members of the Nominating Committee who are running for office at the time of balloting may not perform this function, but the President will appoint replacements. The nominee receiving the largest number of votes for each office shall be elected. Council nominees with the largest number of votes shall be elected to the Council. In the event of a tie, the presiding Council shall immediately vote by secret ballot to decide the winner. The results of the election shall be reported at the next membership business meeting and in the first Newsletter following the election.

Secretary's Report: IBA Election

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The nominations committee of Jon Swenson, Djuro Huber, Lydia Kolter and Karen Noyce provided IBA council with the following candidates for the upcoming election:

Eurasian Vice President:

- Jon Swenson (Norway)
- Jiska van Dijk (The Netherlands)

Two Council Positions:

- Diana Doan-Crider (USA)
- Piero Genovesi (Italy)
- Djuro Huber (Croatia)
- Dave Immell (USA)
- Georg Rauer (Austria)
- Mike Vaughan (USA)

Additional nominations will be accepted until May 24, 2002. IBA members may nominate themselves or other members. All candidates must be current members of IBA and willing to serve on the IBA council. Send nominations to the address above.

By June 1, 2002, a final slate of candidates, statements by each candidate, and a ballot will be mailed to all IBA members.

Journal News

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Ursus Update

Ursus 12 is out and available for sale (use the form on page 43 or at www.bearbiology.com); *Ursus 13* is shaping up well and will be published during autumn 2002. Look for the contents of *Ursus 13* in the August newsletter. That must mean the *Ursus* staff is gearing up for *Ursus 14*.

Ursus Needs Associate Editors

Acting as associate editor is one of the most rewarding, if challenging, ways to make a contribution to the IBA and our professional journal. Associate editors for *Ursus* assist the editor in ensuring that peer reviews are conducted in a timely manner. They also provide their own review of papers assigned to them. They then make recommendations to the authors if revisions are necessary, and ultimately make a recommendation to the editor regarding acceptance or rejection. Associate editors may be assigned up to seven papers in any calendar year.

It's an important task, and requires that some time be set aside for it. It also requires being able to deal effectively with authors and reviewers, and demonstrated skills to assess strengths and weaknesses of technical manuscripts. We need volunteers to act as associate editor for *Ursus 14* now. If you're interested, please contact me. (Failure to volunteer is not a guarantee you won't be asked.)

Support Your Local Librarians! Strong-arm Them into Subscribing to *Ursus*!

We are now encouraging libraries and reading rooms that routinely maintain collections of wildlife literature to subscribe to *Ursus*. We have sent free copies of volumes 11 and 12 to more than 100 university libraries in the U.S. and Canada, institutions overseas with complimentary memberships, as well as a few agencies and non-governmental organizations. Our intent in doing so is to encourage these libraries to subscribe, and thus receive future volumes regularly. Our letter to them encouraged that, but much stronger incentive comes from face-to-face communication, or personal letters from staff or friends. If you work at a university, an agency that maintains a collection of scientific literature, or any type of organization with a reading room or literature collection, please contact the collections manager and encourage them to subscribe to *Ursus*. It's coming out regularly now (in the autumn of each year) and the quality keeps getting better. Institutional subscriptions are US\$100/year or US\$250 for three years.

IBA Grants

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Grants Due December 31, 2002

Grant requests for 2003 must be received by December 31, 2002. Applications for grants must be in English and sent electronically, unless it is simply not possible. The IBA application must be used (available from the address above or at www.bearbiology.com). Applications should not exceed four pages in length not counting budgets, endorsements, and other supporting documents which may be attached. The application must include a description of all items listed on the grant application form. Proposals will be strengthened if IBA funds are matched in part with funds from other sources.

The IBA council has directed the grant review committee to give special consideration to proposals from countries where project funding is difficult to obtain. However, proposals will be considered from all parts of the world, from graduate students, and from established workers. The committee will attempt to fund proposals which they determine to most likely benefit significant, biologically sound bear conservation and management efforts.

Changes in the grant review process are being considered, so watch the newsletter and the website (www.bearbiology.com) carefully.

2002 IBA Grants Awarded

The IBA Grant Review Committee has completed its review of 24 proposals (one was withdrawn) and has authorized grants to five applicants. The funds available this year were somewhat reduced as a result of poor stock market performance, however a total of \$17,000 was made available to the committee: \$12,250 from the John Sheldon Bevins Memorial Foundation (after travel grant funds were subtracted), \$2,000 from an anonymous donor, and \$2,250 from the IBA council's resources. The 23 active proposal requests totaled nearly \$130,000. Many very deserving proposals were not funded. We reviewed proposals for work dealing with six bear species in nine countries.

The successful applicants and their proposals are:

- **William Leacock**, doctoral student at the University of Idaho—population ecology, genetics, habitat use, and movements of *Ursus arctos* in Kamchatka (\$8,000).
- **Bernard Peyton and Heinze Plenge**, Chaparri Program—training continuity for local workers establishing a conservation program for *Tremarctos ornatus* in Peru (\$3,500).
- **Hillary Robison**, doctoral student at the University of Nevada, Reno—completion of genetics work on an ecological study of army cutworm moth in the Rocky Mountains, USA (\$1,700, final year of three years of support; see page 15.)
- **S. Sathyakumar**, Wildlife Institute of India—survey of and conflict resolution relating to *U. arctos* in India (\$1,500).
- **Cora Varas**, doctoral student at the University of Arizona—genetic characterization of *T. ornatus* in Ecuador (\$2,300).

All grant recipients have been requested to provide descriptions of their work and results for the IBA newsletter. The Chaparri project was described in the February 2002 newsletter and Robison's work is described on page 15.

In addition to the basic quality of the project outlined, the committee attempted to consider such factors as the status of the species or population concerned, the significance of the proposed work to bear conservation, and the relative availability of other funds for doing the work. Fortunately, the committee members made very similar assessments when ranking the proposals.

The current committee would like to thank all applicants and those who provided references for their help with the task. We also want to reiterate our thanks to the John Sheldon Bevins Memorial Foundation, an anonymous donor, and the IBA council for supporting the grant program. As committee chair, I want to publicly express my appreciation for the guidance and help provided by the other members of a widely scattered committee. They are: Todd Fuller (University of Massachusetts), Al LeCount (Arizona Game and Fish Commission, ret.), and Hocking College), Jon Swenson (Agricultural University of Norway), and Gordon Warburton (North Carolina Wildlife Resources Commission).

Yakutia Brown Bear Foods

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In Yakutia, vegetable matter is the base of the brown bear's diet. Predatory behavior is rare and is usually the result of a seasonal crop failure or absence of primary vegetable foods. Food varies with the seasons of the year and geographic zones.

The main brown bear foods are *Pinus pumila* seeds and *Vaccinium uliginosumi* berries in the mountainous and mountain-taiga areas of southern and northeastern Yakutia. Almost every year abundant crops of *V. uliginosumi* berries are available in southern Yakutia. *Vaccinium vitis-idaea* fruits often and abundantly, and is consumed in great quantities in years of poor berry crops. An abundant fruiting of *P. pumila* occurs every two-to-three years. *P. pumila* seeds supply brown bears with high calorie food in autumn and after den emergence in spring. In the Chersky and Momsky ridges and in the Yukaghirs koye plateau, brown bear feces contained primarily *P. pumila* seeds, *V. uliginosumi* and *V. vitis-idaea* berries, and *Empetrum sibiricum*. In summer, grassy plants are the primary diet.

In southwestern and southern Yakutia the main fattening foods are *Pinus sibirica* seeds and *Vaccinium uliginosumi* berries. *P. sibirica* grows in small quantities on the summits and upper slopes of hills along with *Larix dahurica*, *Pinus silvestris* and *Picea obovata*. Abundant crops of *P. sibirica* seeds occur every six-to-eight years, and, in between, production is medium or poor. Only in years of

abundance does *P. sibirica* provide enough autumn food for fat accumulation by the brown bear.

Most commonly seeds are a supplementary food. *V. uliginosumi* and *V. vitis-idaea* berries are prominent brown bear foods. In all seasons, grassy plants are the primary diet.

The main fattening food of the brown bear are *V. uliginosumi* berries which ripen at the end of July and early August, and are available until the first snowfall. *V. vitis-idaea* is widespread in Yakutia. Its berries overwinter on the bushes. After leaving its den, the brown bear feeds on the previous year's *V. vitis-idaea* berries until grassy plants begin to grow. In a year following an abundant crop of *V. vitis-idaea* berries, all brown bear feces found in May and June (n=122) contained its berries and leaves. An abundance of *V. vitis-idaea* berries in spring may increase cub survival. In years following an abundance of berries, the frequency of females with two-to-three cubs increased. Limited *Rubus rubrum* and *Rubus paniculatus* along rivers and streams have little importance in the brown bear diet. The berries of *Vaccinium myrtillus* and *Ribes dikuscha* are of particular concern in the bear diet. In areas where *R. dikuscha* is abundant in flood-plain larches, it has great value. In areas of abundant *Sorbus sibirica* and *Padus asiatica*, the beasts feed on the berries. In the light larch forest the berries of *Rubus chamaemorus* prevail in the diet. In search of these berries the beasts travel far into the tundra zone where fattening foods are *V. uliginosumi* and *R. chamaemorus* berries. In years of abundant berries, the bears winter in the tundra zone.

The main summer diet of the Yakutia brown bear is grassy plants. After leaving their dens, bears concentrate on the southern slopes

of mountains and hills, where the snow melts first. Here in the blazing sun the first green grass appears. Here the grazing beasts may be seen twenty-four hours a day.

By June, the beasts switch wholly to cereals, sedges and horse-tails. Cereals and sedge plants are gradually reduced and by August the beasts feed only on particular species, i.e. *Agropyron repens*. Then succulent tall-herbaceous vegetation appears—*Heracleum lisssectuna*, *Rumex thyriflorus*, *Filipendula palmate*, leguminous *Trifolium lupinaster* and *Vicia cracca*. They comprise the primary bear diet until berries ripen. Bears feed on the *Eguisetum varie* horse-tail during all snowless periods. Besides the brown bear, wild and domestic ungulates also consume *E. varie*. *Chamaenerum angustifolium*, which grows in freshly burned areas, is an important source of minerals for bears.

Ants play an important role in the diet. In spring, brown bears destroy ant hills. Remains of ants have been found in 60.6% of spring feces (n=122). Searching for carpenter ants, bears overturn rotten stumps and fallen trees. Among destroyed ant hills (n=157) 55.3% were *Camponotus sp.* and 44.7% were *Formica sp.* The *Formica* anthills examined (19.7%) were fully ravaged and no ants remained. Bears prefer large ant hills; the largest ravaged ant hills had base diameters of 1.2–1.3 m.

In summer, ants in the diet decrease and then increase again in autumn. Apparently before hibernation bears consume ants and their building materials to clean their gastrointestinal tract and form the "cork." Following the tracks of brown bears going to their dens (n=5) we found bowel contents, which contained berries and leaves of *V. uliginosumi*, *V. vitis-idaea*, ant chitin and ant building material. In southwestern Yakutia most feeding

IBA Supports USA/Russia Polar Bear Agreement

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I'd like to extend sincere thanks to all of the IBA members who wrote to John Turner, U.S. Department of State, and Gale Norton, U.S. Secretary of the Interior, asking them to support ratification and implementing legislation for the U.S.-Russia Polar Bear Agreement (see February 2002 newsletter) for the conservation of polar bears shared between our countries in the Chukchi and Bering seas. Your letters and those of other conservation organizations were instrumental in activating the process to implement the Polar Bear Agreement. As it now stands, the U.S. Department of State is in the last stages of developing the ratification package for submittal to the White House. Concurrently, the Department of Interior is completing the final review/approval of the draft legislation which will be submitted to congress for their action to give the agreement the standing of law. We are hopeful that the two processes, ratification and legislation, can be completed during the current congressional session, and that we can move forward to the positive efforts for implementation. I am cautious regarding the timing for these actions however, since it's beyond my ability to forecast the timing of this political process.

The important news is that the administration is working diligently to advance the agreement and it is now only a matter of time before the agreement becomes viable and operational.

was on *F. picea*, *F. exsecta*, *C. herculeamis sachalinensis*, *C. saxatilis* and a considerably lesser quantity of *Lasius nigrus*, *L. flavus*, and *Myrmica ruginodis*. Feces had remains of *Camponotus* (47.3%) and *Formica* (35.2%).

The brown bear seldom attacks wild or domestic ungulates. In the Lyutenga river basin (Lena river tributary) only three successful attacks of brown bears on *Alces alces* have been recorded over 16 field seasons. Four cases (n=56) of bears successfully hunting young elk and five cases of unsuccessful hunting on wild reindeer have been recorded. Records of the Olekminsky Nature Reservation during 1988-1999 show 13 ungulate deaths from the brown bear, including 11 *A. alces*, one *Randifer tarandus* and one *Cervus elaphus*. Brown bear attacks on adult male elk are never successful. Even a weak male elk can resist a bear. In October 1980 a big six-year-old brown bear was found dead after crushing an exhausted five-year-old *A. alces*. A necropsy revealed the brown bear suffered acute abdominal trauma. The bear, of average fatness, apparently attacked the elk to stockpile it for spring. The gastrointestinal tract of the brown bear was empty and the cork in the rectum was already formed.

In 1976 four dead brown bears were found in snares after being attracted to the smell of rotting snared, *Ovis nivicola*. In September 1991, a large brown bear fed on remains of *R. tarandus*, killed by wolves.

Domesticated animals become victims of the brown bear in spring especially when there has been a food failure the previous autumn. In summer the brown bears rarely attack domesticated animals. Cases of peaceful coexistence of cattle and brown bear have been observed. In agricultural regions, humans attract brown bears to domesticated animals when they improperly dispose of carcasses near settlements. Bears are

attracted to the carcasses and become predatory on cattle.

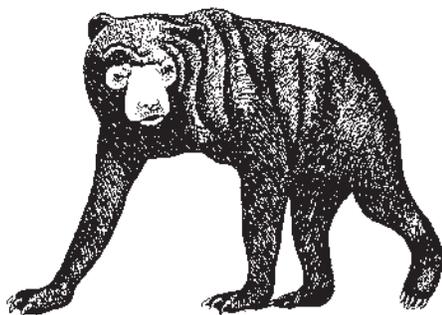
In areas with dense muskrat populations, bears specialize in preying on them. In spring and autumn, the brown bears destroy the holes of *Eutamias sibirica* and feed on their food stores and the chipmunks. In the taiga river valleys and along lake shores the brown bear often eat voles and lemmings. The brown bear finds them by smell, and punching with its paw, turns over the turf together with its victim. In summer the brown bear destroys bird nests and eats the eggs and nestlings.

Cannibalism is relatively rare and may occur any time of year. In spring, when food resources are limited, big brown bears eat bear cubs. In such years the survival of bear cubs is sharply reduced. More commonly the "shatun" bear (a non-hibernating vagrant bear) finds a dened bear, kills and eats it. We have recorded three cases of a "shatun" bear cannibalizing a bear sleeping in a den. In years of crop failure of primary fattening foods the "shatun" bears appear in large areas. Among "shatun" bears observed in Yakutia, females with yearlings are absent; apparently the result of the death of their cubs. By the end of November the "shatuns" disappear; they die of exhaustion or freeze. Yakutia literature describes cases of four brown bears dying from exhaustion and frostbite. No periodicity has been determined for the appearance of the "shatuns." For instance, in 2001, the "shatuns" were observed only in the Kolyma river basin.

There appears to be extreme competition between the brown bear and *C. Lupus*. We observed a brown bear ignore a *R. tarandus* and kill, with punches of its paws, the wolf chasing it. The brown bear did not eat the wolf.

In Yakutia the brown bear shows plasticity in its diet which contributes to the full use of available food resources.

News from Thailand **Brown Bears on the Move in Serbia, Slovakia and Turkey**



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Asiatic and Sun Bear Research Update

I finished the first set of bear sign transects, discovering that on average, bears in semi-evergreen forests are climbing 35 individual trees per ha. Somewhat surprisingly, almost 60 species of trees have been climbed in my sample, and the species-transect curve is still on the increase, indicating that more bear tree species will be discovered as I conduct more transects.

I conducted another round of claw mark analyses (see February 2002 newsletter) with captive bears at a zoo I work with in central Thailand. Once again, rotten chicken was used to lure bears up a dead tree in their enclosure. I study their claw marks after they descend.

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Problems facing bear populations in parts of Europe differ in many ways from those in North America or where bear habitat is more secure. Habitat is often intensively managed for human uses that do not account for the requirements of security and continued existence for bear populations. While recognizing that dedicating habitat for bears and providing for sustained populations is necessary, education of local people and even governments about the value of bears is also necessary.

Serbia, Slovakia and Turkey all have populations of wild brown bears but their numbers are often poorly estimated and many bear-human conflicts exist. In Serbia for instance people have a rather negative attitude towards the few bears that remain in the wild. Slovakia on the other hand struggles with its waste management and problems caused by bears attracted to it. Logging activity in Turkey results in destruction of den sites and in orphaning of bear cubs that are then found by foresters.

Slovakia

In October 2001 a nuisance female yearling was reported in the Rysy, a village in the High Tatras. The Slovakian welfare organization involved strongly insisted on not shooting the bear in the first place and took pity on it. A few weeks later this bear was caught and held in a small zoo, waiting for its placement in Poloniny National Park, north-eastern Slovakia, where at least 18 bears live. However, the park man-

ager has not yet approved the transfer and the Ministry of Environment has not issued the necessary permits yet. This former nuisance bear, which still remains in a very small cage in the zoo, has now been habituated further by keepers bringing it food and giving it attention. The Slovakian welfare organization maintains that the bear should be radio collared and experimentally released while monitoring its movements. According to the organization this bear could, through education and publicity, serve as an example for the conditions that encourage nuisance bears and for defining and implementing proper management plans that prevent these conditions.

Serbia

At the beginning of March 2002, two of the three male bears raised in a zoo and released in Tara National Park last November, were causing trouble in and around a children's camp. The facilities in Zoo Palic were inadequate and the maintenance costs too high for the zoo to continue to house these three adults (a father and two sons). The director of the zoo had interesting contacts at the ministry level and permits for releasing the bears were issued soon. The argument they used was adding new blood to the existing small population in Tara National Park. One of the three males was already missing a part of his right front leg before the release. According to local organizations involved, it was not appropriate to follow our advice to shoot the two problem bears and a special team was formed to catch the

Brown Bear Attack in Central Sweden

bears and bring them back into captivity. Unfortunately Zoo Palic had already demolished their former cage and refused to take them back. The limping bear was recaptured and the other bear disappeared. Together with the third bear that was never seen again after release, it was most probably hunted illegally. Due to the commotion around the troubles that the bears caused near human settlement, the local people now strongly oppose the presence of wild bears in the area.

Turkey

Foresters annually bring orphaned bear cubs to the Dancing Bear Rescue Center in Karachebey, southwest of Bursa. On a 4.5-hectare enclosure approximately 50 bears are kept, including former dancing bears, orphaned cubs, or other confiscated bears. The international welfare organization that initiated the set up of this center and who was in charge of its management withdrew officially their involvement in the beginning of 2001. However the fate of the orphaned bear cubs has already been determined by the Ministry of Forestry and plans call for the bears to be released back into the wild. No special training has been given to these bears to survive in the wild to enable them to behave like their wild counterparts or to minimize habituation towards humans. These factors are not necessary according to those that are pro-release.

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On November 2, 2001, a moose hunter was attacked by a brown bear (*Ursus arctos*) in central Sweden. The man was member of a hunting party, and tracking moose with a dog. In an area with young spruce plantations and thus low visibility, the dog started to bark frantically at something about 25 m away from the hunter, who, after taking a few additional steps, recognized a bear in a patch of young trees. The man tried to withdraw from the bear, but his dog ran back and forth between him and the bear and kept on barking at it. After withdrawing about 40 m, the bear was no longer visible to the hunter, but he still could hear his dog barking at it. The attack came at this moment. The man was able to shoot at the bear once, and was then thrown to the ground and bitten on his face, arm, and leg. The hunter started to scream and the bear was then attacked and bitten by the dog, which was apparently able to drive off the bear. The bear disappeared and the man was able to walk out to the nearest road by himself and call for help via a walkie-talkie.

A little later on the same day another hunter went with his dog to the place of the attack. The bear seemed not to be in the area anymore, so the dog was turned loose and followed the bear's tracks for about 1 km, but never came into contact with it. The ground was partly covered with snow, and no sign of blood from the bear was

found; apparently the self-defense shot had missed. According to the tracks in the snow the bear had been lying in an open den. No further signs of this bear were found.

The factors involved in this incident were most likely a bear in a den, the irritation of the bear by a dog, and a person very close by. The bear attack might have been a false attack that escalated into a real attack as a result of the self-defense shot. Two weeks earlier a bear had been wounded about 15 km away from the site of the attack, and has never been found. There was no evidence that the bear involved in this attack was wounded previously, but the possibility cannot be ruled out.

Including this incident, bears have injured eight people in the past 25 years in Scandinavia. Swenson et al. (1996) evaluated the seven other cases; six of the persons injured were hunters. In five cases, the bear was wounded or shot at and probably wounded, but cubs, carcasses, dogs and dens were present in some of the cases. The last time people were killed by bears was in 1902 in Sweden (wounded bear) and in 1906 in Norway (bear surprised at a carcass).

Literature:

Swenson, J. E., F. Sandegren, M. Heim, S. Brunberg, O. J. Sørensen, A. Söderberg, A. Bjärvall, R. Franzén, S. Wikan, P. Wabakken, and K. Overskaug. 1996. Er den skandinaviske bjørnen farlig? Norwegian Institute for Nature Research, Oppdragsmelding 404. (Is the Scandinavian brown bear dangerous? In Norwegian with English summary.)

Bear Numbers Decline at McNeil River, Answers Are Sought

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Staff and visitors at the McNeil River State Game Sanctuary have recently noticed a decline in the numbers of bears fishing at the river and a change in the sex ratio and age structure of the bears. However, as with any natural phenomenon, the cause and effect relationships to these changes are likely complex yet they must be understood before a cause can be cited and solutions put into action.

First, the "decline" in bear use of McNeil River Falls must be put in perspective. As an indicator, the department compares the annual mean number of bears seen at the most auspicious hour of the day from the peak seven days at the falls. Since 1990, that number has fallen from 61 bears to 39 bears in 2001. Thus, our concern is the *relative* number of bears, rather than of bears abandoning the area altogether (although recently there have been days in the shoulder seasons when only one or two bears are seen during a day). Visitors to McNeil River in mid-summer will still see an abundance of bears and it remains the world's largest concentration of brown bears.

In 1992, the Alaska Department of Fish and Game developed the long-term brown bear monitoring program for McNeil River Falls to assess whether human activities in or near

the sanctuary affect the population of bears or the bear-viewing program. A "bear-threshold criterion" was established using the mean of the median number of bears during the peak seven days of the season. The sanctuary's *Operational Management Plan* states that the department will assess the probable cause of a decline in bear use should bear numbers drop below the lower limit of the criterion. If the cause for a decline could be attributed to human use or activity, this use or activity will then be modified or discontinued so that it minimally affects the quality of the bear-viewing experience in the sanctuary.

Bear counts at the falls have fallen below the criterion's lower limit for the past three years and some people blame bear hunting outside the sanctuary and over-fishing by the commercial fleet as primary causes of this recent decline. However, sanctuary managers feel the primary reason is a shift in bear distribution during mid-summer rather than a result of legal hunting in areas to the north and west of the sanctuary. While some of these areas have recently experienced an increase in bear harvest, several factors suggest that hunting is not a factor: 1) McNeil River State Game Sanctuary is on the edge of a contiguous complex of lands totaling 14,460 km² that has been closed to bear hunting for many years; 2) the drop in bear use began three years before there was a significant increase in bear harvest during the fall of 1999; and 3) the sex ratio and age structure of bears killed near the sanctuary does not suggest an overharvested regional bear population. This information combined with other observations at McNeil River, such as a preponderance of adult males and the

scarcity of family groups (which are protected from hunting) and other less dominant bears in the past several years, indicate that hunting is not a primary cause of the decline of bear use at McNeil River.

During the peak summer viewing season, some McNeil River bears may now be foraging on salmon in nearby drainages that have high chum salmon returns while the McNeil River system continues to have low returns. Interesting patterns are revealed when historic bear use at McNeil River Falls is correlated with salmon escapement indices from McNeil River and adjacent systems. When bear counts at McNeil Falls were very high (e.g., 1985, 1990, 1997), chum salmon escapements to adjacent streams were low. Conversely, when bear counts at McNeil Falls were low (e.g., 1999, 2000, 2001), salmon escapements into adjacent streams were very high, relative to McNeil River. This may be indicative that bears will feed at sites other than McNeil River when a food supply is available; however, these patterns may also partly be due to a delay in the bear's response to yearly fluctuations in food levels at McNeil River. Because bears are long-lived intelligent animals, they establish strong traditional use patterns. In the short-term, if a food shortage occurs bears may actually spend more time trying to meet their nutritional needs. In the long-term, they abandon an unproductive food source and move to one that is more fruitful.

Assertions that fisheries mismanagement over the past 13 years is a cause of the chum salmon decline at McNeil River are not substantiated by information the department has collected. Commercial fishery openings targeting McNeil River chum salmon have been restricted

Alaska

since 1988, with most years closed for the majority, if not all, of the chum salmon return. In fact, since 1993 only five chum salmon have been caught commercially in the McNeil River Subdistrict. It is possible that the high number of bears, combined with limited commercial harvest and variable high seas conditions, have shaped the size and timing of the fish runs at McNeil.

The sanctuary's managers are currently considering research projects to investigate the McNeil River chum salmon population dynamics. Research will likely examine such factors as the available spawning habitat in the system, salmon stream life and the establishment of an in-river escapement goal to account for predation of pre-spawning salmon by bears. This information may be incorporated into the fisheries management plan for the McNeil River system and will result in a better understanding of the relationships between bears and the fluctuations in salmon populations. Combining this knowledge with past research conducted by Polly Hessing and others will allow the department to better understand the natural resources of the sanctuary and will be used to fine-tune our sanctuary management actions if deemed appropriate. However, the current decline in bear use may simply be a natural, short-lived phenomenon or may be part of decadal changes for which remedial actions are not practical.

The Alaska Department of Fish and Game will continue to work on our understanding of the McNeil River ecosystem with the goal of sustaining one of the most remarkable wildlife viewing experiences in the world.

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Send your news from Alaska to the address above. News from Alaska has been quiet for the last couple of issues due to the U.S. Fish and Wildlife Service being "off line." However, we are now back in the 21st century.

Kodiak Archipelago Bear Conservation & Management Plan

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Over the past year the Alaska Department of Fish and Game (ADF&G) has spearheaded a public process to develop a bear-management plan for the Kodiak archipelago. This plan was developed by a Citizen's Advisory Committee with agency biologists acting as technical advisors, not final decision makers.

This plan was needed because of increased demand for diverse recreational opportunities on Kodiak and the need to minimize negative bear-human interactions. Those who live, work, and recreate in proximity to these bears needed to develop a management plan reflecting current research in bear biology, habitat, and behavior while recognizing both traditional and contemporary uses of the resource. The purpose of the plan is to recommend measures to help ensure the sustainability of the Kodiak bear population, to respond to the public's desire for uses of this

wildlife resource, and to address public safety concerns.

Although the population of bears on the Kodiak archipelago is presently healthy and its habitat generally well protected, no management plan had been formalized. Because management of the bears and their habitat is a shared responsibility of ADF&G and the U.S. Fish & Wildlife Service, which manages Kodiak National Wildlife Refuge, the two agencies pooled their resources to work with the public.

Other government agencies (local, state, and federal) were involved in and committed to the plan's development. The public's involvement with, in fact its ownership of, the plan was considered crucial to the planning process. The final management plan needed to reflect the public's desires and concerns for continued use of and coexistence with bears if it was to have credibility and validity. Thus, a combination of public involvement and government commitment were the keys to the success of developing a bear management plan for the Kodiak archipelago.

To provide information so that the committee could make recommendations for the conservation and management of Kodiak archipelago bears, the plan includes chapters on the biology, history, and management of Kodiak bears prior to January 2001.

Kodiak bears live throughout most of the Kodiak archipelago and use virtually all available habitats from the coast to alpine regions. The archipelago is considered high-quality bear habitat, containing ample food, water, cover, and space. Currently, the human population and related human development have had minimal impacts on bear habitat. Potential threats include

Alaska, cont'd.

seasonal human use of inland and coastal areas, future developments (e.g., road and energy development) and related problems (e.g., oil spills) and natural occurrences (e.g., reduction in salmon stocks). Kodiak bears are adaptable.

Bear habitat and bear-human relationship are intimately intertwined; if people are not willing to make an effort to live around bears, large expanses of wilderness areas where people rarely go are necessary for sustainable bear populations. With this information in mind, the committee made a number of recommendations to protect bear habitat on the Archipelago regarding: land use, acquisition, and planning; activities on Afognak Island; minimizing habitat degradation; road building in bear habitat; motorized access; bear-use areas; human activities in bear habitat; introduced species; and salmon as a part of bear habitat.

There are a variety of situations in which bears and humans interact: killing of bears in defense of life or property; solid-waste management and storage of human and pet food; livestock ranching; bear-viewing activities; public-use and remote cabins in bear habitat; other recreational activities in bear habitat, etc. The committee thoroughly discussed the issues involving bear-human interactions and made recommendations that can have a significant impact on the future management of Kodiak bears.

Kodiak bears have been the subjects of formal research for the past 60 years. Initial research centered on bear-cattle and bear-salmon conflicts. By the 1960s, research activities evolved into a more holistic approach, looking into feeding habits, reproductive potential, growth rates, move-

ments, and population estimations. In the 1980s and 1990s, research expanded to include most of the representative habitats on Kodiak Island. Routine monitoring, based on research results and harvest reports, allows biologists to track and manage human impacts on bears. New research will fill information gaps and will be needed to address increasing and changing demands for the Kodiak bear resource. The committee recommended that ADF&G and Kodiak National Wildlife Refuge provide funding and staffing adequate to continue conducting research and monitoring of the Kodiak bear population and its habitat. The first priority should be continued monitoring of the harvest and population trends in established survey areas; in addition, other monitoring and research activities should be continued or initiated.

The committee believes that the widespread dissemination of accurate, fact-based information concerning Kodiak bears is essential for conserving bears and their habitat on the Kodiak archipelago. The primary objectives of current Kodiak bear-education efforts are to reduce negative bear-human interactions and to increase appreciation for and understanding of bears and their habitat. The committee examined a number of ways to enhance the current educational effort by establishing educational programs that provide accurate information resulting in continued conservation and management of Kodiak bears. The key to any educational effort is cooperation and commitment by all concerned to provide science-based,

accurate information in order to cultivate a well-informed public. Those who live, work, and recreate on the Kodiak archipelago need clear and useful information about bears in order to build understanding of bear behavior and to minimize negative bear-human interactions. In addition, with understanding and preparation, people can avoid bear encounters and respond wisely when they do occur. The committee made recommendations on the development and dissemination of educational and public outreach materials regarding the following subjects: general user education, hunter education, off-road vehicle user education, angler education, U.S. Coast Guard education, economic incentives and land management, village and rural residents, and funding for education efforts.

The *Kodiak Archipelago Bear Conservation and Management Plan* was distributed to the public, presented at a series of public meetings from mid-May through the end of October 2001, and posted on the project's website: <http://www.state.ak.us/adf/wildlife/geninfo/planning/kodiakbb.htm>. Public comments were incorporated into the final plan published in February 2002. With publication of this plan, strategies for implementing the recommendations will be developed. Final implementation is contingent on the standard policy processes of each agency or governing body.

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Michigan: New Bear Biologist

Effective April 15, Dwayne Etter (email etterd@michigan.gov) has been hired as the bear research biologist for the Michigan Department of Natural Resources. He fills the position previously held by Larry Visser. Larry transferred to a wildlife planner/ecologist position a little over a year ago.

Dwayne received his Ph.D. from the University of Illinois in Natural Resources and Environmental Sciences, and his M.S. from Western Illinois University. He has conducted research on a variety of urban wildlife issues, and has worked extensively with urban deer problems in greater Chicago. He also has experience with a wide range of wildlife management issues through consulting activities when he lived in New Jersey.

Manitoba: Age of Record Bear

Hank Hristienko updated Manitoba's report on its record bear (November 2001 newsletter).

Manitoba's record bear was aged by Gary Matson to be 15 years old. To think that this 856 lb. brute had never been spotted over his lifetime is hard to fathom, especially when his home range centered on one of Manitoba's most developed cottage and recreation areas.

Updating American Black Bear Management

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Perceived or real, across North America, American black bear numbers are increasing and coincidentally, so are nuisance/problem conflicts. What has changed that can help explain this recent phenomenon? As human development results in continued urban sprawl and encroaches on the bear's expanding domain, convergence, and thus interaction are inevitable. In many localities, bears are reclaiming what they had previously lost largely in part to changes to the dynamics of the landscape. At one time, rural communities lived by the adage "if it has eyes, its dies." Prior to the 1980s, landowners would generally kill bears on sight in agricultural areas and as a result, bear populations did not become established. With the help of hunters in 1980, the status of bears was raised in Manitoba from unprotected "vermin" to valued and protected "game animals." Instead of finding homesteads at quarter-section intervals where families lived on the land, large-scale operations or weekend retreats for urban dwellers now exist. If heavy machinery can't get to it, the land is allowed to revert to its natural state. And since the weekend landowner is no longer interested in garnering sustenance from the land, additional land is available to return to its natural state. The changes in people's attitudes, along with the change to the dynamics on the landscape, have contributed to the establishment of a new world for bears to thrive in. As stewards of this valued resource, it is our obligation to

recognize that a change has occurred and to adapt and/or modify our strategies, if warranted, to suit the new environment.

In response to these ever-changing dynamics, Manitoba has initiated a review of its current black bear management strategies (spring harvest segment, use of baits, allocation of non-resident hunting opportunities, problem bear management) to determine whether the strategies implemented since the early 1980s are applicable within this new scenario. The review focuses on the sustainability of the bear hunt. Coincidentally or consequently, problem bear management has become an integral part of an overall bear management strategy and its aim should be to "cut the best deal for the bear." This premise ensures that the bear remains a valued asset (a sustainable resource) rather than an unwanted expenditure (translocated and/or dispatched vermin). It is our belief that the best way to achieve this goal is to find a balance between the needs of the bear and the needs of stakeholders while protecting life and property in a cost-effective manner.

The first part of the review is to update "Black Bear Baiting: Hunting Techniques and Management Issues" co-authored by Craig McLaughlin and Howard Smith (1990). All jurisdictions cited in the paper have been contacted and have been requested to update their information. The results will give us management strategies being currently practiced in 41 jurisdictions as well as an assessment of the level and trend in problem bear management within those hunting strategies. The results will also be used to test my hypothesis (which is presented below) and will be of assistance to The Northeast

Updating Black Bear Management, cont'd.

Black Bear Technical Committee headed by Craig McLaughlin which will be addressing several bear-human conflict issues when it meets this summer. Their hope is to identify research projects that would determine the most effective approaches to address and manage for conflicts.

Another aspect of our review is to study problem bear management under varied harvest strategies with the hope of learning from the jurisdictions' experiences and incorporating the best practices being applied in: New Jersey, where there is no hunting season for black bears; Quebec, where there has been a spring only hunt since 1998; and, Ontario, where there was a spring and fall hunt, and as of 1999, there is only a fall hunt.

My working hypothesis

To effectively manage bear-human conflicts, an overall bear management strategy should include:

1. a spring harvest;
2. the use of bait; and
3. public participation through the practice of "good housekeeping" principles.

The spring season may not target the very bears that cause conflicts; but by reducing that portion of the offending population before they become a problem should reduce the extent of bear conflicts throughout the summer. One to five-year-old bears comprise 70+% of a typical Manitoba spring harvest and these age classes are known to be primary nuisance offenders (as high as 70% of all complaints in many jurisdictions). "Mother Nature" will ultimately have the last say on the severity of the nuisance problem in any given area in any given year subject to biological and human carrying capacities. In stressed food and above-capacity situations, one should expect an increase in the

competition for food thus influencing the timing of when animals disperse to look for alternate sources. This dispersion often results in nuisance behavior in developed areas. Craig McLaughlin points out this theory has yet to be proven and believes that it would make a good study topic.

Hypothesis

The best time to target population reduction is in the spring, with an added benefit of reducing the likelihood of nuisance impacts. The spring hunt targets the male segment of the population while protecting the female segment. Baiting facilitates this target due largely to the intrinsic behavior of emerging bears—young males tending to be more vulnerable to baiting in the spring while females especially females with cub(s) are less vulnerable. Hunters are also able to select for size and color while being offered an increased opportunity to identify their target and make a humane kill due to the short range and lack of obstructions in the shooting lanes. For the Manitoba situation, asking a hunter to not hunt over bait would be like asking a fisherman to fish with a bare hook. Our data demonstrates that hunters have been successful in avoiding harvesting female bears that are accompanied by cubs. For the years 1996 to 1998, 12% (52 of 435 reproductive tracts) of females harvested during the spring season had placental scars of the current year (indicating that they had given birth in the winter). It must be pointed out that the presence of a scar(s) does not indicate that the associated cub(s) were alive when the female was harvested. The scar count must be adjusted downwards to account for total and partial litter losses due to natural causes. LeCount (1987) attributed losses as high as 50% to cannibalism,

25% to predation and 12.5% to disease; while Higgins (1997) attributed 16.7% to starvation with Rogers (1987) citing 41% when food shortages were poor both in the years of conception and birth. Figures are not available for losses due to accidents, which may include flooding, broken bones, concussions, road kills, among others. Accounting for these losses, the estimated average number of black bear cubs orphaned annually in Manitoba equals 56 (Rebizant *et al.* in press). This figure represents less than 2% of the estimated 2940-5290 cubs that would have died in each of these years from natural causes.

An Invitation for Feedback

The review will provide our managers with the background material to support new and existing black bear management policies. The review will include:

- The Spring Hunt and Its Role in Black Bear Management.
- Baiting and Its Role in Black Bear Management.
- The Public's Role in Problem Bear Management.
- The Managing Authority's Role in Problem Bear Management Including Reviews on Translocation and What to do with Orphaned Cubs.
- The Hunter's Image and Its Role in the Public's Acceptance of Hunting as a Management Tool.
- Results of a Continent-wide Problem Bear Management Survey.
- The New Jersey Experience.
- The Ontario Experience.
- The Quebec Experience.
- Management Recommendations, and References.

You are invited to forward your opinions and arguments either supporting or rejecting any aspect of our review.

Quebec: Wrong Bear Euthanized



© Michael Keeney

[Alexander Panetta, *Canadian Press*, Tuesday, January 22, 2002]

Quebec—Officials killed the wrong [American] black bear while hunting for the animal that mauled to death biathlete Mary Beth Miller 18 months ago, said a coroner's report. Miller, an Olympic hopeful from Yellowknife, was attacked while on a training run at Canadian Forces Base Valcartier near Quebec City on July 2, 2000.

The 23-year-old was jogging through the forest, listening to her Walkman when a bear pounced on her, biting her neck and cracking her upper spine, coroner Yvan Turmel said in his report.

Days after the incident, officials claimed they were "90 percent sure" they had found and euthanized the bear that attacked Miller.

However, DNA tests later concluded the captured bear—a four-year-old female weighing more than 75 kilograms—wasn't the one that killed Miller, the report said.

The bear DNA found on Miller's body did not match samples extracted from the dead animal.

"At the time, it was sincerely believed it was the right bear," said

Francois Houle, spokesman for the coroner's office. "But you can never be sure."

Turmel recommended more monitoring of black bears around the military base and tighter guidelines for athletes in the adjacent training center.

For example, athletes shouldn't jog alone, Houle said.

Also, the report urges athletes to carry canisters of bear repellent—similar to pepper spray—when in the area, he added.

Although the bear that killed Miller may still be alive, Houle said that's not necessarily cause for concern.

"The bear might still be alive, but that doesn't absolutely mean it's aggressive," he said.

"We'll never know exactly what happened. Did Mary Beth pass between the bear and her cubs? We don't know."

The tragedy was only the second fatal bear attack in Quebec since 1983, the report said.

"We must keep things in perspective. It's two deaths in 20 years. It's sad, we must take action, but there's no panic," Houle said.

Grizzly Bears & Army Cutworm Moths

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I am a Ph.D. student at the University of Nevada, Reno (UNR) and recipient of grants from the IBA for the past three years (see page 5). My research focuses on the migratory ecology and population genetics of the army cutworm moth (ACM), *Euxoa auxiliaris*, and the importance of this information to grizzly bear (*Ursus arctos horribilis*) conservation. ACMs are native to North America. With the intensification of agriculture in the Great Plains, their larvae have become agricultural pests. ACM adults migrate from the Great Plains to talus slopes between 9-12,000 feet in the Rocky Mountains where grizzlies consume them by the thousands. ACMs are the richest food source available to grizzlies in the Greater Yellowstone Ecosystem, and previous research has shown that a grizzly foraging on ACMs can consume half of its yearly energy needs in 30 days. Although much remains unknown about the specific Great Plains origins of ACMs or their migratory ecology, these factors are important to grizzly bear conservation.

Investigating the variability at ACM microsatellite loci may allow determination of the specific Great Plains origins of ACMs. Determining ACM origins is important because pressures, either natural (i.e., weather) or human-caused (i.e., pesticides or habitat

Grizzly Bears & Army Cutworm Moths, cont'd.

loss), in ACM natal areas or while ACMs are enroute from their natal areas to the Rocky Mountains may affect ACM recruitment and the numbers of adult ACMs reaching high elevation sites where they are fed on by grizzly bears.

To date, I have collected ACMs from a total of 11 high elevation sites for genetic, pesticide, and reproductive analyses, and from 39 low elevation sites in Wyoming, Idaho and Montana, representing a 360-degree radius around the high elevation study areas.

I am analyzing the genetic data in the Laboratory for Ecological and Evolutionary Genetics (LEEG) at UNR by individually keying out each of these several thousand ACMs and then extracting their DNA. A genomic DNA library was developed for the ACM and I have screened this library for microsatellite loci and developed primers to amplify them. Polymerase chain reactions (PCRs) are currently being optimized for five loci. Analysis of the variability at these and additional loci will begin after optimizations of these loci are complete.

My project has received grants from the Yellowstone Park Foundation, the International Association for Bear Research and Management, the Rob & Bessie Welder Wildlife Foundation, the American Museum of Natural History, the Wyoming Chapter of the Wildlife Society, and Sigma Xi. This project is coordinated through the Interagency Grizzly Bear Study Team and the Yellowstone National Park Bear Management Office. Montana State University, Bozeman Agricultural Extension agents have provided ACMs from low elevation sites throughout Montana.

Southeast USA

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Send your news from the southeastern states to the address above.

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Arkansas Record Harvest

Three hundred seventy two American black bears (194 males, 176 females, and 2 of unrecorded sex) were harvested in Arkansas during the 2001 season. This recent harvest surpasses the state's previous record of 207 bears. The Arkansas Game and Fish Commission (AGFC) implemented several changes for the 2001 bear season to contribute to this increased harvest. These changes included opening new areas to bear hunting, allowing baiting for the harvest of bears, and the implementation of bear hunting clinics to promote interest in bear hunting.

Since 1980, bears have been legally hunted in the northwestern portion of Arkansas in the Ozark and Ouachita Mountains. For the first time since 1927, AGFC allowed bears to be legally harvested on private lands in the Delta region of Arkansas. Most of the Delta region bears were harvested on private lands near the White River National Wildlife Refuge.

Arkansas is now the only southern state to allow baiting for black bears. AGFC implemented this regulation change to help reach the state's bear management goals and harvest levels. Baiting is allowed only on privately-owned lands. Still and stand hunting for bears are allowed on public lands without the use of bait. Hunting bears with dogs is illegal in Arkansas. One hundred thirty four hunters reported using bait to harvest a bear. Corn was the most common bear bait.

Two hundred ten bears were harvested in the Ozark Mountains, 92 bears were harvested in the Ouachita mountains, and 70 bears were harvested in the Delta region. Officially, the heaviest male and female bears weighed 475 pounds and 280 pounds, respectively. Both bears were harvested in the Delta region. One hunter reported harvesting a bear in the Ouachita Mountains that weighed 550 pounds.

Arkansas Bear Restoration

Recent American black bear restocking efforts by a team comprised of Arkansas Game and Fish Commission (AGFC), University of Tennessee (UT), U.S. Geological Survey's Southern Appalachian Field Lab, and U.S. Fish and Wildlife Service personnel have resulted in the translocation of 13 additional adult female bears with 31 cubs (15 males, 16 females) from eastern Arkansas to southern Arkansas, a distance of 160 km. Most bears were captured on the White River National Wildlife Refuge; however, two bears were taken from Big Island (owned by the Anderson-Tulley Timber Company) and two bears were removed from Montgomery Island (a private hunting club). While the majority of the bears were released on Felsenthal National

Wildlife Refuge, two bears with cubs were released on Deltic Timber Company lands adjacent to the refuge. We welcome Anderson-Tulley Company, Deltic Timber Company, and the Montgomery Island Hunting Club as partners in our black bear population restoration efforts. The addition of these partners will undoubtedly bolster our efforts reestablish bears to southern Arkansas.

These recent translocations took place in March and April 2002. Study cooperators selected 13 adult bears with cubs from 50 radio-collared female bears that had been captured by UT and AGFC personnel. The adult females and cubs were captured in their winter dens, transported to southern Arkansas and placed in human-made den boxes. Study cooperators are currently monitoring these bears to determine den emergence, post-release movements, and survival. Ten of the 13 bears were extracted from tree dens. Litter sizes ranged from one to four.

This marks the third year of translocations for the purpose of establishing a self-sustaining population of American black bears into unoccupied habitat in southern Arkansas. We translocated six adult female bears with 15 cubs and four adult female bears with 10 cubs in 2000 and 2001, respectively. We have documented four mortalities, two bears dropped their radio collars, radio collar failure has occurred with one bear, and we continue to monitor three adult female bears from these prior releases. Our plan is to continue monitoring the translocated bears, refine our release technique, and continue translocations until we establish a self-sustaining population of bears to the area.

North Carolina 2001 Record Black Bear Harvest

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North Carolina's American black bear harvest reached an all-time record level of 1,533 bears in the 2001 season. North Carolina has two disjunct bear populations occupying the western mountains and the eastern coastal plain region. The 2001 record was primarily due to a significant increase of harvest in coastal counties. Regionally, the mountain harvest of 426 bears was actually lower than the average for the previous five years ($n=504$). However, the coast counties accounted for 1,107 bears; exceeding the previous record set in 2000 of 929 bears. North Carolina Wildlife Resources Commission (NCWRC) biologists collected 264 tooth samples from mountain bear mortalities and 514 from coastal bear mortalities. These samples include roadkills as well as harvested bears. These samples are used to develop an age structure for the black bear population. This age structure can then be combined with information from reproductive tracts we collect to reconstruct black bear populations in models and monitor population changes in each region.

Ages are not available from 2001 at this time, but updates using ages from 1980-2000 indicate a slightly growing mountain population that has approached an estimated 3,500-4,000 bears. The coastal models, using 1990-2000 ages, indicate the coastal population is stabilizing at an estimated 6,500-7,000 bears. The coastal stabilization is consistent with NCWRC goals to slow population growth in some coastal counties where agricultural complaints were high in the 1990s. It is important to remember that these numbers are only estimates based on age structure and reproductive output, but the results from our models seem to complement other observational data collected by NCWRC throughout both regions. As we continue to collect teeth and reproductive tracts over the coming years, we hope to develop additional information on black bear population status.

Southwest USA and Mexico

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Send any news from the southwest USA or Mexico to the address above!

New Mexico Conducts "Operation Bear Den"

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Throughout the summer of 2001, drought and lack of natural food items in northern New Mexico resulted in hundreds of human-bear conflicts (*International Bear News*, November 2001, Vol. 10, No. 4, page 18). In most cases, these conflicts were attributed to depredations or vehicle collisions, resulting in the death of numerous adult black bears. Consequently, by fall of 2001, 26 black bear cubs (< 12 months old), and seven yearlings were orphaned. New Mexico Department of Game and Fish (NMDGF) personnel captured and transported the malnourished orphaned bears to The Wildlife Center, a wildlife rehabilitation facility in Espanola, New Mexico lead by veterinarian Kathleen Ramsay. All of the bears were rehabilitated and the seven yearlings were "hard released" between 15 and 26 November 2001.

The second, more intensive, phase of the project was dubbed "Operation Bear Den." This project was designed to evaluate the management technique of releasing rehabilitated orphaned cubs during winter

(after the onset of hibernation), in small groups, without an adult female, in an artificial den structure (an igloo-shaped doghouse). Data collected from this study would contribute to the information collected by other researchers that have released orphaned bears into the wild using alternate techniques

(i.e. reuniting with the biological mother, adoption by foster mother, or release after a period of captivity). Specific objectives of Operation Bear Den include: (1) Determine survival of orphaned cubs in artificial dens from winter 2001 until den re-entry in fall 2002; (2) Determine causes of mortality; (3) Determine proportion



© Don MacCarter

With television cameras rolling, game and fish personnel take measurements and install an eartag transmitter before placing bear into an artificial den.

of cubs involved in human/bear encounters and types of encounters; (4) Compare survival of orphaned, rehabilitated cubs with wild-born cubs in New Mexico; (5) Determine costs of this management technique.

Operation Bear Den was publicized beforehand and was very well received by the public. After much planning, scouting sites, installing the dens, and networking among agencies and organizations to coordinate the event, NMDGF launched Operation Bear Den. We received assistance from U.S. Forest Service, Bureau of Land Management, and 46 volunteers from conservation and hunting groups including New Mexico Council of Outfitters and Guides, New Mexico Chapter of Safari Club International, Sierra Club, Share With Wildlife (NMDGF), Sandia Mountain Bear, Wildlife Legislative Council, New Mexico Houndsman Association, and Consolidated Sportsman Association. We also invited several local and national news organizations to attend the event. Between 7 and 15 December 2001, 26 bear cubs were placed in 11 artificial den structures (in groups of two or three) in Carson National Forest (northern New Mexico), and Gila and Apache National Forests (southern New Mexico). All bears were outfitted with ear tag radio transmitters that were rapidly constructed by the good folks at Telonics.

All seven of the bears placed in northern New Mexico dispersed from their artificial den sites. Five of the bears are known to have re-denched on their own (utilizing a variety of ground nest dens between 0.12 and 3.2 km from the artificial sites); one bear pulled its transmitter off and no longer can be tracked; and one bear



NMDGF officer Robert Griego prepares to place bear in artificial den.

© Marty Frentzel

has not yet been observed (although its position has been determined by aerial telemetry).

Of the 19 bears placed in southern New Mexico, seven bears are still in the dens we provided, 11 bears have dispersed, and one bear has died (handling related). Of the 11 bears that dispersed, seven are known to have re-denched on their own (utilizing a variety of ground nest dens between 0.03 and 2.4 km from the artificial sites); three bears have not yet been observed (although their position has been determined by aerial telemetry); and one bear is active.

With the majority of bears that left artificial den structures, it was obvious that the bears temporarily

used the artificial den structures (between 2-4 weeks), even constructing individual ground nests within the artificial structure using pine boughs and leaf litter. Finally, even though the bears separated upon dispersal from the artificial den structures, the bears within each group remain close to each other (between 0.2 and 2.8 km).

For the most part, our bears have decided to take matters into their own hands (like a bear should!). We intend to keep IBA readers informed of the results of this study. The bears will soon be emerging from their dens and a whole new aspect of the study will begin.

Southwest USA and Mexico, cont'd.

Texas Initiates Black Bear Working Groups

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The Texas Parks and Wildlife Commission on November 10, 2001 approved development of a Texas Black Bear Conservation and Management Plan. The planning process is likely to take several months and will include input and involvement by constituents, stakeholders and the public. Two working groups will be established to assist Texas Parks and Wildlife in the preparation of the plan. An East Texas Black Bear Meeting was recently held near Ratcliff, Texas on April 2, 2002 to form an East Texas Bear Working Group. A West Texas Bear Meeting was held on April 26, 2002 in Alpine, Texas to form a West Texas Bear Working Group. While some research has been conducted on American black bears in Big Bend National Park and the Black Gap Wildlife Management Area in west Texas, and on habitat suitability for bears in East Texas, little is known about the overall range and distribution in other areas of west and east Texas. Representatives from state and federal wildlife management agencies, academic and research institutions, and private landowners have been invited to participate in both working groups. We'll keep the IBA posted on our progress.

Mexican Cattle Association & Federal Wildlife Director Discuss Black Bears

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In February, 2001, the Union Ganadera Regional de Coahuila met with the Mexican Federal Wildlife Director, Fernando Clemente, in Piedras Negras, Coahuila. The objective of the meeting was to address the management needs of livestock producers in an area where American black bear numbers are increasing to some of the highest densities in North America. Conclusive decisions were reached between the Mexican government and the Cattleman's Association, including the restricted control of problem animals, and relocation of non-problem animals into more sparsely

populated areas to reduce densities. A recent decision by President Fox to recuperate the black bear to previous historical ranges has spurred collaborative efforts with livestock producers and other landowners. Private landowner initiatives are largely responsible for the recuperation of the black bear in Coahuila, which is a species that is currently listed as "endangered" in Mexico. The Coahuila populations are now dispersing into neighboring areas such as west Texas, where the bear was absent previous to circa 1980s. This positive collaborative effort between the federal government and livestock producers in Coahuila, if successful, will be used as a model for a nationwide conservation strategy in Mexico.

As some of you might recall, several of the livestock producers attended the 13th IBA Conference in Jackson, Wyoming, and have since become members of the IBA. The landowners are directly involved with black bear management issues in Mexico, actively participating in the data collection and monitoring process.

Webcam Cubs in Sweden

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The Scandinavian Brown Bear Research Project supports the website from Orsa Grönklitt (see below). One of our former students is responsible for supplying information on brown bear ecology as a supplement to the web camera. She also provides answers to viewers questions, and we help her when she needs it. Viewers can ask questions in Swedish, English and German. The response has been tremendous, and people are really positive about this website, and their attitudes about bears. We think this is good for bears. Although Grönklitt is a bear park with captive bears, they are very conscientious about conservation of wild bears and we in the bear project work cooperatively with them.

Orsa Grönklitt Webcam

[March 25, 2002 press release]
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Europe's biggest bear park, Orsa Grönklitt in Sweden, has three brown bear cubs, born in January 2002, being observed via the Internet. Visitors can observe them live from their den at the website www.orsa-gronklitt.se, as they snuggle up to their mother, Saga.

They now have fur, and are becoming more active all the time. The camera project, which is the first of its kind anywhere, has proved a great success—205,000 people have visited the site in the past nine weeks. The project is part of the park's work on providing information about the brown bear, Europe's largest predator. The website includes minifilms summarizing the bears' activity over selected twenty-four hour periods from the winter. The webcam picture is updated every minute.

"We're very impressed by the number of visitors," comments Sven Brunberg from the Scandinavian Bear Project. It's proof that there's a worldwide interest in brown bears. The web camera provides a unique opportunity for everyone to follow the cubs' first months without disturbing them. There's now an exciting period ahead—a lot of activity in the den followed by the cubs venturing out into the wilderness-like area of the bear park during late spring and summer."

The project is a joint undertaking by Orsa Grönklitt and the Scandinavian Bear Project, in which the Swedish Museum of Natural History in Stockholm is also actively involved. The web camera installation is part the bear park's work in providing information about brown bears and other predators such as wolves, lynx, wolverines and the endangered arctic fox.

Bear TAG Assists Sun Bear Study

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At the May 2001 IBA conference, Chris Servheen discussed sun bear research by Siew Te Wong, a graduate student at University of Montana. Wong's study, "The Ecology of the Malayan Sun Bear (*Helarctos malayanus*) in Lowland Tropical Forest of Sabah, Borneo Island" included trapping and radio-collaring sun bears, monitoring the collared bears to collect basic ecological information (location, feeding habits, activity patterns, bedding sites, etc.), photographing wild fruits and monitoring total forest fruit production.

As graduate advisor and friend, Servheen discussed with members of the Bear TAG (Taxon Advisory Group) at the conference the need for funding to help Wong with expenses while completing his thesis. Wong could not attend the meeting because his wife had just given birth to their first child. Knowing how essential this research was to the well-being of the species and science, Servheen asked if we could find funding within the zoo community for Wong.

By June 2001 an email fund drive was initiated by the AZA (American Zoo and Aquarium) Bear TAG list serve to hundreds of members, many with sun bears in their zoo collections. By fall 2001, well over \$4000 was raised for Wong by individuals and organizations in the zoo community.

This is just one good example of how the zoo and science communities can help each other for a common goal. We all wish the best to Wong and his family, knowing that bears will be reaping the benefits of his vital research.



New Student List Serve, Correspondence and Who's Truman?

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Student List Serve & Plenty of Help!

Thanks goes to all of the students interested in the Student Forum. This endeavor is well worth the effort, and we will not be short on help! While we are here to serve students, we welcome input from the general IBA membership on ideas or information to benefit students.

We have established the **IBA Student List Serve**, which is generously hosted through Texas A&M University-Kingsville. The list serve will be monitored by David Hewitt (Caesar Kleberg Wildlife Research Institute), myself, and a group of IBA advisors who will field questions and contribute to discussions. One of our objectives is to provide students with an opportunity to ask questions about study design, data analysis, funding advice, or approaches to conflict resolution. This environment will allow students to feel comfortable in asking even *stupid* questions, even though stupid questions do not exist here at the Student Forum. Questions that cannot be answered by the advisory group will be fielded to appropriate IBA members.

Guidelines for the List Serve:

A. Anyone can participate—from graduate students looking for projects to inexperienced biologists initiating bear research. We're allowed 200 members, and won't be strict about who participates until things get crowded. List serve members do not have to be IBA members, but they will be encouraged to join. Questions should pertain to bear research and management only.

B. Please identify your question in the "**subject**" heading, e.g., "*population dynamics question*," or "*bear behavior question*" so that advisory group members can help you efficiently.

C. If you are seeking advice for major topics in study design or data analysis, we **highly recommend** that you obtain prior permission from your own advisor. Your major advisor is the ultimate authority for your project, and the IBA does not want to disrupt this relationship.

D. Be sensitive to the fact that *advisory group members have full schedules* and are doing us a *great favor* by volunteering their time with our list serve. Please keep discussions focused and brief.

E. Please keep all discussions professional, clean, and civil. Please refrain from sending jokes or "articles of interest." They will be deleted.

F. For conflict issues, questions should be general. This is not a venting booth or a courtroom, but intended only to help you resolve the problem so you can get through your project successfully. Do not use names of individuals or institutions in your correspondence, or implicate individuals by mentioning the names of study areas. We will not be a vehicle for gossip or rumors. *We reserve the right to delete anyone from the list serve who has disregarded this common courtesy.*

G. This service is for students, and we encourage discussion. Please use discretion and some humility in giving advice. Leave the advice for the advisory group unless you feel that you *truly* have some knowledge that might contribute to answering a question. We want students to receive the best information possible from experienced and knowledgeable professionals, with minimal confusion.

To Join the List Serve:

a. Contact me at d-crider@tamuk.edu with your name, email address, physical address, affiliation, and interest in bears. I will then give you the password. Copy your request to david.hewitt@tamuk.edu, who can also issue you the password if I am unavailable. Contact me by phone (above) if you have any problems getting through by email.

b. The site is <http://aristotle.tamuk.edu> under **Agricultural Lists**. Click on "**truman**" to sign in.

c. Responses can be submitted through the reply button or through "**truman**" at the website listed above. Everyone on the list serve receives reply messages.

d. The process is fairly self-explanatory. If you have problems, contact me by email and I'll walk you through.

e. Please report any problems with the list serve, and we will forward them to our technician.

f. On your mark, get set, **GO!**

IBA Student Correspondence

• *Ryan* wrote from the Pacific Northwest, and tells us about his current graduate situation. While his major advisor does not specialize in bears (he is a herpetologist), Ryan has received support from his graduate program to pursue a bear research project. He finds the IBA newsletter informative and helpful as he develops his proposal. Wait until he joins our list serve!

• *Ximena* wrote from Latin America and is anxious to begin helping out with the Student Forum. Her generosity and willingness to serve will not go unnoticed by the IBA!

• *Andrea*s writes from Norway, and is also anxious to help out. Sounds like our Student Forum will be well

Data Collection: Nothing but the Facts, Ma'am

represented. Andreas provided us with some excellent suggestions, and we'll be discussing those issues with the IBA leadership at the Norway meeting in July.

- *Sophie* wrote from the United Kingdom, and posed an interesting question about paw-sucking behavior in captive Asiatic black bears she has been working with for four years in Thailand. We fielded that question to several experts. We're following up to make sure her question was answered.

- *Truman* wrote and discussed some of his experiences and suggestions pertaining to his graduate project, which was shared by several students and advisors. His input is being incorporated into this month's column on data collection. Thanks Truman!

- While they're not exactly students, a federal wildlife agency called and said that our suggestions for developing proposals was quite helpful. They are now using this information for their own employees.

Question of the Quarter:



Truman?

Truman is the mascot for the Student Forum. He is a caricature of a juvenile black bear. He is also the namesake for our new student list serve, and will be the identity for Student Forum correspondents who prefer anonymity. He may also consider other IBA roles at later dates, if he is asked.

A couple of years ago, we were finishing up a long day of den work

in the mountains of Mexico. I changed clothes, got washed up, and went to sit at the dining room table with my advisor. "Hey, where's today's cub sex data?" he said, as he quizzically waded through the den data sheets. "Oh, hold on a minute," I said as I rushed back to the bucket of dirty laundry in the back of my bedroom. I pulled out my dirty and torn camouflage khakis, plucked the soiled socks from the leg holes, and proudly brought him my pants. He abruptly pushed away from the table as I spread my infamous khakis out on the table like a fresh linen cloth, with pieces of grass, twigs, and dirt landing alongside. "Here you go...female #63 is down here on the left leg, and #72 is over here on my right hip." He stared in shock at the Sharpie marker scribbles that decorated my pants. "The faded ones are from last year, so don't pay attention to those. One good thing about those Sharpie markers...they never wash out," I glibly stated.

Obviously, I am *not* the expert on data collection. I just happened to find that writing the data on my pants was easier than taking a clipboard into the den. Through years of experience and mistakes, however, I have come up with some pretty helpful hints for your projects. If that doesn't make you feel any better, I also sought out the wisdom of a well known, tediously organized IBA mentor: we'll call him *Science Guy*. No matter what approach you use in the collection of data, some elements are essential, ensuring effectiveness and reliability in the process. Here are some of those elements:

1. Think ahead.

Science Guy says that your data collection is a reflection of the

questions in your proposal ("Your Proposal is Your Friend," *International Bear News* Vol. 11, No. 1). Think about those questions, and what kind of data you will need to answer them. I can think of about 34 data subjects that would have been great for my dissertation, but I didn't think of them until after I was finished with the field work. After three years of data collection, I just found out that specific rainfall data for individual acorn plots would have really contributed to a strong hypothesis in my evaluation of food production across a landscape. Oops.

If you are unfamiliar with some of your methods, practice field simulations, such as conducting transects or telemetry. *Science Guy* shared an embarrassing experience when he was monitoring 24 hour activity on bears. He monitored from 10 am to 9 am the next day. Later, analyzing his data, he realized he was monitoring only 23 hours of activity and missing the 9-10 am time slot. Oops. It sounds easy enough to spot from here, but wait until *you* get out there! He recommends analyzing data after short intervals to catch any glitches. *Science Guy* also suggests writing a progress report in scientific paper format, without the results and discussion. The report should explain why the study is being conducted and what methods are being used. Then give it to peers and advisors so they can review it. Wow, now *that's* forethought (that is also why he is *Science Guy* and I am *not*...).

Dissecting your questions will be the "meat" of preparing for your data collection, and it will save you a lot of time and headaches. I suggest running a few analysis simulations with artificial data sets to see if you

Data Collection, cont'd.

are missing any variables that you need to test your hypothesis. Then you can design your data collection methods accordingly.

2. Shared Data Sets

We briefly discussed shared data sets in previous columns ("Clear Contracts Make for Long Friendships," *International Bear News* Vol. 10, No. 4 and "Your Proposal is Your Friend," *International Bear News* Vol. 11, No. 1). This situation seems common enough to warrant discussion. You will save yourself great tribulation if you delineate duties, data sets and publication plans ahead of time. I have received several complaints from students who felt they were bulldozed on shared projects when parts of their data sets were appropriated by other graduate students. Here are some keys to success, and some advice:

- Have a general meeting with advisors and students to delineate data sets and responsibilities among participants, and *get it all down in writing*. I would go so far as getting members to sign agreements, not for legal purposes, but to remind people what they agreed to. Make sure that all parties are notified of any changes.
- Develop a good relationship with other advisors on the project so you can keep an open channel of communication with them.
- Have semi-annual or annual meetings to review the progress of the project.
- Do your best to get along and avoid conflicts. Recognize that you are sharing a project, and that others' opinions and efforts are equally important. Try to overlook offenses; most are mole hills made into mountains. Help others with their data collection, and be grateful when they help you with yours. Don't whine or complain.

- Be *professionally* assertive (i.e., no biting or scratching) if you feel your data set is being unnecessarily pilfered, or if your part of the project is being neglected. Don't be afraid to communicate.

- Go through the chain of command. People will be less likely to believe that you are just causing trouble. Complaining about something without going to the person who has the authority to *do* something about it makes you a petty gossip.

- Keep your own advisor well informed of your project's progress.

- If you can't agree on name order for authorship when publishing with multiple authors on a joint project, use alphabetical order. It does not warrant losing your peace of mind, and being an *et al.* is not the worst thing that could happen to you.

3. Data Forms and Data Collection Format

Everyone has their own approach to data collection, but the overall objective is the same: to be efficient, effective, and reliable in the process. Check around, and I guarantee you'll find a gold mine of information. Here are some ideas:

• Data analysis programs

Decide *beforehand* which data analysis programs to use. The format of your data sheets should be dependent upon these choices. Your advisor may already be using programs that he will want you to use. If you're shopping, check around to see which programs best suit your needs, i.e. some statistical packages are user-friendly, but may not be as powerful as others. Talk to your experts, make your decision, and become familiar with your programs *before* you head out into the field.

• Format of data sheets

Imagine that you will be sitting for hours in front of a computer, using some program like Excel or SAS, tediously keying in little numbers or codes. You will have to input your variables using a certain format, but if they were not recorded in that same format, you will have to take the time to translate the information on your data sheet to fit the program. *Now* imagine that you designed your data sheets to match the input format, and it only takes you minutes to enter your variables because everything is sequentially listed and easy to read, for example: instead of June 4, 2001, write the date variable as 06/04/01, or record the fat level variable as 1, 2, 3 or 4 versus skinny, looks good, kind of fat, or really fat. Use M or F instead of "male" or "female," and have clear codes for male or female cubs as well. Record codes on your data sheets in the same way they are entered in the computer.

• Sequence of data lines

Record your variables in the order that they will be loaded into the computer. That way, you can simply glide from the top to bottom of your data sheet, entering your data as you go down versus trying to skip around the page to find each value. This may not be a big deal for small data sets, but once you get beyond 50 sheets, it becomes very tedious. Practice keying in a few sheets to see how easy it is to read. For our data sheets, we divided the page into segments such as "notes" which were not loaded into the computer, the morphological and demographic variables which were loaded, and the drug information which was loaded into a separate log for our U.S. Drug Enforcement Agency report (see below).

• Efficiency vs. Detail

Design your data collection methods to be efficient in both time and space, but don't shortchange yourself on details. I first started with really simple data sheets, but found I didn't leave space for notes on drug responses, injuries, or even minor measurements such as toes and canines. For captures, putting an animal through that much stress and not taking full advantage of the information they provide is almost sacrilegious. On the other hand, I went overboard on detail and produced data notebooks that were incredibly time-consuming. Then I tried the *pretty look* with pictures and diagrams of everything, but they became confusing when transferring the data into the computer program. Let me save you some time: use some common sense and some balance. If you're one of those people who just can't seem to *not* write things down (like *Science Guy*), you can keep track of additional field notes in transit notebooks which are kept separate from the data. They're great for reference if you need to recall unsuccessful attempts at locating a particular bear, behavioral observations, or unusual disturbances at trap sites, etc., but annoying to your teammates when they are waiting for you to join the card game after dinner. I also recommend carrying a list of updated field notes with your capture clipboard, such as bear numbers, collar colors, reactions to drugs, or other pertinent information. That way, if you recapture or sight a bear, you'll immediately know who it is without having to refer to your data back at camp. You'll also know which bears reacted negatively to drugs, and possibly prevent a disaster on one of your recaptures.

4. Watching the Clock in the Field

Some field data collection is time limited. Bear captures can sometimes become adventurous when time is not respected. Numerous biologists have had experiences with bears getting up and simply leaving during data collection, or requiring additional doses of anaesthetic to complete data collection. Effective planning can often prevent these incidents. Assign designated tasks to teammates so that once the animal is down, workers can rapidly tackle their responsibilities and begin collecting invaluable data. Review the data collection sequence so your team can effectively and quietly get their work done, even under the excitement of the capture. Purchase extra equipment if necessary (like measuring tapes) to reduce delays from workers waiting for equipment. I highly recommend that your protocol be well established should you have visitors (photographers, writers, parents) along, and be firm in letting them know that pictures must wait until the work is finished. There is nothing worse than half-empty data sheets on bears that are not likely to be recaptured, just because you ran out of time. As for other data collection endeavors, be sure that they are well planned if time is a consideration. I once planned on arriving at my camp in early June, but forgot about the collection of an important bear food which was gone by the end of May.

5. Equipment

Waterproof everything. Rite in the Rain paper is available in a wide array of products, from photocopy paper to field binders, and can be purchased through most forestry supply companies. Invest in waterproof pens and Sharpie markers. Beware of ballpoint pens that might

wash out important information on your data sheets. If you can't waterproof your data sheets, then carry a protective aluminum clip box that will at least keep things from getting soaked. Carrying clip boxes is not always convenient (i.e., during telemetry work), so use waterproof mini-transit notebooks that easily fit into a fanny pack or back pocket. Then again, there's always your khaki pants (not recommended by most biologists). Upon returning to camp, you can transfer the data onto regular paper forms. For capture, however, it's handy to keep the aluminum clip-box with your drug kit, and simply remove the pages when you're ready to store them. *Science Guy* says that in predominantly wet environments, you can write data on a piece of sanded plexiglass with a wax marker or a pencil; after transferring data to your forms, it can be washed with cleanser. Is he *extreme*, or what? I suggested the khaki pants example, but he didn't want to ruin his good rain gear. Put everything that rusts, gets soggy, or is moisture sensitive in freezer strength plastic bags. I also suggest laminating or covering your maps with clear contact paper. We worked in an arid environment and our maps still looked like toilet tissue after about a week.

If you use techno-gadgets for collecting data (GPS units, Pit Tag readers, data recorders), carry extra batteries in a plastic bag and keep it with your equipment. Don't lose data because you ran out of power.

6. Back Up Your Data

I have heard too many nightmares about people not backing up their data. Remember, just because it has never happened to you doesn't mean that it won't. *Science Guy* swears he is telling the truth about a researcher

Data Collection, cont'd.

who brought all of his data and notes with him in the field without backing them up, and they were destroyed by a bear that got into his camp. The irony is bone chilling. Make the effort to get to a photocopy machine often, and download onto floppy disks if you have a laptop. *Back up your data*, do it often, and make sure your advisor gets a full set. If you cannot copy data regularly, then store data in bear-proof food containers, and also paste "reward" notices along with your address onto the file box in case it gets lost. Data recorders that cannot be downloaded in the field give me the heebie-jeebies, but that's my own little neurosis. Sometimes you just don't have any choice. Do what you can to ensure safety, like keeping these gadgets away from your advisor's 5-year-old, etc. When I conduct data analyses, I email my data to my advisor as I finish different sets; he stores it on his hard drive and on another floppy. I also keep paper copies of original data forms in case the originals get lost or ruined.

7. Organization is Next to Godliness.

Organization is also a personality thing. I am an organization freak at some things, but not enough to be irrational. Here are some time-saving ideas:

Include *checklists* on your data sheets. Mine include a list of everything I need to do with each bear before I release it, such as *apply eye ointment, cover eyes, keep body sloping down, remove magnet from collar*, etc. Forgetting to take the magnet off a radio-collar is always a fun one to explain to your advisor when a bear just walked off with his un-activated \$700 radio collar. Checklists are handy for assistants who aren't as familiar with the

methodology as you. I keep one for my equipment box and capture kit. The first bear I captured in Mexico is probably still walking around with one ear tag that says "Property of Navajo Tribe/Arizona" because I forgot my brand new sequentially numbered tags back at camp. A fellow biologist happened to have an old ear tag in his backpack. I also keep inventory checklists which I put together at the end of each field season. The list helps me re-stock my supplies before I return to the field.

I keep *binders* for each photocopied data set with a back-up floppy or compact disk in each one. To keep the dust off and to keep from losing the different binders while I was in the field, I kept them in a sealed plastic file box, which was stored at the camp house. For the field work, I recorded my data on sheets in the aluminum clip box, in field notebooks, or on my pants. At night, I simply slipped the sheets out of the box, or transferred the data onto the sheets. I then filed them into their appropriate binders, using plastic sheet protectors to keep them from getting torn or smudged. Back at my base in Kingsville, I color coded my notebooks based on the three different studies that I conducted: blue binders for Study #1 (1991-1994), yellow for Study #2 (1995-1996), and red for Study #3 (1998 to present). Each notebook is labeled according to: capture data; trapping data (including trap success for each trap, trap line grids and maps, etc.); vegetation analysis; home range analysis; telemetry locations (ordered by individual bear); population data (tabs for density estimates, cub survival, adult survival, etc.).

Okay, that *sounds* neurotic, but talk to me after you've finished with your field work and we'll see who has more gray hair. If you're *still*

rolling your eyes, I received a call from a biologist asking about cub data from my first study. Within a couple of minutes, on the same phone call, I provided the information without having to rummage through papers, files, or computer diskettes. Now *Science Guy* has a different way of organizing his data. He keeps it all in one binder, but color codes the variables according to subject in the margins. These are just a few of the one million ways to organize your data.

8. Consistency is Critical

I am amazed at the differences in data collection techniques among biologists. That is a simple fact of life. Within your team, however, you record data and take measurements with consistency. Take the time to review techniques with your teammates to prevent future headaches. We once had a problem with recording dates on our forms. My Mexican assistant was used to writing DD/MM/YY, while we were writing MM/DD/YY. That error could have become significant when evaluating bear movements by season, as we were using date-specific telemetry records to determine these movements. We had to quickly correct our format and review our data to make sure there were no errors. Many of the measurements taken from bears can be subjective, such as estimation for body condition, or how tight you pull the measuring tape when measuring chest girth. Even differences in measurements when bears are inhaling or exhaling can be significant, so consider all of the possibilities. Make sure everyone is using the same techniques.

9. Keep Tedious Drug Records

Bear research and management often requires the use of controlled substances which are monitored in the United States by the U.S. Drug Enforcement Agency. The consequences of misuse, as we have seen in the past, are serious. We already discussed the importance of obtaining the appropriate permits for drug use in the capture and handling of bears ("Your Proposal is Your Friend," *International Bear News* Vol. 11, No. 1), but keeping track of these drugs is just as important. It is also a *legal* requirement, and might keep you out of jail or court someday. Here are some helpful hints:

- Keep copies of drug permits, both state and federal, in your drug kit and in your vehicle. Make sure they are updated. Most permits renew annually, and agencies do not send reminders or renewal notices. If your name is not on the permit, be sure you have a letter written by your advisor that states that you are covered by the permit, and a number where he can be reached.
- Keep a detailed spreadsheet of all drugs used on your project, when they were purchased, serial number, reason for use, bear number, and status of any remaining drug.
- Number individual bottles with a Sharpie marker so that you can keep individual histories on these bottles in your spreadsheet.
- Keep *all* bottles, even if they are empty. This might be critical for future reference if you are ever audited by a state or federal drug

enforcement agency, or become involved in some sort of investigation (which *has* happened!).

- Have a special section on your capture sheets for drug use, including **vial number, amount used on each bear, and status of the remaining drug in each bottle.**
- Keep drugs in a safe and locked compartment, and supervise *all* use.
- Report any suspicious activity to your advisor.

10. Before All Else Fails, Ask...

Remember, there is no room for pride as a student. Believe me, it is better to humble yourself now than to be exposed to humiliation in the manuscript review process or at a conference in front of all your peers. If you have any doubts, or just want to find out more effective ways of doing things, ask your mentors at the IBA. They have all learned the hard way, and their help can mean the difference between distress or sanity on your projects.

This all brings me back to the Student Forum and our new list serve. The IBA recognizes their role in making sure that you are equipped to succeed. The list serve is there so you *can* ask questions, and get help if



you need it.

Let us hear from you!



Bear-hunting Dogs

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Similar social structures, hunting goals and styles mean that dogs and humans have probably coexisted from very early times. Humans have bred dogs to do a huge variety of jobs and have developed dogs specialized for hunting a variety of animals in a variety of ways. Dogs are used to drive prey into ambushes, nets, over cliffs or into pitfalls or corrals. They are used to run down and attack the prey. In arid or open regions where scent is of little use because of hot, dry air or coursing is more efficient, hunting is by sight. Where vegetation is so dense that sight affords little benefit, hunting is by scent. Prey ranges from rabbits and hares to gazelle, horse, deer, lions and bears. Xenophone (c. 430-355 B.C.) in *The Perfect Dog*, and *Hunting with Dogs*, described two types of ideal hunting dogs. For hunting "fawns and stags" he recommended dogs from India as they were large, strong, fast, spirited and had great endurance; while for hunting wild boar he recommended dogs from India, Crete or Sparta as they were strong, fearless and willing to fight. With the development of agriculture, dogs were also needed to protect livestock from wolves, bears and other competitors.

Wherever bears existed, dogs have been used to help hunt or deter them. Two distinct types of dog work bear: the large, hound and mastiff-type dogs for hunting and treeing bears in parts of North America or fighting bears in Europe; and, the smaller, more agile northern dogs used to chase, ward-off and hunt bears in the north. The Romans used mastiff-type dogs to fight bears (among a variety of adversaries

including humans) in gladiatorial games and in England dogs with a mastiff background were used in bear-baiting. The Karelian bear dog, laika bear dogs, elkhounds, Plott hound, Akita, Shikoku and Tahltan bear dog were all selected specifically to hunt or guard against bears. Mastiffs, Samoyeds and a whole host of hounds, though selected for other jobs, were also used to hunt, fight or deter bears.

North America

The Plott hound's ancestry can be traced to boar hunting dogs in Germany. Around 1750 Jonathon Plott came to North America, settling in the mountains of North Carolina, and brought several wild-boar hunting hounds which were used for hunting American black bears. Plott supposedly kept his strain entirely pure, making no outcrosses. After 1780 a Georgia hunter with his own line of "leopard spotted bear dogs," borrowed one of Plott's top stud dogs for a year to breed to his own bitches, returning the dog and a male puppy from one of the breedings the following year. This single cross is the only known outcross. Today the Plott hound is known for its great courage and stamina. It is a sturdy, well-developed dog, with plenty of heart and lung room for the endurance to hunt, but not so overdeveloped to detract from its agility and nimbleness. It looks like a typical hound with a large head, flop ears, long muzzle, muscular shoulders, strong hindquarters, and is altogether well-proportioned. They weigh 50-60 pounds, have a short coat and tend to be dark brindle with a black saddle and white points. These dogs trail long distances over rough terrain and fight as well.

In 1974, the Canadian Kennel Club rescinded recognition of the Tahltan bear dog as a distinct breed, after 26 years with no new registra-

tions. The Tahltan Indians of northwestern British Columbia developed a dog about the size of a fox. They were used to locate game, and then harass the target animal with their high-pitched, staccato barking and unpredictable darting and nipping, until the hunters arrived. They were well-known for their bravery and agility when working either American black or brown bears and were also used to hunt lynx and porcupine. Two dogs were used when hunting bears. Spring hunts were made easier by these dogs, because they could run easily on crusted snow. Because of their small size they were probably carried in packs while hunting and released when game was near, or at night to guard the camp. The Tahltan bear dog had a mid-length double coat that was mostly black, with variable size white patches. It stood 12 to 15 inches, had relatively large, erect, pointed ears, a long pointed muzzle and a fairly short bushy tail (resembling an upended shaving brush). John Muir's Stickeen *may* have been a Tahltan bear dog. In 1988, the Canadian Post Office honored the Tahltan bear dog as one of four breeds native to Canada.

Japan

The Japanese developed large, medium and small of dogs that are probably derived from spitz-type dogs and were brought to Japan by 400 A.D. These ancient Japanese dogs are called Nippon inu (dogs) and have pointed upright ears, a tightly curled tail held over the rump and a thick double coat. They are all strong-willed, fearless dogs with a strong hunting instinct and great stamina.

The Akita is the largest, standing 20-27 inches at the shoulders and weighing 95-125 pounds with a usually solid coat ranging from cream

to black. The Akita matagi (bear-hunting dog) originated in the Tohoku area, as a hunting dog of medium size around 1630-1870 under the Satake clan in the Akita region. The Hokkaido dog (Ainu dog) is said to have originated from medium-sized Japanese dogs that accompanied migrants from Honshu (the main island of Japan) to Hokkaido during the Kamakura era in the 1140s. The breed was designated a "natural monument" in 1937. It is also known as the Ainu-ken. The Ainu, the former inhabitants of Hokkaido, bred these dogs from spitz-type dogs they brought with them to Japan about 3,000 years ago for hunting bears and other animals. The Ainu dog stands 18-22 inches and weighs 45-65 pounds. The Kai dog (Kai tora-ken, tora inu—tiger dog) originated from a medium-sized breed in the mountainous Kai district (Yamanashi Prefecture). It has a brindled coat, weighs 35-40 pounds and stands 18-23 inches. These dogs are used mainly for hunting wild bear and deer. Their strong inclination to form a pack is thought to contribute toward maintaining the purity of the breed. The breed was designated a "natural monument" in 1934.

Nordic Dogs

The Nordic dogs include the Norwegian elkhound, Finnish spitz, Karelian bear dog, laikas, Swedish grahund and Samoyed. These are mid-sized dogs having thick double coats, erect ears and tightly curled tails held above the back. All are agile dogs with great endurance and a tenacious, aggressive temperament.

The Norwegian elkhound has existed at least 5,000 years. Found with stone age fossils and mentioned in Norse sagas, it is one of at least four elkhounds of Scandinavian origin (Swedish elkhound, black Norwegian elkhound, Swedish grahund and Swedish laphound) recognized by breed associations. All

were used for hunting, guarding and herding. They hunt by following and when the prey—moose, lynx, wolf and bear—is cornered the dog barks, agilely dodging attack until the hunter arrives. They are fearless hunters and harassers.

The Karelian bear dog is a medium-sized, sturdily-built, spitz-type dog, with a triangle-shaped head, prick ears, and a coarse, straight, black or black and white coat of medium length. It is just slightly longer than it is tall. The tail is carried in a loose curl over the back. It is also known as the Karjalankarhukoira or the bjørnhund and originated in the Karelia province of Finland in the 1600s. It was later introduced to Russia. The Karelian bear dog hunts moose, wolves, lynx and bears. It usually hunts alone and is a silent trailer. When prey is located, the Karelian bear dog barks and worries the creature to a standstill. Today their endurance, agility and fearlessness in confronting bears are being used by several state and federal agencies in North America to discourage bears from places that put bears and humans in conflict (see May 2000 newsletter).

Until the 1800s all spitz-type dogs in Russia were called laikas (barkers). They were developed in the 1700s by Russian breeders who crossed the Karelian bear laika with the Utachak sheepdog, a fearless animal developed to guard sheep from wolves and bears. In 1947 the Soviet government declared that laikas existed *only* within the boundaries of the Soviet Union thus ignoring the Karelian bear dog of Finland which most authorities identify as a laika. Today the East Siberian laika, West Siberian laika and Russo-European laika are recognized. They are medium-sized dogs, weighing 40-50 pounds and stand 21-24 inches with the typical spitz body. All are powerful, aggressive and fearless hunters of moose,

wolf and bear. They bark at and harry prey until the hunter arrives. The first animal sent into space, orbiting in Sputnik II November 3, 1957, was a mongrel but with distinct laika traits, named Laika. To this group might be added the Samoyed. It arrived in the north with the Samoyed people. They lived along the shores of the Arctic Ocean from the Yenisei River west to the Petchora River and are a remnant of one of the earliest tribes of Central Asia. There is evidence that they migrated to the Arctic with their dogs by 1000 B.C. They developed an unfailing sense of trust and loyalty in their dogs that remains a part of their character today. They lived by hunting and fishing and depended upon their dogs to herd reindeer, fight off wolves and bears, guard their belongings and share their beds. The Samoyed is a mid-sized dog, 21-23 inches tall, weighing about 50 pounds. They have a luxurious double coat that is white or cream-colored, a tightly curled tail and small, erect ears. They are strong, and unlike most of the other spitz-type dogs, friendly and not particularly aggressive. Rather than hunting bears, their role was to give warning and ward off bears and other competitors.

In the Far East, perhaps due to the long history of early commerce and relatively great variety of large game animals to be pursued, there appear to be no dogs selected for hunting bears. Generally there were two types of dog—the fierce coursing hunting hounds and the small, sleeve or lap dogs. The hunting dogs were probably further divided into those used for large game (tigers, lions, bears, and the ungulates) and those used for small game and birds. The larger dogs had elements of the greyhound and the mastiff. They may have been

Bear-hunting Dogs, cont'd.

descendants of the Caspian region's Hyrcanian dog described by the ancient Greeks, renowned for its size and ferocity. Bear-hunting dogs from the Locrian (home of Ajax) region of Greece were compared with the Hyrcanian dogs and were likely of mastiff origin. Mastiff seems to have been a term generally attached to very large dogs with a ferocious nature. The general type can be traced to Assyria by 2200 B.C. and to Tibet. Dogs were selected for their large size and ferocious temperament and were used in war, to hunt large predators (including bears) and in games against other dogs, humans, lions, bulls and bears.

No matter the traits selected by humans, all dogs derive from hunting animals and that instinct continues—watch any puppy stalk a butterfly or pounce on a tumbling leaf. The first compacts between humans and dogs likely grew from their mutual benefit as hunting partners. No human hunter can cover the amount of ground the dog can, no human hunter has the dog's nose, and no human hunter is as adept at cornering prey.

References

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- Fogle, B., D.V.M. 1995. *The New Encyclopedia of the Dog*. Dorling Kindersley Books.
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New Bear Safety Videos

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The Safety in Bear Country Society received funding this winter to develop a draft script and fundraising proposal for a new video titled *Living in Bear Country*. This 20-to-30 minute video will provide practical advice on measures people can take to prevent problems with bears in the places they live. This video will be a stand-alone educational tool. People will be referred to *Staying Safe in Bear Country* (order on page 43 or at www.bearbiology.com) to learn how to respond to a face-to-face encounter with a bear. The target audience for *Living in Bear Country* is residents, managers, and workers of municipalities, towns, and cities, and frontcountry and backcountry recreational facilities. Secondary audiences include conservation or wildlife officers, police, by-law officers, park rangers and wardens, and personnel of government, native, and non-government organizations responsible for management of bear-human conflicts. The main focus of the video will be individual responsibility, but will build from there to community responsibility. We would like to hear from anyone that, (1) has information on potential funding for the video, (2) is interested in reviewing the video script, or (3) has relevant information they would like to share. Please contact the address above or:

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Phil Timpany
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This past winter we also received funds from Parks Canada and Northwest Territories Worker's Compensation to do French (Quebecois) translations of the videos *Staying Safe in Bear Country* and *Working in Bear Country*. These translations are now complete and the videos are available for purchase from Magic Lantern Communications Ltd. (<http://www.magiclantern.ca>).

In the August 2001 *International Bear News*, we announced that our next major project would be a video module on hunting safely in bear country. That project is now on hold, primarily because we did not receive much support. In other words, the money did not start rolling in! Being a non-profit group, we have to be somewhat practical.

15th Eastern Black Bear Workshop Proceedings *Managing Abundant Black Bears: Needs, Strategies, Difficulties*

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Managing Abundant Black Bears: Needs, Strategies, Difficulties, the proceedings for the 15th Eastern Black Bear Workshop, held in Massachusetts in March 1999, have been printed. Copies were mailed to all paid attendees on April 8, 2002. Paid attendees who have not received a copy should contact the address above. Additional copies of the 190 page proceedings are available from the IBA (order on page 43 or at www.bearbiology.com).

Contents

Welcome

Donor List

Program

Status Reports

14 U.S. states, 2 Canadian provinces,
1 national park, 1 university.

Invited Papers

Black bear population dynamics in the Southeast: some new perspectives on some old problems by Joseph D. Clark.

Research needs and priorities by Craig R. McLaughlin and Michael R. Vaughan.

Bear cultural carrying capacity (abstract) by Mark Ellingwood.

Cultural carrying capacity for black bears in the Southeast (abstract) by Paul L. Davidson.

Submitted Papers

Management applications of remote cameras in Asheville Watershed, North Carolina by Thomas H. Eason, Danielle M. Eason, and Gordon Warburton.

Current trends and techniques in hard mast sampling (abstract) by William M. Healy.

Strategies for black bear management in bottomland hardwood forests (abstract) by Richard A. Beausoleil.

Black bear management regulations in Nova Scotia (abstract) by Tony Nette.

Evaluation of the release of rehabilitated orphaned cubs into the Great Smoky Mountains (abstract) by Jay E. Clark, Brandon Wear, Michael R. Pelton, and Daryle Ratajczak.

Poster Abstracts

Workshop Sessions

Cultural carrying capacity.

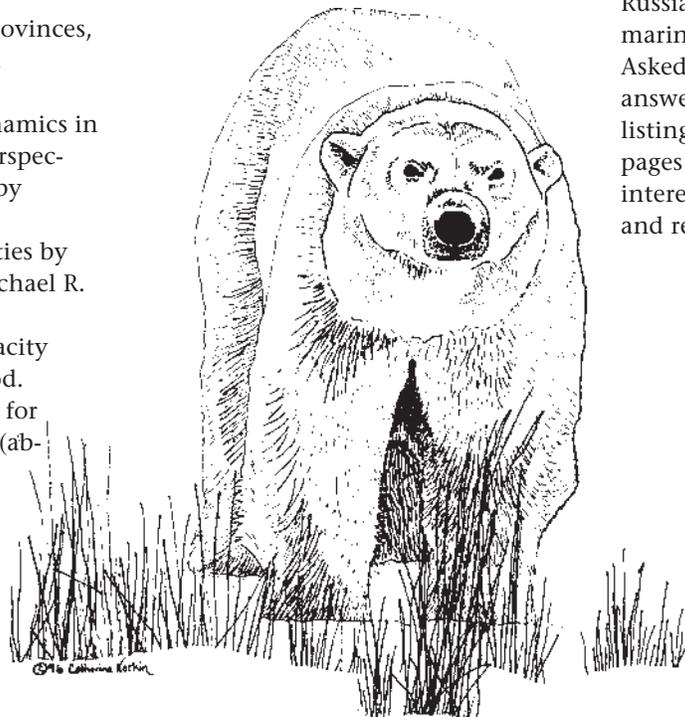
Black bear populations.

List of Attendees.

Polar Bear Specialist Group Home Page

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The IUCN/SSC Polar Bear Specialist Group has developed a home page (<http://pbsg.npolar.no>). The site was built and is maintained by Dag Vongraven of the Norwegian Polar Institute (vongraven@npolar.no). The site provides an overview of the activities of the 13th meeting in Nuuk, Greenland (23-28 June 2001); a listing of all meetings, beginning with the first meeting in 1965; contents of all proceedings; a PDF copy of the 1997 meeting resolutions; list of attendees; and the press releases of the meetings. The site includes the text of the 1973 Agreement on the Conservation of Polar Bears, an overview of population status, threats and conservation issues. There is a listing of polar bear references and soon, a database of Russian literature on polar bears and marine mammals. A Frequently Asked Questions section provides answers to a diversity of issues. The listing of relevant links to other pages is a useful source for those interested in polar bears, the Arctic, and related issues.



Events

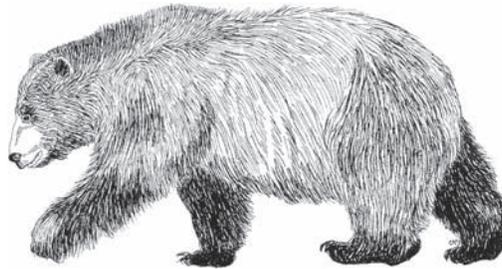
Grizzly Bears: A Workshop on Enhancing and Managing Small Populations

**Sandpoint, Idaho, USA
December 2-4, 2002**

This workshop focuses on enhancing small populations of grizzly bears in the U.S.-Canada transborder area, and creating and managing new populations in linkage zones. It is being coordinated by the IBA, local, state, provincial, and federal governmental agencies interested in grizzly bears, and the National Wildlife Federation.

Invited papers will be presented by Mark Boyce, Lisette Waits, Chris Servheen, Matt Austin, Rick Mace, Dave Mattson, Greg Schildwachter,

Wayne Kasworm, John Boulanger, Wayne Wakkinen, Mike Proctor and others. A panel discussion is planned with local political leaders and citizens. Pertinent papers on this topic from Europe and Asia are encouraged. Proceedings will be peer-reviewed and published. Send suggestions for topics and to: Sterling Miller
National Wildlife Federation
240 North Higgins, Suite 2
Missoula, MT 59847, USA
Phone (406) 721-6705
Fax (406) 721-6714
Email millerS@nwf.org



Eighth Western Black Bear Workshop

**April 15-17, 2003
Chico Hot Springs Resort
Pray, Montana, USA
Hosted by the Hornocker Wildlife Institute—
Wildlife Conservation Society**

Cecily Costello
Hornocker Wildlife Institute—
Wildlife Conservation Society
2023 Stadium Drive, Suite 1A
Bozeman, MT 59715, USA
Phone (406) 522-9333
Email costello@hwi.org

The Eighth Western Black Bear Workshop is scheduled for April 2003 at Chico Hot Springs Resort, 45 miles south of Bozeman, on the way to the north entrance of Yellowstone National Park. Cecily Costello, Howard Quigley, and John Beecham

are heading the organizing committee and are seeking a number of co-sponsors. The next IBA newsletter will have more information about the workshop and registration details. Make your plans now. The workshop will be well worth your time. Every effort is being made to build on the success of past workshops, especially the great gathering in Oregon two years ago. This workshop is now sanctioned by the Western Association of Fish and Wildlife Agencies. For more information, contact the address above.

Future IBA Conferences

15th International Conference
November 2003
Dehradun, India
16th International Conference
February 2004
California, USA
17th International Conference
2005
Italy

2nd International Bear Symposium October 21-25, 2002 Moscow, Russia

Bear biology, population, behavior, including bear-human problems and hunting management. Reports are due May 15. Contact:

Kurilov Nikolai Alexeevich
Phone 7-095-459-0912
Fax 452 5674
Email ruhunt@orc.ru

Bryoria Workshop October 14-15, 2002 Revelstoke, BC, Canada

The Columbia Mountains Institute of Applied Ecology is hosting this third Trevor Goward workshop. Cost is \$350 and limited to 15 people. This field course is open to caribou biologists, ecosystem specialists, forest industry representatives, resource managers, etc. interested in identification and field ecology of *Bryoria* and other arboreal forage lichens used by mountain caribou.

For workshop information, contact Trevor Goward phone (250) 674-2553, email tgoward@interchange.ubc.ca

To register, visit www.cmiae.org or contact: Jackie Morris, Columbia Mountains Institute of Applied Ecology, Box 2568, Revelstoke BC V0E 2S0, Canada, phone (250) 837-9311, fax (250) 837-4223, email cmi@revelstoke.net.

14th Conference— International Association for Bear Research and Management



Steinkjer, Norway
Dampsaga Kulturhus
 (Old Sawmill Culture Hall)
July 28-August 3, 2002

Conference website:
<http://www.hint.no/bearconference>

The website will be updated regularly.

Co-chairs:

Ole Jakob Sørensen
 Phone (47) 74 11 20 52
 Fax (47) 74 11 21 01
 Email ole.j.sorensen@hint.no

&

Tor Kvam
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After several decades with no, or very few bears, Norwegians are experiencing the immigration of bears from the dense populations in neighboring Sweden, Finland and Russia. There are few bears in Norway, but those who are there create more worries and despair than people from countries with dense bear populations can imagine.

“Living with Bears” is the theme for this conference. Increased knowledge of bears and bear biology is absolutely necessary for handling the new situation properly.

Conference Papers

Sending an abstract is *not* registration for the conference.

The authors of accepted presentations are expected to submit the full-length manuscript for the IBA journal *Ursus* at the time of the conference. Do not send full-length manuscripts to the conference co-chairs; send them to the editor of *Ursus* (address below).

Instructions to authors are available at <http://www.bearbiology.com/umenu.html>

Four double-spaced, paper copies (not electronic) of the full-length manuscript are due at the time of the conference, but earlier submissions are welcome. Send to:

Rich Harris
 Editor, *Ursus*
 218 Evans
 Missoula, MT 59801, USA
 Phone & Fax (406) 542-6399
 Email rharris@montana.com

Conference Registration

Participants are encouraged to register for the conference and make hotel reservations online: <http://www.hint.no/bearconference>. Those without internet access may use the registration form on page 39.

You may register for the conference until July 28, 2002. The registration fee covers attendance at all the scientific sessions, abstract booklet, and the full social program, including the historic play *Stiklestadspelet* and conference banquet on Monday, and the Wednesday field trip.

Events

14th Conference— International Association for Bear Research and Management



Accompanying Persons

Accompanying persons (who have not paid the conference registration fee) do not have access to the scientific sessions and will have to pay NOK 350 for joining the social program (including *Stiklestadspelet*, the conference banquet and the Wednesday field trip).

Conference Schedule

We will start with an ice-breaker on Sunday evening. We have prepared four days of presentations with field trips on Wednesday.

The conference banquet is scheduled for Monday evening at Stiklestad Culture Hall near the site of the Battle of Stiklestad, where St. Olaf, King of Norway, was killed in 1030 AD. Before the banquet we will watch the historic play, *Stiklestadspelet*, based on the tradition from 1030 AD. You will find more information on Stiklestad and St. Olaf at: <http://www.medsca.org/olaf/frameset.html>.

Evening Excursions

A variety of low cost evening

excursions have been planned: from visiting a deer farm to moose spotting and salmon fishing (see page 37). Booking for evening excursions will be on a first-come, first-serve basis. Reservations can be made at the conference website (<http://www.hint.no/bearconference>) and at the registration desk at Dampsaga Kulturhus.

Post-conference Field Trips

We are providing field trips of varying lengths and costs after the conference: from a hike in typical mid-Scandinavian bear habitat in back-country areas on the border between Norway and Sweden to an excursion to polar bear habitat in Svalbard (Spitsbergen). See page 38 and the conference website (<http://www.hint.no/bearconference>) for details. Please register for field trips using our online form. Field trips will be booked on a first-come, first-serve basis.

Lodging and Food

We have reserved rooms for

conference participants, but cannot hold them past mid-May. Please book your hotel rooms as soon as possible—or you may have to bring a tent!

Room rates at Quality Grand Hotel and Tingvold Park Hotel:

Single room inc. breakfast
NOK 595 (\$66) per person.

Double room inc. breakfast
NOK 400 (\$45) per person.

Six person rooms inc. breakfast
NOK 220 (\$24.50) per person.

Prices are lower at boarding houses.

Lunch at hotels and restaurants,
from NOK 50 (\$6) per person.

Dinner, from NOK 120 (\$13.50)
per person.

Prices may change with exchange rates. January 2002 exchange rates:
US\$1=NOK 9.00, 1EURO=NOK 8.00.

Travel to Steinkjer

Oslo Airport Gardermoen is the main entrance to Norway. Two flights every hour (Boeing 737) leave Gardermoen for Trondheim Airport Verne, which is 120 km south of Steinkjer. Trains from Trondheim to Steinkjer leave Verne at 15 minutes before the hour from 0545 to 2345. The railway station is outside the airport. The train trip to Steinkjer is 1.5 hours.

The Quality Grand Hotel is 100 m from the Steinkjer train station, where registration on Sunday and hotel reservations will be arranged. The registration desk moves to Dampsaga Kulturhus beginning Monday. Coach service from Quality Grand Hotel to Dampsaga Kulturhus will be available on arrival in Steinkjer on Sunday and Monday. Coach service on arrival will also be arranged for participants/guests staying at other hotels. Coach service between the hotels and the conference site (Dampsaga Kulturhus) will be available every morning.

14th IBA Conference Program

To date, the conference program includes 122 papers and posters by 218 authors from 28 countries around the globe: Argentina, Austria, Bulgaria, Canada, Colombia, Croatia, Ecuador, Estonia, Finland, France, Germany, Great Britain, Hong Kong, India, Italy, Japan, Latvia, Mongolia, The Netherlands, Norway, Peru, Romania, Russia, Slovenia, Spain, Sweden, Turkey and USA.

Field Techniques in Bear Research

Chair: Karen Noyce

Caulkett, N.A. et al., Comparative physiological effects of immobilizing agents in North American ursids.

Chauhan, N.P.S., Activity patterns of sloth bear in fragmented and disturbed areas of Bilaspur Forest Division, Chattishgarh, India.

Klenzendorf, S.A. & Vaughan, M.R., Effect of radio-collars on black bear survival analyses.

Bridges, A.S. et al., Field identification of yearling black bears with a morphometric based dichotomous key.

Olfenbittel, C. et al., Use of ultrasonography as a non-invasive tool to detect and monitor black bear fetal development.

Yoganand. K. & Rice, C.G., Sloth bear sign survey: can it be used to monitor population trends?

Reintroduction and Augmentation

Chair: Jiska van Dijk

Mustoni A. et al., Testing the predictions of the feasibility study for the reintroduction of the brown bear in the Italian Alps: preliminary data of costs of the program, space use and damage patterns of the seven released bears.

Sharpe, S.S. & Mason, G.J., Behavioral persistence in captive bears: implications for reintroduction.

Backus, V. and Gilpin, M., Individual based modeling: a decision tool for reintroduction and augmentation.

Invited paper 1:

Vaisfeld, M.A., Living with bears in Russia.

Invited paper 2:

Johnsingh, A.J.S., Four bear species and one billion people; management challenges in India.

Bear Biology

Schwartz, C.C. et al., Reproductive senescence in the brown/grizzly bear.

Lee, D.J. et al., Dispersal of yearling and subadult black bears in western Virginia.

Nygård, T. et al., Home range sizes of brown bear in a border area between Norway and Sweden with different livestock husbandry patterns.

Troya, V., Food habits of the Andean bear (*Tremarctos ornatus*) in five vegetation types at the Oyacachi River Basin, Cayambe-Coca Ecological Reserve, Ecuador.

Yoganand. K. et al., Behavior, ecology and conservation of sloth bears in a dry forest in Central India: an overview.

Reynolds, H.V. III et al., Population characteristics of grizzly bears in the Arctic National Wildlife Refuge, Alaska, 1982-1990.

Klemen, J. and Adamic M., The brown bear's spatial expansion in Slovenia: speed of expansion and saturation dependent dispersion.

Stenhouse, G.B. et al., Grizzly bear associations and pairings along the eastern slopes of Alberta.

Eason, T. H. and Pelton, M. R., Population ecology of black bears in Great Smoky Mountains National Park.

DNA-Techniques in Bear Population Research

Chair: Kate Kendall

Metsalu, M. et al., History of brown bear populations from Estonia, Finland and Russia.

Vowels, K. et al., Estimating population numbers of black bears in eastern Kentucky using microsatellite analysis.

Furman, B. et al., Resurgence of black bear in Kentucky: genetic structure, variability, and feasibility of restoration.

Haroldson, M.A., Estimates of grizzly bear numbers visiting Yellowstone Lake spawning streams using DNA.

Ruiz-García, M. et al., Population genetic structure of the Andean bear (*Tremarctos ornatus*) in Venezuela, Colombia and Ecuador using hypervariable microsatellite loci.

Viteri, P., Characterization of a wild population of Andean bear (*Tremarctos ornatus*) through non-invasive techniques, in the Cayambe-Coca Ecological Reserve, Ecuador.

Waits, L. et al., Bear/human interactions: genetic contributions to management decisions.

Peacock, E. & Peacock, M. M., Movements of black bears in the Alexander archipelago of Southeastern Alaska: a genetic analysis.

Public Event I

Peyton, B., The spectacled bear of the Andes; conservation efforts and results

14th IBA Conference Program, cont'd.

Bear Management Issues

Chair: Francisco Cuesta

Invited paper 3:

Bears and humans in the Andes mountains.

Swenson, Jon E. et al., The future of the brown bear in Scandinavia based on today's management in Sweden and Norway.

Björvall, A. et al., Recent and planned strategies for brown bear management in Sweden.

Watkins, V., The trade in bear gall bladder and bile products in Asia and the public awareness campaign aimed at changing consumer attitudes.

Emre Can, Oe., Status of brown bears in Turkey and the priorities for research and conservation.

Rodriguez, D. et al., Social reality in Colombia and the Andean bear survival: a program for its conservation.

Invited paper 4:

Eggen, T. et al., Living with bears in Central Norway: viewpoint from the local management level.

Landscape and Habitat Approach in Bear Research and Management

Chair: A.J.S. Johnsingh

Augeri, D., Effects on sun bear (*Helarctos malayanus*) ecology, landscape use, and conservation.

Akhtar, N. et al., Habitat utilization by problematic sloth bear in disturbed and unprotected habitat of North Bilaspur forest division, Madhya Pradesh, India.

Baskin, L. M., Forest fragmentation as the main factor of brown bear range diminishing in Eastern Europe.

Onorato, D.P. et al., Ecological characteristics of an oscillating population of black bears: home range, habitat use, den modeling and management implications for a desert montane island.

Peralvo, M. and Cuesta, F., Priority areas definition for Andean bear habitat conservation in the Ecological Reserve Cayambe-Coca and its influence zone, Ecuador.

Reynolds, M. & Mitchell, M., Spatio-temporal effects of timber harvesting on habitat quality for black bears.

Schwab, B.L. et al., Connections that matter: a graph theoretic analysis of grizzly bear movement in the Yellowhead Ecosystem, Alberta, Canada.

Huber, D. et al., The effectiveness of green bridges in Gorski Kotar (Croatia) for brown bears.

Public Event II

Fifty years of bear research in Yellowstone; good for bear management and for bear survival?

Bears and Humans Today and Through History

Chair: Anders Björvall

Andersone, Z., Ozolins, J., Perception of brown bears by the general public and hunters in Latvia.

Mather, D., Archaeological evidence of bear graves and bear ceremonies in Minnesota.

Gilbert, B., Emerging from the dark side: a re-interpretation of grizzly-human relationships based on current and historical evidence.

Aasetre, J., Managers and farmers: do they understand each other?

Soibelzon, L., A general review of the South American pleistocene short-faced bears (*Ursidae: Tremarctinae*).

Røv, N., The Evenki and the bears of Transbaikal, now and through history.

Invited paper 5:

Iregren, E., Bear cult in the Scandinavian peninsula.

Bear Human Conflicts

Chair: Diana Doan-Crider

Sathyakumar, S., Brown bear-human conflicts in Zanskar and Suru Valleys, Ladakh, India.

Morrison, H. and Tucker, W., Grizzly bears and visitors in the Moraine Lake area of Banff National Park-how effective is restricted access at allowing controlled visitation while maintaining grizzly bears in the area?

Goldstein, I. et al., Spectacled bear-cattle conflicts: a regional perspective.

Shideler, R. and Hechtel, J., Evaluation of hazing to reduce conflicts between grizzly bears and oil production activities in the Prudhoe Bay oilfields, Alaska.

Palomero, G. et al., Brown bear interactions with large mammals; implications for its conservation in the Cantabrian mountains.

Yamazaki, K., Conflicts between Japanese black bears and human beings in the Okutama mountains, Central Japan.

Jonozovic, M. & Adamic, M., Density of European brown bears and the extent of reported bear damages in Slovenia: do they have anything in common?

Christiansen, F., Preventive measures toward predator damages on sheep; herding and the use of livestock guarding dogs in Lierne Community.

14th IBA Conference Excursions

There are three types of excursions:
1. afternoon–night trips; 2. full day trips; 3. daytime family trips.

1. Afternoon–Night Trips

1.1 Roe Deer on Ytterøy

Location: Ytterøy Island in the Trondheim fjord.

Theme: The densest population of roe deer in Norway.

Price: NOK 300 per person including bus transport, ferryboat and an excellent meal of red deer venison.

1.2 Norwegian Deer Farming

Location: Gjørø Farm, Inderøy.

Theme: Visit a deer farm with approximately 200 animals and learn about management, harvesting, venison production and economy. See a traditional Gjørø Farm with typical regional buildings, its history and culture.

Price: NOK 300 per person including bus transport, and an excellent meal of deer venison from the farm.

1.3 Moose Safari

Location: Beitstad, Steinkjer.

Theme: Bus trip with a local guide to observe moose in their natural environment.

Price: NOK 300 per person including bus transport and an excellent moose venison meal, served in a forest camp.

1.4 Go-Cart Driving

Location: Overrein Go-Cart Centre, Ogdal.

Theme: Go-cart driving.

Price: NOK 100 per person including bus transport.



1.5 Boat Trip on the Snåsa Lake

Location: The Snåsa Lake and surrounding areas.

Theme: Snåsa Lake boat trip on *Bonden II*. Go ashore at Bøla for a visit to the world famous rock carving of the Bøla reindeer from 4000 BC. Be aware: Loch Ness is not the only lake where Nessie is observed! The specimen in the Snåsa Lake has officially been declared a protected species.

Price: NOK 170 per person including bus transport, and a full meal on the boat.

1.6 Outdoor Camp

Location: Brandheia Outdoor Camp, Ogdal.

Theme: Outdoor camp activities. Running on floating logs, swimming in the Østervatnet Lake, wood heated sauna, outdoor tourism, etc.

Price: NOK 350 per person including bus transport and an exotic meal from local game resources, and “black kettle” coffee cooked over an open fire.

1.7 Canoeing and Cave Visit

Location: Ogdalen Valley, Steinkjer.

Theme: Visit natural rock caves and take a canoe ride on the calm river. All participants will be fully equipped with safety gear.

Price: NOK 300 per person including bus transport, and outdoor meal with sandwiches, coffee/tea and chocolate. NOK 150 per person including bus transport for canoeing only (no meal included).

2. Full Day Trips

Wednesday June 31 2002, leave Steinkjer after an early breakfast.

2.1 Bear Country Excursion

Location: By bus (160 km) to Lierne, on the border with Sweden.

Theme: Visit farms where predation on sheep has been severe for years. Hear and see the effect on the life of local people, and how they are trying to solve their problems. Visit sheep-holders who use guarding-



dogs, fences and other remedies to survive as sheepholders.

Price: Included in conference fee.

2.2 Coast Excursion

Location: Sørgjæslingan Fishing Village. By bus from Steinkjer to Namsos (80 km). From Namsos by boat in the beautiful coastal waters on Namsen Fjord to the ancient and remote fishing village.

Theme: Boat trip with the Coast Guard vessel *KV Garsøy*. Coastal and marine flora and fauna, fish farming, and traditional ocean fishing.

Price: Included in conference fee.

3. Family Trips

Special programs for families.

3.1 Zoological Park and Amusement Center

Location: Namsskogan Family Park (110 km. from Steinkjer).

Theme: A zoological center with activities such as a barbecue, swimming, target shooting, etc. Meals can be purchased at the cafeteria. They even have bears.

Price: NOK 170 per person including bus transport but no meals.

3.2 Outdoor Camp

Location: Brandheia Outdoor Camp (16 km from Steinkjer).

Theme: Canoeing and small boat rowing on the nearby lake, shooting, running on floating logs, nature trails, fish grilling, etc.—safe and interesting for all ages.

Price: NOK 130 for adults and NOK 80 for children including bus transport.

Events

14th IBA Post-conference Trips

Svalbard/Spitsbergen

Departure: Trondheim airport
Saturday, August 3.

Price: approximately NOK 15,000 including flight and visit.

A one week trip including a two-day stay in Longyearbyen (UNIS, coal mines, museum) and a boat trip along the northwest coast with the midnight sun. We hope to observe polar bear north of New Ålesund.



Experience the Norwegian Coast

Enjoy the coast in a traditional sailing boat for three to four days.

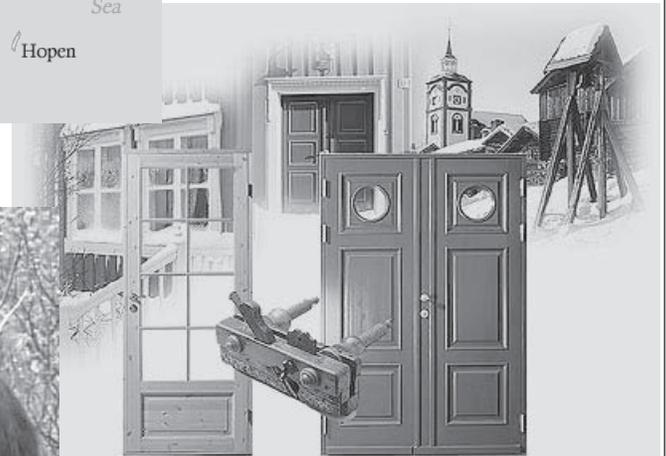
Price range: NOK 2,500.



From Steinkjer to the Moose Symposium in Hafjell

A. Via Dovre. Two nights at Kongsvoll Mountain Inn with a mountain safari, musk ox and wolverine.

B. Via Røros. Two nights in Røros, a UNESCO world heritage site comparable to the Egyptian pyramids or Versailles. For more information: <http://www.rorosinfo.com>.



Lierne— Norwegian Bear Kingdom

A. Mountain trip with tents. A demanding trip for people interested in camping, which will be weather dependent.

B. A stay at Lierne Motel (May-Britt) for two to four nights. Full board, lodging, day trips. Possible bear meat on the menu.

Price: Approximately NOK 2000.

Register Online Now!

Online registration is available for post-conference trips. Please register early so we can make final arrangements for trips.



14th IBA Conference Registration Form

We urge all who have access to the internet to register online at <http://www.hint.no/bearconference>.

Please note: Your registration will not be processed until payment has been received. Register one person per form. Print your name, as you would like it to appear on your nametag.

Name: _____

Organization: _____

Address: _____

City/State/Zip: _____

Email: _____

Emergency Contact Name: _____

Emergency Contact Phone: _____

Conference Registration Fee Includes:

conference, breaks, conference banquet, Stiklestad play, conference site coach, Wednesday field trip.

Conference registration:

NOK 2400; students: NOK 1800 NOK _____

Guest tickets for Stiklestad play and conference banquet (NOK 350 per person)

No. of guest tickets _____ NOK _____

Stiklestad play and conference banquet is included in the conference fee.

Accompanying persons must purchase guest tickets

TOTAL AMOUNT: NOK _____

Cancellation/Refund Policy for Conference Registration Fees:

No refunds for no shows.

Mail payment and registration form to:

HiNT/IBA Bear Conference, Serviceboks 2501, 7729 Steinkjer, Norway

You May Pay by Credit Card or Check:

Make checks payable to: **HiNT/IBA Bear Conference**

VISA/MasterCard accepted. Check card type: VISA _____ MasterCard _____

Signature _____ Card # _____ Expiration date _____

We intend to make this conference accessible to all individuals. If you have a disability or dietary needs and require accommodations to participate, please check here _____. *Someone will contact you to discuss your specific needs.*

Wednesday field trip—NOT a reservation, just a survey of wishes. I would like to join a field trip to:

1. Bear habitats on the Swedish border. _____
2. Coast of central Norway (salmon farming, fishing). _____
3. Other suggestions. _____



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Kerhu
Bear

International Bear News

The quarterly newsletter of the International Association for Bear Research and Management (IBA).
 Editor: Teresa DeLorenzo, Design Editor: Cynthia Cheney, Conservation Publications, Inc.
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 Website www.bearbiology.com

All members receive the newsletter. Send articles, artwork, photographs, etc. for publication to the address above.
Deadline for the August 2002 issue is July 15, 2002.

Thank you to everyone who contributed to this issue. Artwork is copyrighted—do not reproduce without permission.
Thank you to CityGraphics, Portland, Oregon, USA for generously discounting the cost of printing.

Membership

Use the form on the pages 41-42 to order or renew memberships, and update member information.

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 (USA tax # 94-3102570) organization open to professional biologists, wildlife managers and others dedicated to the conservation of all bear species. The organization has over 750 members from about 44 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 annual journal *Ursus*.

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*term expires 2004
 ^term expires 2002

IBA Membership Application & Survey

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Mail, Fax or Download the Form at www.bearbiology.com



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Check this box if you WANT your membership information shared with other conservation organizations.

Address Change

Membership US\$25.00 per year for one or two years, US\$20.00 per year for three years or more.

New Renewal Number of Years _____ US\$ _____

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Gift Membership for: Name _____ or IBA selected

Address _____

Tax-Deductible Contribution to IBA _____ US\$ _____

TOTAL AMOUNT US\$ _____

Check or Money Order in US\$. Make payable to IBA.

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Signature _____

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IBA Member Application & Survey, cont'd.

Please Complete Information on Both Sides of Form!

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 Processes		
Asiatic Black Bear**	years		Life History		
Andean Bear**	years		Management		
Awards*			Member Concerns*		
Bear-Human Conflict			Media Relations		
Bears in Culture			Mentoring/Training*		
Behavior			Newsletter*		
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	
Financial Management			Strategic Planning*		
Food Habits			Sun Bear**	years	
Genetics			Toxicology		
Giant Panda**	years		Travel Grants*		
GIS			<i>Ursus</i> Journal*		
Grant Review*			Veterinary		
IBA History/Archive			Website*		
Habitat Evaluation			Wildlife Rehabilitation		
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 member directory _____

Thank you for completing the survey, please tear out and mail or fax!

IBA Publications Order Form

Ursus Journal & IBA Conference Proceedings				Cost	Quantity	Total
4th	1980	Montana 1977		\$30.00	_____	_____
5th	1983	Wisconsin 1980		\$30.00	_____	_____
6th	1986	Arizona 1983		\$30.00	_____	_____
7th	1987	Virginia/Yugoslavia 1986		\$35.00	_____	_____
8th	1990	British Columbia 1989		\$40.00	_____	_____
9th (1)	1994	Montana 1992		\$45.00	_____	_____
9th (2)	1997	France 1992		\$25.00	_____	_____
10th	1998	<i>Ursus-Alaska/Sweden 1995</i>		\$40.00	_____	_____
11th	1999	<i>Ursus 11</i> NEW!		\$45.00	_____	_____
12th	2001	<i>Ursus 12</i> NEW!		\$45.00	_____	_____
Eastern Black Bear Workshop Proceedings, USA						
10th	1991	Arkansas 1990		\$15.00	_____	_____
11th	1992	New Hampshire 1992		\$15.00	_____	_____
13th	1996	Vermont 1996		\$15.00	_____	_____
15th	2002	Massachusetts 1999 NEW!		\$15.00	_____	_____
16th	2001	South Carolina 2001 NEW!		\$15.00	_____	_____
Western Black Bear Workshop Proceedings, USA						
1st	1979	Arizona 1979		\$15.00	_____	_____
4th	1993	California 1991		\$15.00	_____	_____
5th	1995	Utah 1993		\$15.00	_____	_____
7th	2001	Oregon 2000 NEW!		\$15.00	_____	_____
Polar Bear Proceedings						
10th	1988	USSR NEW!		\$10.00	_____	_____
Safety in Bear Country Videos NEW!						
<i>Staying Safe in Bear Country</i>				\$20.00	_____	_____
<i>Staying Safe in Bear Country & Working in Bear Country</i>				\$30.00	_____	_____
<i>Staying Safe in Bear Country</i> Public Performance Rights				\$69.00	_____	_____
<i>Staying Safe in Bear Country/Working in Bear Country</i> PPR				\$129.00	_____	_____
Monographs of the IBA						
<i>A Proposed Delineation of Critical Grizzly Bear Habitat in the Yellowstone Region</i> (#1, 1977)						
By J. J. Craighead				\$10.00	_____	_____
<i>The Status and Conservation of the Bears of the World</i> (#2, 1989)						
By C. Servheen				\$10.00	_____	_____
<i>Density-Dependent Population Regulation of Black, Brown and Polar Bears</i> (#3, 1994)						
Edited by M. Taylor				\$10.00	_____	_____
<i>Population Viability for Grizzly Bears: A Critical Review</i> (#4, 2001) NEW!						
By M. Boyce, B. Blanchard, R. Knight, C. Servheen				\$10.00	_____	_____

Please fill out form legibly!

Make US\$ Check or Money Order PAYABLE to IBA TOTAL US\$ _____

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Form also available at www.bearbiology.com.



International Bear News

The Newsletter of the International Association
for Bear Research and Management (IBA)
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Use the form on pages 41-42 or at www.bearbiology.com

The IBA knows deserving biologists who need memberships, please consider donating one.
Use the form on page 41

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.

Deadline for the August 2002 issue is July 15, 2002

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