

**THE CONSERVATION BREEDING SPECIALIST GROUP AND THE DEVELOPMENT
OF A CAPTIVE MANAGEMENT MASTERPLAN FOR GIANT PANDAS IN CHINA**

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Currently, no species stirs more passion or controversy in zoo-dom conservation arenas than the giant panda. The charisma of the species has provoked many western institutions to attempt securing giant pandas for exhibition, in exchange for supporting conservation programs within the range country. This has become a primary mission of the Giant Panda Program that formed in North America under the umbrella of the American Zoo and Aquarium Association (AZA).

This mission of the Conservation Breeding Specialist Group (CBSG) of the IUCN-World Conservation Union's Species Survival Commission is to serve as a neutral catalyst for action. CBSG was first approached about giant pandas by representatives of the Chinese Association of Zoological Gardens (CAZG) in 1995. CAZG represents the Ministry of Construction (MOC), one of two Chinese agencies (the other being the Ministry of Forestry [MOF]) responsible for giant panda conservation. CBSG was requested to assist for two reasons, the first being its reputation for assisting range countries in developing objective, scientifically based management and recovery plans. The second reason was the Chinese need for a neutral facilitating organization disconnected from a desire to hold and exhibit giant pandas. Participants within CAZG realized that more animals already held in zoos and breeding centers need to breed and reproduce. CAZG requested CBSG to help in the formulation of a Captive Management Masterplan that was based on all available knowledge and that would allow the captive population to be self-sustaining as well as support giant pandas living in nature.

CBSG's response to the invitation was positive, but with one caveat—that the masterplanning process occur in China in the absence of representatives from western zoos, including the AZA Giant Panda Program. This approach would foster trust and eliminate any perception that foreign participants might influence the ultimate recommendations in a way that might be construed as self-serving or commercial. More importantly, this strategy would ensure range country "buy-in" to the process, knowing in the end that the product was created by local people and for the Republic of China.

The Chairman of CBSG and the Vice Director of the Department of Urban Construction, MOC, formulated an agreement. CBSG's commitment was to help develop a first-cut Captive Management Plan, with facilitation assistance and technical advice provided by a CBSG team that included the Chairman (U.S. Seal) and four specialists (reproductive biology, David Wildt; behavior, Jill Mellen; population biology, Phil Miller; veterinary medicine, Lindsay Phillips).

It then made sense for CBSG and the AZA Giant Panda Program to begin more direct interactions. The AZA group had met some reluctance during negotiations with the Chinese, related in part to the strong desire of some institutions to trade conservation support in China for giant panda exports to western zoos. The AZA group, however, voiced a public commitment to giant panda conservation within China, and it was a natural for them to become a "third" partner in the development of a masterplanning workshop. Leaders of CBSG and the AZA Giant Panda Program met several times, and eventually reached a consensus that the AZA group would provide financial support for a workshop scheduled in December 1996. The AZA group promoted the need to be represented by staff from the Zoological Society of San Diego (which recently had received a pair of giant pandas from the MOF). This request did not officially meet CBSG criteria, but the problem was resolved by a direct invitation from CAZG to the San Diego Zoo. This allowed Don Lindburg (as the San Diego representative) to join the CBSG

team. Both the AZA Giant Panda Program and a separate generous donation from the Columbus Zoological Gardens provided CBSG the necessary funding to conduct the workshop.

The Captive Management Planning Workshop was held in Chengdu, China from 10-13 December 1996, with approximately 50 representatives of various giant panda holding institutions and governmental authorities in attendance. Representatives of the MOF were invited, but chose not to attend. The workshop largely involved small working groups that focused on (1) studbooks and records, (2) reproduction, behavior and management and (3) mortality, veterinary issues and nutrition. CBSG team members served as facilitators of individual working groups, each of which was provided with at least one translator. All ideas and information were recorded on flip charts (mostly in both English and Chinese) and summarized in both languages at the end of each day. The experiences of the CBSG team in their respective disciplines helped the participants more explicitly formulate new ideas and interpretations of already collected observations.

In initial plenary discussion, the participants declared that the goal of the Management Plan would be to "develop a self-sustaining, captive population of giant pandas in China that will assist supporting a long-term, viable wild population."

Perhaps the most important opportunity afforded by the workshop was the willingness of the Chinese to providing new data that allowed updating the International Giant Panda Studbook and understanding the status of the present captive population. This analysis revealed important new findings, including that:

- there presently are 104 giant pandas in captivity in 28 locations in China;
- during the past 15 years, the composition of the captive population has changed from being 93% wild-caught to nearly equal numbers of captive-born and wild-caught animals;
- to-date, only one captive-born male has become a breeder, whereas six living, captive-born females are breeders;
- the annual growth rate of the population has fluctuated widely from year-to-year with periods of near zero growth. Nonetheless, the growth rate has averaged about 10-17% per year for the past 16 years;
- despite the few numbers of animals now reproducing, it is possible that the captive-bred population in China could double within the next 10-14 years.

Among the many workshop recommendations were that:

- no additional wild-caught giant pandas are needed to support the current captive population;
- permanent transponders must be implanted in all captive giant pandas to ensure unambiguous animal identification;
- there is a need to more clearly understand the factors regulating reproductive success in the female and male giant panda, and a strong need to recruit more captive-born males into the breeding cohort;
- because sexual incompatibility is common, there is a need to improve artificial insemination techniques and to develop a national genome resource bank;
- there is a need to define and standardize an optimal diet and to improve veterinary capabilities;
- older, nonreproductive females (21-29 years of age) should be used for education within and outside of China.

To meet these recommendations, many actions were recommended, involving:

- tentative plans to conduct a biomedical survey of all captive individuals (to insert transponders) and conduct health/reproductive evaluations;
- developing a cooperative urinary hormone monitoring project with the Zoological Society of San Diego;
- on-the-spot collection of detailed reproductive data on males of proven versus unproven fertility;

- identification of high priority research projects in behavior, assisted reproduction and nutrition, including the identification of various research coordinators and explicit lists of physical and financial needs.

The final masterplanning document was prepared in both Chinese and English. After appropriate editing by the Chinese participants, it was mailed within 7 months of the December workshop to the CAZG and the AZA Giant Panda Program. The document also was requested by the United States Fish & Wildlife Service Office of Management (CITES permits) for use in their plan to reopen comments in the Federal Register on conditions for permits to import giant pandas into the USA.

The partnership between the Chinese Association of Zoological Gardens and CBSG, and CBSG and the AZA Giant Panda Program has allowed developing a first-cut, comprehensive document that, if implemented, will ensure a viable population of giant pandas in captivity in the range country. We believe the chances of implementation are good, if there is follow-up by all stakeholders. CBSG already is committed to additional meetings and workshops with the MOC as well as the Chinese Academy of Sciences, and continues attempts to officially involve representatives of the MOF. At the time of this writing, a CBSG team, along with colleagues representing the AZA Giant Panda Program, will be participating in the Giant Panda Festival scheduled to be held in Chengdu in September 1997. Plans are in place to discuss the implementation of the biomedical survey that will involve (1) permanently marking giant pandas for later identification, (2) health check-ups and (3) perhaps semen evaluation and sperm cryobanking. CBSG will be requesting further support from the AZA Giant Panda Program for these activities. Moreover, we anticipate that this initial step with giant pandas will be the first of many to begin collaborating with China on other "at risk" flora and fauna, topics that also currently are under discussion with Chinese authorities.

In summary, CBSG, with the support of the AZA Giant Panda Program and especially Columbus Zoological Gardens, has begun to develop a sound and trusting partnership with MOC authorities and managers of captive giant pandas in China. The reproductive potential of this population is enormous, and it is CBSG's position that current challenges to captive breeding can be overcome through a systematic process that is based largely on noninvasive research and changes in husbandry. Most importantly, it may well be that the problems facing the managers of this species can be solved with relatively modest financial and technical assistance from collaborators outside of China.