Threatened Birds of Asia:
The BirdLife International Red Data Book

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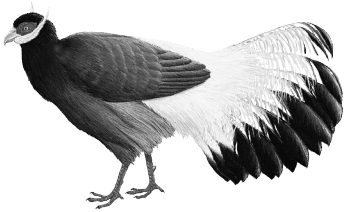
BROWN EARED-PHEASANT
Crossoptilon mantchuricum



Critical □ —
Endangered □ —
Vulnerable ■ C1

This species qualifies as Vulnerable because it may have a small population, and although its numbers within protected areas appear to be stable, elsewhere remaining unprotected and isolated populations are declining (potentially rapidly) through ongoing habitat loss and hunting.

DISTRIBUTION The Brown Eared-pheasant is endemic to northern China, where it is now found at scattered localities in the Luliang Shan mountains of western Shanxi, and the mountains of north-western Hebei, western Beijing and central Shaanxi (where a population was discovered in 1998). Many ancient books and local chronicles indicate that it was formerly more widespread and numerous (Li Xiangtao 1996), with historical reports from at least 40 locations in the provinces and cities of Shanxi, Henan, Hebei, Beijing, Liaoning, Heilongjiang, Shaanxi, Gansu, Hubei, Anhui, Sichuan, Fujian and Guangdong (Zhang Zhengwang 1998a, which see for maps of historical and current localities; but see also Remarks 1). Records (arranged from north to south by province; see Remarks 2 and 3) are from:

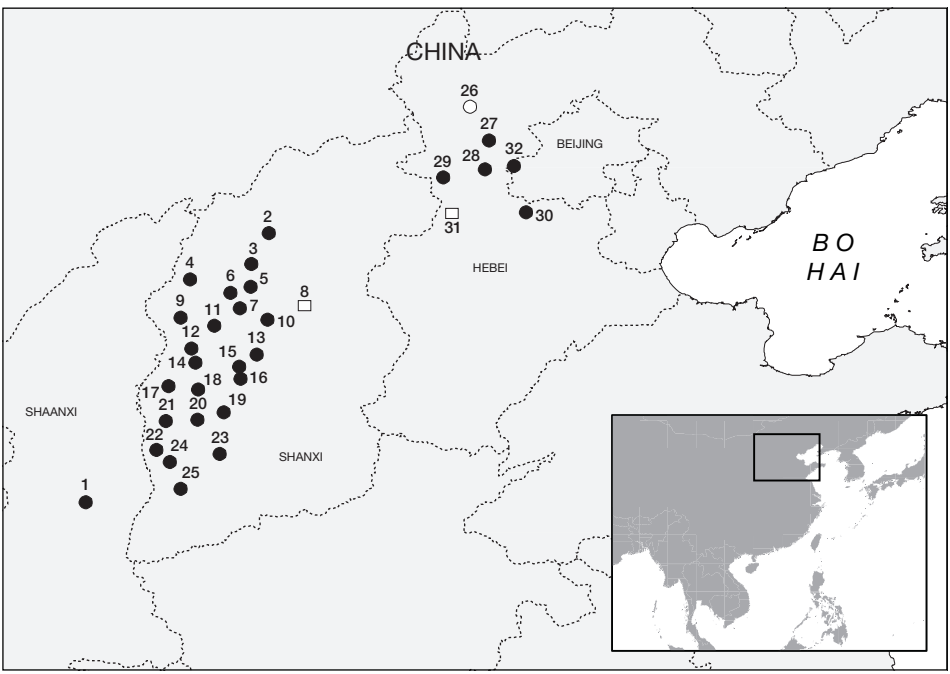
■ ***CHINA*** ■ ***Shaanxi*** **Huanglong Shan**, Huanglong and Yichuan counties and Hancheng city, midway between Xi'an and Yan'an, 800–1,700 m, where surveys in 1998 located a large population within an area of 400 km^2, and found evidence that the species is native to the area and that before the Ming Dynasty it was found to the north of Yan'an in Zhidan, Ansai and Qingjian counties (Xu Zhenwu *et al.* 1998; also Ding Changqing in Zhang Zhengwang 1998a, *Newsletter of China Ornithological Society* 7(1) [1998]: 4);

■ ***Shanxi*** **Shenchi county**, recorded in the 1970s and early 1980s (Wang Fulin 1985); **Luya Shan Nature Reserve**, Ningwu, Wuzhai and Kelan counties, an important site for this species, with 10 birds caught and radio-tracked there in 1995–1996 (Zhang Zhengwang 1995, 1996; also Wang Fulin 1985); **Xing Xian county**, recorded in the 1970s and early 1980s (Wang Fulin 1985); **Jingle county**, recorded in the 1970s and early 1980s (Wang Fulin 1985); **Lan Xian county**, recorded in the 1970s and early 1980s (Wang Fulin 1985); **Loufan county**, recorded in the 1970s and early 1980s (Wang Fulin 1985); **Yangqu county**, undated (Li Xiangtao 1996); **Lin Xian county**, recorded in the 1970s and early 1980s (Wang Fulin 1985); **Gujiao county**, recorded in the 1970s and early 1980s (Wang Fulin 1985); **Pangquanguo National Nature Reserve**, Fangshan and Jiaocheng counties, an important site for this species (Zhang Zhengwang 1995, 1996; also King 1987b); **Lishi county**, recorded in the 1970s and early 1980s (Wang Fulin 1985); **Wenshui county**, recorded in the 1970s and early 1980s (Wang Fulin 1985); **Zhongyang county**, recorded in the 1970s and early 1980s (Wang Fulin 1985); **Fenyang county**, recorded in the 1970s and early 1980s (Wang Fulin 1985); **Xiaoyi county**, recorded in the 1970s and early 1980s (Wang Fulin 1985); **Shilou county**, recorded in the 1970s and early 1980s (Wang Fulin 1985); **Jiaokou county**, recorded in the 1970s and early 1980s (Wang Fulin 1985); **Fenxi county**, recorded in the 1970s and early 1980s (Wang Fulin 1985); **Wulushan Nature Reserve**, Xixian and Puxian counties, an important site for this species (Liu Huanjin and Su Hualong 1991), 1997–1998 (Zhang Guogang and Zhang Zhengwang 1999); **Daning county**, recorded in the 1970s and early 1980s (Wang Fulin 1985); **Ji Xian county**, recorded in the 1970s and early 1980s (Wang Fulin 1985); **Linfen county**, recorded in the 1970s and early 1980s (Wang Fulin 1985); **Xiangning county**, recorded in the 1970s and early 1980s (Wang Fulin 1985); **Jishan county**, recorded in the 1970s and early

1980s (Wang Fulin 1985); "Ning-hua-shan" (untraced), May 1922 (three specimens in NRM); "Kolan-chow" (untraced), January 1922 (female in NRM); "Pa-shui-kou" (untraced), June 1922 (female in NRM);

■ *Hebei* **Zhangjiakou city** (Kalgan), including 65 km west of the city and at "Bayad", April 1911 (male and female specimens in AMNH); **Zhuolu county**, spring 1973 (two specimens in ASCN) and a nest with 14 eggs found there in May 1982 (Lu Taichun and Liu Rusun 1983), present both inside Xiaowutai Shan Nature Reserve and in adjacent areas (Zhang Zhengwang verbally 1999); **Xiaowutai Shan Nature Reserve**, Zhuolu and Yuxian counties, five nests found, 1982–1983, with flocks seen in winter, the largest totalling over 100 birds (Lu Taichun and Liu Rusun 1983), mainly at 1,000–2,000 m, an important site for the species (Chen Ligen and Guo Shubin 2000); **Yu Xian county**, four nests found, May–June 1982 (Lu Taichun and Liu Rusun 1983), present both inside Xiaowutai Shan Nature Reserve and in adjacent areas (Zhang Zhengwang verbally 1999); **Laishui county**, several sightings, 1996–1997 (Zhang Zhengwang 1998b); **Laiyuan county**, undated (Li Xiangtao 1996);

■ *Beijing* **Dongling Shan** mountains, including Xiaolongmen Forestry Park, Mentougou county, where a population was discovered in spring 1990 (Li Xiangtao 1993, 1995, Li Xiangtao and Bürkle 1993), the total area occupied by this species in this area being estimated at only c.100 km^2 (Song Jie and Zhang Zhengwang 1999);



The distribution of Brown Eared-pheasant *Crossoptilon mantchuricum*: (1) Huanglong Shan; (2) Shenchi county; (3) Luya Shan Nature Reserve; (4) Xing Xian county; (5) Jingle county; (6) Lan Xian county; (7) Loufan county; (8) Yangqu county; (9) Lin Xian county; (10) Gujiao county; (11) Pangquanguo National Nature Reserve; (12) Lishi county; (13) Wenshui county; (14) Zhongyang county; (15) Fenyang county; (16) Xiaoyi county; (17) Shilou county; (18) Jiaokou county; (19) Fenxi county; (20) Wulushan Nature Reserve; (21) Daning county; (22) Ji Xian county; (23) Linfen county; (24) Xiangning county; (25) Jishan county; (26) Zhangjiakou city; (27) Zhuolu county; (28) Xiaowutai Shan Nature Reserve; (29) Yu Xian county; (30) Laishui county; (31) Laiyuan county; (32) Dongling Shan.

○ Historical (pre-1950) ● Recent (1980–present) □ Undated

There are unconfirmed reports from a number of areas. In Shanxi, records from Taiyuan (Taiyüanfu), where five adults were obtained, December c.1913, March 1916, March 1920, January 1926 (Weigold *et al.* 1922, Jacobi 1924, three specimens in MCZ and one in NRM), presumably involved birds in trade that had been collected elsewhere in the province (Zhang Zhengwang verbally 1999). In the same province, Tianlong Shan Nature Reserve, Taiyuan city, was reported to have been established for this species and other birds (MacKinnon *et al.* 1996), but it is essentially a forest park for tourists where any Brown Eared-pheasants may simply be released individuals (Zhang Zhengwang *in litt.* 2000). Near Beijing, this species was reported by local people to occur at Wei-chung ("Imperial hunting-grounds") (Saurin 1866) and the Western Tombs (Wilder and Hubbard 1924).

POPULATION Li Xiangtao and Liu Rusun (1993) estimated the wild population of Brown Eared-pheasant at 5,000 birds, but this only included the populations within protected areas (Zhang Zhengwang verbally 1999). Its numbers outside protected areas (see Distribution) are poorly known, but on the basis of the potential habitat which remains for this species both inside and outside protected areas, and on the assumption that the mean population density within protected areas is twice that of unprotected areas, a total population of c.17,000 birds has been tentatively estimated (Zhang Zhengwang 1998b, Zhang Zhengwang verbally 1999). However, until more information is available on its numbers outside protected areas this increased population estimate remains to be confirmed, and, given the high level of forest loss and fragmentation that has occurred (and could continue in some areas) within its range (see Threats), and the consequent isolation of most (if not all) surviving populations, localised declines and extinctions could cause a decline in its overall numbers.

There is some detailed information available on its populations in several protected areas and at one unprotected site. Surveys in Pangquanguo National Nature Reserve from 1982 to 1988 estimated a population density of 7.7 birds per km^2, including 4.8 per km^2 at mid- to high altitudes, 9.3 per km^2 at mid-altitudes and 9.1 per km^2 at low to mid-altitudes (Liu Huanjin and Su Hualong 1991). Fifty nests were found there during surveys in 1995–1996 and the breeding population density was estimated at 6–7 birds per km^2 (Zhang Zhengwang 1995, 1996). The total population in the nature reserve was estimated at 580 birds in 1980–1982 and 1,230 in winter 1989 (AOSNR 1990), suggesting that its numbers increased following the establishment of this reserve in 1980 (Collar *et al.* 1994; but see Remarks 4). A survey of Luya Shan Nature Reserve in winter 1989 estimated a population density of 13 birds per km^2, and a total population of c.2,790 (1,820–3,770), higher than the estimated population of 1,200 in 1980–1982 (AOSNR 1990), suggesting that its numbers also increased there following the establishment of this reserve in 1980 (Collar *et al.* 1994). However, surveys in 1995–1996 estimated a breeding population density of only six birds per km^2 (Zhang Zhengwang 1995–1996; but see Remarks 4). At Wulushan Nature Reserve, surveys in 1997–1998 estimated population densities of 12.76 birds per km^2 in winter and 7.39 birds per km^2 in spring (Zhang Guogang and Zhang Zhengwang 1999). In Xiaowutai Shan Nature Reserve, the population was recently estimated at over 2,000, compared with 1,000 when the reserve was established in the early 1980s (Chen Ligen and Guo Shubin 2000; but see Remarks 4). In the Huanglong Shan area in Shaanxi, the population size was estimated at almost 2,000 in an area of 400 km^2 in 1998 (Xu Zhenwu *et al*. 1998). At Dongling Shan mountains, a preliminary survey in 1990–1991 resulted in sightings and captures from an area of 100 km^2, and estimated an average population density 0.98 birds per km^2 (Li Xiangtao 1992–1993). There were 118 sightings (and four nests with clutches were found) during surveys between autumn 1990 and winter 1993, an average population density of c.1.1 birds per km^2 was estimated over the four years, and a total population of no more than 500 birds was judged to be present (Li Xiangtao 1995). In winter 1998–1999, the total population there was estimated at more than 300 individuals (Song Jie and Zhang Zhengwang 1999).

ECOLOGY ***Habitat*** The distribution of this species appears to correspond to a band of temperate deciduous oak forest and coniferous forest which extends through the mountains of Shanxi to the mountains of Beijing and northern Hebei, and westwards into central Shaanxi (see Hou 1979; also Stattersfield *et al.* 1998). Most recent records are from between 1,000 and 2,600 m (Zhang Zhengwang *in litt.* 1997; see Distribution), but in the Huanglong Shan area in Shaanxi it occurs at 800–1,700 m (Xu Zhenwu *et al.* 1998). Its habitat selection varies according to season: in spring it occurs (and breeds) mainly in mixed coniferous-broadleaf forest and in coniferous forest; in summer it occupies a variety of habitats, but prefers coniferous forest and scrub near the forest edge; in autumn it reverts mainly to mixed coniferous-broadleaf forest, and many birds feed in *Hippophae rhamnoides* scrub and on farmland; and in winter it forms flocks (sometimes of several dozen but occasionally more than 100 birds) and moves down to lower altitudes, where its main habitats are coniferous forest and scrub on sunny south-facing slopes (Zhang Zhengwang 1998b; also Beebe 1936, Zhang Zhengwang *in litt.* 1997). Ecological studies in Pangquanguo and Luyashan Nature Reserves found that the main habitat types occupied by this species were *Pinus tabulaeformis* forest, *Larix principis rupprechtii* forest, *Pinus tabulaeformis–Quercus* forest, mixed forest of *L. p. rupprechtii* and *Betula*, mixed forest of *Pices*, *L. p. rupprechtii*, *Populus davidiana* and *Betula*, and mixed forest of *Quercus liaotungensis* and *P. davidiana* (Zhang Zhengwang 1998b; see also Zhang Guogang and Zhang Zhengwang 1999).

Recent surveys have found local variations in population density, apparently related to differences in habitat quality and altitude. Radio-tracking studies at Luya Shan found that home ranges varied from 2 to 128 ha, were much smaller (2–7 ha) during the breeding season, and also tended to be smaller in coniferous forest and other habitats with a good food supply (Zhang Zhengwang 1996). In Pangquanguo National Nature Reserve, higher population densities were found at low to mid-altitudes than at high altitude (Liu Huanjin and Su Hualong 1991); at Dongling Shan mountains records were from 1,300 to 2,200 m (Li Xiangtao 1993), although most were from below 1,800 m (Li Xiangtao 1995). This species occurs both in logged and secondary forest and in plantations, but it appears that population densities and possibly also breeding success are lower in these man-modified habitats than in relatively undisturbed forest; for example, the density in the core area of Pangquanguo National Nature Reserve was higher than in the peripheral parts of the reserve (Zhang Zhengwang *in litt.* 1999). At Dongling Shan mountains, Li Xiangtao (1995) found a low population density and poor breeding success (high egg loss), attributable to low egg fertility, which may have been related to the low habitat quality at this site.

Food This species is mainly vegetarian. It digs for tubers and fine rootlets, and also eats stems, leaves, buds, fruits and seeds, including spilt grain; in the breeding season it eats some insects (Beebe 1936, Lu Taichun 1991). At Pangquanguo Nature Reserve, totals of 54 plant and 18 animal species have been recorded in its diet; the main foods include *Allium macranthum*, *Hippophae rhamnoides*, *Cacalia hastata*, *Fragaria orientalis* and *Vicia cracca* (Lu Taichun 1991, del Hoyo *et al.* 1994). It apparently needs to drink every day, and moves daily down from the slopes to streams (Beebe 1936).

Breeding The breeding season starts in mid-March, when the birds pair monogamously and move to higher altitudes, where they choose and defend a well-sheltered site with good food supplies as their territories, and nest on the ground, usually under piles of fallen pine branches, rocks or dense bushes; clutches of 4–20 eggs (average 8.82 ± 2.53) are laid from early April, and incubated by the females for 26–27 days, with hatching success in 14 nests observed at Pangquanguo as high as 97.7% (Liu Huanjin and Su Hualong 1991; but see Threats). In the Dongling Shan mountains, egg-laying began in mid-May, and four nests with full clutches of 7–9 eggs (average 7.75) were found (Li Xiangtao 1995).

Migration This species makes seasonal altitudinal movements, moving to lower altitudes in winter (Zhang Zhengwang *in litt.* 1997; see above).

THREATS The Brown Eared-pheasant is one of two threatened bird species that are entirely restricted to the "Shanxi Mountains Endemic Bird Area", threats and conservation measures in which are profiled by Stattersfield *et al*. (1998).

Habitat loss Before the Qing Dynasty (1644–1911) this species had a large range (estimated at 1,800,000 km^2) in north and east China, but this area has been drastically reduced by forest loss associated with a rapid increase in the human population, and by the beginning of the twentieth century it had become extinct in many parts of its former range (Zhang Zhengwang 1998a). By 1862, when Père David observed the species north of Beijing, it had already become rare because of forest destruction and persecution (Delacour 1964; see Smil 1984, Table 1). Its range is now highly fragmented, and the scattered, isolated (and presumably often small) populations are vulnerable to further forest loss and other pressures, particularly outside protected areas; however, the numbers inside the four nature reserves established for this species are believed to be stable or even increasing (Zhang Zhengwang *in litt.* 1997; see Population). An exception may be Wulushan Nature Reserve, which was established in 1990 but had no management or staff; large-scale logging had ceased there at that time, but local people still collected firewood and cut trees illegally (Liu Huanjin and Su Hualong 1991). The pressures on this reserve continued into the late 1990s, when wood-cutting and exploration for iron ore were reducing the area of suitable habitat, and industrial activities were feared likely to cause serious pollution and frequent fires (Zhang Guogang and Zhang Zhengwang 1999). Outside the nature reserves, the threats include deforestation for agriculture and urban development (for example in the Dongling Shan mountains, where this species occurs at relatively low altitudes, its habitat is seriously under threat from agricultural changes) and habitat degradation due to logging and livestock-grazing (Li Xiangtao 1993, 1995, *in litt.* 1994, McGowan and Garson 1995). The forests in the Dongling Shan mountains have been reported to be under threat from a plan to build a mine (*Oriental Bird Club Bull.* 19 [1994]: 19), but this is no longer a problem (Zhang Zhengwang *in litt.* 2000).

Disturbance Human disturbance is a serious problem at some localities, and in recent years farmers collecting a species of edible mushroom *Morchella* have caused a decline in breeding success in Pangquanguo National Nature Reserve (Zhang Zhengwang 1995). Nest-failure rates there were 76% (of 28 nests located) in 1995 and 73% (of 19 nests located) in 1996; of the 14 failures in 1996, 35% suffered egg-collection by local farmers, 50% were predated by crows and mammals (presumably this high rate being linked to human disturbance) and 14% were deserted or parasitised (Zhang Zhengwang 1996). A high rate of egg loss was also recorded in the Dongling Shan mountains, partly because of losses to predators and local people (Li Xiangtao 1995); increasing tourism in this area is leading to a high level of human disturbance (Zhang Zhengwang *in litt.* 2000).

Province	Habitat	Original	Remaining	%	Protected	%
Shaanxi	deciduous broadleaf forest	78,364	27,940	36	1,197	1.5
Shaanxi	temperate coniferous forest	9,139	5,713	63	92	1.0
Shanxi	deciduous broadleaf forest	85,097	17,201	20	190	0.2
Shanxi	temperate coniferous forest	9,727	8,754	90	22	0.2
Hebei	deciduous broadleaf forest	65,868	10,335	16	606	0.9
Hebei	temperate coniferous forest	4,276	1,283	30	92	2.2

Table 1. Changes in the extent of natural habitats within this species's range in northern China. The data in this table are reproduced from MacKinnon *et al.* (1996), and show the estimated areas (both original and remaining in km^2) of presumably suitable habitats within this species's known range, and the area of each habitat estimated within existing protected areas. However, it is important to note that this only gives an indication of the extent of reduction of presumed habitats, as there is no information on the time-scale over which they have been lost, and this species does not necessarily occur throughout each habitat in each province.

Hunting The collection of eggs by local people was found to be a significant cause of nest failure in Pangquanguo National Nature Reserve (Zhang Zhengwang 1996), and presumably affects this species in other parts of its range. In Wulushan Nature Reserve, farmers use poison baits to hunt Common Pheasant *Phasianus colchicus* (Liu Huanjin and Su Hualong 1991), and this activity and other forms of hunting also presumably take place elsewhere.

MEASURES TAKEN ***Legislation*** Brown Eared-pheasant is a Nationally Protected Species (First Class) in China (McGowan and Garson 1995, Zheng Guangmei and Wang Qishan 1998). It is listed on Appendix I of CITES.

Protected areas Several protected areas have been established for the conservation of this species and its habitats: in Shanxi, Luya Shan Nature Reserve (215 km^2, forest apparently in good condition), Pangquanguo National Nature Reserve (105 km^2, forest apparently in good condition), Tianlong Shan Nature Reserve (29 km^2, condition of forests unknown), Wulushan Nature Reserve (144 km^2, forest apparently in good condition); in Hebei, Xiaowutai Shan Nature Reserve (226 km^2, forest apparently in quite good condition) (sizes and condition from MacKinnon *et al.* 1996; see also McGowan and Garson 1995). Poaching of Brown Eared-pheasants has been prevented at Xiaowutai Shan Nature Reserve since it was established in the early 1980s (Chen Ligen and Guo Shubin 2000), which may account for the apparent increase in its numbers there (see Population).

Habitat management The tree-planting and forest management programmes initiated by the Chinese government since the 1980s are likely to have benefited this species in some areas, by helping to compensate for the loss of natural forests and by improving the quality of the habitats at some sites (Zhang Zhengwang 1998a). A good example is in the Dongling Shan mountains, where much of the habitat occupied by this species was planted during that period, and as the coniferous trees mature the density of Brown Eared-pheasants is increasing (Zhang Zhengwang *in litt.* 2000). Xu Zhenwu *et al.* (1998) suggested that the population in the Huanglong Shan area in Shaanxi might have increased because of tree planting and the return of cultivated land to forest, as well as a ban on poaching.

Research Studies of the status and ecology of this species have been completed in Pangquanguo National Nature Reserve (e.g. AOSNR 1990, Liu Huanjin and Su Hualong 1991, Zhang Zhengwang 1995, 1996), Luyashan Nature Reserve (e.g. AOSNR 1990, Zhang Zhengwang 1996) and in the Dongling Shan mountains (e.g. Li Xiangtao 1993, 1995, Song Jie and Zhang Zhengwang 1999).

Advocacy In 1996, the provincial wildlife department in Taiyuan and the headquarters of Pangquanguo National Nature Reserve were requested to take measures to stop the mushroom exploitation, which they have done; Beijing Television made a programme about the conservation of this species, in which ornithologists called for the local government to take measures to protect this species (Zhang Zhengwang 1996).

Captive breeding There are estimated to be c.1,000 Brown Eared-pheasants in captivity world-wide (McGowan and Garson 1995; also Grahame 1979), and there are captive populations in Pangquanguo National Nature Reserve, Xiaowutai Shan Nature Reserve, Beijing Zoo, and the Endangered Species Breeding Center and the Institute of Zoology, both also in Beijing (Li Xiangtao *in litt.* 1994). Where the causes of the decline of the species are habitat loss, this conservation measure is unimportant, but there may be situations in which the use of captive stock may prove valuable (see next section).

MEASURES PROPOSED ***Protected areas*** This species occurs in several protected areas, and studies of its status and ecology have been completed in Pangquanguo and Luya Shan Nature Reserves. Further research is required in these and the other existing protected areas, particularly in the relatively poorly known Wulushan Nature Reserve, to monitor the Brown Eared-pheasant populations in each reserve and assess their overall effectiveness in conserving

the species. It will then be possible to determine whether there is a need to extend the boundaries of any of them to include additional areas of forest, whether measures are necessary at some sites to rehabilitate and restore suitable habitat, and whether some new protected areas need to be established. Management plans may need to be prepared for some of the key protected areas (P. J. K. McGowan *in litt.* 1999). The establishment of a new reserve should be considered to protect the newly discovered population in Shaanxi (Zhang Zhengwang *in litt.* 1999), and a new reserve should also be established to protect the Dongling Shan mountains population (Li Xiangtao 1995).

MacKinnon *et al.* (1996) made the following recommendations for the protected areas where this species has been recorded: at Luya Shan Nature Reserve, greatly extend the boundaries of the reserve; at Pangquanguo National Nature Reserve, greatly extend the boundaries of the reserve, especially from its southern boundary; at Wulushan Nature Reserve, if possible greatly extend the boundaries of the reserve; at Xiaowutai Shan Nature Reserve, retain and enlarge by joining the eastern forest block with the western one. At Wulushan, it is necessary to enforce the law rigorously to prevent the hunting of pheasants and the spraying of agricultural chemicals; the herding of livestock and the collection of medicinal herbs need to be controlled within the protected area (Zhang Guogang and Zhang Zhengwang 1999).

Habitat protection and management Improved habitat protection and management is required both inside and outside protected areas, particularly to help prevent further deforestation within its range, and to reduce disturbance at breeding sites, e.g. by mushroom collectors (MacKinnon *et al.* 1996, Zhang Zhengwang *in litt.* 1997).

Research As described above, there is a need for further research to monitor the effectiveness of the protected-area system for the conservation of this species. Some of this work is being carried out from 1999 to 2002, when this species and its conservation will be targeted by a project entitled "Studies on the mechanism of ecological adaptations and conservation strategy of the rare and endangered pheasants in China", funded by the National Natural Science Foundation of China (Zhang Zhengwang 1999).

Re-introduction In some parts of the former range of this species there may be potential to re-introduce it, for example at Taiyue Shan in Shanxi where its habitat has already been restored (Zhang Zhengwang *in litt.* 1997, verbally 1999).

REMARKS (1) Zhang Zhengwang (1998a) mapped a historical locality of this species in Sichuan, but Lu Xin *in litt.* (1999) considered it unlikely on biogeographic grounds that this species ever occurred in southern China, and records there should therefore be regarded as unconfirmed. (2) Many of the published records of this species (and of other galliforms in mainland China) are given by county, and they often do not include the actual localities where birds were found, the type of records (specimens collected, sight records, reports by local people, etc.), the number of individuals recorded or the dates of the records. Such records are very important for the understanding of the overall distribution of a species, but are of limited value in assessing its conservation status and in helping to decide where to target conservation actions. The collection and publication of more detailed locality and population data are therefore necessary to improve understanding of the conservation status of this and other Chinese birds. (3) Several incorrect statements have been published about the range of this species: Mountfort (1988) reported that by 1931 it was extinct in Hebei (where wild populations still remain today); Johnsgard (1986) and Mountfort (1988) included southern Chahar (Tsahaer) in Inner Mongolia in the range of this species (but where there is no evidence for its occurrence); and Xue Deyu (1957) reported that it occurs in Shandong (whence there are also no records). (4) The apparent changes in the populations of the species at some sites should be regarded with caution, as they may reflect different survey techniques, areas, season and/or efficiency, as well as real changes in status.