

Threatened Birds of Asia:

The BirdLife International Red Data Book

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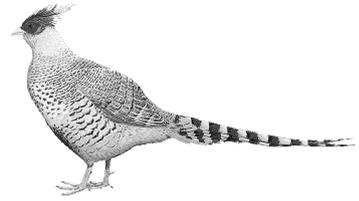
CHEER PHEASANT

Catreus wallichi

Critical —

Endangered —

Vulnerable C1; C2a



This pheasant's small population is naturally fragmented because it lives in small patches of successional grassland. Human population pressure, hunting and changing patterns of land-use are resulting in its decline, qualifying it as Vulnerable.

DISTRIBUTION The Cheer Pheasant (see Remarks 1) is distributed through the southern foothills of the Himalayas from Pakistan to Nepal, occurring in northern Pakistan, three states of India (Jammu and Kashmir, Himachal Pradesh and Uttar Pradesh) and Nepal (see Remarks 2). An early account by Hume and Marshall (1879–1881) suggested that it was already locally distributed in the mid-nineteenth century. This appraisal is probably truer today, its range being very patchy as a result of specialised habitat requirements and an increase of threats throughout its range (Kalsi 1999).

■ **PAKISTAN** The species is on the western limit of its range in Pakistan, occurring in mountains of eastern North-West Frontier Province and the area known as “Azad Kashmir”. Records are from: ■ *North-West Frontier Province* Kamil Gali, west of **Shahran**, above the Nadi valley, one seen at 1,500 m, 1979 (Roberts 1991–1992); around Kuwai, lower Kaghan valley, **Hazara district**, previously regular but extinct since 1970s (Roberts 1991–1992), and in the same district around Bansra Gali (untraced), reliably reported in the late 1960s (Roberts 1991–1992); near **Garhi Habibullah**, Pir Chela hills, late 1960s (Roberts 1991–1992); **Murree hills**, feathers found in 1833 (Magrath 1909), with several later found near Dunga Gali (Durga Galli), 2,400 m, July 1906 (Venour 1907), and still present in the area until 1960s, particularly in lower ranges around Tret (Roberts 1970, 1991–1992); **Margalla hills** (Margalla Hills National Park), immediately north of Islamabad, near Barakhao, undated (Roberts 1970), with five seen above the Dhok Jiwan basin, November 1976 (Severinghaus *et al.* 1979, Ridley and Islam undated), the park being the site of subsequent re-introductions (see Measures Taken); ■ *Kashmir* (“Azad Kashmir”; currently under the administration of Pakistan) **Muzaffarabad district**, an estimated 150, late-1980 (Qayum 1986–1987); on the Kazinag range, undated (Baker 1921–1930), and on the outermost flanks of this range at **Salkhala Wildlife Sanctuary**, 1,850–2,300 m, c.20 flushed, December 1977 (Mirza *et al.* 1978, Mirza 1980a); **Machiara National Park**, 2,450 m, August 1977 (Mirza *et al.* 1978), and in the upper Machiara valley, west banks of the Neelum (Kishenganga) river, one, January 1983 (Roberts 1991–1992); **Trakama pass**, undated (Roberts 1991–1992); Salampura, in the Neelum valley, **Pir Chinasi**, 1,400–3,500 m, a small population (possibly 6–7 birds), September 1986 (Young *et al.* 1987, Burt 1988).

■ **INDIA** The species is found sparingly at the fringes of Jammu and Kashmir at Kazinag (Baker 1921–1930, Bates and Lowther 1952), Kishtwar and the hills of the Jhelum valley, but not in “Kashmir proper” (Ward 1906–1908, Osmaston 1927). It also occurs at numerous sites in Himachal Pradesh (see Kalsi 1999) and Uttar Pradesh (see Garson *et al.* 1992). Records are from:

■ *Jammu and Kashmir* Kishenganga (Neelum) valley, undated (Osmaston 1927), specifically at **Keran**, undated (Ludlow in Bates and Lowther 1952); **Limber Wildlife Sanctuary**, c.1986 (F. Rath verbally 1990); between **Uri** and Chenari (in Pakistan), undated (F. Ludlow in Bates and Lowther 1952); found below **Inshan**, undated (F. Ludlow in Bates and Lowther 1952); around

Kishtwar, presumably in what is now **Kishtwar National Park**, undated (Ward 1906–1908), including Padar, high above the Chenab, April 1907 (Stockley 1923); outer slopes of **Pir Panjal range**, undated (Baker 1922–1930, Osmaston 1927); **Dodra-Kwar**, Rupin catchment, c.1989 (M. L. Narang verbally 1995); Darwa and Karnar (untraced), undated (Baker 1922–1930);

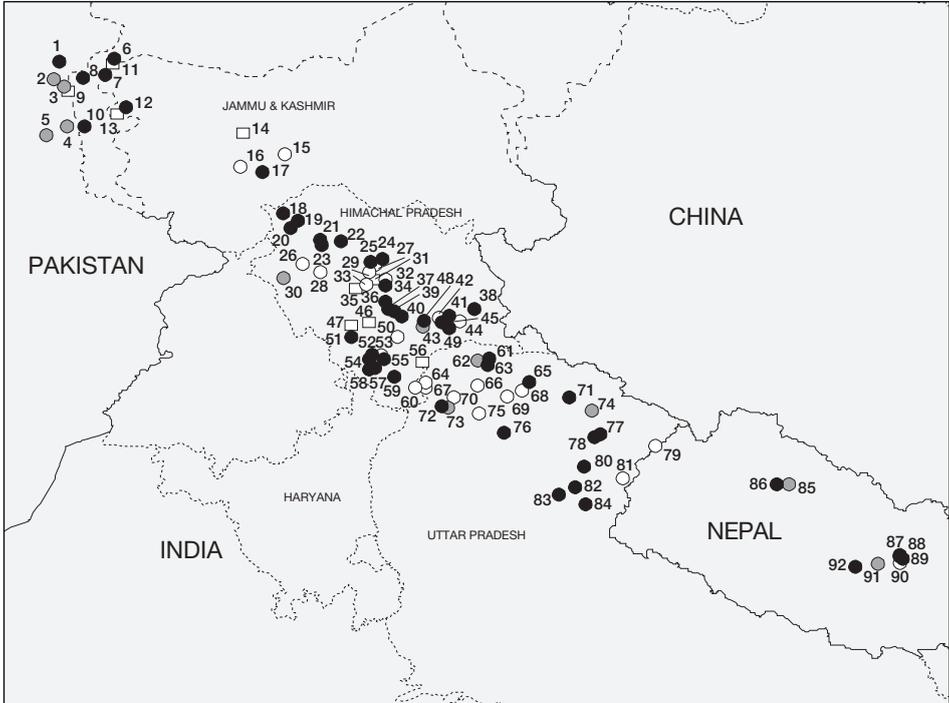
■ **Himachal Pradesh Gamgul Siahbehi Sanctuary**, listed (Singh *et al.* 1990); around Chamba, undated (Marshall 1884), specifically at **Sara Reserve Forest**, where two were calling 12 km north-west of Chamba, January 1979 (Gaston *et al.* 1981b), also eight between Khodu Da Ghot and Dramini, February 1995 (Jandrotia *et al.* 1996), and noted at Khodu Da Ghot, Chingot Da Phat and Aukhi Dramini, March–June 1997 (Kalsi 1999); **Bhataal**, around Chanoon, March–June 1997 (Kalsi 1999); **Tundah Sanctuary**, listed (Singh *et al.* 1990), around Tundah and Salana, and below Harchu, March–June 1997 (Kalsi 1999); **Kugti Sanctuary**, listed (Singh *et al.* 1990), possibly on the basis of records at Kugti and 15 km away at Budhal Nalla, where 1–3 birds were heard calling, May 1980 (Gaston *et al.* 1981b); Thathana Reserve Forest, near **Bharmour**, seven seen and 10–14 heard, March 1995 (Jandrotia *et al.* 1996), with further records from below Kandelu and between Rajta and Kotasni, March–June 1997 (Kalsi 1999); **Hamta** (Hamta nalla), five, March–April 1980 (Gaston *et al.* 1981b); **Manali Sanctuary**, at Lam Dubh Manalsu, 1980 (Gaston *et al.* 1981b), listed (Singh *et al.* 1990); **Dharmasala**, unspecified locality, breeding, 1891 (two eggs in BMNH), 1918–1919 (Hingston 1921), specifically “along the Daula Dhar”, undated (Whistler 1926a); **Jagatsukh**, upper Beas valley, breeding in May, undated (Hume and Oates 1889–1890); Bagh Nala, above **Palampur** on the Duala Dhar range, November 1921, December 1922, October–December 1923 (specimen in BMNH, Whistler ms), with other records from the “Kangra valley” (all on Dhaula Dhar) at Kandbari, January 1921 (female in BMNH, male in YPM), Kareri, 2,150 m, four, August 1923, and Truini, March 1921–April 1923 (Whistler ms); **Katrain**, May, probably between 1921 and 1923 (Whistler 1925); **Kalatop and Khajjiar Sanctuary** (Khajjiar-Kalatope Wildlife Sanctuary), 1–2 heard calling at Khajjiar, November 1978 and January 1979 (Gaston *et al.* 1981b); **Kais Sanctuary**, listed (Singh *et al.* 1991); **Kasol**, in the Parbatti valley, undated (Whistler 1925, 1926a); **Kulu** (Kullu), June 1869 (male in BMNH), c.1875 (male in FMNH), undated (12 specimens in MCZ), undated (Whistler 1926a), at Shim nulla, 2,450 m, May 1931 (male in FMNH) and Raicannulla, May 1931 (male in BMNH); **Kanawar Sanctuary**, one pair at the lower end of Garahan nalla, April 1980 (Gaston *et al.* 1981b), listed (Singh *et al.* 1990); **Nargu Sanctuary**, listed (Singh *et al.* 1990); listed for Great Himalayan National Park (Gaston 1986, Singh *et al.* 1990), 1983 (Gaston *et al.* 1993), with at least two at Rolla in March 1983 (Garson 1983), and still in the area c.1999 (R. Kaul verbally 1999), and two also recorded at Shugarda, upper **Sainj valley**, April 1983 (Garson 1983); **Parashar** (including Parashar temple), May 1980 (Gaston *et al.* 1981b); **Raung**, April 1989 (Sharma *et al.* 1990); **Bandal** (Nadar), at least six pairs, March 1980 (Gaston *et al.* 1981b), minimum of three pairs, March 1983 (Garson 1983); **Tirthan Sanctuary**, Great Himalayan National Park, 1980 (Gaston *et al.* 1981b), and listed without details by Singh *et al.* (1990); **Kao**, and nearby at Sorang, April 1989 (Sharma *et al.* 1990); Nachar forests, presumably near **Nachar** in the Sutelj valley, undated (Stoliczka 1868); **Sarahan**, 1980 (Gaston *et al.* 1981b); near **Chini**, undated (Stoliczka 1868); **Kaksthal**, March 1988 (Sharma and Pandey 1989, Sharma *et al.* 1990), above Pagal Nullah and near Karang and Ramni, March–June 1997 (Kalsi 1999), and nearby at Thongach and Wangtoo (Wangtu), April 1989 (Sharma *et al.* 1990); **Shikari Devi Sanctuary**, listed (Singh *et al.* 1990); **Bandli Sanctuary**, listed (Singh *et al.* 1990); between **Daranghati** and Larji, around 1950 (Wynter-Blyth 1951); Kinnu (Kinoo), December 1987 (Sharma *et al.* 1990), and nearby at **Tiumra**, Simla district, April 1989 (Sharma *et al.* 1990); **Kotgarh** (Kotegurh), near Simla, mostly 1868–1872 (12 specimens in BMNH and OUMNH), a party of 7–8, October c.1885 (Stewart 1886); **Majathal Wildlife Sanctuary**, April 1979 (Gaston *et al.* 1981b), around 19 pairs, April 1983 (Garson 1983), six sightings, November 1992–May 1993 (Mishra 1996), at Talao, Kangri, Chanjur, Surgadwari and the

Banola Reserve Forest, March–June 1997 (Kalsi 1999), apparently increasing in 1999 (*Tragopan* 11: 3); localities close to **Simla** (Shimla), including Simla hills, 1886 and undated (specimens in BNHS, Beavan 1865–1868, Abdulali 1968–1996), 1908–1918 (Jones 1919), Kyari Bangla, c.1988 (Sharma and Pandey 1989), Janaur, February 1987 (Sharma *et al.* 1990), and common on cliffs around Basaal, November 1994 (Harrison 1998); **Fagoo**, one, October, around 1885 (Stewart 1886); **Shogi** (Shoghi), near Simla, February 1987 (Sharma and Pandey 1989, Sharma *et al.* 1990), and nearby at Bhasa (Basha), February 1987 (Sharma and Pandey 1989, Sharma *et al.* 1990), and Kyari-bangla, May 1987 (Sharma *et al.* 1990); **Seri**, March 1988 (Sharma and Pandey 1989, Sharma *et al.* 1990), also nearby at Moi Jubbal (Mojjubbal), September 1987 (Sharma and Pandey 1989, Sharma *et al.* 1990), and Thund, September 1987 (Sharma and Pandey 1989, Sharma *et al.* 1990) and at Seri and Dagaun, 1998 (Kalsi 1998b); **Talra Sanctuary**, listed (Singh *et al.* 1990); **Chail Wildlife Sanctuary**, 40–60 pairs, April 1979 (Gaston and Singh 1980, Gaston *et al.* 1981b), minimum of 32 pairs, March 1983 (Garson 1983), with further records in March 1987 (Sharma *et al.* 1990) and March–June 1997 (Kalsi 1999); Karol Tibba, **Solan**, near Simla, c.1990 (M. L. Narang verbally 1995); **Churdar Wildlife Sanctuary**, c.1987 (M. L. Narang verbally 1995); **Putturnulla**, on walk from Simla to Mussoorie, a pair, June 1867 (Tytler 1868); Col de Kandy (untraced), 2,800 m, one male and two females, between April and June 1914 (Babault 1920); Dobi Nala (untraced); Dulchi pass (untraced), 1914 (Babault 1920);

■ **Uttar Pradesh Dharoadhari**, 4,550 m, one pair, October 1995 (Ghosh 1997); Biph, near **Yamnotri**, c.1970 (Garhwal Forest Working Plan 1971); **Kanatal**, east of Mussoorie, c.1998 (Kaul *et al.* 1998); **Jaunsar Bawar**, pre-1900 (male in OUMNH), and at 2,450 m, adults with chicks, 1916 (Baker 1921–1930); **Kedarnath Sanctuary**, Chamoli district, c.1991 (Sathyakumar *et al.* 1992); **Bhagarathi valley**, pre-1889 (nine specimens in BMNH), August 1913 (female in SMF); hills beyond **Chakrata**, Dehra Dun district, fairly common, undated (Royle 1839–1840, also Osmaston 1935 in Singh 2000) and apparently “rare” there, undated (Srivastava 1977 in Singh 2000—although it is not clear whether this merely reiterates historical records), also at Devrhan, a pair with chicks, c.1893 (male in BMNH), and Bodiya, August 1912 (female in BMNH), breeding, June 1918 (eight eggs in BMNH); **Vishu Ganga**, undated (Osmaston 1921); **Bheling valley**, April–May 1926 (Searight 1926); **Nagtiba**, nesting in both 1861 (Hume and Marshall 1878–1881) and 1915 (Baker 1932–1935); Painya, near **Joshimath**, c.1985 (Garson *et al.* 1992); **Banog**, c.1998 (Kaul *et al.* 1998); **Mussoorie**, breeding, May 1853, and at least six, October 1860 (Hume and Oates 1889–1890), May or June 1899 (two eggs in BMNH), at Koti Kimoi (Koti Kimoin), December 1938 (female in FMNH), November 1941 (two specimens in BNHS), June 1942 (female in FMNH), November 1947 (female in FMNH), Top Tiba, December 1941 and January 1942 (three specimens in FMNH), Jabarkhet, December 1942 (two males in FMNH), 5 km east of Mussoorie, February 1943, November 1944 (three specimens in FMNH), undated (specimen in BNHS, Abdulali 1968–1996), between Mussoorie and Dhanaulti, rare resident, 1963–1966 (R. L. Fleming Sr. 1977a), and nearby at Dudhli, 1,500 m, October 1936 (male in BMNH); outside **Nanda Devi Biosphere Reserve**, at Lata, c.1974 (A. Shah verbally 1980); Garwhal, undated (two specimens in AMNH), and in this region at Agara, **Tehri** (Tehri-Garhwal), a juvenile, October 1948 (male in FMNH), and also nearby at Uttain and Deogaddi forest blocks, c.1970 (Garhwal Forest Working Plan 1971); near Chantikhil Reserve Forest, **Pauri district**, c.1992 (D. Kumar verbally 1993); at Bringiodara near **Khati**, outside Nanda Devi Biosphere Reserve, 1997 (S. Javed *in litt.* 1999); Almora hills, type collected, undated (Hardwicke 1827), and in Almora district at **Waccham**, Pindari valley, 1985–1987 (Garson 1987, Garson *et al.* 1992, Kaul 1989a), 1997 (S. Javed *in litt.* 1999); **Dhaulti valley**, at its junction with the Rishi Ganga, undated (Osmaston 1921); **Binsar Wildlife Sanctuary**, c.1996 (O. Ilyas verbally 1997, Ilyas 1999); **Pithoragarh**, one female, November 1885 (Beebe 1910); **Mukhteswar Reserve Forest**, a small population discovered in 1980 (Rasool 1984), after earlier searches in the area (e.g. Gaston 1979b) had failed; **Naini**

Tal, undated (Hudson 1930), Bara pathar, c.1986 (Garson *et al.* 1992), and between Bhimtal and Padampuri, near Jilling estate, 1997 (S. Javed *in litt.* 1999); **Bearsingia** near Chawpawat, Padampuri, c.1985 (Garson *et al.* 1992); Jhakoli (untraced), Govind Pashu Vihar, 1990s (S. Javed *in litt.* 1999); Mundali (untraced), undated (specimen in AMNH); Tuen Tibba (untraced), undated (Royle 1839–1840).

Unconfirmed records include: Darjeeling, where a female in the India Museum is probably wrongly labelled with this locality (Beebe 1910), although Baker (1922–1930) mentioned live birds brought there for sale by Nepalis in 1894; Siul valley (Siul nala), reportedly present, although a hydroelectric project might have disturbed the habitat (Gaston *et al.* 1981b); Kandaghat Reserve Forest, close to the main Simla–Chandigarh road, by local report, around



The distribution of Cheer Pheasant *Catreus wallichi*: (1) Shahrān; (2) Hazara district; (3) Garhi Habibullah; (4) Murree hills; (5) Margalla hills; (6) Muzaffarabad district; (7) Salkala Wildlife Sanctuary; (8) Machiara National Park; (9) Trakama pass; (10) Pir Chinasi; (11) Keran; (12) Limber Wildlife Sanctuary; (13) Uri; (14) Inshan; (15) Kishtwar National Park; (16) Pir Panjal range; (17) Dodra-Kwar; (18) Gamgul Siabehi Sanctuary; (19) Sara Reserve Forest; (20) Bhattaal; (21) Tundah Sanctuary; (22) Kugti Sanctuary; (23) Bharmour; (24) Hamta; (25) Manali Sanctuary; (26) Dharmasala; (27) Jagatsukh; (28) Palampur; (29) Katrain; (30) Kalatop and Khajjiar Sanctuary; (31) Kais Sanctuary; (32) Kasol; (33) Kulu; (34) Kanawar Sanctuary; (35) Nargu Sanctuary; (36) Sainj valley; (37) Parashar; (38) Raung; (39) Bandal; (40) Tirthan Sanctuary; (41) Kao; (42) Nachar; (43) Sarahan; (44) Chini; (45) Kaksthal; (46) Shikari Devi Sanctuary; (47) Bandli Sanctuary; (48) Daranghati; (49) Tiumra; (50) Kotgarh; (51) Majathal Wildlife Sanctuary; (52) Simla; (53) Fagoo; (54) Shogi; (55) Seri; (56) Talra Sanctuary; (57) Chail Wildlife Sanctuary; (58) Solan; (59) Churdar Wildlife Sanctuary; (60) Putturnulla; (61) Dharoadhari; (62) Yamnotri; (63) Kanatal; (64) Jaunsar Bawar; (65) Kedarnath Sanctuary; (66) Bhagarathi valley; (67) Chakrata; (68) Vishu Ganga; (69) Bheling valley; (70) Nagtiba; (71) Joshimath; (72) Banog; (73) Mussoorie; (74) Nanda Devi Biosphere Reserve; (75) Tehri; (76) Pauri district; (77) Khati; (78) Waccham; (79) Dhauli valley; (80) Binsar Wildlife Sanctuary; (81) Pithoragarh; (82) Mukhteswar Reserve Forest; (83) Naini Tal; (84) Bearsingia; (85) Jumla; (86) Rara Lake National Park; (87) Lete; (88) Kopechani; (89) Ghasa; (90) Dana; (91) Muri; (92) Dhorpatan.

○ Historical (pre-1950) ● Fairly recent (1950–1979) ● Recent (1980–present) □ Undated

1980 (Gaston *et al.* 1981b); near Daranghati, perhaps recorded around 1950 (Wynter-Blyth 1951), but none located in March 1980 and all habitat apparently having disappeared (Gaston *et al.* 1981b); Galingsha, “a seemingly reliable report”, 1983 (Garson 1983).

■ **NEPAL** The species occurs from the western border to Kali Gandaki valley in the east (Roberts 1980). Baker (1922–1930) felt that it might occur “right up to Sikkim”, as live birds were brought down to Darjeeling by Nepalis in 1894, but there have been no further reports to suggest that this might be the case (Roberts 1980). It is likely that it is much more broadly distributed in west Nepal than traced records, as follows, suggest (C. and T. P. Inskipp *in litt.* 1998): **Jumla**, November 1937 (male in UMMZ; this possibly the record from c.1939 mentioned by Rand and Fleming [1957]), also reportedly “common” in 1972, although only one heard by Roberts (1980); **Rara Lake National Park**, one, c.1976 (Bolton 1976a), and nearby at Shinja, one, November 1991 (T. R. Giri *per* H. S. Baral *in litt.* 1999); **Lete**, upper Kali Gandaki valley, one, November 1985 (Halberg 1987); **Kopechani**, November 1982 (Gawn 1987), but no subsequent reports (C. Inskipp *in litt.* 2000); **Ghasa**, north-west of Pokhara town, Dhawalagiri zone, Mustang district, regularly recorded since 1982 (e.g. Eames 1982, Grimmett 1982, Nilsson 1982, Mills *et al.* 1982, Cocker and Adams 1983, Suter 1983, Calladine 1985, Harrap 1985, Goodwin 1986, Mayer 1986, Bland 1987, Gawn 1987, Puckrin 1993, Flack 1994, Drijvers 1995, Daulne and Goblet 1996), maximum of seven in December 1992 (Nielsen 1993), but few recent records despite much searching and thought probably extinct in the area (H. S. Baral *in litt.* 1999), although four were seen at Khumai (on the way to Machapuchre base camp), 3,250 m, November 1995 (M. Rooney *in litt.* 1999), and 6–10 were reported above Ghasa, January 1998 (A. Prasad *in litt.* 1999); **Dana**, upper Kali Gandaki valley, 2,135 m, December 1949 (male in FMNH, Rand and Fleming 1957); **Muri**, c.27 km west of Kali Gandaki valley, c.1979 (Lelliott 1981a,b); **Dhorpatan**, upper Uttar Ganga valley, “not common”, 1976 (Roberts 1980), between 2,620 and 3,170 m, 31 heard and an estimated 50–100 in total, May–June 1981 (Lelliott 1982); also north of Dharbang (not mapped) where reportedly “common” (Lelliott and Yonzon 1980a).

POPULATION Since the earliest records available the species has been considered generally scarce and local (Hume and Marshall 1879–1881). Given its patchy distribution and specialised habitat requirements, it is thought to number less than 10,000 individuals (McGowan and Garson 1995), and the total could conceivably be much lower—perhaps fewer than 5,000 birds in the wild (Gaston 1980). Many populations are now thought to contain fewer than 10 individuals (Kalsi 1999) in isolated pockets of suitable habitat (McGowan and Garson 1995), a circumstance with alarming implications for conservation management. Population densities have been estimated at 5–10 breeding females per km² at several sites (Lelliott 1981a,b, Garson 1983, Garson *et al.* 1992), suggesting that in ideal conditions many individuals can survive in a small area; and as Inskipp and Inskipp (1986b) reflected, “as the species is extremely shy and secretive it is easily overlooked and may be more frequent than assumed”.

Pakistan Judging by earlier records (e.g. Rattray 1905, Whistler 1930), the species was always difficult to find in Pakistan. The fact that it was nevertheless locally common is revealed by the 20 individuals flushed above Salkhala in December 1977 (Mirza 1980a), although no further sightings have been reported in this area and the species is possibly extinct there. It is scarce in the Neelum valley (Roberts 1991–1992), indeed, possibly “at the brink of extinction” (Chaudhry 1993a). Duke *et al.* (undated) suspected that it occurred in the south-facing oak forests and grassy slopes of Palas valley in Indus Kohistan, but this does not appear to be the case given the lack of sightings during intensive fieldwork at the site in the 1990s (Raja *et al.* 1999; see account for Western Tragopan *Tragopan melanocephalus*). Elsewhere, Burt (1988) confirmed the presence of a small population (no more than 6–7) in the Pir Chinasi area of Jhelum valley, and Islam and Crawford (1986) encountered a small population in the Machiara

area (now Machiara National Park), alongside the Western Tragopan. Most significantly, Qayum (1986–1987) reported a population of about 150 birds in Muzaffarabad district, a population apparently still present in 1992 (A. Qayum *in litt.* 1993). The general impression is that the Cheer Pheasant survives in very small numbers at very few scattered sites in Pakistan, and is probably in imminent danger of extinction given high hunting levels and low success of re-introduction programmes. Some parts of Kohistan and the Neelum valley, however, have not yet been thoroughly surveyed and future fieldwork may disclose further populations.

India According to Osmaston (1927) the Cheer Pheasant was “a rather local bird” in Kashmir, perhaps “not uncommon towards the Kishenganga and on the outer slopes of the Pir Panjal range”. This view was repeated by Baker (1922–1930) whose informant had shot them in several areas including Pir Panjal. The southern slopes of this range are probably entirely deforested (Gaston *et al.* 1983), and the species might thus have disappeared from the area, although forest is by no means a prerequisite for it (see Ecology). Moreover, while Qadri *et al.* (1990) failed to find any in Kashmir, locals reported them from the Kishtwar and Kazinag areas and small populations may survive there.

The stronghold of the species has always been in Himachal Pradesh. Even here, Stoliczka (1868) stated that it was “by no means a common bird” in the Sutlej valley and “very rare” near Chini. It was also thought to be the “least common” of the pheasants around Dharmasala (Hingston 1921). Whistler (1926a) concurred, regarding it as uncommon and sparsely distributed in the state, although it was clearly numerous in certain localities as attested by the fact that he (Whistler *ms*) encountered “several parties” and heard calling birds regularly at Bagh Nala and Truini on the Dhaula Dhar range. Similarly it was described as “fairly abundant” around Simla (Marshall 1884) and yet only found there in “a few favoured localities” (Jones 1919). In Chamba it was thought to be common in the nineteenth century, although patchily distributed (Hume and Marshall 1879–1881).

Nineteenth century reports from Uttar Pradesh also suggest that the species was locally “common” in Kumaon and Garhwal (Irby 1861, Hume and Marshall 1879–1881). Around Nainital it was apparently “seen often” (Hudson 1930), although this comment might have been made in error (see Remarks 3). However, a report from Garhwal concluded that it was widely distributed but “very seldom indeed found in any numbers” (quoted, from an untraced reference, by Whistler *ms*). Specimen records indicate that the species was encountered at a wide scatter of sites in both Himachal Pradesh and Uttar Pradesh in the nineteenth and early twentieth centuries, but the overall impression is of a species with a highly fragmented population.

During the course of the twentieth century a decline certainly occurred. By the 1980s it was absent from many early localities (Gaston *et al.* 1981b), and local reports suggested that numbers of the species continued to decline markedly in the 1990s (Kalsi 1999). By the century’s close the majority of surviving populations were found in the hills of Himachal Pradesh (Gaston and Singh 1980, Gaston *et al.* 1981b, 1983, Sharma and Pandey 1989, Kalsi and Kaul 1997) where surveys revealed that, although most populations were isolated and small, they were still “tolerably well distributed” (Gaston *et al.* 1981b) and locally “quite common” (Kaul 1992b). Apart from a very few sites most supported fewer than 10 pairs (Gaston *et al.* 1981b).

Two exceptions were Chail Wildlife Sanctuary and Majathal Wildlife Sanctuary. In April 1979 there were approximately 40 pairs of Cheer Pheasants at Chail at an average density of six pairs per km² (Gaston and Singh 1980, Gaston *et al.* 1981b). This population apparently declined by around 50% between 1979 and 1983 (Garson 1983), although the disparity in calling birds might be at least partly explained by seasonal effects (the 1983 surveys were conducted around six weeks after those in 1979). One of the highest population densities recorded for the species was in Majathal Wildlife Sanctuary, where Garson (1983) reported 24 pairs per km² in 1983 and Kalsi (1998a) estimated 17 calling positions per km² in suitable

habitat in 1997. Encouragingly, further transect work in 1999 suggested that the population had increased despite extensive burning of grasslands in late winter (*Tragopan* 11: 3). Elsewhere, Gaston *et al.* (1981b) felt that up to 50 pairs might survive in suitable habitat in Budhal Nalla, while in the upper Beas valley the species was found in almost all areas visited and the population in that region was considered to be in the region of “some hundreds of birds”. Gaston *et al.* (1981b) also concluded that it was “safe to assume that there must be more than a thousand pairs still surviving” in Himachal Pradesh. Some isolated populations also survive in Garhwal (Sathyakumar *et al.* 1992) and Kumaon (Garson *et al.* 1992), Uttar Pradesh, although the total number of birds is apparently considerably smaller.

Nepal Early reports indicated that it was “not uncommon in the hills north of [Kathmandu] valley” judging by the quantity of snared birds sold in Kathmandu (Scully 1879). It is now very locally distributed, with recent records from very few localities and the population is generally presumed to be declining (C. Inskipp *in litt.* 1999). It was always thought uncommon (highest count of seven) at Ghasa but it is now rarely recorded there and must be on the verge of disappearing altogether (H. S. Baral *in litt.* 1999). In 1981, it was “fairly common” at Dhorpatan, with a population estimated between 50 and 100 birds (Lelliott 1982). No recent information is available from this area, partly because it is considered unsafe to visit owing to the presence of Maoist activists (C. Inskipp *in litt.* 1999). A further survey in western Nepal conducted by Lelliott and Yonzon (1980a) failed to encounter the species. It apparently also survives near Kopechani (S. Gawn *per* C. Inskipp *in litt.* 1987), but its overall status at this locality remains sketchy.

Captivity The captive population numbered 460 in 1982 (Howman 1985). More recently, ISIS recorded 170 and WPA recorded 363, while the actual total was likely to be closer to 1,000 birds worldwide (McGowan and Garson 1995). From 1978 until the 1990s, eggs laid by captive birds in Europe were sent, usually in hundreds, to supply the re-introduction scheme in Pakistan (Hussain 1990, 1993).

ECOLOGY Habitat While the altitudinal range occupied by this species is generally 1,200–3,050 m, and most commonly in a narrower band between 1,850 and 2,750 m (Baker 1921–1930) it has apparently occurred down to 600 m in Pakistan (Roberts 1991–1992) and up to 3,500 m (Kalsi 1999), or even 4,550 m in Uttar Pradesh (Ghosh 1997). In Nepal, it has been encountered between 1,800 m and 3,150 m (Inskipp and Inskipp 1991; see Distribution). Its lowest descent tends to occur during periods of extremely cold weather (Baker 1921–1930), although there is less seasonal altitudinal movement than in most other montane galliforms (Ali and Ripley 1968–1998, Inskipp and Inskipp 1991).

The species generally frequents outer hill ranges of the Himalayas, typically avoiding dense forest and favouring very precipitous terrain with scrub, tall grass and stunted trees, particularly where interspersed with rocky crags (Marshall 1884, Ali and Ripley 1968–1998, Roberts 1991–1992, Gaston *et al.* 1981b, Garson *et al.* 1992, Baral *et al.* 1996). It is thus often found on steep rugged hillsides covered with long grass, *Berberis* scrub and oak forest, or in wooded ravines and hollows where it generally stays well hidden amongst undergrowth (Ali and Ripley 1968–1998), with its favoured locales described as “grassy hill-sides, with or without brushwood, or patches of the dwarf bamboo, and the like” (Stewart 1886), “grassy hills, scattered oak forests, sites of deserted villages and long grass in precipices” (Murray 1889) and steep hillsides with “a thick crop of spear-grass and studded with *Berberis* bushes” (Whistler 1926a). Kaul’s (1989a,b, 1990a) study site in Himachal Pradesh was covered with scrub (e.g. *Berberis kumaonensis*, *Indigofera* sp., *Prinsepia utilis* and *Spiraea canescens*) and scattered trees (*Quercus semecarpifolia* and *Rhododendron arboreum*). In Nepal it has been observed on boulder-strewn slopes intermingled with grassy patches (Ghosh 1997) and in ravines containing scrub, bamboo and grass (Grimmett 1982). It was found at Ghasa on steep, craggy hillsides supporting scrub and stunted trees and at Dhorpatan it occurred in

burnt, felled and cut-over areas with secondary growth in forest containing pine, juniper, fir and rhododendron (Lelliott 1982, Inskipp and Inskipp 1991). At this latter site it inhabited level ground and shallow slopes (0–30°), suggesting that the cliff-inhabiting tendency of the species elsewhere is more a function of disturbance than habitat requirements *per se* (Lelliott 1982). Although well-wooded habitats are generally avoided, it was recorded once in “dense pine forest” at Majathal Wildlife Sanctuary (Mishra 1996).

In Himachal Pradesh occupied sites tended to have a significantly higher grass cover and a significantly lower forest cover than unoccupied sites, and occupied sites had a significantly higher shrub foliage height diversity than vacant sites; as most occupied sites contained shrub cover between 0.5 and 1.0 m in height, a preference appears to exist for areas that have been heavily burnt or grazed within the previous year (Kalsi 1999). In conclusion, high grass, high shrub density and low shrub height appear to be the most important factors in determining the use of sites by the species (Kalsi 1999). Cheer Pheasants have been shown to spend more time than expected by chance in cleared areas (maintained by grazing) than amongst adjoining scrub, presumably because of the relatively high density of *Rumex* and *Arisaema* plants (see Food) found there (Kaul 1989a,b, 1990c). This preference for early successional habitats has led to an association with human settlements from early times, as the creation of this habitat is often dependent on clearance by man and livestock through deforestation, grass burning and grazing (Kaul 1989a,b, Garson *et al.* 1992).

The species is often gregarious, spending much of the year in small family parties (Ali and Ripley 1968–1998, Roberts 1991–1992). It is generally found in pairs during the breeding season, although trios consisting of an adult breeding pair and a subadult male have also been found (Young *et al.* 1987). In winter flocks of 3–13 form, these usually being family parties (Hume and Oates 1889–1890, Baker 1921–1930), although neighbouring groups may merge to form larger groups in the non-breeding season (Kaul 1989a,b, 1990a). In Kumaon, groups separated into breeding units in March (sometimes with accompanying subadults: Young *et al.* 1987), with the chicks from each breeding attempt remaining until the next breeding season at least and some neighbouring groups fusing in winter (Kaul 1990a). The species does not generally mix with other galliforms, although in a “small grassy slope in the forest from which the snow had just melted” Stockley (1923) encountered a remarkable feeding party including Kalij *Lophura leucomelena*, Koklass *Pucrasia macrolopha*, Cheer and Western Tragopan.

The species is thought to “sit concealed” during the day, only emerging to forage in early morning or late afternoon (Murray 1889), and it is extremely skulking, tending to run away uphill through undergrowth when disturbed rather than taking wing (Ali and Ripley 1968–1998). This habit is also observed in open areas: Osmaston (1921) reported that “several cheer started up only four or five yards away from my feet on an open burned grassy area and immediately sought safety by running away up the hillside without making any attempt to fly”. It also sometimes crouches in undergrowth when disturbed, relying on its cryptic plumage for concealment (Ali and Ripley 1968–1998). In this way it often sits tight (unless approached by dogs) until almost trodden on (Murray 1889, Ali and Ripley 1968–1998, Roberts 1991–1992). However, when flushed, it flies noisily and strongly, plunging down steep hillsides with wings almost closed, or twisting between trees (Hume and Oates 1889–1890, Roberts 1991–1992). It has a distinct, loud advertisement call given at dawn or, less frequently, dusk between March and early June, sometimes regularly, but often sporadically (Gaston *et al.* 1981b). This calling pattern has been used to survey the species and generate population estimates (Young *et al.* 1987).

Roosting apparently sometimes occurs on the ground but more regularly off the ground in vegetation. Jerdon (1862–1864) quoted Wilson (“Mountaineer”) who stated that “it roosts on the ground generally, and when congregated together, the whole flock huddle up in one spot. At times, however, they will roost in trees and shrubs”. Baker (1921–1930) commented

on this information, adding that birds might sometimes roost on the ground, but “over most of their habitat I am told they roost either on stunted trees, high bushes or on the summit of high rocks”. They have been recorded roosting socially in trees in patches of oak forest lining or overhanging gullies (Baker 1921–1930). Mishra (1996) mentioned a group of five found roosting 4–5 m up in a *Prunus pudum* tree in a dense nullah, and Rasool (1984) found a male apparently sleeping 6 m up a small oak at dawn. In fact the species usually roosts in traditional tree sites, usually on steep slopes, the male roosting alone while the female incubates (Young *et al.* 1987, Kaul 1989a,b). The captive birds released in the Margalla hills of Pakistan, however, were not recorded roosting above the ground (Ridley and Islam undated).

Food Observations and analyses of droppings have shown that the Cheer Pheasant’s diet is mainly vegetarian (Kaul 1989a,b, 1990c) but includes some animal material. Seeds, berries, grass and grains are taken when available, in addition to insects and grubs (Hume and Marshall 1879–1881, Murray 1889, Baker 1921–1930, Ali and Ripley 1968–1998). Also, with their strong down-curved upper mandible, birds are well equipped to dig and feed on tubers, rhizomes and roots to supplement their diet in winter (Baker 1921–1930, Roberts 1991–1992). In the summer, seeds and berries of various sorts and, earlier in the spring, young shoots and leaves are consumed (Roberts 1991–1992). As with most galliforms, birds are predominantly insectivorous in the first few weeks of life (Ridley and Islam undated). The species also appears to be more carnivorous than most pheasants and has been recorded eating small birds in captivity (Delacour 1977, K. R. S. Singh 1980). The following food items have been found in the crops of specimens: “grass seeds”, “roots (grass?), grass, rue and other greenery”, “seeds and green leaves”, “tubers and parts of a larger tuber”, “mussoorie berries *Coriaria nepalensis*”, “a few hemp seeds”, “grass roots, seeds, a larva and a pupa”, “hemp seeds, two grasshoppers, 40 small tubers” (R. L. Fleming label data in FMNH). Whistler (1926a) also recorded birds with leaves of “rue” and “small hard, knobby, tuberous roots” in their crops. Wilson (“Mountaineer” in Jerdon 1862–1864) thus appears to have been mistaken in claiming that the species “does not eat grass or leaves”. In Kashmir birds apparently feed on seeds of wild balsam in the autumn (Ward 1923).

The commonest feeding technique observed in captive individuals on native habitats in Pakistan involved digging with the bill (Ridley and Islam undated). This method was used to unearth beetles, ants, ant larvae, termites and cockroaches, while other items recorded included grasshoppers, myriapods, caterpillars, snails, stick insects and, particularly after 70 days of age, fresh grass shoots and young leaves (Ridley and Islam undated). An analysis of droppings in this captive population revealed that grass and insects comprised the bulk of the diet, that beetles and ants were the commonest insects consumed, that seeds and roots appeared to be unimportant at this time of year (July/August) and that grit was taken to aid digestion (Ridley and Islam undated). Dietary data from Kumaon is presented by Kaul (1990c), from which the following information derives. After snow-melt in March the shoots *Poa annua* (a grass) make up 23% of the diet, whilst leaves of *Rosa* and *Berberis* shrubs formed an additional important component, as did bulbous roots of sorrel *Rumex* which the birds were seen to uproot. In April the roots of *Rumex* and *Arisaema jacquemontii* alone made up 30% of the diet, while the former made up 19% of the May diet, amidst an increasing variety of alternatives. Leaves from natural ground vegetation (e.g. *Fragaria indica*), cereal crops (e.g. buckwheat *Phagophyrum tataricum*) and shrubs (e.g. *Prinsepia utilis*) contribute with *Poa* and *Rumex* to the June diet. Sorrels in particular thrive in heavy grazing regimes, underlining the importance of livestock or wild mammals in generating habitat suitable for the Cheer Pheasant.

Breeding The species is apparently monogamous (Baker 1922–1930), with males holding 18–25 ha territories that are defended through calling, displays and actual fights with intruding cocks (Kalsi 1999). Most clutches are laid from late April to early June, with a peak in egg-laying during May and birds at low altitudes tending to begin breeding around a month

earlier than those at high altitudes (Hume and Oates 1889–1890, Baker 1921–1930, Kaul 1989a,b, 1990b). Unsuccessful early nesters may re-nest up to June after which most of the breeding range is affected by monsoon rainfall (Kaul 1989a,b). In Kumaon, chick-hatching is apparently synchronised to coincide with the peak in insect abundance at the outset of the monsoon around mid-June (Kaul 1990a,b).

A nest scrape is made on the ground by the female and this is usually concealed under overhanging vegetation in the shelter of a rock or bush, normally on very “broken” or precipitous ground (Baker 1921–1930, Ali and Ripley 1968–1998). The description of a typical nesting location given by Hume and Marshall (1878–1881) is apparently accurate across the range of this species (Baker 1921–1930): it generally places its nest at the foot of almost vertical cliffs, “broken into ledges and steps and studded with down-trailing bushes, tufts of grass, and, growing here and there out of some larger cleft or wider ledge, a few stunted trees”. Murray (1889) added that the nest was usually placed in “grass or grass tufts”. It is apparently “merely a collection of leaves and rubbish in some hollow, either natural, or scratched out by the birds themselves” (Baker 1921–1930), sometimes carelessly lined with a few scraps of grass (Hume and Oates 1889–1890).

The normal clutch is 8–14 eggs, most usually 10–11 (Baker 1921–1930, 1932–1935, Ali and Ripley 1968–1998), of which not more than one or two per pair generally survive to the age of six months in the wild (Kaul 1989b). Only the female is known to incubate, taking about 26 days (Ali and Ripley 1968–1998). Hatching appears to coincide with peak invertebrate abundance, a strategy that presumably maximises the availability of protein for young chicks (Kaul 1989b). The pair-bond lasts throughout the breeding season, the male helping to brood and protect newly hatched chicks (Jerdon 1862–1864, Ali and Ripley 1968–1998, Roberts 1991–1992). If very young chicks are disturbed, both parents will perform a distraction display and the male will threaten the intruder (Baker 1932–1935). Hybridisation between this species and the Kalij Pheasant was recorded in the Simla hills in 1917 when an intermediate male was shot (Jones 1919).

Migration The species is quite sedentary, showing little or no seasonal altitudinal movements (Whistler 1926a, Ali and Ripley 1968–1998, Inskipp and Inskipp 1991, Roberts 1991–1992), although birds apparently wander marginally downslope in winter (Baker 1922–1930).

THREATS The Cheer Pheasant is one of four threatened members of the suite of 11 bird species that are entirely restricted to the “Western Himalayas Endemic Bird Area”, threats and conservation measures in which are profiled by Stattersfield *et al.* (1998). Alongside its susceptibility to hunting and habitat loss, one of the main complications to the conservation of the species appears to be its distribution in small isolated populations. Since grassy and scrubby formations in the western Himalayas are patchy and vulnerable to stochastic extinction, the same applies to Cheer Pheasant populations (see Distribution). The extreme fragmentation of the species’s range leaves it vulnerable to local extinction and presents a hindrance to gene-flow between subpopulations (Kalsi 1999). Even though the species has probably survived for very long periods in this patchy environment and it may perhaps have developed some tolerance to low genetic variation (P. J. K. McGowan *in litt.* 1999), this problem may become more serious as gaps between subpopulations widen. In general the species is susceptible to persecution and habitat loss, control of which is difficult even in many protected areas as communities historically dependent on natural resources are almost always sited around their periphery or within their boundaries (Pandey and Wells 1997). Furthermore, laws designed to protect the species are rarely implemented. An appraisal of individual threats follows.

Hunting The attractive flavour of this bird, its evasive behaviour and the scattered coveys it forms have made it a very popular quarry of sportsmen since the early days of British

occupation (see, e.g., Murray 1889, Baker 1921–1930). All Himalayan pheasants are hunted indiscriminately, but the Cheer seems to suffer disproportionately perhaps because it roosts communally at lower elevations and closer to inhabited areas than do most other Himalayan galliforms; it is sedentary, easily detected by its calls and occupies fairly open habitats, with the result that it is extremely vulnerable to hunting and susceptible to complete eradication in given localities (J. C. Anderson 1889, Ali and Ripley 1968–1998, Young *et al.* 1987, Roberts 1991–1992, Kalsi 1999). Whistler (1926a) remarked of its dusk chorus, “the medley of noise is unmistakable of recognition, and must lead to the destruction of many birds by poachers”: a hunter in Nepal apparently once shot nine individuals roosting in a single tree (Gawn 1987). The species tends to sit very close if well concealed, sometimes allowing humans to approach within a metre, and Wilson (“Mountaineer”, in Jerdon 1862–1864) sometimes even killed them with a stick or took them by hand. As small isolated populations are less able to absorb the depletion in numbers caused by hunting, the inexorable spread of firearms into rural areas has presumably proved highly deleterious to the Cheer Pheasant (JAT).

In Pakistan it is thought to be “particularly vulnerable to local hunters”, a circumstance that has led to it being “gradually exterminated from all its more accessible haunts, largely during the 1950s and 1960s” (Roberts 1991–1992). In the Murree hills and particularly the lower ranges around Tret and the Margalla hills it was certainly hunted up to the early 1960s (Roberts 1991–1992). Furthermore, with the opening up of Kohistan, the impacts of civilisation such as deforestation and hunting are increasing (Chaudhry 1993a), a factor that is presumably depleting pheasant populations.

Snaring of the species in Nepal was clearly common over a century ago (Scully 1879, Baker 1922–1930). Hunters (usually armed) are still “plentiful” in every village, and hunting pressure is therefore “tremendously high” year-round (Lelliott and Yonzon 1980b). It appears that the population is declining at Ghassa mainly due to this kind of pressure (Gawn 1987). Decades of persecution have undoubtedly caused a serious reduction in numbers of this species in the country.

It is still shot and snared for local consumption in India and egg stealing is common, forcing pairs to renest or abandon nesting altogether (Kaul 1989a,b, Sharma *et al.* 1990). Poaching in protected areas in Himachal Pradesh is frequent, especially in winter when the species descends to lower altitudes and is thus closer to villages; trapping by itinerant labourers is also suspected (Garson 1983, Kalsi 1999). In the Simla hills of Himachal Pradesh, local people hunting Cheer Pheasants were encountered in 1994, and the practice is apparently still common (Harrison 1998).

Habitat loss and degradation Osmaston (1921) considered the annual forest fires “which usually occur just before these birds are breeding”, to “be the principal check to their further increase”. He thus believed that the species would “become very much more plentiful” following the practice of closing forests to fire for the purposes of regeneration, a prediction that has proved, for obvious reasons, unduly optimistic. Regular burning is an important factor in maintaining ideal habitat for the species, and on the whole it is afforestation programmes (as proposed in Majathal Wildlife Sanctuary: P. J. K. McGowan *in litt.* 1999), rather than deforestation regimes, that will have a negative impact on its numbers. Alongside Osmaston’s (1921) comments about the threat of forest fire is a printed photograph of a day’s bag of eight Cheer Pheasants, a testimony to a much more serious threat to the species, and one that at that time received no comment. However, whilst hunting has probably been the greatest pressure on populations of the species, habitat modification is also a real problem. Most known sites in Himachal Pradesh are within 1–2 km of human settlements (Kalsi 1999) and this leaves them open to disruptive land-use practices. Grasslands here and elsewhere are frequently disturbed through grass-cutting, cattle-grazing and stubble-burning (Garson *et al.* 1992), factors that, as explained under Ecology, are potentially of benefit to the species as they help to maintain its favoured scrub-grassland habitat (Gaston 1987, Garson *et al.*

1992). Nevertheless, as it tends to prefer areas with considerable scrub cover, stunted trees or patches of secondary growth, clear-felling of all woody vegetation probably eliminates it (Lelliott 1981a,b). The important message, therefore, is that a small or medium amount of habitat disturbance is likely to benefit the species, whereas high levels of disturbance are likely to be disastrous.

Most grassland areas in its range below 2,000 m are so heavily grazed or so comprehensively converted to agriculture that the species has been displaced (Gaston *et al.* 1981b) and shifting cultivation is so intensive in some areas that it is having the same effect (Kalsi 1999). Conversion of scrubland and grassland into permanent terraces for arable farming are causes for concern, as are timber collection and medicinal plant collection, and even around many reserves habitat has been degraded to such a degree through grazing and lopping of foliage for winter fodder that most land is entirely denuded of vegetation and unsuitable for the species (Kalsi 1999). Soil erosion after habitat loss and because of deforestation upslope are further environmental problems (McGowan and Garson 1995). Apparently “uncontrolled and continuous exploitation of natural resources in Himachal Pradesh gathered momentum during the 1980s” and this environmental degradation has led to growing concern about the ecology of the area (Jandrotia *et al.* 1996). Fortunately, despite this high level of disturbance, habitat in the state continues to support Cheer Pheasant populations (Sharma and Pandey 1989, Jandrotia *et al.* 1996). This might in part be because the timing of the traditional agricultural cycle seems to be perfectly compatible with the biology of the species (Garson *et al.* 1992). Difficulties arise, however, when fires are started late (overlapping with egg laying), or grass is harvested early (when birds with chicks are deprived of cover), leading to adults and chicks being hunted or predated (Garson *et al.* 1992, Kalsi 1999). Moreover, in many known sites in Himachal Pradesh the cover is cut and burned so thoroughly that no habitat is left, especially for breeding in April and May (Kalsi 1999).

In Pakistan the Pir Chinasi forest area is subject to heavy human pressure from both wood-cutting and grazing, and the area has no sanctuary status (Roberts 1991–1992). Elsewhere, the main problems at the Margalla hills re-introduction site since the establishment of a protected area appear to be hunting, grazing and traffic (Ridley and Islam undated), although both the habitat and altitude at this site were unsuitable in any case (B. F. King verbally 1998) and protection itself led to the site becoming unsuitably overgrown (del Hoyo *et al.* 1994). In Nepal, the burning of hillsides and the collection of wood and bamboo have reduced the population at Ghasa and made the species easier to hunt (Bräunlich 1987), while at Dhorpatan the most serious threat to wildlife is apparently the deforestation of the valley sides that are slowly being cleared for agriculture (Lelliott 1982). The current difficulties faced by Himalayan “protected areas” is illustrated by Kishtwar in Kashmir, a national park in which 20,000–30,000 people live, almost all of whom, along with their livestock, are virtually wholly dependent on the park for fuel, fodder and timber, a circumstance resulting in a “great invasion” of livestock and consequent degradation of habitat and disturbance (Qadri *et al.* 1990). In the face of such pressure it is hardly surprising that the Cheer Pheasant is now very difficult to find in Kishtwar.

Predation The species is regularly predated by yellow-throated martens *Martes flavigula*, leopard cats *Felis bengalensis*, hawk-eagles *Spizaetus* spp. and Large-billed Crows *Corvus macrorhynchos* (Beebe 1918–1922). Predation is again reported by martens (presumably yellow-throated marten) near Simla, Himachal Pradesh (Harrison 1998).

A high rate of predation has been observed in captive-reared and released individuals, apparently by foxes *Vulpes vulpes*, leopard cats, Himalayan palm civets *Paguma larvata* and yellow-throated martens (Ridley and Islam undated, Roberts 1991–1992). Of 10 released Cheer Pheasants known to have been predated in the Margalla hills re-introduction programme, seven were taken by foxes, two by unidentified mammals and one by a Sparrowhawk *Accipiter nisus* (Ridley and Islam undated). The predation rate on these birds

is likely to be much higher than natural rates, as the young pheasants are more naive and roost on the ground rather than in trees (Ridley and Islam undated).

MEASURES TAKEN *Legislation* The species is legally protected in Nepal and India (Schedule 1).

Protected areas McGowan *et al.* (1999) listed the species as present in Machiara Game Sanctuary (now National Park), Pakistan, and Great Himalayan National Park and Manali Sanctuary, India, in their network of protected areas for galliform conservation in East Asia. In India the species occurs in several further areas that receive some form of protection, particularly in Himachal Pradesh, and it is towards these sites that conservation action for the species should be focused. *India* In Jammu and Kashmir the species reportedly survives in Kishtwar National Park (310 km²). In Himachal Pradesh, it occurs within Great Himalayan National Park (6,200 km²) where a biodiversity conservation project has been undertaken (Pandey and Wells 1997), and possibly in 12–15 wildlife sanctuaries (Singh *et al.* 1990, McGowan and Garson 1995): Chail (109 km²), Gamgul Siahbehi (109 km²), Hamta Nalla, Kais (14 km²), Kanawar (61 km²), Kalatop and Khajjiar (20 km²), Kugti (379 km²), Lam Dubh, Majathal (39 km²), Manali (32 km²), Nargu (278 km²), Shikari Devi (72 km²), Talra (40 km²), Tirthan (61 km²) and Tunda (64 km²). However, the species has only been recently confirmed from seven of these (R. Kaul *in litt.* 1998). In Uttar Pradesh it probably occurs in three wildlife sanctuaries: Askote, Binsar (46 km²) and Kedarnath (957 km²) (R. Kaul *in litt.* 1999). These “sanctuaries” are often ineffective at conserving habitat, but have probably reduced poaching in many areas (R. Kaul *in litt.* 1998). *Nepal* It occurs within Rara Lake National Park (106 km²), Dhorpatan Hunting Reserve (1,325 km²) and at two small sites within the Annapurna Conservation Area (McGowan and Garson 1995). Ghasa lies slightly outside the latter protected area (Kalsi 1999). The Annapurna Conservation Area, however, is not free of hunting and receives no specific protection (H. S. Baral *in litt.* 1999).

Captive breeding *Pakistan* In 1978, WPA began donating aviary-laid Cheer Pheasant eggs and young to Pakistan for a captive-breeding scheme wherein poults were raised in captivity in natural habitat and then released into the wild (Beer and Cox 1980, Ridley and Islam undated, Burt 1988, Roberts 1991–1992). Several introductions were attempted, mainly in the Margalla hills and also in Dunga Gali and Malkandi forest of Kaghan valley (Mirza 1980b). One of these projects was organised by WPA and the Islamabad Capital Development Authority at Margalla hills in 1986–1987 (Mallalieu 1988). Thirteen birds survived in the wild for only 16 months after the release programme of 1986 (Burt 1988), while Hussain (1990) reported that 552 poults were released onto the Margalla hills between 1978 and 1989 with no long-term survivors apparent. These early disappointments were caused primarily by disease and predation lowering survival rates during rearing (Severinghaus *et al.* 1979, K. R. S. Singh 1980, Ridley and Islam undated, Garson *et al.* 1992), as well as encroachment from the nearby city of Islamabad, the release site being too low in altitude and the habitat becoming too scrubby once the area was protected (Garson 1990); as a result the project has been discontinued (del Hoyo *et al.* 1994). One of the main problems with re-introduction and captive breeding of Cheer Pheasants in the Margalla hills was the dependence of adult birds on being fed at consistent sites, a circumstance that attracted predators; in an effort to minimise this risk, yellow-throated martens, leopard cats, civets, jackals and foxes, species that occasionally prey on Cheer Pheasants, were trapped and removed from the site (T. J. Roberts verbally 1997). *India* Gamekeeping activities have involved the species at some sites such as Chail Wildlife Sanctuary, Uttar Pradesh, since around 1920 (Ellison 1928). Captive populations exist in Himachal Pradesh but they have generally failed to meet any re-introduction objectives and therefore do not contribute in any way to conservation; they may actually be harmful as wild birds from neighbouring areas may be caught and put into these aviaries only to die later (P. J. Garson *in litt.* 1998; see equivalent section under Crested Argus *Rheinardia ocellata*).

Research Many status surveys have been conducted in Himachal Pradesh and Uttar Pradesh (e.g. Kaul 1989a) by universities and research organisations, and these have contributed to mapping almost the whole range of this pheasant in India. Calls for research into seasonal variations in calling intensity (Garson 1983) were acted upon successfully (Young *et al.* 1987; see Remarks 4). Research into the population ecology and habitat preferences of the species has been funded by OBC and WPA (Kalsi 1999, *Oriental Bird Club Bull.* 30 [1999]: 13). This has compared habitat parameters and land management practices between apparently similar sites with and without Cheer Pheasants in order to devise optimal management regimes in protected areas.

MEASURES PROPOSED In general, public awareness needs to be increased and laws against hunting and habitat destruction in protected areas should be more efficiently enforced. It has been proposed that to maintain existing populations and their habitat a project following the model of the Himalayan Jungle Project at Palas valley (which focuses on Western Tragopan: see relevant account) is required (Chaudhry 1993a).

In any case, the main objectives are to reduce the threat of hunting and habitat loss. To address the first of these problems heavy penalties should be imposed on poachers (Kalsi 1999). If small populations are to survive at scattered sites, existing hunting bans need to be strictly enforced (Garson 1983, McGowan and Garson 1995). Regarding the second major problem, “it is absolutely imperative... that land-use patterns are monitored, and changed where necessary” (Garson 1983). A rationalised policy should be developed to prevent deleterious degeneration of suitable habitat; in particular, there is an urgent need to review the rights of local people in terms of grazing, grass-cutting and timber collection in Indian reserves (Kalsi 1999). Sites that support substantial populations of this pheasant should be closed from exploitation on rotation so that appropriate regeneration is possible (Kalsi 1999) or cut on rotation to prevent succession to scrub (McGowan and Garson 1995), depending on circumstances. Burning of grass should be regulated such that some areas are kept unburnt until sufficient grass regrowth occurs in burnt patches to allow Cheer Pheasants to find shelter (Kalsi 1999).

On the whole, existing protected areas within the species’s range should be conserved as stringently as possible and managed at least in part according to its requirements. Biodiversity conservation in the Great Himalayan National Park should be developed around community level projects, and more funding should be directed at efficient management and the provision of staff and equipment (Pandey and Wells 1997, which see for fuller discussion). These proposals are relevant to many nominally protected areas in the Himalayas.

In terms of research (a lesser priority than establishing adequate protection for known populations), fieldwork should be directed towards further clarifying the current distribution of the species, and its ecological requirements. Perhaps the most important areas to be surveyed are western Nepal (Gaston undated) and Kashmir, as intensive surveys have been conducted in much of Himachal Pradesh, Uttar Pradesh and Pakistan. Some areas in Kohistan and deep in the Neelum (Kishenganga) valley have not yet been thoroughly surveyed, an omission that needs to be addressed at the earliest opportunity (Chaudhry 1993a). A concerted effort should be made to assess the viability of known populations. To achieve this, periodic surveys are required to monitor its status and distribution in western Pakistan (Chaudhry 1993a, Garson 1994), India (Jandrotia *et al.* 1996) and Nepal (McGowan and Garson 1995), so that trends can be ascertained and appropriate action taken if necessary. Population monitoring activities should be expanded to cover as many sites as possible and repeated as frequently as possible (Young *et al.* 1987). In terms of behavioural investigation, a study of reproductive behaviour would be especially helpful in gaining knowledge about the biology of the species (Chaudhry and Khalid 1990), as would further study clarifying ideal habitat management practices (Kalsi 1999). Lastly, a study of socio-economic factors in montane habitats is

required through the range of this species to assess how to help local people raise their standard of living and reduce their dependence on natural resources (Chaudhry 1993a).

Education Local people around key protected areas should be educated as to the importance of conserving the species and the current legislation protecting it (Kalsi 1999). In areas of Himachal Pradesh where significant populations survive it is thought of as a “Murga” (fowl) and villagers are completely unaware that the species is threatened with extinction and in need of protection (Kalsi 1999). This gulf in awareness needs to be bridged at the earliest opportunity. Educational campaigns should make use of audio-visual presentations and posters in local languages, and information should be introduced into the school curriculum of relevant areas (Kalsi 1999). McGowan and Garson (1995) suggested that in the Himalayan region this well-known and frequently hunted pheasant could be used to promote and illustrate active habitat management in conservation.

Captive breeding It has been proposed that establishment of captive populations would serve as a nucleus, not only for further propagation and re-introduction of the species, but also as a basis for ecological studies (Chaudhry and Khalid 1990). However, during the long-term re-introduction project in the Margalla hills many problems were encountered (Ridley and Islam undated, Chaudhry 1993a; see under Measures Taken) and the attempt has been discontinued. Assink (1993) provided a commentary on the reasons for this failure, and Garson (1990) observed that captive breeding “distracts attention and diverts funds” from other more immediate (and more important) forms of conservation action. Consequently, the view of the Pheasant Specialist Group is that, despite the decline in the number of captive birds, these should not be replenished (Garson 1994). There is, however, one advantage to a failed re-introduction programme, namely the increased awareness of local people regarding the plight of certain species and the importance of preserving them; from this perspective, the Margalla hills re-introduction programme of Cheer Pheasant was of some success (Assink 1993, del Hoyo *et al.* 1994).

REMARKS (1) The taxonomic placement of this species has long been problematic, with various authors linking it either to *Syrmaticus* or *Phasianus* or suggesting that all these groups belong together (Johnsgard 1986). Genetic analysis by Munechika *et al.* (1999) supports the separation of *Syrmaticus* and *Phasianus*, suggesting that *Catreus* belongs within or alongside the latter. The eggs of *Catreus*, however, differ greatly from *Phasianus* (Hume and Oates 1889–1890) suggesting that the monotypic genus should be retained. (2) There is an 1861 specimen (in NMS) labelled, presumably incorrectly, “Tibet”. There is a record from an uncertain country: “Gurlachinkothchkie” (as written in a database), February 1871 (specimen in MCML). (3) “Resident, but seen often” sounds somewhat strange; Hudson (1930) might have meant “resident, but not seen often”. (4) Call count surveys initially assumed that one calling male was probably accompanied by one female, giving a “pairs per km²” estimation. However, as lone males call and calling males can attract more than one female (Young *et al.* 1987, Kalsi 1999), care should be taken extrapolating adult population size from numbers heard calling at dawn.