

CRESTED SHELDUCK

Tadorna cristata

Critical ■ D1

Endangered —

Vulnerable —



There have been no confirmed records of this species since 1964, and it could be extinct. If it remains extant, the population must be tiny. It is classified as Critical because of recent unconfirmed reports that it survives.

DISTRIBUTION The Crested Shelduck (see Remarks 1) is known by just a handful of confirmed records from south-east Russia, Korea and Japan, plus several unconfirmed reports from these countries and north-east China. On the basis of these records, which are mainly coastal and focused on the Korean Peninsula, Nowak (1984) proposed and mapped hypothetical breeding and wintering grounds for this species, suggesting that it might breed in forested mountains in far-eastern Russia (including southern Sakhalin Island), northern Korea and north-east China, and perhaps also on Hokkaido in Japan. His proposed breeding non-breeding range included parts of southern Japan, south-west Korea and the east China coast as far south as Shanghai. Several descriptions and contemporary drawings from the eighteenth and nineteenth centuries were described by Austin and Kuroda (1953), which suggest that this species was more numerous in the past and was imported frequently into Japan from Korea.

■ **RUSSIA** The species is known by two records, both from near Vladivostok:

■ *Primorye* near **Vladivostok**, female collected, April 1877 (Austin 1948, Austin and Kuroda 1953); **Bol'shoi Pelis island** (Rimski-Korsakov archipelago), one male and two females seen on an isolated rocky island north-west of Matveyer island, 16 May 1964, with a small flock of Harlequin Duck *Histrionicus histrionicus* (Labzyuk and Nazarov 1967, Labzyuk 1972, hence Nowak 1983, Walmsley 1989), pair reported to have remained on a small lake in the Rimski-Korsakov archipelago from May–June 1964, the male being thought to be in full breeding plumage by 10 June (Walmsley 1989).

■ **JAPAN** The species is known by a single nineteenth-century record from Hokkaido:

Hokkaido Furubori, Ipponji, near **Kameda-mura**, Hakodate, pair collected and separate drawings made of the male and female, October 1822 (Kuroda 1940 in Austin 1948, Austin and Kuroda 1953).

■ **KOREA** ■ **NORTH KOREA** There are two unconfirmed records: mouth of the Pochong-gang river (Pouchen river), North Hamgyong province, two males and four females seen on the sea, late March 1971 (O Myong Sok 1984, MKN and KUT 1987, Walmsley 1989; see Remarks 2); Yichuan, North Pyongan province, three reported shot from flock of six on the seashore, late March 1916 (Nowak 1983; also Walmsley 1989).

■ **SOUTH KOREA** There were two confirmed records in the early twentieth century, and one unconfirmed report: ■ *South Kyongsang* lower reaches of the **Nakdong river**, near Pusan (Busan, Fusan), female collected (the type), December 1916 (N. Kuroda 1918, 1927, Austin 1948, Gore and Won 1971); ■ *North Cholla* **Kum river mouth** (Kun-Kiang), between Kiang king and Kun-san-fu (Gunsan, Gunzan), male and female collected, November or early December 1913 or 1914, on a muddy bar (Kuroda 1924, Austin 1948). An unconfirmed record was from North Chungchong (“Chushinhokudo”) province, two birds seen, possibly this species, March 1943 (Nowak 1983, Walmsley 1989; see Remarks 3).

■ **CHINA** There have been several reports of this species from north-east China, but all are unconfirmed. A report from Yunnan was presumably erroneous (see Remarks 4). Most of these were the result of a five-year survey (1985–1990), during which leaflets with paintings of Crested Shelducks were widely distributed, and follow-up interviews were held with hunters and other outdoor workers who claimed to have seen this species (Zhao Zhengjie 1992; but see Remarks 5). Phillips (1922–1926) reported that G. D. Wilder of Peking University, in a letter to O. Bangs from China in 1921, said he thought he saw a specimen of this species in the hands of a Chinese hunter about 25 years before, when he had no idea of its rarity and the hunter did not wish to sell it. Other unconfirmed records are from:

■ **Heilongjiang** unnamed forest river in the Da Hingan Ling (Greater Xingan mountains), near the border of Heilongjiang and Inner Mongolia, where two were seen by an old forester and hunter (with 20 years experience), May 1987 (Zhao Zhengjie 1992, 1995); Da Hingan Ling (Greater Xingan mountains), female seen by a taxidermist, April 1983 (Zhao Zhengjie 1992; see Remarks 5);

■ **Jilin** Dashitou Forestry Station, Changbai Shan mountains, four seen by a hunter, spring 1984 (Zhao Zhengjie 1992, 1995), two of which he shot and ate (Zhao Zhengjie 1992); Yalu Jiang river, Ji'an city, five seen by a "bird lover", autumn 1984 (Zhao Zhengjie 1992, 1995), and two seen by the same person at the same locality, April 1986 (Zhao Zhengjie 1992; see Remarks 5); tributaries of the Tumen river, two seen by a hunter, spring 1986, in a river inside the forest (Zhao Zhengjie 1992, 1995); Naitou river, Changbai Shan mountains, "a duck very similar to Crested Shelduck" seen by an ornithologist (with 30 years experience),



The distribution of Crested Shelduck *Tadorna cristata*: (1) Vladivostok; (2) Bol'shoy Pelis island; (3) Kamedamura; (4) Nakdong river; (5) Kum river mouth.

○ Historical (pre-1950) ● Fairly recent (1950–1979)

spring 1988, but it was too distant from him to be sure of the identification (Zhao Zhengjie 1992; see Remarks 5);

■ **Liaoning** Yalu Jiang river estuary, “on the sandy shore not far away from the estuary”, eight seen by an old hunter, October 1976 (Zhao Zhengjie 1992, 1995);

■ **Hebei** Chengde (Jehol province), three birds believed to be this species collected, but the skins not preserved, 1936 (Nowak 1983, Walmsley 1989, Environment Agency of Japan 1991); Fengtian Nan Yunhe, Liaoning, Hebei or Tianjin (see Remarks 6), three birds believed to be this species seen, and one collected, but the skin not preserved, May 1930 (Environment Agency of Japan 1991).

POPULATION According to Uchida (1918), birds of this species “seem to have been” imported from Korea into Japan by bird dealers about two hundred years ago, indicating that at that time it may not have been as rare in Korea as at the start of the twentieth century (Kuroda 1918). However, Nowak (1983) suspected that the species has been rare for the past three hundred years. The recent records suggest that it may still survive, but almost certainly in very small numbers (see Distribution). Zhao Zhengjie (1992) suggested that a population of not more than 50 birds could still exist on mountain streams in the Changbai Shan mountains and Da Hinggan Ling (Greater Xingan mountains) (the latter also regarded as a possible area by Nowak 1983).

ECOLOGY Habitat The Crested Shelduck has mainly been recorded in pairs or small flocks in coastal localities, often near the mouth of a river, with several unconfirmed reports from inland localities in north-east China (see Distribution). It has been recorded on the sea with a flock of Harlequin Duck near an offshore island (see Distribution), on the sea, 40–50 m offshore (O Myong Sok 1984, MKN and KUT 1987; but see Remarks 2), and on a muddy bar (Kuroda 1924, Austin 1948). Several of the recent unconfirmed records in China were of birds on forest rivers, with one from a “sandy shore not far away from an estuary” (Zhao Zhengjie 1992). E. Nowak (verbally 1988) suggested that it is a boreal species which nests at c.1,700 m at the treeline, perhaps away from water or on volcanic lakes.

Food The species may well feed at night; the bill structure suggests that the bird may not filter water for animal food, but subsist on grass and other vegetable matter (Nowak 1983).

Breeding The species is judged to nest in tree-holes, although the use of littoral zones of lagoons and coastlines cannot be excluded (Nowak 1983). It is judged reasonable to assume that the clutch size does not exceed 10, and that only the female incubates; the anticipated season is May–July (Nowak 1983).

Migration On migration the species appears to form small flocks (Nowak 1983). Hypothetical breeding and wintering grounds have been proposed and mapped for this species, with the inference that it migrates between these two regions (Nowak 1984; see Distribution).

THREATS No explanation has been advanced for the decline of this species. However, if it still survives in the wild, its numbers are likely to be so low that an accident could lead to its extinction. Industrial and urban development, and human disturbance, on the coast of North-East Asia pose a potential threat (see Threats sections for, e.g., Chinese Egret *Egretta eulophotes*, Black-faced Spoonbill *Platalea minor*, Steller’s Sea-eagle *Haliaeetus pelagicus*, Spotted Greenshank *Tringa guttifer* and Saunders’s Gull *Larus saundersi*).

MEASURES TAKEN The Crested Shelduck is a protected species (category 1) in North Korea. A project to locate it was proposed by E. Nowak at the 18th International Ornithological Congress, and in 1983 300,000 leaflets on the species were printed in West Germany and distributed in Russia (former USSR), Japan, China, South Korea and North Korea. However, there was little response, and the only significant new record was from

North Korea (see Distribution, Remarks 2). A new investigation was made in China from 1985–1990, through a publicity campaign and the distribution of 15,000 leaflets in 25 provinces and autonomous regions; this generated 82 responses, but none was confirmed (Zhao Zhengjie 1992, 1995; see Distribution). The detailed compilation of information by Nowak (1983) represented an extremely valuable basis for stimulating and directing field research.

MEASURES PROPOSED Nowak (1983) considered that surveys for the species should continue, and his suggestion that it should be searched for within its potential range through the distribution of illustrated leaflets and expeditions has already been addressed (see Measures Taken). The continuation of these efforts to locate the species is clearly the only measure that can be taken at present. If the species were to be rediscovered, Nowak (1983) proposed legal protection and effective enforcement; research on its ecology; identification of its natural habitats, and, if necessary, management of these habitats; captive breeding (although the merits of removing any birds from the wild must be given very careful consideration, given the extreme rarity of the species); and re-introduction into natural habitats.

An experiment to establish whether the Crested Shelduck is a hybrid has long been advocated (see Remarks 1) but never conducted.

REMARKS (1) The Crested Shelduck was described by Sclater (1890) as a possible hybrid between Ruddy Shelduck *Tadorna ferruginea* and Falcated Teal *Anas falcata*. Hartert (1924b) pointed out that the question of whether or not this is a valid species or a rare hybrid could be settled only by the success or failure of reproducing it by hybridising all the possible parents experimentally. However, it has been widely commented that such a hybrid would be wholly unexpected in nature (see Nowak 1983). (2) Tomek (1999) expressed serious reservations about the reported sighting of this species in 1971 by O Myong-Sok (1984), given the lack of literature on bird identification and of binoculars in North Korea at that time, and the long delay between the sighting and the date of publication. Tomek proposed that “his publication should not be taken into consideration in discussing the occurrence of Crested Shelduck”. (3) In Nowak (1983), this locality is given as “Chushinhokudo province” in the text, but as North Chungchong province in the legend to the map on p.256. (4) Up to 20 birds possibly of this species were reported to have been seen on a reservoir at Dashanbao (at over 3,000 m) in Yunnan province, China (*Oriental Bird Club Bull.* 14 [1991]: 14–15). There has been no further information, and this record presumably involved a misidentification of Ruddy Shelducks or another species. (5) Several of the reports listed in Zhao Zhengjie (1992) were not included in Zhao Zhengjie (1995). It is unclear whether these omissions were deliberate, and based upon a re-evaluated of the data, or accidental. (6) Fengtian Nan Yunhe could be in Liaoning or Hebei provinces or in Tianjin municipality, as “Fengtian” is an old name for Liaoning while “Nan Yunhe” is the South Canal, which is in Hebei and Tianjin (SC).