

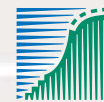
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# Waterbirds around the world

A global overview of the conservation,  
management and research of the  
world's waterbird flyways

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*Cover photography:* Whooper Swans *Cygnus cygnus* arriving at Martin Mere, England. Photo: Paul Marshall.  
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## Changes in abundance and diversity of waders and wintering waterfowl on the southern coast of the Caspian Sea

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Changes in the abundance and diversity of waterbirds on the southern coast of the Caspian Sea were studied using mid-winter census data collected by Department of Environment of Iran during 1999-2003. We investigated changes in the size and diversity of waterbird populations in the southern coastal zones of the Caspian Sea. In this paper, population trends and species distribution of waders and wintering waterfowl in different years and regions are presented.

Iran has about 105 important wetland bird habitats hosting about 502 species (Firouz 1974). Due to their geographic and ecological situation, Iranian wetlands are used as wintering sites by many wader and waterfowl populations (Rabiee 2002). A census has been conducted since 1982 by the Department of Environment of Iran in the main wetlands from Makhtum Gholi bay to Astarain. These wetlands lie in the three northern provinces of Iran, Golestan, Mazandaran and Gilan, from where we have utilised data from 15, 17 and 25 water bodies/wintering sites respectively. The census carried out total counts every year in early January till February. Population trends in each region were assessed and summarized for the period 1999-2003.

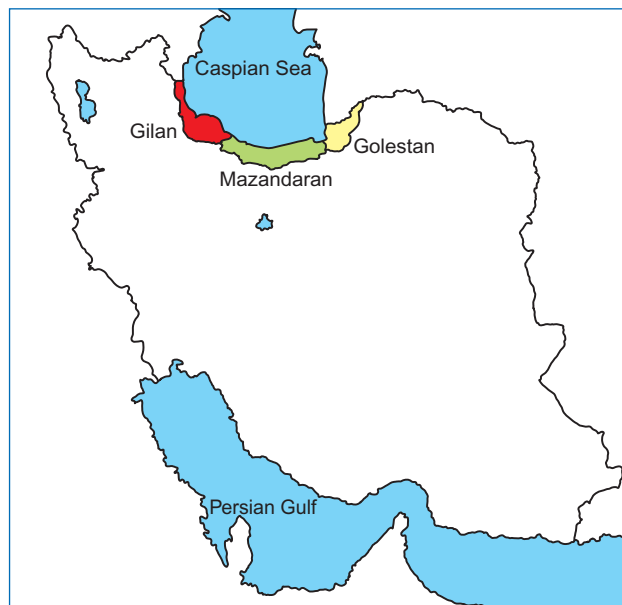


Fig. 1. Location of Gilan, Mazandaran and Golestan in Iran.

The number of all wintering species varied from 87 in 2001 and 2003 to 80 in 2000, with waders varying from 61 in 2003 to 53 in 2000, and waterfowl from 27 in 2001 to 22 in 1999 (Figs. 2-4, Table 1). In all regions the highest number of species belonged to the Anatidae family and the lowest to the Threskiornithidae, Dromadidae, Gruidae, Phoenicopteridae, Haematopodidae, and Burhinidae.

The waterfowl population in the southern coastal zones of Caspian Sea reached a maximum of 2 835 800 birds in 2003 and a minimum in 1999. The largest and smallest populations waders in 2003 and 2002 was about 166 990 and 16 600 birds respectively.

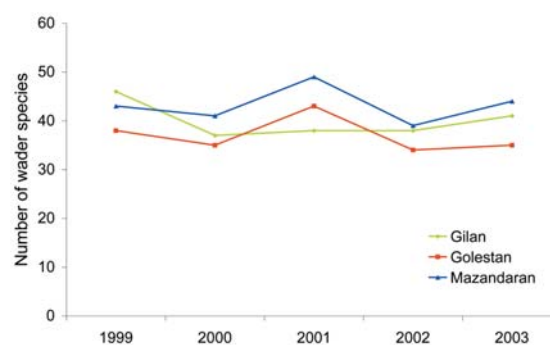


Fig. 2. Changes in wader diversity in southern coastal zones of the Caspian Sea.

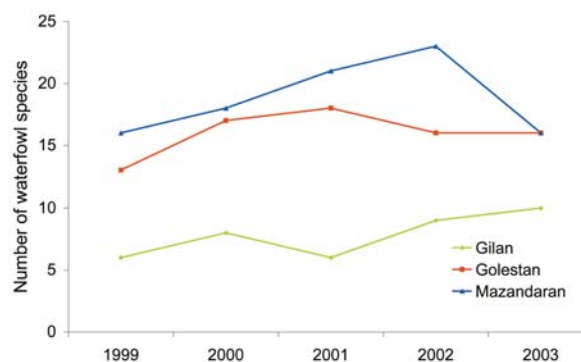


Fig. 3. Changes in the number of waterfowl species in southern coastal zones of the Caspian Sea.

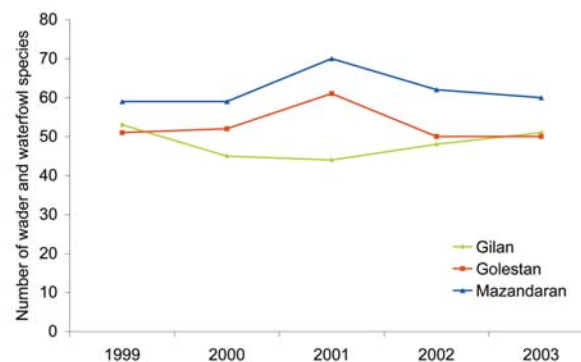


Fig. 4. Changes in waders and waterfowl species on southern Caspian Sea coasts.

**Table 1.** Check list of southern Caspian Sea waterbirds.

<i>Aythya marila</i>	Greater Scaup
<i>Bucephala clangula</i>	Common Goldeneye
<i>Mergus albellus</i>	Smew
<i>Mergus serrator</i>	Red-breasted Merganser
<i>Mergus merganser</i>	Goosander
<i>Oxyura leucocephala</i>	White-headed Duck
<i>Grus leucogeranus</i>	Siberian Crane
<i>Rallus aquaticus</i>	Water Rail
<i>Porzana parva</i>	Little Crake
<i>Porzana porzana</i>	Spotted Crake
<i>Porphyrio porphyrio</i>	Purple Swamphen
<i>Gallinula chloropus</i>	Common Moorhen
<i>Fulica atra</i>	Eurasian Coot
<i>Haematopus ostralegus</i>	Eurasian Oystercatcher
<i>Himantopus himantopus</i>	Black-winged Stilt
<i>Recurvirostra avosetta</i>	Eurasian Avocet
<i>Glareola pratincola</i>	Collared Pratincole
<i>Glareola nordmanni</i>	Black-winged Pratincole
<i>Vanellus vanellus</i>	Northern Lapwing
<i>Pluvialis apricaria</i>	Eurasian Golden Plover
<i>Pluvialis squatarola</i>	Grey Plover
<i>Charadrius hiaticula</i>	Ringed Plover
<i>Charadrius dubius</i>	Little Ringed Plover
<i>Charadrius alexandrinus</i>	Kentish Plover
<i>Charadrius leschenaultii</i>	Greater Sand Plover
<i>Scolopax rusticola</i>	Common Woodcock
<i>Lymnocyptes minimus</i>	Jack Snipe
<i>Gallinago solitaria</i>	Solitary Snipe
<i>Gallinago media</i>	Great Snipe
<i>Gallinago gallinago</i>	Common Snipe
<i>Limosa limosa</i>	Black-tailed Godwit
<i>Limosa lapponica</i>	Bar-tailed Godwit
<i>Numenius phaeopus</i>	Whimbrel
<i>Numenius arquata</i>	Common Curlew
<i>Tringa erythropus</i>	Wood Sandpiper
<i>Tringa totanus</i>	Redshank
<i>Tringa stagnatilis</i>	Marsh Sandpiper
<i>Tringa nebularia</i>	Greenshank
<i>Tringa glareola</i>	Spotted Redshank
<i>Xenus cinereus</i>	Terek Sandpiper
<i>Actitis hypoleucos</i>	Common Sandpiper
<i>Arenaria interpres</i>	Ruddy Turnstone
<i>Calidris alba</i>	Sanderling
<i>Calidris minuta</i>	Little Stint
<i>Calidris ferruginea</i>	Curlew Sandpiper
<i>Calidris alpina</i>	Dunlin
<i>Limicola falcinellus</i>	Broad-billed Sandpiper
<i>Philomachus pugnax</i>	Ruff
<i>Phalaropus lobatus</i>	Red-necked Phalarope
<i>Stercorarius parasiticus</i>	Arctic Skua
<i>Stercorarius pomarinus</i>	Pomarine Skua
<i>Larus canus</i>	Common Gull
<i>Larus argentatus</i>	Herring Gull
<i>Larus fuscus</i>	Lesser Black-backed Gull
<i>Larus ichthyaetus</i>	Great Black-headed Gull
<i>Larus ridibundus</i>	Black-headed Gull
<i>Larus genei</i>	Slender-billed Gull
<i>Larus minutus</i>	Little Gull
<i>Sterna caspia</i>	Caspian Tern
<i>Sterna sandvicensis</i>	Sandwich Tern
<i>Sterna hirundo</i>	Common Tern
<i>Sterna albifrons</i>	Little Tern
<i>Chlidonias hybridus</i>	Whiskered Tern
<i>Chlidonias leucopterus</i>	White-winged Tern

Population estimates of waterfowl, waders and waterbirds in the three provinces are presented in Figs. 5-7 below.

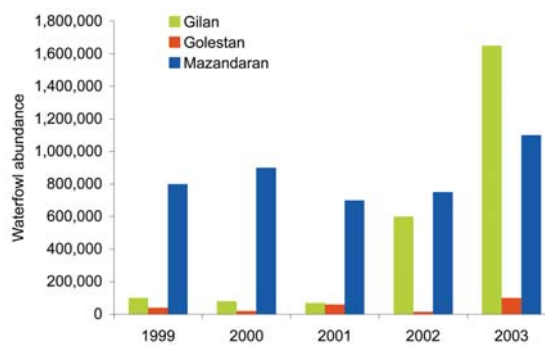


Fig. 5. Waterfowl populations in southern coastal zones of Caspian Sea.

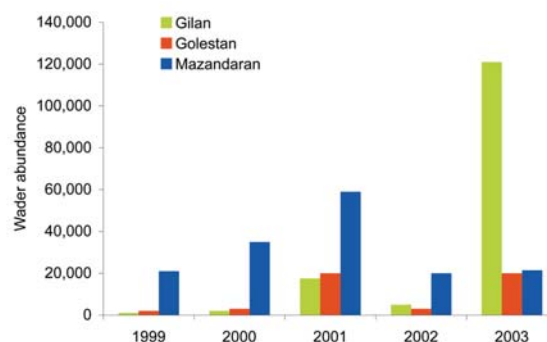


Fig. 6. Waders population in southern coastal zones of Caspian Sea.

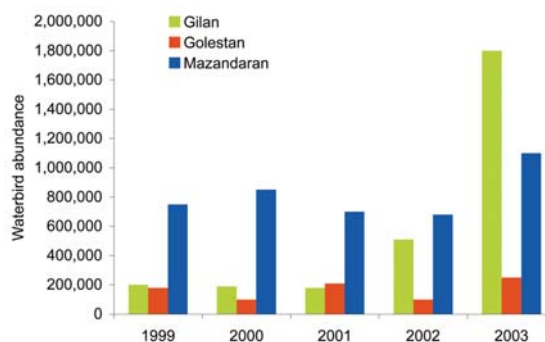


Fig. 7. Waterbirds population in southern coastal zones of Caspian Sea.

Within the last five years some significant changes in populations and diversity have taken place. There was a rapid increase of waterbirds and waders in Gilan while in other regions we did not find spectacular fluctuations. In total, the mean size of waterbird populations was greater in Mazandaran than in other regions.

In general, there has been an increasing trend in the size of waterbird populations in the southern coastal zones of Caspian Sea. Mazandaran was the most abundant and diverse region in northern Iran as Mazandaran wetland seems to have food resources and large-scale water bodies.

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- Firouz, E.** 1974. Environment Iran. Natural Society for the Conservation of Natural Resources and Human Environment. Tehran. 51 pp.
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