



BIRDS

BIRDS IN IRAN

1. Description of the Iranian bird fauna.

Despite the fact that large portions of the country are arid to semi-arid, Iran possesses a very rich and diverse bird fauna; over 490 species are known to have occurred. Two main factors are responsible for this; the great range of habitats—from permanent snows to deep deserts and from lush deciduous forest in the north to palm groves and mangroves in the south—and Iran's position at a crossroads between three major faunal regions. The bulk of the country lies within the Palearctic faunal region, which stretches from Europe and North Africa across north and central Asia to the Soviet Far East and Japan. Lying along the southern edge of this region, Iran's bird fauna includes a large Western Palearctic faunal element, reaching its eastern extremity in the central Alborz and Zagros mountains, and a smaller, but still marked, Eastern Palearctic element, which extends into northeastern Iran in the highlands of Khorasan. In a number of cases, western and eastern forms—either closely related species or well differentiated subspecies of a single species—come together with a narrow zone of hybridization in the central Alborz; e.g., the wheatears *Oenanthe hispanica* and *O. pleschanka*, the buntings *Emberiza melanocephala* and *E. bruniceps*, and the green-backed and gray-backed forms of the great tit *Parus major* (Haffer). In southern Iran, two other faunal regions have a pronounced influence on the avifauna: the Oriental region in the southeast, and the Afrotropical (Ethiopian) in the southwest.



Of 324 breeding species, 131 occur widely in the Palearctic region, 81 are Western Palearctic species, reaching the easternmost extremities of their ranges in Iran, while 19 are typically Eastern Palearctic species, reaching the westernmost tip of their ranges in Iran. A further 25 species are characteristic of the great Saharo-Sindian desert belt which stretches along the southern edge of the Palearctic region from North Africa through the Middle East to Mongolia, while another 24 are Palearctic species with restricted ranges in the Middle East. The bird fauna of southern Persian Baluchistan and the southern Persian Gulf coast is predominantly Oriental, with some 29 breeding species of Oriental origin reaching the northwestern extremities of their ranges in Iran, while in southwestern Iran there is a small Afrotropical influence with six breeding species of African origin. Finally, there are nine species of sea-bird and shorebird of the Indian Ocean, which breed on islands in the Persian Gulf and the Straits of Hormoz.

Eight major habitat types may be identified, each with its own characteristic bird fauna:

True desert and semidesert. The desert environment occurs throughout the central desert basin from the region of Tehran through the great Dašt-e Kavīr and Dašt-e Lūt deserts to the Jāz Mūrīān basin in central Baluchistan and locally along the southern coastal lowlands from northwestern Kūzestān to Baluchistan. Rather few species occur in true desert, and densities are very low, but most of those species which have become adapted to this hostile environment have large ranges both in Iran and in the southern Palearctic as a whole. Examples include: Houbara bustard *Chlamydotis undulata*, cream-colored courser *Cursorius cursor*, spotted and coronated sandgrouse *Pterocles senegallus* and *P. coronatus*, desert and bartailed desert lark *Ammomanes deserti* and *A. cincturus*, hoopoe lark *Alaemon alaudipes*, desert warbler *Sylvia nana*, desert wheatear *Oenanthe deserti*, hooded wheatear *O. monacha*, and trumpeter finch *Rhodopechys githaginea*. Although Iran possesses no true endemic species, one species, Pleske's ground jay *Podoces pleskei*, which occurs widely in the deserts of central and eastern Iran, is almost confined to the country, and is known elsewhere only from extreme western Pakistan.

Semiarid steppe of the desert rim and foothills. Much of Iran's land surface, lying between 1,500 and 2,000 m in elevation and with an annual rainfall of between 100 and 300 mm, supports a steppe vegetation dominated by the low shrub *Artemisia herba-alba*. Large tracts have been modified by man, either through the grazing of domestic animals or irrigation and cultivation,



particularly for cereals. The resulting patchwork is now the home of many of Iran's commonest and most widespread birds. Characteristic species include: long-legged buzzard *Buteo rufinus*, Eurasian kestrel *Falco tinnunculus*, black-bellied sandgrouse *Pterocles orientalis*, roller *Coracias garrulus*, bee-eater *Merops apiaster*, several species of lark alaudidae, including the ubiquitous crested lark *Galerida cristata*, isabelline wheatear *Oenanthe isabellina*, and black-headed bunting.

High mountains. The alpine zones of the Alborz and Zagros mountains and the higher peaks of mountain ranges in Azarbaijan, Khorasan, Kermān, and Baluchistan provinces support a montane fauna—the so-called Paleomontane fauna—typical of all high mountain ranges from the Pyrenees and Alps in western Europe to the Himalayas. Characteristic species include: golden eagle *Aquila chrysaetos*, bearded vulture *Gypaetus barbatus*, alpine swift *Apus melba*, crag martin *Hirundo rupestris*, horned lark *Eremophila alpestris*, alpine chough *Pyrrhocorax graculus*, alpine accentor *Prunella collaris*, rock thrush *Monticola saxatilis*, black redstart *Phoenicurus ochruros*, wall creeper *Tichodroma muraria*, and snow finch *Montifringilla nivalis*. The Caspian snowcock *Tetraogallus caspius*, which is confined to high mountain ranges in Turkey and Iran, is still locally common on the highest peaks in the Alborz and Zagros.

Forests and woodland. Although of rather limited extent, Iran's forested regions possess a very rich bird fauna, which is largely Western Palearctic in affinities. The luxuriant forests of northern Azarbaijan and the south Caspian region have a bird fauna scarcely different from that of a central European woodland, with common species including: wood pigeon *Columba palumbus*, green woodpecker *Picus viridis*, great spotted woodpecker *Dendrocopos major*, tree pipit *Anthus trivialis*, red-backed shrike *Lanius collurio*, jay *Garrulus glandarius*, wren *Troglodytes troglodytes*, dunnock *Prunella modularis*, blackcap *Sylvia atricapilla*, icterine warbler *Hippolais icterina*, robin *Erithacus rubecula*, nightingale *Luscinia megarhynchos*, several species of thrush *Turdus* sp., several species of tit *Parus* sp. and chaffinch *Fringilla coelebs*. The drier and more open oak woodlands of the western Zagros lack some of the true forest species and have a Mediterranean element which includes species such as Syrian woodpecker *Dendrocopos syriacus*, masked shrike *Lanius nubicus*, black-eared wheatear, somber tit *Parus lugubris*, and cinereous bunting *Emberiza cineracea*. In the even drier mixed pistachio, sycamore, and almond woodlands of the eastern Zagros, the Kermān highlands, and isolated



mountains in northern Baluchistan, only a handful of Western Palearctic species occur. Characteristic birds here include a mixture of Middle Eastern specialties e.g., white-throated robin *Irania gutturalis* and plain leaf warbler *Phylloscopus neglectus*, Eastern Palearctic species, e.g., isabelline shrike *Lanius isabellinus* and Hume's lesser whitethroat *Sylvia (curruca) althaea*, Oriental species, e.g., bay-backed shrike *Lanius vittatus*, and Western Palearctic species at the extreme edge of their ranges, e.g., wood pigeon, nightingale, and blackbird *Turdus merula*. Finally, throughout the remoter mountain ranges of Iran there still exist good stands of juniper forest with specialties such as gold-fronted serin *Serinus pusillus* and, in the northeast, white-winged grosbeak *Mycerobas carnipes*.

The hot southern lowlands. The arid tropical climate of the southern coastal lowlands supports a flora and fauna quite unlike that of the rest of Iran. From northwestern Kūzestān to eastern Persian Baluchistan, open park-like stands of *Acacia*, *Prosopis*, and *Tamarix* and extensive date-palm groves provide suitable habitat for a variety of Oriental/Afrotropical species, such as palm dove *Streptopelia senegalensis*, indian roller *Coracias benghalensis*, little green bee-eater *Merops orientalis*, white-eared bulbul *Pycnonotus leucotis*, graceful prinia *Prinia gracilis*, common babbler *Turdoides caudatus*, purple sunbird *Nectarinia asiatica* and yellow-throated sparrow *Petronia xanthocollis*. A number of species of Oriental origin, such as Indian sand lark *Calandrella raytal*, common mynah *Acridotheres tristis*, and Sind jungle sparrow *Passer pyrrhonotus*, are confined to extreme southeast Persian Baluchistan, while several others extend only as far west as the Bandar-e 'Abbās region, e.g., white-eyed buzzard-eagle *Butastur teesa*, Indian gray partridge *Francolinus pondicerianus*, and Sind pied woodpecker *Dendrocopos assimilis*. In the west, the riverine poplar thickets and marsh edge habitat of Kūzestān hold several specialties, such as gray hypocolius *Hypocolius ampelinus*, Iraq babbler *Turdoides altirostris*, and Dead Sea sparrow *Passer moabiticus*.

The wetlands. Although much of Iran is extremely dry, there are several very extensive wetland systems of great importance for a wide variety of waterfowl species. The south Caspian Sea, its 700 km of sandy shoreline, and the fresh-water lakes, marshes, and brackish lagoons in central Gīlān, the Gorgān Bay area, and the Turkoman steppes provide a complex of breeding and wintering areas for waterfowl almost unequaled in the Western Palearctic. The region is best known for its wintering waterfowl and the traditional commercial duck-harvesting which this has supported (Savage, pp. 30-46). Regular censuses in



recent years have estimated the mid-winter population of ducks, geese, swans, and coots at well over a million birds, with perhaps as many birds again occurring on passage in spring and autumn. In addition, there are large wintering populations of Dalmatian pelicans *Pelecanus crispus*, greater flamingos *Phoenicopterus ruber*, grebes Podicipedidae, herons and egrets Ardeidae, shorebirds Charadriidae and Scolopacidae, and gulls Laridae. During the spring and autumn migration seasons, large numbers of shorebirds pass through the south Caspian on their way between breeding grounds in the Arctic and wintering grounds in the Persian Gulf and East and South Africa, and in summer the marshes teem with breeding cormorants *Phalacrocorax carbo*, herons, egrets, gallinules including purple gallinule *Porphyrio porphyrio*, and whiskered terns *Chlidonias hybrida*.

The other major wetland areas in Iran are hardly any less spectacular. The wetlands of the Režā'īya (Urmia) basin in Azarbaijan, centered on the very large and highly saline Lake Urmia, support large breeding colonies of waterfowl, notably greater flamingo (20,000 to 25,000 pairs), white pelican *Pelecanus onocrotalus* (1,000 to 1,600 pairs), spoonbill *Platalea leucorodia*, glossy ibis *Plegadis falcinellus*, white stork *Ciconia ciconia*, shelduck and ruddy shelduck *Tadorna tadorna* and *T. ferruginea*, avocet *Recurvirostra avosetta*, black-winged stilt *Himantopus himantopus*, and herring and slender-billed gulls *Larus argentatus* and *L. genei*. The wetlands are extremely important for passage shorebirds and in mild winters can hold over 50,000 wintering ducks and geese.

The flood plains of the Dez, Kārūn, and Karkā rivers in Kūzestān, the complex of fresh, brackish, and saline lakes at the inland delta of the Helmand river in Sīstān, on the Afghan border, and the network of fresh and saline lakes in central Fārs, particularly Lake Baḡtagān, Lake Tašk, Lake Mahārlū, Lake Pārīšān, and the Dašt-e Arjan marshes all provide habitat for many hundreds of thousands of wintering waterfowl. In addition to a wide range of ducks, geese, and shorebirds, these wetlands are particularly important for wintering white pelican (Fārs and Sīstān), sacred ibis *Threskiornis aethiopicus* (Kūzestān), white stork (Kūzestān and Fārs), greater flamingo (Fārs), and common crane *Grus grus* (all three areas). In years of good rainfall, wetlands in all three regions can be of great importance for breeding waterfowl, particularly herons, egrets, spoonbill, glossy ibis, red-wattled lapwing *Vanellus indicus*, white-tailed plover *Vanellus leucurus*, and collared pratincole *Glareola pratincola*.



Coastal habitats of the Persian Gulf and Makrān coast. The tidal mud-flats, mangrove swamps, sandy beaches, rocky shores, and sea-cliffs of Iran's south coast support a variety of breeding and wintering waterfowl and sea-birds. Breeding species include crab plover *Dromas ardeola*, great stone plover *Esacus recurvirostris* (only in the east), several species of herons and egrets such as Indian pond heron *Ardeola grayii*, western reef heron *Egretta gularis* and goliath heron *Ardea goliath* (in mangroves), and several species of terns *Sterna* sp. Wintering species include Dalmatian pelican, cormorant, spoonbill, osprey *Pandion haliaetus*, white-tailed eagle *Haliaeetus albicilla*, many shorebirds notably oyster-catcher *Haematopus ostralegus*, bar-tailed godwit *Limosa lapponica*, curlew *Numenius arquata* and plovers of the genus *Charadrius*, and a variety of skuas *Stercorarius* sp., gulls *Larus* sp., and terns *Sterna* sp.

Offshore islands. The many small and uninhabited islands in the Persian Gulf and straits of Hormoz provide ideal breeding grounds for large colonies of sea-birds. The main species are great crested tern *Sterna bergii*, lesser crested tern *S. bengalensis*, white-checked tern *S. repressa*, and bridled tern *S. anaethetus*, but small colonies of red-billed tropic-bird *Phaethon aethereus*, socotra cormorant *Phalacrocorax nigrogularis*, and saunders' little tern *Sterna saundersi* have been found, and the Persian shearwater *Puffinus lherminieri persicus* probably breeds.

Table 6 and Table 6 (continued) gives a breakdown of the Iranian avifauna according to family and status. Of the 491 species which are known to have occurred in Iran at least 324 breed regularly. 103 are almost if not entirely sedentary, remaining on or near their breeding grounds throughout the year. A few undertake short altitudinal migrations, moving down from the highest mountain ranges during periods of hard weather. 123 species can be classed as "partial migrants." In some cases the individuals breeding in Iran are largely sedentary, but numbers are swelled in autumn with the arrival of individuals from breeding grounds to the north of Iran. In other cases, individuals breeding in north or central Iran tend to be migratory, while many or all of the individuals breeding in the south are sedentary. In a third group of species, mainly those breeding in the highlands of north and west Iran, there is some movement of individuals, particularly young birds, out of the breeding grounds into the central desert basin and southern lowlands in the autumn. 98 species are breeding summer visitors, with the great bulk of the Iranian breeding population migrating in autumn either southwest to winter in the



Arabian peninsula and Africa or southeast to winter in the Indian subcontinent. Among a few species there seems to be a “migratory divide,” with birds breeding in western Iran migrating southwest in autumn and those breeding in eastern Iran migrating southeast, e.g., swallow *Hirundo rustica* and sand martin *Riparia riparia*. In many species, a small number of individuals occasionally overwinter in the extreme southwest or southeast of Iran.

Of the non-breeding visitors to Iran 86 species are winter visitors from breeding grounds in the Soviet Union. Two-thirds of these are waterfowl (particularly ducks, geese, swans, and shorebirds) and birds of prey. Banding studies have shown that the bulk of ducks wintering in Iran originate from breeding grounds in the basin of the Ob and Irtysh rivers in Western Siberia. In many cases the number of birds overwintering represents only a small proportion of the total present during the migration seasons, indicating that a large through passage is taking place. 24 species occur in Iran only as passage migrants in spring and autumn, breeding to the north of Iran and wintering to the southwest or southeast. The remaining 57 non-breeding species include vagrants and rare stragglers, chiefly from central and eastern Asia, and a small number of species which were formerly reported as breeding in Iran but which have not been recorded for many years, e.g., pied crested cuckoo *Clamator jacobinus*, brown fish owl *Ketupa zeylonensis*, scaly-bellied green woodpecker *Picus squamatus*, black-headed shrike *Lanius schach*, black drongo *Dicrurus macrocereus*, jungle crow *Corvus macrorhynchos*, and desert sparrow *Passer simplex*.

2. Ornithological investigations in Iran.

Prior to the mid-1960s our knowledge of the avifauna of Iran was very sketchy and based to a large extent on the work of a handful of naturalist-explorers who traveled widely through Iran in the second half of the nineteenth and early part of the twentieth century. The first major account of the birds of Iran to appear in the literature was that of Blanford and the Persian Boundary Commission of 1870-72 (Blanford), which summarized all information obtained till then. The Russian ornithologist N. A. Zarudny traveled widely in Iran between 1884 and 1904 and published a number of papers in Russian and German on the results of his studies. He summarized many of these in tabular form in a paper which appeared in the *Journal für Ornithologie* in 1911. From



1935 to 1945, Walter Koelz made extensive collections throughout Iran and Afghanistan. His material was studied in depth by Charles Vaurie and the information incorporated in a series of over thirty papers which appeared in American Museum *Novitates* between 1949 and 1961 (listed in Burgess, Mokhtarzadeh, and Cornwallis and in Erard and Etchécopar).

Other important contributions were made by Buxton, Streseman, Heinrich, Paludan (1940), Trott, Meiklejohn, Norton, and Passburg in north and west Iran; by Missone and Schuz (1959) in the south Caspian region; by Witherby, Capito, and Paludan (1938) in the Zagros and southwest Iran; and by Sharpe, Cumming, Ticehurst, Cox and Cheesman, and Ticehurst in the Persian Gulf, Sīstān, and Persian Baluchistan. In 1958, S. H. Jervis Read produced a provisional check-list of the birds of Iran (1958) and, shortly after, Vaurie's important work "The Birds of the Palearctic Fauna" (1959 and 1965) included a concise summary of range, habitat, and geographical variation of all species of birds occurring in Iran. A general account of the birds of Iran appeared in *The Cambridge History of Iran* I, and a comprehensive bibliography of the early work was produced by Burgess, Mokhtarzadeh, and Cornwallis at the same time.

In the mid-1960s the newly created Iranian Department of the Environment (or Game and Fish Department as it was then called) set up an ornithological section in its research division and since that time has pursued a variety of research programs on Iranian avifauna. Eskandar Firouz's booklet "Environment Iran," published in Tehran in 1974, gives an excellent summary of the activities and programs of the Department of the Environment. Earlier summaries appeared in Firouz, Hassinger, and Ferguson (1970) and Firouz (1971a). Initially, the ornithology unit of the Department of the Environment focused its attention on birds of economic importance, notably the migratory wildfowl and some of the game-birds. However, in the early 1970s studies were expanded to include a variety of rare, vulnerable, and endangered species, and a nationwide atlassing project was initiated. At the same time the universities in Iran began to take an increased interest in the birds of Iran, the universities of Tehran and Shiraz being particularly active in this field.

The Department of the Environment's major ornithological programs have included the following:

Bird banding (ringing) program A national banding scheme was established by the department in 1966. Emphasis was initially given to migratory wildfowl



wintering in the south Caspian region, but by the mid-1970s the program had been expanded to include banding studies of white pelicans *Pelecanus onocrotalus*, greater flamingos *Phoenicopterus ruber*, herons and egrets Ardeidae, common cranes *Grus grus*, and shorebirds Charadriidae and Scolopacidae. By the end of 1976 a total of 22,064 birds of 239 species had been banded in Iran, including 797 white pelicans, 8,766 greater flamingos, and 2,385 ducks. Banding activities and all recoveries reported up to the end of 1975 are discussed in Cornwallis and Ferguson, Argyle (1975 and 1976).

1974 White stork inquiry. In 1974, the Department conducted a nationwide census of breeding white storks *Ciconia ciconia* as part of an international census of storks in Europe and the Middle East. The census revealed an Iranian population of some 3,300 pairs, two-thirds of which were nesting in Azarbaijan province (Fotoohi and Scott).

Greater flamingo studies. Since its discovery in the mid-1960s the breeding colony of some 20,000 to 25,000 pairs of greater flamingos *Phoenicopterus ruber* on islands in Lake Urmia, Azarbaijan, has been the subject of continuous study by ornithologists from the department. The entire lake and its islands, an area of 483,000 ha, were given reserve status in 1967 and the flamingo declared a fully protected bird. Banding studies have revealed that immediately after fledging young birds undertake a wide dispersal out of the Iranian region, with recoveries coming from as far afield as Libya, Sudan, Ethiopia, Somalia, Pakistan, and India. The adults, however, winter mainly within Iran, in the Baktagān Protected Region in central Fārs, and along the coasts of the Persian Gulf and Baluchistan (Scott, 1975).

The wetlands and their wildfowl. The wetlands of Iran constitute one of the main wintering areas for wildfowl belonging to the West Siberian-Caspian-Nile flyway population. The millions of ducks, geese, and coots in this flyway have long supported an annual harvest in the south Caspian region (Schuz, 1957; Savage, 1963; Firouz, 1968) and are increasingly attracting the attention of sport hunters. In an attempt to conserve and manage this valuable natural resource the Department of the Environment has introduced realistic game laws and regulations, created a number of protected regions and wildlife refuges, and drawn up a detailed inventory of the nation's wetlands. Nationwide mid-winter wildfowl censuses have been conducted annually since 1966, and these have provided valuable information on population size and trends (see [Table 7](#)). A booklet entitled *The Wetlands and Waterfowl of Iran*, published by the Department of the Environment in 1971 (Firouz, 1971b),



gives a general account of the situation in Iran, while a paper by Ferguson looks at the south Caspian region in some detail.

Iran has played a prominent role in international efforts to conserve wetlands and waterfowl. In 1971 it hosted the International Conference on the Conservation of Wetlands and Waterfowl, at which the final text of a convention—the so-called Rāmsar Convention—on the conservation of wetlands especially as habitat for waterfowl was adopted (Carp, 1972). Iran has since ratified this convention and designated eighteen major wetlands for inclusion in the list of wetlands of international importance under the terms of the convention (Scott, 1976a; Carp, 1980).

Caucasian black grouse studies. A small population of the rare Caucasian black grouse *Lyrurus mlokosiewiczi* was discovered in the upper deciduous forest zone of the Kaleybār mountains in northern Azarbaijan in 1971. A special reserve, the Arasbārān Protected Region, was established to protect the dwindling habitat of this bird, and studies of the bird's ecology were initiated (Scott, 1976b).

Pheasant research and management. The common pheasant *Phasianus colchicus* occurs widely in forested regions in northern Iran. Four subspecies have been described: *colchicus* in northern Azarbaijan, *talischensis* and *persicus* in the southwest and southeast Caspian regions respectively, and *principalis* in northeastern Khorasan. Management of populations for sport hunting has centered on the south Caspian region, where special management areas have been set aside and stocks manipulated (Scott and Howell, 1976).

Crane project. An estimated 2,000 to 3,000 common cranes *Grus grus* spend the winter in Iran, principally in the wetlands of Kūzestān, central Fārs, and Sīstān. In addition, some 10 to 15 of the very rare and endangered Siberian white crane *Grus leucogeranus* were rediscovered wintering in Māzandarān, in the southeast Caspian, in 1978 (Scott, 1980). A cooperative project has been initiated between the Iranian Department of the Environment, Soviet biologists, and the International Crane Foundation (Baraboo, Wisconsin) to establish a new population of Siberian white cranes using a cross-fostering technique as developed with whooping cranes *Grus americana* and sandhill cranes *Grus canadensis* in North America. Thus common cranes which breed in western Siberia and winter in southern Iran will be used as foster parents for Siberian white cranes.



Bustard project. See [BUSTARDS](#).

Aside from the work of the Department of the Environment, the greatest contribution to our knowledge of Iranian birds in recent years has been the work of Lindon Cornwallis, who spent five years studying the birds of Fārs province in the late 1960s and early 1970s. His work, plus all other recent unpublished material, is currently being written up for publication in a comprehensive work on the bird fauna of Iran by L. Cornwallis, H. Morāweej Hamadānī, and D. A. Scott.

Other recent published work on the birds of Iran includes the results of a three-month survey throughout Iran in 1967 (Erard and Etchécopar), surveys in the south Caspian region (Feeny, Arnold, and Bailey; Nielsen and Speyer; and Nielsen), a survey at Lake Urmia, Azarbaijan (Savage, 1964), a survey of mountain ranges in Kermān and Baluchistan provinces (Desfayes and Praz), a survey through the central deserts (Misonne, 1976), and a study of secondary contact zones of birds in northern Iran (Haffer).

As regards field guides to the birds of Iran, only two works cover the whole of the country; that of Hué and Etchécopar, which covers the whole of the Middle East but is now somewhat out of date, and a field guide entitled *Parandagān-e Īrān* (the birds of Iran), published in Persian by the Department of the Environment in 1975 (Scott, Hamadānī, and Mīrḥosaynī). However, several of the European and West Palearctic field guides and handbooks deal with the majority of the birds occurring in Iran (see particularly Cramp, Simmons, et al., 1977 and 1980; Heinzel, Fitter, and Parslow; and Bruun and Singer).

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[Table 6](#) and [Table 6 \(continued\)](#). The Status of the Birds of Iran: A Summary by Family.

[Table 7](#). Estimated Numbers of Wildfowl in Mid-Winter at Major Wetlands of Iran.