THE BIRDS OF LAKE ORUMIYEH AND ADJACENT WETLANDS, ISLAMIC REPUBLIC OF IRAN

The Results of Surveys carried out by the Ornithology Unit of the Department of the Environment in the 1970s

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INTRODUCTION

General information on Lake Orumiyeh (Oroomiyeh, Uromiyeh)¹ and its satellite wetlands is given in the site accounts in *Important Bird Areas in the Middle East* (Evans 1994) and *A Directory of Wetlands in the Middle East* (Scott 1995). Information on the three Ramsar sites (Lake Orumiyeh, Shur Gol, Yadegarlu and Dorgeh Sangi, and Lake Kobi) is given in the respective *Information Sheets on Ramsar Wetlands*, available from the Ramsar Convention Bureau.

An early account of Lake Orumiyeh (then known at Lake Urmia) was published over a century ago in the Proceedings of the Linnaean Society of London (Gunther 1899). Savage (1964 and 1968) provides some general information on the lake, and gives the first indication of its importance for Greater Flamingos *Phoenicopterus ruber* and Common Shelducks *Tadorna tadorna*. Carp (1980) also gives a general account of the lake and its satellite wetlands in *A Directory of Western Palearctic Wetlands*.

The purpose of the present report is to provide additional information on the avifauna of Lake Orumiyeh, its satellite wetlands (especially Shur Gol, Yadegarlu, Dorgeh Sangi and Lake Kobi) and the surrounding areas, based on the numerous surveys carried out by the author and other personnel of the Ornithology Unit of the Department of the Environment during the period 1970 to 1978. Much of the detailed information on bird numbers and distribution acquired during these surveys has never been published and remains unavailable to the scientific community at large. Numerous internal reports (Project Completion Reports) were produced by the Ornithology Unit during the 1970s, but these focused almost exclusively on waterbirds and the bird ringing programme, and did not include any detailed account of other bird species recorded during the surveys. Regrettably, the originals of most of these reports were lost during the revolution, and only a few rather tattered copies remain. Project Completion Reports of particular relevance to Lake Orumiyeh and its satellite wetlands include those by Argyle and Lessells (1976), Cornwallis (1976) and Scott (1973). Copies of these three reports are appended to this report.

Much of the Ornithology Unit's work at Lake Orumiyeh focused on the important breeding colonies of Greater Flamingos and Great White Pelicans *Pelecanus onocrotalus*. The Project Completion Report by Argyle and Lessells (1976) describes some of the research carried out on the flamingo population, while a chapter by the author in *Flamingos* (Kear & Duplaix-Hall 1975) gives a more general account of the flamingos at Lake Orumiyeh, and summarises the ringing recoveries that had been obtained up to that date. Details of all flamingo and pelican ringing recoveries in Iran up to the end of 1975 are to be found in three reports on bird ringing published by the Department of the Environment in the 1970s: Cornwallis and Ferguson (1970), Argyle (1975) and Argyle (1976).

SURVEY WORK

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¹ Known as Lake Rezaiyeh for a period in the 20th century prior to the revolution.

Mid-winter wildfowl counts were carried out throughout the Orumiyeh basin in every winter from 1969/70 to 1977/78 inclusive. Unfortunately, the breakdown by site is not available for the winter of 1977/78. Mid-November wildfowl counts were undertaken in 1972, 1973 and 1974. The results of these wildfowl counts are summarised in Tables 1-11, for the basin as a whole, for Lake Orumiyeh, and for the four principal satellite wetlands: Shur Gol, Yadegarlu, Dorgeh Sangi and Lake Kobi. The Department of the Environment's nation-wide waterfowl counts were undertaken by a number of personnel of the Ornithology Unit, and were confined to counts of pelicans, flamingos, ducks, geese, swans, cranes and coots. On several occasions, however, the counts were undertaken by the author and/or visiting ornithologists, and in these cases, the numbers of all species of waterbirds were recorded. This was the case in January 1970, January 1971, December 1971 and November 1972. The results of these more extensive waterbird counts are given in Tables 12-16.

Aerial surveys of the Orumiyeh basin were undertaken during the breeding season in every year from 1971 to 1975. The surveys were carried out in one or other of the Department's two light aircraft, and piloted by the Department's senior biologist, Fred A. Harrington, Jr. Unfortunately, due to a problem with the aircraft, the survey in 1973 had to be delayed until late August, by which time many of the waterbirds had finished breeding. However, this survey provided the first indications of the huge importance of the Orumiyeh basin for migratory waders and Garganey *Anas querquedula*. Grand totals for the five aerial surveys are given in Table 17, and the details of the four surveys undertaken by the author (in 1971, 1972, 1973 and 1974) are given in Tables 18-21. (The breakdown by site for the 1975 survey, undertaken by Francis B. Argyle, is not available). Lindon Cornwallis and Fred Harrington carried out an aerial survey of the wetlands to the south of Lake Orumiyeh in early October 1976, as part of a study of the impact of the proposed Mahabad Irrigation Project. Unfortunately, the results of this survey are not available to the author. In June 1977, Fred Harrington carried out an aerial census of the flamingo breeding colonies. Only the total count of flamingos is available from this survey.

Personnel from the Ornithology Unit visited Lake Orumiyeh in every year from 1971 to 1977 inclusive to ring pelican and flamingo chicks. The ringing was undertaken in August from a base at the National Park headquarters on Kabudan Island. Much use was made of the Department's boats, and many of the islands were visited, notably Ashk, where the main flamingo colonies were located, and the Dowguzlar Islands, where the pelicans were nesting. All waterbirds recorded by the author during the flamingo ringing expeditions in August 1971, August 1972 and August 1973 are summarised in Table 22. The results of ground surveys by the author at the four main satellite wetlands (Shur Gol, Yadegarlu, Dorgeh Sangi and Lake Kobi) in June 1971, August 1971 and August 1972 are given in tables 23-26.

A summary of the surveys carried out by personnel of the Department of the Environment and visiting ornithologists in the Orumiyeh basin during the period 1970 - 1978 is given in Table 27. The following systematic list of the birds of Lake Orumiyeh and adjacent wetlands has been compiled on the basis of the information derived from these surveys.

SYSTEMATIC LIST OF THE BIRDS OF LAKE ORUMIYEH AND ADJACENT WETLANDS, ISLAMIC REPUBLIC OF IRAN

(Based on surveys carried out in the 1970s)

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The sequence and composition of families follow Morony, Bock & Farrand (1975) *Reference List of the Birds of the World*. The sequence and treatment of species within families and the scientific nomenclature follow Sibley and Monroe (1990) *Distribution and Taxonomy of Birds of the World*.

- Little Grebe *Tachybaptus ruficollis*: Resident, breeding in small numbers at wetlands to the south of the lake. Perhaps no more than about 20 pairs.
- Great Crested Grebe *Podiceps cristatus*: Mainly a summer visitor, breeding in small numbers at wetlands to the south of the lake. 20-30 pairs in 1971 and 1972. Up to about 10 in winter.
- Black-necked Grebe *Podiceps nigricollis*: A locally common breeding bird; 150 including juveniles at a colony at Lake Kobi in August 1972. An abundant autumn passage migrant on the lake (August to November), with almost 8,000 recorded in late August 1973, and fairly common in mid-winter (up to 500).
- Great White Pelican *Pelecanus onocrotalus*: A common summer visitor, breeding on the Dowguzlar Islands and feeding at freshwater wetlands around the lake. Between 1,000 and 1,600 pairs bred annually from 1970 to 1975. Counts were as follows: 2,800 adults in early August 1970, 1,545 adults in early July 1971; 3,500 adults and 1,585 occupied nests in June 1972; 125 adults and 750-1,000 juveniles in late August 1973; c.1,500 nests in late June 1974; and c.1,000 pairs in early July 1975. There were only two winter records: four birds in late December 1971 and a single bird in January 1974. By the end of 1975, a total of 570 pelican chicks had been ringed at the colony. These had produced a total of seven recoveries as follows: three in the Lake Orumiyeh area; two in Iran's western provinces (Lurestan and Hamadan); one from an unknown locality in Iran; and one from near Baghdad in Iraq.
- Great Cormorant *Phalacrocorax carbo*: A fairly common passage migrant and scarce winter visitor. Most records were from Nowruzlu Dam, where there were five on 31 December 1971 and 100 on 23 November 1972.
- Little Egret *Egretta garzetta*: A fairly common summer visitor, breeding on islets in the lake (90 pairs) and in the marshes near Lake Kobi (100 pairs), and feeding at freshwater wetlands throughout the basin
- Grey Heron *Ardea cinerea*: A fairly common resident, breeding in the marshes near Lake Kobi (25 pairs). Approximately 50 were present in the basin in winter. The highest single

- count was 69 during the aerial survey in late August 1973.
- Purple Heron *Ardea purpurea*: A fairly common summer visitor, breeding in the marshes south of the lake (10+ pairs) and in the marshes near Lake Kobi (30 pairs).
- Great Egret *Casmerodius albus*: A fairly common winter visitor to the basin (20-50 birds), with odd birds occasionally remaining throughout the summer, *e.g.* one on the lake shore on 17 June 1972 and one on the Mahabad River on 29 June 1974.
- Cattle Egret *Bubulcus ibis*: A single bird at Lake Kobi on 2 June and 2 July 1971 was the only record.
- Squacco Heron *Ardeola ralloides*: A common summer visitor, breeding in the marshes near Lake Kobi (100 pairs) and probably also at Nowruzlu Dam, and foraging at freshwater wetlands throughout the basin. The latest record was a single bird on 22 November 1972.
- Black-crowned Night Heron *Nycticorax nycticorax*: A fairly common summer visitor, breeding in the marshes near Lake Kobi (100 pairs) and in smaller numbers at Mahabad Dam.
- Little Bittern *Ixobrychus minutus*: Probably a fairly common summer visitor to the marshes, but easily overlooked. The only record was of one at Mahabad Dam on 16 August 1972.
- Black Stork *Ciconia nigra*: Recorded on passage in August in wetlands to the south of the lake, but the details are not available.
- White Stork *Ciconia ciconia*: A common summer visitor to the basin, foraging in the marshes around the lake and at the wetlands to the south. The highest count was 330 during the aerial survey in July 1971, and the population was estimated at 100-150 pairs.
- Glossy Ibis *Plegadis falcinellus*: A fairly common summer visitor, breeding in the marshes near Lake Kobi (100-150 pairs) and regularly foraging at other wetlands in the area, *e.g.* counts of 180 at Shur Gol, 150 at Nowruzlu Dam, 156 by the Jogatu Chay, 120 at Ghara Gheshlaq and 90 at Yadegarlu.
- Eurasian Spoonbill *Platalea leucorodia*: A fairly common summer visitor, breeding on islets in the lake (50-100 pairs) and foraging widely in the surrounding wetlands, *e.g.* counts of up to 100 at Shur Gol, 95 at Yadegarlu and 60 at Nowruzlu Dam.
- Greater Flamingo *Phoenicopterus ruber*: Mainly a summer visitor, but present year round, with up to 1,400 in mid-winter in some years. Bred annually on islands in the lake from at least the mid 1960s to 1977. In 1966, Hossein Dovlatshahi visited the lake to capture flamingos for Tehran Zoo and estimated the number of flamingos at 10,000-12,000. Detailed surveys in 1971 and 1972 indicated a population of 15,000-20,000 pairs. There were probably at least 20,000 pairs in 1973, when an aerial survey in late August revealed 58,500 adults, 151 first-year birds and about 20,000 chicks. An aerial survey in June 1977 gave a total of 63,000 birds and about 28,000 pairs. Several sites were used each year, and these were frequently changed. Flamingo chicks were ringed at the colony every year from 1971 to 1977. By the end of 1975, a total of 6,663 flamingos had been ringed at the lake. These had produced a total of 89 recoveries distributed as follows: Iran (15), Azerbaijan S.S.R. (2), Turkey (6), Cyprus (1), Syria (3), Iraq (14), Qatar (3), Bahrain (1), United Arab Emirates (2), Oman (3), Saudi Arabia (3), Libya (8), Ethiopia (3), Sudan (2), Somalia (1), Pakistan (9) and India (13).
- White-headed Duck *Oxyura leucocephala*: A scarce summer visitor, breeding in very small numbers (5-10 pairs) in the marshes at Yadegarlu, Dorgeh Sangi and Lake Kobi. Also a passage migrant; 100 were recorded at Lake Kobi on 23 November 1972.
- Bewick's Swan *Cygnus columbianus*: A regular winter visitors in small numbers to wetlands to the south of the lake. The highest count was 57 at Yadegarlu and Dorgeh Sangi on 25

- Greater White-fronted Goose *Anser albifrons*: A common winter visitor and passage migrant. High counts included 77 by the lake in January 1971, 265 by the lake in November 1973, 110 at Yadegarlu in January 1974, and 120 at Dorgeh Sangi in January 1970.
- Lesser White-fronted Goose *Anser erythropus*: A regular passage migrant in small numbers, *e.g.* 175 at Shur Gol in November 1972, 44 at Shur Gol in November 1974, 28 at Yadegarlu in November 1974, and 85 at Dorgeh Sangi in November 1974. Very scarce in winter.
- Greylag Goose *Anser anser*: A common winter visitor and passage migrant. A few pairs bred in the marshes around the lake. Ten adults and 16 goslings were observed during the aerial survey in June 1972.
- Red-breasted Goose *Branta ruficollis*: One record of a flock of 16 at Lake Kobi in January 1970.
- Ruddy Shelduck *Tadorna ferruginea*: A common breeding birds, with some 300-500 pairs in the basin. Small numbers were present throughout the winter.
- Common Shelduck *Tadorna tadorna*: An abundant breeding bird at Lake Orumiyeh where there were 4,000-5,000 pairs. The lake was also an important moulting area, with 34,750 birds recorded in late August 1973. Many thousands remained on the lake throughout the winter.
- Eurasian Wigeon *Anas penelope*: A winter visitor in variable numbers according to icing. Also a common passage migrant, and occasional in summer.
- Gadwall *Anas strepera*: A rather scarce winter visitor and passage migrant. A few were present in the marshes throughout the summer and may have bred.
- Common Teal *Anas crecca*: A common winter visitor in variable numbers according to icing. An abundant passage migrant, *e.g.* 47,300 in late August 1973.
- Mallard *Anas platyrhynchos*: A common winter visitor in variable numbers according to icing. An abundant passage migrant, and a common breeding bird (probably several hundred pairs in the basin).
- Northern Pintail *Anas acuta*: A winter visitor in variable numbers according to icing. A common passage migrant, with a few non-breeders occasionally present in summer.
- Garganey *Anas querquedula*: A fairly common summer visitor to the marshes where some tens of pairs were though to breed. An abundant passage migrant in autumn; 29,750 were recorded during the aerial survey in late August 1973.
- Northern Shoveler *Anas clypeata*: A winter visitor in variable numbers according to icing, and a common passage migrant. A few birds were present in the marshes throughout the summer and possibly bred.
- Marbled Teal *Marmaronetta angustirostris*: Mainly a breeding summer visitor, with 10-15 pairs at Shur Gol, Yadegarlu and Dorgeh Sangi, and several pairs in the marshes at the south end of the lake. Small numbers were occasionally present in winter.
- Common Pochard *Aythya ferina*: A common winter visitor in variable numbers according to icing, and a common passage migrant. Small numbers were present in the marshes throughout the summer and possibly bred.
- Ferruginous Duck *Aythya nyroca*: A scarce breeding bird in the marshes south of the lake and at Shur Gol, Yadegarlu, Dorgeh Sangi and Lake Kobi. The total population was estimated at 10-20 pairs. Also an irregular winter visitor in very small numbers, and a passage migrant in small numbers.

- Tufted Duck *Aythya fuligula*: A fairly common passage migrant and winter visitor. A few non-breeders were recorded in summer.
- Common Goldeneye *Bucephala clangula*: A scarce and irregular winter visitor. The maximum count was seven in January 1971.
- Smew *Mergellus*: A winter visitor in variable numbers according to icing. The maximum count was 395 in late December 1971 (102 at Shur Gol, 238 at Dorgeh Sangi, 54 at Nowruzlu Dam and one on Lake Orumiyeh).
- Red-breasted Merganser *Mergus serrator*: Possibly a rare winter visitor. Four were reported by Department of the Environment personnel in January 1977, but the details are unknown.
- Goosander *Mergus merganser*: An occasional winter visitor: one at Shur Gol on 30 December 1971 and 23 recorded in the basin in January 1977.
- Black Kite *Milvus migrans*: A fairly common summer visitor to the hills around the basin. One was on Kabudan Island on 4 August 1972.
- White-tailed Eagle *Haliaeetus albicilla*: A winter visitor in small numbers, recorded at Dorgeh Sangi (up to three), Yadegarlu (one), Lake Kobi (one), Nowruzlu Dam (one), and the shore of Lake Orumiyeh (one). A pair of adults by the Jogatu Chay on 30 August 1973 were probably early migrants.
- Egyptian Vulture *Neophron percnopterus*: A fairly common summer visitor to the basin, breeding on several of the islands in Lake Orumiyeh (c.10 pairs) and foraging over the satellite wetlands. Eighteen were recorded during the aerial survey in June 1972.
- Eurasian Griffon Vulture *Gyps fulvus*: A resident, breeding on cliffs around the lake and foraging over the surrounding plains. Four nests were found on the cliffs north of Rathmanlu in late August 1973. A regular visitor to Kabudan Island.
- Eurasian Black Vulture *Aegypius monachus*: Two records of single individuals. Probably only an occasional visitor to the plains around the lake.
- Short-toed Eagle *Circaetus gallicus*: Status uncertain. Singles at Lake Kobi on 12 August 1971 and 17 August 1972.
- Western Marsh Harrier *Circus aeruginosus*: A fairly common breeding summer visitor to the marshes (Lake Kobi, Ghara Gheshlaq and Dorgeh Sangi), with a few birds lingering until late November.
- Hen Harrier *Circus cyaneus*: One on the shore of the lake on 21 November 1972. Probably a regular winter visitor in small numbers.
- Montagu's Harrier *Circus pygargus*: A scarce summer visitor, with a few pairs apparently breeding in the marshes near Lake Kobi and at Ghara Geshlaq (where there was a male with a juvenile in August 1972).
- Long-legged Buzzard Buteo rufinus: A common resident throughout the basin.
- Greater Spotted Eagle *Aquila clanga*: Two on the north shore of Lake Orumiyeh on 29 December 1971 and one at Lake Kobi on 23 November 1972.
- Golden Eagle *Aquila chrysaetos*: A resident, breeding on islands in the lake and occurring on the surrounding plains in winter. One pair bred on Kabudan, and another pair probably bred on Ashk.
- Eurasian Kestrel Falco tinnunculus: A common resident throughout the basin.
- Merlin *Falco columbarius*: Probably a regular winter visitor in small numbers, recorded on the lake shore on 30 December 1971 and 21 November 1972, and at Lake Kobi on 23 November 1972.
- Eurasian Hobby Falco subbuteo: A fairly common summer visitor to the plains around the

- lake, often foraging over the wetlands (Yadegarlu, Dorgeh Sangi and Lake Kobi).
- Lanner Falcon *Falco biarmicus*: First discovered breeding on islands in Lake Orumiyeh in August 1971. At least five pairs were subsequently located, mostly on small islets. Only observed in summer, and perhaps only a summer visitor to the area.
- Saker Falcon *Falco cherrug*: A scarce winter visitor to the plains around the lake, and possibly also a rare breeding bird. One was recorded on Kabudan on 21 June 1972.
- Peregrine Falcon *Falco peregrinus*: A single at Lake Kobi on 12 August 1971, and also recorded from Kabudan.
- Chukar *Alectoris chukar*: A very common resident on the larger islands in the lake. High counts included up to 150 on Kabudan, 60 on Ashk and 30 on Espier.
- Common Quail *Coturnix coturnix*: A fairly common summer visitor to the grasslands and arable land around the lake and at Yadegarlu and Dorgeh Sangi.
- Demoiselle Crane *Grus virgo*: A single bird at Lake Kobi on 12 August 1972.
- Water Rail *Rallus aquaticus*: Status uncertain. The only record was of one in the marshes northwest of the lake on 21 November 1972.
- Common Moorhen *Gallinula chloropus*: Probably a resident in small numbers, but the only record was three in the marshes south of the lake on 1 July 1971.
- Eurasian Coot *Fulica atra*: A winter visitor in variable numbers according to icing, and an abundant passage migrant. A common breeding bird at many of the freshwater wetlands, where there were at least 1,000 pairs.
- Great Bustard *Otis tarda*: A scarce breeding bird and passage migrant, recorded on the plains at several localities around the lake and at Lake Kobi, Shur Gol and Nowruzlu. There were probably no more than ten breeding females in the area.
- Eurasian Oystercatcher *Haematopus ostralegus*: A summer visitor, breeding in small numbers along the rivers. The highest count was 78 during the aerial survey in July 1971. The total population was estimated at no more than 50 pairs.
- Black-winged Stilt *Himantopus himantopus*: A common summer visitor, with a few birds lingering until November. Some 300-500 pairs bred on the flats around Lake Orumiyeh, and a further 100 pairs around the satellite wetlands.
- Pied Avocet *Recurvirostra avosetta*: An abundant breeding summer visitor to the flats around Lake Orumiyeh, where there were 1,500-2,000 pairs. Small numbers of birds (20-100) remained at the lake throughout the winter. The highest count was 13,620 during the aerial survey in late August 1973.
- Stone Curlew *Burhinus oedicnemus*: A fairly common breeding summer visitor to islands in the lake (Kabudan and Ashk) and the surrounding plains (including Ghara Gheshlaq and Lake Kobi).
- Collared Pratincole *Glareola pratincola*: A common summer visitor. The total breeding population was estimated at 250-350 pairs, with 50-100 pairs on the shores of Lake Orumiyeh, 50-80 pairs at Shur Gol, Yadegarlu and Dorgeh Sangi, 25 pairs at Ghara Gheshlaq, 110 pairs in the marshes near Lake Kobi, and 20 pairs near Miandoab.
- Grey Plover *Pluvialis squatarola*: A scarce passage migrant; the highest counts were five in November 1972 and five in August 1973.
- Common Ringed Plover *Charadrius hiaticula*: A scarce passage migrant (maximum six in August 1972).
- Little Ringed Plover *Charadrius dubius*: A common breeding summer visitor and passage migrant (maximum 118 in August 1972).
- Kentish Plover *Charadrius alexandrinus*: A very common breeding summer visitor, mainly to the mudflats around the lake where there were an estimated 350-800 breeding pairs. The

- highest counts were 500 on the shores of the lake and 185 at the satellite wetlands.
- Greater Sand Plover *Charadrius leschenaultii*: Probably a breeding summer visitor in small numbers. Five were recorded on suitable breeding habitat on the west and south shores of the lake on 28/29 June 1974. Ten were recorded on the northeast shore of the lake on 29 August 1973.
- Caspian Plover *Charadrius asiaticus*: A scarce passage migrant. Three at Yadegarlu and six at Lake Kobi on 12 August 1971.
- Eurasian Dotterel *Eudromias morinellus*: A single on the plains north of the lake on 29 December 1971.
- Northern Lapwing *Vanellus*: A common summer visitor, breeding throughout the marshes where there were an estimated 1,500-2,000 pairs. The highest count was 3,165 during the aerial survey in late August 1973. Much smaller numbers (less than 100) were present in mid-winter
- Common Snipe *Gallinago gallinago*: Apparently a fairly common passage migrant and winter visitor. The highest counts were eight on the lake shore and 41 at the satellite wetlands.
- Jack Snipe *Lymnocryptes minimus*: Apparently a scarce winter visitor. One at Nowruzlu Dam on 24 January 1971 was the only record.
- Black-tailed Godwit *Limosa limosa*: A common passage migrant. The highest counts were 105 on the lake shore in August 1973 and 2,020 at the satellite wetlands in August 1972. Small numbers were present in mid-winter in mild years (*e.g.* 32 in January 1970).
- Bar-tailed Godwit *Limosa lapponica*: Two at the northwest corner of the lake on 29 August 1983.
- Whimbrel *Numenius phaeopus*: A scarce passage migrant; 22 were recorded on the lake shore in late August 1973.
- Eurasian Curlew *Numenius arquata*: A scarce passage migrant and winter visitor, with a few birds remaining throughout the summer. The maximum count was only 14.
- Spotted Redshank *Tringa erythropus*: A fairly common passage migrant (maximum count 83) and occasional in mild winters (40 at Lake Kobi in January 1970).
- Common Redshank *Tringa totanus*: A very common breeding bird in marshes around the lake and at the satellite wetlands. The total population was estimated at 1,000-2,500 pairs; the highest counts were 8,875 in August 1973 and 8,600 in June 1974. Small numbers (50-100) over-wintered in the basin.
- Marsh Sandpiper *Tringa stagnatilis*: A common passage migrant. The highest count was 2,090 in late August 1973 (1,290 on the lake shore and 800 at the satellite wetlands).
- Common Greenshank *Tringa nebularia*: A common passage migrant. The highest counts were 50 on the lake shore and 140 at the satellite wetlands.
- Green Sandpiper *Tringa ochropus*: A common passage migrant. The highest counts were 31 on the lake shore and 390 at the satellite wetlands. A few birds over-wintered in mild years, and some birds apparently remained throughout the summer (*e.g.* 42 in June 1972 and seven in June 1974).
- Wood Sandpiper *Tringa glareola*: A common passage migrant. The highest counts were five on the lake shore, and 538 at the satellite wetlands.
- Terek Sandpiper *Tringa cinerea*: A scarce passage migrant. The only record was of a party of eight at Shur Gol on 16 August 1972.
- Common Sandpiper *Tringa hypoleucos*: A fairly common breeding summer visitor in the surrounding hills and a common passage migrant in the basin. The highest counts were 19 on the lake shore, and 42 at the satellite wetlands.

- Ruddy Turnstone *Arenaria interpres*: A fairly common passage migrant. The highest counts were 152 on the lake shore in late August 1973 and nine at Dorgeh Sangi on 16 August 1972.
- Little Stint *Calidris minuta*: An abundant passage migrant. The bulk of the 146,000 unidentified waders recorded during the aerial survey in late August 1973 were believed to be this species.
- Temminck's Stint *Calidris temminckii*: A passage migrant in small numbers; several counts of one or two on the lake shore and at Yadegarlu and Dorgeh Sangi in August.
- Dunlin *Calidris alpina*: Some 525 were recorded on the lake shore in January 1970 (a mild winter). Otherwise the species was recorded only as a scarce passage migrant and winter visitor.
- Curlew Sandpiper *Calidris ferruginea*: An abundant passage migrant. Some 10-20% of the 146,000 unidentified waders recorded during the aerial survey in late August 1973 were believed to be this species.
- Ruff *Philomachus pugnax*: An abundant passage migrant. 12,950 were recorded during the aerial survey in late August 1973.
- Red-necked Phalarope *Phalaropus lobatus*: Apparently a regular passage migrant in small numbers, recorded on the lake (maximum seven) and in the satellite wetlands (maximum 32). All records were in August.
- Common Gull *Larus canus*: A scarce winter visitor: one at Yadegarlu on 25 January 1971, and one at Lake Orumiyeh on 26 January 1971.
- Yellow-legged Gull *Larus cachinnans*: An abundant summer visitor, with some 4,000-5,000 pairs breeding in a number of colonies on islands in the lake. The highest count was 10,361 in June 1974. There was only one record in winter; a single at Dorgeh Sangi in December 1971. It has been assumed (on distribution) that the Yellow-legged Gulls breeding at Lake Orumiyeh belong to the form *armenicus*, now widely regarded as a separate species, the Armenian Gull. However, this has never been properly confirmed.
- Black-headed Gull *Larus ridibundus*: Mainly a summer visitor, with 200-500 pairs breeding in several colonies in the marshes. The highest count was 1,203 in June 1974. A few birds remain at the wetlands throughout the winter.
- Slender-billed Gull *Larus genei*: A very common summer visitor to the lake, where there were several large breeding colonies totalling 3,000-4,000 pairs. Colonies were located on Kabudan, at the south end of Ashk, and on the Dowguzlar Islands. The highest counts were 7,600 adults in June 1971, 19,900 adults and juveniles in late August 1973, and 8,300 adults in early July 1975. Most birds had left the lake by November, and there was only one winter record: 20 on the southwest shore of the lake on 30 December 1971.
- Little Gull Larus minutus: Only one record: a flock of 25 at Shur Gol in January 1970.
- Whiskered Tern *Chlidonias hybridus*: A summer visitor, with some 100-200 pairs breeding in colonies at Shur Gol and in the Miandoab marshes. The highest count was 460 in July 1971.
- White-winged Black Tern *Chlidonias leucopterus*: A very common passage migrant, occurring both along the lake shore and in the satellite wetlands. The highest count was 2,300 in August 1973.
- Black Tern *Chlidonias niger*: A passage migrant in small numbers, recorded on the lake shore and at Shur Gol, Dorgeh Sangi and Ghara Gheshlaq in June, early July and August. The highest single count was 10 at Dorgeh Sangi on 2 June 1971.
- Gull-billed Tern *Sterna nilotica*: A summer visitor to the lake shore, where 20-30 pairs bred. The highest count was 64 in late August 1973.

- Caspian Tern *Sterna caspia*: A summer visitor to the lake shore, where 5-10 pairs bred. The highest count was six in June 1972.
- Common Tern *Sterna hirundo*: A summer visitor to the lake shore and satellite wetlands. The total population was estimated at 50-100 pairs; the highest count was 70 birds in June 1972.
- Little Tern *Sterna albifrons*: A summer visitor to the lake and satellite wetlands. The total population was estimated at 40-70 pairs; the highest count was 60 birds in July 1971.
- Black-bellied Sandgrouse *Pterocles orientalis*: Fairly common throughout the basin during the breeding season, recorded along the lake shore and at Shur Gol, Yadegarlu, Dorgeh Sangi, Lake Kobi, Ghara Gheshlaq and Ghazanlu. There were no winter records, and it seemed that the species was mainly, if not entirely, a summer visitor to the basin.
- Rock Dove Columba livia: A common resident throughout the basin and on islands in the lake.
- Stock Dove *Columba oenas*: Apparently a scarce winter visitor. Twelve on the east side of the lake on 24 January 1971 and twelve near Miandoab on 31 December 1971.
- Wood Pigeon *Columba palumbus*: Mainly a summer visitor, recorded in small numbers along the Jogatu Chay and on the plains to the south of the lake. The only winter record was of a single bird near the northeast corner of the lake on 29 December 1971.
- European Turtle Dove *Streptopelia turtur*: A very common breeding summer visitor throughout the basin.
- Little Owl *Athene noctua*: A fairly common resident, recorded at many locations on the plains around the lake and also on Kabudan Island.
- Long-eared Owl *Asio otus*: There was one record in the 1970s from Kabudan Island, but the details are not available.
- Eurasian Nightjar *Caprimulgus europaeus*: A single bird on Kabudan Island on 12 August 1972 was probably a migrant.
- Alpine Swift *Tachymarptis melba*: A very common summer visitor, breeding in large numbers on many islands and cliffs around the lake, and foraging widely over the surrounding plains.
- Common Swift *Apus apus*: A very common summer visitor, breeding widely in the basin and also on islands in the lake.
- Common Kingfisher *Alcedo atthis*: Status uncertain. The only record was of two birds at Mahabad Dam on 16 August 1972.
- Blue-cheeked Bee-eater *Merops persicus*: A common summer visitor, breeding around wetlands to the south of the lake. High counts included 40 at Dorgeh Sangi, 30 at Yadegarlu and 100 at Ghara Gheshlaq.
- European Bee-eater *Merops apiaster*: A common summer visitor, breeding throughout the basin.
- European Roller *Coracias garrulus*: A common summer visitor, breeding throughout the basin. Eurasian Hoopoe *Upupa epops*: A common summer visitor, breeding throughout the basin and also on the larger islands in the lake.
- Syrian Woodpecker *Dendrocopos syriacus*: A fairly common resident in poplar groves, orchards and gardens on the plains around the lake.
- Calandra Lark *Melanocorypha calandra*: A common breeding bird in grassland and arable land throughout the basin. Mainly a summer visitor, but 20 were recorded at Shur Gol on 30 December 1971.
- Bimaculated Lark Melanocorypha bimaculata: A common breeding bird on rolling steppe in

- the surrounding hills. A party of five migrants on the lake shore on 16 August 1972.
- Greater Short-toed Lark *Calandrella brachydactyla*: A common summer visitor to cultivated plains and steppe throughout the basin. A party of four migrants on Kabudan Island on 1 September 1973.
- Lesser Short-toed Lark *Calandrella rufescens*: Present year round. A common breeding bird on saline steppe around the lake and satellite wetlands, and a common winter visitor, sometimes in large flocks.
- Crested Lark Galerida cristata: A very common resident throughout the basin and islands.
- Eurasian Skylark *Alauda arvensis*: A common breeding summer visitor in the surrounding hills. Two migrants in a stubble field at Shur Gol on 22 November 1972.
- Horned Lark *Eremophila alpestris*: A very common winter visitor to the plains around the lake and satellite wetlands.
- Sand Martin *Riparia riparia*: A fairly common passage migrant at the wetlands, but apparently not breeding in the area.
- Barn Swallow *Hirundo rustica*: A common summer visitor throughout the basin.
- House Martin *Delichon urbica*: A fairly common summer visitor to the hills around the basin, recorded once near the lake south of Orumiyeh town.
- Pied Wagtail Motacilla alba: A fairly common resident throughout the basin.
- Yellow Wagtail *Motacilla flava*: A common breeding summer visitor to wetlands throughout the basin (*M. f. feldegg*). Also a common passage migrant, recorded on several occasions in August on islands in the lake.
- Grey Wagtail *Motacilla cinerea*: One at the northeast corner of the lake on 27 November 1972 was the only record.
- Tawny Pipit *Anthus campestris*: A common breeding summer visitor in the surrounding hills. One on Kabudan on 10 August 1971; three on Ashk on 10 August 1972; and two at Lake Kobi on 17 August 1972.
- Tree Pipit Anthus trivialis: A migrant on Kabudan on 1 September 1973.
- Red-throated Pipit Anthus cervinus: A migrant on Kabudan on 28 August 1973.
- Water Pipit Anthus spinoletta: A fairly common winter visitor to the marshes and lake shore.
- Red-backed Shrike *Lanius collurio*: A passage migrant, recorded in August on Kabudan (singles on 5 August and 18 August 1971), on Ashk (singles on 10 August 1972 and 25 August 1973), and at Lake Kobi (one of 17 August 1972).
- Lesser Grey Shrike *Lanius minor*: A very common breeding summer visitor to the basin; 84 were counted on the plains to the west and south of the lake on 16/17 August 1972. One on Kabudan on 9 August 1971.
- Great Grey Shrike *Lanius excubitor*: Probably a scarce winter visitor. Recorded once in December near the southeast corner of the lake.
- Woodchat Shrike Lanius senator: Two migrants on Kabudan on 11 August 1972.
- Winter Wren *Troglodytes troglodytes*: Probably a scarce winter visitor. One near the southwest corner of the lake on 25 January 1971.
- Common Nightingale *Luscinia megarhynchos*: Probably a fairly common breeding summer visitor to orchards and gardens throughout the basin, recorded in gardens south of Orumiyeh town in July 1974.
- Bluethroat Luscinia svecica: A migrant on an islet northeast of Ashk on 6 August 1971.
- Rufous Bush Chat *Cercotrichas galactotes*: Probably a fairly common breeding summer visitor to scrubby areas in the marshes to the south of the lake, recorded at Lake Kobi in August. Migrants were recorded on Kabudan (two on 11 August 1972) and Ashk (one

- on 7 August 1971 and two on 10 August 1972).
- Common Stonechat *Saxicola torquata*: A rather scarce summer visitor to the plains around the lake, and commoner in the surrounding hills. A migrant on Kabudan on 4 August 1972.
- Northern Wheatear *Oenanthe oenanthe*: A migrant on the plains south of the lake on 12 August 1971. A common breeding bird in the mountains to the west of the lake.
- Finsch's Wheatear *Oenanthe finschii*: A fairly common summer visitor to low rocky hills around the lake and marshes.
- Black-eared Wheatear *Oenanthe hispanica*: A common breeding summer visitor to the islands (Kabudan and Ashk) and surrounding hills.
- Isabelline Wheatear *Oenanthe isabellina*: A common breeding summer visitor to the plains around the lake, and common on autumn passage on the islands, *e.g.* 10 on Kabudan on 5 August 1971.
- Fieldfare *Turdus pilaris*: A scarce winter visitor. One near Orumiyeh town on 25 January 1971.
- Mistle Thrush *Turdus viscivorus*: A scarce winter visitor. One near Orumiyeh town on 25 January 1971.
- Cetti's Warbler *Cettia cetti*: A breeding summer visitor to gardens, orchards and thickets, recorded in gardens south of Orumiyeh town and at Mahabad Dam.
- Moustached Warbler *Acrocephalus melanopogon*: Recorded in summer in marshes south of the lake, where it presumably breeds.
- European Reed Warbler *Acrocephalus scirpaceus*: A breeding summer visitor in the marshes to the south of the lake. A migrant on Kabudan on 31 August 1973.
- Great Reed Warbler *Acrocephalus arundinaceus*: A breeding summer visitor in the marshes to the south of the lake.
- Olivaceous Warbler *Hippolais pallida*: A common breeding summer visitor to gardens, orchards and poplar groves throughout the basin. A migrant on Ashk Island on 10 August 1972.
- Upcher's Warbler *Hippolais languida*: A migrant on Kabudan Island on 9 August 1971. A fairly common breeding bird in the hills to the west of the lake.
- Greater Whitethroat *Sylvia communis*: A common passage migrant in August on islands in the lake, *e.g.* 30 on Kabudan on 5 August 1971, three on the Dowguzlar Islands on 9 August 1972, six on Ashk on 10 August 1972, and 20 on Kabudan on 4 August 1972.
- Barred Warbler Sylvia nisoria: A migrant on Ashk Island on 10 August 1972.
- Menetries' Warbler *Sylvia mystacea*: A fairly common breeding summer visitor to scrubby areas on the plains around the lake and also on Kabudan and Ashk. A migrant on the Dowguzlar Islands on 26 August 1973.
- Eurasian Penduline Tit *Remiz pendulinus*: Probably a fairly common breeding summer visitor to scrubby areas in the wetlands, recorded at Mahabad Dam (12 including juveniles on 16 August 1972) and near Orumiyeh town (six including one juvenile on 8 July 1974).
- Great Tit *Parus major*: A fairly common resident in gardens, orchards and poplar groves throughout the basin.
- Blue Tit *Parus caeruleus*: Probably a scarce winter visitor. Two near Orumiyeh town on 25 January 1971.
- Eastern Rock Nuthatch Sitta tephronota: A fairly common resident on Kabudan and Ashk Islands.
- Wallcreeper *Tichodroma muraria*: One at a road bridge on the plains north of the lake (near Golmansara) on 29 December 1971.

- Yellowhammer *Emberiza citrinella*: A scarce winter visitor. Two at the southeast corner of the lake on 30 December 1971.
- Cinereous Bunting Emberiza cineracea: A migrant on Kabudan Island on 4 August 1972.
- Black-headed Bunting *Emberiza melanocephala*: An abundant breeding summer visitor throughout the basin, and a common passage migrant on islands in the lake.
- Reed Bunting *Emberiza schoeniclus*: A scarce passage migrant and winter visitor, *e.g.* six on the lake shore on 21 November 1972. May have bred in the wetlands to the south of the lake.
- Corn Bunting *Miliaria calandra*: A common breeding bird on arable land throughout the basin, with small numbers remaining into the winter, *e.g.* 30 on the west side of the lake on 30 December 1971. A migrant on Kabudan on 20 June 1972.
- Eurasian Siskin *Carduelis spinus*: An uncommon passage migrant and winter visitor. Three near Orumiyeh town on 25 January 1971, five at Sharafkhaneh, north of the lake, on 21 November 1972, and one at Mahabad Dam on 23 November 1972.
- European Goldfinch *Carduelis carduelis*: A common passage migrant and winter visitor to the basin, and also breeding in small numbers in orchards and gardens, *e.g.* near Orumiyeh town.
- Twite *Carduelis flavirostris*: A common winter visitor to the plains around the lake. Six at Lake Kobi on 24 January 1971, one at Yadegarlu on 25 January 1971, 12 in the marshes south of the lake on 25 January 1971, 100 on the plains north of the lake on 29 December 1971, and 100 on the plains southeast of the lake on 30 December 1971.
- Common Linnet *Carduelis cannabina*: A fairly common passage migrant and winter visitor to the plains around the lake.
- Crimson-winged Finch *Rhodopechys sanguinea*: A fairly common winter visitor to the plains around the lake. A flock of 10 near Sharafkhaneh, north of the lake, on 29 December 1971; flocks totalling 150 on the west side of the lake on 30 December 1971; and three at Shur Gol on 22 November 1972.
- House Sparrow Passer domesticus: A common resident throughout the basin.
- Tree Sparrow *Passer montanus*: Probably a fairly common resident in gardens and orchards throughout the basin, recorded at two localities near Orumiyeh town.
- Rock Sparrow *Petronia petronia*: A very common resident on Kabudan Island, where up to 150 were recorded in a day.
- Pale Rock Sparrow *Carpospiza brachydactyla*: Two migrants on Kabudan Island on 10 August 1971.
- Rose-coloured Starling *Sturnus roseus*: A common breeding summer visitor to the plains around the lake. A flock of 200 was recorded along the Jogatu Chay (south of the lake) on 18 June 1972.
- Common Starling *Sturnus vulgaris*. A very common breeding summer visitor throughout the basin, with only small numbers remaining in winter.
- Golden Oriole *Oriolus oriolus*: A breeding summer visitor to poplar groves and orchards on the plains around the lake.
- Common Magpie *Pica pica*: A common resident throughout the basin.
- Red-billed Chough *Pyrrhocorax pyrrhocorax*: A common resident on all the larger islands in the lake. Up to 60 were recorded in a day on Kabudan.
- Eurasian Jackdaw *Corvus monedula*: A common resident throughout the basin and on islands in the lake (Shahi, Kabudan, Ashk and Espier).
- Rook Corvus frugilegus: A common resident throughout the basin.
- Hooded Crow Corvus corone cornix: A common resident throughout the basin and islands.

Common Raven *Corvus corax*: A fairly common resident, breeding on all of the larger islands in the lake (Shahi, Kabudan, Ashk, Espier and Arzu) and foraging around the wetlands.

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Table 1: Mid-winter Wildfowl Counts in Azarbayjan*

	69/70	70/71	71/72	72/73	73/74	74/75	75/76	76/77	77/78
Pelecanus onocrotalus			4		1		NA**	NA	
Phoenicopterus ruber	353	1,395	246	10	146	373	NA	200	
Anas platyrhynchos	5,460	608	5,436	285	1,223	2,378	2,379	630	3,855
Anas crecca	3,080	731	3,649	59	154	1,017	1,948	204	1,853
Anas querquedula									2
Anas strepera		14	23		24				19
Anas penelope	50	17	378				1		75
Anas acuta	16,960	7,091	2,733	1		242	216	8	22
Anas clypeata	100	1,600	13		1,408	402	3		
Marmaronet. angustirostris		11				4			17
Aythya fuligula	204	28	117	15	163	24	172		
Aythya ferina	35,910	1,091	167	56	2,564	1,258	367		
Aythya nyroca			1	11					44
Bucephala clangula		7					2		
Oxyura leucocephala						9			
Mergus serrator								4	
Mergus merganser			1					23	
Mergellus albellus	113	50	395	1			63	20	
Tadorna tadorna		3,360	382	70	147	703	16,170	11,550	14,012
Tadorna ferruginea	158	291	349	28	3,039	47	61	19	1,185
Duck sp.	250	212	1,248	11	160	675	2,177		25,395
Anser anser	864	36	582	1	430	413	NA	NA	65
Anser albifrons	122	77	476		824	139	NA	NA	53
Anser erythropus		1	10		133		NA	NA	
Anser sp.	70		40		2,050	255	NA	NA	
Branta ruficollis	16						NA	NA	
Cygnus columbianus	-	57	4			14	12		14
Cygnus sp.	55				3				
Fulica atra	323562	22	409	38	7,894	15,126	4	17	2,320

^{*:} Wetlands of the Orumiyeh Basin and the Dasht-e Moghan (on the Aras River on the border with the Republic of Azerbaijan.

^{**:} NA = count data not available

Table 2: Mid-winter Wildfowl Counts at Lake Orumiyeh

	69/70	70/71	71/72	72/73	73/74	74/75	75/76	76/77
Pelecanus onocrotalus								
Phoenicopterus ruber	201	1,361	246	10	145	350		1,600
Anas platyrhynchos	1,430	351	553	1		166	26	1
Anas crecca		543	350		130	6	516	75
Anas querquedula								
Anas strepera								
Anas penelope			2					
Anas acuta	100	33	1			7		
Anas clypeata			3					
Marmaronetta angustirostris								
Aythya fuligula								
Aythya ferina		6				32		
Aythya nyroca								
Bucephala clangula								
Oxyura leucocephala								
Mergus serrator								
Mergus merganser								
Mergellus albellus			1					
Tadorna tadorna		3,360	330	70	145	700	16,143	11,550
Tadorna ferruginea	62	156	224	28	4	47	58	
Duck sp.	250	57	1,093	10		470	1,422	
Anser anser	80	3						
Anser albifrons		77						
Anser erythropus		1						
Anser sp.								
Branta ruficollis								
Cygnus columbianus								
Cygnus sp.								
Fulica atra	12					1		

Table 3: Mid-November Wildfowl Counts at Lake Orumiyeh

	1972	1973	1974
Pelecanus onocrotalus			
Phoenicopterus ruber		1,300	251
Anas platyrhynchos	595		3
Anas crecca	2,050		700
Anas querquedula			
Anas strepera	11		
Anas penelope	100		
Anas acuta	350		
Anas clypeata	200		
Marmaronetta angustirostris			
Aythya fuligula	24		
Aythya ferina	47		
Aythya nyroca	2		
Bucephala clangula			
Oxyura leucocephala			
Mergus serrator			
Mergus merganser			
Mergellus albellus			
Tadorna tadorna	5,820	6,907	9,586
Tadorna ferruginea	416	23	
Duck sp.	500		865
Anser anser	9		31
Anser albifrons	183	265	
Anser erythropus			
Anser sp.	35	60	
Branta ruficollis			
Cygnus columbianus			
Cygnus sp.			
Fulica atra	310		

Table 4: Mid-winter Wildfowl Counts at Shur Gol

	69/70	70/71	71/72	72/73*	73/74	74/75	75/76	76/77*
Pelecanus onocrotalus								
Phoenicopterus ruber	2	2						
Anas platyrhynchos	1,200		1,135		142	195		
Anas crecca	2,500		400			800		
Anas querquedula								
Anas strepera			14					
Anas penelope			21					
Anas acuta	30		1,460			150		
Anas clypeata			9			22		
Marmaronetta angustirostris						4		
Aythya fuligula			22					
Aythya ferina			35					
Aythya nyroca								
Bucephala clangula								
Oxyura leucocephala								
Mergus serrator								
Mergus merganser			1					
Mergellus albellus	106		102					
Tadorna tadorna			2					
Tadorna ferruginea		117	80					
Duck sp.		155				95	50	
Anser anser	5				4	13		
Anser albifrons								
Anser erythropus			6					
Anser sp.	70							
Branta ruficollis								
Cygnus columbianus								
Cygnus sp.								
Fulica atra	40,500		1			55		

^{*:} Wetland completely frozen; no waterbirds

Table 5: Mid-November Wildfowl Counts at Shur Gol

	1972	1973	1974
Pelecanus onocrotalus			
Phoenicopterus ruber	100	2,500	763
Anas platyrhynchos	500	260	47
Anas crecca	10,000	12,000	575
Anas querquedula			
Anas strepera	10		
Anas penelope	100		
Anas acuta	750		
Anas clypeata	2,000		106
Marmaronetta angustirostris	7		
Aythya fuligula	30		
Aythya ferina	460	400	
Aythya nyroca	3		
Bucephala clangula			
Oxyura leucocephala			
Mergus serrator			
Mergus merganser			
Mergellus albellus			
Tadorna tadorna			
Tadorna ferruginea	1,800		
Duck sp.	4,200		2,010
Anser anser	100	350	
Anser albifrons			
Anser erythropus	175		44
Anser sp.		380	
Branta ruficollis			
Cygnus columbianus			
Cygnus sp.			
Fulica atra	15,500		

Table 6: Mid-winter Wildfowl Counts at Yadegarlu

	69/70	70/71	71/72	72/73*	73/74	74/75	75/76
Pelecanus onocrotalus							
Phoenicopterus ruber							
Anas platyrhynchos	180	7				45	19
Anas crecca		3					310
Anas querquedula							
Anas strepera							
Anas penelope							1
Anas acuta		3					49
Anas clypeata							3
Marmaronetta angustirostris		10					
Aythya fuligula	50						
Aythya ferina	15,000	484					
Aythya nyroca							
Bucephala clangula							
Oxyura leucocephala							
Mergus serrator							
Mergus merganser							
Mergellus albellus		39					
Tadorna tadorna							
Tadorna ferruginea			8				
Duck sp.							15
Anser anser					40		
Anser albifrons					110		
Anser erythropus							
Anser sp.					110		
Branta ruficollis							
Cygnus columbianus		57					12
Cygnus sp.							
Fulica atra	80,000						

^{*:} Wetland completely frozen; no waterbirds

Table 7: Mid-November Wildfowl Counts at Yadegarlu

	1972	1974
Pelecanus onocrotalus		
Phoenicopterus ruber	2	
Anas platyrhynchos	20	121
Anas crecca	5,100	995
Anas querquedula		
Anas strepera		
Anas penelope		
Anas acuta	10	
Anas clypeata		54
Marmaronetta angustirostris		
Aythya fuligula		
Aythya ferina		106
Aythya nyroca		
Bucephala clangula		
Oxyura leucocephala		
Mergus serrator		
Mergus merganser		
Mergellus albellus		
Tadorna tadorna		
Tadorna ferruginea	55	
Duck sp.		2,960
Anser anser		
Anser albifrons		
Anser erythropus		28
Anser sp.		
Branta ruficollis		
Cygnus columbianus		
Cygnus sp.		
Fulica atra	100	110

Table 8: Mid-winter Wildfowl Counts at Dorgeh Sangi

	69/70	70/71	71/72	72/73	73/74	74/75	75/76	76/77
Pelecanus onocrotalus								
Phoenicopterus ruber		1				22		
Anas platyrhynchos	100	20	2,250	37	430	566	254	6
Anas crecca		6	400			75		
Anas querquedula								
Anas strepera		5						
Anas penelope		4	350					
Anas acuta		7,000	1,250			2	10	
Anas clypeata	6,500	1,600						
Marmaronetta angustirostris								
Aythya fuligula	4	12	75					
Aythya ferina	900	600	24			11		
Aythya nyroca								
Bucephala clangula		4					2	
Oxyura leucocephala								
Mergus serrator								
Mergus merganser								
Mergellus albellus		2	238					
Tadorna tadorna					2		27	
Tadorna ferruginea	6		23				3	
Duck sp.								
Anser anser	616							
Anser albifrons	120							
Anser erythropus								
Anser sp.								
Branta ruficollis								
Cygnus columbianus		52	4			14		
Cygnus sp.	41				3			
Fulica atra	2,500	8	110					

Table 9: Mid-November Wildfowl Counts at Dorgeh Sangi

	1972	1973	1974
Pelecanus onocrotalus			
Phoenicopterus ruber			108
Anas platyrhynchos	20	1,250	
Anas crecca	30,000	812	250
Anas querquedula			
Anas strepera			
Anas penelope			
Anas acuta	10		
Anas clypeata	3,500	450	25
Marmaronetta angustirostris			
Aythya fuligula			
Aythya ferina	350	400	
Aythya nyroca		16	
Bucephala clangula			
Oxyura leucocephala			
Mergus serrator			
Mergus merganser			
Mergellus albellus			
Tadorna tadorna	46		
Tadorna ferruginea	2	5	
Duck sp.			870
Anser anser			
Anser albifrons			
Anser erythropus			85
Anser sp.	9		
Branta ruficollis			
Cygnus columbianus			
Cygnus sp.			
Fulica atra		300	795

Table 10: Mid-winter Wildfowl Counts at Lake Kobi

	69/70	70/71	71/72	72/73*	73/74	74/75	75/76	76/77*
Pelecanus onocrotalus								
Phoenicopterus ruber	150				1			
Anas platyrhynchos	2,000	130	513		4	450	47	
Anas crecca	50							
Anas querquedula								
Anas strepera								
Anas penelope	50							
Anas acuta	100		10			67		
Anas clypeata	100				1,395	360		
Marmaronetta angustirostris								
Aythya fuligula	150					24		
Aythya ferina	20,000				2,341	1,200	23	
Aythya nyroca								
Bucephala clangula								
Oxyura leucocephala						9		
Mergus serrator								
Mergus merganser								
Mergellus albellus	7							
Tadorna tadorna								
Tadorna ferruginea	70				2,386			
Duck sp.					160	50	10	
Anser anser	7							
Anser albifrons	2							
Anser erythropus								
Anser sp.					145			
Branta ruficollis	16							
Cygnus columbianus								
Cygnus sp.	14							
Fulica atra	200,000		2		7,500	15,000		

^{*:} Wetland completely frozen; no waterbirds

Table 11: Mid-November Wildfowl Counts at Lake Kobi

	1972	1973	1974
Pelecanus onocrotalus			
Phoenicopterus ruber	550	6,600	460
Anas platyrhynchos	500	6,300	
Anas crecca	6,000	2,800	1,665
Anas querquedula			
Anas strepera	50		
Anas penelope	600		
Anas acuta	250	29	33
Anas clypeata	5,000	1,150	
Marmaronetta angustirostris			220
Aythya fuligula			
Aythya ferina	8,500	586	
Aythya nyroca	2	8	
Bucephala clangula			
Oxyura leucocephala	100		
Mergus serrator			
Mergus merganser			
Mergellus albellus			
Tadorna tadorna			
Tadorna ferruginea	250		1,248
Duck sp.		3,500	8,500
Anser anser			
Anser albifrons			
Anser erythropus			
Anser sp.			
Branta ruficollis			
Cygnus columbianus			
Cygnus sp.			
Fulica atra	50,000		2,550

Table 12: Mid-winter and November Waterfowl Counts at Lake Orumiyeh

	Jan 1970	Jan 1971	Dec 1971	Nov 1972
Tachybaptus ruficollis				
Podiceps cristatus				
Podiceps nigricollis	110	1	400	4,300
Pelecanus onocrotalus				Í
Phalacrocorax carbo				
Egretta garzetta				
Ardea cinerea	2	1		
Ardea purpurea				
Casmerodius albus	20	6	1	
Bubulcus ibis				
Ardeola ralloides				1
Nycticorax nycticorax				
Ciconia ciconia				
Plegadis falcinellus				
Platalea leucorodia				
Phoenicopterus ruber	201	1,361	246	
Oxyura leucocephala				
Cygnus columbianus				
Anser albifrons		77		183
Anser erythropus		1		
Anser anser	80	3		9
Branta ruficollis				
Tadorna ferruginea	62	156	224	416
Tadorna tadorna		3,360	330	5,820
Anas penelope			2	100
Anas strepera				11
Anas crecca		543	350	2,050
Anas platyrhynchos	1,430	351	553	595
Anas acuta	100	33	1	350
Anas querquedula				
Anas clypeata			3	200
Marmaronetta angustirostris				
Aythya ferina		6		47
Aythya nyroca				2
Aythya fuligula				24
Bucephala clangula				
Mergellus albellus			1	
Mergus serrator				
Mergus merganser				
Grus virgo				
Rallus aquaticus				1
Gallinula chloropus				
Fulica atra	12			310
Haematopus ostralegus				
Himantopus himantopus				
Recurvirostra avosetta	25	3		2
Burhinus oedicnemus				
Glareola pratincola				

Table 12 (continued)

	Jan 1970	Jan 1971	Dec 1971	Nov 1972
Pluvialis squatarola				5
Charadrius hiaticula				
Charadrius dubius				
Charadrius alexandrinus				
Charadrius leschenaultii				
Charadrius asiaticus				
Eudromias morinellus			1	
Vanellus vanellus	85	4		230
Gallinago gallinago	3	14		4
Limosa limosa	32	1		
Limosa lapponica				
Numenius phaeopus				
Numenius arquata		5	11	1
Tringa erythropus				
Tringa totanus	40	1	3	350
Tringa stagnatilis				
Tringa nebularia				
Tringa ochropus	5			3
Tringa glareola				
Tringa cinerea				
Tringa hypoleucos				
Arenaria interpres				
Calidris minuta				
Calidris temminckii				2
Calidris alpina	525	8		10
Calidris ferruginea				
Philomachus pugnax				
Phalaropus lobatus				
Larus canus		1		
Larus cachinnans				
Larus ridibundus				
Larus genei			20	450
Larus minutus				
Chlidonias hybridus				
Chlidonias leucopterus				
Chlidonias niger				
Sterna nilotica				
Sterna caspia				
Sterna hirundo				
Sterna albifrons				

Table 13: Mid-winter and November Waterfowl Counts at Shur Gol

	Jan 1970	Jan 1971	Dec 1971	Nov 1972
Tachybaptus ruficollis				1
Podiceps cristatus	4		1	1
Podiceps nigricollis				75
Pelecanus onocrotalus				
Phalacrocorax carbo				
Egretta garzetta				
Ardea cinerea	30			
Ardea purpurea				
Casmerodius albus	22			
Bubulcus ibis				
Ardeola ralloides				
Nycticorax nycticorax				
Ciconia ciconia				
Plegadis falcinellus				
Platalea leucorodia				
Phoenicopterus ruber	2	2		100
Oxyura leucocephala				
Cygnus columbianus				
Anser albifrons				
Anser erythropus			6	175
Anser anser	5			100
Branta ruficollis				
Tadorna ferruginea		117	80	1,800
Tadorna tadorna			2	
Anas penelope			21	100
Anas strepera			14	10
Anas crecca	2,500		400	10,000
Anas platyrhynchos	1,200		1,135	500
Anas acuta	30		1,460	750
Anas querquedula				
Anas clypeata			9	2,000
Marmaronetta angustirostris				7
Aythya ferina			35	460
Aythya nyroca				3
Aythya fuligula			22	30
Bucephala clangula				
Mergellus albellus	106		102	
Mergus serrator				
Mergus merganser			1	
Grus virgo				
Rallus aquaticus				
Gallinula chloropus				
Fulica atra	40,500		1	15,500
Haematopus ostralegus				
Himantopus himantopus				6
Recurvirostra avosetta				
Burhinus oedicnemus				
Glareola pratincola				

Table 13 (continued)

	Jan 1970	Jan 1971	Dec 1971	Nov 1972
Pluvialis squatarola				
Charadrius hiaticula				1
Charadrius dubius				
Charadrius alexandrinus				
Charadrius leschenaultii				
Charadrius asiaticus				
Eudromias morinellus				
Vanellus vanellus			12	200
Gallinago gallinago				
Limosa limosa				
Limosa lapponica				
Numenius phaeopus				
Numenius arquata				
Tringa erythropus				
Tringa totanus	14			5
Tringa stagnatilis				
Tringa nebularia				2
Tringa ochropus				
Tringa glareola				
Tringa cinerea				
Tringa hypoleucos				
Arenaria interpres				
Calidris minuta				
Calidris temminckii				
Calidris alpina				
Calidris ferruginea				
Philomachus pugnax				
Phalaropus lobatus				
Larus canus				
Larus cachinnans				1
Larus ridibundus				9
Larus genei				
Larus minutus	25			
Chlidonias hybridus				
Chlidonias leucopterus				
Chlidonias niger				
Sterna nilotica				
Sterna caspia				
Sterna hirundo				
Sterna albifrons				

Table 14: Mid-winter and November Waterfowl Counts at Yadegarlu

	Jan 1970	Jan 1971	Dec 1971	Nov 1972
Tachybaptus ruficollis				
Podiceps cristatus		1		
Podiceps nigricollis				
Pelecanus onocrotalus				
Phalacrocorax carbo				
Egretta garzetta				
Ardea cinerea				
Ardea purpurea				
Casmerodius albus				
Bubulcus ibis				
Ardeola ralloides				
Nycticorax nycticorax				
Ciconia ciconia				
Plegadis falcinellus				
Platalea leucorodia				
Phoenicopterus ruber				2
Oxyura leucocephala				
Cygnus columbianus		57		
Anser albifrons				
Anser erythropus				
Anser anser				
Branta ruficollis				
Tadorna ferruginea			8	55
Tadorna tadorna				
Anas penelope				
Anas strepera				
Anas crecca		3		5,100
Anas platyrhynchos	180	7		20
Anas acuta		3		10
Anas querquedula				
Anas clypeata				
Marmaronetta angustirostris		10		
Aythya ferina	15,000	484		
Aythya nyroca				
Aythya fuligula	50			
Bucephala clangula				
Mergellus albellus		39		
Mergus serrator				
Mergus merganser				
Grus virgo				
Rallus aquaticus				
Gallinula chloropus				
Fulica atra	80,000			100
Haematopus ostralegus				
Himantopus himantopus				
Recurvirostra avosetta				
Burhinus oedicnemus				
Glareola pratincola				

Table 14 (continued)

	Jan 1970	Jan 1971	Dec 1971	Nov 1972
Pluvialis squatarola				
Charadrius hiaticula				
Charadrius dubius				
Charadrius alexandrinus				
Charadrius leschenaultii				
Charadrius asiaticus				
Eudromias morinellus				
Vanellus vanellus				250
Gallinago gallinago				
Limosa limosa				1
Limosa lapponica				
Numenius phaeopus				
Numenius arquata				
Tringa erythropus				
Tringa totanus				30
Tringa stagnatilis				
Tringa nebularia				
Tringa ochropus				
Tringa glareola				
Tringa cinerea				
Tringa hypoleucos				
Arenaria interpres				
Calidris minuta				
Calidris temminckii				
Calidris alpina				2
Calidris ferruginea				
Philomachus pugnax				
Phalaropus lobatus				
Larus canus		1		
Larus cachinnans				
Larus ridibundus				
Larus genei				
Larus minutus				
Chlidonias hybridus				
Chlidonias leucopterus				
Chlidonias niger				
Sterna nilotica				
Sterna caspia				
Sterna hirundo				
Sterna albifrons				

Table 15: Mid-winter and November Waterfowl Counts at Dorgeh Sangi

	Jan 1970	Jan 1971	Dec 1971	Nov 1972
Tachybaptus ruficollis	3			
Podiceps cristatus				
Podiceps nigricollis		1		
Pelecanus onocrotalus				
Phalacrocorax carbo				
Egretta garzetta				
Ardea cinerea	3		3	
Ardea purpurea				
Casmerodius albus	6			
Bubulcus ibis				
Ardeola ralloides				
Nycticorax nycticorax				
Ciconia ciconia				
Plegadis falcinellus				
Platalea leucorodia				
Phoenicopterus ruber		1		
Oxyura leucocephala				
Cygnus columbianus	41 sp.			
Anser albifrons	120			
Anser erythropus				
Anser anser	616			
Branta ruficollis				
Tadorna ferruginea	6		23	2
Tadorna tadorna	-		-	46
Anas penelope		4	350	-
Anas strepera		5		
Anas crecca		6	400	30,000
Anas platyrhynchos	100	20	2,250	20
Anas acuta		7,000	1,250	10
Anas querquedula		,	,	
Anas clypeata	6,500	1,600		3,500
Marmaronetta angustirostris	,	,		,
Aythya ferina	900	600	24	350
Aythya nyroca				
Aythya fuligula	4	12	75	
Bucephala clangula		4		
Mergellus albellus		2	238	
Mergus serrator				
Mergus merganser				
Grus virgo				
Rallus aquaticus				
Gallinula chloropus				
Fulica atra	2,500	8	110	
Haematopus ostralegus	,			
Himantopus himantopus				
Recurvirostra avosetta		6		
Burhinus oedicnemus				
Glareola pratincola				

Table 15 (continued)

	Jan 1970	Jan 1971	Dec 1971	Nov 1972
Pluvialis squatarola				
Charadrius hiaticula				
Charadrius dubius				
Charadrius alexandrinus				
Charadrius leschenaultii				
Charadrius asiaticus				
Eudromias morinellus				
Vanellus vanellus				150
Gallinago gallinago				5
Limosa limosa		3		140
Limosa lapponica				
Numenius phaeopus				
Numenius arquata				
Tringa erythropus				
Tringa totanus				
Tringa stagnatilis				
Tringa nebularia				
Tringa ochropus				
Tringa glareola				
Tringa cinerea				
Tringa hypoleucos				
Arenaria interpres				
Calidris minuta				
Calidris temminckii				
Calidris alpina				
Calidris ferruginea				
Philomachus pugnax				
Phalaropus lobatus				
Larus canus				
Larus cachinnans			1	
Larus ridibundus			2	
Larus genei				
Larus minutus				
Chlidonias hybridus				
Chlidonias leucopterus				
Chlidonias niger				
Sterna nilotica				
Sterna caspia				
Sterna hirundo				
Sterna albifrons				

Table 16: Mid-winter and November Waterfowl Counts at Lake Kobi

	Jan 1970	Jan 1971	Dec 1971	Nov 1972
Tachybaptus ruficollis	30			
Podiceps cristatus	15			10
Podiceps nigricollis				50
Pelecanus onocrotalus				
Phalacrocorax carbo				
Egretta garzetta				
Ardea cinerea	35			
Ardea purpurea				
Casmerodius albus				
Bubulcus ibis				
Ardeola ralloides				
Nycticorax nycticorax				
Ciconia ciconia				
Plegadis falcinellus				
Platalea leucorodia				
Phoenicopterus ruber	150			550
Oxyura leucocephala				100
Cygnus columbianus	14 sp.			
Anser albifrons	2			
Anser erythropus				
Anser anser	7			
Branta ruficollis	16			
Tadorna ferruginea	70			250
Tadorna tadorna				
Anas penelope	50			600
Anas strepera				50
Anas crecca	50			6,000
Anas platyrhynchos	2,000	130	513	500
Anas acuta	100		10	250
Anas querquedula				
Anas clypeata	100			5,000
Marmaronetta angustirostris				
Aythya ferina	20,000			2
Aythya nyroca	150			
Aythya fuligula				
Bucephala clangula				
Mergellus albellus	7			
Mergus serrator				
Mergus merganser				
Grus virgo				
Rallus aquaticus				
Gallinula chloropus				
Fulica atra	200,000		2	50,000
Haematopus ostralegus				
Himantopus himantopus				
Recurvirostra avosetta				
Burhinus oedicnemus				
Glareola pratincola				

Table 16 (continued)

	Jan 1970	Jan 1971	Dec 1971	Nov 1972
Pluvialis squatarola				
Charadrius hiaticula				4
Charadrius dubius				
Charadrius alexandrinus				
Charadrius leschenaultii				
Charadrius asiaticus				
Eudromias morinellus				
Vanellus vanellus				50
Gallinago gallinago				
Limosa limosa				
Limosa lapponica				
Numenius phaeopus				
Numenius arquata				
Tringa erythropus	40			
Tringa totanus	30			20
Tringa stagnatilis				
Tringa nebularia				
Tringa ochropus				
Tringa glareola				
Tringa cinerea				
Tringa hypoleucos				
Arenaria interpres				
Calidris minuta				3
Calidris temminckii				
Calidris alpina				3
Calidris ferruginea				
Philomachus pugnax				
Phalaropus lobatus				
Larus canus				
Larus cachinnans				
Larus ridibundus				15
Larus genei				
Larus minutus				
Chlidonias hybridus	7			
Chlidonias leucopterus				
Chlidonias niger				
Sterna nilotica				
Sterna caspia				
Sterna hirundo				
Sterna albifrons				

Table 17: Aerial Waterfowl Counts in the Orumiyeh Basin : total counts

	July 1971	June 1972	Aug 1973	June 1974	July 1975
Tachybaptus ruficollis	4				
Podiceps cristatus		18			
Podiceps nigricollis			7,975		680
Pelecanus onocrotalus	1,545	3,500	125	890	1,137
Phalacrocorax carbo			1		
Egretta garzetta	94	110	160	103	4
Ardea cinerea	13	33	69	5	10
Ardea purpurea	22	43		7	
Casmerodius albus	1	1		1	
Bubulcus ibis	1				
Ardeola ralloides	165	203	83	111	3
Nycticorax nycticorax	80	182		120	1
Ciconia ciconia	330	250	40	218	178
Plegadis falcinellus	42	260	141	6	11
Platalea leucorodia	96	260	51	199	123
Phoenicopterus ruber	50,000	50,000	58,500	38,000	46,898
Oxyura leucocephala	5	1			
Anser albifrons		1			
Anser anser	4	10	2	2	48
Tadorna ferruginea	740	970	1,620	887	492
Tadorna tadorna	5,300	5,700	34,750	10,420	18,641
Anas penelope	1				354
Anas strepera	1	2		1	700
Anas crecca		77	47,300	175	8,050
Anas platyrhynchos	350	490	1,226	431	910
Anas acuta		182	6	19	50
Anas querquedula	25	180	29,750	211	1,577
Anas clypeata	4	41	1,320	3	238
Marmaronetta angustirostris	70	25	12	12	160
Aythya ferina	31	96			63
Aythya nyroca	43	38	2	7	20
Aythya fuligula				3	
Gallinula chloropus	3				
Fulica atra	+	2,900	9,600	563	4,289
Haematopus ostralegus	78	4		35	
Himantopus himantopus	580	350	1,220	768	1,290
Recurvirostra avosetta	2,810	2,800	13,620	4,148	3,787
Burhinus oedicnemus		2			3
Glareola pratincola	380	14	1	7	
Pluvialis squatarola			5		
Charadrius dubius				2	
Charadrius alexandrinus	+	+	+	384	+
Charadrius leschenaultii			10	5	
Vanellus vanellus	2,500	1,700	3,165	2,660	678
Gallinago gallinago			1		
Limosa limosa	650	30	975	54	11
Limosa lapponica			2		

Table 17 (continued)

	July 1971	June 1972	Aug 1973	June 1974	July 1975
Numenius phaeopus			22		
Numenius arquata	4	6	1	14	
Tringa erythropus			1		
Tringa totanus	5,950	3,700	8,875	8,660	+
Tringa stagnatilis		47	2,090	96	
Tringa nebularia			16	14	2
Tringa ochropus	430	42	13	7	
Tringa glareola		2	+	5	
Tringa hypoleucos	5	1	18	2	
Arenaria interpres			152		
Calidris minuta			+		
Calidris ferruginea			+		
Philomachus pugnax	40	1	12,950		
Phalaropus lobatus			7		
Unidentified small waders			146,000		25,000
Larus cachinnans	4,100	8,200	3,300	10,361	5,542
Larus ridibundus	360	814	371	1,203	+
Larus genei	7,620	1,900	19,865	5,230	8,319
Chlidonias hybridus	460	30		26	
Chlidonias leucopterus	44	48	2,300	284	
Chlidonias niger	21	1		3	
Sterna nilotica	47	9	64	7	37
Sterna caspia		6	1		
Sterna hirundo	40	70	47	36	
Sterna albifrons	60	34	3	38	
Unidentified terns					380

Table 18: Aerial Waterfowl Counts in the Orumiyeh Basin: 30 June - 3 July 1971

	Lake Oru.	Shur Gol	Yadegarlu	D. Sangi	Lake Kobi	Gara Gesh.
Tachybaptus ruficollis						
Podiceps cristatus						
Podiceps nigricollis						
Pelecanus onocrotalus	448		500	500	16	25
Phalacrocorax carbo						
Egretta garzetta	40				4	50
Ardea cinerea	10		2		1	
Ardea purpurea					21	
Casmerodius albus	1					
Bubulcus ibis					1	
Ardeola ralloides	3				150	4
Nycticorax nycticorax					30	50
Ciconia ciconia	46	30	1		243	10
Plegadis falcinellus					4	11
Platalea leucorodia	53			18	3	15
Phoenicopterus ruber	50,000	5,000		1		
Oxyura leucocephala					5	
Anser albifrons						
Anser anser	4					
Tadorna ferruginea	198	400			135	
Tadorna tadorna	5,225	50		4	21	
Anas penelope	1					
Anas strepera	1					
Anas crecca						
Anas platyrhynchos	114	50	20	60	76	30
Anas acuta						
Anas querquedula					21	4
Anas clypeata						4
Marmaronetta angustirostris		30				40
Aythya ferina			30	1		
Aythya nyroca	4		1	3	13	17
Aythya fuligula						
Gallinula chloropus	3					
Fulica atra	2	100s	100s	100s	20	
Haematopus ostralegus	78					
Himantopus himantopus	580					
Recurvirostra avosetta	2,250	500		50	10	
Burhinus oedicnemus						
Glareola pratincola	11	50	10		220	50
Pluvialis squatarola						
Charadrius dubius						
Charadrius alexandrinus	43+	50		+	50	5
Charadrius leschenaultii						
Vanellus vanellus	1,575	856		T		1
Gallinago gallinago						
Limosa limosa	30	100		520		
Limosa lapponica						

Table 18 (continued)

	Lake Oru.	Shur Gol	Yadegarlu	D. Sangi	Lake Kobi	Gara Gesh.
Numenius phaeopus						
Numenius arquata	4					
Tringa erythropus						
Tringa totanus	5,950					
Tringa stagnatilis						
Tringa nebularia						
Tringa ochropus	430					
Tringa glareola						
Tringa hypoleucos	4					
Arenaria interpres						
Calidris minuta						
Calidris ferruginea						
Philomachus pugnax					40	
Phalaropus lobatus						
Unidentified small waders						
Larus cachinnans	4,100					
Larus ridibundus	360					
Larus genei	7,590				30	
Chlidonias hybridus					35	
Chlidonias leucopterus				2	42	
Chlidonias niger	1					
Sterna nilotica	47					
Sterna caspia						
Sterna hirundo	20				20	
Sterna albifrons	4	10	30		1	
Unidentified terns						

Table 19: Aerial Waterfowl Counts in the Orumiyeh Basin: 17-22 June 1972

	Lake Oru.	Shur Gol	Yadegarlu	D. Sangi	Lake Kobi
Tachybaptus ruficollis					
Podiceps cristatus	14	1		2	1
Podiceps nigricollis					
Pelecanus onocrotalus	3,500				
Phalacrocorax carbo					
Egretta garzetta	49				61
Ardea cinerea	33				
Ardea purpurea	5				28
Casmerodius albus	1				
Bubulcus ibis					
Ardeola ralloides	1				202
Nycticorax nycticorax	32				150
Ciconia ciconia	56	191			
Plegadis falcinellus	156	1			103
Platalea leucorodia	238				1
Phoenicopterus ruber	50,000				28
Oxyura leucocephala					1
Anser albifrons	1				
Anser anser	10 + 16				
	gos				
Tadorna ferruginea	900	4		2	59
Tadorna tadorna	5,680	14			5
Anas penelope					
Anas strepera	2				
Anas crecca	65	2			10
Anas platyrhynchos	450	8	4	2	24
Anas acuta	182				
Anas querquedula	141	1			36
Anas clypeata	41				
Marmaronetta angustirostris	25				
Aythya ferina	81	1			14
Aythya nyroca	16				22
Aythya fuligula					
Gallinula chloropus					
Fulica atra	52	1,950			875
Haematopus ostralegus	4				
Himantopus himantopus	350				
Recurvirostra avosetta	2,725				75
Burhinus oedicnemus	2				
Glareola pratincola	3				7
Pluvialis squatarola					
Charadrius dubius					
Charadrius alexandrinus	65+				
Charadrius leschenaultii					
Vanellus vanellus	1,700				
Gallinago gallinago					
Limosa limosa	30				
Limosa lapponica					

Table 19 (continued)

	Lake Oru.	Shur Gol	Yadegarlu	D. Sangi	Lake Kobi
Numenius phaeopus					
Numenius arquata	6				
Tringa erythropus					
Tringa totanus	3,700				
Tringa stagnatilis	47				
Tringa nebularia					
Tringa ochropus	42				
Tringa glareola	2				
Tringa hypoleucos	1				
Arenaria interpres					
Calidris minuta					
Calidris ferruginea					
Philomachus pugnax	1				
Phalaropus lobatus					
Unidentified small waders					
Larus cachinnans	8,090			30	80
Larus ridibundus	624	65		20	105
Larus genei	1,875	15	1		
Chlidonias hybridus		30			
Chlidonias leucopterus	35				11
Chlidonias niger					
Sterna nilotica	7				
Sterna caspia	6				
Sterna hirundo	43	2			21
Sterna albifrons	30				4
Unidentified terns					
-					

Table 20: Aerial Waterfowl Counts in the Orumiyeh Basin: 29-31 August 1973

	Lake Oru.	Shur Gol	Yadegarlu*	D. Sangi	Lake Kobi	Nowruzlu
Tachybaptus ruficollis						
Podiceps cristatus						
Podiceps nigricollis	7,975					
Pelecanus onocrotalus	868					6
Phalacrocorax carbo						1
Egretta garzetta	143				1	35
Ardea cinerea	61				6	2
Ardea purpurea						
Casmerodius albus						
Bubulcus ibis						
Ardeola ralloides	42	2			9	30
Nycticorax nycticorax						
Ciconia ciconia	32				8	
Plegadis falcinellus	134				1	6
Platalea leucorodia						51
Phoenicopterus ruber	58,500	1,000			200	
Oxyura leucocephala						
Anser albifrons						
Anser anser	1					
Tadorna ferruginea	1,156	60		2		400
Tadorna tadorna	34,750					
Anas penelope						
Anas strepera						
Anas crecca	38,027	100			3,050	6,000
Anas platyrhynchos	356			20	200	650
Anas acuta	5				1	
Anas querquedula	18,300	250		100	6,100	5,000
Anas clypeata	1,170	50			100	
Marmaronetta angustirostris	12					
Aythya ferina						
Aythya nyroca	2					
Aythya fuligula						
Gallinula chloropus						
Fulica atra		100			9,000	500
Haematopus ostralegus						
Himantopus himantopus	555	400		50	153	30
Recurvirostra avosetta	13,550	20				50
Burhinus oedicnemus						
Glareola pratincola					1	
Pluvialis squatarola	5					
Charadrius dubius						
Charadrius alexandrinus	100s					
Charadrius leschenaultii	10					
Vanellus vanellus	3,165	•			•	•
Gallinago gallinago	1					
Limosa limosa	105	350		500		20
Limosa lapponica	2					

Table 20 (continued)

	Lake Oru.	Shur Gol	Yadegarlu	D. Sangi	Lake Kobi	Nowruzlu
Numenius phaeopus	22					
Numenius arquata	1					
Tringa erythropus					1	
Tringa totanus	8,075	200			550	50
Tringa stagnatilis	1,290	350		250	150	50
Tringa nebularia	16					
Tringa ochropus	12	+			1	
Tringa glareola	4	+			+	+
Tringa hypoleucos	18	+				
Arenaria interpres	152					
Calidris minuta	1,000s	100s		100s	100s	100s
Calidris ferruginea	1,000s	+		+		
Philomachus pugnax	9,030	2,000		500	1,150	250
Phalaropus lobatus	7					
Unidentified small waders	146,000					
Larus cachinnans	3,300	1			1	1
Larus ridibundus	21	50			300	
Larus genei	19,565	300				
Chlidonias hybridus						
Chlidonias leucopterus	1,060	300		300	430	200
Chlidonias niger						
Sterna nilotica	43	20			1	
Sterna caspia	1					
Sterna hirundo	37					10
Sterna albifrons	3					
Unidentified terns						

^{*:} Completely dry; no waterbirds

Table 21: Aerial Waterfowl Counts in the Orumiyeh Basin: 28-29 June 1974

	Lake Oru.	Shur Gol	Yadegarlu	D. Sangi	Lake Kobi
Tachybaptus ruficollis					
Podiceps cristatus					
Podiceps nigricollis					
Pelecanus onocrotalus	890				
Phalacrocorax carbo					
Egretta garzetta	77				26
Ardea cinerea	4				
Ardea purpurea	2		1		4
Casmerodius albus	1				
Bubulcus ibis					
Ardeola ralloides	6	1			102
Nycticorax nycticorax					120
Ciconia ciconia	41		13	31	110
Plegadis falcinellus	6				
Platalea leucorodia	189				10
Phoenicopterus ruber	38,000	200			
Oxyura leucocephala					
Anser albifrons					
Anser anser	1		1		
Tadorna ferruginea	433	250	1		203
Tadorna tadorna	10,370	10			42
Anas penelope					
Anas strepera				1	
Anas crecca	5				170
Anas platyrhynchos	200	3	4		224
Anas acuta	17				2
Anas querquedula	35	16			160
Anas clypeata		3			
Marmaronetta angustirostris	2	10			
Aythya ferina					
Aythya nyroca	6				1
Aythya fuligula					3
Gallinula chloropus					
Fulica atra	20	15		8	520
Haematopus ostralegus	1			1	
Himantopus himantopus	288	350	60	1	70
Recurvirostra avosetta	3,798				350
Burhinus oedicnemus				1	
Glareola pratincola	4			2	1
Pluvialis squatarola				1	
Charadrius dubius	2				
Charadrius alexandrinus	300+			1	80
Charadrius leschenaultii	5				
Vanellus vanellus	990	1,460	1	1	210
Gallinago gallinago				1	
Limosa limosa	4		10	1	40
Limosa lapponica					

Table 21 (continued)

	Lake Oru.	Shur Gol	Yadegarlu	D. Sangi	Lake Kobi
Numenius phaeopus					
Numenius arquata	14				
Tringa erythropus					
Tringa totanus	6,630	1,500	200	80	250
Tringa stagnatilis	65				30
Tringa nebularia	10				
Tringa ochropus	7				
Tringa glareola	5				
Tringa hypoleucos	2				
Arenaria interpres					
Calidris minuta					
Calidris ferruginea					
Philomachus pugnax					
Phalaropus lobatus					
Unidentified small waders					
Larus cachinnans	10,350	1			1
Larus ridibundus	530	300	220		150
Larus genei	5,230				
Chlidonias hybridus	16	10			
Chlidonias leucopterus	21	260	3		
Chlidonias niger	1	2			
Sterna nilotica	7				
Sterna caspia					
Sterna hirundo	34				2
Sterna albifrons	23				15
Unidentified terns					

Table 22: Waterbirds recorded during pelican and flamingo ringing expeditions to Lake Orumiyeh: 1971-1973

	August 1971	August 1972	August 1973
Tachybaptus ruficollis		•	
Podiceps cristatus			
Podiceps nigricollis	7		397
Pelecanus onocrotalus	+	+	+
Egretta garzetta		7	
Ardea cinerea			
Ardea purpurea			
Bubulcus ibis			
Ardeola ralloides			
Nycticorax nycticorax			
Ciconia ciconia		2	
Plegadis falcinellus			
Platalea leucorodia		3	
Phoenicopterus ruber	+	+	+
Oxyura leucocephala			·
Tadorna ferruginea			2
Tadorna tadorna	+	+	+
Anas penelope	'		-
Anas strepera			
Anas crecca			
Anas platyrhynchos			
Anas acuta			
Anas querquedula			
Anas clypeata			
Marmaronetta angustirostris			
Aythya ferina			
Aythya nyroca			
Aythya fuligula			
Grus virgo			
Fulica atra			
Himantopus himantopus	10		
Recurvirostra avosetta	5	11	12
Burhinus oedicnemus	2	4	12
Glareola pratincola	2	4	
Charadrius hiaticula	1		
Charadrius dubius	1	2	
Charadrius alexandrinus		20	
Charadrius aiexandrinus Charadrius asiaticus		20	
Vanellus vanellus		4	
Gallinago gallinago		7	
Limosa limosa			
Numenius arquata			
Tringa erythropus			
	100	2	4
Tringa stagnatilis	100		4
Tringa stagnatilis	22	2	
Tringa nebularia	32	3	
Tringa ochropus	1	2	
Tringa glareola		3	

Table 22 (continued)

	August 1971	August 1972	August 1973
Tringa cinerea			
Tringa hypoleucos	4	3	1
Arenaria interpres	12		
Calidris minuta	55	4	160
Calidris temminckii		1	
Calidris alpina			
Calidris ferruginea			3
Philomachus pugnax	500	38	10
Phalaropus lobatus	3		7
Larus cachinnans	+	+	+
Larus ridibundus	300		
Larus genei	+	+	+
Chlidonias hybridus			
Chlidonias leucopterus			15
Chlidonias niger			
Sterna nilotica	1		
Sterna hirundo			
Sterna albifrons			

Table 23: Ground surveys at Shur Gol during summer : 1971 & 1972

		2
		2
		2
1		
		4
		1
150		3
76		180
2		5
1,500		
132		
61		12
2		
4		
91		
		250
490		2,150
+		1,000
22		2
100		3
		5
		30
20		60
+		30
		8
		1
1		1
50		50
		2
		7
		12
		100
	150 76 2 1,500 132 61 2 4 91 490 + 22 100	150 76 2 1,500 132 61 2 4 91 490 + 22 100 20 +

Table 23 (continued)

	2 June 1971	12 August 1971	16 August 1972
Tringa cinerea			8
Tringa hypoleucos			20
Arenaria interpres			
Calidris minuta			45
Calidris temminckii			
Calidris alpina			
Calidris ferruginea			7
Philomachus pugnax	200		400
Phalaropus lobatus			
Larus cachinnans	30		10
Larus ridibundus	200		1,000
Larus genei			1,000
Chlidonias hybridus	4		100
Chlidonias leucopterus			1,000
Chlidonias niger			5
Sterna nilotica			2
Sterna hirundo			
Sterna albifrons	30		

^{*:} Completely dry; no waterbirds

Table 24: Ground surveys at Yadegarlu during summer : 1971 & 1972

	2 June 1971	12 August 1971	16 August 1972
Tachybaptus ruficollis			
Podiceps cristatus	33		
Podiceps nigricollis			
Pelecanus onocrotalus	100		
Egretta garzetta	9		
Ardea cinerea	1	2	
Ardea purpurea			
Bubulcus ibis			
Ardeola ralloides			
Nycticorax nycticorax			
Ciconia ciconia	+		4
Plegadis falcinellus			90
Platalea leucorodia	95		
Phoenicopterus ruber			
Oxyura leucocephala	8m 4f		
Tadorna ferruginea			1
Tadorna tadorna	2	1	
Anas penelope			
Anas strepera			
Anas crecca		4	
Anas platyrhynchos	23	10	27
Anas acuta			
Anas querquedula		20	120
Anas clypeata		15	
Marmaronetta angustirostris			
Aythya ferina	3		
Aythya nyroca			
Aythya fuligula	3		
Grus virgo			
Fulica atra	18	13	
Himantopus himantopus	20	20	500
Recurvirostra avosetta		100	
Burhinus oedicnemus			
Glareola pratincola	2		
Charadrius hiaticula			
Charadrius dubius			15
Charadrius alexandrinus	1	2	
Charadrius asiaticus		3	
Vanellus vanellus	30	20	150
Gallinago gallinago			1
Limosa limosa		500	1
Numenius arquata			
Tringa erythropus		3	1
Tringa totanus	12	30	10
Tringa stagnatilis		200	30
Tringa nebularia		50	
Tringa ochropus		1	10
Tringa glareola		10	100

Table 24 (continued)

	2 June 1971	12 August 1971	16 August 1972
Tringa cinerea			
Tringa hypoleucos		1	2
Arenaria interpres		1	
Calidris minuta		6	40
Calidris temminckii			1
Calidris alpina			
Calidris ferruginea		15	5
Philomachus pugnax	20	500	800
Phalaropus lobatus			
Larus cachinnans	+		3
Larus ridibundus	+		
Larus genei			30
Chlidonias hybridus			
Chlidonias leucopterus		50	30
Chlidonias niger			
Sterna nilotica			
Sterna hirundo	4		
Sterna albifrons	12		1
_			

Table 25: Ground surveys at Dorgeh Sangi during summer : 1971 & 1972

	2 June 1971	12 August 1971	16 August 1972
Tachybaptus ruficollis		2	Ü
Podiceps cristatus	22		
Podiceps nigricollis		20	
Pelecanus onocrotalus		3	
Egretta garzetta			3
Ardea cinerea			1
Ardea purpurea			
Bubulcus ibis			
Ardeola ralloides			1
Nycticorax nycticorax	9		
Ciconia ciconia	+		8
Plegadis falcinellus			1
Platalea leucorodia			
Phoenicopterus ruber		1,000	
Oxyura leucocephala		2m 1f	
Tadorna ferruginea			
Tadorna tadorna			
Anas penelope		2	
Anas strepera			
Anas crecca			6
Anas platyrhynchos	7	30	80
Anas acuta		3	
Anas querquedula		30	1,000
Anas clypeata		10	5
Marmaronetta angustirostris		6	
Aythya ferina		22	
Aythya nyroca			6
Aythya fuligula			
Grus virgo			
Fulica atra	720	600	11
Himantopus himantopus	4	100	20
Recurvirostra avosetta		100	1
Burhinus oedicnemus			
Glareola pratincola	2		100
Charadrius hiaticula			
Charadrius dubius		1	50
Charadrius alexandrinus		50	30
Charadrius asiaticus			
Vanellus vanellus	20	30	100
Gallinago gallinago			
Limosa limosa		200	2,000
Numenius arquata			,
Tringa erythropus		50	
Tringa totanus	1	10	
Tringa stagnatilis		300	25
Tringa nebularia		30	_
Tringa ochropus			30
Tringa glareola		20	100
8 m 8 m 2 v m	l .	1	-00

Table 25 (continued)

	2 June 1971	12 August 1971	16 August 1972
Tringa cinerea			
Tringa hypoleucos		1	5
Arenaria interpres		1	9
Calidris minuta	2	300	100
Calidris temminckii			1
Calidris alpina		1	1
Calidris ferruginea			1
Philomachus pugnax	12	500	1,000
Phalaropus lobatus		25	
Larus cachinnans	+	2	2
Larus ridibundus	+		
Larus genei			10
Chlidonias hybridus	4		
Chlidonias leucopterus	2	50	100
Chlidonias niger	10		
Sterna nilotica		4	8
Sterna hirundo			39
Sterna albifrons	4	4	5

Table 26: Ground surveys at Lake Kobi during summer : 1971 & 1972

	2 June 1971	12 August 1971	17 August 1972
Tachybaptus ruficollis			
Podiceps cristatus	18		35
Podiceps nigricollis	10		150
Pelecanus onocrotalus			
Egretta garzetta			5
Ardea cinerea		4	
Ardea purpurea		1	3
Bubulcus ibis	1		
Ardeola ralloides			20
Nycticorax nycticorax			
Ciconia ciconia	+		28
Plegadis falcinellus		159	119
Platalea leucorodia			
Phoenicopterus ruber	5	1,900	1,000
Oxyura leucocephala	1m 3f		1m
Tadorna ferruginea	15	32	13
Tadorna tadorna	8		
Anas penelope			
Anas strepera		4	
Anas crecca		40	
Anas platyrhynchos	31	200	
Anas acuta		5	
Anas querquedula		880	200
Anas clypeata		10	
Marmaronetta angustirostris		1	
Aythya ferina			
Aythya nyroca		11	
Aythya fuligula			2
Grus virgo			1
Fulica atra	210	120	4,000
Himantopus himantopus		136	620
Recurvirostra avosetta		20	1
Burhinus oedicnemus	2		
Glareola pratincola		25	
Charadrius hiaticula		16	6
Charadrius dubius			6
Charadrius alexandrinus	12	120	5
Charadrius asiaticus		6	
Vanellus vanellus	12	15	300
Gallinago gallinago			
Limosa limosa		1	
Numenius arquata			
Tringa erythropus		30	
Tringa totanus	8	150	39
Tringa stagnatilis		150	1
Tringa nebularia		50	5
Tringa ochropus		2	22
Tringa glareola		165	110

Table 26 (continued)

	2 June 1971	12 August 1971	17 August 1972
Tringa cinerea			
Tringa hypoleucos			14
Arenaria interpres		1	
Calidris minuta		430	30
Calidris temminckii			
Calidris alpina			
Calidris ferruginea		70	
Philomachus pugnax	1	680	800
Phalaropus lobatus		4	
Larus cachinnans	30	2	
Larus ridibundus	200	300	100
Larus genei	1	2	100
Chlidonias hybridus	12		
Chlidonias leucopterus		120	750
Chlidonias niger			
Sterna nilotica		23	
Sterna hirundo	20		
Sterna albifrons	10		2

Table 27: Surveys of Wetlands in the Orumiyeh Basin: 1970 - 1978

Year	Dates	Type of survey	Personnel	Data*
1970	13-15 January	Waterfowl counts	Dutch ornithologists	Waterfowl
1971	23-26 January	Waterfowl counts	Scott et al.	Full
1971	2-4 June	Breeding bird survey	Scott et al.	Full
1971	30 June – 3 July	Aerial survey – waterfowl counts	Scott & Harrington	Full
1971	4-11 August	Pelican and flamingo ringing	Scott et al.	Full
1971	12 August	Ground survey of satellite wetlands	Scott et al.	Full
1971	30-31 December	Waterfowl counts	Scott et al.	Full
1972	17-22 June	Aerial survey – waterfowl counts	Scott & Harrington	Full
1972	3-15 August	Pelican and flamingo ringing	Scott et al.	Full
1972	16-17 August	Ground survey of satellite wetlands	Scott et al.	Full
1972	21-23 November	Waterfowl counts	Scott et al.	Full
1973	5-7 January	Waterfowl counts	DOE personnel	Wildfowl
1973	24-28 August	Pelican and flamingo ringing	Scottt et al.	Full
1973	29-31 August	Aerial survey – waterfowl counts	Scott & Harrington	Full
1973	12-15 November	Waterfowl counts	DOE personnel	Wildfowl
1974	4-5 January	Waterfowl counts	DOE personnel	Wildfowl
1974	28-29 June	Aerial survey – waterfowl counts	Scott & Harrington	Full
1974	? August	Pelican and flamingo ringing	Argyle et al.	-
1974	13-16 November	Waterfowl counts	DOE personnel	Wildfowl
1975	8-11 January	Waterfowl counts	DOE personnel	Wildfowl
1975	29 June – 9 July	Flamingo research	Argyle & Lessells	Flamingos
1975	6-7 July	Aerial survey – waterfowl counts	Argyle & Harrington	Waterfowl
1975	26 July – 13 August	Pelican and flamingo ringing	Argyle & Lessells	Flamingos
1976	15-18 January	Waterfowl counts	DOE personnel	Wildfowl
1976	? August	Pelican and flamingo ringing	Argyle et al.	-
1976	5 October	Aerial survey of satellite wetlands	Cornwallis & Harrington	-
1976	6-9 October	Survey for Mahabad Project	Cornwallis & Nazari	-
1977	16-19 January	Waterfowl counts	DOE personnel	Wildfowl
1977	? June	Aerial census of flamingos	Harrington	Flamingos
1977	? August	Flamingo and pelican ringing	DOE personnel	-
1978	? January	Waterfowl counts	DOE personnel	Totals

*: Data available:

Full – full details of all bird species recorded during survey.

 $Waterfowl-counts\ of\ all\ waterbirds\ recorded\ during\ survey.$

Wildfowl – counts of pelicans, flamingos, Anatidae and coots only.

Flamingos – counts of Greater Flamingos only.

Totals – only the totals for the whole of Azarbayjan Province are available.