

PONDICHERRY

IN-PY

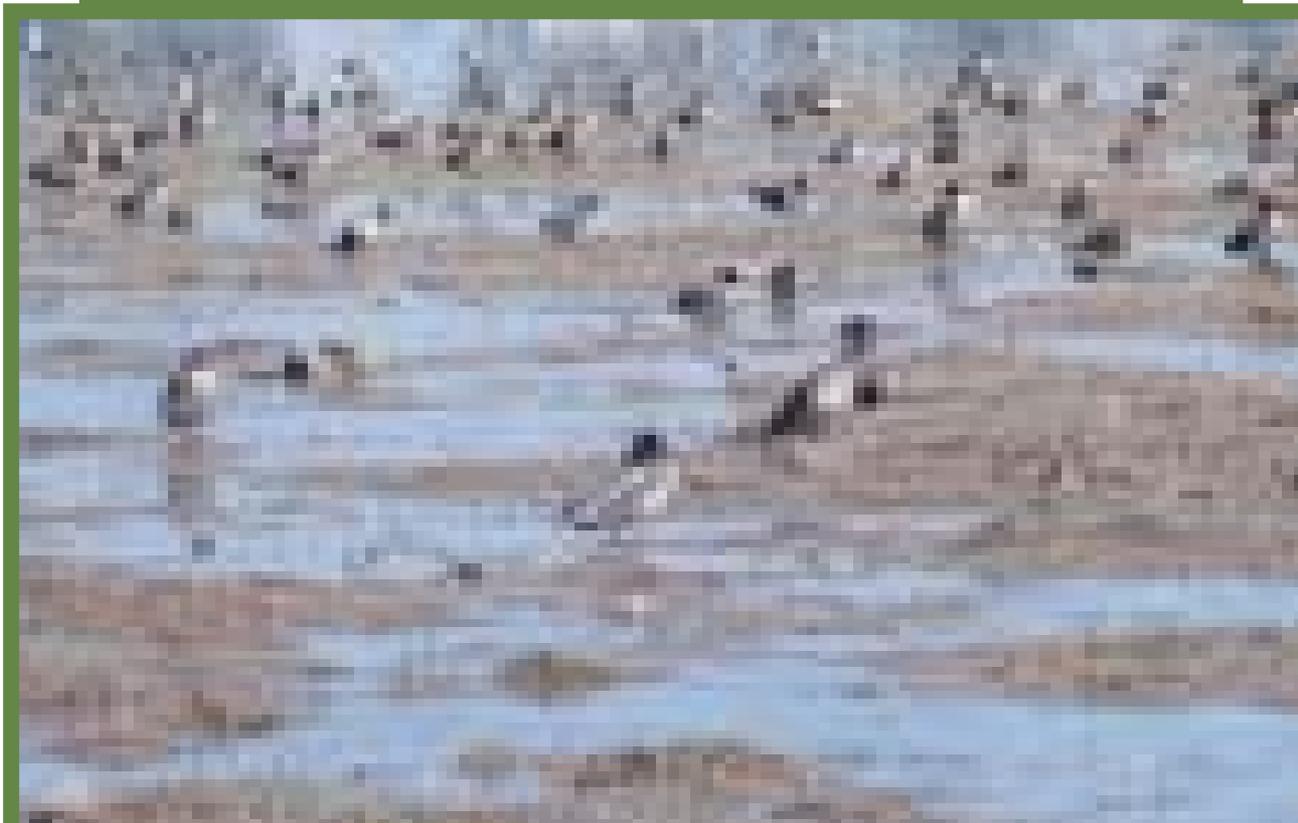


Photo: Asad R. Rahmani

Undisturbed lakes of Pondicherry provide wintering ground to thousands of waterbirds.

Pondicherry is one of the smaller Union Territories of India, covering only 49,300 ha and spread over four locations, each having the status of a district: Pondicherry (Tamil Nadu), Karaikal (Tamil Nadu), Yanam (Andhra Pradesh) and Mahe (Kerala). The main territory of Pondicherry lies on the east coast, about 180 km south of Chennai. Karaikal is about 150 km south of Pondicherry on the east coast, Yanam is on the east coast adjoining the Godavari district and Mahe is on the Malabar coast. The physiography is almost all plain and the climate is tropical. Pondicherry and its surrounding enclaves lie on the drainage basin of the Gingee river. Karaikal, located in the fertile Cauvery delta is fed by the waters of the Arasalar, the Natter, the Vanjiar and the Nulur rivers. The Mahe River forms the northern boundary of Mahe town. The Gorinagar river flows through the town of Yanam.

The total population of the territory is 0.81 million (1991 Census) of which 36% is rural and 64% urban. The population density is 1,639 persons per sq. km. The total livestock population is 1,42,000 (1992 livestock census).

Vegetation

Pondicherry is devoid of any natural forest. Forest plantations have been raised in small patches (less than 10 ha) since 1980 under the Social Forestry and 20 Point Programmes. Until 1999, an area of about 7,900 ha had been planted, especially along roadsides, school campuses, parks and *panchayat* lands. There are many waterbodies that attract large numbers of waterbirds during November to February, but only two meet the IBA criteria.

IBAs of Pondicherry

IBA site codes	IBA site names	IBA criteria
IN-PY-01	Bahour Lake	A4i, A4iii
IN-PY-02	Ousteri Lake	A4i, A4iii

AVIFAUNA

Bahour Lake was selected on the basis of A4i (1% biogeographic population) and A4iii ($\geq 20,000$ waterbirds). Bahour Lake is the second largest wetland in Pondicherry. Balachandran and Alagarrajan (1995) and Jhunjhunwala (1998) conducted surveys of the wetlands of Pondicherry and recorded over 25,000 waterfowl in Bahour belonging to 16 species. Over 10,000 Wigeon *Anas penelope*, and over 3000 Little Grebe *Tachybaptus ruficollis* have been recorded (Balachandran and Alagarrajan 1995).

Ousteri lake is located partly in Pondicherry and partly in Tamil Nadu near the Ossudu village in the Villanur commune *panchayat*, about

12 km from Pondicherry and north of the Kaveri river. Ousteri is an important area for migratory waterfowl and regularly holds over 20,000 birds belonging to 44 species. Balachandran and Alagarajan (1995) and Jhunjhunwala (1998) recorded over 25,000 waterfowl in Ousteri.

THREATS AND CONSERVATION ISSUES

Key threats to the IBA sites are agricultural intensification and expansion, poaching, fisheries and livestock grazing.

Bahour is the main source of irrigation for the surrounding fields and is used for grazing and agriculture. Agricultural run-off from the surrounding fields, and pesticides and fertilisers from agriculture could pollute the lake in the dry months. There are instances of poaching and the lake is under no formal protection. Twenty-two villages claim territory in the area, which is surrounded by agricultural fields. Salt is produced in the area and silt is extracted. Fishing and collection of firewood, grasses and reeds is done for local consumption. Overgrazing, intensification of agriculture and the increased use of pesticides are rapidly becoming serious threats. All large species of birds, including pelicans, storks and flamingoes are poached.

The Wetlands International recognises Ousteri Lake as an important wetland of Asia. The lake is used for fishing, supplies water for irrigation and plays a crucial role in recharging the aquifers. The lake is heavily silted and has been reduced to 80% of its original area. Excessive grazing by livestock occurs. Waterfowl are poached by netting and shooting. Fishing, grazing of livestock and harvesting of reeds and grasses are done by villagers living on the periphery of the lake. There are plans to develop the lake as a holiday resort with hotels and sporting facilities to cater to the inhabitants and tourists of Pondicherry. Water sports would cause excessive damage to nesting birds.



Threats to IBAs

A=Agriculture intensification/expansion; B=Dams/Dykes; C=Disturbance to Birds; D=Firewood Collection;
E=Industrialisation/Urbanisation; F=Unsustainable exploitation; G=Others; H=Natural Events

KEY REFERENCES

- Balachandran, S. and Alagarajan, R. (1995) *An ecological survey of the wetlands of Pondicherry with special reference to Ousteri lake*. Institute of Restoration of Natural Environment, Nagercoil. pp 40.
- Jhunjhunwala, S. (1998) *The Ornithological importance of Ousteri lake and Bahour lake: A study of the habitat preferences of their waterfowl and waders*. MS dissertation, Salim Ali School of Ecology and Environmental Sciences, Pondicherry University.

BAHOUR LAKE

PY-01



IBA Site Code	: IN-PY-01
State	: Pondicherry
District	: Pondicherry
Coordinates	: 12° 02' 07" N, 79° 51' 19" E
Ownership	: State
Area	: 618 ha
Altitude	: 8 m
Rainfall	: 1,225 mm
Temperature	: 28 °C to 39 °C
Biogeographic Zone	: Deccan Peninsula
Habitats	: Aquatic (Reservoir)

IBA CRITERIA: A4i (≥1% biogeographic population), A4iii (≥20,000 waterbirds)

PROTECTION STATUS: Not officially protected

GENERAL DESCRIPTION

Bahour lake is the second largest wetland in Pondicherry. It is located near the Bahour village about 20 km from Pondicherry city, north of the Pennaiyar river. It is a seasonal freshwater wetland that receives water during the monsoon between September and March. The lake is dry for about 5 months.

AVIFAUNA

Balachandran and Alagarrajan (1995), and Jhunjhunwala (1998) conducted surveys of the wetlands of Pondicherry and recorded over 25,000 waterfowl in Bahour, belonging to 16 species. Over 10,000 Eurasian Wigeon *Anas penelope* and over 3,000 Little Grebe *Tachybaptus ruficollis* have been recorded (Balachandran and Alagarrajan 1995). Both occur much above the 1% population threshold determined by the Wetlands International (2002). For instance, according to Wetlands International (2002), the non-breeding population of Eurasian Wigeon wintering in South Asia is 2,50,000. This means that at least 4% of this population is found in Bahour lake.

In March (outward migration period), Bahour lake provides staging and feeding sites for thousands of migratory waterfowl, waders and terns. For example, in March 1995, Balachandran and Alagarrajan (1995) counted about 25,000 waterfowl. After March, the water is drained for fishing but by that time, most of the migratory birds move out. The impact of draining of water on resident birds needs to be studied to provide management recommendations.

OTHER KEY FAUNA

As this is basically a wetland surrounded by agricultural fields and human habitation, no mammal or reptile of conservation concern is found here.

LAND USE

- ☐ Water management
- ☐ Agriculture
- ☐ Fisheries
- ☐ Livestock grazing

THREATS AND CONSERVATION ISSUES

- ☐ Agricultural intensification and expansion
- ☐ Poaching
- ☐ Fisheries
- ☐ Livestock grazing

Bahour is the main source of irrigation for the surrounding fields. Agricultural runoff from the surrounding fields and pesticides and fertilizers from the agriculture in the dry months could pollute the lake. There are instances of poaching, and the lake is under no formal protection.

KEY CONTRIBUTORS

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- Balachandran, S. and Alagarrajan, R. (1995) An ecological survey of the wetlands of Pondicherry with special reference to Ousteri lake. Institute of Restoration of Natural Environment. Nagercoil. Pp. 40.
- Jhunjhunwala, S. (1998) The Ornithological importance of Ousteri lake and Bahour lake: A study of the habitat preferences of their waterfowl and waders. M.Sc. Dissertation. Salim Ali School of Ecology and Environmental Sciences, Pondicherry University.
- Wetlands International (2002) Waterbirds Population Estimates: Third Edition. Wetlands International Global Series No. 12. Wageningen, the Netherlands.

PY-02

OUSTERI LAKE



IBA Site Code	: IN-PY-02
State	: Pondicherry and Tamil Nadu
District	: Pondicherry
Coordinates	: 11° 56' 51" N, 79° 44' 13" E
Ownership	: State
Area	: 800 ha
Altitude	: 10 m
Rainfall	: 1,205 mm
Temperature	: 28 °C to 39 °C
Biogeographic Zone	: Coasts
Habitats	: Aquatic (Reservoir)

IBA CRITERIA: A4i ($\geq 1\%$ biogeographic population), A4iii ($\geq 20,000$ waterbirds)
PROTECTION STATUS: Not officially protected

GENERAL DESCRIPTION

Ousteri lake is located partly in Pondicherry and partly in Tamil Nadu near Ossudu village in the Villanur commune *panchayat*, about 12 km from Pondicherry, north of the Kaveri river. The lake depends on its catchment for 75% of its water, the rest comes from diversion channels. The lake is fed by local run-off and an intermittent river and has a bund on its western bank. It has an average depth of 1 m and dries up completely in summer. Besides being an internationally important site for migratory birds, the lake's most valuable use is for irrigation.

The lake has rich floral diversity of over 200 species of plants belonging to 60 families. Part of the bund is well protected by trees. It has extensive aquatic flora of the floating, submerged and emergent type.

AVIFAUNA

Ousteri is an important area for migratory waterfowl and regularly holds over 20,000 birds belonging to more than 40 species. (Balachandran and Alagarrajan, 1995; Jhunjhunwala 1998).

Balachandran and Alagarrajan (1995) have also conducted monthly surveys for a year. According to their census figures, many species occur much above their 1% threshold level, determined by Wetlands International (2002). For example, they have reported 10,500 Little Cormorant *Phalacrocorax niger* in June and 12,000 in August. According to Wetlands International (2002), the total number of Little Cormorant in South Asia is 150,000, which means that about 7% are found in Ousteri. Similarly, the number of Eurasian Wigeon *Anas penelope* can go up to 4,600 in February, while the 1% threshold is 2,500 (Wetlands International 2002). It means that nearly 2% of the biogeographic population congregate at Ousteri before migration.

Information on the global population of the Cotton Pygmy Goose or Cotton Teal *Nettapus coromandelianus* is lacking (Wetlands International 2002) so we do not know the 1% population threshold. At Ousteri, Balachandran and Alagarrajan (1995) have noted up to 2,400 in June. This is one of the largest known congregations of this species in south India. The Cotton Pygmy Geese congregate here, as most of the wetlands dry up in summer, and large wetlands such as Ousteri have some water left.

In India, Common Coot *Fulica atra* is resident in south India, while purely migratory in north India (Ali and Ripley 1987; Grimmett *et al.* 1998). In winter, the resident population is augmented by migratory birds from the temperate regions. This IBA is extremely important for the resident Coot population because when smaller wetlands are dry, Ousteri provides them refuge. In their one year monitoring of birds at Ousteri, Balachandran and Alagarrajan (1995) found that the maximum number of Coots, about 11,000, was found in the peak summer month of June. In July, the number came down to 9,000 as some birds probably moved to interior

A large number of Painted Storks
Mycteria leucocephala were recorded from this IBA.



Photo: Otto Pfister

wetlands where rains had started, but the real change took place in August and September when 2,800 and 650 coots respectively were left. In winter months from October to February, the maximum number of Coots seen at Ousteri was 450. This further proves the importance of maintaining a chain of wetlands (IBAs), not only for rare species but also for such common species like the Coot.

The Red Data Book species seen at Ousteri in 1994-95 are: Spot-billed Pelican *Pelecanus philippensis* (maximum of 6 seen in April 1994), Darter *Anhinga melanogaster* (maximum 2), Painted Stork *Mycteria leucocephala* (115 counted in September 1994), Eurasian Spoonbill *Platalea leucorodia* (only 6 seen in June 1994) and Black-headed Ibis or White Ibis *Threskiornis melanocephala* (up to 200 counted in June 1994) (Balachandran and Alagarrajan 1995).

OTHER KEY FAUNA

As this is basically a wetland surrounded by agricultural fields and human habitation, no mammal or reptile of conservation concern is found here.

LAND USE

- ☐ Water management
- ☐ Transport
- ☐ Fisheries

THREATS AND CONSERVATION ISSUES

- ☐ Fisheries
- ☐ Filling in of wetlands
- ☐ Poaching
- ☐ Tourism

The Ousteri lake is used for fishing, supplies water for irrigation and plays a crucial role in recharging the aquifers. The lake is heavily silted and has reduced to 80% of its original area. Excessive grazing by livestock occurs. Waterfowl are poached by netting and shooting. Fishing, grazing of livestock and harvesting of reeds and aquatic vegetation are done by villagers living in the periphery of the lake. In order to allow free movement of fish nets, fishermen

remove *Vallisneria spiralis*, one of the food plants of birds. The gill nets too, when left alone for long periods in water, entangle Grebe and other birds (Balachandran and Alagarrajan 1995). Another problem of Ousteri and other wetlands of Pondicherry is the spread of aquatic weeds such as *Ipomoea cornea* and *Eichhornia crassipes*.

There are plans to develop the lake as a holiday resort with hotels and sporting facilities to cater to the inhabitants and tourists of Pondicherry. Water sports would cause excessive damage to the nesting birds.

As Ousteri is one of the most important wetlands of south India, it should be declared a Sanctuary and strict protection should be provided to birds. The Forest Department should develop a management plan, in collaboration with local villagers, fishermen, naturalists and officials of the Irrigation Department, to derive maximum benefit both for the local people and birds.

KEY CONTRIBUTORS

Priya Davidar, Aju Mukhopaddhyay, Supriya Jhunjhunwala and S. Balachandran

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- Ali, S. and Ripley, S. D. (1987) *Compact Handbook of the Birds of India and Pakistan* (Second Edition). Oxford University Press, Delhi.
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