

# 22. Information Sheet on Ramsar Wetlands

Categories approved by Recommendation 4.7 of the Conference of the Contracting Parties.

NOTE: It is important that you read the accompanying *Explanatory Note and Guidelines* document before completing this form.

1. **Date this sheet was completed/updated:**  
September 1997

FOR OFFICE USE ONLY.

DD	MM	YY

Designation date

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Site Reference Number

2. **Country:** Russian Federation

3. **Name of wetland:** Lake Bolon and the mouths of the Selgon and Simmi Rivers

4. **Geographical coordinates:** 49°35'N, 136°05'E

5. **Altitude:** 15 m a.s.l.

6. **Area:** 53,800 ha

7. **Overview:** The site incorporates a large floodplain lake and a group of small lakes, ox-bow lakes and bays in the lower courses of the Selgon and Simmi Rivers. The area is important for migrating, breeding and moulting populations of waterfowl, including rare and threatened species.

8. **Wetland Type** (please circle the applicable codes for wetland types as listed in Annex I of the *Explanatory Note and Guidelines* document.)

marine-coastal: A . B . C . D . E . F . G . H . I . J . K

inland: (L) . M . N . (O) . P . Q . R . Sp . Ss . Tp . (Ts)  
(U) . Va . Vt . W . Xf . (Xp) . Y . Zg . Zk

man-made: 1 . 2 . 3 . 4 . 5 . 6 . 7 . 8 . 9

Please now rank these wetland types by listing them from the most to the least dominant: O,L,Ts,U,Xp.

9. **Ramsar Criteria:** (please circle the applicable criteria; see point 12, next page.)

(1a) . 1b (1c) . 1d <sup>3</sup> 2a (2b) (2c) . 2d <sup>3</sup> (3a) 3b . 3c <sup>3</sup> (4a) (4b)

Please specify the most significant criterion applicable to the site: All criteria are equal in importance

10. **Map of site included?** Please tick *yes* ✓ -or- *no*

(Please refer to the *Explanatory Note and Guidelines* document for information regarding desirable map traits).

11. **Name and address of the compiler of this form:**

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**12. Justification of the criteria selected under point 9, on previous page:** 1(a,c) - a representative example of a large floodplain wetland complex in the Lower Amur area; the wetland plays an important role in the natural functioning of the Lower Amur. 2(b,c) - the catchment of Lake Bolon is important for migrating, breeding and moulting populations of waterfowl, and for breeding populations of rare fish species. 3(a) - the wetland regularly supports 20,000 waterbirds. 4(a,b) - the lake is of importance for indigenous fish populations.

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**13. General location:** In Amursk District, Khabarovsk Region; 70 km of the town of Amursk, 170 km of the city of Khabarovsk.

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#### **14. Physical features:**

##### Geology and geomorphology

The site is situated on the northern portion of the Middle Amur Plain, which is separated from the other part of the plain by the Vandan and Sindo-Murkhen mountain ridges on the left bank of the Amur River, and by the Petropavlovsk-Sarapul ouvals on the right bank. The major landforms are alluvial and lacustrine-alluvial plains in the bottom-lands and on the terraces. The Bolon bottomland is composed of modern riverine and lacustrine sediments, underlain by Cainozoic deposits. There are two terraces above the floodplains of the Amur River, its tributaries and lakes. Lake Bolon is a natural floodplain lake, presenting a remaining part of the ancient riverbed of the Amur. The small island of Yadasen, located in the northwestern portion of the lake, is a volcanic cone, 35 m a.s.l. in height (Avaryaskin, 1970; Nikonov & Anisimova, 1974).

##### Climate

The area has a transitional monsoon-continental climate. The Arctic continental air masses dominate in winter. The summers are cloudy and are not hot, also due to the vicinity of the cold Sea of Okhotsk. Despite this fact, the level of solar radiation at the site is the highest in the Lower Amur region: 120-125 kCal./cm<sup>2</sup>. The annual variations in the air temperatures reach 50°C, with the mean January temperature of -28°C and the mean July temperature of +21°C. Annual precipitation varies between 400 and 500 mm, with 50-55% falling between July and September, and only 15% from November till March. Snow cover is 35-40 cm deep and persists from early November till mid-April. The grounds freeze down to 160 cm (Nikonov & Anisimova, 1974).

##### Hydrological regime

Lake Bolon is a drainage lake, connected with the Amur River by two channels (the Sii and Serebryanaya). The level of the lake is subject to fluctuations of up to 3.72 m, with the area varying over a range from 342 km<sup>2</sup> to 612 km<sup>2</sup>. When the level is low, several isolated water bodies develop at the place of Lake Bolon. In very dry years, the lake almost dries out in early summer. There are two periods of high water: in spring and in late summer - early autumn. The highest water level is observed in the first half of September. The lake is to 4.5-5 m deep. In some winters, it freezes down to the bottom. The rivers of Simmi, Selgon and Kharpi flowing into the lake meander widely and develop many oxbow-lakes in their lower courses (Mikulich, 1948; Nikonov & Anisimova, 1974).

##### Soils

On the edge of the lake, the floodplain, peat and marshy soils dominate. These develop under the waterlogged and low aeration conditions. On the terraces, brown and soddy soils occur. At some places, the soils are underlain by permafrost (Avaryaskin, 1970; Nikonov, 1970).

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**15. Hydrological values:** The wetlands support the natural functioning of the Lower Amur hydrological system.

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**16. Ecological features:** The northern and eastern shores of the lake are hilly, and there are two well-defined terraces at a height of 12-15 m and 20-25 m. The southern and western shores are low, with a belt of dense aquatic vegetation, sedges and peatmoss bog forests.

The benthos is represented by Chironomidae (88%), Perlidae, Oligochaeta and Mollusca. The benthic biomass is 26.5 kg/ha on the sandy and silty grounds, 24.1 kg/ha on the silts, 11.4 kg/ha on the sandy portions of the bottom, and 0.53 kg/ha on the sands and shingles.

There are 115 species of algae in the lake; the group of diatomaceous is the most diverse (65 species). The blue-green algae (*Aphanizomenon* sp., *Anabaena* sp. and *Mycrocystis* sp.) dominate in the biomass.

The zooplankton is dominated by protozoa and rotifers (36,315 specimen/m<sup>3</sup>). *Chydorus*, *Daphnia* and *Bosmina* are less abundant (Lovetskaya & Mikulich, 1948; Khakhina, 1948).

Higher aquatic plants are not diverse and are mainly represented by *Limnanthemum peltatum*. The regularly flooded areas along the shore are overgrown with sedges *Carex* sp., reeds *Phragmites communis*, cat-tail *Typha orientalis* and *Sagittaria trifolia*. The lower floodplain areas are occupied by meadows with sedges (*Carex schmidtii*, *C. appendiculata*, *C. meyeriana*, *C. vesicaria*, *C. lasiocarpa* and *C. tumniniensis*) and *Calamagrostis* sp. (mainly *C. langsdorfii*). A large part of the area is covered by the 'mari' complexes: peatmoss bog low forests with birch *Betula ovalifolia*, willow *Salix brachypoda* and occasional larch trees *Larix gmelinii*. In the shrub and herb layers, *Spiraea salicifolia*, *Carex appendiculata*, *C. lasiocarpa*, *C. middendorffii*, *C. schmidtii* and *Ledum palustre* occur. The higher levees are occupied by birch and aspen forests with larch and diverse herbs (Nechaev, 1970; Nikonov & Anisimova, 1974).

**17. Noteworthy flora:** Three species of plants currently listed in the Russian Red Data Book occur in the area. These are *Brasenia schreberi*, *Iris ensata* and *Trapa natans*. Also noteworthy are *Nuphar pumila* and *Nymphaea tetragona*, which are rare in the region.

## 18. Noteworthy fauna:

### Birds

The site is very important for conservation of migratory waterbirds. About 80% of all waterbirds, migrating through the Lower Amur region, use the area as a stop-over site. The total number of passage migrants is between 800,000 and 1,200,000.

About 25% of the waterbirds breeding in Khabarovsk Region are found at the site. According to the 1983 counts, the density of waterbird nests is up to five pairs per km; falcated duck *Anas falcata* comprises 60-65% of the breeding ducks; other plentiful species of ducks include mallard *A. platyrhynchos* (about 20%), common teal *A. crecca*, garganey *A. querquedula* and northern shoveler *A. clypeata* (Poyarkov & Bobenko, 1991). Species which breed in small amounts in some years include whooper swan *Cygnus cygnus*, spotbill duck *Anas poecilorhyncha*, gadwall *A. strepera*, Baikal teal *A. formosa* and mandarin duck *Aix galericulata*. Northern pintail *Anas acuta*, Baer's pochard *Aythya baeri* and common goldeneye *Bucephala clangula* occur occasionally.

Amongst the Ciconiiformes, grey heron *Ardea cinerea* is the most abundant. A breeding colony with over 100 nests has been registered (Roslyakov, 1974). There must be other colonies. Bittern *Botaurus stellaris*, Schrenck's little bittern *Ixobrychus eurhythmus* and green-backed heron *Butorides striatus* are common.

The gulls and terns include white-winged black tern *Chlidonias leucoptera* with a total of over 1,000 pairs in several colonies (Roslyakov, Roslaya & Morozov, 1975), common tern *Sterna hirundo* and black-headed gull *Larus ridibundus*.

There is a small colony of cormorant *Phalacrocorax carbo*.

Charadriidae are represented by common sandpiper *Tringa hypoleucos*, little ringed plover *Charadrius dubius*, black-tailed godwit *Limosa limosa*, Swinhoe's snipe *Gallinago megala*, common snipe *G. gallinago* and Far-Eastern curlew *Numenius madagascariensis*.

Species listed in the Russian Red Data Book that occur at the site include:

- Oriental white stork *Ciconia boyciana*: a breeding species (several dozens of pairs). The site include the most important breeding habitats of this species in the Amur region (Roslyakov, 1977);
- White-tailed eagle *Haliaeetus albicilla*: a common breeding species, the nests have been registered at a distance of 9 km from one another (Smirensky & Mishchenko, 1980);
- Japanese crane *Grus japonensis*: a breeding species (13-15 pairs);
- Hooded crane *Grus monachus*: a breeding species (several pairs);
- black stork *Ciconia nigra*, osprey *Pandion haliaetus* and golden eagle *Aquila chrysaetos*: rare, presumably breeding species.

#### Other fauna

Common large mammals include elk *Alces alces*, Siberian roe-deer *Capreolus pygargus* and brown bear *Ursus arctos*.

Lake Bolon is very important for fish production. Common fish species include *Hyppophthalmichthys molitrix*, *Erythroculter erythropterus*, *Cyprinus carpio*, *Carassius auratus*, *Parasilurus asotus*, *Erythroculter mongolicus*, *Hemibarbus maculatus*, *Parabramus pekinensis*, *Megalobrama terminalis*, *Esox reicherti*, *Ctenopharyngodon idella*, *Mylopharyngodon piceus*, *Elopichthys bambusa*, *Coregonus ussuriensis* and *Pseudobagrus fulvidraco*. In winter, most fishes move to the Amur river (Mikulich, 1948).

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**19. Social and cultural values:** The wetlands are used for fish production, hunting and recreation. The area is important for the indigenous peoples of Far Eastern Russia.

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**20. Land tenure/ownership:** State owned (included in the State Reserve Land Fund of Amur Region).

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**21. Current land use:** The major water- and land-user is the Postyshev collective farm, carrying out commercial fishing in the Selgon and Simmi Rivers. Agriculture is small-scaled.

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**22. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land use and development projects:** Pollution of the Amur waters produces the major threat to the wetland. Anthropogenic pressure is high, including over-fishing, intense waterfowl shooting and poaching. Forest cutting takes place in the catchment of Lake Bolon, outside the wetland area.

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**23. Conservation measures taken:** The site is protected as the Simminsky Wildlife Refuge ('zakaznik'), which has only one ranger on the staff.

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**24. Conservation measures proposed but not yet implemented:** A project to establish a strict nature reserve ('zapovednik') has been developed and adopted by all landusers recently. To provide adequate protection of the reserve, at least five rangers are needed, as well as motor boats, radios and cabins.

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**25. Current scientific research and facilities:** Plankton and benthos in Lake Bolon and adjacent water bodies were studied in the late 1940s (Mikulich, 1948; Khakhina, 1948). Ornithological surveys

were carried out in the 1970s. These were mainly focused on collecting information about colonial shore birds and rare species (Roslyakov, 1974; Roslyakov, Roslaya & Morozov, 1975; Roslyakov, 1977; Smirensky & Mishchenko, 1980). Waterfowl counting works were conducted in 1979-1983 (Poyarkov & Bobenko, 1991). Regular monitoring of waterbird populations and other research are expected to be carried out by the newly established nature reserve.

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**26. Current conservation education:** None at present

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**27. Current recreation and tourism:** None

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**28. Jurisdiction:**

Territorial: Administration of Amursk District (5 Prospekt Mira; Amursk, Khabarovsk Krai 682649, Russia).

Functional: State Committee of the Russian Federation for Environmental Protection (4/6 Bolshaya Gruzinskaya Street, Moscow 123812, Russia).

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**29. Management authority:** Committee for Environmental Protection of Khabarovsk Region (Kadrovyy Pereulok 6a, Khabarovsk 680013, Russia).

Committee for Environmental Protection of Amursk District (5 Prospekt Mira; Amursk, Khabarovsk Krai 682649, Russia).

Hunting Management Office of Khabarovsk Region (54 Istomin Street, Khabarovsk 680630, Russia).

Simminsky Wildlife Refuge ('zakaznik') is managed by the Hunting Management Office of the Russian Federation (Malaya Bronnaya Street 24-1, Moscow 103001, Russia).

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**30. Bibliographical references:** Avaryaskin (1970); Khakhina (1948); Lovetskaya & Mikulich (1948); Mikulich (1948); Nechaev (1970); Nikonov (1970); Nikonov & Anisimova (1974); Poyarkov & Bobenko (1991); Roslyakov (1974); Roslyakov, Roslaya & Morozov (1975); Roslyakov (1977); Smirensky & Mishchenko (1980).

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