

# 23. 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 Udyl and the mouths of the Bichi, Bitki and Pilda Rivers

4. **Geographical coordinates:** 52°09'N, 139°51'E

5. **Altitude:** 20-200 m a.s.l.

6. **Area:** 57,600 ha

7. **Overview:** The site comprises a large freshwater lake and adjacent wet meadows and mires. 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: 2a

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:** 2a - the wetland supports populations of rare species, in particular the largest in the Amur region populations of swan goose *Anser cygnoides* and Steller's sea eagle *Haliaeetus pelagicus*. The latter is an endemic species to the Far East of Russia.

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**13. General location:** In Ulchsk District, Khabarovsk Region; 10 km of the nearest village of Solontsy, 45 km of the village of Bogorodskoye (district centre), 500 km of the city of Khabarovsk.

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

##### Geology and geomorphology

The site is situated in the Udyl-Kizinsk depression which was formed in the Tertiary. The major portion of the depression is presented by a lacustrine-alluvial plain with hummocky topography. The steep southwestern and southeastern shores of Lake Udyl are composed of clayey and siliceous shales (Krasnoyarsky & Sadyrina, 1963; Avaryaskin, 1970).

##### Genesis of the wetland

Lake Udyl is a natural water body, a residual endogenetic lake of the tectonic type, a remaining part of a larger ancient lake which was drained by rivers (Krasnoyarsky & Sadyrina, 1963; Nikonov, 1970).

##### Climate

The area has a northern-monsoon climate. The Arctic continental air masses dominate in winter. The summers are cloudy and are not hot due to the vicinity of the cold Sea of Okhotsk. The mean air temperatures are between -24° and -27°C in January and +17.5°C in July. Annual precipitation varies between 450 and 480 mm, with 60-64% falling between May and September, and only 40-50 mm from November till March. Snow cover is not deep and the grounds freeze down to 2-3 m in winter. The warm period, when the temperature is above zero, lasts for 125 days. The growing period for vegetation lasts for 125 days (Nikonov & Sheenko, 1974).

##### Hydrological regime

Lake Udyl is a drainage lake, connected with the Amur River by the Ukhta channel which is 35 km long, 30-50 m wide and to 5-6 m deep during the flood period. The open water area comprises about 330 km<sup>2</sup> in summer. The highest water level is observed in July-August, and the lowest, in late March. The lake is shallow: the average depth is 2-3 m in summer, with a maximum of 5 m. Due to the frequent fluctuations in water level, the littoral zone is not well-distinct. Ten rivers and streams flow into the lake, the largest are the Bichi, Bitki and Pilda. These rivers originate from the mountains and carry large amounts of sediments, which are loaded in the river mouths, with a great number of small islands being developed. The Bichi and Bitki Rivers are connected by channels in their lower courses and develop one deltaic complex. The lake freezes between late October and early December. The ice breaks up in the first half of May. The waters warm up well in summer and are rich in plankton (Krasnoyarsky & Sadyrina, 1963; Nikonov & Sheenko, 1974).

##### Soils

The soils are of the peat and peat-gley types and are underlain by lacustrine-alluvial clays. These soils develop under the waterlogging 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; Nikonov & Sheenko, 1974).

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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:** Lake Udyl is oblong in shape; it is 50 km long and 5-10 km wide. The Bezymyanny Peninsula divides the lake into two almost equal parts: the southwestern and northeastern ones. The northeastern shoreline is slightly indented. This shore is low and marshy, and composed of sands and clays. The southwestern and southeastern shores are precipitous. The bottom grounds are as follows: clayey silt covers 43.3% of the area; silty sand 24.5%; sand 29%; and shingle 3.2%. The water is transparent down to 1-1.5 m; in the period of plankton development (from late June till late autumn), the transparency becomes lower and the water is greenish in color (Krasnoyarsky & Sadyrina, 1963).

The benthos is dominated by Chironomidae and Oligochaeta, molluscs include *Pisidium* sp., *Musculinum* sp. and some other species. The average benthic biomass is 164.8 kg/ha, with a maximum of 246.9 kg/ha on the clayey silts, and a minimum of 18.9 kg/ha on the shingles.

In the plankton, blue-green algae dominate (mainly *Aphanizomenon* sp. and *Anabaena* sp.). Diatomaceous are dominated by *Melosira* sp. (Lovetskaya & Mikulich, 1948).

Higher aquatic plants are not abundant or diverse and are mainly represented by patches of *Limnanthemum peltatum* and *Fontinalis* sp. The regularly flooded areas along the low shores are overgrown with sedges *Carex* sp., sedgerush *Acopus calamus*, reeds *Phragmites communis* and other emergent plants. The lower floodplain areas are occupied by meadows with sedges (*Carex schmidtii*, *C. appendiculata*, *C. meyeriana*, *C. vesicaria*, *C. lasiocarpa* and *C. tumninensis*) and *Calamagrostis* sp. (mainly *C. langsdorfii*). A large part of the area is covered by the 'mari' complexes: peatmoss bog low forests. These include 'yerniks': brushes of birches (mainly *Betula ovalifolia*), willow *Salix brachypoda*, ledum *Ledum palustre* and sedges; and sparse larch *Larix gmelinii* forests with Siberian dwarf-pine *Pinus pumila*, ledum *Ledum palustre* and *Vaccinium uliginosum* (Nechaev, 1970).

**17. Noteworthy flora:** Forests cover higher places: hills, ridges and high river banks. The forest communities dominated by larch *Larix gmelinii*, with participation of *Abies nephrolepis* and *Betula platyhylla*, and the shrub layer formed by *Pinus pumila*, *Rhododendron dauricus*, *Betula middendorffii*, *Lonicera caerulea edulis* and *Ledum hypoleucum* are the most widespread (Nechaev, 1970). The rare forest plants are represented by yew-tree *Taxus cuspidata* listed in the Russian Red Data Book, which occurs in its shrub form (Nechaev, 1967). The floodplain forests are mainly represented by willow formations dominated by *Salix schwerini*. Large areas are occupied by berry plants: *Vaccinium vitis-idaea* and *V. ovalifolium*.

## 18. Noteworthy fauna:

### Birds

The site is very important for conservation of migratory waterbirds, passing through the area in large amounts in spring and in autumn.

Breeding waterbird populations are also large. In 1979, 3,800-4,000 adult geese (without chicks) were counted, including 800-850 birds with broods (Poyarkov & Bobenko, 1991). The average density of duck nests is 2-3 pairs per km, with a maximum of five pairs. The major breeding species include falcated duck *Anas falcata* (530-560 pairs); mallard *A. platyrhynchos* (110-120), common teal *A. crecca* (55-60), garganey *A. querquedula* (32-34) and common goldeneye *Bucephala clangula* (64-70 pairs). Spotbill duck *Anas poecilorhyncha*, northern shoveler *A. clypeata*, northern pintail *Anas acuta* and goosander *Mergus merganser* occur in less amounts. Occasionally breeding species include whooper swan *Cygnus cygnus*, gadwall *A. strepera*, tufted duck *Aythya fuligula* and harlequin duck *Histrionicus histrionicus* (Poyarkov & Bobenko, 1991). American white-winged scoter *Melanitta deglandi* and smew *Mergus albellus* have been registered summering at the site. A small breeding population of bean goose *Anser fabalis* is found in the middle courses of the rivers flowing into the lake.

Red-throated diver *Gavia stellata* is a common breeding species, red-necked grebe *Podiceps griseigena* occurs rarely.

The gulls and terns include black-headed gull *Larus ridibundus* and common tern *Sterna hirundo*, breeding on the islands in the mixed colonies with several hundreds of pairs each.

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

There is no herons at the site.

Galliformes, inhabiting the forests adjacent to the lake, include hazel hen *Tetrastes bonasia* (40-50 birds per sq.km were registered in the 1960s), black grouse *Lyrurus tetrax* (1-2 broods per sq.km) and black-billed capercaillie *Tetrao parvirostris* (1-2 pairs per 10 km<sup>2</sup>) (Nechaev, 1968).

Lake Udyl and adjacent wetland areas provide important habitats for a number of rare and threatend bird species.

The local population of swan goose *Anser cygnoides* was the largest in the USSR in the 1980s. Between 150 and 180 swan geese were counted in the Bichi and Bitki delta in 1978 (Smirensky & Mishchenko, 1980). In 1980, 150 geese, including 60 young birds were counted at the same place; 20 moulting geese were registered nearby, and another 20-25 birds in the mouth of the Pilda River. In 1983, 120-130 birds were noted. Therefore, the population of swan geese in the Udyl catchment comprised about 200 individuals in that period (Poyarkov & Bobenko, 1991). In the 1990s, the numbers have decreased, and only several dozens of pairs breed in the area presently.

The local population of Steller's sea eagle *Haliaeetus pelagicus*, an endemic species to Far Eastern Russia, is the largest in the Amur region: there are 60-62 nesting sites, with 35-40 pairs breeding annually (Masterov, 1992, 1995).

Other species listed in the Russian Red Data Book include: osprey *Pandion haliaetus* (13 pairs), white-tailed eagle *Haliaeetus albicilla* (22 nests) (Masterov, 1992, 1995), black stork *Ciconia nigra* (several pairs); presumably breeding species: Baikal teal *Anas formosa*, Chinese merganser *Mergus squamatus*, Baer's pochard *Aythya baeri* (Poyarkov & Bobenko, 1991) and Blakiston's fish-owl *Ketupa blakistoni*.

#### Other fauna

Common large mammals include elk *Alces alces*, reindeer *Rangifer tarandus* and brown bear *Ursus arctos*.

Lake Bolon is very important for fish production. Common fish species include *Esox reicherti*, *Carassius auratus*, *Erythroculter erythropterus*, *E. mongolicus*, *Brachymystax lenok*, *Hucho taimen*, *Coregonus ussuriensis*, *Pseudobagrus fulvidraco*, *Leuciscus waleckii*, *Gobio gobio*, and *Catostomus catostomus rostratus*. In summer, many fishes use the lake as their feeding grounds, including *Hyppophthalmichthys molitrix*, *Ctenopharyngodon idella*, *Cyprinus carpio* and *Parabramus pekinensis*. Such species as *Oncorhynchus keta* and *O. gorbusha* occur in the lake during migration to their spawning areas (Krasnoyarsky & Sadyrina, 1963).

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

**20. Land tenure/ownership:** State owned (Goslesfund: State Forests).

**21. Current land use:** The major water- and land-user is the Udyl collective farm carrying out commercial fishing in the area.

**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. For example, pollution with phenols exceeds the maximum permissible concentrations 600 times (data are of 1997). There is a danger of oil pollution, as the nearby lake of Kadi is prospected for oil production. Over-fishing has caused a decrease in fish populations (e.g. *Carassius auratus*). Forest cutting takes place in the catchment of the Bichi River, outside the wetland area.

**23. Conservation measures taken:** The site is protected as the Udyl Nature Reserve ('zakaznik'), established in 1978. The reserve has several rangers on the staff. Hunting is forbidden. There are limitations on visiting the area.

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**24. Conservation measures proposed but not yet implemented:** It has been proposed to establish a strict nature reserve ('zapovednik') in the area.

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**25. Current scientific research and facilities:** Plankton and benthos in Lake Udyl and adjacent water bodies were studied in the late 1940s (Lovetskaya & Mikulich, 1948). Ornithological surveys were started in 1978 (Smirensky & Mishchenko, 1980). Waterfowl counting works were carried out in 1979-1983 (Poyarkov & Bobenko, 1991). Since 1986, regular monitoring of breeding fish-eating birds has been conducted (Masterov, 1992, 1995).

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**26. Current conservation education:** A summer camp for school children was organized in the area in 1996. The programme included lectures on nature conservation subjects and excursions.

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

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**28. Jurisdiction:**

Territorial: Administration of Ulchsk District (30 Let Pobedy, Bogorodskoye, Khabarovsk Krai 682400, 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 (Kadrovy Pereulok 6a, Khabarovsk 680013, Russia).

Committee for Environmental Protection of Ulchsk District (8 Parkovaya Street, Bogorodskoye, Khabarovsk Krai 682400, Russia).

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

Udyl Nature Reserve ('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); Krasnoyarsky & Sadyrina (1963); Lovetskaya & Mikulich (1948); Masterov (1992, 1995); Nechaev (1967, 1970); Nikonov (1970); Nikonov & Sheenko (1974); Poyarkov & Bobenko (1991); Smirensky & Mishchenko (1980).

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