# 5. 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:**
June 1997

**FOR OFFICE USE ONLY.**

| DD | MM | YY |
|---|---|---|
| | | |

Designation date

| | | | | | |
|---|---|---|---|---|---|
| 3 | R | U | 0 | 0 | 5 |

Site Reference Number

**2. Country**: Russian Federation

**3. Name of wetland:** Pskovsko-Chudskaya Lowland

**4. Geographical coordinates:** 57°51'-58°27'N, 27°30'-28°13'E

**5. Altitude:** 30-50 m above sea level **6. Area:** 93,600 ha, including 24,000 ha of open water

**7. Overview:** The site comprises a system of large natural freshwater lakes with adjacent marshes of various types, small lakes, rivers and streams surrounded by forests, agricultural land and human settlements. The area is important for breeding, migrating and moulting populations of waterbirds, as well as several rare and endangered bird species. The water bodies of the area play a vital role in groundwater discharge and recharge and are very important for a number of commercially valuable fish 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, Xp, U, M

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

1a · (1b) · 1c · (1d) [3] (2a) · (2b) · 2c · 2d [5] (3a) · (3b) · 3c [3] 4a · 4b

**Please specify the most significant criterion applicable to the site: 3a**

**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:** Vadim O. Avdanin, Vadim G. Vinogradov: Research Institute for Nature Conservation, Znamenskoye-Sadki, Moscow 113628, Russia.
Tel: + 7 095 4232533 Fax: + 7 095 4232322
Nikolai G. Rozov: Pskov Regional Committee for Nature Protection. 23 Nekrasov Street, Pskov 180001, Russia

**12. Justification of the criteria selected under point 9, on previous page:** 3a - the wetlands support large populations of waterbirds.

**13. General location:** In northwestern Pskov Region, 7 km from the city of Pskov. The northern and western boundaries of the site pass through the open waters of Chudskoye, Teploye and Pskovskoye lakes along the border between the Russian Federation and Estonia, and then extend south along the border to the crossroads between the villages of Krupp (Russia) and Tverdovka (Estonia). The southern boundary follows the road connecting the village of Krupp with Pskov city. The eastern boundary follows the Pskov-Gdov highway and local roads connecting the city of Gdov and the village of Skamya (in Narvsky district of Leningrad Region).

**14. Physical features:** Chudskoye and Pskovskoye lakes are interconnected and are situated in the depression of a large glacial water body, although the basin itself is of older tectonic origin. The lakes are natural in origin, and remain in near-natural condition. The major human modifications to the environment are as follows: the water level is maintained by the dam of the Narva hydro-electric power station; at the mouth of the Narva river, a system of dykes has been built, and this has caused the formation of sand levees; most of the floodplains have been transformed into agricultural land; and the forests are mainly secondary, having been extensively logged for timber in the past. In the southern part of the site, the Velikaya Delta is situated. The delta comprises 40 small islands.

Hydrology and climate

Lake Chudskoye has a mean depth of 8.0 m (maximum 12.4 m) and Lake Pskovskoye 2.5-3 m (maximum 5.4 m). The climate is temperate, with the ice period lasting for 100-160 days (average 139). The lakes freeze over between 20 November and 1 January, and the ice breaks up in April. The mean annual variation in water level is 112 cm. Large area is flooded in spring; these floodplains comprise the richest habitats for waterfowl and shore birds. There is a tendency for a decrease in water level in the lakes. The bottom sediments are sands and silts. In Lake Pskovskoye, sand sediments are 4 m deep; below this, the sediments change to the light-grey silts. In Lake Chudskoye, silts are found at lower depths, and are represented by dark-grey silts with a low content of $Al_2O_3$. The lakes are freshwater, slightly alkaline with a pH of 8.3.

Soils

Podzolic and soddy podzolic solis on marine sediments dominate in the basins of the Velikaya River and the other rivers and streams entering the lakes. Loamy soils, sands and peatlands are frequent, and limestone exposures also occur. The soils are mainly acid and slightly-acid.

Catchment area

The Narva River (the effluent of the lake) has a catchment of 47,800 sq.km, including 27,912 sq.km in Russia, 16323 sq.km in Estonia and a small section in Latvia. The major rivers entering Lakes Pskovskoye and Chudskoye are the Velikaya River with a catchment of 25200 sq.km, the Gdovka River (150 sq.km), the Zhelcha River (1220 sq.km) and the Chernaya River (530 sq.km).

**15. Hydrological values:** The wetlands are an important supply of drinking water, and support a rich biodiversity including a large number of rare and endangered species.

**16. Ecological features:** Lake Chudskoye is mainly mesotrophic; its southern part (from Raskopelsky Bay) and Lake Pskovskoye are eutrophic. Algal blooms and deaths of small fish are quite common. The primary productivity of phytoplankton is 0.76-2.9 mg/l of oxygen daily. The summer biomass of

zooplankton is 2.6-3.5 g/m$^3$ and that of benthos is 50 g/m$^3$. Reed-bed communities with associations of *Shoenoplectus lacustris, Typha* sp. and *Sagittaria* sp. occupy most of the area. The littoral belt of aquatic vegetation comprises 1.65% of the total area of Lake Chudskoye and 5% of Lake Pskovskoye. The relationship among the areas occupied by emergent, floating and submerged vegetation is as follows: 10.9%, 1.4% and 87.7% in Lake Chudskoye, and 48.6%, 0.5% and 50.9% in Lake Pskovskoye.

Dominant submerged aquatic plants include: *Potamogeton perfoliatus, P.lucens, Polygonium amphibium* and *Sagittaria* sp.; dominant emergents include: *Phragmites australis, Shoenoplectus lacustris* and *Eleocharis palustris*. The annual productivity of macrophytes (in dry mass) is 21,500 tonnes in Lake Chudskoye and 10,000 t in Lake Pskovskoye. The composition of aquatic and terrestrial habitats has not been adequately studied. The relationship between the major terrestrial habitats is as follows: agricultural land (fields and pastures) 12%; coniferous and mixed forests 24%; small-leafed forests 21%; fens, marshes and floodplain meadows 18%; bogs and carrs- 16%, and others 9%.

---

**17. Noteworthy flora:** Botanical descriptions of the Pskovsko-Chudskoye area list 650 species of vascular plants from 68 families. Eleven are rare species listed in the Russian Red Data Book: *Botrychium simplex, Carex davalliana, Cypripedium calceolus, Dactylorhiza baltica, Orchis ustulata, Pulsatilla pratensis, Armeria vulgaris, Lobelia dortmanna, Cyroporus castaneus, Cyroporus cyanescens* and *Mutinus caninus.*

---

## 18. Noteworthy fauna:

Birds

The regional avifauna contains 277 species from 16 orders, including 100 Passeriformes, 51 Charadriiformes, 30 Anseriformes and 24 Falconiformes. Some 200 species breed in the area.

(a) Migrating species

The site lies on an important migration route between the Baltic Sea and the White Sea, linking breeding areas in the tundra and northern taiga (as far east as the Taimyr peninsula) with wintering areas in western Europe. The main migrants are the mallard *Anas platyrhynchos*, northern pintail *A. acuta*, Eurasian wigeon *A. penelope*, tufted duck *Aythya fuligula*, common goldeneye *Bucephala clangula*, white-fronted goose *Anser albifrons* and bean goose *A. fabalis*. There are also pronounced migrations of many Passeriformes, shorebirds and raptors. The spring migration occurs between late March and early June, with the passage of major groups peaking between the 10 April and 1 May. The autumn migration begins in late August and continues until the lakes freeze over. The autumn migration reaches its peak in September and the first half of October. Large concentrations of migrating terrestrial birds occur on the isthmus between Lake Pskovskoye and Lake Chudskoye lakes. In September, over four milliom migrants have been counted during five hours.

(b) Breeding species

The Pskovsko-Chudskoye lakes are an extremely important breeding area for a wide variety of waterbirds, including great crested grebe *Podiceps cristatus* (c.1,000 pairs), little grebe *P.ruficollis* (10-30 pairs), horned grebe *P.auritis*, red-necked grebe *P. griseigena*, grey heron *Ardea cinerea*, greylag goose *Anser anser,* mallard *Anas platyrhynchos* (8,000-11,000 individuals were counted in the Remdivski Nature Reserve in 1992; for the whole area, the population is estimated at 14,500-20,000 individuals), common teal *A. crecca*, garganey *A. querquedula*, gadwall *A.strepera*, northern shoveler *A.clypeata*, Eurasian wigeon *A.penelope*, northern pintail *A.acuta*, common pochard *Aythya ferina* (4,000 individuals have been counted in the Remdivski Nature Reserve; for the whole area, the population is estimated at 7,000-8,000 individuals), tufted duck *Aythya fuligula,* common goldeneye *Bucephala clangula* and common coot *Fulica atra.* Reed-beds form the most important habitats for *Podiceps cristatus* and *Fulica atra* (30,000 individuals in the Remdovski Nature Reserve). Other waterbirds prefer fens and shoreline

habitats. *Anas crecca* and *Bucephala clangula* nest along the rivers and streams entering the lakes. There are a few colonies of Laridae at the lakes. The black-headed gull *Larus ridibundus* (several tens of thousands of pairs), common gull *L.canus* (thousands of pairs), black tern *Chlidonias nigra* (several hundreds) and common tern *Sterna hirundo* have been noted. Floodplain meadows and fens are important breeding areas for the spotted crake *Porzana porzana* and common snipe *Gallinago gallinago* (thousands of pairs).

(c) Moulting species

The lakes are important for moulting populations of mallard *Anas platyrhynchos*, common pochard *Aythya ferina*, tufted duck *A.fuligula* and common goldeneye *Bucephala clangula*.

(d) Rare and threatened species

A number of rare and threatened species currently listed in the russian Red Data Book have been recorded at the site. These include the following:

- Black stork *Ciconia nigra*: a breeding species (5-8 pairs).
- Osprey *Pandion haliaeetus*: a common breeding species (10-12 pairs).
- White-tailed eagle *Haliaeetus albicilla*: a breeding species (2-3 pairs).
- Spotted eagle *Aquila nipalensis*: a breeding species (3-4 pairs).
- Golden eagle *Aquila chrisaeetos*: a few pairs breed in the bogs.
- Peregrine falcon *Falco peregrinus*: three nesting sites have been recorded (Abuladze, 1995; our data).
- Corncrake *Crex crex*: a common breeding species (hundreds of pairs).
- Great snipe *Gallinago media*: a common breeding species in floodplain meadows and fens. Many lekking grounds have been located, and up to 4 individuals per hectare have been counted at some sites in August. The area is extremely important for maintaining the European Russian population of this species.
- Aquatic Warbler *Acrocephalus paludicola*: single individuals have been recorded near the village of Samolva, but this requires confirmation.

Two of the above species (*Crex crex* and *Acrocephalus paludicola*) are currently listed as globally threatened in the IUCN Red Data Book.

Rare migrants and vagrants which have been recorded in the area include great white pelican *Pelecanus onocrotalus*, Bewick's swan *Cygnus columbianus bewickii*, barnacle goose *Branta leucopsis*, lesser white-fronted goose *Anser erythropus*, mandarin duck *Aix galericulata*, short-toed eagle *Circaeetus ferox*, imperial eagle *Aquila heliaca*, gyr falcon *Falco gyrfalco* and firecrest *Regulus ignicapillus*. A number of species which are likely to be included in the Russian Red Data Book are found at the site: willow grouse *Lagopus lagopus*, European golden plover *Pluvialis apricaria*, Eurasian curlew *Numenius arquatus*, eagle owl *Bubo bubo* and great grey shrike *Lanius excubitor*.

---

**19. Social and cultural values:** Pskovsko-Chudskoye lakes are highly productive spawning, nursery and feeding areas for fish. Commercial and sport fisheries are well developed. The area has very good potential for the development of tourism. The site is readily accessible and would be ideal as a base for research on wetland ecosystems.

---

**20. Land tenure/ownership:** There are two major forms of land ownership at the site: state and communal. All the water areas of the Pskovsko-Chudskoye lakes are state property. State lands are presented by forests (70% of all forests in the area) and peatlands. Some 95% of the fields and pastures are communal property (collective farms). Small plots of land are in private ownership.

---

**21. Current land use:** Major activities include transport, recreation and fishery. The latter is well developed and there are five fishery enterprises. Adjacent areas are used for agriculture and animal husbandry. At present, these local activities do not appear to threaten the existence of the wetland ecosystems, although the question of anthropogenic impact requires special study.

---

**22. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land use and development projects:** Threats at the site include : logging for timber and the cutting of shrubs in shelter belts (water protecting zones); the burning of vegetation; fishing with nets along the edge of the vegetation; disturbance due to the use of motor-boats near the lake shores; and waterfowl shooting which causes disturbance of birds during the migration seasons. It is expected that the pressure from recreation activities will increase in the coming years, but mostly at the less important sites.

---

**23. Conservation measures taken:** The Ramsar site include several protected areas:

- The 64,900 ha Remdovsky Nature Reserve ('zakaznik'). The reserve has a staff of five rangers. Hunting, fishing, and the use of vehicles (except on some roads), grazing on the shores and the application of pesticides are prohibited. It is also forbidden to conduct any activities which might threaten wildlife.
- The 14,000 ha Pskovsky Ornithological Reserve ('zakaznik'). Grazing on islands until the 30 June and hunting are prohibited.
- Three nature monuments: Velino Lake, Dolgoye Lake, Uzhinskoye Lake. It is forbidden to conduct any activities which change the water level, to divert water for irrigation purposes, to discharge waste water, to use motor boats and to fish between 15 May and 25 June.

The other natural areas are protected by their users: *e.g.* societies of hunters and fishermen, the State Hunting Inspection and the State Fishery Inspection. Since 1993, the lakes and shores have been protected by frontier guards; their role in the protection of the Ramsar site has not yet been determined.

---

**24. Conservation measures proposed but not yet implemented:** Proposed conservation measures include the following: imposing some limitations on large-scale projects which might cause changes to the landscape; introducing measures to manage recreational activities; changing of the protection status of the Remdovsky Nature Reserve; identifying those sites which are the most important for breeding birds and rare raptors, and establishing protected areas at these sites.

---

**25. Current scientific research and facilities:** Ornithological research has been carried out since the beginning of the century (Zarudny, 1910). Many researchers have visited the area, but little information has been published. Regular investigations of the autumn bird migration have been undertaken by ornithologists from the Pskov Pedagogical Institute (Meshkov et al.). The hydrographic characteristics of the lakes are also monitored on a regular basis.

---

**26. Current conservation education:** Conservation education has been conducted only in the mass media. In view of the high population density in the area and the proximity of a large city, it seems very important and promising to initiate some new activities in this field.

---

**27. Current recreation and tourism:** At present, recreation pressure is relatively low, but this is likely to increase in the future. The facilities for outdoor recreation are poor, although small tourist camps have been established in the village of Zhidilov Bor and by Lake Dolgoye.

**28. Jurisdiction:**
Territorial: Administration of Pskov Region (23 Nekrasov Street, Pskov 180001, Russia).
Functional: State Committee for Environmental Protection of the Russian Federation (4/6 Bolshaya Gruzinskaya Street, Moscow 123812, Russia).

**29. Management authority:** Pskov Regional Committee for Nature Protection (23 Nekrasov Street, Pskov 180001, Russia).

**30. Bibliographical references:**
Animal Cadastre of Pskov Region. 1992. Unpublished internal report *(In Russian)*.
Flora Cadastre of Pskov Region. 1992. *(In Russian)*.
Nature of Pskov Region. 1971. Leningrad, LGPI Publishers. *(In Russian)*.
Red Data Book of RSFSR; Plants. 1988. Moscow, Rosagropromizdat Publishers. *(In Russian)*.