

Information Sheet on Ramsar Wetlands (RIS) – 2009-2014 version

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1. Name and address of the compiler of this form:

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DD MM YY		

Designation date

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Site Reference Number

2. Date this sheet was completed/updated:: August 2008

3. Country: Russian Federation

4. Name of the Ramsar site:

The precise name of the designated site in one of the three official languages (English, French or Spanish) of the Convention. Alternative names, including in local language(s), should be given in parentheses after the precise name.

Lake Khanka

5. Designation of new Ramsar site or update of existing site:

This RIS is for (tick one box only):

- a) Designation of a new Ramsar site ; or
b) Updated information on an existing Ramsar site

6. For RIS updates only, changes to the site since its designation or earlier update:

a) Site boundary and area

The Ramsar site boundary and site area are unchanged:

or

If the site boundary has changed:

- i) the boundary has been delineated more accurately ; or
ii) the boundary has been extended ; or
iii) the boundary has been restricted**

and/or

If the site area has changed:

- i) the area has been measured more accurately ; or
ii) the area has been extended ; or
iii) the area has been reduced**

** **Important note:** If the boundary and/or area of the designated site is being restricted/reduced, the Contracting Party should have followed the procedures established by the Conference of the Parties in the Annex to COP9 Resolution IX.6 and provided a report in line with paragraph 28 of that Annex, prior to the submission of an updated RIS.

b) Describe briefly any major changes to the ecological character of the Ramsar site, including in the application of the Criteria, since the previous RIS for the site:

No material changes of ecological character are noted.

7. Map of site: Refer to Annex III of the *Explanatory Note and Guidelines*, for detailed guidance on provision of suitable maps, including digital maps.

a) A map of the site, with clearly delineated boundaries, is included as:

- i) a hard copy (required for inclusion of site in the Ramsar List): ;
- ii) an electronic format (e.g. a JPEG or ArcView image)
- iii) a GIS file providing geo-referenced site boundary vectors and attribute tables .

b) Describe briefly the type of boundary delineation applied:

e.g. the boundary is the same as an existing protected area (nature reserve, national park, etc.), or follows a catchment boundary, or follows a geopolitical boundary such as a local government jurisdiction, follows physical boundaries such as roads, follows the shoreline of a waterbody, etc.

Borders of the wetland are established along the external border of protection zone of state nature reserve “Khankaisky”.

During preparation of the first version of Ramsarskiye information sheets (1997), description of the borders of the wetland were provided schematically, which caused imprecise definition of the wetland area.

8. Geographical coordinates (latitude/longitude, in degrees and minutes):

Provide the coordinates of the approximate centre of the site and/or the limits of the site. If the site is composed of more than one separate area, provide coordinates for each of these areas.

44°34' N., 132°26' E

9. General location:

Include in which part of the country and which large administrative region(s) the site lies and the location of the nearest large town.

The wetland is located in the central part of Zapadno-Primorskaya flatland within the borders of Prikhankaiskaya flatland and valley of river Sungacha, 200 km to the north-north-east of the city of Vladivostok (644.8 thousand people). The northern one third of Lake Khanka belongs to China. In administrative terms, the wetland is a part of Primorski Krai (Khankaisky, Khorolsky, Chernigovsky, Spassky and Kirovsky regions). The nearest big city is Spassk-Dalny.

10. Elevation: (in metres: average and/or maximum & minimum)

On average 70 m (68-81 m). Maximum height is 147 m.

11. Area: (in hectares)

The area of the wetland is 116,098.6 ha, including 5950 ha of protected aquatic area of Lake Khanka.

12. General overview of the site:

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

Big freshwater lake with vast wet meadows and grass bogs of Prikhankaiskaya flatland. The place of mass concentration of water and semi-aquatic birds during the periods of breeding and seasonal migrations, and also the area of habitation of many rare and endangered species of animals and plants.

13. Ramsar Criteria:

Tick the box under each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11). All Criteria which apply should be ticked.

1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9

14. Justification for the application of each Criterion listed in 13 above:

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

Criterion 1. The wetlands are unique type of wetland complex of Prikhankaiskaya flatland.

Criterion 2. The wetland is the place of high concentration of rare and endangered species of animals and plants at a high level of anthropogenic influence on ecosystems. Thus, 49 species of birds included into the Red Book of the Russian Federation (2001) inhabit in the wetland: spoonbill (*Platalea leucorodia*), red-legged ibis (*Nipponia nippon*) EN, IUCN, black-head ibis (*Threskiornis melanocephalus*), Oriental Stork (*Ciconia boyciana*) EN, IUCN, black stork (*C. nigra*), swan goose (*Cygnopsis cygnoides*), bar-headed goose (*Eulabia indica*), Japanese crane (*Grus japonensis*) EN, IUCN, Daur (*G. vipio*) VU, IUCN and Hooded cranes (*G. monacha*) VU, IUCN, Grey-faced buzzard (*Butastur indicus*), Mountain-hawk eagle (*Spizaetus nipalensis*) etc.

Criterion 3. Preserves habitat areas of rare and endemic species of animals and plant, supports biological diversity of Prikhankaiskaya flatland. On the territory of the wetland there are 709 species of vascular plants (Maslova, Glushchenko, 2005) and 523 species of waterweeds (Statement about “Wetland Lake Khanka”, 1995; Nikulina, 2003). Fauna of the wetland, according to preliminary lists, accounts for 533 species of water invertebrates (Vshikova, 2005; Maslova, Glushchenko, 2005), 78 species of fish (Gerstein, 2005; Naseka, Gerstein, 2005), 6 species of amphibian and 7 species of reptiles (Maslova, 2005), 349 species of birds (Glushchenko, 2005; Glushchenko, Volkovskaya-Kurdyukova, 2005), 48 species of mammals (Statement about “Wetland Lake Khanka”, 1995; Nesterenko and others, 2005).

Criterion 4: The site is an important site for breeding, moulting and migrating bird species. See justification of criterion 5 for further details.

Criterion 5. Maintains existence of many species of birds of the wetland complex. 47 species of water birds have been found in the wetland, including 9 species of geese, 3 species of swans, 24 species of ducks, 5 species of divers and 2 species of loons, gannets, and rails (Glushchenko, 2005). Modern population of nesting and molting water birds is subject to significant fluctuations (from several thousands to several tens of thousands), which is mainly related to cyclic change of water level in Lake Khanka and humidity of the lake shore. Total population of ducks in summer period (nesting and molting ducks) equals 2 to 10 thousand of species (Glushchenko, 2005). During the season of breeding, the following figures are registered: 250-300 nesting pairs of red-necked grebe (*Podiceps grisegena*) and 150 pairs of great-crested grebe (*P. cristatus*), 300 pairs of night herons (*Nycticorax nycticorax*), multiple nesting species is green night heron (*Butorides striatus*) as well, population of big white heron (*Egretta alba*) is maintained within 170-520 nesting pairs, multiple nesting species are grey (*Ardea cinerea*) and red herons (*A. purpurea*); 30 pairs of grey goose inhabit (*Anser anser*) and 50 to 300 of birds are registered on molted accumulations. Among common of mass nesting and multiple during a flyover species there are: mallards (*Anas platyrhynchos*), green teal (*A. crecca*), pintail (*A. acuta*), garganey teal (*A. querquedula*), platyrrhine (*A. chpeata*) etc. (Glushchenko, Volkovskaya-Kurdyukova, 2005)

The largest concentrations of water birds within the wetland are registered during migration period, especially in spring. During the period of mass flyover, up to 500 thousand of goose-like birds gather on Khanka (Glushchenko and others, 1995). Population of flyover swans varies every year. The biggest number of swans registered during aerial census does not increase 3.7 thousand in spring and 1.4 – in autumn. In favorable years, in spring time, up to 150 thousand of geese accumulate within the wetland at one time, among which claiks (*Anser albifrons*) and bean goose (*A. fabalis*) prevail (Glushchenko and others, 1995).

Criterion 6. It regularly maintains existence of about 1% of the world population of Oriental Stork (*Ciconia boyciana*) and about 4.5% of land population of Japanese crane (*Grus japonensis*). During the

years of minimum population within Prikhankaiskaya flatland, 5 to 7 pairs of Far East cranes nested. By 2001, the number increased up to 18 pairs. (Glushchenko, Volkovskaya-Kurdyukova, 2005) – 0.6% of the world population. In 1993-1994, about 56% of Khankai population of Far East crane nested, in 2001– 72.2% (Mrikot, 2002), and in 2004 – 57% (Volkovskaya-Kurdyukova, 2005), and 4 to 7 pairs nest in the valley of river Sungacha (Glushchenko and others, 1995; Mrikot, 2002; Volkovskaya-Kurdyukova, 2005). Total number of summer population of Japanese crane on Prikhankaiskaya flatland and in the valley of river Sungacha in the last quarter of XXth century keeps stable, equaling 100 individuals of this species (Shibaev, 1982; Shibaev, Glushchenko, 1982, 1988; Glushchenko and others, 2001). The wetland is the place of breeding of 1 to 6 pairs Daur cranes (*Grus vipio*) and 50-90 individuals are present during migration (Shibaev, Glushchenko, 1988; Glushchenko and others, 1995).

Criterion 8. It is an importance breeding site of a large quantity of fish – 81% (excluding sea species) registered in the basin of river Amur (Naseka, Gershtein, 2005). Also see point 22.

15. Biogeography (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):

Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

a) biogeographic region:

- 1) Palaeartic
- 2) Broad-leaved forests of the south.
- 3) Suifuno-Khankaisky district of Daurskaya-Manchzhurskaya forest-steppe geobotanic region.

b) biogeographic regionalisation scheme (include reference citation):

- 1) Udvardy, 1975
- 2) Tishkov A.A. Biosphere functions of natural ecosystems of Russia. M.: Nauka, 2005. – 309 p.
- 3) Geobotanic demarcation of B.P. Kolesnikov (1956)

16. Physical features of the site:

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

The wetland is located within the ancient lake-alluvial flatland divided by low outlying hills and accumulative crests. From east and west, Prikhankaiskaya flatland is surrounded by Siniy ridge and Pogranichniy ridge branches accordingly (Glushchenko, 2005).

For orography of the basin of Lake Khanka, a transition from ridges with average and low hill relief to zone of low-hill and холмисто-увалистого relief, and then to the zone of high and low accumulative flatlands is noted. High accumulative flatland as geomorphological element appeared in the end of Pliocene period and is widely developed in the basin of Lake Khanka. On separate areas it is covered with basalts. Directly near Lake Khanka there is a low accumulative lake-alluvial flatland, which delineates its modern south, east, and north coasts. (Maslova, Glushchenko, 2005). The relief is mainly leveled, on some areas there are low bald mountains (Luzanova, Siniy Gai, Cheremshovaya, Zmeinaya). In parallel to the eastern coast of Lake Khanka there is a series of ancient coastal levees of the lake, which are divided by bogged descends. Prevailing landscape of the eastern and south-eastern parts of the coast are open flatlands.

Khanka is referred to the basin of river Amur, in which it has a free outflow via rivers Sungachi and Ussuri. River valleys are occupied by agricultural lands. Several rivers flow into the lake, and only one river – Sungacha – flows out of the lake. Its length within the wetland is 90 km (Gerstein, 2005). Main rivers are Ilistaya, Selgunovka, Komissarovka and Spasovka (about 45 km. The largest turf bogs are located on the area called “Chertovo boloto”, which is situated on Prisingachinskaya lowland.

The wetland is located in the area of moderate monsoon climate. However it is characterized by periodic dry weather caused by fry hot winds coming from the territory of the north-east China and

Mongolia. Climatic conditions in Lake Khanka basin are determined mainly by monsoon features and local circulation processes. With such quite weather, in summer time the basin warms up and in winter accumulates cold air. Average temperature in July is +20°C. The coldest month is January with average temperature about –21°C. First frost comes on October 2-12, the last one – on May 20. Significant changes of seasonal and daily temperatures take place. Influence of the basin on temperature regime of the area near the lake is especially felt in spring and autumn, when ice cover melts and builds up. Temperature in the areas, which are remote from Lake Khanka is 1...1.5° higher compared to coastal temperature. In September, in remote areas, air temperature is 1.5...2° colder than above the surface of the lake. Annual quantity of precipitations equals 500-600 mm, and their distribution is very unequal, and their major part falls on summer time. Formation of stable snow cover usually takes place in the third decade of November. Its maximum height is 20-30 cm, but during the years with less volume of snow its thickness is only 3-5 cm. In winter, winds of the northern quarter prevail, and in summer time, south and southwest winds are more often met. During ice-free period, frequency of occurrence of no-wind conditions and weak winds (up to 5 m/sec) is 10 to 50%, and frequency of occurrence of strong winds (over 10 m/sec) is 10 to 25%. During ice-free period, strong winds cause intensive surging especially vivid in June and July (Glushchenko, 2005).

Soils of the wetland are formed on the lake depositions represented mainly by clays and clay loams. On the lowest lake terrace, meadow boggy and boggy soils are widespread with clearly distinct gleyed horizon and mud layer. Turf level does not increase 50 cm. Underlying rock represents a thick layer of clay, which forms a water resistant layer causing boggy of the flatland. Basic soils are: lake-alluvial, turfy-gleyed and soddy-alluvial (Kurentsova, 1962; Vaskovsky, 1978; Ralko, 1983; Belaya, 1995). Along river valleys, due to the prevalence of turfy-gley soils, which are heavy on mechanical composition, water rests on the soil surface for almost whole vegetation period. Along the areas of redgrass-herb meadows there are soddy-alluvial soils (Belaya, 1995). Bottom of the lake is sandy.

17. Physical features of the catchment area:

Describe the surface area, general geology and geomorphological features, general soil types, and climate (including climate type).

Parameters of Lake Khanka are as follows: 87 km long and 67 km – maximum width. Total area of the lake water surface is 4070 sq. km, including within Russia (2/3 of the basin) 3030 sq. km (inventory of reserve “Khankaisky”, 2007). Total area of the catch basin (without lake mirror) equals 16,890 sq.km, including within Russia – basins of five big rivers: Ilistaya, Spasovka, Melgunovka, Komissarovka and Bolshie Usachi. The length of the coastal line of Khanka Lake is 308 km. About 85% of it is occupied with accumulative shores, which are widespread mostly along the whole eastern coast. Abrasive shores are available on the northern-eastern coast.

Khanka is a shallow water body. Average depth at average multiyear level is 4.5 m, and maximum – 6.5 m (according to some data – up to 10.6 m). The area of coastal shoal is large and at the distance of 1.5 km from the shore, the depth does not exceed 1.5-2 m. the lake is characterized by multiple multiyear cyclic changes of water level (on average, 26 years). As the result of such changes, the area of water surface of the lake can change from 400 to 500 thousand ha, and volume of water – from 12.7 to 22.6 cubic meters (Glushchenko, 2005). Average multiyear increase of water level in excess of the nominal zero elevation (66.0 m of Baltic section line) is about 300 cm. during the years of maximum raise, water level reaches 389 cm (1973), and if we add surging – 430 cm, which causes disastrous floods. During the years of regression, water level in the lake and in the adjoining basins coincides with peak value of precipitations. Water intake for rice fields irrigation during the periods of regression hamper ecological situation (Gusakov, Vinogradov, 1994).

Rivers flowing into the lake (Komissarovka, Melgunovka, Ilistaya, Spasovka) bring a large quantity of loose material to near-mouth areas of the lake. In case of high levels, water may overflow through coastal levees and flood the bottom-land part of the basin. As the result of surging processes, water in Lake Khanka is always muddy. Surge variations of water level depend on force, duration and direction of winds. North-east and north winds often bring water to the narrow south-east corner of Khanka – delta of river Ilistaya. At that, large areas of meadows and swamps are flooded. Vice versa, winds of opposite direction take water away, and delta basins become shallow and heavy-going for boats. Almost kilometers long straits crop out near the shores. Periods of low water level of the lake

coincide with low level of rivers flowing in it. There is also a close connection between the lake water level and quantity of precipitation. Thus, water regime of Khanka depends on fresh water feed, quantity of precipitations and multiyear circularity. No special researches on chemical composition were carried out.

On Prikhankaiskaya meadow there is a large quantity of lakes (Inventory of reserve “Khankaisky”, 2007). Some of them are lagoons located in near-mouth parts of rivers. The largest of them: Trostnikovoye (area is 22.8 sq. km), Protoka (5.37 sq. km) and Krylovo (1.35 sq. km). Flood-plain lakes are divided into old channels and terrace near lakes of spring feed. They are located in bottoms of rivers, have different sizes. Depth varies from 0.5 to 2.5 m, bottom is usually even with a layer of mud 20-50 cm thick. Water is free from humus, shores are low, bogged, overgrown with reed and Indian rice. Water vegetation is rich and diverse. During the period of floods, many lakes are flooded. Flooded lakes are divided into lakes among flooded areas and flooded areas and swampy hollows. They represent remainders of deep bays of Khanka. They are often located in groups. Some lakes were formed on places of turf areas burning-out. Gradually, these lakes become overgrown, and split into smaller lakes. Type of overgrowing is coastal-zonal, floating. Artificial water bodies are represented by irrigation and drain channels. Irrigation channels are filled with water and only in summer time water may stay in the channel for the whole year.

Formation of ice cover on Lake Khanka takes place in November. First border ice appears on November 8-15, and formation of complete ice cover takes place in the last decade of this month. Flood-plain lake and floating bog lakes freeze in the end of October or in November. However, some of them freeze only in December. Ice cover on rivers is formed in the second-third decade of November. Outflows of river Sungacha usually stay free from ice during the whole winter. Shallow flood-plain basins get completely frozen every year. First washaways appear in the third decade of March in the area of Spassky beak, islands Kalugin and Vasilievsky, and also on separate areas of lake Trostnikovoye. Ice on lake Khanka comes off in the second half of April.

18. Hydrological values:

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

Needs to be studied.

19. Wetland Types

a) presence:

Circle or underline the applicable codes for the wetland types of the Ramsar “Classification System for Wetland Type” present in the Ramsar site. Descriptions of each wetland type code are provided in Annex I of the *Explanatory Notes & Guidelines*.

Marine/coastal: A • B • C • D • E • F • G • H • I • J • K • Zk(a)

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

Human-made: 1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9 • Zk(c)

b) dominance:

List the wetland types identified in a) above in order of their dominance (by area) in the Ramsar site, starting with the wetland type with the largest area.

- 1) Bogs on organically poor soils, permanent – Tp;
- 2) Lakes permanent >8 ha – O;
- 3) Bogs on organically poor soils, seasonal, grass – Ts;
- 4) Water flows, permanent (deltas) – L;
- 5) Water flows, permanent (rivers, streams, flows) – M;
- 6) Check plots and agricultural fields – 3;
- 7) Peat bogs, permanent, open – U.

20. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site, and the ecosystem services of the site and the benefits derived from them.

Prikhankaiskaya flatland is a vast soggy territory. In the estuary parts of rivers and on the vast territory between lowlands of river Spasovka and outflow of river Sungacha there are big areas of sedge-reedgrass and tall grass bogs, which are rich with lakes. In the wetland, there are small steppe and forest areas. Landscape is represented mainly by bogs, which are divided into reedgrass-sedge, sedge, cottongrass-sedge and tall grass bogs. The latter consist of south reed (*Phragmites australis*), Indian rice (*Zizania latifolia*), myrtleflag (*Acorus calamus*) and reed mace (*Typha sp.*) (Kurentsova, 1962). Grass bogs occupy the lowest areas of Prikhankaiskaya flatland. A higher lake terrace, which was occupied by grey and dry meadows earlier, materially suffered from draining and ploughing. Here they formed vast rice fields, being the place of mass feeding of the wetland complex birds, mainly during non-nesting period.

Meadows occupy about one thirds of the territory and are represented mainly by small reed (*Calamagrostis sp.*) and Scullcap (*Scutellaria sp.*), they prevail on bog soils. Grass stand is high, thick, grassing of soil reaches 100%. Herb meadows are located mainly along middle reaches of rivers. Grass vegetation is usually 50-70 cm high. Basic vegetation is sage (*Artemisia sp.*), reed grass, bent grass (*Agrostis sp.*), sedge (*Carex sp.*). At bottom of volcanoes there are xerophytes gramineous meadows, the height of grass stand of which is 20 to 40 cm. Here fescue grass (*Festuca sp.*), *Bromopsis inermis*, wheat-grass (*Elymus sp.*), bent grass (*Agrostis sp.*) prevail. Background is represented by bent grass, bluegrass (*Poa sp.*), fescue grass. Many meadow areas were subject to anthropogenic influence for a long time, and native vegetation almost disappeared here. Bogs and flooded areas suffered the least. (Morozov, Bely, 1995).

Flooded basins and areas of Lake Khanka protected from winds have submerged meadows consisting of different types of pondweed (*Potamogeton malainus*, *P. perfoliatus*, *P. octandrus*, *P. compressus*, *P. gramineus*, *P. natans*), parrot's-feather (*Myriophyllum ussuriense*) and mares-tail (*Hippuris vulgaris*). Floating cover consists of ling (*Trapa incisa*), egg-pod (*Nuphar pumila*), river nymph (*Najas marina*), nymphaea (*Nymphaea tetragona*), hornweed (*Ceratophyllum demersum*), Adder's tongue (*Nymphoides coreana*), *Spirodela polyrrhiza*, *Salvinia natan*, duckweed (*Lemna trisulca*, *L. minor*), *Caldesia parnasifolia*, and sometimes komarov lotus (*Nelumbo komarovii*) and *Euryae ferox* (Glushchenko, 2005). Main part of Khanka Lake basin is free from any vegetation.

Forest areas are located piecewise, on small hills, along water courses and in river mouths, and also on low modern and ancient natural levees of Lake Khanka. However they play an important role, in particular for nesting of various species of preying and semi-aquatic birds. Along low ridges, stretched among bogs and wet meadows, in parallel to modern shores of the lake, there are straps of forests consisting of Mongolian oaks (*Quercus mongolica*), elms (*Ulmus pumila*), birch (*Betula sp.*) and different types of willows (*Salix sp.*) (Barkalov and others, 1993). On the west coast along steep natural levees there are groups of open oak forest with meadow herbs. The only area of real forest is located on the south coast of Lake Khanka on peninsula Luzanova sopka. It is represented by low-productive forest stand made of Mongolian oak, including linden (*Tilia amurensis*), velour (*Phellodendron amurense*), ash-tree (*Fraxinus mandshurica*), elm (*Ulmus sp.*), aspen (*Populus tremula*) (Belaya, 1995). On lowered drained habitats around the lake there are stem groups consisting of aspen, birch, bushy willow. All shores of the lake are surrounded by sedge, reed grass, reed (Barkalov and others, 1993).

Main types of habitats developed on the wetland territory include lowland bogs and wet reed grass meadows (about 40%), sweet lakes (about 15%), rice fields (about 13%), other fields and pastures (about 12%), dry meadows (about 10%), river deltas (about 5%), broad-leaved deciduous and banded forests (about 2%), and also urbanized and industrial objects (about 3%) (Glushchenko, 2005).

Cyclic changes of water level in Lake Khanka define biological capacity of the wetland, and also composition and number of animals inhabiting it. The most favourable for birds of the wetland complex is middle stage of cycle with a sufficiently high level of water (usually it lasts 5-7 years). As the result of gradual increase of water level in Lake Khanka and flooding of the flood-plaint area of

Prikhankaiskaya flatland, floating bogs come off the bottom ground. At that, a mass of small lakes appears, tessellation of habitual areas increases, aspect of vegetation changes, and protective properties of the wetland get higher. At this stage, floating bogs are difficult to access for people, cattle and land predators. All this promotes to success of nesting of semi-aquatic and water birds. During the years of maximum level of water and surge event and storms (which is typical for Khanka), floating bogs are split into small floating islands and crash, which significantly worsens conditions of habitation of birds of the wetland complex and can cause a mass death of water birds' nests. During a further drop of water level, conditions of habitation improve again, however during shallow water years, floating bogs lie down to the bottom, stick to it, and during positive setup they are flooded, which also may cause death of nests. Besides, during such periods the wetland becomes easily accessible for people, cattle and surface predators, besides recreational pressure to the wetland increases and factor of anxiety strengthens. (Glushchenko, 2005).

21. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14. Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

On the territory of the wetland there are 709 species of vascular plants (Maslova, Glushchenko, 2005) and 523 species of waterweeds (Statement about “Wetland Lake Khanka”, 1995; Nikulina, 2003). The following species of plants entered to the Red Book of the Russian Federation were discovered: *Caldesia parnassifolia*, *Brasenia schreberi*, *Eleocharis tetraquetra*, *Eriocaulon komarovi*, English iris (*Iris ensata*), *Trapella sinensis* etc. Special attention should be given to Neogen period relict – Komarov's lotus (*Nelumbo komarovii*).

22. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14. Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

Fauna of the wetland, according to preliminary lists, accounts for 533 species of water invertebrates (Vshikova, 2005; Maslova, Glushchenko, 2005), 78 species of fish (Gerstein, 2005; Naseka, Gerstein, 2005), 6 species of amphibian and 7 species of reptiles (Maslova, 2005), 349 species of birds (Glushchenko, 2005; Glushchenko, Volkovskaya-Kurdyukova, 2005), 48 species of mammals (Statement about “Wetland Lake Khanka”, 1995; Nesterenko and others, 2005). For the wetland, 49 species of birds are known that were entered to the Red Book of the Russian Federation (2001): spoonbill (*Platalea leucorodia*), red-legged ibis (*Nipponia nippon*), Far East stork (*Ciconia boyciana*), black stork (*C. nigra*), swan goose (*Cygnopsis cygnoides*), mountain goose (*Eulabia indica*), Japanese crane (*Grus japonensis*), Daur (*G. vipio*) and black cranes (*G. monacha*), hawkish buzzard (*Butastur indicus*), floccose eagle (*Spizaetus nipalensis*) and others.

The basis of summer population is ordinary mallard (*Anas platyrhynchos*), garganey teal (*A. querquedula*) and killer whale (*A. falcata*) – hunting species. Summer population of geese and swamps of the bog is rather small. The highest concentrations of water birds in the wetland are noted during migration period, especially in spring. Basis of migrants are ducks (about 80%) and geese (up to 20%) (Glushchenko, 2005).

Among rare types of mammals, we should note Alpine weasel (*Mustela altaica*) and periodic occurrence of Amur tiger (*Panthera tigris*). The most characteristic and valuable species of reptiles is Far East turtle (*Trionyx sinensis*) entered to the Red Book of the Russian Federation (2001). Very rarely you can meet Korean oriental grass lizard (*Tachydromus wolteri*), which is very rare within the whole tiny Russian habitat. (Maslova, 2005).

Among rare species of fish, in Lake Khanka you can meet Amur sturgeon (*Acipenser schrenckii*), Yellowcheek (*Elopichthys bambusa*), black carp (*Mylopharyngodon piceus*), black amur bream (*Megalobrama terminalis*), *Plagiognathops microlepis*, Soldatov's sheat-fish (*Silurus soldatovi*) and Chinese bass (*Siniperca chuatsi*).

23. Social and cultural values:

a) Describe if the site has any general social and/or cultural values e.g., fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values:

Lake Khanka plays an important role for fishery in the region and is an important place of water bird hunting in Primorski Krai. On the shores of the lake there are recreational camps of the city of Spassk-Dalniy.

b) Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning?

24. Land tenure/ownership:

a) within the Ramsar site: On the territory of state nature reserve “Khankaisky”, the land is federal (state).

b) in the surrounding area: the land belongs to state farms and agricultural production plants, and also includes areas of land referred to state ownership.

25. Current land (including water) use:

a) within the Ramsar site: except for the territory of state nature reserve “Khankaisky”, there are agricultural fields, pastures, grasslands, areas of fishery, hunting, production objects, population centers, and roads.

b) in the surroundings/catchment: N/A

26. Factors (past, present or potential) adversely affecting the site’s ecological character, including changes in land (including water) use and development projects:

a) within the Ramsar site: The main negative influence on the wetland in the past was from drainage amelioration. At the present time, leading factors are grass fires, factor of anxiety, recreational pressure, pollution of environment by production enterprises, destruction of wood vegetation, spring hunting and poaching.

b) in the surrounding area: N/A

27. Conservation measures taken:

a) List national and/or international category and legal status of protected areas, including boundary relationships with the Ramsar site:

In particular, if the site is partly or wholly a World Heritage Site and/or a UNESCO Biosphere Reserve, please give the names of the site under these designations.

The area was announced as wetland of international value by the Decree of the Board of Ministers of USST No. 1049 dated 25.12.1975. The status of the area was confirmed by the Decree of the Government of the Russian Federation No. 1050 dated 13.09.94.

Statement about wetland of international value “Lake Khanka” was approved by the Decree of Administration of Primorski Krai dated 14.04.1995 No. 191.

On the territory of the wetland there is state nature reserve “Khankaisky”, which has been operating since 1990 and consists five areas combined by a general protected zone. The area of the

reserve is 39,289 ha, including 5950 ha of aquatic area (IUCN category: I), the area of protected zone is 76,809.6 ha (IUCN category: VI).

Besides, according to the Agreement between the Government of the Russian Federation and the Government of People's Republic of China dated April 25, 1996, the territory of state nature reserve "Khankaisky" is included into the mutually established international reserve "Lake Khanka".

b) If appropriate, list the IUCN (1994) protected areas category/ies which apply to the site (tick the box or boxes as appropriate):

Ia ; Ib ; II ; III ; IV ; V ; VI

c) Does an officially approved management plan exist; and is it being implemented?:

N/A

d) Describe any other current management practices:

28. Conservation measures proposed but not yet implemented:

e.g. management plan in preparation; official proposal as a legally protected area, etc.

Measures for:

- Prohibition of water birds hunting on all areas of protected zone of state nature reserve "Khankaisky";
 - Strengthening of control of poaching and grass fires.
-

29. Current scientific research and facilities:

e.g., details of current research projects, including biodiversity monitoring; existence of a field research station, etc

For many years the wetland serve as the base for carrying out of scientific researches by employees of different scientific-research institutes of Far East and other regions of the country. In specific years, scientific researches were carried out here by specialists from Japan and China. The most complex scientific researches (preferentially, monitoring of condition of biocenosis of Prikhankaiskaya lowlands) are carried out by employees of state nature reserve "Khankaisky", and over the last years they do it together with employees of border Chinese reserve.

30. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:

e.g. visitors' centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

Mass media means are utilized. Programmed work is carried out by employees of ecological outreach department of "Khankaisky" reserve. They hold lectures, discussions, round tables on various topics, organize seminars and meetings. Kids creative work competitions are held on an annual basis. Environment protection lectures "Clean shore for Khanka", "The world around us" etc are the most popular among youth. Students' brigade "Khankaiskaya rat" is available.

31. Current recreation and tourism:

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

The part of the wetland, not included into state nature reserve "Khankaisky", is used for sport fishing and hunting. Lake Khanka and Prikhankaiskaya flatland are annually visited by ecological tourists. Operation of tourist routes is regulated by the Statement about "Khankaisky" reserve. The water route laid along the cooly of egrets, gannets and place of Komarov's lotus growing is available. In general, 14 ecological routes and paths are available. The field of ecological tourism has only started developing.

32. Jurisdiction:

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept of Agriculture/Dept. of Environment, etc.

Administration of Primorski Krai and municipal formations of Primorski Krai, Ministry of Natural Resources and Environment of the Russian Federation.

33. Management authority:

Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

State Nature Reserve “Khankaisky”, Federal Supervisory Natural Resources Management Service (Rosprirodnadzor).

1. Khanka State Nature Reserve, 692245, Primorsk Krai, Spassk Rayon, Spassk-Dalny, Ershowa Street 10;

2. Administration of Primorsk Krai, Russia 690110, Vladivostok, Svetlanskaya Street 22

34. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 15 above), list full reference citation for the scheme.

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