19. 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

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DD MM YY

Designation date | Site Reference Number

2. Country: Russian Federation

3. Name of wetland: Torey Lakes

4. Geographical coordinates: 49°55'-50°14'N, 115°05'-115°98'E

5. Altitude: 591-769 m a.s.l.

6. Area: 172,500 ha

7. Overview: Torey Lakes are the largest lakes in the Trans-Baikal area, providing a representative example of natural wetlands of the Mongol-Manzurian steppe. The area consists of the following landscape elements: 65% lakes, 22% terrestrial steppe ecosystems, 7% river, 5% arable land, and 1% human settlements and roads. The site is an important breeding, feeding and staging area for migratory waterfowl.

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: Q,R,Ss,Ts,P,M.

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

(1a) · 1b · 1c · 1d ³ (2a) · (2b) · (2c) · (2d) ³ (3a) · (3b) · 3c ³ 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:

Ekaterina Tkachenko
Daursky Nature Reserve
P.O.Box 23, Nizhni Tsasuchei
Chita Region, 674480, Russia

12. Justification of the criteria selected under point 9, on previous page: 2a - the wetland supports important populations of rare and threatened species.

13. General location: Chita Region, southeastern Transbaikallia, near the border with Mongolia, 300 km south of the city of Chita.

14. Physical features:

Geology and geomorphology: The site is located in the Torey depression. The highest point in the steppe is 769.3 m above sea level. Lakes are situated at an altitute between 598.2 and 592.2 m. The depression has been formed by tectonic and volcanic activity. There used to be a large lake 700,000 years ago, covering the whole area. Now there are two lakes: Barun-Torey and Zoon-Torey, connected by two channels. The former has a water area of 570 km^2, and the latter, 30 km^2. The present lakes have no run off.

Hydrology: Lake Barun-Torey is fed by two rivers: the Uldza and Imalka. The catchment areas of these rivers are mainly located in Mongolia. The mean annual water discharge of the Uldza is 7.43 m^3 per second, with a minimum of 0.34 m^3/sec. in 1982, and a maximum of 34.3 m^3/sec. in 1988. The mean annual water discharge of the Imalka river is 0.5 m^3/sec. The hydrological regime of the lakes is characterized by cyclical changes in inundation. The variations in water level are considerable. During this century, the lakes dry out four times. Since 1982, a cool and humid phase of a century climatic cycle has been developing, and the depth of lakes has reached 5-6 m, with an average of 4 to 5 m. Salinity varies from $1.1^{o}/_{oo}$ to $25^{o}/_{oo}$. The bottom sediments are mainly silts. There are 10 islands on Lake Barun-Torey and one island on Lake Zoon-Torey. The number and size of islands depend on the water level.

Soils: The major soil types are the chestnut, meadow-chestnut, meadow, meadow-marshy, salt-marshy and sandy grounds.

Climate: The area has a continental climate with dry cold winter and warm summer. The mean air temperatures vary from -26°C in January to +19°C in July. The warm period, when the temperature is above zero, lasts for 150 to 160 days. The lakes freeze over in the period between late October and mid-May. Annual precipitation varies from 150-350 mm (mean 290 mm), of which 80% fall in the second half of summer.

15. Hydrological values: Torey Lakes are the largest enclosed soda lakes in the South Trans-Baikal region and have an impact on the hydrological regime of an extensive area.

16. Ecological features: There are two major types of ecosystems in the area: aquatic ecosystems, covering 108,700 ha, and terrestrial steppe communities, covering 35,000 ha.

Aquatic ecosystems are dominated by fennel-leaved pondweed *Patamogeton pectinatus*. Reed *Phragmites australis* associations (with *Carex* and *Typha angustifolia*) occur along the shore of Lake Barun-Torey, in the river mouths and floodplains. Reedbeds are sparse and occupy 30 to 70% of the habitat area.

On salty soils along the shore of Lake Barun-Torey, *Salsola monoptera* and *Suaeda prostrata* are found. These species form associations with *Atropis tenuiflora, Carex duriuscula, C.enervis, Typha angustifolia, Phragmites australis* and grasses: *Hordeum brevisubulatum, Halerpestes salsuginosa, Triglochin maritima, Tripolium vulgare, Puccinellia tenuiflora, Calamagrostis macrolepis, Leymus chinensis, Eleocharis palustris, Solboschoenus planiculmis, Alisma plantago-aquatica, etc*.

Vegetation on the islands includes *Atriplex sibirica, Chenopodium album, Convolvulus sp., Artemisia scoparia, Agropyron cristatum* and *Caragana mycrapylla*.

The steppe ecosystems are dominated by feather-grasses *Stipa baicalensis, S.krilova, S.grandis, S.klemensii, Leymus chinensis*, as well as *Festuca litvinovi, F.lenensis, Koeleria cristata, Filifolium sibiricum, Poligonum divaricatum* and *Artemisia gmelinii*. Subdominant species are *Tripogon chinensis, Cheamaerhodos trifida, Thymus dauricus, Cleistogenes sguarrosa, Carex duriuscula, Potentilla acaulis, Lespedezsa hedysaroides, Bupleurum becaule, Chamaerhodos trifida, Ephedra dahurica, Caragana pygmaea, Stipa sibirica, Puccinellia tenuiflora, Hordeum bravisubulatum, etc*.

Shrub communities are not large in area and are dominated by *Ulmus macrocarpa, Caragana stenophylla, C.bungii* and *Spirea dahurica*. Subdominants include *Artemisia gmelinii, Allium pollyzhizum, Allium senescens, Stipa krilivii* and *Oxitropis miriophylla*.

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17. Noteworthy flora: Botanical description of the area list 363 species of vascular plants; 2 of them have been included in the Red Data Book of Russian Federation and 25 are on the Red List of the Chita region. Amongst these are *Artemisia nitrosa, Asparagus brachyphyllus, Cottoneaster mongolica, Ephedra daurica, Iris lacteaallas, I.tigridia, I.humilis, Allium anisopodium, Honiolimon aureum, Salsola monoptera, Kochia angustifolia, Saussurea dauricum, Tournefortia rosmarinifolia, Youngia stenoma, Glycyrriza uralensis* and *Scutellaria baicalensis*.

There is a number of species at the site, which are endemic to the Trans-Baikal region and Siberia, including *Allium tenuisimum, Haplophyllux dauricum, Iris lactea, Hepsofilia daurica, Thermopsis dahurica, Ptilotrichium dauricum, Iris dichotoma, Stipa krylovii* and *S.sibirica*.

Medicinal plants include *Euphorbia maackii, Inula britannica, Leontopodium leontopodioides, L.conglobatum, Lepidium densiflorum, Oxytropis daurica, Plantago depressa, Poliganatum sibiricum, Poligonum angustifolium, Potentilla acalis, Silene jenisseensis, Thymus dahuricus, Seabiosa comoza, Sanguisorba officinalis, Schizonepeta maltifida, Tanacetum vulgare, Achillea asiatica, Lespedeza hedysaroides, Bupleurum scorzonerifolium, Scutellaria baicalensis, etc*.

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18. Noteworthy fauna: The fauna of the Torey Lakes area consists of the elements of different biogeographical zones such as taiga, tundra, broad-leaved forests and steppe. There is a certain lack of data for many groups of animals. So far 305 bird species (including 90 breeding one), 42 mammal species, 3 reptile species, 2 amphibian, 4 fish species and more than 590 species of insects have been registered. 16 bird species have been included in the International Red book and the Russian Red Data Book.

The Daursky Nature Reserve provides important habitats for such rare species as white-naped crane *Grus vipio*, hooded crane *G.monachus*, relict gull *Larus relictus*, Asiatic dowitcher *Limnodromus semipalmatus*, swan goose *Anser cygnoides* and great bustard *Otis tarda*.

The site is an important staging area for migratory waterbirds including *c.* 2,500 geese (*Anser anser, A.faballis serrirostris* and *A.f.middendorfi*), 5,000 shelducks (*Tadorna ferruginea* and *T.tadorna*), 20,000 ducks (*Anas platyrhynchos, A.poecilorhyncha, A.crecca, A.formosa, A.falcata, A.strepera, A.penelope, A.acuta, A.clypeata* and *Aythya ferina*), 10,000 coots (*Fulica atra*), 10,000 cranes (*Grus grus, G.vipio, G.monacha* and *Antropoides vigro*) and over 10,000 gulls (*Larus ridibundus, L.cachinnans*, *etc.*).

Many waders, such as plover *Plinialis squatarola, Pluvialis fulva* (5,000-6,000), green sandpiper *Tringa ochropus*, wood sandpiper *Tringa glareola*, puff *Philomachus pugnax*, curlow sandpiper *Calidris ferruginea*, curlew *Numenius arquata* and Australian curlew *Numenius madagascariensis*, also migrate through the area.

A number of rare and endangered waterbird species, including relict gull *Larus relictus* (10-1,215 pairs), swan goose *Anser cygnoides* (6-52 pairs), Baer's pochard *Aythya baeri* (1-2 pairs), white-naped crane *Grus vipio* (5-10 pairs) and godwit *Limnodromus semipalmatus* (5-80 pairs), breed on Lake Barun-Torey. For the swan goose, the site is an important moulting area: in some years, moulting concentrations reach 400 to 1,000 individuals. Cormorant *Phalacrocorax carbo* (80-1,500 pairs), grey heron *Ardea cinerea* (40-650 pairs), herring gull *Larus cachinnans* (13-3,000) and Caspian tern *Hydroprogne caspia* (0-570) nest on the islands in great numbers. Breeding colonies of terns *Sterna hirundo* (100-220 pairs); *Chlidonias leucoptera* and *C.nigra* (up to 10 pairs each) are also found in the wetlands.

Among the other rare species breeding on the lakes are steppe eagle *Aqula rapax* (1-2 pairs), eagle owl *Bubo bubo* (1-2 pairs), rock sparrow *Pyrgilauda davidiana*, *etc.*

Such raptors as marsh harrier *Cyrcus aeruginosus* (5-6 pairs), buzzard *Buteo hemilasius* (6-7 pairs), steppe eagle (*Aqula rapax* (1-2 pairs), saker falcon *Falco cherrug* (1-3 pairs) are common. Black kite *Milvus migrans*, goshawk *Accipiter gentilis*, spotted eagle *Aqula clanga* and hobby *Falco subbuteo* occur during migrations.

Two species of owl: eagle owl *Bubo bubo* and short-eared owl *Asio flammeus* breed at the site. Snowy owl *Nyctea scandiaca* winter in the area.

The Torey Lakes Ramsar site includes 40 species of mammals. Four of these have been entered in the International and Russian Red Books: hedgehog *Erinaceus dauuricus*, Pallas`s cat *Felis manul*, Mongolian gazelle *Procapra gutturosa* and marmot *Marmota sibirica*.

Other mammal species include shrew *Sorex tundrensis*, three species of bats (*Myotis mystacinus, Vespertilio murinus* and *V.superans*), two species of ground squirrels *(Spermophilus undulatus* and *S.dauricus*), pica *Ochotona daurica*, hare *Lepus capensis* and other small mammals (*Alactaga sibirica, Allocricetulus curtatus, Phodopus sungorus, Microtus fortis, M. mongolicus, M. gregalis, Lasiopodomys brandti, Myospalax aspalax, Meriones unduiculatus, Mus musculus, Micromys minutus*, *etc.*). Predators are large in number, including wolf *Canis lupus*, corsac fox *Vulpes corsac*, red fox *V.vulpes*, badger *Meles meles*, Pallas`s cat *Felis manul* and a number of smaller species: *Mustela altaica, M. nivalis, M. erminea, M. eversmanni*, *etc*. Two species have been purposefully introduced: racoon dog *Nyctereutes procyonides* and muskrat *Ondatra zibethicus*.

The amphibians and reptiles are represented by toad *Bufo raddei*, frog *Rana amurensis*, lizard *Eremias argus*, and two species of snake *Elaphe dione, Agkistrodon halys*.

The fish in the lakes are dominated by crucian carp *Carassius auratus*. *Phoxinus percnurus, Misgurnus fossilis* and *Lefua costata* are less frequent.

Studies of insects has been started only in 1989.

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19. Social and cultural values: Fishery and animal husbandry are vital for the people living near the wetland. The lakes provide many important watering places for the stock. There are a few sacred places of the Buryat tribes on the shore. The lakes are also important for recreation of people living in a 100-120 km zone around the lakes, including the city of Borzi.

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20. Land tenure/ownership of: State ownership

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21. Current land use: There are two zones in the Daursky Biosphere Reserve: the totally protected core zone and the regulated zone where some activities aimed at maintaining the natural character of ecosystems are carried out. In the buffer zone, fishery and some traditional land uses, such as agriculture and animal husbandry, are allowed, hunting is totally banned.

There are two human settlements on the Ramsar site border. The total population is about 2,000. Two private farms and a collective farm occupy 1,488 ha. About 20% of the land are ploughed for oat and wheat growing, the rest are covered by natural hay fields and pastures.

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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:

Natural factors: Considerable changes in the Torey Lakes natural systems are associated with the fluctuations in water level. In the last few years, it has risen substantially. In the early stage of this process, the increase in depth of lakes had a positive effect on colonial birds, providing them with new feeding and nesting sites. As the depth increased though, the nesting conditions became worse. At present, the breeding populations of gulls have decreased sharply and the population structure has changed toward a predominance of *Larus cachinnans* and almost total disappearance of relict gull *Larus relictus*.

Man induced factors: Hay burning is a common cause of the destruction of reedbeds which provide breeding habitats for many birds.

Intensification of agriculture in the region may have an adverse effect on the wetland ecosystems in the near future.

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23. Conservation measures taken: The site includes the 44,752 ha Daursky Biosphere Nature Reserve ('zapovednik'), established in 1987, and a 97,000 ha buffer zone. The Daursky Nature Reserve constitutes a part of the Dauria International Protected Area, which also includes the Mongol-Daguur strictly protected area (Mongolia) and the Dallay-Nor reserve (China). This area was established in 1994. The Torey Lakes site has been designated as an important crane area within the Asia-Pacific Migratory Crane Action Plan.

Management of the Ramsar site is provided by the Daursky Nature Reserve. The staff includes 7 persons responsible for management (administration), 18 persons are in charge of practical protection and 10- of research and education activities.

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24. Conservation measures proposed but not yet implemented: None

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25. Current scientific research and facilities: Regular research on waterfowl populations started in the 1970s. At present, monitoring work is conducted by the Daursky Biosphere Nature Reserve. Ringing of shore birds is carried out at regular intervals. In 1992 and 1993, studies of migration by white-naped and hooded cranes took place, with attaching radios to the birds that can be tracked by satellite. Aerial surveys were carried out in 1990-1992.

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26. Current conservation education: A wide popularization of knowledge about Torey Lakes is conducted by the Daursky Nature Reserve through the mass media and training programmes. Since 1990, about 100 articles have been published in the local press. Two films aimed at raising public awareness have been produced: 'The Relict Gull' and 'Cranes'.

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27. Current recreation and tourism: Recreational pressure is relatively low. There is a recreation and sport fishing zone on the shore of Lake Zoon-Torey.

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28. Jurisdiction:
Territorial: Administration of the Chita Region (8 Chaikovsky Street, Chita 672021, 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: Management of the Ramsar site is provided by the Administration of the Daursky Nature Reserve (P.O.Box 23, Nizhni Tsasuchei, Chita Region 674480, Russia).

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30. Bibliographical references:

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