

Information Sheet on Ramsar Wetlands (RIS) – 2006-2008 version

Available for download from http://www.ramsar.org/ris/key_ris_index.htm.

Categories approved by Recommendation 4.7 (1990), as amended by Resolution VIII.13 of the 8th Conference of the Contracting Parties (2002) and Resolutions IX.1 Annex B, IX.6, IX.21 and IX. 22 of the 9th Conference of the Contracting Parties (2005).

Notes for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.
2. Further information and guidance in support of Ramsar site designations are provided in the *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance* (Ramsar Wise Use Handbook 7, 2nd edition, as amended by COP9 Resolution IX.1 Annex B). A 3rd edition of the Handbook, incorporating these amendments, is in preparation and will be available in 2006.
3. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers should provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of all maps.

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

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Designation date

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Site Reference Number

Neera Shrestha Pradhan
WWF Nepal Program
Baluwatar, Kathmandu, Nepal
Tel No-977-1-4434820
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Email: info@wwfnepal.org; neera.pradhan@wwfnepal.org
Website: www.wwfnepal.org

2. Date this sheet was completed/updated:

18 April 2006

3. Country:

Nepal

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.

Phoksundo Lake

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:

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.

Mainly follows a catchment boundary.

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.

82°55'-83°00' East Longitude and 29°10'-29°15' North Latitude

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.

It lies in the Mid-Western development region in Karnali Zone. The Administrative district is Dolpa. The district and park headquarter of Dolpa is Dunai. Dunai is the nearest town from where it takes two days (about 30 km) normal walk to reach Phoksundo Lake. The nearest village of the lake is called Ringmo where the Village Development Office, Buffer zone User committee Office, and primary school are available. The nearest village with permanent settlement is Raha Gaun and it takes half days walk from here. The human population of Phoksundo village Development Committee is 509 (94 HH).

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

Average 3,611.5 m

11. Area: (in hectares)

494 hectares

12. General overview of the site:

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

It is Glacial lake of significant size (second largest and deepest in the country) in distinct geographical location of central Himalayan eco-region. The wetland is the centre of endemism in the eastern Himalayan region and source of fresh water for downstream.

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).

Criteria 1: A wetland should be considered internationally important if it contains a representative, rare, or unique example of a natural or near-natural wetland type found within the appropriate biogeographic region.

Phoksundo Lake is a unique and representative wetland type in the high Himalayan Palearctic biogeographical region. It is the second biggest and probably the deepest fresh water lake of Nepal. This lake is the important source of water for the Thuli Bheri River of Nepal. The waterfall from about 500 m south of the lake forms the majestic water fall which is the largest falls (167m) in Nepal (Upreti 1989).

Criteria 2: A wetland should be considered internationally important if it supports vulnerable, endangered, or critically endangered species or threatened ecological communities.

Phoksundo Lake (alpine meadows, bogs, and lake/pond) is a unique or critical habitat for a number of rare and vulnerable species of plants and animals.

List of fauna in Phoksundo Lake

S.No	Scientific name	Vernacular name	IUCN Redlist	CMS
1.	<i>Aythya fuligula</i>	Tufted Duck	LC	II
2	<i>Aythya nyroca</i>	Ferruginous duck	NT	I/II
3	<i>Rhodonessa rufina</i>	Red-crested Pochard		II

Major vulnerable, rare, and critically threatened species are listed here:

SN	Scientific name	Vernacular name	GoN protected species list	IUCN Redlist	CITES species
1.	<i>Dactyloctenium aegyptium</i>	Panchoule	*		
2.	<i>Nardostachys grandiflora</i>	Jatamanshi	✓**	VU	II
3.	<i>Neopicrorhiza scrophulariiflora</i>	Kutki		VU	
4.	<i>Podophyllum hexandrum</i>	Laghupatra		✓	II
5.	<i>Discorea deltoidea</i>	Ban Tarul			II

It is one of the important sites from where numerous type specimens of plants are collected.

Snow leopard (*Uncia uncia*) is a protected species under Government of Nepal, Appendix I of CITES and Endangered under IUCN Redlist 2007. Phoksundo Lake area is one of the prime habitat of Snow leopard (Schaller, 1973, 1977; personal communication with local people in 1996, 2001) It has been reported that local people have occasionally sighted snow leopard in Phoksundo area.

The Musk deer (*Moschus chrysogaster*) is a protected species under Government of Nepal and listed in CITES Appendix I, inhabit birch-conifer forests between 2600-4000 m throughout the Himalayan range. It is sparsely distributed with low density in SPNP due to limited abundance of lichens, winter diet of the animal (see Yonzon, 1990) and large scale hunting and poaching in the past (which still exist to some extent). Among major hotspots include Ringmo, and Ringmo Valley (Jackson 1979).

The Grey Wolf or Tibetan Wolf (*Canis lupus*) is a protected species under Government of Nepal and is listed in CITES Appendix I. It occurs in the alpine zones (above 3100 m), with grassland, open scrub, broken ridges and gullies of the park. Yonzon (1990) estimated there were at least twelve wolves in different groups of pack size (2-9). Based on the evaluation of people's response, livestock predation incidence, and their observation by site staff and survey (Basnet 2002), the number of wolves has multiplied very fast and their distribution is not limited only in upper Dolpa.

Criteria 4: A wetland should be considered internationally important if it supports plant and/or animal species at a critical stage in their life cycles, or provides refuge during adverse conditions.

It provides staging point for the following birds. Ferruginous duck (*Aythya nyroca*)-Passage migrant; Common Moorhen (*Gallinula chloropus*)-Passage migrant, Tufted Duck (*Aythya fuligula*)-Winter visitor, passage migrant; Red-crested Pochard (*Rhodonessa rufina*)-winter visitor, passage migrant ; and Ruddy Shelduck (*Tadorna ferruginea*)- passage migrant, have been sighted in the Phoksundo Lake and Ringmo village

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:**

Western Himalayan Temperate Forest (88)

WWF Global 200 Ecoregions

b) biogeographic regionalisation scheme (include reference citation):

Himalyan Paleoarctic

(Miklos D.F. Udvardy, A Classification of the Biogeographical Provinces of the World. Prepared as a contribution to UNESCO's Man and the Biosphere Programme Project No. 8. IUCN Occasional Paper No. 18. IUCN, Morges, Switzerland, 1975.

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.

Phoksundo lake lies in Higher Himalayan Zone, ranges above 3,600 m. Physiographically this zone has steeply to very steeply sloping mountains terrain. Geographically this zone is colluvial and morinal deposited surface, composed of various kinds of gneisses that forms the basement of the Tibetan-Tethys-Sedimentary sequence and consists of high grade metamorphic rocks which include various kinds of gneisses, schists and migmatites.

A valley glacier occupied the Bauligad valley down to 3,200m above msl in the past glacial age forming a large U-Shaped valley behind the terminal moraine. After the retreat of the glacier one of the side walls of the U-shaped valley became unstable due to the release of the lateral load and mountain collapse occurred perhaps triggered by catastrophic event such as earthquake and the landslide dam formed the Phoksundo Lake. The detritus produced by the collapse of the mountain chunk of about 2.5 km by 1.5 km. dammed up the canyon of the Bauligad giving rise to the present Phoksundo Lake. Total volume of the detritus is estimated to be around 1.5 billion cubic meters. A secondary collapse of the detritus is also recognized in the southern parts of the lake in the form of a horseshoe shaped scarp. It has been estimated that the lake level was 20 m higher than at present. Towards the head of the lake soil is mixed with gravel and boulder whereas towards the outlet there are big boulders with gravel mixed soil. Many parts along the bank of the Lake are formed by rocky areas. Soil content of the Phoksundo lake and its catchment areas is as follow: Soil moisture: 18.12%, Soil pH: 6.7, Organic Matter: 1.7%.

At present the debris is incised by the Bauligad. Terraces of the more than two levels have developed on the detritus on both sides of the stream. The bed is also distributed outside of the detritus and forms ridge like topography and is subjected to intense erosion. Towards downstream the ridge extends up to an altitude of 3,200 m. The sediment is composed of the angular to sub angular grains rich in fine sand and silt and shows sorting to a degree. This is a glacial till and the ridge like topography represents the terminal moraine. The glacier probably advanced from the eastern flank of Kanjiroba Himal. The present outlet of the lake is on the bed rock in the south-Western end of the lake and is not located on the detritus or the till deposit.

The geologic features of the park result from the continental-scale plate-tectonic collision of the Indian subcontinent with the Eurasian continent. Most of the Park area is underlain by un-metamorphosed sedimentary rocks that were laid down along the northern margin of India before colliding with the southern margin of Eurasia. These rocks are referred to as the Tethyan sedimentary rock sequence, which belong to the Tibetan sedimentary zone. In the north, the high peaks and broad valleys are formed in the folded and locally faulted limestone, shale, siltstone, and sandstone of the Tethyan (Tibetan) sequence. In the south, steep-sided valleys cut in both rocks

that are transitional from the Tethyan sequence to the metamorphic rocks of the central crystalline zone and the high-grade metamorphic rocks (Brew, 1991). Geomorphic processes like erosion and sedimentation are active in this region.

The lake is north-south elongated with a slight bend at the southern parts. The bank of the lake is formed by rocky area. The land along the outlet towards southern side is almost flat and rests of the three sides are surrounded by Steep Mountain of the bedrock. The lake is located along the canyon of the Suligad River. A horse shoe shaped large steep scarp of landslide and a rugged gently slopping mound occur along the foot of the main scarp of the left bank of River adjacent of the southern end of the lake. Towards the right bank near Choling Gumpa (Monastery) few rock mounds exists.

The down stream area of the Phoksundo Lake is basically National Park area till Dunai along the Suligad River. The water users in the down stream are few traditional ghatta (Water mill) users and many domestic users. The traditional uses are mainly for drinking water to the livestock of the villages of Phoksundo VDC.

The general climate is pronounced winter with about minus -10° C. The lakes are frozen for about four months (December-March) and melts slowly by the end of March. The summer is mild (up to 20° C) with little rain (about 600 mm) in June to September. The rest of the months are mild cold and are optimum for tourism activities.

Before the depth measurement by the Department of Hydrology and Meteorology in 2004, Phoksundo Lake was the deepest lake of the country with estimate of the depth being about 600 m. The depth of the Phoksundo Lake measured by the department shows only 145 m (DHM 2004). To resolve the controversy, a task force has been formed by the Government involving members from DNPWC and Shey Phoksundo National Park.

The chemical parameter of the water is within the limits for drinking as per the WHO value. The sample was found contaminated with coliforms bacteria and is suggested to treat for drinking water purpose (Annex 1 provides the table on laboratory analysis of the water from the site.

Color of water is clear white and appears blue due to the depth of the lake. Water is transparent, turbidity is Low and Solid waste is nominal.

During the rainy season the level of water increases whereas it decreases during the winter. The melt of ice after winter increases the volume of water. The source of the water is mainly the rain water in the form of water and ice during summer and winter respectively.

17. Physical features of the catchment area:

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

The lake is surrounded by steep mountain slopes composed of bedrocks along its eastern, northern and western sides. A large steep scarp of horse shoe shaped landslide and a rugged gently slopping mound occur along the foot of the main scarp on the left bank of the river adjacent to the southeastern end of the lake. A few rugged mounds are also observed on the right bank of the river towards the Choling Monastery.

Most of the area is grassland, shrub land, rock and forest. The forest is mainly situated along the River valley and slopes are covered by shrub and grassland.

The general climate is pronounced winter with about minus -10° C. The summer is mild (up to 20 °C) with little rain (about 600 mm) in June to September. The rest of the months are mild cold and are optimum for tourism purposed.

18. Hydrological values:

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

The Phoksundo Lake is the source of the Thuli Bheri River. The amount of rain and snow determines the volume of water discharged to the River. The ground water around the lake to the shrub-land and forest is recharged from the permanent source of water in the lake. The rain water is trapped in the lake and flood is controlled. Sediments from the slope of the catchment are deposited at the bottom of lake.

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.

Tp, M

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.

The bioclimate of this zone is axeric with mean temperature of the coldest and hottest month at January and July ranging from - 5 to -10 °C and -3 to 10°C respectively and the frosts period lasts for 3 to 6 months.

Forest of Rani sallo (*Pinus wallichiana*) with its associative *Abies* species is found in south eastern part of the Phoksundo Lake. The most minute flowering plant Indian dwarf mistletoe (*Arceuthobium minutissimum*) has prominent infection over the host Rani sallo (*Pinus wallichiana*) along the fringe of the Phoksundo Lake. Lekali Chutro (*Berberis mucrifolia*), *Ribes alpestre*, *Caragana* species, etc have made the lake bountiful.

The site has influence of at least eight phytogeographical regions. Among them, the eastern Asiatic (Sino Japanese) and Irano-Turanean including western and central Asiatic sub regions have the highest influence over the area (Shrestha 2004). The current survey yielded 155 species of plants.

The common animal species recorded was Pika (*Ochotona* sp.).

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.

The site contains important floras such as Satuwa (*Paris polyphylla*), Bikh (*Aconitum spicatum*), Pakhanbed (*Bergenia ciliata*), Jangali Painyu (*Prunus carmesina*), Rubiko sag (*Megacarpa polyandra*), Elm (*Ulmus wallichiana*), *Lamium tuberosum*, Jangali Jaitun (*Olea ferruginea*),

22. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. 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.

The rangeland provides habitats to blue sheep (*Hemitragus jemlabicus*), and fox (*Vulpes vulpes*) is also reported in the catchment.

Bird species such as Common Moorhen (*Gallinula chloropus*); Red-crested Pochard (*Rhodonessa rufina*); and Ruddy Shelduck (*Tadorna ferruginea*) have been sighted in the Phoksundo Lake and Ringmo village

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:

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?

If Yes, tick the box and describe this importance under one or more of the following categories:

- i) sites which provide a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland:
- ii) sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland:

The cultural and religious use of Phoksundo Lake by the people of Ringmo and down stream up to Dunai is very high. Moreover there are more than 20 Chhortens. Chortens are made up of stone in the name of the died people along the trail in southern belt and one Gumba in eastern site of the lake where annual pray and worship is occurred. Traditional Tibetan culture in upper Dolpo and Buddhism and ancient culture of Tibet called Bon-Po religion in lower Dolpo is observed in Ringmo village.

People are very much dependent on the daily livelihood directly. The tourism base of the social economy is dependent on wetland.

The lake is source of drinking water for 42 households of Ringmo village.

- iii) sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:
- iv) sites where relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland:

The wetland is source of ecotourism, religious and Bonpo culture and source of fresh water for down stream. Ringmo (Tsho) village represents an important site for the Bon Po culture.

24. Land tenure/ownership:

- a) within the Ramsar site:

The land is owned by the Government and the local authority is Shey-Phoksundo National Park. Limited private land is owned by the people of the 42 households of Ringmo village near the Phoksundo Lake.

- b) in the surrounding area:

The surrounded area is completely owned by the Government except the private land owned by the local people living inside the Park (legally declared as buffer zone).

25. Current land (including water) use:

- a) within the Ramsar site:

The small area near the village is cultivated. Most of the catchment is mainly a seasonal grazing land by the local people and mostly a rangeland with herb and shrub. Besides, most of the area is rocky around the wetland. Rangelands are use for grazing their livestock. Part of the government owned land is allowed to use as camping site for tourism purpose near the lake.

b) in the surroundings/catchment:

The rangeland is dominated by rock, trees, shrubs, and grasses. It is grazed seasonally by their livestock. Grazing as traditional right is allowed to the local people of the National Park area. The definition of the local people embodies the people living within the Shey Phoksundo National Park.

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:

Overgrazing: The domestic livestock reared by villagers of Ringmo are grazed for some months in the catchment.

Unsustainable use of biodiversity: The local households collect fuel wood for cooking, heating and construction. Cattle dung is also used for heating and cooking. Sometimes, large numbers of scrubs are cleaned for making a bed to store the yak fodder for the winter.

Pollution: The main sources of pollution are human waste and domestic sewages of the 42 households of Ringmo village. The campsite used to be crowded some time in the past but now the number of tourist has gone down.

b) in the surrounding area:

Overgrazing: The domestic livestock reared by villagers of the buffer zone are grazed in the catchment and surrounding area moving at the higher altitudes in the summer and lower altitudes in the winter season.

Unsustainable collection of NTFPs and fuel wood: The local households and people from nearby villages collect medicinal plants especially Yarshagumba (*Cordiceps sinensis*) and other high valued medicinal plants for traditional and commercial purpose. Collection of fuel wood for cooking, heating and construction is also common. Cattle dung is also used for heating and cooking. Sometimes, large numbers of scrubs are cleaned for making a bed to store the yak fodder for the winter.

The endangered species Snow leopard (*Uncia uncia*), Musk deer (*Moschus chrysogaster*) and Grey Wolf or Tibetan Wolf (*Canis lupus*) are facing problem due to poaching in its habitat range and destruction of habitat.

Glacier sink was recorded in the gravely and frozen bank of Phoksundo river.

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 Shey-Phoksundo National Park was proposed for world Heritage Site and is in the process of updating the documentation for consideration. The park was established in 1984.

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 ; \sqrt{II} ; III ; IV ; V ; VI

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

Proposed Buffer Zone Management Plan is being implemented through the project but government revenue is not yet channelized.

The plan is in approval process thus will send once it gets approval

28. Conservation measures proposed but not yet implemented:

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

Park Management Plan including Buffer Zone and Tourism management has been submitted by the park and is in the process of review for approval.

The Park is proposed for a World Heritage Site based on both natural and cultural uniqueness (HMG, 1999) and is in process of official Approval.

29. Current scientific research and facilities:

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

The study is limited to Bonpo culture, and snow leopard. The Ringmo village provides home stay in the site that can provide space and other logistic for research. Plant and people Initiative (PPI) project has been recently completed which documented the high valued medicinal and aromatic plants of the Park. Currently, integrated conservation and development and Good Governance in Natural resource management (Sagun Program) is being implemented through the Northern Mountain Conservation Program (NMCP) with the Financial and technical help of WWF Nepal Program.

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

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

Park brochure is provided free of cost while buying entry permits either in Kathmandu or Park entry points. The wetland provides potential educational site for the domestic and international students and visitors.

31. Current recreation and tourism:

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

The Ringmo village and other settlement are places to observe the Bonpo culture. It is on the way to upper Dolpa and lake side provides camp site in addition to its scenic beauty. The lake is one of the favoured destinations of the tourist visiting Shey-Phoksundo National Park. Till 2000, the number

of tourist visiting to the Park used to be around 500 but the number has been drastically reduced afterwards.

32. Jurisdiction:

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

Territorial-State owned (Ministry of Forest and Soil Conservation). Functional-Department (Department of National Parks and Wildlife Conservation).

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.

Conservation Officer:

Mr. Ganesh Pant

Shey-Phoksundo National Park, Dunai, Dolpa

Phone +977-087550104

(Address for the DNPWC is also acceptable)

34. Bibliographical references:

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

Basnet, K.1998. Biodiversity inventory of Shey-Phoksundo National Park: Wildlife Component. Publication Series No.34. WWF Nepal Program, Kathmandu.

Basnet, K.2002. Wildlife-Livestock Competition: A Major Issue in Park Management? International Seminar (March 6-8,2002), RONAST, Kathmandu.

Brew, D. 1991. Preliminary report on geologic features of Shey-Phoksundo National Park, Dolpa, Nepal. U.S. Geologic survey. Open-file report 91-117.

Department of Hydrology and Meteorology 2004. Preparation of Topographical and Bathymetric mapping of Phoksundo lake in Dolpa District. DIP Consultancy (p.) Ltd and B.K.Consultancy.

Ghimire SK, YC Lama, ATN Gurung, YA Thomas 2000. *Conservation of Plant resources, community development and training in applied ethnobotany at Shey Phoksundo National Park and its Buffer Zone, Dolpa*. WWF report series no. 40. WWF Nepal, Kathmandu 76p.

Ghimire, SK 2000. Shey-Phoksundo National Park: a natural cultural heritage site. *The Wildlife*, 3: 40-43

Ghimire, SK, KK Shrestha, DB Parajuli, YC Lama and YA Thomas 1999. *Plant resource use and community management Practice in the Shey Phoksundo National Park, Nepal*. In proc. of III National conference on science and technology, March 8-11, 1999. RONAST, Kathmandu, Nepal 1579-1593

Gurung, TN, YC Lama, KK Shrestha, and S Craig. 1996. Medicinal Plants and traditional doctors in SPNP and other areas of the Dolpa, WWF Nepal, Kathmandu.

Hertog, WD 1995. NTFPs in Dolpa district, KLDP and SNV

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Annex 1 . Laboratory Analysis of the water of Phoksundo Lake, SPNP.

Parameter	Unit	WHO GV	Result (DIP/BK(JV)2004)	Current study
Physical				
Turbidity	NTU	5	1	<1
Suspended Solids	Mg/l		<1	<1
Chemical				
pH		6.5-5.8	8.1	7.2
Acidity	Mg/l CaCO ₃			<2.0
Ammonia	Mg/l	1.5	<0.05	
Total Alkalinity	Mg/l CaCO ₃	500		154.0
Calcium	Mg/l		30.4	
Chloride	Mg/l	250		1.33
Nitrate	Mg/l	50	0.42	
Total Nitrogen	Mg/l			<0.5
Phosphate	Mg/l			<0.002
Dissolved oxygen	Mg/l		8.75	
BOD	Mg/l	100		0.65
Bacteriological				
Coliforms	MPN/100 ml	Nil		4

(Sources: DIP/BK(JV) 2004, current study based on the test by Water Engineering & Training center (p.) Ltd. Dillibazar, Kathmandu)