



Regional Flyway Initiative · Site Study

May 2026

RFI Priority Site · Buir Lake

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General Site Information

Country	Mongolia		
RFI Site Name	Buir Lake	ID053	
City/ Municipality, Province, Region	Tsogtsumber and Tashgai Bag, Khalkgol Soum, Dornod Aimag		
Geographical coordinates	47.77 N, 117.8 E	Area	1,254 km ²
Key species	Swan Goose (VU), Common Pochard (VU) and at least seven other species exceeding 1% of the EAAF thresholds. Also, small but significant population of Relict Gull (VU)		
Key habitats (biomes)	wet grassland, reedbeds and riparian woodland dominated by willows <i>Salix</i>		
Key ecosystem services	Provisioning services (fisheries, freshwater), regulating services, cultural services (tourism, domestic and international)		
Key drivers of change	Overgrazing and expansion of tourism sector		
Conservation status (mark all that applies)	<input type="checkbox"/>	Protected Area	<input type="checkbox"/>
	<input type="checkbox"/>	Ramsar Site	<input type="checkbox"/>
IBA/ KBA name (and number) and other designations	Buir Lake		
Management Stakeholders	Dornod provincial government, Khalkhgol soum government, MECC, MOFALI		
With management plan?			
Project concept themes	Site management, rangeland management, fisheries management, nature-based tourism, biodiversity monitoring and research		
Length of project	5 years		
Sector/s	Fisheries, tourism, agriculture (livestock)		
No. of potential beneficiaries	At least 500 households, about 7,000 visitors every year		
Indigenous Peoples	<input type="checkbox"/>	No	<input type="checkbox"/>
Anticipated Implementation Risks	Impact on wildlife and ecosystems with construction of new infrastructure for tourism. Potential livelihood impact on households involved in fishing industry, with fishery management interventions. Potential livelihood impact on herding households.		
Estimated Project Budget (US\$)	16,300,000		
Potential Source/s of Financing	<input type="checkbox"/>	Loan (to be identified)	<input type="checkbox"/>
	<input type="checkbox"/>	Grant (to be identified)	<input type="checkbox"/>

Table of Contents

General Site Information	3
Abbreviations	5
Executive Summary	6
1. Background of the Regional Flyway Initiative	7
2. Site profile of Buir Lake	8
3. Biodiversity value of Buir Lake	9
3.1. Key habitats	9
3.2. Importance of Buir Lake for migratory waterbird species.....	9
3.3. Other notable biodiversity	10
4. Ecosystem services	11
4.1. Ecosystem services provided by Buir Lake	11
4.2. Global climate regulating services.....	12
4.3. Flood mitigation services.....	12
5. Drivers of change and their potential impacts on Buir Lake	13
5.1. Current drivers of change and their level of impact.....	13
5.2. Potential alternative state of Buir Lake under current drivers of change	14
5.3. Expected changes in the ecosystem services of Buir Lake	14
6. Capacity gaps and needs for the management of Buir Lake	15
7. Opportunities for RFI interventions	17
7.1. Recommended Interventions.....	17
7.2. Potential Financing	28
7.3. Proposed Institutional Arrangements	28
7.4. Project Beneficiaries.....	29
7.5. Anticipated Implementation Risks	29
References	30
Annex 1. Supplementary information on flood mitigation services	31

Abbreviations

ADB	Asian Development Bank
AWC	Asian Waterbird Census
CSR	Conservation Status Review
DMC	Developing Member Country
EAAFP	East Asian-Australasian Flyway Partnership
IBA	Important Bird and Biodiversity Area
IUCN	International Union for the Conservation of Nature
KBA	Key Biodiversity Area
MECC	Ministry of Environment and Climate Change
MAS	Mongolian Academy of Sciences
MCST	Ministry of Culture, Sports, Tourism, and Youth
MOFALI	Ministry of Food, Agriculture, and Light Industry
NGO	Non-governmental Organization
NP	National Park
NR	Nature Reserve
NSPA	Numrug Strictly Protected Area
NUM	National University of Mongolia
RFI	Regional Flyway Initiative
SPA	Strictly Protected Area
TTL	Tashgain Tavan Lakes
TESSA	Toolkit for Ecosystem Services Assessment
USD	United States Dollars
WCS	Wildlife Conservation Society
WSCC	Wildlife Science and Conservation Center Mongolia

Executive Summary

The wetlands of eastern Mongolia lies within the northern and central edge of the East Asian-Australasian Flyway (hereafter as the 'EAAF'); its diverse landscapes provide important staging and stopover habitat for internationally important concentrations of migrating waterbirds. Much of eastern Mongolia falls within the upper catchment of the Amur River Basin and is drained by tributaries of the Amur. Buir Lake in Khalkhgol soum, Dornod is the largest lake in eastern Mongolia, and among the most important staging and breeding sites for several waterbird species in east Asia. Buir Lake on its own cover an area of 61,500 ha, and if surrounding wetlands and steppe is included, extends well over 100,000 ha. The Khalkgol River is the main inflow into Buir, and the lake drains into Dalai Lake in the People's Republic of Mongolia to the north, through the Orshon River. To the south of the lake are extensive steppe grassland Mongolian-Manchurian steppe biome, while the north-western fringe of the lake is steppes characteristic of the Daurian forest steppe biome. Buir and its satellite of smaller lakes are recognized as among the most important staging and stopover sites for migratory waterbirds in eastern Mongolia, supporting the largest staging populations of the Swan Goose *Anser cygnoid* (VU) in the world, together with significant populations of waterfowl species such as Great Crested Grebe *Podiceps cristatus* and Common Pochard *Aythya ferina* (VU).

Buir and its several smaller satellite lakes receive protection is protected as one of Mongolia's 11 Ramsar Sites and is managed by the Khalkhgol government and Ministries of Environment and Climate Change (MECC). The lake supports a major fishery, producing an estimated 300 tons of fish annually on the Mongolian side, with 16 species regularly fished. Commercial and game fishing activities has depleted stocks of several game species in Buir Lake while pollution from the improper disposal of fishing waste (e.g. nets), tourist waste and household waste has increased over time. The grasslands fringing the Mongolian side of the lake is heavily grazed by local herders, and there are significant areas which are heavily denuded and eroded. Another driver of change is tourism, which is gradually increasing, with an estimated 7,000 visitors to the lake each year.

Presently, there are limited management and conservation activities in Buir Lake. Through consultation with government stakeholders and site managers, an immediate priority for improving the management of Buir Lake is the expansion and updating of existing site management and zonation plans, to ensure that the most ecologically sensitive parts of this landscape are well protected from overgrazing and fishing activities. Additionally, there is an opportunity to work with local governments and the MECC and Food, Agriculture and Light Industries (MOFALI) to strengthen engagement and capacities of herding households (estimated at **least 500 households**) to develop sustainable rangeland and livestock management practices. Separately, there is scope to engage the local fishing community and fishing operators to improve the management of Buir Lake's fisheries. The increasing popularity of Buir Lake to both domestic and international tourists means that there is also significant scope for the development of local tourism capacity and infrastructure (more so than Tashgain Tavan) with a focus on specialized, high-end wildlife tourism.

1. Background of the Regional Flyway Initiative

In July 2021, the Asian Development Bank made a commitment to develop a long-term Regional Flyway Initiative (RFI) in the East-Asian Australasian Flyway (EAAF) (Sovereign Project 55056-001) to protect and restore priority wetland ecosystems and the associated ecosystem services they provide in the EAAF, the most threatened migratory bird flyway globally. The Initiative is slated for implementation in nine ADB developing member countries (DMCs) in East, South and Southeast Asia: Mongolia, People's Republic of China (PRC), Bangladesh, Viet Nam, Cambodia, Philippines, Thailand, Malaysia and Indonesia. In 2023, the geographic scope of the RFI was further extended to two DMCs in Southeast Asia and the Pacific respectively, Lao PDR and Papua New Guinea.

The primary aim of the RFI is to enhance and expand the existing efforts in conserving and managing wetlands of the highest priority for migratory birds within the EAAF through innovative loan and grant financing, and at scale. Consultations and analyses over the development period help identify key interventions to strengthen the management of wetlands, enabling the implementation of nature-based solutions while strengthening biodiversity protection. Over time, the RFI seeks to leverage collaborative opportunities by developing partnerships among important stakeholders including national governments, civil society organizations, communities, regional organizations like the East Asian-Australasian Flyway Partnership (EAAFP), development agencies, the private sector, and other relevant entities.

Through the RFI Technical Assistance (TA) implemented over the RFI's development phase from 2021 to 2024, BirdLife International takes the lead in providing and coordinating technical support for development of the RFI. This is carried out in collaboration with the EAAFP and a consortium of international non-governmental organizations including Wetlands International and the Paulson Institute, as well as two universities, namely the University of Southampton, UK and the National University of Singapore. Over the development phase, the TA team undertook a site selection analysis to identify priority wetland sites in all 10 countries based on recent bird data benchmarked against internationally accepted criteria under the Convention on Wetlands of International Importance (or Ramsar Convention), EAAFP Flyway Network Sites and Important Bird and Biodiversity Areas (IBAs). The team further developed ecosystem services profiles for prioritised wetlands using a multi-pronged approach used the TESSA ecosystem services assessment tool, and data-driven modelling of water-based ecosystem services and stored carbon.

In Mongolia, a total of 48 wetland sites were initially assessed through published data in the Mongolia IBA Inventory (see Batbayar & Tseevenmyadag 2005), a review of the peer-reviewed literature, and consultations with technical experts. Of these, a total of (12) wetlands were ranked, defined and identified to be RFI priority sites on the basis that they support more than 1% the flyway population of at least one EAAF migratory waterbird species. Four (4) of the RFI wetland sites identified lie with the Amur-Heilongjiang Basin in eastern Mongolia, most notably a cluster of sites around Dornod and Sukhbaatar provinces, including Mongol Daguur SPA, Khurkh-Khuiten, Buir and Tashgain Tavan lakes. Two of the RFI sites, including Terkhiin Tsagaan and Ogii Lakes lie within the catchment of the Yenisey River, with outflows into the Selenge River. The remaining wetlands identified are endorheic lakes in the Altai or Gobi region. At least 48 EAAF species exceeded the 1% threshold at the site level in Mongolia, including nearly the entire breeding and staging population of the Swan Goose (Batbayar et al. 2013; Damba et al. 2021).

2. Site profile of Buir Lake

Location: Buir Lake and its surrounding wetlands are in eastern Mongolia, on the boundary with the People's Republic of China, with a narrow band in the northwest of the lake extending into Chinese territory. The Mongolian section of the site is in Khalkhgol *soum* in Dornod Province. Buir is located 969 km east of Ulaanbaatar and 314 km south-east of Choibalsan, Dornod's provincial capital.

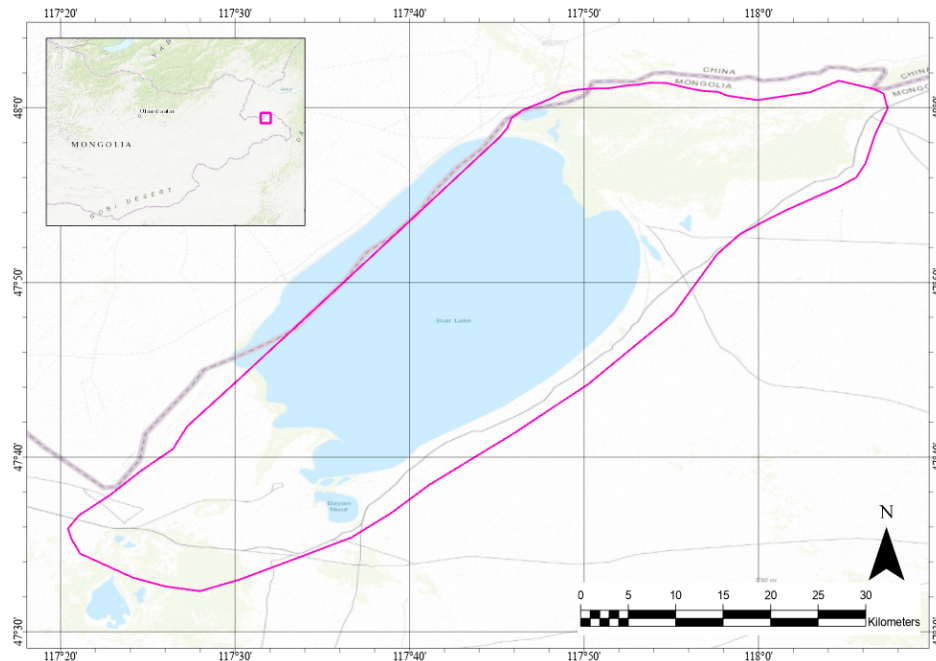


Figure 1. Map of Buir Lake, showing its location on the international border with the People's Republic of China. More than 90% of the lake's area lie with Mongolian territory (Map: Evelyn Pina Covarrubias).

Area: The site covers 1,254 km², while the total surface area of Buir Lake measures about 615 km².

Altitude: 583–609 m asl.

Geographical coordinates: 47.77°N, 117.8°E

Description of site: Buir Lake is one of the largest freshwater lakes in Mongolia, measuring 40 km long and 21 km wide, with a 118 km long shoreline and a maximum depth is 10.4 m, and the largest lake in eastern Mongolia. The main inflow to the lake is the Khalkh River, and the only outflow from the lake is the Orshuun River, which flows to Dalai Lake in the People's Republic of China. Many small lakes are located west of Buir Lake, and there are also numerous small lakes to the east and south, including Bayan, Khar, Nariin, Zuun Zakhiiin, Zakhiiin, Baruun Zakhiiin, Takhi, Khukh Us and Shart lakes. There are extensive areas of wet grassland, reedbeds and riparian woodland dominated by willows *Salix* sp. in the delta of the Khalkh River, and there are sand dunes at the southern end of the lake which contain several small lakes, with

steppe plant communities beyond them. Small salty lakes and mud occur in the low depressions and there are several salty valleys to the south and south-west of Buir Lake.

Site administration, management and land tenure: Buir Lake was designated as a Ramsar site in 2004 (site no. 1377), an IBA in 2009 and an EAAFP Flyway Network Site in 2016. The Ramsar covers 85,290 ha and includes about 82% of the surface area of Buir. The site is state owned, and under the jurisdiction of the State Protected Area Administration of the Ministry of Environment and Climate Change, and Khalkhgol soum.

Social and economic values: Buir Lake is an important fishery, which was originally established as a state-owned fishing enterprise in the 1950s, but illegal fishing is often reported from the Chinese section of the lake. A small community of local fishermen on the eastern bank is the only human settlements in the vicinity of the lake. Local herders practice nomadic animal husbandry, and breed sheep, goats, horses and cattle in large numbers, and smaller numbers of camels, and local people use the wetlands to harvest hay in the autumn. There are some recreational and tourism activities at the site, which is located along the main road from Choibalsan to Khalkhgol County, and the number of visitors is increasing. WWF Mongolia (2021) estimated that about 7,000 tourists visit the lake annually. Drought is a major problem and it has resulted in the retreat of wetlands, possibly linked to climate change. A Mongolian and Chinese joint company has been pumping oil to the west of the lake, which is situated some distance from the lake, but the impact of the oil extraction needs to be monitored and assessed.

3. Biodiversity value of Buir Lake

3.1. Key habitats

Buir Lake is one of the largest freshwater lakes in Mongolia. There are extensive areas of wet grassland, reedbeds and riparian woodland dominated by willows *Salix* sp. in the delta of the Khalkh River, and there are sand dunes at the southern end of the lake which contain several small lakes, with steppe plant communities beyond them. Small salty lakes and mud occur in the low depressions and there are several salty valleys to the south and south-west of Buir Lake.

3.2. Importance of Buir Lake for migratory waterbird species

Buir Lake was selected as a candidate RFI site because it has supported internationally important populations of the migratory waterbirds listed in the species table below, defined as those species which have exceeded the 1% population estimates from the Conservation Status Review (CSR1) (Mundkur & Langendoen 2022). The data used to assess these species was compiled from Batbayar & Tseveenmyadag (2009), together with available bird count data from the peer-reviewed literature. A review of the

candidate RFI sites was conducted by panels of national and international (EAAFP, Wetlands International and BirdLife) ornithological experts. They confirmed that Buir Lake retains its wetland habitats and outstanding importance for migratory waterbirds and recommended that it should be included as one of the 11 RFI sites in Mongolia.

Table 1. List of migratory species (based on the EAAFP list of species) with globally significant congregations in Buir Lake. See also Batbayar & Tsevenmyadag (2009) and Mundkur & Langendoen (2021).

Species name	IUCN	CSR1 score
Great Crested Grebe <i>Podiceps cristatus</i>	LC	>1%
Great Cormorant <i>Phalacrocorax carbo</i>	LC	>1%
Grey Heron <i>Ardea cinerea</i>	LC	>1%
Swan Goose <i>Anser cygnoid</i>	EN	>1%
Ruddy Shelduck <i>Tadorna ferruginea</i>	LC	>1%
Common Shelduck <i>Tadorna tadorna</i>	LC	>1%
Northern Lapwing <i>Vanellus vanellus</i>	NT	>1%
Mute Swan <i>Cygnus olor</i>	LC	>1%

Buir Lake supports populations of the globally threatened and near threatened Oriental Stork *Ciconia boyciana* (EN), Swan Goose *Anser cygnoid* (EN), Common Pochard *Aythya ferina* (VU), Siberian Crane *Leucogeranus leucogeranus* (CR), White-naped Crane *Grus vipio* (VU), Northern Lapwing *Vanellus vanellus* (NT), Black-tailed Godwit *Limosa limosa* (NT), Asian Dowitcher *Limnodromus semipalmatus* (NT) and Relict Gull *Larus relictus* (VU).

3.3. Other notable biodiversity

In addition to the waterbirds, the Buir Lake RFI site supports populations of the globally threatened Pallas's Fish-eagle *Haliaeetus leucoryphus* (EN), Great Bustard *Otis tarda* (EN) and Siberian Taimen *Hucho taimen* (VU), and many thousands of Mongolian Gazelle *Procapra gutturosa* migrate through the area in autumn and spring. In total, 40 fish species across 11 families have been documented from Buir Lake, of which several are harvested commercially (WWF Mongolia 2021).

4. Ecosystem services

4.1. Ecosystem services provided by Buir Lake

The Buir Lake landscape encompasses diverse wetland habitats, providing valuable provisioning, regulating and cultural ecosystem services (Figure 2) for adjacent communities. The findings from the RFI workshop¹ highlights the most important ecosystem services provided by the site, emphasising their essential and non-substitutable nature (Table 2). Regulating services, such as local climate regulation benefit communities within, adjacent to, and distant from the site. Local climate regulation has remained unchanged in the past. Cultural services, particularly recreation ecotourism and knowledge systems and education, significantly benefit communities at all distances, and are expected to remain stable over time.

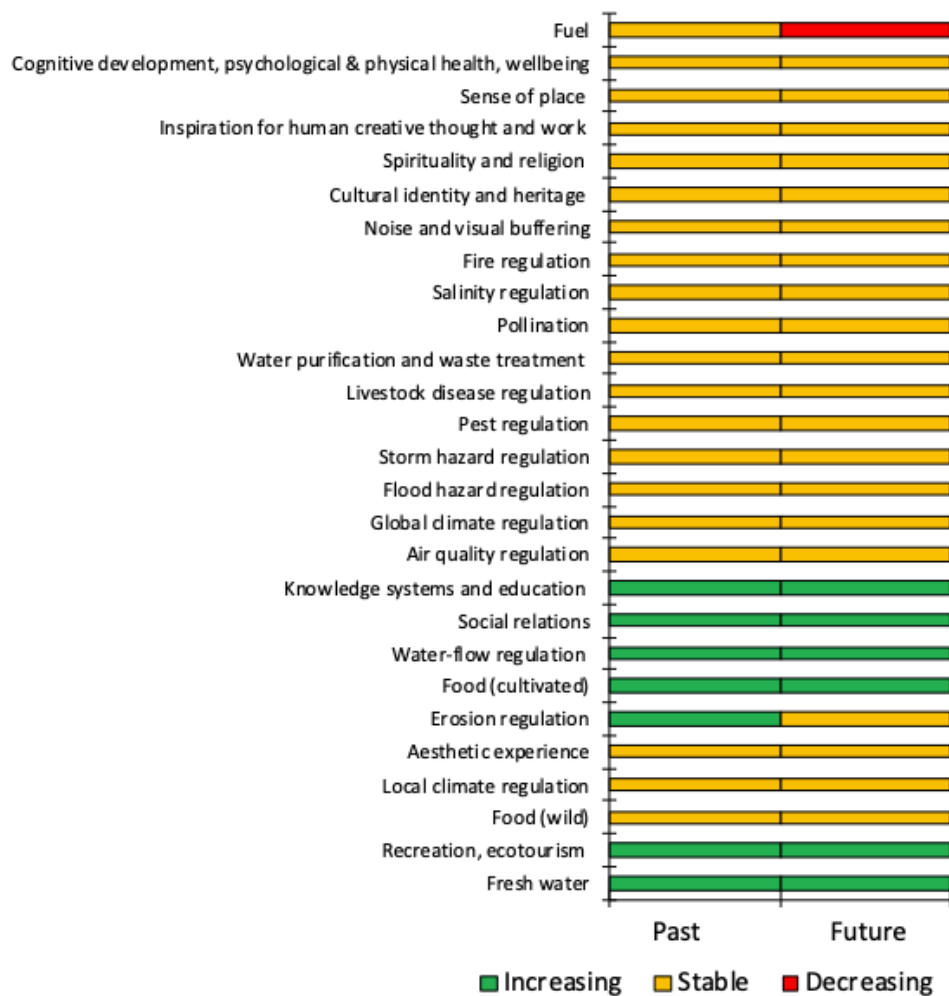


Figure 2. List of ecosystem services provided by Buir Lake, as identified through stakeholder consultation at the Regional Flyway Initiative workshop.

¹ Asian Development Bank. (2024, November 28-29). *Mongolia: Wetland Ecosystem Services Workshop* [Workshop]. Mongolia <https://events.development.asia/learning-events/mongolia-wetland-ecosystem-services-workshop>

Table 2. List of top ecosystem services provided by Buir Lake.

Ecosystem services	Essential or non-substitutable	Benefits to communities			Change	
		Within the site	Adjacent to the site	Distant to the site	Past	Future
<i>Provisioning services</i>						
Fresh water	Yes	✓	✓		Increase	Increase
Food (wild)		✓	✓		No change	No change
<i>Regulating services</i>						
Local climate regulation		✓	✓		No change	No change
<i>Cultural services</i>						
Recreation, ecotourism		✓	✓	✓	Increase	Increase
Aesthetic experience		✓	✓	✓	No change	No change

4.2. Global climate regulating services

While there is no definitive national average specifically for peatlands, Mongolian peatlands are estimated to store between 100 and 150 tonnes C ha⁻¹, although the value is likely variable depending on peat depth, degradation status, and landscape type (Government of Mongolia, 2018). Therefore, carbon stored in the peatlands of Buir Lake (627 ha) is estimated to range from 62,700 to 94,050 tonnes C.

4.3. Flood mitigation services

The stakeholders at the RFI workshop² did not identify flood mitigating services as important benefits provided by Buir Lakes. Therefore, these ecosystem services were not assessed.

² Asian Development Bank. (2024, November 28-29). *Mongolia: Wetland Ecosystem Services Workshop* [Workshop]. Mongolia <https://events.development.asia/learning-events/mongolia-wetland-ecosystem-services-workshop>

5. Drivers of change and their potential impacts on Buir Lake

5.1. Current drivers of change and their level of impact

Stakeholders at the RFI workshop³ identified 26 drivers of change impacting Buir Lake, and their corresponding levels of impact on the wetland site (see Table 3). High-impact drivers include livestock grazing, solid waste disposal and tourism. Intensive grazing pressure from local herders have caused significant degradation of grassland fringing the lake, leaving overgrazed areas denuded and exposed to erosion. Tourism expansion and the fisheries have also contributed increased solid waste pollution in Buir Lake, and surrounding areas where rubbish has been openly dumped.

Medium-impact drivers include increasing risk and impact drought and desertification and is synergistically linked to overgrazing and poor management. There is also increased risk from steppe fires as a result of land degradation and overgrazing. Fishing and overharvesting of fish stocks (from both the Mongolia and China side), and aquaculture expansion is another important driver of change in Buir and is considered by stakeholders to be of ‘medium impact’.

Table 3. Drivers of change and their potential impact on the integrity of Buir Lake based on consultations with stakeholders.

Driver of change	Impact
Garbage and solid waste	High
Livestock farming and grazing	
Recreational activities and tourism	
Desertification	Medium
Drought conditions	
Droughts	
Fire and fire suppression	
Fishing, killing and harvesting of aquatic resources	
Habitat shifting and alteration	
Marine and freshwater aquaculture	
Natural deterioration of important cultural wetland site values	
Other ‘edge effects’ that degrade the wetland site values	
Pathogens	
Storm and flooding	
Tourism and recreation infrastructure	
Destruction of cultural heritage buildings, gardens, sites, etc.	
Increased fragmentation within the wetland site	
Isolation from other natural habitats	
Logging and timber harvesting	
Loss of keystone species	
Oil and gas drilling; extraction of sand	
Restoration for conservation	
Roads and railroads	
Shipping lanes and canals	
Temperature extremes	
Utility and service lines	

³ Asian Development Bank. (2024, November 28-29). *Mongolia: Wetland Ecosystem Services Workshop* [Workshop]. Mongolia <https://events.development.asia/learning-events/mongolia-wetland-ecosystem-services-workshop>

5.2. Potential alternative state of Buir Lake under current drivers of change

Stakeholders at the RFI workshop⁴ defined the most plausible future alternative state (scenario) for the site up to 2035 and converted this scenario into a net change in the cover of different types of wetland habitats within this site (current habitat cover vs. future alternative cover; see Figure 3). This future scenario assumes that the current drivers of change affecting the site and the existing management practices will remain unchanged.

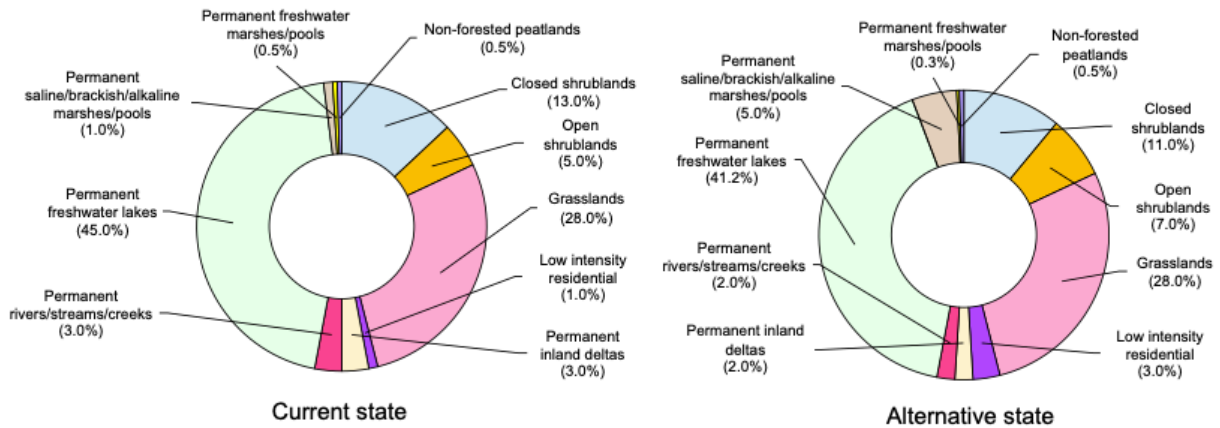


Figure 3. The proportional change in the extent of different habitat types between the current and alternative states of Buir Lake.

5.3. Expected changes in the ecosystem services of Buir Lake

Stakeholders at the RFI workshop⁵ assessed future trends in the ecosystem services provided by Buir Lake. Based on their local knowledge, they documented whether these services are expected to increase, decrease, or remain unchanged by 2035, assuming the current drivers of change affecting the site and the current interventions remain unchanged. Figure 2 and Table 2 shows that the provisioning of fresh water has increased in the past and is projected to continue increasing in the future. Cultural services such as recreation and ecotourism are also expected to experiencing increases. Benefits such as the wild food, local climate regulation, and aesthetic experience remained unchanged in the past and are expected to remain stable in future.

⁴ Asian Development Bank. (2024, November 28-29). *Mongolia: Wetland Ecosystem Services Workshop* [Workshop]. Mongolia <https://events.development.asia/learning-events/mongolia-wetland-ecosystem-services-workshop>

⁵ Asian Development Bank. (2024, November 28-29). *Mongolia: Wetland Ecosystem Services Workshop* [Workshop]. Mongolia <https://events.development.asia/learning-events/mongolia-wetland-ecosystem-services-workshop>

6. Capacity gaps and needs for the management of Buir Lake

As a result of its size and diverse ecosystem services provided, as many as least 10 stakeholder groups are identified as important to the management of Buir Lake. Of immediate importance are stakeholders in the tourism and fishing industry, and local herders which directly benefit from the lake. Oil extraction activities to the east of the lake may indirectly impact the lake through the construction of oil infrastructure and transportation.

Table 4. Stakeholder capacity needs in Buir Lake.

Stakeholder group	Current role in wetland management (Positive or Negative)	Possible future role in wetland management	Current capacity for sustainable wetland management	Capacity development needed to improve wetland management	Form of capacity development
<i>End users and local beneficiaries</i>					
Herding households	Herding and burning shrubs (negative)	Managing herd sizes of livestock for sustainable grazing	Medium	Exclude the lake area from grazing	Environmental education; form community groups
Fishing households	Fishing (negative)	Sustainable, and regulated use of fisheries	Medium	Explore and invest in alternative sources of livelihoods	Training workshops and programmes
Fishing companies	Fishing (negative)	Improve fishing practices; sustainable fishing	Medium	Improving equipment capacity	Improve accountability
Tourism businesses and households	Use of water and water-environment (negative)	Support environmental protection (including through use of technology)	Medium	Better coordination of public-private cooperation,	Consolidating information
Tourists	End user (negative)	-	Medium	Environmental education	Awareness activities
Oil and petrochemical industries	Oil extraction and transportation (negative)	Support or implement offsetting activities	Medium	Support offsetting and conservation activities	By professional organizations

<i>Government stakeholders</i>					
Border protection force	Site protection (positive)	Support site protection; cooperate with other stakeholders	Good	Cooperation with other stakeholders	Conservation cooperation
Local soum government	Enforcement of laws and organizing activities	-	Medium	Improving local technical capacity and human resources	
Government agencies (RBA, SPA, NPs)	Law enforcement (positive)	Better enforcement of laws, regulations. Improve implementing of management plan	Medium	Financing and HR	Budget and training
<i>Civil society stakeholders</i>					
Researchers (and research institutions)	Undertake research activities	Advisory service	Good	Support development of projects and research initiatives	Doing joint research and monitoring
Conservation organizations	Implement conservation projects, support other stakeholders	-	Medium	-	-
Stakeholders from neighboring countries	Large use of natural resources and fishery resources (negative)	Implement border water, environmental protection agreements	Medium	Enforcing joint agreements	-

7. Opportunities for RFI interventions

7.1. Recommended Interventions

Buir Lake is the largest lake in eastern Mongolia, and among the most important staging and breeding sites for several waterbird species. While the lake and its several smaller satellite lakes receive protection as a Ramsar Site and as a locally protected area, it also supports a major fishery, producing an estimated 300 tons of fish annually on the Mongolian side, with 16 species regularly fished. The lake is also heavily fished on the Chinese side. Commercial and game fishing activities has depleted stocks of several game species in Buir Lake (WWF Mongolia 2021), while increasing pollution from the improper disposal of fishing waste (e.g. old nets), tourist waste and household waste. An estimated 7,000 tourists visited Buir Lake each year, and this number is projected to increase over time (WWF Mongolia 2021). The grasslands fringing the Mongolian side of the lake is heavily grazed by local herders, and there are significant areas which are heavily denuded and eroded. An immediate priority for improved management of Buir Lake is the development of an evidence-based site management and zonation plan, to ensure that the ecologically most sensitive parts of this wetland including the surrounding steppe landscape to be sustainable managed for grazing activities to mitigate land degradation and desertification. This can be expected to involve a combination of grazing (exclusion) for the most ecologically sensitive areas, and rotational grazing over a period of about five years.

Table 5. List of proposed interventions for Buir Lake and possible project indicators.

Intervention	Outcome	Indicators	Cost (USD)	Timeframe	Potential Stakeholders
<i>Component 1. Strengthening site management and protection of Buir Lake and its surrounding grassland landscape</i>					
Undertake scoping study of existing interventions and threats at Buir Lake and surrounding grasslands landscapes, including targeted assessment on long-term threats (from climate change, overgrazing, tourism)	Assessment and scoping guidance to provide basis for proposed RFI interventions. Threats faced by the lake ecosystem better understood, and potential interventions identified.	Assessment report with key threats identified and recommendations for improved management published and disseminated to key stakeholders. Number of stakeholder meetings conducted in the scoping study.	100,000	2 years	MECC Khalkgol soum and Togtsumber and Tashgai bag government Dornod aimag government Buir Lake Ramsar Site management board

Intervention	Outcome	Indicators	Cost (USD)	Timeframe	Potential Stakeholders
expansion and fisheries).		Number of stakeholder groups engaged in the scoping study, ensuring a participatory assessment of existing interventions and threats.			Conservation organizations (WSCC, WWF) ADB
Strengthen and expand site management of Buir Lake Ramsar Site including the development of a comprehensive management plan (to update existing plan) and zonation plan on sustainable use of the lake and rangeland	Buir Lake is better managed through the development of the site management and zonation plans, installation of boundary markers for zones, and the implementation of measures to address and mitigate fire risk during the dry season.	Site management plan (with mitigation measures for fire risk and zonation of sensitive areas where grazing activities is excluded or highly regulated) over short to medium-term for Buir developed, in consultation with key stakeholders, including communities inside the site through participatory mapping. Number of stakeholder consultation meetings organized with local government and herding communities to strengthen engagement local stakeholders for participatory mapping for zonation, understand local livelihood needs,	200,000	3 years	Khalkgol soum and Togtsumber and Tashgai bag government Dornod aimag government MECC Buir Lake Ramsar Site management board Conservation organizations Ramsar Convention regional secretariat Mongolian border patrol

Intervention	Outcome	Indicators	Cost (USD)	Timeframe	Potential Stakeholders
		<p>and engage national stakeholders.</p> <p>Establishment and installation of boundary markers of protected area.</p>			
<p>Restore the degraded and overgrazed areas of grassland and riparian woodland (see also component 4 on grazing management, and sustainable herding practices), including at Khalkhgol estuary.</p>	<p>Degraded areas of grassland and woodland mapped.</p> <p>Degraded areas of steppe grassland damaged resulting from overgrazing restored.</p> <p>Degraded areas of riparian woodland damaged resulting from overgrazing restored.</p>	<p>Nurseries for steppe and woodland restoration established in Khalkhgol town (or Mongol Ryba)</p> <p>At least two pilot plots for woodland restoration established.</p> <p>At least 1,000 ha of grassland and 20 ha of woodland restored over a five-year period.</p>	<p>200,000</p>	<p>5 years</p>	
<p><i>Component 2. Wildlife protection and monitoring, with a focus on Swan Goose, Asian Dowitcher and other waterbirds</i></p>					

Intervention	Outcome	Indicators	Cost (USD)	Timeframe	Potential Stakeholders
Strengthen legal protection and enforcement in the Buir Lake Ramsar Site.	Improved protection and enforcement at Buir Lake Ramsar Site through co-management framework, increased patrol and enforcement efforts for landscape, wildlife protection and encroachment activities, and increased capacity of local rangers	<p>Co-management framework with local communities developed.</p> <p>Number of households (target of at least 50% households in site) engaged and actively participating in co-management activities.</p> <p>Training program and modules on patrol and enforcement developed</p> <p>Number of training activities conducted</p> <p>Number of local rangers trained on patrolling and enforcement.</p>	200,000	5 years	<p>Khalkgol soum and Togtsumber and Tashgai bag government</p> <p>Buir Lake Ramsar Site management board</p> <p>Conservation organizations</p>
Strengthen biodiversity and wetland monitoring, with a focus on waterbird species, focal species such as Swan Goose, and shorebirds	Better monitoring of biodiversity and wetland ecosystems in the landscape through a locally engaged biodiversity monitoring program and increased awareness of Swan Goose, and migratory waterbird conservation amongst local households	<p>Monitoring mechanism for the site established</p> <p>Number of monitoring activities conducted using the established biodiversity and wetland monitoring scheme.</p> <p>A locally led conservation group organized</p> <p>Number of awareness-raising</p>	100,000	5 years	

Intervention	Outcome	Indicators	Cost (USD)	Timeframe	Potential Stakeholders
		<p>activities (including workshops) on importance of nature protection, with a focus on charismatic bird and wildlife species.</p> <p>Number of stakeholder groups engaged in the awareness-raising activities.</p>			
<p>Scale-up research activities on wildlife and grassland ecology; data collection and monitoring of wetland ecosystems to guide management plan development (see component 1)</p>	<p>Buir Lake is better managed through improved understanding of migratory species movements (and movement ecology), and strengthened knowledge base on land use change, steppe and lotic wetland ecology of Buir and selected satellite lakes</p> <p>Long-term data on changes in landscape and wetland quality to guide site management cycle.</p> <p>Improved knowledge of landscape and regional connectivity of</p>	<p>Number of research infrastructure improved, including construction of research facilities (e.g. research station for bird monitoring).</p> <p>Training programmes (including workshops) on grassland and wetland ecology, with a focus on charismatic bird and wildlife species developed</p> <p>Number of training activities implemented</p> <p>Number of local researchers and stakeholder groups trained.</p>	<p>250,000</p>	<p>5 years</p>	<p>Khalkgol soum and Togtsumber and Tashgai bag government</p> <p>Buir Lake Ramsar Site management board</p> <p>MECC</p> <p>Research institutions (incl. academy of sciences, universities)</p> <p>Conservation organizations (WSCC)</p>

Intervention	Outcome	Indicators	Cost (USD)	Timeframe	Potential Stakeholders
	migratory bird populations.	Number of locally led research on wetland and migratory bird populations			
<i>Component 3. Upscaling tourism infrastructure and local capacity for nature-based tourism in Buir Lake and steppe landscape</i>					
Establish basic tourism infrastructure for nature-based tourism including observation towers.	Impact of habitat degradation caused by tourism activities in the landscape reduced through specialized and planned nature-based tourism, the improvement of tourism infrastructure and enhancement of tourism experience to observe migratory waterbirds and other wildlife.	<p>Provincial-level tourism plans and strategies updated for Dornod, in coordination with MCST, MECC and relevant tourism stakeholders.</p> <p>Nature-based tourism strategy and business plans and packages on specialized wildlife/nature tourism developed</p> <p>Number of business plans tested with tourism operators (including international bird and wildlife tour companies)</p> <p>Number of facilities established/ upgraded, in line with the tourism infrastructure plan and ecotourism strategy</p> <p>Number of stakeholder groups</p>	500,000	3 years	<p>MCST</p> <p>MECC</p> <p>Khalkgol soum and Togtsumber and Tashgai bag government</p> <p>Buir Lake Ramsar Site management board</p> <p>Conservation organizations</p> <p>Tourism operators in Ulaanbaatar and Choibalsan</p> <p>International development agencies</p>

Intervention	Outcome	Indicators	Cost (USD)	Timeframe	Potential Stakeholders
		<p>engaged in the upgrading of tourism infrastructure and local planning</p> <p>Number of people benefiting from the upgraded tourism infrastructure</p>			
Strengthen the capacity of local communities and businesses for nature-based tourism.	Impact of habitat degradation caused by tourism activities in the landscape reduced through the increased capacity of local communities and businesses for nature-based tourism.	<p>Framework for benefits-sharing from nature-based tourism enhanced for households and tourism operators.</p> <p>Number of stakeholder groups engaged in the framework development for nature-based tourism</p> <p>Training program on nature-based tourism developed</p> <p>Number of stakeholders trained on tourist management (target of at least 50 households)</p>	300,000	5 years	
<i>Component 4. Strengthening sustainable, community-based rangeland management in Buir Lake to address over-grazing and land degradation</i>					
Strengthen the local capacity in sustainable rangeland management, and management of livestock	Improved condition at Buir Lake and satellite lakes against baselines (reduced organic waste pollution from animal waste)	Number of stakeholder consultation meetings organized, targeting XX households to	500,000	5 years	<p>MOFALI</p> <p>Khalkgol soum and Togtsumber and Tashgai bag government</p>

Intervention	Outcome	Indicators	Cost (USD)	Timeframe	Potential Stakeholders
	Improved condition of grassland in Buir (in zoned areas) and adjacent landscapes against baselines.	<p>engage local people on rangeland management, sustainable grazing practices (and use of veterinary drugs that can be harmful to wildlife, e.g. birds-of-prey such as vultures and Steppe Eagle A. <i>nipalensis</i>)</p> <p>Training programme(s) on grazing management, community-based rangeland management, including livestock grazing regimes (e.g. rotational grazing) established with local governments and MOFALI.</p> <p>At least XX households in TTL and surrounding landscapes trained with sustainable rangeland management and herding practices.</p>			<p>Buir Lake Ramsar Site management board</p> <p>International development agencies</p> <p>IUCN</p> <p>Conservation organizations</p> <p>Agricultural banks</p>
Scale up of sustainable rangeland use/grazing activities; strengthened	Improved condition of grassland in Buir Lake (in zoned areas) and adjacent landscapes against baselines through	Number of stakeholder consultation meetings organized,	250,000	5 years	<p>MOFALI</p> <p>Dornod aimag government</p>

Intervention	Outcome	Indicators	Cost (USD)	Timeframe	Potential Stakeholders
resilience of herding households.	financing mechanisms (for local loans and grants) created for local households, and supported by lending institutions, and incentives (and compliance mechanisms) for best practices in grazing and rangeland management.	<p>targeting XX households.</p> <p>Number of exchange visits organized for herding households to other landscapes with good grazing and livestock management (e.g. Hustain NP).</p> <p>Microfinance mechanism (for local loans and grants) created for local households and supported by lending institutions.</p> <p>100 households benefiting from small grants and microloans on animal husbandry and livestock management practices.</p> <p>Incentives (and compliance mechanisms) for best practices in grazing and rangeland management created.</p> <p>Number of stakeholders trained and engaged who adopted sustainable rangeland use/ grazing activities</p>			<p>Khalkgol soum and Togtsumber and Tashgai bag government</p> <p>Buir Lake Ramsar Site management board</p> <p>Conservation organizations</p> <p>International development agencies</p> <p>IUCN</p>

Intervention	Outcome	Indicators	Cost (USD)	Timeframe	Potential Stakeholders
<i>Component 5. Improving waste disposal and management, targeting grazing, fishing communities, and tourism operators</i>					
Improve disposal and management of solid waste for local households and tourist operators.	Reduced volume of solid waste and other non-biodegradable rubbish into Buir Lake	Number of stakeholder consultation meetings organized to engage local households and farms.	500,000	5 years	MECC Dornod aimag government Khalkgol soum and Togtsumber and Tashgai bag government
Improve disposal and management of solid waste.	Solid and waste pollution reduced against baselines. National waste management improvement strategy actively implemented, with standards developed and agreed with fishing cooperatives and companies, and tourism operators and cooperatives.	Training programme(s) on waste management and disposal (of animal husbandry and agro-chemical waste) developed. Solid waste management and disposal protocols established and strengthened for XX households. Number of waste management, storage, and disposal facilities constructed in Khalkgol town center and other identified localities. Number of stakeholders engaged in reducing solid and waste pollution.			Buir Lake Ramsar Site management board Conservation organizations Fishing operators and cooperatives Tourism operators and cooperatives

Intervention	Outcome	Indicators	Cost (USD)	Timeframe	Potential Stakeholders
Improved disposal and management of fishing waste for fishing companies and households.	<p>Baselines of fishing waste from wetlands collected.</p> <p>National waste management improvement strategy actively implemented, with standards developed and agreed with fishing cooperatives and companies, and tourism operators and cooperatives.</p>	<p>Fishing waste management and disposal protocols established and strengthened for XX fishing companies and xx households.</p> <p>Number of fishing waste management facilities constructed.</p> <p>Number of stakeholders engaged in proper fishing waste management.</p>			<p>Dornod aimag government</p> <p>Khalkgol soum and Tashgai bag government</p> <p>Buir Lake Ramsar Site management board</p> <p>Fishing companies</p>
Component 6. Addressing unsustainable fishing activities (linked to Component 5)					
Improve the sustainable management of Buir Lake fisheries.	<p>Capacities of local fishing operators to use sustainable fishing practices, (including take quotas for declining species; disposal of fishing waste) strengthened.</p> <p>Declining fish stocks, of at least 50% of harvested species stabilized or reduced.</p> <p>Transboundary cooperation with fishing operators in Chinese side of Buir Lake.</p>	<p>Number of stakeholder consultation meetings organized, targeting XX fishing households.</p> <p>Training workshop program on sustainable fishing practices developed.</p> <p>Number of training activities implemented for target fishing households.</p>	500,000	5 years	<p>MOFALI</p> <p>MECC</p> <p>Conservation organizations</p> <p>Fishing companies</p> <p>Fishing cooperatives</p>

Intervention	Outcome	Indicators	Cost (USD)	Timeframe	Potential Stakeholders
		Fishery monitoring programme developed. Number of fishing households participating in monitoring activities. Number of exchange visits to China.			
Total investment for 5 years			16,300,000		

7.2. Potential Financing

The estimated project cost is USD 16,300,000 over a 5-year period. This project supports the development of plans for site management, zonation, and tourism, creation of a co-management framework, training programs on patrol and enforcement, biodiversity monitoring, nature-based tourism, grassland and wetland ecology, solid waste management, and sustainable rangeland management and management of livestock, establishment of infrastructure for tourism and solid waste management, restoration of degraded grassland and riparian woodland, and creation of microfinance mechanisms.

7.3. Proposed Institutional Arrangements

The proposed project is expected to be implemented over a period of up to five (5) years, with the main project components focusing on improved site management of the Buir Lake Ramsar Site, biodiversity monitoring, improving rangeland and grazing management practices (led by MECC and the soum government), improved waste management, and sustainable fisheries (component involve MOFALI, and fishing operators). Conservation organizations such as the Wildlife Science and Conservation Center, which is active in Khalkhgol, and international development agencies can be expected to play a major supporting and technical role in the project through conservation science, biodiversity monitoring, and driving local community engagement.

7.4. Project Beneficiaries

This proposed project is expected to undertake activities to promote gender inclusion and participation in livelihood activities, through capacity building activities for local households. There are no indigenous communities in the project landscape.

7.5. Anticipated Implementation Risks

Environment: Nature-based tourism has been identified as a key project concept theme. The proposed interventions include establishing tourism infrastructure that would improve the tourism experience in the Buir Lake. Building these infrastructures, however, would generate noise that may disturb wildlife, especially staging congregations of waterbirds in spring and autumn. Moreover, increasing tourism activities bring other human-induced impact, such as waste pollution. Planning with the stakeholders is critical before any infrastructure development and tourism management.

Social Safeguards: Regulation (including quotas, reduced take of selected species, net use) on fishing may result in reduced incomes for households involved in the fishing industry. Scoping studies will be needed to assess the impact of these regulations on domestic incomes and the challenges of implementing these restrictions in a complex environment.

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Annex 1. Supplementary information on flood mitigation services

Table A5. Key habitat types in Buir Lake based on stakeholder-based assessment at the Regional Flyway Initiative workshop in November 2024.

Habitat type	Current state		Alternative state (2035)	
	Area (ha)	Cover (%)	Area (ha)	Cover (%)
Closed shrublands	16308.6	13.0	13799.5	11.0
Open shrublands	6272.5	5.0	8781.5	7.0
Grasslands	35126.1	28.0	35126.1	28.0
Low intensity residential	1254.5	1.0	3763.5	3.0
Permanent inland deltas	3763.5	3.0	2509.0	2.0
Permanent rivers/streams/creeks	3763.5	3.0	2509.0	2.0
Permanent freshwater lakes	56452.7	45.0	51685.6	41.2
Permanent saline/brackish/alkaline marshes/pools	1254.5	1.0	6272.5	5.0
Permanent freshwater marshes/pools	627.3	0.5	376.4	0.3
Non-forested peatlands	627.3	0.5	627.3	0.5
Total	125450.4	100.0	125450.4	100.00