



Ramsar Information Sheet

Published on 16 September 2020

Uzbekistan

Tudakul and Kuymazar Water Reservoirs



Designation date	19 August 2020
Site number	2433
Coordinates	39°50'51"N 64°49'33"E
Area	32 000,00 ha

Color codes

Fields back-shaded in light blue relate to data and information required only for RIS updates.

Note that some fields concerning aspects of Part 3, the Ecological Character Description of the RIS (tinted in purple), are not expected to be completed as part of a standard RIS, but are included for completeness so as to provide the requested consistency between the RIS and the format of a 'full' Ecological Character Description, as adopted in Resolution X.15 (2008). If a Contracting Party does have information available that is relevant to these fields (for example from a national format Ecological Character Description) it may, if it wishes to, include information in these additional fields.

1 - Summary

Summary

The site is situated in the southwest of the Desert Kyzylkum and includes the water reservoirs of Tudakul and Kuymazar, a small swamp near its dam in the southwest and fishponds in north. Kuymazar water reservoir dates back to 1949 and is important in the biogeographic region because it is the main drinking water source for the people who live in Bhukara city and Kogan town. Therefore, it serves as the main source of fresh drinking water for the people in this arid zone. Tudakul has international importance for migrating, wintering and breeding waterbirds. It supported between 40,320 to 168,533 waterbirds in winter between the years of 2000 to 2020. Globally threatened species were registered among the wintering and migrating birds, including the endangered white-headed duck (*Oxyura leucocephala*) and the vulnerable lesser white-fronted goose (*Anser erythropus*) and marbled teal (*Marmaronetta angustirostris*). It is particularly attractive to waterbirds during migration and winter but the marsh is also a breeding place for many waterbirds, including the marbled teal. In some years, the white-headed duck was recorded in its nesting period. The site is also an important breeding site for the ferruginous duck (*Aythya nyroca*), Eurasian spoonbill (*Platalea leucorodia*) and pygmy cormorant (*Phalacrocorax pygmaeus*). High islets and promontories can be seen in the centre and northern parts of Kuymazar, which shelter migrating cormorants, gulls and birds of prey. Kuymazar water reservoir is one of the main mallard (*Anas platyrhynchos*) wintering sites in Uzbekistan and in Central Asian region. It has supported up to 150,000 mallards across 1996-2020.

2 - Data & location

2.1 - Formal data

2.1.1 - Name and address of the compiler of this RIS

Compiler 1

Institution/agency	State Committee for Ecology and Environment Protection
Postal address	2A, Toytepa street, Tashkent 100047, Uzbekistan

Compiler 2

Institution/agency	1) Uzbek Zoological Society 2) Institute of Zoology /Academy of Sciences
Postal address	232-b, Bagishamol street, Tashkent 100053, Uzbekistan

2.1.2 - Period of collection of data and information used to compile the RIS

From year	1996
To year	2020

2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)	Tudakul and Kuymazar Water Reservoirs
Unofficial name (optional)	Tudakul Va Kuymazar Suv Omborlari

2.2 - Site location

2.2.1 - Defining the Site boundaries

b) Digital map/image

<1 file(s) uploaded>

Former maps	0
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Boundaries description

The boundary of the Ramsar Site is mostly natural. The northern part of Tudakul and Kuymazar Lakes boundary follows the water protection 'buffer' zone (500 m inland from Tudakul and 100 m inland from Kuymazar water reservoirs) by the high-voltage power line. Beyond the water protection zone the land is governed by the Law of Protected Areas of the Republic of Uzbekistan. All eastern and southern boundaries follow the Amy-Bukhara water canal while the western boundary of the Site boundary follows along the P-63 road. Roads with soft and hard covers border the entire Site boundary.

2.2.2 - General location

a) In which large administrative region does the site lie?	Kyzyl-Tepa District of Navoi Province
b) What is the nearest town or population centre?	Bukhara (23 km from Tudakul)

2.2.3 - For wetlands on national boundaries only

- a) Does the wetland extend onto the territory of one or more other countries? Yes No
- b) Is the site adjacent to another designated Ramsar Site on the territory of another Contracting Party? Yes No

2.2.4 - Area of the Site

Official area, in hectares (ha):	32000
Area, in hectares (ha) as calculated from GIS boundaries	31902.068

2.2.5 - Biogeography

Biogeographic regions

RIS for Site no. 2433, Tudakul and Kuymazar Water Reservoirs, Uzbekistan

Regionalisation scheme(s)	Biogeographic region
WWF Terrestrial Ecoregions	Deserts and xeric shrublands: Central Asia: Southern Kazakhstan into Uzbekistan

3 - Why is the Site important?

3.1 - Ramsar Criteria and their justification

- Criterion 1: Representative, rare or unique natural or near-natural wetland types

Hydrological services provided

Wetland complexes have a major hydrological influence in the context of at least regional climate regulation or stability.
 These wetland complexes are situated in arid desert area. Kuymazar water reservoir has a major role in maintaining high water quality standards.
 Kuymazar is used primarily for drinking water for people lives in the Bukhara city and Kagan town.
 Tudakul is used for agriculture. This water storage is source of irrigation water in spring and summer.

Other ecosystem services provided

Kuymazar water reservoir was created to provide fresh drinking water to the populations in surrounding towns.
 Agriculture: Cultivation of wheat using irrigation water from the Amu-Bukhara canal occurs in the eastern part of Tudakul Lake.
 Livestock: On the shores of the reservoir livestock graze. The wetland provides foods in the form of vegetation and watering of crops.
 Fishing: Fishing is developed on the Tudakul Lake. Caught fish help provide for the populations of the cities of Navoi, Bukhara, etc.
 Aquaculture: Use of water allowed the organizing on Tudakul Lake of fish breeding ponds to replenish fish stocks in southern part of the Tudakul Lake.
 Hunting: There is hunting farm on the territory of wetland, which carried out hunting for waterfowl birds and hares. Hunters are from the local population, from Navoi and Bukhara. Hunting is a cultural form of recreation to obtain economic benefits from the use of biological resources of wetlands. Recreational fishing is also a form of relaxation and inflow of economic benefits without harming fisheries on wetlands.
 Recreation: Construction of recreation facilities on the southern shore of Tudakul lake led to the use of this territory for rest of the population of Navoi, Kyzyltepa, Bukhara and Kagan. This allows city residents to relax outdoors in arid areas and high temperatures, as well as receive the necessary aesthetic pleasure, relax on the waterfront, located in the desert and in contact with nature.

- Criterion 2 : Rare species and threatened ecological communities

- Criterion 3 : Biological diversity

Justification

Plants: The tamarisk formation is the dominant vegetation type around the wetlands. This cover is comprised of seven associations of plants. Aeluropus (Aeluropus littoralis), Camelthorn (Alhagi pseudalhagi) and reed (Phragmites communis) formations are some of the other vegetation types. The list of higher plants in the wetlands consists of 58 species. The botanic diversity is predetermined by the heterogeneousness of the landscape-ecological conditions. Within the site there are no recognized rare or unique species of plants.
 Birds: The site is good example of bird's biodiversity within this province. At the site, 229 species were found, which is about 91.6% of the total provincial avifauna. There 17 orders included while 24 species that live in the area and included in the national Red Data Book.
 Fish: Species within lakes Tudakul and Kuyumazar are homotypic and include 27 species of seven families, five of which were included into the Red Data Book of Uzbekistan.

- Criterion 4 : Support during critical life cycle stage or in adverse conditions

Criterion 5 : >20,000 waterbirds

Overall waterbird numbers

Start year

Source of data:

Criterion 6 : >1% waterbird population

3.2 - Plant species whose presence relates to the international importance of the site

<no data available>

3.3 - Animal species whose presence relates to the international importance of the site

Phylum	Scientific name	Common name	Species qualifies under criterion			Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence ¹⁾	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7								
Others																	
CHORDATA/MAMMALIA	<i>Gazella subgutturosa</i>	Goitered Gazelle	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				VU	<input type="checkbox"/>	<input type="checkbox"/>	National status: Vulnerable, declining 2 (VU:D); CMS Appendix II	
CHORDATA/REPTILIA	<i>Testudo horsfieldii</i>	Steppe tortoise	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				VU	<input type="checkbox"/>	<input type="checkbox"/>	National status: Vulnerable 2 (VU); CITES Appendix II	
CHORDATA/REPTILIA	<i>Varanus griseus</i>	Desert Monitor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					<input checked="" type="checkbox"/>	<input type="checkbox"/>	National status: Vulnerable, declining 2 (VU:D)	
CHORDATA/MAMMALIA	<i>Vulpes corsac</i>	Corsac Fox	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	National status: Vulnerable, declining 2 (VU:D)	
Fish, Mollusc and Crustacea																	
CHORDATA/ACTINOPTERYGII	<i>Capoetobrama kuschakewitschi</i>	Chu sharpray, Sharpray	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				DD	<input type="checkbox"/>	<input type="checkbox"/>	National status: Vulnerable, declining 2 (VU:D)	
CHORDATA/ACTINOPTERYGII	<i>Luciobarbus brachycephalus</i>	Aral barbel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				VU	<input type="checkbox"/>	<input type="checkbox"/>	National status: Endangered 1 (EN)	
CHORDATA/ACTINOPTERYGII	<i>Luciobarbus capito</i>	Turkestan barbel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				VU	<input type="checkbox"/>	<input type="checkbox"/>	National status: Vulnerable, declining 2 (VU:D)	
CHORDATA/ACTINOPTERYGII	<i>Pseudoscaphirhynchus kaufmanni</i>	Large Amudanya Shovelnose Sturgeon	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				CR	<input type="checkbox"/>	<input type="checkbox"/>	National status: Critically Endangered 1 (CR); CITES Appendix II	
Birds																	
CHORDATA/AVES	<i>Anas platyrhynchos</i>	Mallard	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	46057	1996-2006 2009-2013; 2018; 2020	5.76	LC	<input type="checkbox"/>	<input type="checkbox"/>		Population name: platyrhynchos, Western Siberia/South-west Asia; 1% Threshold: 8000. Kuymazar water reservoir is one of the main wintering sites in Uzbekistan and Central Asia for Mallards.
CHORDATA/AVES	<i>Anser anser</i>	Greylag Goose	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4800	1996-2020	1.92	LC	<input type="checkbox"/>	<input type="checkbox"/>		Population name: rubrirostris, Western Siberia/Caspian & Iraq; 1% Threshold: 2500. Wintering ground.
CHORDATA/AVES	<i>Anser erythropus</i>	Lesser White-fronted Goose	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	30	2001-2002		VU	<input type="checkbox"/>	<input checked="" type="checkbox"/>	National status: Vulnerable, naturally rare: 2 (VU:R); CMS Appendix II	Wintering ground

Phylum	Scientific name	Common name	Species qualifies under criterion			Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7								
CHORDATA/AVES	<i>Aquila heliaca</i>	Asian Imperial Eagle; Eastern Imperial Eagle	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				VU	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Vulnerable, declining 2 (VU:D); CMS Appendix II	
CHORDATA/AVES	<i>Ardea alba</i>	Great Egret	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1080	1996-2020	1.08	LC	<input type="checkbox"/>	<input type="checkbox"/>	CMS Appendix II	Population name: alba, Western Asia/South-west Asia; 1% Threshold: 1000. Wintering ground
CHORDATA/AVES	<i>Chlamydotis undulata</i>	Houbara Bustard	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4	2006		VU	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Vulnerable, declining 2 (VU:D)	Staging site (feeding and rest)
CHORDATA/AVES	<i>Egretta garzetta</i>	Little Egret	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	National status: Vulnerable, declining 2 (VU:D) nesting, migratory species	
CHORDATA/AVES	<i>Haliaeetus leucoryphus</i>	Pallas's Fish Eagle	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	2002-2003		EN	<input type="checkbox"/>	<input checked="" type="checkbox"/>	National status: Endangered 1 (EN); CITES Appendix II	Wintering ground
CHORDATA/AVES	<i>Marmaronetta angustirostris</i>	Marbled Duck	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	110	1996-2020	0.23	VU	<input type="checkbox"/>	<input checked="" type="checkbox"/>	National status: Endangered 1 (EN)	Population name: South-west Asia; 1% Threshold: 480. Breeding site: 4-11 pairs in 1997-2001; 2-5 pairs in 2017-2020. In the end of summer records 31-40 in 1999-2019. Wintering ground: maximum number for wintering is up to 110 individuals.
CHORDATA/AVES	<i>Microcarbo pygmeus</i>	Pygmy Cormorant	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3200	2000-2020	3.2		<input type="checkbox"/>	<input type="checkbox"/>	National status: Near Threatened 3 (NT)	Population name: South-west Asia; 1% Threshold: 1000; Wintering ground
CHORDATA/AVES	<i>Netta rufina</i>	Red-crested Pochard	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	28000	1996-2020	8.75	LC	<input type="checkbox"/>	<input type="checkbox"/>		Population name: Western & Central Asia/South-west Asia; 1% Threshold: 3200; Wintering ground
CHORDATA/AVES	<i>Numenius arquata</i>	Eurasian Curlew	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				NT	<input type="checkbox"/>	<input type="checkbox"/>	National status: Vulnerable, declining, migratory species 2 (VU:D)	
CHORDATA/AVES	<i>Oxyura leucocephala</i>	White-headed Duck	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	278	2004-2020	1.39	EN	<input type="checkbox"/>	<input checked="" type="checkbox"/>	National status: Endangered 1 (EN); CITES Appendix II	Population name: East Mediterranean, Turkey & South-west Asia; 1% Threshold: 200; During the breeding season: 4 pairs btw 2003-2004; During the wintering period: 71-278 btw 2004-2013; During migration: 10-200 btw 2006-2020
CHORDATA/AVES	<i>Pelecanus crispus</i>	Dalmatian Pelican	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	800	1996-2011	5.34	NT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	National status: Endangered 1 (EN); CMS Appendix II	Population name: South-west Asia & South Asia (win); Staging site (eat and rest); 1% Threshold: 150; During migration: 100-300 btw 1996-2006 and 2009-2012; During the wintering period: 6-800 btw 1996-2006, 2 in 2009; 40 in 2011.
CHORDATA/AVES	<i>Phalacrocorax carbo</i>	Great Cormorant	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7800	1996-2020	5.57	LC	<input type="checkbox"/>	<input type="checkbox"/>		Population name: sinensis, West & South-west Asia; 1% Threshold: 1400; Wintering ground
CHORDATA/AVES	<i>Phoenicopterus roseus</i>	Greater Flamingo	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	35	2020		LC	<input type="checkbox"/>	<input type="checkbox"/>	National status: Vulnerable, decline 2 (VU:D), migratory species.	
CHORDATA/AVES	<i>Platalea leucorodia</i>	Eurasian Spoonbill	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	National status: Vulnerable, declining 2 (VU:D), nesting, migratory species.	
CHORDATA/AVES	<i>Streptopelia turtur</i>	Turtle Dove	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				VU	<input type="checkbox"/>	<input type="checkbox"/>	National status: Vulnerable, declining 2 (VU:D); CMS Appendix II	

1) Percentage of the total biogeographic population at the site

3.4 - Ecological communities whose presence relates to the international importance of the site

<no data available>

4 - What is the Site like? (Ecological character description)

4.1 - Ecological character

The site is situated in southwest of the Desert Kyzylkum and includes the water reservoirs Kuymazar and Tudakul, a small swamp near its dam in the southwest and fish ponds in north. Both reservoirs lay on the plain consisting of clayey sedimentary and plastered soils with areas of desert sand sourced from alluvial origins. The source of water supply in both water reservoirs is the Amu-Bukhara canal, which provides water from Amudarya River. Wetlands occupy about 75% of site while other territory is represented by cropland - 6%, by desert - 12%, recreational area (construction of recreation areas and resorts) - 7%. The wetland environments include saline water (60%), fresh water (20%), marsh (5%), wetland vegetation consisting mainly of shrubs (15%). Water level fluctuations result in the reservoirs coast drying up in summer and freezing in winter. This prevents the overgrowth of aquatic plants and degrades the environment for fish and other aquatic animals. Near the water bodies there is very rocky and sandy desert within which there are flora and fauna assemblages. Within it live noteworthy mainly desert species, which includes 12 animals and 2 plant species. The water in Tudakul is brackish and is exploited for agriculture, fish breeding and a fishery. Kuymazar is significantly smaller, however it is very deep and contains fresh water, hence it provides another highly significant ecosystem service to surrounding communities. Other ecosystem services provided by the site include agricultural, livestock, aquaculture and recreational services.

4.2 - What wetland type(s) are in the site?

Inland wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
Fresh water > Lakes and pools >> Q: Permanent freshwater lakes	Kuymazar	2	1710	Representative
Saline, brackish or alkaline water > Lakes >> Q: Permanent saline/brackish/alkaline lakes	Tudakul	1	22500	Representative
Fresh water > Marshes on inorganic soils >> Tp: Permanent freshwater marshes/pools		0		

Human-made wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type
1: Aquaculture ponds		0	
3: Irrigated land		0	
4: Seasonally flooded agricultural land		0	
6: Water storage areas/Reservoirs		0	
9: Canals and drainage channels or ditches		0	

Other non-wetland habitat

Other non-wetland habitats within the site	Area (ha) if known
Adjacent land	7790

4.3 - Biological components

4.3.1 - Plant species

Other noteworthy plant species

Scientific name	Common name	Position in range / endemism / other
<i>Aeluropus litoralis</i>	Aeluropus	
<i>Phragmites australis australis</i>	Common Reed	

4.3.2 - Animal species

Other noteworthy animal species

Phylum	Scientific name	Common name	Pop. size	Period of pop. est.	%occurrence	Position in range /endemism/other
CHORDATA/MAMMALIA	<i>Paraechinus hypomelas</i>	Brandt's Hedgehog				National status: Near Threatened 3 (NT)
CHORDATA/AVES	<i>Phasianus colchicus zerafschanicus</i>	Zeravshan Ring-necked Pheasant	250	2010-2013		National status: 3 NT – resident, endemic
CHORDATA/ACTINOPTERYGII	<i>Sabanjewia aurata</i>	Aral Goldside Loach				Aral endemic subspecies
CHORDATA/AVES	<i>Aythya nyroca</i>	Ferruginous Duck				Globally NT, declining in number at the site after cold winter

Invasive alien animal species

Phylum	Scientific name	Common name	Impacts	
CHORDATA/AVES	<i>Acridotheres tristis</i>	Common Myna	Actual (minor impacts)	No change
CHORDATA/ACTINOPTERYGII	<i>Channa argus</i>	Amur snakehead;Northern snakehead;Snakehead	Actual (minor impacts)	No change
CHORDATA/ACTINOPTERYGII	<i>Hypophthalmichthys nobilis</i>	Bighead carp	No impacts	No change
CHORDATA/AVES	<i>Streptopelia decacto</i>	Eurasian Collared Dove	No impacts	No change

4.4 - Physical components

4.4.1 - Climate

Climatic region	Subregion
B: Dry climate	BWk: Mid-latitude desert (Mid-latitude desert)

The climate is sharply continental with low rainfall, high summer temperatures, low cloud cover, and relatively cold winter. The highest monthly mean air temperature observed in June, July and August is from 25.5 to 32.0 C, the lowest in January. Humidity in January and February ranges from 63 to 84% and from 26 to 33% in June and July.

The frost-free period averages 209 days. The average annual rainfall is 144 mm. The bulk of the annual rainfall occurs in the spring in the form of rain. Snow cover is not constant and there are snow-free winters. There is low humidity.

The area is characterized by a moderate potential for pollution of the atmosphere. Thus, the climatic conditions here contribute to the dispersion of contaminants in the surface layer of the atmosphere.

4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres)

a) Maximum elevation above sea level (in metres)

- Entire river basin
- Upper part of river basin
- Middle part of river basin
- Lower part of river basin
- More than one river basin
- Not in river basin
- Coastal

Please name the river basin or basins. If the site lies in a sub-basin, please also name the larger river basin. For a coastal/marine site, please name the sea or ocean.

Zarafshan river basin – the third largest river in Uzbekistan

4.4.3 - Soil

- Mneral
- Organic
- No available information

Are soil types subject to change as a result of changing hydrological conditions (e.g., increased salinity or acidification)? Yes No

Please provide further information on the soil (optional)

It is located on the plain consisting of clayey sedimentary and plastered soil with areas of sandy desert created by alluvial sands.

4.4.4 - Water regime

Water permanence

Presence?	
Usually permanent water present	No change

Source of water that maintains character of the site

Presence?	Predominant water source	
Water inputs from surface water	<input checked="" type="checkbox"/>	No change

Stability of water regime

Presence?	
Water levels fluctuating (including tidal)	No change

4.4.5 - Sediment regime

- Significant erosion of sediments occurs on the site
- Significant accretion or deposition of sediments occurs on the site
- Significant transportation of sediments occurs on or through the site
- Sediment regime is highly variable, either seasonally or inter-annually

Sediment regime unknown

4.4.6 - Water pH

- Acid (pH<5.5)
- Circumneutral (pH: 5.5-7.4)
- Alkaline (pH>7.4)
- Unknown

4.4.7 - Water salinity

- Fresh (<0.5 g/l)
- Mxohaline (brackish)/Mxosaline (0.5-30 g/l)
- Euhaline/Eusaline (30-40 g/l)
- Hyperhaline/Hypersaline (>40 g/l)
- Unknown

Please provide further information on salinity (optional):

Kuymazar: Salinity ranges from 1.2 to 1.6 g/l.
 Tudakul: The average salinity of the Tudakul water reservoir does not exceed 2.2 g/l.

4.4.8 - Dissolved or suspended nutrients in water

- Eutrophic
- Mesotrophic
- Oligotrophic
- Dystrophic
- Unknown

4.4.9 - Features of the surrounding area which may affect the Site

Please describe whether, and if so how, the landscape and ecological characteristics in the area surrounding the Ramsar Site differ from the i) broadly similar ii) significantly different site itself:

- Surrounding area has greater urbanisation or development
- Surrounding area has higher human population density
- Surrounding area has more intensive agricultural use
- Surrounding area has significantly different land cover or habitat types

Please describe other ways in which the surrounding area is different:

Past: Population growth and intensification of agriculture beyond the site encouraged people to develop the land in the floodplains of Tudakul Lake. Infrastructure development adjacent to the area, urbanization and population growth have contributed to the existence of cities. This is increasing the anthropogenic pressures such as disorganised recreation and hunting in the territory.

Present: Intensification of agriculture leads to expansion of the oasis and the emergence of new settlements near the Ramsar Site resulting in strong anthropogenic pressure on the site. The development of aquaculture and fisheries in the fish farm Kagan (4 km from the Site) contributes to risk of failing to attract breeding species of Ramsar Site, including Spoonbills, Glossy Ibis and others. Invasive species (Common Myna), penetrating into the Site are known to disturb resident species.

4.5 - Ecosystem services

4.5.1 - Ecosystem services/benefits

Provisioning Services

Ecosystem service	Examples	Importance/Extent/Significance
Food for humans	Sustenance for humans (e.g., fish, molluscs, grains)	High
Fresh water	Water for irrigated agriculture	Medium
Fresh water	Drinking water for humans and/or livestock	High

Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Recreational hunting and fishing	Medium
Recreation and tourism	Picnics, outings, touring	Medium

Other ecosystem service(s) not included above:

More info on "Food for humans": Fishing is developed on the Tudakul Lake. Caught fish provide food to the populations of the cities of Navoi, Bukhara, etc.

More info on "Fresh Water":

- Kuymazar water reservoir was created to provide fresh drinking water to the population of surrounding towns.
- On the shores of Kuymazar livestock grazing field is found. It provides food in the form of vegetation and watering to livestock.
- There is cultivation of wheat that uses irrigation water from the Amu-Bukhara canal.

Within the site:

Have studies or assessments been made of the economic valuation of ecosystem services provided by this Ramsar Site? Yes No Unknown

4.5.2 - Social and cultural values

i) the site provides 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) the site has exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland

iii) the ecological character of the wetland depends on its interaction with local communities or indigenous peoples

iv) 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

<no data available>

4.6 - Ecological processes

<no data available>

5 - How is the Site managed? (Conservation and management)

5.1 - Land tenure and responsibilities (Managers)

5.1.1 - Land tenure/ownership

Public ownership

Category	Within the Ramsar Site	In the surrounding area
National/Federal government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site:

1) The State Committee of the Republic of Uzbekistan for Ecology and Environment Protection
2) The Main Department for Biodiversity and Protected Areas

Provide the name and/or title of the person or people with responsibility for the wetland:

1) Mr. Shavkatjon Abdurazakov (Chairman) 2) Mr. Abdurashid Sadikov (Acting chief)

Postal address:

1) 2a To'ytepa str., Tashkent, Uzbekistan, 100047
2) 21a Chashtepinskaya str., Tashkent, Uzbekistan, 100149

E-mail address:

international@uznature.uz

5.2 - Ecological character threats and responses (Management)

5.2.1 - Factors (actual or likely) adversely affecting the Site's ecological character

Human settlements (non agricultural)

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Housing and urban areas	Medium impact	High impact	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Water regulation

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Drainage	Medium impact		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Canalisation and river regulation	High impact		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Agriculture and aquaculture

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Livestock farming and ranching	High impact	High impact	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Marine and freshwater aquaculture	Medium impact		<input type="checkbox"/>	<input checked="" type="checkbox"/>
Annual and perennial non-timber crops		Medium impact	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Transportation and service corridors

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Roads and railroads	Medium impact		<input checked="" type="checkbox"/>	<input type="checkbox"/>

Biological resource use

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Fishing and harvesting aquatic resources		Medium impact	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Hunting and collecting terrestrial animals	Medium impact		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Human intrusions and disturbance

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Recreational and tourism activities	Medium impact	Medium impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Natural system modifications

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Dams and water management/use	Medium impact		<input checked="" type="checkbox"/>	<input type="checkbox"/>

Invasive and other problematic species and genes

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Unspecified	Medium impact		<input type="checkbox"/>	<input checked="" type="checkbox"/>
Invasive non-native/ alien species	Medium impact	Medium impact	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Climate change and severe weather

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Droughts		Medium impact	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please describe any other threats (optional):

Within the Site:

- Agricultural intensification - cultivated meadows in southern part of Tudakul Lake disturbs the nesting of herons and other wetland species.
- Development of fisheries was an intense, stimulating presence in the pond of a large number of fish-eating birds, which led to a reduction in the number of other groups of birds.
- Burning of riparian vegetation (burns) and meadows lead to loss of habitat (shelter, nesting) of birds, reduced reproductive success or the inability to endure adverse climatic and weather condition of some species. Also the loss of refuge places for migrating and wintering species.
- Introduction of alien fish species has led to a change in the natural fishing complex.
- Development of infrastructure (roads and power lines) caused the death of curly pelicans during the winter from a collision with power lines and wires of an electric arc on the west coast of Tudakul Lake.
- Natural processes also negatively impact the site with drought being the cause of breeding failure and while the death on the ice of wintering birds were attributed to a sharp drop in temperature.
- Informal tourism disturbed and possibly ruined hydrophilic nests of some water birds.
- Poaching prevents the formation of wintering waterfowl populations.

In the surrounding area:

- Population growth and intensification of agriculture beyond the site encouraged people to develop the land in floodplains of Tudakul Lake.
- Infrastructure development, urbanization and population growth have contributed to the existence of cities leading to disorganized tourism and poaching.

5.2.2 - Legal conservation status

Non-statutory designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Important Bird Area	IBANe UZ015 Tudakul and Kuyumazar water reservoirs	http://uzspb.uz/docs/tudakul-ru. pdf	whole

5.2.3 - IUCN protected areas categories (2008)

- Ia Strict Nature Reserve
- Ib Wilderness Area: protected area managed mainly for wilderness protection
- II National Park: protected area managed mainly for ecosystem protection and recreation
- III Natural Monument: protected area managed mainly for conservation of specific natural features
- IV Habitat/Species Management Area: protected area managed mainly for conservation through management intervention
- V Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation
- VI Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosystems

5.2.4 - Key conservation measures

Legal protection

Measures	Status
Legal protection	Proposed

Other:

Proposal as a special legally protected area for protection waterbirds (national category "zakaznik" and IV IUCN category) is in process of discussion.

5.2.5 - Management planning

Is there a site-specific management plan for the site? In preparation

Has a management effectiveness assessment been undertaken for the site? Yes No

If the site is a formal transboundary site as indicated in section Data and location > Site location, are there shared management planning processes with another Contracting Party? Yes No

Please indicate if a Ramsar centre, other educational or visitor facility, or an educational or visitor programme is associated with the site:

Since 2014, the Bukhara Student Ornithological Club has been using the site's territory as a place for practical training in identifying and counting birds.

5.2.6 - Planning for restoration

Is there a site-specific restoration plan? No, but restoration is needed

5.2.7 - Monitoring implemented or proposed

Monitoring	Status
Birds	Implemented

There is no official program for the monitoring of biodiversity of the Tudakul and Kuymazar Water Reservoirs. However, since 2008, members of the student ornithological club of Bukhara have been conducting observations of the site throughout the year as it is an Important Bird Area (IBA). Findings of the winter bird counts were also submitted to International Waterbird Census (IWC) database. Winter surveys of waterfowl have been carried out on a periodic basis by specialists from the Institute of Zoology and the Uzbek Zoological Society since 1996.

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

Appendices I and II of the Convention on the Conservation of Migratory Species of Wide Animals (CMS) (as amended by the Conference of the parties in 1985, 1988, 1991, 1994, 1997, 1999, 2002, 2005, 2008 and 2011). Effective: 23rd February 2012

Lanovenko E.N., Filatov A.K., Kashkarov D.Yu., Zagrebin S.V., Shernazarov E., Filatova E.A. (2007) The monitoring of hydrophilous birds on water bodies of Uzbekistan. Biodiversity of Uzbekistan – monitoring and using. Tashkent, p.98-109. (In Russian)

Lanovenko E.N., Filatov A.K., Shernazarov E., Filatova E.A. (2009) Effect of influence of the extreme cold winter 2008 on waterfowl in water bodies of Uzbekistan. *Ecovestnik*. Tashkent. (In Russian)

Nazarov O., Mukhina E. (2002) Status overview of waterbirds and wetlands in Uzbekistan // *Birds of Wetlands and Grasslands: Proceedings of the Salim Ali Centenary Seminar*. Bombay Natural History Society (February – 1996). P. 73-80.

Solokha A. Results from the International Waterbird Census in Central Asia and the Caucasus 2003-2005. *Wetlands International*, 2006.

The Red Data Book of the Republic of Uzbekistan (2009). Tashkent, "Chinor ENK". (in Russian)

Turaev M.M. (2006). Nesting birds in Tudakul reservoir. *The scientific bulletin of Bukhara State University*, No 1, p. 96-101 (in Uzbek)

Turaev M.M. (2006). The role of aquaculture farming in conservation of biodiversity in the region. *The problems of conservation of biological diversity. The collected abstracts of the scientific conference*. Tashkent, p.153-155. (in Uzbek)

6.1.2 - Additional reports and documents

i. taxonomic lists of plant and animal species occurring in the site (see section 4.3)

<no file available>

ii. a detailed Ecological Character Description (ECD) (in a national format)

<no file available>

iii. a description of the site in a national or regional wetland inventory

<no file available>

iv. relevant Article 3.2 reports

<no file available>

v. site management plan

<no file available>

vi. other published literature

<no file available>

<no data available>

6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:



Tudakul reservoir (Mardonova Luiza, 16-01-2020)



Kuymazar reservoir (Mardonova Luiza, 16-01-2020)



Kuymazar reservoir (Mitropolskiy Maksim 03-02-2011)



Kuymazar reservoir (Mitropolskiy Maksim 03-02-2011)



Vegetation on the shore of the Tudakul reservoir (Mitropolskiy Maksim 06-09-2010)

6.1.4 - Designation letter and related data

Designation letter

<1 file(s) uploaded>

Date of Designation