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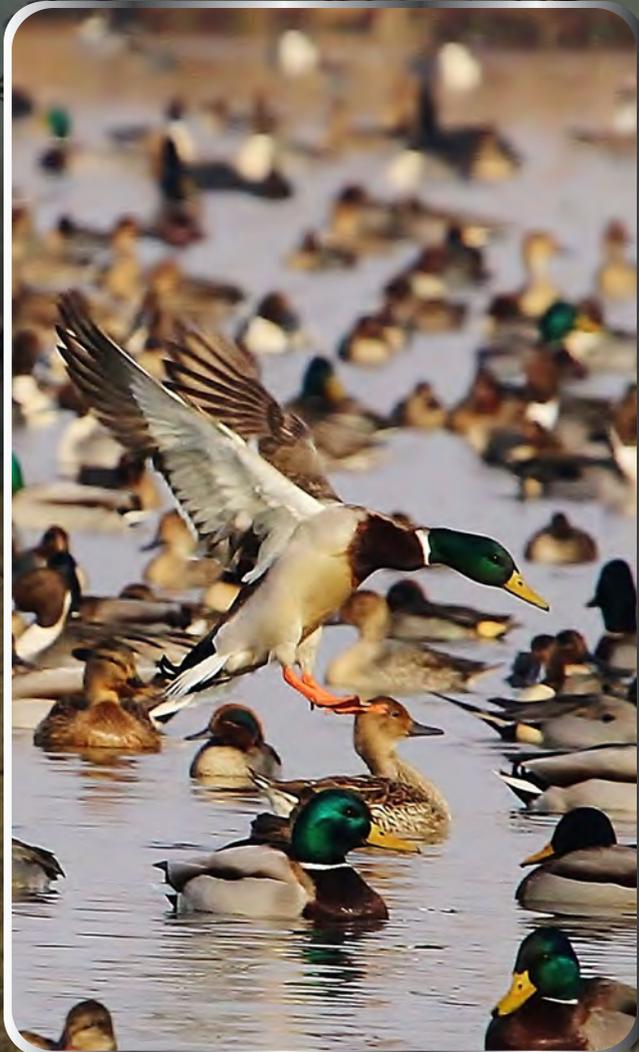
Government of Union Territory
of Jammu & Kashmir

INTEGRATED MANAGEMENT ACTION PLAN

Wetland Conservation Reserves Kashmir

2022-2027

(Hokersar, Shallabugh, Hygam, Mirgund,
Chattlum, Fashkoori, Krentchoo, Manibugh)



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INTRODUCTION



MANAGEMENT ACTION PLAN FOR WETLAND CONSERVATION RESERVES OF KASHMIR

1.1 INTRODUCTION:

Wetland area is the primary factor controlling the environment and the associated plant and animal life. They occur where the water table is at or near the surface of the land, or where the land is covered by water. Once treated as transitional habitats, the wetlands are now considered to be distinct ecosystems with specific ecological characteristics, functions and value.

Ramsar Convention on Wetland defines wetland as “Area of marsh, fern, peat land or water, where natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six meters”.(RAMSAR)

Wetlands should be conserved by ensuring their wise use. Wise use is defined` as „sustainable utilization for the benefit of mankind in a way compatible with the maintenance of the natural properties of the ecosystem” – sustainable utilization is understood as „human use of a wetland so that it may yield the greatest continuous benefit to present generations while maintaining its potential to meet the needs and aspirations of the future generations”. „Wise use” may also require strict protection.

1.2 Functions & Value of Wetland: -

Wetlands are among the most productive ecosystems. They directly or indirectly support millions of people and provide goods and services to them. Various goods and services provided by wetland are as follows:

- Support all life forms through extensive food webs.
- Habitat to aquatic flora and fauna as well as numerous species of birds, including migratory species.
- Filtration of sediments and nutrients from surface water.
- Nutrient's recycling.
- Water purification.
- Flood Mitigation.
- Maintenance of stream flow.
- Ground water recharging.
- Provide drinking water, fishes, fodder, fuel etc.
- Control rate of runoff in urban areas.
- Buffer shorelines against erosion.
- Comprise an important resource for sustainable tourism, recreation and cultural heritage.
- Comprise an important resource for sustainable tourism, recreation and cultural heritage.
- Stabilization of local climate.
- Source of livelihood to local people.
- Genetic reservoir for various species of plants.

The Convention on wetlands of international importance popularly known as "Ramsar Convention" has been instrumental in highlighting the values and functions of wetlands.

1.3 Wetland Conservation Reserves:

The valley of Kashmir is characterized by a vast array of fresh water bodies of great ecological and socio-economic importance. These natural water bodies of Kashmir Himalayas are important for fisheries, agriculture and recreation. These wetlands also provide winter resort for a variety of birds for shelter, nesting and feeding. They also harbour a vast array of flora and fauna and thus exhibit rich biodiversity.

Jammu and Kashmir Wildlife (Protection) Act – 1978 Amended up to 2002.

- **Section 36. Declaration of Conservation Reserve.** – (1) The Government may, by notification, declare, any area other than an area comprised within a National Park or a Sanctuary, as a Conservation Reserve, for protecting flora and fauna and its habitat, specially area adjacent to National Park and Sanctuaries and those which link one Protected Area with another, with the participation of the local people, within substantially human inhabited areas; Provided that from the commencement of the Jammu and Kashmir Wildlife(Protection) (Amendment) Act, 2002, Game Reserves or Wetland Reserves or Chakore Reserves or Closed Areas, heretofore declared as such from time to time under this Act, shall be **deemed** to have declared as Conservation Reserves under this section.
- Wetlands Reserves (Game Reserves and State Rakhs) of Kashmir were notified by virtue of Order No: 710-C 1945 Dt:17-07-1945 (Notification 2 and 5) under Jammu and Kashmir Game Preservation Act-1942.
- Notification SRO 156 dated 15th April 1971- In pursuance of the provisions of the explanation to section 133-B of the Jammu and Kashmir Land Revenue Act 1996, as amended by Jammu and Kashmir Land Revenue (Amendment Ordinance,1971) the Government hereby specify in the Annexures 1,2,3,4,5,6 the areas, waters, water fields and floating fields of which the Gagribal and Dal Lake, Nigeen Lake, Anchar Lake, Mansbal Lake, Hokersar Lake and Haigam Rakh shall respectively comprise.

Annexure 5: Hokersar Khasra Numbers:

1164,1165,1166,1167,1168,1169,1170,1171,1172,1173,1174,1175,1176,
746 1236/745.

Annexure 6: Haigam Rakh Khasra Numbers:

858/1,858,859/1,860,863,1406/1,2706/1,2749,2750,2758/2,2769.

Existing Legal Framework:

Wildlife (Protection) Act,1972:

- **36A. Declaration and management of a conservation reserve.** — (1) The State Government may, after having consultations with the local communities, declare any area owned by the Government, particularly the areas adjacent to National Parks and sanctuaries and those areas which link one protected area with another, as a conservation reserve for protecting landscapes, seascapes, flora and fauna and their habitat:

Provided that where the conservation reserve includes any land owned by the Central Government, its prior concurrence shall be obtained before making such declaration. (2) The provisions of sub-section (2) of section 18, sub-sections (2), (3) and (4) of section 27, sections 30, 32 and clauses (b) and (c) of section 33 shall, as far as may be, apply in relation to a conservation reserve as they apply in relation to a sanctuary.

The Wetland Conservation Reserves in Kashmir notified under the Wildlife Protection Act and presently being managed by the Department of Wildlife Protection, Jammu & Kashmir are as under: -

S.No	Name of the Wetland	District	Area in hec
1	Hokersar	Srinagar/Budgam	1375
2	Shallabugh	Srinagar/Ganderbal	1691
3	Hygam	Baramullah	719
4	Mirgund	Baramullah	406

5	Chattlam	Pulwama	42.60
6	Kranchoo	Pulwama	6.40
7	Manibough	Pulwama	5.30
8	Freshkhori	Pulwama	15.25

1.4 RESOURCE USE AND INTENSITY:

A total of 13 consumptive and non-consumptive resource use categories have been identified in these wetlands. Consumptive uses include reed harvesting, fuel wood collection, irrigation, paddy cultivation, peat collection, fishing, livestock grazing, clay gathering, fodder collection and agriculture; while the non-consumptive uses include domestic sewage discharge and solid waste disposal. Harvesting of the reeds is indicated as most intensively used resource. Four percent families depend fully for subsistence on wetland resources. Harvesting of reeds is a common resource use in all the Wetland Conservation Reserves in Kashmir.

The participatory rural appraisal with the village people reveals that in the zone of influence of all these wetlands, the major cultivated crop is paddy followed by vegetables, pulses, and fruits. The major fruit grown in this zone include Apple, Walnut, and Pear. A large number of fertilizers, pesticides, and fungicides are being used which include Endosulfan oil sprays in orchards. The fertilizers used include Urea, Di-amino-phosphate (DAP), and Muleate orthophosphate (MOP). The residues of these fertilizers, pesticides, often find their way into these wetlands through run-off. In addition to chemical fertilizers, the cattle dung as manure is also added to the fields and also kept for drying on

the fringes of some of these wetlands. This manure also reaches the water body through runoff.

List of Villages around 08 Wetland Conservation Reserves

S.No.	Name of the Wetland	District	Name of the Villages	No. of Villages	Population (As per the last census report)
1	Hokersar Wetland Reserve	Srinagar/ Budgam	Zainakote	13	5000
2			Khushipora		4000
3			Rishmwara		2500
4			Hajibagh		27000
5			Shariefabad		2800
6			Souibugh		11000
7			Darmuna		3500
8			Gutapur		1500
9			Churpora		2500
10			Guripora		8000
11			Gund Hassibhat		10000
12			Narbal		9000
13			Sozieth		8000
1	Haigham Wetland Reserve	Baramullah	Hanjipora	21	1000
2			Chitipora		1000
3			Hygam		1500
4			Trumgund		2000
5			Renji		2500
6			Hamre		3000
7			Chanderhama		3000
8			Andergam		4000
9			Lolipora		5000
10			Goshbugh		10000
11			Sohkul		2000
12			Gohal		2000
13			Tangepora		3000
14			Gulabwari		1000
15			Akhoonpora		1000
16			Wandakpora		1000
17			Radigam		1000
18			Tarzo		15000
19			Amberpora		10000
20			Aalibagh		2000
21			Panzipora		1500
1	Shallabugh Wetland Reserve	Ganderbal/ Srinagar	Shallabugh	10	20000
2			Pathcondle		5000
3			Ghat		2000

4			Paribal		1000
5			Takanwaripora		10000
6			Bakshipora		4000
7			Tengpora		3000
8			Kreshbal		30000
9			Badiwoder		3000
10			Sangam		20000
1	Mirgund Wetland Reserve	Budgam/ Baramullah	Garth Narbal	15	2500
2			AlambalNarbal		1500
3			Gagerpora		3000
4			Check-i-Kawoosa		4000
5			Kawoosa Khalisa		7000
6			Mazhama		3500
7			Archanderham a		3000
8			Puran Saclersshah		225
9			Habak Tangoo		3000
10			Arapora		5000
11			BonichacalArapora		700
12			Nowpora		125
13			Chnibal		7000
14			Malimar		2000
15			Mirgund village		6000
1	Manibugh Wetland Reserve	Pulwama	Tubagh	01	800
1	Kranchoo Wetland Reserve	Pulwama	Kranchoo	01	900
1	Chatlum Wetland Reserve	Pulwama	Bagh-e-Anayatullah	03	300
2			Lalpora		2500
3			Konibal		600
1	Freshkooori Wetland Reserve	Pulwama	Tulbagh	02	800
2			Namlabal		1300

1.5 THREATS AND CHALLENGES:

a) Siltation:

Catchment degradation, deforestation and other anthropogenic activities have accelerated soil erosion resulting in floods. These floods increase sedimentation rate. These wetlands are fed by many perineal and seasonal water channels which are directly or indirectly linked to the River Jehlum basin or its offshoots, which bring water to these wetlands for their sustenance. However, they bring along with it huge amount of silt. In Hokersar, much of the siltation has occurred at the entry points of these feeding channels i.e. Soibugh to Hajibagh. In Shallabugh Wetland, the feeding Anchar Nallah has brought Sangam Beat under heavy silt while as in Hygam, Ningli Flood Channel and Baal Kul are responsible for siltation in the wetland. Siltation has occurred to such an extent that during summer one can walk easily across these these wetlands at different places. The negative impact of this massive inflow of silt is manifesting into three fields. Firstly, the silt is getting deposited in the beds of wetland making it less shallow. Secondly, it is resulting in the gradual decrease of the water spread within the wetland area, and thirdly, due to siltation there is shift in macrophytic community.

b) Weed Infestation:

The growth of aquatic weed species such as Hydrilla, Azolla, Spirodella, Salvinia, Lemna, Barberea vulgaris, Ceratophyllum, Nasturtium, Typha, Butomus umbellatus, Cyperus sp. and Potamegton is quite high and has assumed nuisance proportions. These weeds have posed great threats to all these wetlands. The presence of such

vegetation is the result of infestation of silt and nutrient enrichment. The growth of aquatic weeds is one of the major problems faced by all these wetlands. Notable change is reflected by the fast spread of *Sparganium erectum* replacing *Phragmites australis* to a greater extent in the wetlands.

c) Pollution:

Chemical fertilizers, animal wastes and detergents are added into these wetlands from the intensively cultivated catchments that results in eutrophication. Untreated domestic sewage from surrounding settlements also enters into the wetland. The uncontrolled use of insecticides and pesticides in paddy fields, apple orchards, and vegetable garden in the catchment also enter into the wetland. The potential source of nitrogen is heavy annual dosages applied to paddy fields and to vegetable fields.

d) Habitat Modification:

Studies have shown that the wetland plant species composition is highly sensitive to habitat modification. It is influenced by climate change, eutrophication, and other anthropogenic activities. It is revealed in various studies that there has been a considerable decline in the macrophytic diversity of these wetlands. The decrease in the number of species is attributed to increasing frequency of floods and increasing population around causing greater anthropogenic pressures on the wetland ecosystem. Floods and siltation are responsible for decline of species like *Nelumbium nucifero*, *Eurayle ferox* and *Acorus calamus*. Similarly species like *Ceratophyllum demersum*, *Myriophyllum spicatum*, *Utricularia aurea*, *Nymphaea alba*, *Slum latijugum*, *Menyanthese trifoliata*, *Hippuris vulgaris*, *Biden scerna*, and *Hydrocharis dubia* have

gone tremendous changes. Thus, there is a shift in macrophytes community during last 4 to 5 decades.

e) Degradation of Water Quality:

The use of agriculture fertilizers and pesticides, insecticides, fungicides etc in the catchments of Hokersar, Hygam, Mirgund and Shallabugh have affected the water chemistry. The fishery is seriously affected and many species of fish forming a good portion of food to birds are already declined.

f) Solid Waste:

Solid waste is also a challenge as the inhabitants of settlements around wetlands have tendency to throw solid waste into the wetlands. Such waste from homes and urban areas around wetlands can get into the wetlands due to irresponsible behaviour of individuals.

g) Encroachment:

The increasing population around all these Wetland Conservation reserves has resulted in the conversion of vast areas of the immediate catchment to agricultural land. The increasing demand for fire wood has brought a vast area of these wetlands for willow and poplar plantations by the local people. The plantation of these species has also been done in wetland periphery. The areas of wetlands near habitations are under constant threat of encroachment. At times, there are clashes between Departmental staff and encroachers as such attempts are thwarted.

During last two decades human settlements have come up very close to the perimeter of the Wetlands particularly Hokersar wetland.

Besides, heavy silt deposition has resulted in silting up of the marginal lands of the wetland. These silted patches/portions of the wetland are seasonally brought under paddy cultivation by the local population also in some patches private plantations have also been raised in the wetlands. Department of Wildlife Protection however, not recognising this practice in the wetlands has registered many cases under Wildlife Protection Act, against the accused for seasonal occupation of these portions in the wetland conservation reserves and for any attempt to raise plantations or temporary structures.

At present there are many claims of locals residing in the vicinity of wetlands to have their private proprietary rights over some portions of the land existing in the wetlands under the control of Wildlife Department in Kashmir. Therefore, it was difficult to draw a distinction between status of these ownerships and encroachments in these wetlands. In order to ascertain the actual status of the land, The divisional administration ordered serious measures for undertaking joint demarcation of these wetlands. The district collectors (Dy. Commissioners, Assistant Commissioner Revenue, Tehsildars from Revenue Department, Wildlife Warden Wetland Division, Forest Demarcation and Photointerpretation Divisions jointly started demarcation exercises in the wetlands.

Based on the demarcation record except Hokersar in no other wetlands under the control of Wildlife Department in Kashmir has a private ownership of the land. In case of Hokersar ownership of the land falling in District Budgam as authenticated by the District Revenue Authorities shows private persons to the extent of 1338 K-14 M and occupation under Section 5 and 4, 1724 K 5 M and 968 K 11 M respectively. In Hygam Wetland District Revenue authorities

have authenticated ownership of 14133 Kanals of demarcated land vests with Wildlife Department out of which 1713 K 2 M of land is under seasonal paddy cultivation by locals and remains available for biodiversity conservation during the remaining period. However, over the period of time some structures have been raised on 91 K-06 M in the shape of 56 Households and 95 others. Also, orchard plantation raised on 32 K 14 Marlas. In Mirgund Kawosa jagir falling in Budgam District out of 6906 K 3 M of land 4016 K 1 M is State land under occupation of Wildlife Department, 2793 K 3 M land under section 4 and under section 5 falls 96 K and 19 M of land.

Action Plan to Evict/Remove Encroachments:

- In Hygam Wetland Department of Wildlife will work out a joint strategy with District administration, Police, Forest Protection Force and local community groups for eviction and removal and demolition of 56 house holders and 96 other structures. Notices under relevant laws and rules shall be served upon each encroacher to voluntarily evict the Government property within the stipulated time frame work failing which Eviction proceedings shall be initiated under law.
- In Hokersar, Hygam and Mirgund wetlands temporary occupation of portions of the land used for paddy cultivation shall be rendered unfit for next season by way of demolition of marginal and intersectional embankments thereby, making the area not only inaccessible but unfit for paddy cultivation as well.
- In Hokersar, Hygam, Shallabugh and Mirgund wetlands identified portions under private plantations shall be got cleared after issuing notices to each private plantation unit holder otherwise action under rules shall be initiated.
- **“Wise use”** of wetlands however, defined under the Ramsar Convention as “the maintenance of ecological character of wetlands

shall be achieved through the implementation of ecosystem approaches, within the context of sustainable development”.

- The status of the ownerships of land in wetlands as authenticated by the Revenue authorities is given under:

Statement showing the Details of Wetland / Hokersar of Tehsil Budgam

S.No	District	Tehsil	Name of Village	Name of Wetland Water Body	Proprietary Land												Grand Total										
					Section 5				Section 4				Section 4														
					Residential	Undeveloped	Vacant	Total	Residential	Undeveloped	Vacant	Total	Residential	Undeveloped	Vacant	Total											
					K	M	K	M	K	M	K	M	K	M	K	M											
1	Budgam	Budgam	Dharmuna		52	5	782	5	-	-	834-10	-	-	655	7	-	-	655-7	603	-	-	1268	7	1268-7	3361-4		
2	-do-	-do-	Soibugh Rakhi	Hokersar / Soibugh	81		227	15	195	9	504-4	-	-	-	-	8	18	1068-18	365	11	365-11	-	-	843	6	843-6	2781-19
3	-do-	-do-	Aarath		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1709	0	17090	17090
			Total		135	5	1010	0	195	9	1338-14			655	7	8	18	1724-5	968	11	968-11			1920	1	1920-1	23233-3

Statement showing the Details of Wetland / Hokersar of Tehsil Central Shalteng Srinagar

S. No.	Name of the village	Total wetland Area		District	Revenue Village	Types of Land in Canals and Marlas																	
		As stated by Wildlife Deptt	As per Revenue records			Total area demarcated	Area encroached		Kind of encroachment with area					Structure			State land in Wetland area		Kachari land in Wetland area				
		K	M	K	M	K	M	Paddy	Structure	Orchards/Plantation	Others	Houses holds	Total	Other	Total	K	M						
1	Rakh-Higam	14332	0	1413	11	1413	01	189	02	177	02	91	06	32	14	0	0	56	95	151	0	0	0

Statement showing the status of wetland falling in estate Rakh-Hygam Tehsil Khoie

Private Plantations fenced/Unfenced in Shallabugh Wetland Reserve

Beat	Block	Village	Detail in Kanal/Marlas						Total under Private Plantations
			Paddy	Structure	Plantation		Vegetable Garden		
					Fenced	Un Fenced	Fenced	Un Fenced	
Shallabugh/Kreshbal/Sangam	Shallabugh	Shallabugh/Kreshbal/Sangam	0.00	0.00	56.11	453.03	0.00	0.00	509.14

Land Falling under Mirgund (Kawoosa Jagir) District Budgam as per Revenue Records.

S.No	Name of the Village	Proprietary Land	Detail in Kanals and Marlas			Total
			Section 5	Section4	State Land	
	Checki-Kawoosa (Kawoosa Jagir)	Nil	96 K 19 M	2793 K 3 M	4016 K 1 M	6906 K 3 M
		Nil	96 K 19 M	2793 K 3 M	4016 K 1 M	6906 K 3 M

Detail of Land under Wetlands in Pampore Tehsil District Pulwama

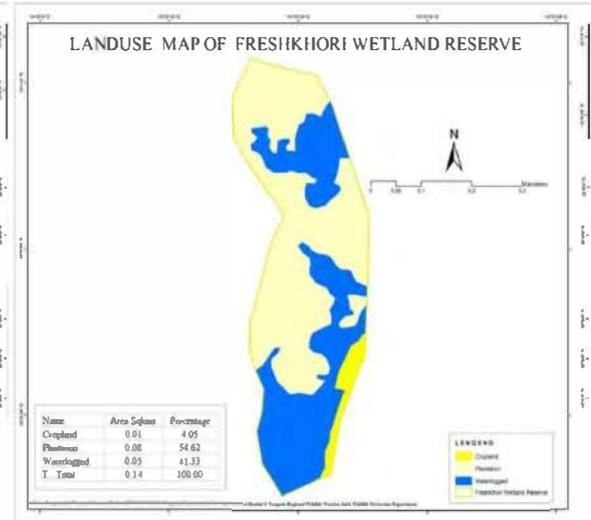
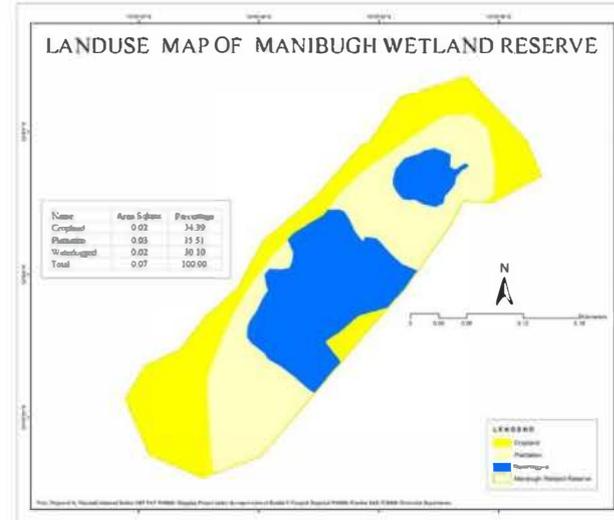
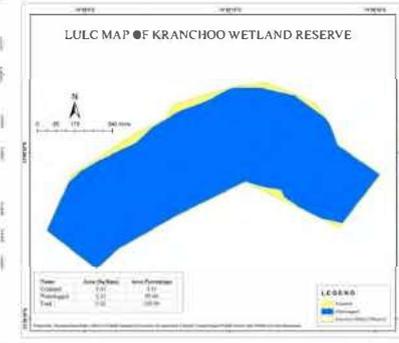
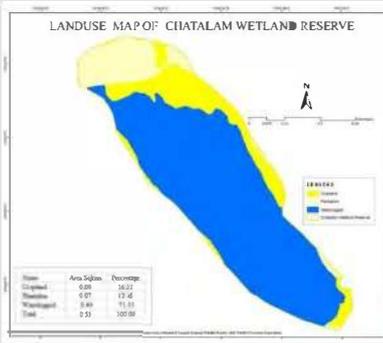
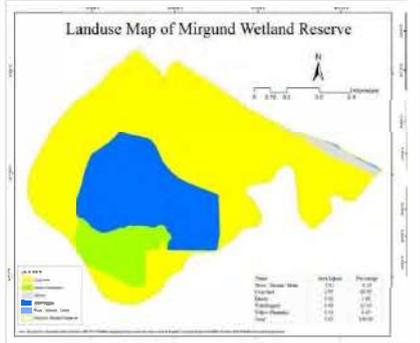
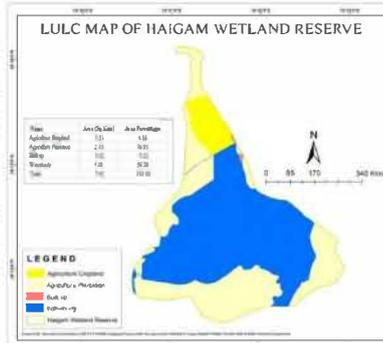
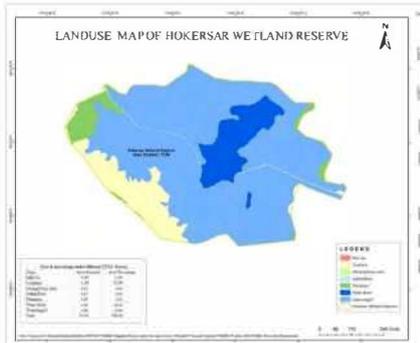
S. No	Name of Wetland	Village	Area	Title of Land with classification	Area Encroached
1	Chatlum	Lalpora	852 K 17 M	Sarkar Muhkama Game Laws, Gair Mumkin Jheel	79 K 04 M
2	Kroonchu	Kroonchu	128 K 19 M	Sarkar Maqboozai Muhkama Game Laws, Gair Mumkin Nambal	-
3	Fashkooori	Namblabal	341 K 14 M	Sarkar Maqboozai Muhkama Maal Game Laws, Gair Banjr Qadeem Safeed Zaar	96 K 17 M
4	Mainbugh	Namblabal	106 K 19 M	Sarkar Maqboozai Sarkar Gair Mumkin	-

The land-use patterns around these wetlands have been documented in detail.

1.6 STATUS OF LAND USE AND LAND COVER OF PROTECTED WETLANDS OF KASHMIR:

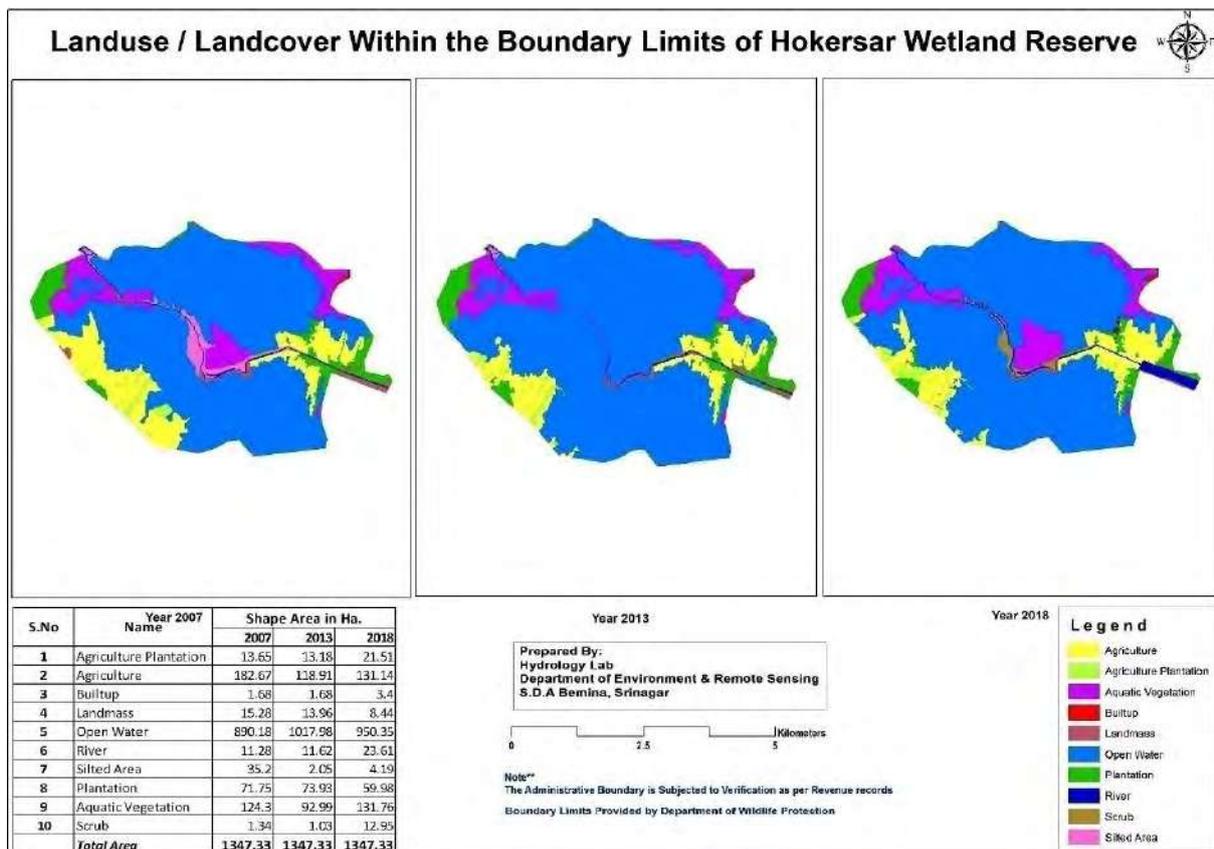
Land use & Land Cover of Wetland Conservation Reserves of Kashmir Region:		
Chatalam Wetland Reserve		
Name	Area Sqkms	Percentage
Cropland	0.09	16.22
Plantation	0.07	12.45
Waterlogged	0.04	71.33
Total	0.55	100.00
Freshkhori Wetland Reserve		
Name	Area Sqkms	Percentage
Cropland	0.01	4.05
Plantation	0.08	54.62
Waterlogged	0.05	41.33
Total	0.14	100.00
Haigam Wetland Reserve		
Name	Area Sqkms	Percentage
Agriculture Cropland	0.51	6.65
Agriculture Plantation	2.81	36.85
Built-up	0.02	0.22
Waterbody	4.29	56.28
Total	7.62	100.00
Hokersar Wetland Reserve		
Name	Area Sqkms	Percentage
Builtup	0.01	0.05
Cropland	1.48	10.95
Grazing/ Grass land	0.01	0.05
Nallah / River	0.08	0.59
Plantation	0.68	5.00
Waterbody	1.42	10.52
Waterlogged	9.86	72.84
Total	13.54	100.00
Kranchoo Wetland Reserve		
Name	Area Sqkms	Percentage
Cropland	0.01	4.31
Waterlogged	0.21	95.69

Total	0.22	100.00
Manibugh Wetland Reserve		
Name	Area Sqkms	Percentage
Cropland	0.02	34.39
Plantation	0.03	35.51
Waterlogged	0.02	30.10
Total	0.07	100.00
Mirgund Wetland Reserve		
Name	Area Sqkms	Percentage
Cropland	2.55	66.59
Willow Plantation	0.32	8.45
Barren	0.06	1.68
Waterlogged	0.88	23.10
River / Stream / Drain	0.01	0.19
Total	3.83	100.00
Shalbugh Wetland Reserve		
Name	Area Sqkms	Percentage
Barren	0.21	1.22
Built-up	0.07	0.42
Cropland	0.96	5.72
Grassland & Grazing land	0.36	2.13
Plantation	2.02	12.03
River / Stream / Drain	0.21	1.27
Waterlogged	12.93	77.21
Total	16.75	100.00

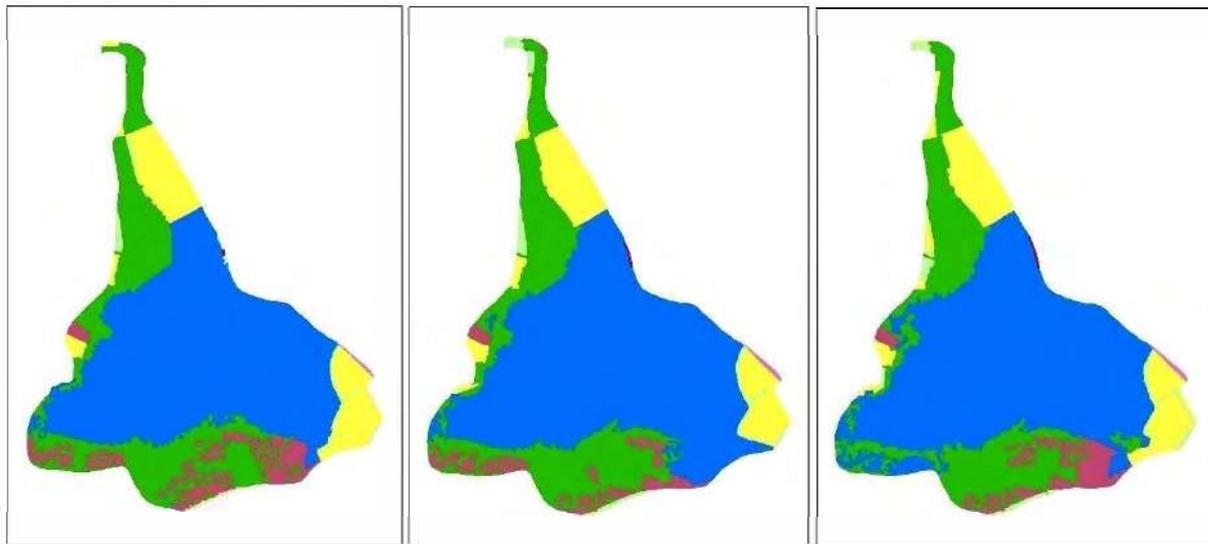


A comparative analysis of land use landcover changes over the period of time and impact on health of Hokersar Wetland is given as under:

S.No	Land use category	Area in Sq. Km		
		1964	2012	2017
1	Water Body	1.8	1.42	1.21
2	Marshy/Waterlogged	4.6	9.86	4.83
3	Cropland	4.85	1.48	4.20
4	Grazing	0.05	0.01	0.1
5	Plantation Willow	1.02	0.68	1.27
6	Nallah/Flood Channel	1.22	0.08	1.33
7	Built up	0.00	0.01	0.6
Total		13.54	13.54	13.54



Landuse /Landcover Within the Boundary Limits of Haigam Wetland Reserve



Year 2007

Year 2013

Year 2018

S.No	Name	Shape Area in Ha.		
		2007	2013	2018
1	Agriculture	84.34	79.61	83.18
2	Agriculture Plantation	9.12	12.71	12.82
3	Builtup	0.14	0.47	0.59
4	Landmass	52.75	34.17	39.34
5	Open Water	422.45	444.6	443.08
6	Silted Area	1.11	1.66	1.66
7	Plantation	192.4	189.09	181.64
Total Area		762.31	762.31	762.31

Prepared By:
Hydrology Lab
Department of Environment & Remote Sensing
S.D.A Bemina, Srinagar

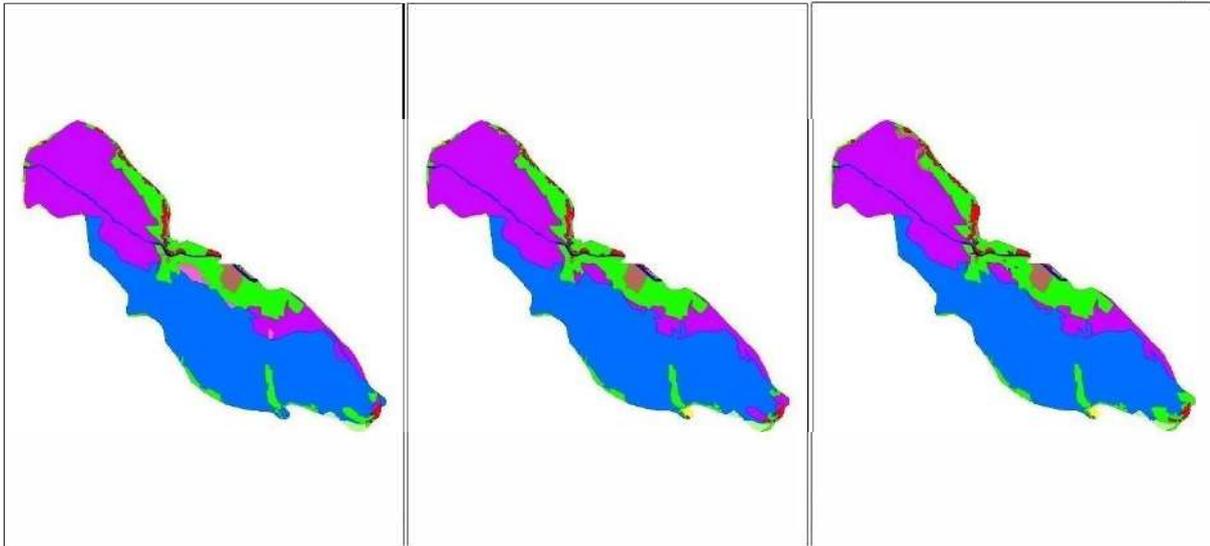


Note:-
The Administrative Boundary is Subjected to Verification as per Revenue records
Boundary Limits Provided by Department of Wildlife Protection

Legend

- Agriculture
- Agriculture Plantation
- Builtup
- Landmass
- Open Water
- Plantation
- Silted Area

Landuse / Landcover Within the Boundary Limits of Shalabugh Wetland Reserve



S.No	Name	Shape Area in Ha.		
		2007	2013	2018
1	Agriculture	2.54	6.24	4.57
2	Agriculture Plantation	12.08	10.4	10.85
3	Builtup	24.17	25.76	32.29
4	Landmass	24.8	21.68	30.40
5	Open Water	809.6	798.05	789.54
6	River	17.2	17.2	16.80
7	Silted Area	16.2	1.31	1.11
8	Plantation	258.57	246.64	258.00
9	Aquatic Vegetation	518.55	548.43	521.9
Total Area		1675.71	1675.71	1675.71

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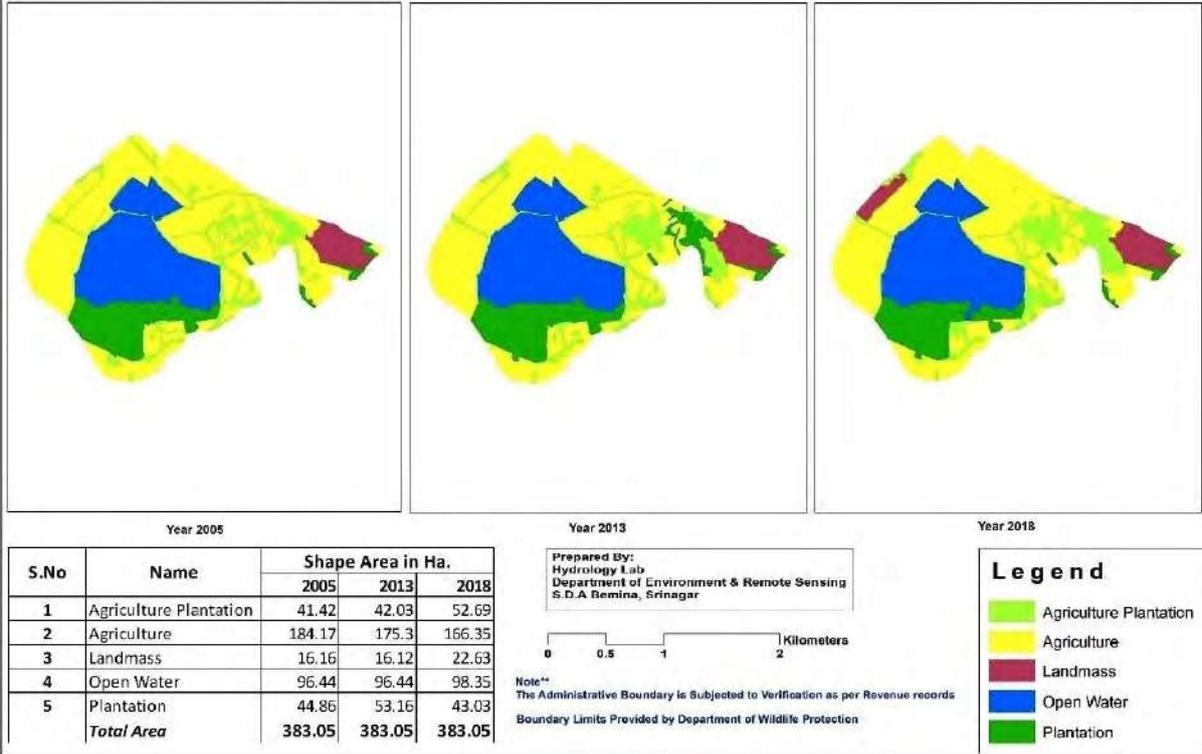
Note**
 The Administrative Boundary is Subjected to Verification as Per Revenue records
 Boundary Limits Provided by Department of Wildlife Protection

Year 2018

Legend

- Agriculture
- Agriculture Plantation
- Aquatic Vegetation
- Builtup
- Landmass
- Open Water
- Plantation
- River
- Silted Area

Landuse / Landcover Within the Boundary Limits of Mirgund Wetland Reserve



1.7 PREVAILING MANAGEMENT PRACTICES: -

The Management activities in the said wetland conservation reserves are undertaken presently on the basis of framing of Annual Plan of Operations. Management activities undertaken in the wetlands are like eradicating the excessive reeds and floating vegetation on a controlled basis each year in all season except winter. This is done to prevent excessive proliferation and simultaneous enhancement of water spread area for arrival of migratory water birds. Peat extractions from wetlands, maximize open water areas and during growing stage, floating vegetation can become conspicuous. Department of Irrigation and Flood Control has initiated the process of constructing 80 mtr long automated hydraulic sluice gate at the exit point near Sozeath village as per conditions laid down in government order where under permission

was accorded for dredging work in the area after clearance of Standing Committee of National Board for Wildlife and orders of the Hon^{ble} Supreme Court. After Completion of this gate, water level in the Hokersar will be regulated as per the requirement and will rejuvenate the whole wetland. All the Wetlands particularly Hokersar, Shallabugh, Mirgund and Hygam have been used as a temporary basin of flood waters to avoid frequent flooding of other urban and sub urban areas. The activities required to be undertaken are prioritized and included in the Annual Plan of Operations as per availability of funds/budgetary provisions. The important activities, thus undertaken are desilting of critical areas, deweeding, encroachment removal, disposal of solid waste, demarcation, fencing, habitat improvement, antipoaching operations, infrastructure for field staff, education and awareness.

MANAGEMENT PLANNING FRAMEWORK

2. MANAGEMENT PLANNING FRAMEWORK

Conservation and sustainable development of all the Wetlands under the control of the Wildlife Department in Kashmir requires integrated planning and resource management at the Jhelum River basin level recognizing the interconnectedness of wetlands with their catchments. River basin level planning requires understanding of the carrying capacity of the river basin with a view to produce desired goods and services from limited resource base and achieve equitable quality of life while maintaining desired environmental quality in the region.

The planning for sustainable development calls for trades off between desired production and consumption levels. It also emphasizes on development of supportive mechanisms within the generative capacity while maintaining the environmental quality. The challenge, therefore, is to conserve wetland ecosystems along with their rich biodiversity while providing sustained economic benefits to the communities dependent upon these resources for their sustenance.

River basin approach is adopted to address the management problems of all the Wetlands under the control of Wildlife Department taking into account the external, natural and induced factors and their influence on the ecosystems. These Wetlands and resources are essentially adapted to the hydrological regimes and vulnerable to changes due to anthropogenic pressures. The emphasis for successful management of these wetlands, therefore, is on maintenance of ecosystem characteristics and sustainable utilization of its resources for the benefits of stakeholders, particularly local communities.

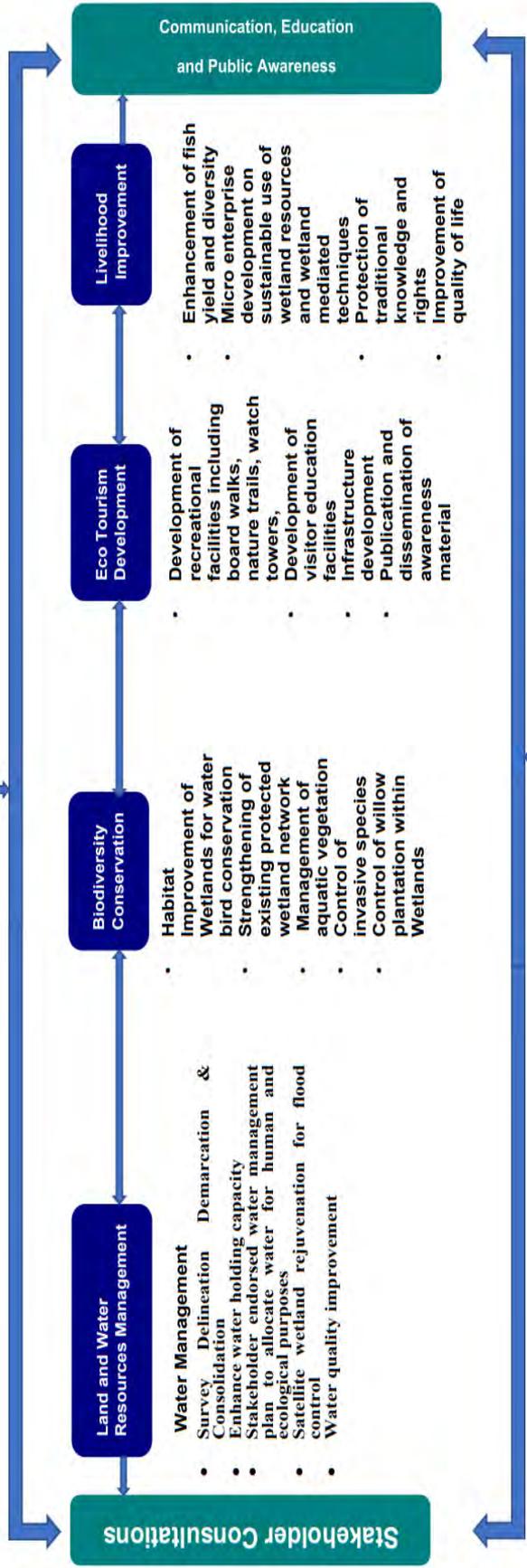
Integrated management planning therefore aims at bringing together stakeholders at all levels and to consider their needs and aspirations while ensuring sustainability of wetland ecosystems within the Jhelum River Basin.

The management planning framework will seek a balance between ecosystem conservation for ensuring ecological integrity of all our Wetlands and ensuring livelihood security to the communities. It will also seek to ensure an effective institutional mechanism that harmonizes planning at various levels with participation of all concerned stakeholders to achieve the objectives of integrated conservation and livelihoods. In order to achieve the above, management planning has been organized along five subcomponents, viz land and water resources management, biodiversity conservation, ecotourism development, livelihood improvement and institutional development. Schematic presentation of the planning framework is presented as below.

Management Planning Frame Work (4272 Ha)



Integrated Conservation and Management of Wetland Conservation Reserves, Kashmir



Land and Water Resources Management

- Water Management
- Survey Delineation Demarcation & Consolidation
- Enhance water holding capacity
- Stakeholder endorsed water management plan to allocate water for human and ecological purposes
- Satellite wetland rejuvenation for flood control
- Water quality improvement

Biodiversity Conservation

- Habitat Improvement of Wetlands for water bird conservation
- Strengthening of existing protected wetland network
- Management of aquatic vegetation
- Control of invasive species
- Control of willow plantation within Wetlands

Eco Tourism Development

- Development of recreational facilities including board walks, nature trails, watch towers,
- Development of visitor education facilities
- Infrastructure development
- Publication and dissemination of awareness material

Livelihood Improvement

- Enhancement of fish yield and diversity
- Micro enterprise development on sustainable use of wetland resources and wetland mediated techniques
- Protection of traditional knowledge and rights
- Improvement of quality of life

Communication, Education and Public Awareness

Stakeholder Consultations

Institutional Development

- Policy and regulatory mechanisms
- Institutional Networking
- Capacity Building
- Monitoring and Evaluation
- Database Management

Specific Management interventions have been defined for each of the components. Project implementation mechanisms have been defined to achieve the management objectives identified under the action plan.

2.1 MANAGEMENT ACTION PLAN:

In order to address the issues and challenges of wetland conservation reserves, as mentioned above, management action plan is proposed for undertaking various mitigatory measures in 5-year time period. The important features of the action plan are as under: -

i) Purpose and Expected Outcome:

- Rejuvenation of hydrological functions of all these 8 Wetland Conservation Reserves through significant enhancement to present water holding capacity and restoration of hydrological connectivity to the adjacent marshes wherever applicable.
- Water quality of all these 8 Wetlands to be improved to B category as per CPCB designated best use criteria through management of sewage coming from adjoining settlements and water quality regulations.
- Allocation of water for human and ecological purposes through formulation and perationalization of stakeholder endorsed water management plan.
- Enhancement of biodiversity through Wildlife and Waterbird conservation.

- Enhancement of water bird populations through control of poaching, strengthening existing Wetland Conservation Reserve network and habitat improvement.
- Optimization of economically important plant species through water level enhancement.
- Control of invasive species in all the Wetland Conservation Reserves.
- Opportunities of livelihood diversification to wetland fringe communities through development of Ecotourism.

ii) Habitat Management:

Shall be undertaken by:

- Maintaining the heterogeneity in macrophyte vegetation to encourage the diversity of water birds.
- Artificial nesting sites (floating platforms/earthen mounds) for the breeding terns.
- Levelling the existing ponds to increase the feeding zones for the migratory birds.
- Creation of bird habitats closer to the shoreline areas, free from human activities, to facilitate different sections of society to watch birds.

iii) **Management of Weeds and Aquatic Macrophytes: -**

Mechanical control is difficult, but possible on sites that are flooded or consistently moist. Mechanical management methods have been widely used world over in attempts to control aquatic plants. These are:

Harvesting: In mechanical harvesting, weed cutting operations combined with plant removal are suggested. The mechanical harvesters that cuts the material and loaded on boats is a good technique to get rid of from excessive weeds and peat. This practice though is a prevailing management technique in most of the wetlands by the Wildlife Department. Disposal boat carries the plant material away. The plant material is generally used to feed the domestic animals.

Hand Cutting/Pulling: The most common form of mechanical control is actually the use of hand cutters, rakes, or bare hands to remove vegetation. This is the most common method used worldwide; and the most widely used method by most lakeshore communities. These techniques are most appropriate for localized nuisance problems of both, non-indigenous and native plants. The aquatic weeds that actually play the role of nutrient sink and thus regulate the water quality of a wetland. However, the uncontrolled growth of weeds like *Nymphoides*, *Salvinianatans*, *Azolla*, *Lemna* spp, *Myriophyllum* spp. *Sparganium erectum* are causing problems to the wetland. De-weeding of such macrophytes can be carried out on the selective basis rather than general scale harvesting. As some of the macrophytes play vital role in providing shelter and nesting places to the migratory birds. Macrophyte harvesting can be done on large scale by contractors and on small scale by local villagers. However, large scale extermination of macrophytes

shall be avoided as there is possibility of destroying bird-niches. The chunks of harvested macrophytes or partially decomposed macrophyte heaps, are locally known as 'Damb'. These are used by local people for fuel purpose. Removing such heaps will prove to be beneficial as it helps in increasing the water depth. This practice is suggested to be encouraged by the department, as it will keep a balance between weed growth and removal.

The maintenance of macrophytes on selective basis will help to maintain the nutrient cycles and nesting and roosting sites for birds. They effectively remove minerals from the nutrient sediment pool. A variety of benefits are credited to macrophytes of the wetland as they act as a buffer zone for the surrounding agricultural runoff before entering into the wetland, particularly for nutrient removal. Thus, the conservation potential of macrophytes is an integral part of the wetland ecosystem, and their role as bio-indicators of pollution.

iv) Desilting:-

When silt get settled at the wetland bottom, water retention gets decreased and the emergent weeds (Typha, Sparganium, Scirpus spp. etc.) establish. Such a situation demands the use of dredging facilities to remove silt and increase the water depth of wetland. This also reduces the problem of emergent weeds. So, most of the wetlands are shallow due to sedimentation and have excess plant growth. Dredging is one of the techniques by which the macrophyte vegetation along with excess silt can be removed. It will clean the ditches. The practice can however be put to auction and private partners and communities will be allowed to desilt the identified blocks up to designated depth. Dredging will

create more openings and more diverse habitats and creating depth gradients, it will also create more diversity in the plant community.

v) Construction of Embankment and Silt Traps:

The feeding channels of most of our wetlands such as Hokersar, Hygam and Shallabugh are mainly fed by flood channels after snaking through large number of villages/settlements, thus bringing loads of silt from its origin in the catchment. Most of the fringes of the wetland have already silted up. Serious threat to the wetlands has occurred towards the source of these feeding channels entering into the wetland and has converted these portions into an upland habitat. The maximum amount of silt load is received by these wetlands during May-April. Raising of Embankments and making adequate number of silt traps with sufficient capacity to hold and retain the flood waters can be constructed around the periphery of these wetlands and at the entry points of the feeder channels. This will stop the direct discharge of silt into the wetland. The main feeding channel can be provided with an arrangement of silt-traps or needle gate before it enters into the wetland so that the excessive silt will be stopped by these silt traps. In order to flush out the silt from the wetland, moderate dredging followed by periodic maintenance may be required.

vi) Native Plant Restoration:

The biological management technique can include native plant restoration. It is an ecological approach to manage a desired plant community. The basic idea is that restoring a native plant community has been the end goal of most aquatic plant management programs. A healthy native plant community will slow invasion or reinvasion by non-

native species and will provide the environmental and habitat needs of an aquatic littoral zone. Re-introduction of a number of species which have faced local extinction from wetland e.g. *Eurayle ferox*, *Nelumbio nucifera*, *Acorns calmus* is desirable from an economic and ecological viewpoint.

vii) Population Monitoring of Migratory Birds:

The Wetlands under the control of Wildlife Department in Kashmir serve as an important and potential bird habitat for over-wintering populations of migratory water birds and summer residents in Kashmir valley. Studies suggest that it is the habitat diversity in these wetlands during winter season, in particular the areas of floating vegetation that satisfy critical needs for wintering populations of migratory water birds. The rich organic matter in the core sediment is mostly due to the autochthonous origin like litter fall of macrophytes and decaying planktonic algae and transport of allochthonous organic matter from the catchment's basin. The high organic carbon content in the sediment supports the luxuriant macrophyte growth and bird congregation. Generally, there are positive correlations between macrophyte complexity and bird populations and between invertebrate abundance and duck populations. The major factor responsible for the occurrence of large congregation of waterfowl in some of the wetlands like Hokera, Hygam and Shallabugh is due to the diversity and density of macrophytes because most of the migratory waterfowls wintering in Hokera are herbivores. In order to minimize the disturbances caused due to anthropogenic pressures during inward migration period, proper check has to be maintained to minimize such disturbing pressures in the

wetlands especially during breeding season. Extensive exploitation of some important macrophyte species like *Trapa natans*, which is an important food constituent for many migratory birds, should be regulated within the wetland periphery. *Phragmites australis* and *Typha angustata* form the most suitable site for Mallard and White eyed Pochard and Coots which in last few years has shown a decline in the wetlands shall be actively promoted, particularly in the shallow waters and floating gardens. Periodic surveys and documentation of flora and fauna, especially threatened species, and their scientific management need to be undertaken.

viii) Control of Overgrazing:

Overgrazing in the fringes and inside the wetlands like Hokersar, Hygam and Shallabugh has certain ecological effects, i.e. reduction of the mulch cover of the soil, and depletion of different macrophytes which provide food material to different bird species. Thus, a strong enforcement mechanism need to be put in place to check on overgrazing of cattle within the wetland periphery. The administrative setup shall be made more effective and stringent arrangement and guards shall be put on watch on all the entry points of wetland so as to stop the infiltration of the cattle.

ix) Public Awareness:

It is necessary to create awareness regarding importance and potential of wetlands and about detrimental activities which could lead to the degradation of wetlands. The local people will be educated through various media like booklets, audio-video documentaries, lectures, slide show, campaigning, banners, newspaper ads, exhibitions, posters,

postal stamps, stickers, etc. It will involve all relevant sectors of society and scientific disciplines, capacity building, involvement of academicians and researchers. The local populations around the wetlands will be made aware of importance of wetlands and regarding various resources connected to their livelihood, as they will be directly affected by any deterioration and degradation.

x) Coordination and Consultation:

Department of Wildlife Protection will facilitate and promote converge of all the welfare schemes under implementation by the Government Departments, in the fringes of these wetlands in order to improve the socio-economic condition of the local population such as:

- Introduction of self-employment schemes/self-help groups for the women of adjoining villages of these wetlands to improve the local economy.
- Formation of Nature Clubs in all schools around the lake and arranging free bird watching trips to school and college students.
- Community participation in protection of the birds will be initiated with cooperation of local N.G. O's.
- Under Swatch Bharat Scheme, Community and individual toilets will be constructed all around these wetlands in the identified villages to improve the sanitation and hygiene.
- Rural and Urban Local bodies will be taken on board to conduct solid and liquid waste collection and removal exercises on regular and sustained basis and to install and manage adequate number of Dust bins in the locality of these Wetlands.

- In order to check illegal poaching of birds and encroachment attempts, enforcement drives on sustained and regular basis shall be conducted in the vulnerable areas with active coordination and assistance from Forest Protection Force, Forest Department, Police, Revenue Authorities and local committee members.
- For conducting water quality assessment and chemical analysis of various parameters, Pollution Control committee of J&K will be roped in to put in place a mechanism to conduct water quality assessment in the wetlands of Kashmir presently under the control of wildlife Department.
- Department of Irrigation and Flood Control Kashmir is the main stake holder in management and rejuvenation of all these wetlands. Implementation and Monitoring of flood mitigation schemes carried out by this Department shall be strictly followed and consultative meets shall be held in order to draw a balance between biodiversity conservation and flood mitigation measures. Flood spill over channels feeding Hokersar and Hygam Wetlands will have to be managed and maintained strictly in accordance health requirements of these wetlands.

2.2 Integrating Rural-Urban Sanitation & Waste Management Schemes and Role of Other Government Departments for Healthy Wetlands and Surrounds.

It is believed that the Good Governance involves increased participation of the citizens, greater accountability and transparency in the operation of Government run Scheme. In line with, the convergence and promotion of Government run schemes for human welfare as well

as ecological purposed will be a joint mission to be promoted by the Directorate of Urban Local Bodies Kashmir and Directorate of Rural Sanitation, J&K.

A) Urban Local Bodies Kashmir

The Directorates of Urban Local Bodies Kashmir and Rural Sanitation J&K Government has agreed in principle to initiate joint programmes in the villages falling in zone of influence of each wetland conservation Reserve in Kashmir. J&K Urban Local Bodies, will promote application of concept of civic bodies at grass root level in these areas for creating people"s participation in improving and achieving the objectives of sanitation, Solid Waste management and other civic amenities/ services by way of exploration and utilization of available resources at local level.

A sustained well-run mechanism of performance and functions shall be arrived at for implementing the following operational schemes falling in the zone of influence of each wetland wherever applicable.

- Public Heath, Sanitation, Conservancy and Solid Waste Management;
- Safeguarding interests of weaker sections of the society;
- Slum improvement and up-gradation;
- Promotion of cultural, Educational and aesthetic aspects;

- Burials and burial grounds, cremation and cremation grounds;
- Cattle ponds and prevention of cruelty to animals;
- Regulation of slaughter houses and tanneries;
- Regulation of amenities including street lighting, parking lots, Bus stops and public conveniences;

B) Swachh Bharat Mission (Gramin) :

The Rural Sanitation Department under Swachh Bharat will focus on improving the levels of cleanliness in the area falling under the zone of influence of each wetland conservation Reserve through Solid and Liquid waste Management activities and making Gram Panchayats Open Defecation Free (ODF), clean and sanitized and following components under Swachh Bharat Mission (G) will be promoted for effective implementation :-

1. Individual household latrines (IHHL)

- Incentive as provided under the Mission for the construction of Individual household latrines (IHHL) shall be made available for all Below Poverty Line (BPL) Households and Above Poverty Line (APL) Households restricted to SCs/STs. Small and marginal farmers, landless labourers with homestead, physically handicapped and women headed households. The incentive amount provided under the scheme is upto Rs. 12000/- for construction of one unit of IHHL with water availability, including for storing for hand-washing and cleaning of the toilet.

2. Community Sanitary Complex (CSCs)

Community sanitary Complexes comprising an appropriate number of toilet seats, bathing cubicles, washing platforms, wash basins etc, shall be set up in a places in the all the villages falling in the zone of influence of each wetland. Such Complexes will be made at public places, Markets, Bus stands etc; where large scale congregation of people takes places. The maintenance of such Complexes is very essential for which Gram Panchayat shall own the ultimate responsibility and the Operation and Maintenance will be got assured. The maximum support per unit prescribed for a community sanitary complex is Rs. 2.00 lacs with breakup of Rs. 1.80 lacs incentive amount and Rs. 0.20 lac will be the community contribution.

3. Solid and Liquid Waste Management

The objective of SBM(G) is to bring about improvement in the cleanliness, hygiene and the general quality of life in rural areas. Solid and Liquid waste management (SLWM) is one of the key components of the programme. The total assistance under SBM(G) for SLWM projects shall be worked out on the basis of total number of households in each GP, subject to maximum of Rs. 7 lakh for a GP having upto 150 households, Rs. 12 lakh upto 300 households, Rs. 15 lakh upto 500 households and Rs. 20 lakh for GPs having more than 500 households.

4. Water Quality Assessment:

Today surface water is most vulnerable to pollution due to its easy accessibility for disposal of pollutants and wastewaters. Surface water quality is governed by complex anthropogenic activities and natural processes, including weathering, erosion, hydrological features, climate change, precipitation, industrial activities, agricultural land use, sewage discharge, and the human exploitation of water resources. During the last two-decade, widespread deterioration in water quality of Wetland Conservation reserves of Kashmir has been reported in various research documentation due to rapid development of horticulture, agriculture, and urban sprawl. The evaluation of water quality has become a critical issue in recent years, especially due to concerns that freshwater will be a scarce resource in the future. J&K Pollution Control Committee is regularly carrying out Water Quality analysis on various parameters in the Wetland Conservation Reserves. The committee has conducted physico-chemical analysis in the month of August 2021 in various wetlands the results are as under:

Physico-Chemical Characteristics of various Wetlands of Kashmir Division

	Name of the Wetland	Hokersar Budgam			Primary water quality criteria for outdoor Bathing (Organized) (class B)
	Location	Near out let Sozaith	Towards Central	Inlet point Doodh Ganga	
	Date of Sampling	06-08-2021			

1	Air Temp. *C	26.0	27.0	27.0	
2	Water Temp. *C	23.9	22.5	23.5	–
3	pH	8.02	8.02	8.04	6.5 – 8.5
4	Conductivity $\mu\text{s}/\text{cm}$	374.0	306.0	368.0	–
5	T.D.S	191.0	153.0	183.0	–
6	D.O	4.7	5.0	5.1	>5mg/l
7	C.O.D	20.70	27.70	37.60	–
8	B.O.D	2.50	2.3	3.20	< 3mg/l
9	Phosphate	0.057	0.058	0.102	–
10	Ammoniacal Nitrogen	1.000	1.310	0.819	–
11	Sulphate	16.96	15.75	18.93	–
12	Hardness	152.0	132.0	146.0	–
13	Calcium	28.85	45.69	30.46	–
14	Magnesium	19.44	4.37	17.01	–
15	Total Alkalinity	90.0	138.0	166.0	–
16	Chloride	34.0	24.0	30.0	–
17	Turbidity NTU	15.0	18.0	9.0	–

	Name of the Wetland	Hygam Baramulla			Primary water quality criteria for outdoor Bathing (Organized) (class B)
	Location	Towards Central	Near Ningli Nallah (Inlet)	Near Balkol (Inlet)	
	Date of Sampling	06-08-2021			
1	Air Temp. *C	26.5	26.5	26.5	
2	Water Temp. *C	25.0	23.0	24.6	–

3	pH	7.93	7.90	8.02	6.5 – 8.5
4	Conductivity $\mu\text{s}/\text{cm}$	318.0	236.0	401.0	–
5	T.D.S	159.0	118.0	204.0	–
6	D.O	5.1	5.3	4.9	>5mg/l
7	C.O.D	25.70	21.70	45.54	–
8	B.O.D	2.50	1.9	4.0	< 3mg/l
9	Phosphate	0.080	0.101	0.056	–
10	Ammonical Nitrogen	0.746	1.070	1.330	–
11	Sulphate	21.66	16.36	11.05	–
12	Hardness	150.0	106.0	198.0	–
13	Calcium	27.25	32.06	55.3	–
14	Magnesium	19.44	6.31	14.58	–
15	Total Alkalinity	166.0	114.0	192.0	–
16	Chloride	24.0	28.0	32.0	–
17	Turbidity NTU	10.0	7.0	14.0	–

	Name of the Wetland	Shallabugh Gandarbal		Primary water quality criteria for outdoor Bathing (Organized) (class B)
	Location	Near Sign Board	Nallah Amir Khan (Inlet)	
	Date of Sampling	06-08-2021		
1	Air Temp. *C	26.3	26.3	
2	Water Temp. *C	23.2	22.3	–
3	pH	7.44	7.73	6.5 – 8.5
4	Conductivity $\mu\text{s}/\text{cm}$	374.0	306.0	–

5	T.D.S	197.0	155.0	–
6	D.O	4.7	3.8	>5mg/l
7	C.O.D	29.70	63.67	–
8	B.O.D	3.5	5.5	< 3mg/l
9	Phosphate	0.168	0.079	–
10	Ammonical Nitrogen	1.610	1.080	–
11	Sulphate	37.42	32.72	–
12	Hardness	140.0	146.0	–
13	Calcium	49.69	41.68	–
14	Magnesium	3.88	10.2	–
15	Total Alkalinity	164.0	132.0	–
16	Chloride	20.0	18.0	–
17	Turbidity NTU	4.0	3.0	–

	Name of the Wetland	Mirgund Baramulla			Primary water quality criteria for outdoor Bathing (Organized) (class B)
	Location	Near Sothu	Location 1 (Qabliapuran)	Arampora	
	Date of Sampling	06-08-2021			
1	Air Temp. *C	25.8	25.8	25.8	
2	Water Temp. *C	21.0	24.6	24.0	–
3	pH	8.31	8.07	8.20	6.5 – 8.5
4	Conductivity µs/cm	457.0	456.0	337.0	–
5	T.D.S	230.0	232.0	170.0	–
6	D.O	4.3	4.0	5.4	>5mg/l

7	C.O.D	47.52	53.46	43.50	–
8	B.O.D	4.5	6.0	3.9	< 3mg/l
9	Phosphate	0.054	0.056	0.054	–
10	Ammonical Nitrogen	1.370	1.290	1.31	–
11	Sulphate	11.36	14.69	18 020	–
12	Hardness	184.0	204.0	164.00	–
13	Calcium	61.72	56.11	54.50	–
14	Magnesium	7.29	15.55	9.72	–
15	Total Alkalinity	232.0	240.0	176	–
16	Chloride	36.0	24.0	30.0	–
17	Turbidity NTU	15.0	12.0	10.0	–

	Name of the Wetland	Chattalum Pulwama			Primary water quality criteria for outdoor Bathing (Organized) (class B)
	Location	Near Road Side	Towards Central	Near Inlet	
	Date of Sampling	05-08-2021			
1	Air Temp. *C		30.7	30.7	
2	Water Temp. *C	30.5	30.1	27.3	–
3	pH	8.89	8.21	7.27	6.5 – 8.5
4	Conductivity $\mu\text{s}/\text{cm}$	1208.0	1142.0	559.0	–
5	T.D.S	583.0	581.0	285.0	–
6	D.O	5.4	5.9	5.1	>5mg/l
7	C.O.D	61,10	42.30	23.50	–
8	B.O.D	4.60	3.90	2.0	< 3mg/l

9	Phosphate	0,089	0.081	0.096	–
10	Ammonical Nitrogen	0.725	0.455	0.261	–
11	Sulphate	10.45	13.33	11.36	–
12	Hardness	378.0	380.0	224.0	–
13	Calcium	65.73	67.33	40.08	–
14	Magnesium	52,0	51.51	30.13	–
15	Total Alkalinity	500 0	494 0	262 0	–
16	Chloride	40.0	44.0	28.0	–
17	Turbidity NTU	8.0	20.0	6.0	–

	Name of the Wetland	Freshkooori Pulwama	Primary water quality criteria for outdoor Bathing (Organized) (class B)
	Location	Towards Central	
	Date of Sampling	05-08-2021	
1	Air Temp. *C	29.6	
2	Water Temp. *C	29.1	–
3	pH	8.27	6.5 – 8.5
4	Conductivity µs/cm	715.0	–
5	T.D.S	346,0	–
6	D.O	2.1	>5mg/l
7	C.O.D	124.50	–
8	B.O.D	22.0	< 3mg/l
9	Phosphate	0.979	–

10	Ammonical Nitrogen	1.686	–
11	Sulphate	85.29	–
12	Hardness	238.0	–
13	Calcium	43.28	–
14	Magnesium	31.59	–
15	Total Alkalinity	264.0	–
16	Chloride	40.0	–
17	Turbidity NTU	24.0	–

	Name of the Wetland	Kranchoo Pulwama		Primary water quality criteria for outdoor Bathing (Organized) (class B)
	Location	Inlet	Opp MEI Institute	
	Date of Sampling	05-08-2021		
1	Air Temp. *C	26.4	26.1	
2	Water Temp. *C	24.3	25.0	–
3	pH	7.54	7.12	6.5 – 8.5
4	Conductivity µs/cm	490.0	524.0	–
5	T.D.S	249.0	254.0	–
6	D.O	4.0	3.5	>5mg/l
7	C.O.D	23.50	39.90	–
8	B.O.D	2.5	3.5	< 3mg/l
9	Phosphate	0.147	0.113	–
10	Ammonical Nitrogen	0.208	0.375	–
11	Sulphate	10.15	15.90	–
12	Hardness	218.0	226.0	–

13	Calcium	48.09	52.1	–
14	Magnesium	23.81	23.32	–
15	Total Alkalinity	232.0	262.0	–
16	Chloride	12.0	20.0	–
17	Turbidity NTU	8.0	6.0	–

	Name of the Wetland	Manibugh Pulwama	Primary water quality criteria for outdoor Bathing (Organized) (class B)
	Location	Near Degree College Pampore	
	Date of Sampling	05-08-2021	
1	Air Temp. *C	32.2	
2	Water Temp. *C	29.2	–
3	pH	8.90	6.5 – 8.5
4	Conductivity $\mu\text{s}/\text{cm}$	1039.0	–
5	T.D.S	501.0	–
6	D.O	2.3	>5mg/l
7	C.O.D	51.70	–
8	B.O.D	4.70	< 3mg/l
9	Phosphate	0.058	–
10	Ammonical Nitrogen	0.548	–
11	Sulphate	13.33	–
12	Hardness	392.0	–
13	Calcium	68.93	–
14	Magnesium	53.46	–

15	Total Alkalinity	500.0	–
16	Chloride	44.0	–
17	Turbidity NTU	14.0	–

→All values are in mg/l except pH. Conductivity, Turbidity and Temperature.

2.3 Managing Wetland Biomass

On the directions of the worthy Chief Secretary J&K, a one day consultative seminar on “Useful utilization of Wetland Biomass” was organized by this Department of Wildlife Protection, Jammu & Kashmir Government in collaboration with SKUAST-Kashmir, University of Kashmir, National Institute of Technology, Srinagar, CSIR-IIIM, Jammu, National Agricultural Cooperative, LAWDA, WUCMA, on 14th August 2021 at Dachigam National Park. Resource persons from all across these Institutions with expertise in the concerned subject participated in the event. The seminar was chaired by Prof. Zaffar A. Reshi, Head Department of Botany, University of Kashmir. The seminar was organized with an aim to deliberate upon the possible science-based interventions for sustainable use of wetland Bio-resources for livelihood upliftment of the dependent fringe communities in consonance with the wetland conservation.

Prof. Zaffar Reshi, in his address informed that the subject matter is very challenging and there is a need for formulation of a science-based policy regulations for sustainable use of wetland bio-resources giving an overview of possible uses of wetland bio resources into bio-fuelling,

power generation and cosmetics. He emphasized on the need for adopting science based holistic approach for integrated community-based wetland management.

Prof, Showkat Ara Head Division of Environment Sciences, SKUAST-Kashmir Shalimar, informed about scientific interventions and trials done by SKUAST-Kashmir in the utilization of aquatic and other agricultural biomass particularly Azola as a supplement to poultry feed, composting, vermicomposting. Mushroom cultivation and paper production.

Dr.Khursheed Ahmad, Head Division of Wildlife Sciences, SKUAST-Kashmir highlighted the importance of wetland conservation and sustainable use of bio-resources and highlighted the role and significance of wetlands for waterfowl and issues threatening conservation of wetlands. He described the ecological significance of wetlands of Kashmir as a stopover site for migratory waterfowl and important breeding habitats for variety of resident water birds. His work on socio-economic status and dependence of local communities on wetland resources at Shallabugh Wetland Reserve was discussed as a case study. It was emphasized and advocated to promotion ecotourism and bird tourism as a new enhanced sustainable livelihood option for the local communities in and around wetlands.

Dr. Intiyaz Ahmad Khan, Associate Professor, Department of Zoology, University of Kashmir laid emphasis on possible use of wetland biomass as animal feed particularly for fish and livestock.

Shri Irfan Rasool, Coordinator WUCMA, highlighted the role the wetlands play in maintaining the hydrological and carbon cycle through carbon sequestration. He informed that the critical issues of pollution

and solid waste disposal is as a huge challenge for wetland management.

Shri Naseer Ahmad Kakroo, Superintending Engineer I & FC shared a success story of the revival of Gilsar Lake. Shri. Syed Mohsin, Senior Research Fellow, NIT Srinagar discussed Bio-Char as one of the possible means of use of wetland biomass.

Following recommendations were provided.

Summary of Recommendations:

1. All the experts were of the opinion that the use of biomass for biofouling and biogas is not a viable option in the larger interest of the local communities, a set of traditional ways of bio-resource utilization by communities should be promoted with science-based value additions provided for better income returns to the fringe communities.
2. The current status of the wetland biomass particularly the waste biomass is not sufficient to cater to the demands of the local fringe communities in terms of the economic returns from use of Bio resources. Promotion of ecotourism and bird tourism as an alternative enhanced sustainable livelihood option for the local fringe and marginal communities reliant on the wetland bio resources should be ensured. The efforts put in by SKUAST-Kashmir in developing and promoting ecotourism and bird tourism for enhanced livelihood is a welcome step in this regard.
3. Capacity building for efficient use of wetland Biomass including Azola and other macrophytes as a supplement poultry feed,

composting, vermicomposting. Mushroom cultivation and paper production should be developed.

4. Scientific efforts being put in by SKUAST-Kashmir in studying the utilization of aquatic macrophytes for animals particularly livestock to mitigate feed/fodder scarcity for livestock especially in winter and early springs in the valley can be applied in a broader framework.
5. To explore alternate non-conventional ways of utilization of wetland biomass into production of cosmetics and accessories and medicinal use.
6. To explore and promote the utilization of aquatic macrophytes for making traditional handicraft items through local communities particularly women.
7. To look into other useful uses of bioresources like biochar is a good option to be initiated on trial basis.
8. Employment generating schemes for local people on seasonal/periodic basis in biodiversity conservation/eco-development works in wetlands will be a useful tool for managing change in human attitudes.
9. Constitution of Wetland Management committees at local level can be helpful in regulating grazing and paddy cultivation under Wise-use concept for sustainable and regulated use during the lean summer periods when disturbance to birds and habitats can be kept to minimum.

To adopt the seminar recommendations as management prescription tool, Integrated Management Action plan 2022-27 will focus to give a

start to the pilot projects for developing micro level enterprise with the help of wetland fringe communities during the plan period.

The details of each of the Wetland Conservation Reserves, the issues/ challenges along with Management Action Plan are given in following chapters – wetland wise.

3. Action Plan and Budget: -

An overall budget of **Rs 46.70** Crores is proposed for implementation of the Integrated Management Action Plan for all the Wetland Conservation Reserves of Kashmir Region over a period of 5 years (2022-27) Water Management, which is critical to the wetland rejuvenation has been allotted **Rs 18.93 Crore** of the overall investment, followed by **Rs 13.15** Crore for Biodiversity Conservation and **Rs 7.49 Crore** have been apportioned for the Education Awareness and Eco-Tourism, besides, **Rs 0.80 Crores** for the Sustainable Resource Development and Livelihood Development and **Rs 6.33 Crore** for Institutional Development.

Component wise allocation is as follows:

Component		Amt in CR
Land and Water Management		
	Survey and Demarcation	11.10
	Water Management	7.83
Biodiversity Conservation		13.15
Education Awareness and Ecotourism		7.49
Sustainable Resource Development and Livelihood Development		0.80
Institutional Development		6.33
Total		46.70

Wetland wise breakup is given as under:

Component	Amount in CR	Hokersar 1354 Ha	Hygam 719 Ha	Shallabugh 1691 Ha	Mirgund 406 Ha	Chattlum 43 Ha	Freshkooori 15.25 Ha	Kranchoo 6.40 Ha	Manibugh 5.30 Ha
Land and Water Management									
Survey and Demarcation	11.10	3.79	3.035	2.66	0.302	0.62	0.56	0	0.136
Water Management	7.83	1.11	1.33	4.44	0.26	0.265	0.295	0.065	0.065

Biodiversity Conservation	13.15	4.7	2.766	3.971	0.74	0.465	0.215	0.179	0.114
Education Awareness and EcoTourism	7.49	4.18	0.71	0.755	0.368	0.61	0.08	0.432	0.352
Sustainable Resource Development and Livelihood Development	0.80	0.3	0.4	0.05	0.03	0.02	0	0	0
Institutional Development	6.33	2.05	1.213	0.925	0.33	0.788	0.21	0.539	0.275
Total	46.70	16.13	9.454	12.80	2.03	2.768	1.36	1.215	0.942

**HOKERSAR
WETLAND
CONSERVATION
RESERVE**

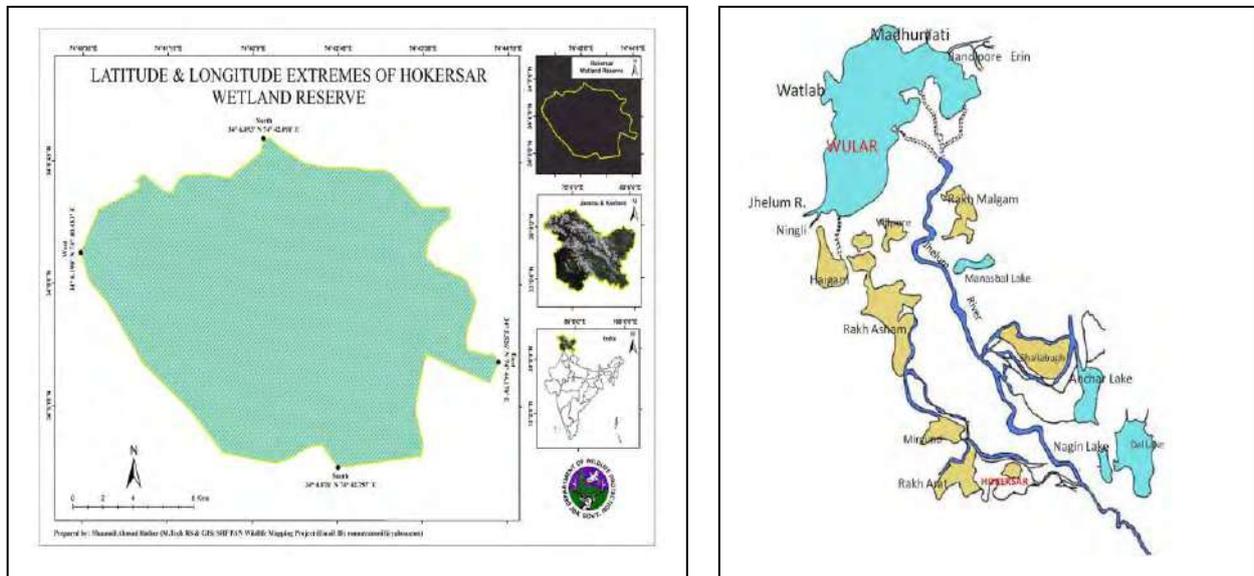
3. Hokersar Wetland Conservation Reserve

3.1 Introduction

Hokersar is a shallow post-glacial water body, flanking the river Jhelum which is running across the valley. Hokersar is a permanent eutrophic lake lies surrounded by fresh water marshes on the flood plain of Jhelum River and is at about 10 Km. west of Srinagar. The area of Hokersar Wetland Conservation Reserve falls in the districts of Budgam and Srinagar. Two perennial streams of Dood-ganga and Sukhnag feed the wetland. The Lake reaches a maximum depth of 2.50 m. in spring during snowmelt and a minimum of 0.75 m. in autumn. It is located in 34 ~ 05' N and 74 ~ 43' E at an altitude of 1580 m. The average rainfall is 550 mm, most of which falls between January and March. Average temperature ranges from 7.5 ~ C in inter to 19.8 ~ C in summer (Pandit and Qadri, 1991).

3.2 Location, Altitude and Area

It is represented on G. T. Map 43 J/12 and 43 J/16, situated at an altitude of 1,584 m. above M.S.L. The wetland is roughly oval in outline and spread over 13.54 Sq. Km. area. The wetland is drained into the River Jehlum through Doodhganga flood spill channel.



Map: Location of Hokersar Wetland Conservation along the River Jehlum Basin.

3.3 Geo- hydrology

The water table keeps on changing throughout the seasons. The feeding streams bring in load of silt, changing the physical features of the wetland including the water quality. During floods the silt deposition from catchments adversely affects the water body and threaten the very existence of this wetland, warranting thereby silt arresting measures to save this wetland.

3.4 Land use Pattern.

The wetland is weedy and extensive morass, bounded by thick willow (*Salix* spp.) groves with scattered stands of poplar. A definite type of vegetation ranging from sub merged, attached and free floating; besides grass, herbs and reeds are met in the wetland. The catchment areas of the Lake include rugged mountains, forests, agriculture and horticulture lands and, land under human settlements. The floating Islands are used for many economic utilities including the cultivation of vegetables and willow plantations. The water area produces several economically important plants, like *Nelumbo nucifera* used as a vegetable and *Typha angustata* utilized for making mats. Several natural grasses produced in the lake are used as fodder as well as biofertilizers.

3.5 Vegetation:

The wetland supports a definite, type of vegetation, ranging from submerged, attached floating, free floating and emergent aquatic vegetation, grasses, herbs, reeds & sedges. Following typical marshy vegetal complexes are exhibited over there, controlled by factors like water depth, water chemistry etc.

In southern segment and marginal land of shallow water ditches the dominant plants are:

1. *Typha angustata*.
2. *Typha laximanii*.
3. *Phragmites communis*.
4. *Eleocharis palustris*.

5. *Scripus* spp.
6. *Butomus umbellatus*.
7. *Frimbistylis squarosa* and those which occur commonly are.
8. *Lemna gibba*.
9. *Lemna minor*,
10. *Lemna trisulea*.
11. *Myriophyllum verticillatum*.
12. *Myriophyllum spicatum*.
13. *Sagittaria sagitifolia*.

When these shallow water ditches dry up the vegetation is replaced by ephemeral species like, *batrachium trichophyllum*, *Lemna gibba*, *L. minor*, *L. trisulea*, *Numphoides peltatum*, etc.

In the region of open water and deeper parts, thick growth of *Trapa natans*, *Butomus umbellatus*, *Hydrilla verticillata*, *Sagittaria sagitifolia*, *Alisma* spp, *Nymphaeoides peltatum*, *Nymphaeoides candida*, *Sparganium ramosum* & *Polygonum* species are commonly met in northern and northeast effective lake area.

In the north western part of the wetland number of floating gardens exist which remain invariably inundated and colonized by Hydrophytes like *Myriophyllum. Specatum* and *Hydrilla verticillata* during spring when *Mentha aquatica*, *M. longifolia*, *Mysotis caespitosa*, *Ranunculus mericatus* *Rumex* spp. are replaced in summer.

3.6 Fauna:

During summer months Gammarus species, a representative of Amphipoda is quite commonly seen. Insects commonly seen are mosquitoes, water beetles , black swimmers, dragonflies, caddisfly , water spiders & water striders.

The wetland harbours rich and diverse fish fauna comprising of Cyprinus carpis, Crossocheillus and Gambusia besides small sized labeo, schizothorax and their fries and fingerling.

The composite habitat types in the form of shallow water ditches, open and deeper water pools, floating gardens, numerous ephemeral channels land masses and marginal willow grooves offer spectrum of food and spatial niches which have a very rich and varied terrestrial as well as aquatic avian species both native & migrant as under:

1. Mammals:			
	Lutra lutra. (Wudeer)		
	Rodents. (Gager)		
2. Aves:	English Name	Scientific name	Local Name
	1. Common teal	<i>Anas creca</i>	Keus.
	2. Pin tail	<i>A. acuta</i>	Sockh pachen
	3. Mallard.	<i>A. platyrinchos</i>	Neluj Thug.
	4. Gadwal	<i>A. ctripera</i>	Budun
	5. Wigeon	<i>A. Penelope</i>	Bal Budun
	6. Gargany teal	<i>A. guerguedula</i>	Narru
	7. Greylag goose	<i>Anser anser</i>	Anz
	8. Shoveller	<i>A. clypeata</i>	Honke

	9. Common poachard	<i>Aythya ferina</i>	Khrokh
	10. Ruddy shelduck	<i>Tadorna tadorna</i>	Tsakao
	11. White eyed poachard	<i>Aythya nyroca</i>	-do-
	12. Coot	<i>Fulica atra</i>	Kolur
	13. Moorhen	<i>Gallinule chloropus</i>	Tich
	14. Jacana	<i>Hydrophasinus</i>	Gund kaw
	15. Cormorant	<i>Phalacrocorax carbo</i>	Moong
	16. Little grebe		Pind
	17. Jack snipe	<i>Lymnocyptus minimees</i>	Lokut chah
	18. Common snipe	<i>Capilla gallingo</i>	Chah.
	19. Grey heron	<i>Ardea cionerea</i>	Breg.
	20. Common sand piper		Twer
	21. Little bittern		Gow.
	22. Stiff tails		
	23. King fishers (3 species)		Kul tont
	24. White stock	<i>Ciconia ciconia</i>	
	25. Black tern		Cresh
	26. Plover	<i>Charadrivs durivs</i>	Twer
	27. Goggle-eye plover	<i>Beerhinus oedionemus</i>	
	28. Sparrows		
	29. Kites	<i>Milvees migrans</i>	Gant

3.7 Issues and Challenges:

a) Siltation

There is a great influx of load of silt and nutrients from the Doodganga Flood channel. This is reflected in the wetland by reduction of open water area and solidification of areas of reed nest mat. In some places the latter has solidified to the extent that terrestrial plant succession has begun.

b) Encroachment

Silt deposition has shallowed the lake surface accompanied by decrease in water level especially during summer months, thus edges are more exposed to the encroachment.

c) Weed Infestation

Increased silt and nutrient deposition is accompanied by weed infestation. Removal of weeds is inevitable for maintaining the characteristics of wetland. Weed eradication is required for making pools and navigation channels as well.

3.8 Management Interventions:

The management interventions proposed under Management Action Plan for Hokersar envisages financial implications of **Rs.16.13 Crores** to be phased in five years. The important interventions under the plan are proposed as under:

i) Land and Water Resource Management:

a) Survey & Demarcation: -

The survey and digital delineation has been completed jointly with the Revenue Department and Demarcation Forest Division. The Process of fixing **100** Number of specially designed cement concrete boundary demarcation pillars will be completed during the first two years of implementation. The Demarcation shall however be further consolidated by way of closing the peripheries by way of Chain-link fencing, Barbed wire fencing and Bio fencing as per site specific conditions. The Embankments which determine the boundary of the lake shall be

strengthened by way of raising and consolidation. **Rs.3.79 Crores** has been proposed under these activities for five years.

b) Water Management: -

For any wetland to thrive and get rejuvenated, adequate water level is important. To regulate and manage the desired water in Hokersar, Department of Irrigation and Flood Control Kashmir has started the process of constructing 80 M span hydraulic Sluice gate at the exit point near Sozeith village. Once this intervention is completed and operationalised this will give a boost on permanently resolving the issue to hold adequate water supply in Hokersar in all the seasons. For this no budget has been envisaged and shall be carried out by the I&FC Department out of their own resources. The work is expected to be complete within two years.

c) Enhancing Water Holding Capacity:-

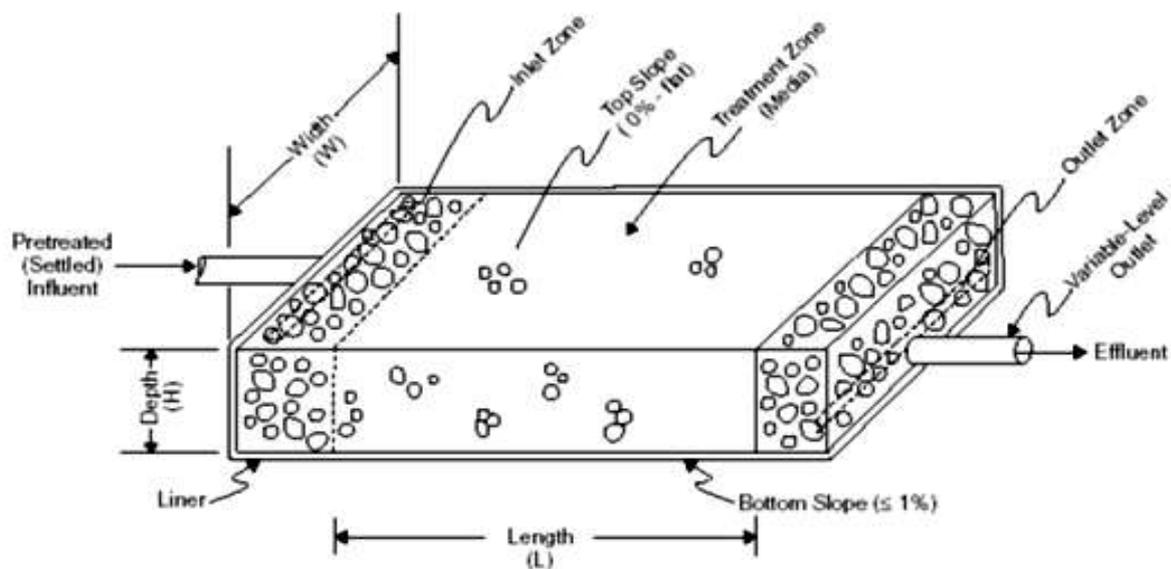
This will include removal of undesired willow plantations raised over the period inside the wetland. The plantations cover an area of about **180.87** ha as assessed using Google earth latest images. These willow and popular trees need to be removed for enhancement of water holding capacity and improve overall water regimes in these wetlands. Based on an average plantation density of **500** trees per ha, it is estimated that approximately **90,435** trees need to be uprooted using manual and mechanical means. Specific areas to be covered under the activity are shown in the map. Therefore, meager budget of **Rs. 0.01 Cr.** under this activity has been envisaged as operational cost for five years.

d) Selective Dredging of silted Areas:-

In order to maintain biodiversity, improve habitat conditions and to create natural food processes for the inhabiting life forms in the wetland, necessary provision under this head has been kept for the purpose. To rehabilitate and restore habitat conditions in the wetland, removal of silt and slash through mechanical and traditional means will be initiated. The activity will include desilting operations in different Blocks covering a total area of **234 Ha** of silted areas and **100000 Cum** to be desilted in the channels and water courses and dredging in plantation cleared areas to the extent of **234 Ha**. The activity will be carried out by involving the auctioning process. Therefore, meager budget of **Rs. 0.068 Cr.** under this activity has been envisaged as operational cost for five years.

e) Water Quality Improvement: -

To monitor the health and pulse of the wetland the physio chemical analysis of water in the wetland shall be got conducted through J&K Pollution Control Committee on regular and on sustained basis therefore, no budget has been envisaged for this activity. However, community based solid waste management will involve regular cleanliness drives in the wetland as well as in the adjoining villages to ensure clean surroundings and healthy wetland system. **Rs.0.20** Crore has been envisaged under this activity for five years. In order to control diffused pollution through wetland technology construction of artificial wetlands has been envisaged in the peripheral village zones. These will act as biofilters to address the leaching of any sewage, sewerage and any kitchen based liquid waste. This activity will involve **Rs.0.70** Crores. The cross-section design of constructed Wetland compartment is given as under:



Under this component, installation and Management of **100** Dust Bins in and around the wetland have been envisaged. Further in order to arrive at proper abstraction and use of water from and within the wetland for Human and ecological use Environment Flow Studies shall be awarded to the reputed organisation on EOI basis to work for arriving at water budget in the wetland. For this activity **Rs.0.08** crores has been earmarked in the plan.

ii) Biodiversity Conservation: -

a) Waterbird Conservation including Inventorization and assessment:

Various surveys and studies are proposed to be carried out for inventorization and assessment of waterbird diversity like species wise estimates of waterbird populations assessment, key biodiversity assessment, Human activities and their impacts, Migration studies (bird banding, satellite tracking) and avian influenza surveillance. The surveys and studies shall be undertaken with the help of various organizations working in the field with support and coordination by the Wildlife Department. An amount of **Rs.0.30** Crore has been earmarked under this activity for five years.

b) Habitat Restoration and Management of Aquatic vegetation:

During the plan period, the Department of Wildlife Protection will work on to eradicate the excessive reeds and floating vegetation on controlled basis in all seasons except winters. This will be done to prevent excessive proliferation and simultaneous enhancement of water spread area for arrival of migratory water birds. Peat extractions will maximize open water spaces. Managing floating vegetation will also be undertaken during the plan period. Managing and maintaining navigational channels, making of clear pools, Fixing of Bird Perches and providing of food supplement during the lean periods will be undertaken under this component. **Rs.3.75** Crores has been proposed to be earmarked under this activity for five years.

c) Control of Poaching: -

The large congregation of migratory birds in the wetlands of Kashmir in general and that Hokersar in particular invite illegal poaching at a very large scale especially when these migratory birds fly from one wetland to other or settle in the adjoining paddy field for feeding. The poachers are equipped with modern gears like dummy ducks, duck calls, motorised mojos, and sophisticated fire arms to invite the attention of the migratory birds and then shoot at them killing large number of these migratory birds. The enforcement in place is trying its best to get in control of this menace by seizing large number of fire arms and booking the culprits under the relevant laws, however, not much a success has been achieved in this regard. Shortage of manpower and required amenities need to be addressed during the plan period. The community support to form village level committees shall be focused at in order to

achieve the best results. **Rs.0.35** Crores has been proposed for this activity during the plan period for strengthening protection, setting up of temporary anti-poaching camps, informers, village level committees, staff amenities and incentives.

d) Research and Survey: -

Information on waterbirds and their habitats is collected mainly by the Wildlife Department, and other research organisations. The Wildlife Department has undertaken various waterbird monitoring programmes at Hokersar over the last few decades. The information on waterbirds though patchy, is useful to provide some information on species diversity, seasonality and abundance. The University of Kashmir, SKUAST-K and other organisations have undertaken several studies of the breeding and feeding habits of different resident and seasonal migrant waterbird species. However, detailed assessment of current waterbird species composition and abundance and their relationship to the different habitat types in the wetland will be undertaken during the plan period.

e) Capacity building: -

Capacity building is critical to the successful management of water birds and the habitats. This can be achieved through conducting periodic training programmes and infrastructure development for monitoring. Expertise and opportunities for training in waterbird assessment, monitoring, research and migration study exist within the country, with institutions such as Bombay Natural History Society (BNHS) - Mumbai, Salim Ali Centre for Ornithology and Natural History

(SACON) - Coimbatore, Wetlands International - New Delhi, and Wildlife Institute of India (WII) - Dehra Dun. Periodic training programmes will be held for various target groups including field staff managers and decision makers, local NGOs and community groups. The training will be provided on methods to collect information on approaches to bird census, analysis of information developing monitoring protocols and interpretation of data for use at various levels. A cadre of trained technical staff shall be developed for trend analysis of waterbird populations in relation to habitat features. Specific training programmes shall be developed in collaboration with BNHS for assessment of bird migration and understanding the constraints in the pathways. Surveillance of waterbirds for avian influenza and other zoonotic diseases shall employ scientific methodology and techniques. **Rs.0.20** Crore has been proposed for this activity during the five-year plan period.

iii) Education, Awareness and Eco-Tourism Development: -

Development of sound ecotourism infrastructure need to be carefully established to ensure minimal impacts on the environment while at the same time maximizing opportunities for the visitors to enjoy the Hokersar wetland and its biodiversity.

Development of recreational facilities:

At present there are no facilities and these need to be developed taking into consideration the environmental factors and tourist carrying capacity of different areas. Following activities are therefore, proposed:

a) Board Walk and Nature Trails: -

The Boardwalks and nature trails will give the visitors a good chance to breathe in the fresh air and enjoy the peaceful environment of Hokersar. The walking trail along the wetland has to be constructed well above the highest flood level of the wetland. Gates at the entry points will control these boardwalks and only serious nature lovers and birdwatchers will be allowed to access.

Guided tours will be arranged across the boardwalks in the wetland areas. Well-trained guides shall escort the visitors who shall be adequately briefed about the dos and don'ts while in an ecologically sensitive area. **Rs.0.40 Crores** has been proposed for this activity during the plan period.

b) Guided boat rides:

Guided boat rides shall be arranged for nature lovers to help them explore the various aspects of Hokersar. Local community groups shall be trained to take up interpretation activities. **Rs.0.10 Crores** has been proposed under this component during the plan period.

c) Watch Towers:

For the benefit of day visitors as well as organized groups, school/college students, 3 watchtowers are proposed. The locations of the watchtowers will be selected keeping in view the sensitivity as well as the accessibility to enjoy bird watching and photography besides keep watch and ward as well. Construction of these towers could be taken up during the low water season. Provision of equipment such as

binoculars and spotting scopes for use of school/college groups and serious bird watchers shall be made by the Department. **Rs.0.40 Crores** has been proposed for these activities during the plan period. Under the same component Landscaping and Gardens is also proposed to give a facelift of the Divisional Office at Hokersar. **Rs.0.18 Crores** is proposed under this activity.

d) Development of visitor education facility (NIC):

Education and interpretation services are fundamental component of a visitor's experience in a natural area. Plans for visitor awareness generation on the functions and values of Hokersar and associated wetlands and conservation needs shall be designed keeping in mind different target groups like tourists, school children, local youth, fisher communities, decision makers and policy planners. Educating tourists and the agencies promoting tourism will be a major thrust of ecotourism with precaution taken to minimize environmental impacts and sensitizing about sustainability of ecosystem. **Rs.2.00 crores** is proposed for this activity at Hokersar. Models of Birds and different habitats they live, in digital signages with bird calls and other information shall be developed as a part of education programme.

e) Publicity and Awareness: -

An amount of **Rs.0.50 Crore** is proposed for Digital signages and Models under this activity for five years also **Rs.0.60 Crores** is proposed to conduct and promote awareness rallies padyatras, Nature camps, organising world wetland day and other Environment related days.

Making of documentaries, newsletters, brochures, pamphlets, posters and other publications etc are also proposed under this component.

iv) Sustainable Resource Development and Livelihood Improvement.

Department of Wildlife Protection envisages convergence and application of major Government run programmes and schemes with better understanding and strong coordination mechanism with various sectoral Officers and Departments like Fisheries, Agriculture, Industries and commerce, Handicrafts, Entrepreneurship development, Craft Development Institute, Tourism and others.

To adopt seminar recommendations of one day consultative seminar on “Useful utilization of Wetland Biomass” and start pilot projects on establishing micro-enterprises with local fringe communities using wetland biomass. **Rs.0.30 crore** has been proposed under this activity during the plan period.

v) Institutional Development: -

Conscious about the fact that the wetlands are very important ecosystems and services rendered by them are unparalleled Government of Jammu and Kashmir has already established a separate Wetland Division under the Department of Wildlife Protection to manage and protect the notified wetlands in Kashmir region. The existing institution in place is implementing various programmes approved under various sectors to restore and rejuvenate Hokersar on scientific lines. However, the institution in place needs to be strengthened and

developed on modern lines to cope up with the complex challenges and the issues faced by the Hokersar. These are:

a) Infrastructure and Equipment Augmentation: -

Under this activity it is proposed to construct **five number** of staff quarters on the peripheries of the Hokersar at Sozeith, Dharmuna, Soibugh, Gund Hassi Bhat and at Divisional Office complex. This will ensure proper watch and ward to protect the wetland from encroachment and from other anthropogenic pressures as also controlling illegal poaching. Under the activity it is also envisaged to procure important equipment and tools to facilitate management utilization for better scientific results. It will include Pontoons, spotting scopes, motorized driven boats, Wooden boats and dockyards etc.

c) Monitoring and Evaluation: -

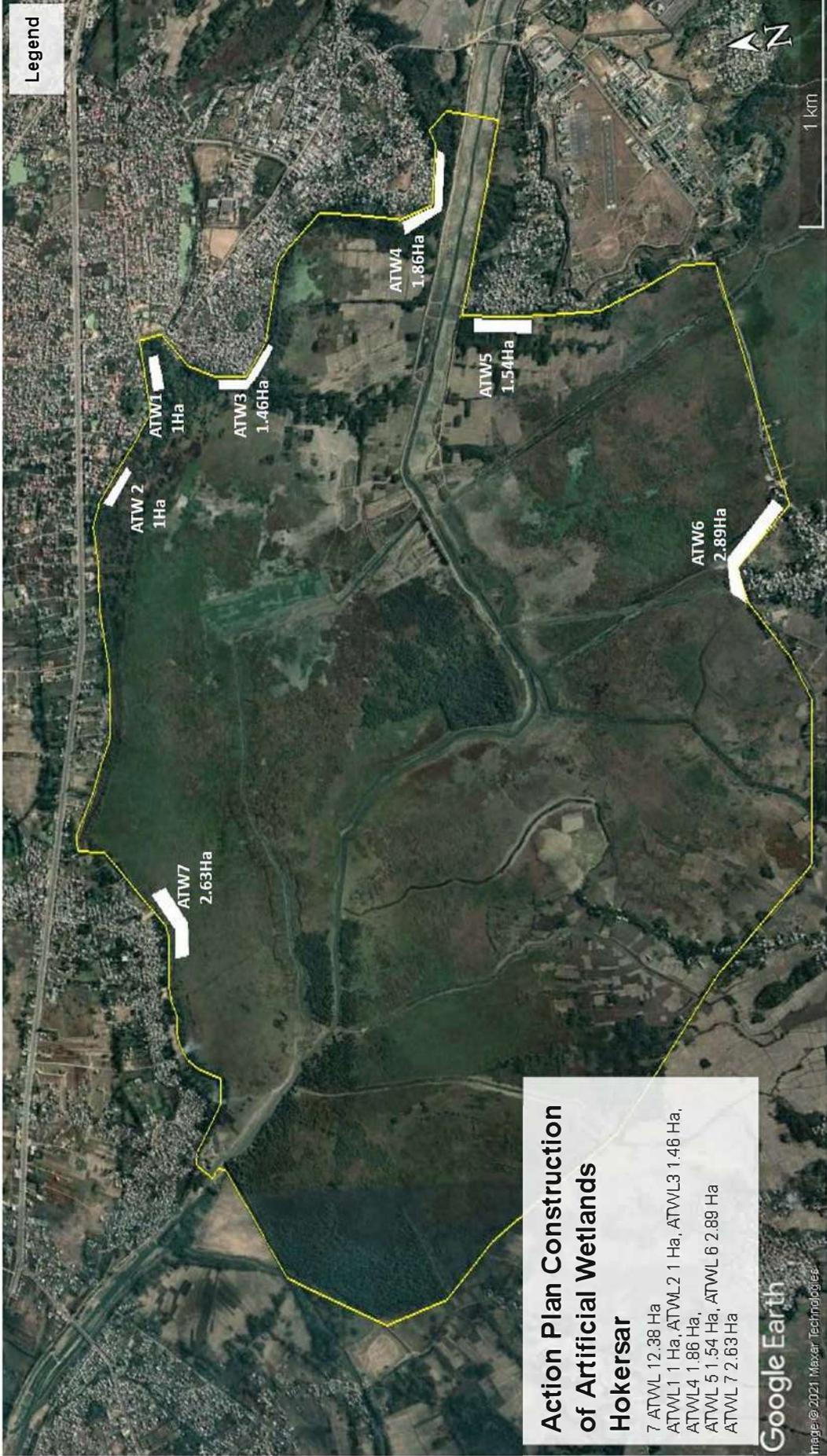
Monitoring the effectiveness of management action plan implementation is essential to assess the effectiveness of implementation. A third-party monitoring and evaluation shall be got conducted by reputed agency on EOI basis. In order to improve upon the efficiency during the implementation period it is proposed to procure 1 patrolling vehicle and 2 bikes during the plan period including some unforeseen and miscellaneous contingencies. **Rs.0.20 Crore** is proposed under this component.

start to the pilot projects for developing micro level enterprise with the help of wetland fringe communities during the plan period.

The details of each of the Wetland Conservation Reserves, the issues/ challenges along with Management Action Plan are given in following chapters – wetland wise.

11.1 Site Specific Management Intervention Maps





Legend

Action Plan Construction of Artificial Wetlands Hokersar

7 ATWL 12.38 Ha
 ATWL 1 1 Ha, ATWL 2 1 Ha, ATWL 3 1.46 Ha,
 ATWL 4 1.86 Ha,
 ATWL 5 1.54 Ha, ATWL 6 2.89 Ha
 ATWL 7 2.63 Ha

Google Earth

Image © 2021 Maxar Technologies





**Action Plan for
Removal of
Plantation zones
within Hokera
Followed by
Desilting**

180.87 Ha
P1 70 Ha, P2 5.50 Ha, P3 6 Ha
P4 4.47 Ha, P5 35 Ha, P6 59.9 Ha

Google Earth

Image © 2021 Maxar Technologies



Legend

Bio Fence 4.1 Km

Barbed Wire Fence 2.62 Km

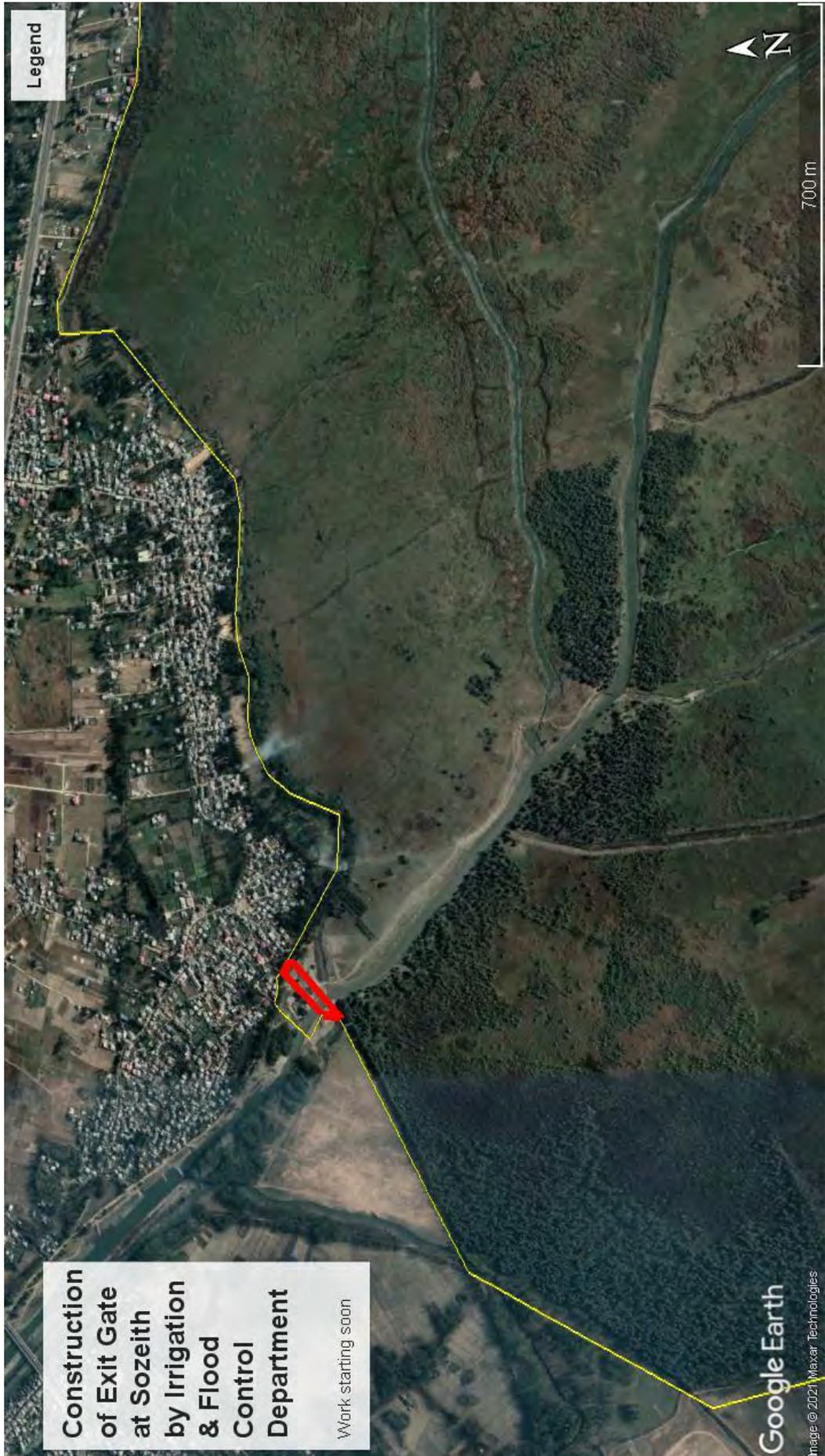
Chain link Fence 7.92 Km

Consolidation of Demarcated Boundaries of Hokersar

- Red Chainlink Fencing 7.92 Km
- Blue Barbed Wire Fencing 2.68 Km
- Green Bio Fencing 4.1 Km

Google Earth

Image © 2021 Maxar Technologies



**Construction
of Exit Gate
at Sozeith
by Irrigation
& Flood
Control
Department**

Work starting soon

Google Earth

Image © 2021 Maxar Technologies

Integrated Action Plan - Year wise Physical and Financial Phasing 2022-27 Hokersar Wetland Conservation Reserve

Component and Activities		RATE	UNIT	AMT IN LAKH										IN CR				
				Year 1		Year 2		Year 3		Year 4		Year 5		PHY	FIN			
				Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin					
1	Land and Water Resource Management																	
1.1 Survey and Demarcation																		
	i	Boundary demarcation	RS 7000	NOS	50	3.50	50	3.50	0	0.00	0	0.00	0	0.00	0	0.00	100	0.07
	ii	Fencing Chain Link	40 LAKH	KM	0	0.00	1.92	76.80	2	80.00	2	80.00	2	80.00	2	80.00	7.92	3.168
	iii	Barbed wire fencing	7 LAKH	KM	0	0.00	0	0.00	0.68	4.76	1	7.00	1	7.00	1	7.00	2.68	0.187
	iv	Bio fencing	Rs.12.82	No of plants	1170	1.50	2500	3.20	5000	6.40	10000	12.82	10000	12.82	10000	28670	0	0.367
		Embankment along peripheries	Rs 280	CUM	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0
		Total Survey and Demarcation				5.00		83.50		91.16		99.82		99.82				3.79
1.2 Water Management																		
A) Enhancing water holding capacity																		
		Removal of Willow / Poplar Plantations	Auction Based	Ha	10.87	0.05	30	0.15	40	0.20	50	0.25	50	0.25	50	0.25	180.87	0.01
	a)	(Miscellaneous Charges Only)																
		Selective dredging of silted areas	Auction Based	Ha	25	0.12	30	0.15	32	0.16	72	0.36	75	0.38	75	0.38	234	0.012
	b)																	
		Willow / Poplar plantation cleared areas	Auction Based	Ha	20	0.10	25	0.12	25	0.12	25	0.12	25	0.12	25	0.12	120	0.006
	i																	
		Channels Water ways	Auction Based	CUM	2000	1.00	2000	1.00	2000	1.00	20000	1.00	20000	1.00	20000	10000	0	0.05
	ii																	
		Regulatory Gates	APE	No	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0
	iii																	
		Construction and Maintenance of Settling Basins	20 Lakh	Hac	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0
	iv																	
	v	Diversion of Flood Channel	10 Lakh	KM	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0

	Formation of bird protection committees	LS	LS	LS	2.00	LS	2.00	LS	2.00	LS	2.00	LS	2.00	LS	2.00	LS	0.1
	Total c)				7.00		7.00		7.00		7.00		7.00		7.00		0.35
d)	Research and Survey	LS	LS	LS	2.00	LS	2.00	LS	2.00	LS	2.00	LS	2.00	LS	2.00	LS	0.1
e)	Capacity building																
i)	Training	LS	LS	LS	2.00	LS	2.00	LS	2.00	LS	2.00	LS	2.00	LS	2.00	LS	0.1
ii)	Workshops Seminars Visits and Tours	NOS	LS	LS	2.00	LS	2.00	LS	2.00	LS	2.00	LS	2.00	LS	2.00	LS	0.1
	Total e)				4.00		4.00		4.00		4.00		4.00		4.00		0.2
	Total Biodiversity Conservation				44.87		76.75		117.25		114.25		117.25		117.25		4.7
3	Education Awareness and Ecotourism Development																
3.1	Development of recreational facilities																
f)	In Board Walk and Nature Trails	LS	LS	LS	8.00	LS	8.00	LS	8.00	LS	8.00	LS	8.00	LS	8.00	LS	0.4
ii)	Guided boat rides	LS	LS	LS	2.00	LS	2.00	LS	2.00	LS	2.00	LS	2.00	LS	2.00	LS	0.1
iii)	Watch Towers	Rs.15Lakh	No	0	0.00	1	10.00	0	0.00	1	15.00	1	15.00	3	15.00	3	0.4
iv)	Landscape Gardens	LS	LS	LS	2.00	LS	0.00	LS	0.00	LS	8.00	LS	8.00	LS	8.00	LS	0.18
	Total 3.1				12.00		20.00		10.00		33.00		33.00		33.00		1.08
3.2	Development of visitor education facilities																

a)	Interpretation Centre	APE	No	LS	0.00	LS	50.00	LS	50.00		50.00	LS	50.00	LS	50.00	LS	2
b)	Models & Digital signages	LS	LS	LS	0.00	LS	0.00	LS	10.00	LS	20.00	LS	20.00	LS	20.00	LS	0.5
	Total 3.2				0.00		50.00		60.00		70.00		70.00		70.00		2.5
3.3	Publicity and Awareness																
	Rallies and Padyatras	LS	LS	LS	2.00	LS	2.00	LS	2.00	LS	2.00	LS	2.00	LS	2.00	LS	0.1
	Nature Camps	LS	LS	LS	2.00	LS	2.00	LS	2.00	LS	2.00	LS	2.00	LS	2.00	LS	0.1
	World Wetland Day / Bird festivals / Environment re	LS	LS	LS	2.00	LS	2.00	LS	2.00	LS	2.00	LS	2.00	LS	2.00	LS	0.1
	Films / documentaries	LS	LS	LS	2.00	LS	2.00	LS	2.00	LS	2.00	LS	2.00	LS	2.00	LS	0.1
	Newsletter and publications	LS	LS	LS	2.00	LS	2.00	LS	2.00	LS	2.00	LS	2.00	LS	2.00	LS	0.1
	Total 3.3				12.00		12.00		12.00		12.00		12.00		12.00		0.6
	Total Education Awareness and EcoTourism				24.00		82.00		82.00		115.00		115.00		115.00		4.18
4	Sustainable resource Development and Livelihood Improvement																
a)	Economic utilization of Wetland Biomass / Establishment of biomass based micro enterprise	LS	LS	LS	0	LS	10.00	LS	10.00	LS	10.00	LS	10.00	LS	10.00	LS	0.3
	Total sustainable Resource Development & Livelihood				0.00	LS	0.00		10.00		10.00		10.00		10.00		0.3

**HYGAM
WETLAND
CONSERVATION
RESERVE**

4. HYGAM WETLAND CONSERVATION RESERVE

4.1 Brief description

The Hygam Wetland Conservation Reserve or Hygam Rakh as it is locally called is the largest remaining reed bed in the Kashmir valley, being of major ornithological importance. This conservation reserve is named after Hygam village situated in the nearby area. The wetland is 40 km from Srinagar and located in district Baramulla ($34^{\circ} 15''$ N, $74^{\circ} 31''$ E) on the flood plains of river Jhelum at an altitudinal height of 1580 msl. The total area of the conservation reserve is 7.62 km².

It was notified as a game reserve for duck shooting as far back as 1945. The wetland is being managed by the Department of Wildlife Protection, Jammu & Kashmir and is the only extensive marsh discernible in association with artificial reservoir of lower Jhelum hydroelectric projects at Gantamullah. The wetland is surrounded all around by villages. The wetland is bounded in the north by Sopore-Sonawari road. To its south, it is surrounded by villages of Goshbugh and Sukhul. To the east of the wetland is the human habitation of Aakhanpora and to the west it is bounded by village Hanjypora.

The wetland is fed by a perennial stream of Ballakul, which enters the wetland in its south, while Ningli Nallah and other tributaries such as Hanji pora Kull and Trambgund Kull enter the wetland along its western boundary. The water table keeps on fluctuating through the seasons. The feeding streams bring in a load of silt. The average water depth ranges between 0.05 to 1.5 m in the effective area. The average annual rainfall is 900 mm.

The water from this wetland in emergencies is used for irrigation of the fields of the local villagers residing along the peripheries. It is also used by the locals for grass cutting and partially grazing their live stock. *Nymphoides* spp. and *Potamogeton* are very much sought after as fodder for the domestic live-stock.

4.2 Floral diversity

The Rakh is largely covered by a dense growth of reed and other emergent species. Dominant species include *Typha angustata*, *Phragmites communis*, *Phalaris arundinacea*, *Sparganium erectum*, *Scirpus* species, *Carex* species and *Eleocharis palustris*. Open water areas have a floating community of water lilies *Nymphaea*, *Nymphoides* and *Trapa natans*, and beds of *Potamogeton crispus* and *Potamogeton nodosus*. Some 183 species of phytoplankton have been recorded, with Chlorophyceae predominating.

4.3 Faunal diversity

The wetland is a major wintering area for migratory ducks particularly Common Teal *Anas crecca*, Mallard *Anas platyrhynchos*, Northern Pintail *Anas acuta*, Gadwall *Anas strepera*, Eurasian Wigeon *Anas Penelope*, Northern Shoveller *Anas clypeata*, Common Pochard *Aythya ferina*, Garganey *Anas querquedula* and Greylag Geese *Anser anser*. The lake is also an important breeding area for a variety of waterfowl notably Little Grebe *Tachybaptus ruficollis*, Little Bittern *Ixobrychus exilis*, Little Egret *Egretta garzetta*, Water Rail *Rallus aquaticus*, Common Moorhen *Gallinula chloropus* and Whiskered Tern *Hydrophasianus chirurgus* and *Chlidonias hybridus*. The kingfishers *Ceryle rudis* and *Alcedo atthis* are common and the

warbler *Acrocephalus stentoreus* is particularly abundant in the reed-beds. Pallas's fish-eagle *Haliaeetus leucoryphus* is resident in the area.

Holmes and Parr (1988) also found that the very local Swinhoe's Reed Warbler *Acrocephalus concinens*, now named the Blunt-winged Warbler breeds in Hygam Rakh in small numbers, often near isolated willow trees. They found about 10 territories, and caught fledged young ones in July- August 1983. Bates and Lowther (1952) have recorded the breeding of the Ferruginous Duck *Aythya nyroca* in the smaller wetlands of Kashmir, particularly at Hygam, but Holmes and Parr (1988) could not find any evidence of breeding. The Pallas Fish-eagle *Haliaeetus leucoryphus* has not been seen in the last 10 years (Rahmani, 2008), although earlier records reported upto five individuals.

Mammals known to occur in the area include Common Otter *Lutra lutra* and Golden Jackal *Canis aureus*; amphibians include *Rana cyanophyctis* and *Bufo viridis*. The wetland supports a rich fish fauna, with large populations of *Cyprinus carpio*, *Crossocheilus* species, *Puntius conchoniis* and *Gambusia affinis*. The invertebrate fauna is also very rich; macro-invertebrates include a variety of Mollusca, Annelida and Arthropoda (mainly Arachnida, Crustacea, and Insecta), and the zooplankton includes at least 51 protozoans, 25 rotifers, and 40 crustaceans (mainly Cladocera and Rhizopoda).

4.4 Issues and Challenges:

a) Siltation

The wetland is fed by a perennial stream of Ballakul, which enters the wetland in its south, while Ningli Nallah and other tributaries such as Hanji pora Kull and Trambgund Kull enter the wetland along its western boundary. The water table keeps on fluctuating through the seasons. The feeding streams bring in a load of silt.

b) Encroachment

Silt deposition has shallowed the lake surface accompanied by decrease in water level especially during summer months, thus edges are either exposed to encroachment.

c) Weed Infestation

Increased silt and nutrient deposition is accompanied by weed infestation. Removal of weeds is inevitable for maintaining the characteristics of wetland. Weed eradication is required for making pools and navigation channels as well.

d) Solid waste

The solid waste dumping by the inhabitants of nearby habitations is also an issue to be addressed. The domestic waste generated in the habitations is thrown by the individuals in and around the wetland at times.

4.6 Management Interventions

The management interventions proposed under integrated Management Action Plan for Hygam envisages financial implications of **Rs. 12.10 Crores** to be phased in five year period. The important interventions under the plan includes following:

I) Land and Water Resource Management

a) Survey & DemarcationRs 3.035 Crores

The survey and digital delineation has been completed jointly with Revenue Department and Demarcation Forest Division. The Process of fixing **100** Number of specially designed cement concrete boundary demarcation pillars will be completed during the first two years of implementation. The Demarcation shall however be further consolidated by way of closing the peripheries by way of Chain-link fencing, Barbed wire fencing and Bio fencing as per site specific conditions. The Embankments which determine the boundary of the lake shall be strengthened by way of raising and consolidation.

b) Water Management: -

For any wetland to thrive and get rejuvenated adequate water level is important. To regulate and manage the desired water in Hygam, following management interventions are proposed in the five-year plan.

i) Enhancing Water Holding Capacity:-

This will include removal of undesired willow plantations raised over the period inside the wetland. The plantations cover an area of about **105** ha as assessed using Google earth latest images. These

willow and popular trees need to be removed for enhancement of water holding capacity and improve overall water regimes in these wetlands. Based on an average plantation density of **500** trees per ha, it is estimated that approximately **52500** trees need to be uprooted using manual and mechanical means. Specific areas to be covered under the activity are shown in the google map: Therefore, meagre budget of **Rs. 0.005 Cr.** under this activity has been envisaged as operational cost for five years.

ii) Selective Dredging of silted Areas:-

In order to maintain biodiversity, improve habitat conditions and to create natural food processes for the inhabiting life forms in the wetland, necessary provision under this head has been kept for the purpose. To rehabilitate and restore habitat conditions in the wetland, removal of silt and slash through mechanical and traditional means will be initiated which in turn will give economic benefit to the locals. The activity will include desilting of in blocks covering an area **138 Ha** of silted areas, **4 No** of Gates/Settling chambers, demolition of temporary bunds and diversion of channel. The activity will be carried out by involving the auctioning process. Therefore, meagre budget of **Rs. 0.0266 Cr.** under this activity has been envisaged as operational cost for five years. Besides **Rs.0.44 crores** have been proposed under diversion of Ningli flood channel and demolition of intersectional embankments inside the wetland.

iii) Water Quality Improvement: -

To monitor the health and pulse of the wetland, the physio chemical analysis of water in the wetland shall be got conducted through J&K Pollution Control Committee on regular and on sustained basis therefore, no budget has been envisaged for this activity. However, community based solid waste management will involve regular cleanliness drives in the wetland as well as in the adjoining villages to ensure clean surroundings and healthy wetland system. **Rs.0.20 Crore** has been envisaged under this activity for five years for conducting **400** such drives on regular intervals. Under this activity installation and Management of **50** Dust Bins in and around the wetland has been envisaged. Further in order to arrive at proper abstraction and use of water from and within the wetland for Human and ecological use Environment Flow Studies shall be awarded to the reputed organization on EOI basis to work for arriving at water budget in the wetland. For this activity **Rs.0.01 crores** has been earmarked in the plan.

II) Biodiversity Conservation: -

a) Waterbird Conservation including Inventorization and assessment:

Various surveys and studies are proposed to be carried out for inventorization and assessment of waterbird diversity like species wise estimates of waterbird populations assessment, key biodiversity assessment, Human activities and their impacts, Migration studies (bird banding, satellite tracking) and avian influenza surveillance. The surveys and studies shall be undertaken with the help of various organizations working in the field with support and coordination by the Wildlife

Department. An amount of **Rs.0.60 Crore** has been earmarked under this activity for five years.

b) Habitat Restoration and Management of Aquatic vegetation:

During the plan period, the Department of Wildlife Protection (J&K) will work on to eradicate the excessive reeds and floating vegetation on controlled basis in all seasons except winters. This will be done to prevent excessive proliferation and simultaneous enhancement of water spread area for arrival of migratory water birds. Peat extractions will maximize open water spaces. Managing floating vegetation will also be undertaken during the plan period. Managing and maintaining navigational channels, making of clear pools, Fixing of Bird Perches and providing of food supplement during the lean periods will be undertaken under this component. **Rs. 2.41 Crores** covering **125 ha** has been proposed to be earmarked under this activity for five years.

c) Control of Poaching: -

The large congregation of migratory birds in the wetlands of Kashmir in general and that Hygam in particular invite illegal poaching at a very large scale especially when these migratory birds fly from one wetland to other or settle in the adjoining paddy field for feeding. The poachers are equipped with modern gears like dummy ducks, duck calls, motorised mojos, and sophisticated fire arms to invite the attention of the migratory birds and then shoot at them killing large number of these migratory birds. The enforcement in place is trying its best to get in

control of this menace by seizing large number of fire arms and booking the culprits under the relevant laws, however, not much a success has been achieved in this regard. Shortage of manpower and required amenities need to be addressed during the plan period. The community support to form village level committees shall be focused at in order to achieve the best results. **Rs. 0.15 Crores** has been proposed for this activity during the plan period for strengthening protection, setting up of temporary anti-poaching camps, informers, village level committees, staff amenities and incentives.

d) Research and Survey: -

Information on water birds and their habitats is collected mainly by the Wildlife Department, and other research organisations. The Wildlife Department has undertaken various water bird monitoring programmes at Hygam over the last few decades. The information on water birds though patchy, is useful to provide some information on species diversity, seasonality and abundance. The University of Kashmir, SKUAST-K and other organisations have undertaken several studies of the breeding and feeding habits of different resident and seasonal migrant water bird species. However, detailed assessment of current water bird species composition and abundance and their relationship to the different habitat types in the wetland will be undertaken during the plan period.

e) Capacity building

Capacity building is critical to the successful management of water birds and the habitats. This can be achieved through conducting

periodic training programmes and infrastructure development for monitoring. Expertise and opportunities for training in waterbird assessment, monitoring, research and migration study exist within the country, with institutions such as Bombay Natural History Society (BNHS) - Mumbai, Salim Ali Centre for Ornithology and Natural History (SACON) - Coimbatore, Wetlands International - New Delhi, and Wildlife Institute of India (WII) - Dehra Dun. Periodic training programmes will be held for various target groups including field staff managers and decision makers, local NGOs and community groups. The training will be provided on methods to collect information on approaches to bird census, analysis of information developing monitoring protocols and interpretation of data for use at various levels. A cadre of trained technical staff shall be developed for trend analysis of waterbird populations in relation to habitat features. Specific training programmes shall be developed in collaboration with BNHS for assessment of bird migration and understanding the constraints in the pathways. Surveillance of waterbirds for avian influenza and other zoonotic diseases shall employ scientific methodology and techniques as promoted by FAO.

Rs.0.10 Crore has been proposed for this activity during the five-year plan period.

III) Education, Awareness and Eco-Tourism Development:-

Development of sound ecotourism infrastructure need to be carefully established to ensure minimal impacts on the environment while at the same time maximizing opportunities for the visitors to enjoy the Hygam wetland and its biodiversity.

Development of recreational facilities

At present there are no facilities and these need to be developed taking into consideration the environmental factors and tourist carrying capacity of different areas. Following activities are therefore, proposed:

a) Board Walk and Nature Trails

The Boardwalks and nature trails will give the visitors a good chance to breathe in the fresh air and enjoy the peaceful environment of Hygam. The walking trail along the wetland has to be constructed well above the highest flood level of the wetland. Gates at the entry points will control these boardwalks and only serious nature lovers and birdwatchers will be allowed to access.

Guided tours will be arranged across the boardwalks in the wetland areas. Well-trained guides shall escort the visitors who shall be adequately briefed about the dos and don'ts while in an ecologically sensitive area.

b) Guided boat rides

Guided boat rides shall be arranged for nature lovers to help them explore the various aspects of Hygam. Local community groups shall be trained to take up interpretation activities.

c) Watch Towers

For the benefit of day visitors as well as organized groups, school/college students, **3** watchtowers are proposed. The locations

of the watchtowers will be selected keeping in view the sensitivity as well as the accessibility to enjoy bird watching and photography besides keep watch and ward as well. Construction of these towers could be taken up during the low water season. Provision of equipment such as binoculars and spotting scopes for use of school/college groups and serious bird watchers shall be made by the Department. **Rs. 0.45 Crores** has been proposed for these activities during the plan period.

d) Publicity and Awareness: -

An amount of **Rs.0.16 Crore** is proposed under this activity for five years to conduct and promote awareness rallies padyatras, Nature camps, organising world wetland day and other Environment related days. Making of documentaries, newsletters, brochures, pamphlets, posters and other publications etc are also proposed under this component. It also includes Models and digital signages.

iv) Sustainable Resource Development and Livelihood Improvement: -

Department of Wildlife Protection envisages convergence and application of major Government run programmes and schemes with better understanding and strong coordination mechanism with various sectoral Officers and Departments like Fisheries, Agriculture, Industries and commerce, Handicrafts, Entrepreneurship development, Craft Development Institute, Tourism and others.

To adopt seminar recommendations of one day consultative seminar on “Useful utilization of Wetland Biomass” and start pilot

projects on establishing micro-enterprises with local fringe communities using wetland biomass. **Rs.0.40 crore** has been proposed under this activity during the plan period.

v) Institutional Development: -

Conscious about the fact that the wetlands are very important ecosystems and services rendered by them are unparalleled Government of Jammu and Kashmir has already established a separate Wetland Division under the Department of Wildlife Protection to manage and protect the notified wetlands in Kashmir region. The existing institution in place is implementing various programmes approved under various sectors to restore and rejuvenate Hygam on scientific lines. However, the institution in place needs to be strengthened and developed on modern lines to cope up with the complex challenges and the issues faced by the Hygam. These are:

a) Infrastructure and Equipment Augmentation: -

Under this activity it is proposed to construct one number of staff quarter on the periphery of Hygam at Sakhen. This will ensure proper watch and ward to protect the wetland from encroachment and from other anthropogenic pressures as also controlling illegal poaching. Under the activity it is also envisaged to procure important equipment and tools to facilitate management utilization for better scientific results. It will include pontoons, spotting scopes, motorized driven boats, Wooden boats and dockyards etc. Under this component, **Rs. 0.758 Crore** is proposed.

c) Monitoring and Evaluation: -

Monitoring the effectiveness of management action plan implementation is essential to assess the effectiveness of implementation. A third-party monitoring and evaluation shall be got conducted by reputed agency on EOI basis. In order to improve upon the efficiency during the implementation period it is proposed to procure 1 bike during the plan period including some unforeseen and miscellaneous contingencies. **Rs.0.10 Crore** is proposed under this component.

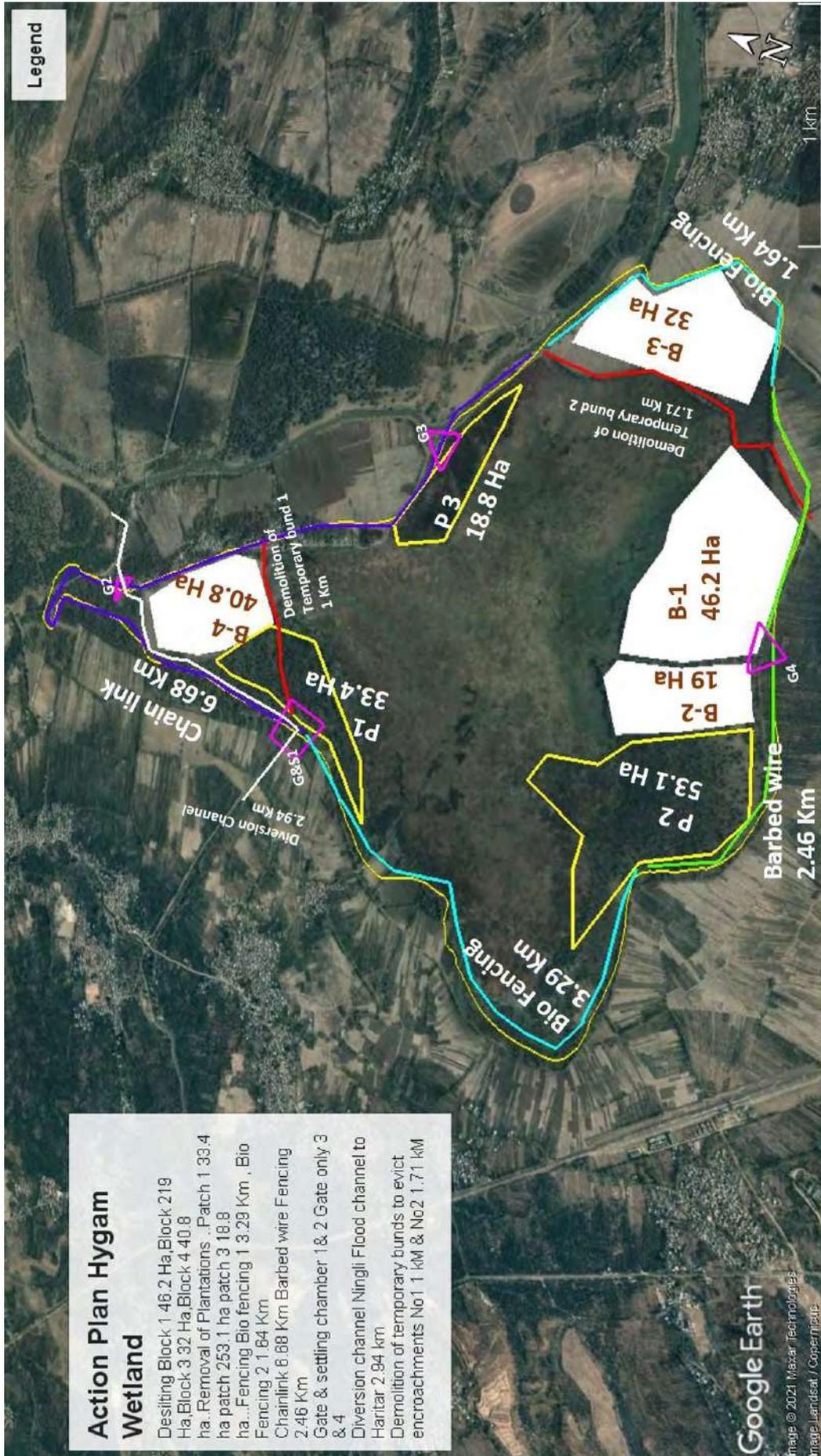


11.6

Action Plan Hygam

Wetland

- Desilting Block 1 46.2 Ha, Block 2 19 Ha, Block 3 32 Ha, Block 4 40.8 ha.
- Removal of Plantations - Patch 1 33.4 ha, patch 2 53.1 ha, patch 3 18.8 ha.
- Fencing Bio fencing 1 3.29 Km, Bio Fencing 2 1.64 Km
- Chainlink 6.88 Km Barbed wire Fencing 2.46 Km
- Gate & settling chamber 1 & 2 Gate only 3 & 4
- Diversion channel Ningli Flood channel to Haritar 2.94 km
- Demolition of temporary bunds to evict encroachments No 1 1 km & No 2 1.71 km



Integrated Action Plan - Year wise Physical and Financial Phasing 2022-27 Hygam Wetland Conservation Reserve

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Component and Activities	RATE	UNIT	Year 1		Year 2		Year 3		Year 4		Year 5		TOTAL HYGAM	
			Phy	Fin	PHY	FIN								
1 Land and Water Resource Management														
1.1 Survey and Demarcation														
i Boundary demarcation	RS 7000	NOS	50	3.50	50	3.50	0	0.00	0	0.00	0	0.00	100	0.07
ii Fencing Chain Link	40 LAKH	KM	1	40.00	1.68	67.20	1	40.00	1	40.00	2	80.00	6.68	2.67
iii Barbed wire fencing	7 LAKH	KM	0	0.00	1	7.00	1	7.00	0.46	3.22	0	0.00	2.46	0.172
iv Bio fencing	Rs.12.82	No of plants	2000	2.56	1000	1.28	1000	1.28	5000	0.64	5000	6.41	95000	0.12
Embankment along peripheries	Rs.280	CUM	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0
Total Survey and Demarcation				46.06		78.98		48.28		43.86		86.41		3.035
1.2 Water Management														
A) Enhancing water holding capacity														
a) Removal of Willow / Poplar Plantations (Miscellaneous Charges Only)	Auction Based	Ha	25	0.12	28.1	0.14	15	0.07	10	0.05	8.4	0.05	86.50	0.005
b) Selective dredging of silted areas	Auction Based	Ha	19	0.10	20.8	0.10	20	0.10	32	0.16	46.2	0.23	138.0	0.007
i Willow / Poplar plantation cleared areas	Auction Based	Ha	25	0.12	28.1	0.14	15	0.07	5	0.03	8.4	0.05	81.50	0.004
ii Channels Water ways	Auction Based	CUM	1000	1.00	1000	1.00	1000	1.00	10000	1.00	1000	1.00	50000	0.05
iii Regulatory Gates	APE	No	1	5.00	1	5.00	1	5.00	1	5.00	0	0.00	4	0.2
iv Construction and Maintenance of Settling Basins	20 Lakh	Hac	1	20.00	1	20.00	0	0.00	0	0.00	0	0.00	2	0.4
v Diversion of Flood Channel	10 Lakh	KM	0	0.00	1	10.00	1	10.00	1	10.00	0	0.00	3	0.3
vi Demolition of Temp Cross Sectional Embankments to evict encroachments	5 Lakh	KM	1	5.00	1	5.00	0.71	3.55	0	0.00	0	0.00	3	0.14

B) Water Quality Improvement														
a)	Community based solid waste management system													
	Wetland	Rs.5000	Drive	40	2.00	40	2.00	40	2.00	40	2.00	40	2.00	200
	Villages	Rs.5000	Drive	40	2.00	40	2.00	40	2.00	40	2.00	40	2.00	200
	Control of diffused Pollution through Wetland Technology (Artificial Wetlands)	10 Lakh	HAC / No	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
	Dust Bins	Rs.5000	NOS	10	0.50	10	0.50	10	0.50	10	0.50	10	0.50	50
a)	Environment Flow Assessment Studies	LS	LS	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	LS
	Total Water Management				35.84		46.88		24.29		20.74		5.83	2.408
	Total Land & Water Management				81.90		125.86		72.57		64.60		92.24	4.371
2 Biodiversity Conservation														
2.1 Wetland Conservation Studies														
a)	Inventorization and assesment Studies													
	i Species wise estimates of waterbird populations	LS	LS	LS	0.50	LS	0.50	LS	0.00	LS	0.00	LS	0.00	LS
	ii Water regimes assesment	LS	LS	LS	0.00	LS	0.50	LS	0.50	LS	0.00	LS	0.00	LS
	iii Key biodiversity assesment	LS	LS	LS	0.00	LS	0.00	LS	0.50	LS	0.50	LS	0.00	LS
	iv Human activities and their impacts	LS	LS	0	0.00	LS	0.00	LS	0.00	LS	0.50	LS	0.50	LS
	Migration studies													
	v (bird banding and satellite and VHF tracking)	LS	LS	LS	0.50	LS	0.50	LS	0.00	LS	0.00	LS	0.00	LS
	vi Avian influenza survellence	LS	LS	0	0.00	LS	0.00	LS	0.50	LS	0.50	LS	0.00	LS
	Total Studies				1.00		1.50		1.50		1.50		0.50	0.06
	a)													
b)	Strengthening existing Wetland network													
	Habitat Restoration and Management of Aquatic Vegetation	1.925 Lakh	HAC	15	28.87	20	38.50	20	38.50	30	57.75	40	77.00	125
	Total b)				28.87		38.50		38.50		57.75		77.00	2.4
c)	Control of poaching													
	Establishment / Strengthening of Protection Camps	LS	LS	LS	2.00	LS	2.00	LS	2.00	LS	2.00	LS	2.00	LS
	Formation of bird protection committees	LS	LS	LS	1.00	LS	1.00	LS	1.00	LS	1.00	LS	1.00	LS
	Total c)				3.00		3.00		3.00		3.00		3.00	0.15

5.1	Infrastructure Development	20 LAKH	NOS	1	20.00	0	0.00	1	20.00	0	0.00	0	0.00	2	0.4
	Total 5.1				20.00		0.00		20.00		0.00		0.00		0.4
5.2	Equipment augmentation														
	i Pontoons	15 LAKH	NOS	0	0.00	1	15.00	0	0.00	1	15.00	0	0.00	2	0.3
	ii Spotting Scope	RS 8000	NOS	5	0.40	0	0.00	0	0.00	5	0.40	0	0.00	10	0.008
	iv Motorized Driven Boats	10 LAKH	NOS	1	10.00	0	0.00	1	10.00	0	0.00	0	0.00	2	0.2
	v Wooden Manual Driven Boats	0.5 Lakh	NOS	5	2.50	5	2.50	0	0.00	0	0.00	0	0.00	10	0.05
	vi Fabricate Dockyards / other Machines	20 LAKH	NOS	0	0.00	0	0.00	1	20.00	0	0.00	0	0.00	1	0.2
	Total 5.2				12.90		17.50		30.00		15.40		0.00		0.758
5.3	Monitoring and Evaluation														
	Vehicles / Motor Bikes	LS	LS	LS	0.50	LS	0.00	LS	0.00	LS	0.00	LS	0.00	LS	0.005
	Contingencies & Unforeseen	LS	LS	LS	1.00	LS	0.05								
	Total 5.2				1.50		1.00		1.00		1.00		1.00		0.055
	Total Infrastructure & Equipment				34.40		18.50		51.00		16.40		1.00		1.21
Grand Total					173.17		231.36		211.57		150.25		179.74		9.46

**SHALLABUGH
WETLAND
CONSERVATION
RESERVE**

5. SHALLABUGH WETLAND CONSERVATION RESERVE

5.1 Brief description

The Shallabugh Wetland Reserve covering an area of 1625 ha is located near Srinagar City between 34°09'N, 74°43' E and 1,565 m above sea level. The wetland is fed by the perennial Sindh nalla and several other small streams that usually dry out during the summer. The depth of the wetland ranges between 0.5–2 m. The shallow areas have extensive reed beds providing good habitat for waterfowl. The wetland is important for long distance migrants as a stopover site for feeding and resting. Many water birds occur in huge numbers in this wetland, much above the 1% population threshold determined by Wetlands International (2002). Hussain (1989) has counted 64 species in and around Shallabugh wetland, during bird ringing studies. The species *Anas crecca* (7,000: 4,000), *Anas platyrhynchos* (25,000: 750), *Anas penelope* (3,000: 2,500), *Anas querquedula* (4,000: 2,500) and *Anas strepera* (4,000: 1,500) occur much above their 1% biogeographic population. Among the globally threatened species, Pallas's Fish-Eagle *Haliaeetus leucoryphus* used to be resident.

The wetlands of Kashmir valley besides being important wetlands for both resident and migratory waterfowl are also major wintering area for variety of migratory ducks and geese and extremely important breeding area for Mallard, Blunt-winged Warbler and Ferruginous Duck and variety of other waterfowl. It has been observed that the waterfowl population which start their inward migration to the Shallabugh wetland in mid-November peaks to around more than 300,000-400,000 during

the last week of February and later start declining in numbers as the temperature in the valley rises before their return migrating during early spring (late March). The population density of Waterfowl varied across varying degrees of disturbance and food availability within the wetland with the maximum number of recordings being on the area preferably in the middle of wetlands. The emergent vegetation and dense macrophytic vegetation of Shallabugh wetland provides safe nesting and breeding habitats for Mallard and other water birds like common Moorhen, Coot. The wetland harbors a variety of aquatic and semi-aquatic vegetation providing a good habitat for a variety of birds. Wetland vegetation comprising of *Potamogeton* spp., *Myriophyllum verticillatum*, *Nymphaea* spp., *Phragmites australis*, *Trapa natans*, *Typha* spp.

The Shallabugh Wetland along with other wetlands of the Valley providing buffering of water flows in vulnerable high mountain catchments across the Greater Himalayan regions of Kashmir, and are also crucial for sustaining biodiversity and local people's livelihoods. Presently, the livelihood of a sizeable population of around 10 villages depends on Shallabugh wetland reserve for extraction of wicker willow, poplar, fishery, livestock grazing. Around 300 households' families around Shallabugh alone are earning their livelihood through wicker willow-based basket industry and the majority community has switched to the Poplar cultivation mainly in and around the wetland because of high profitability to the growers. This excessive use and extraction of resources by the communities for their livelihood generation has put tremendous pressure on the wetland and access denied to the

resources at times have adversely affected the rural economy thus acceptance of wetland and biodiversity conservation ideals by local people is also greatly affected.

5.2 Issues and Challenges

Like other wetlands of the Kashmir valley, Shallabugh also suffers from over-fishing, infestation by weeds and pollution. Surrounding areas are almost entirely agricultural. The principal threats are siltation, eutrophication and encroachment of agricultural land. Run-off from adjacent agricultural land has greatly increase the rate of eutrophication.

5.3 Management Interventions

The management interventions proposed under integrated Management Action Plan for Shallabugh envisages financial implications of **Rs. 12.80 Crores** to be phased in five year period. The important interventions under the plan includes following:

I) Land and Water Resource Management

a) Survey & DemarcationRs 2.66 Crores

The survey and digital delineation has been completed jointly with Revenue Department and Demarcation Forest Division. The Process of fixing **150** Number of specially designed cement concrete boundary demarcation pillars will be completed during the first two years of implementation. The Demarcation shall however be further consolidated by way of closing the peripheries by way of Chain-link fencing, Barbed wire fencing and Bio fencing as per site specific conditions. The

Embankments which determine the boundary of the lake shall be strengthened by way of raising and consolidation.

b) Water Management: -

For any wetland to thrive and get rejuvenated adequate water level is important. To regulate and manage the desired water in Shallabugh, following management interventions are proposed in the five-year plan.

i) Enhancing Water Holding Capacity: -

This will include removal of undesired willow plantations raised over the period inside the wetland. The plantations cover an area of about **509** ha as assessed using Google earth latest images. These willow and popular trees need to be removed for enhancement of water holding capacity and improve overall water regimes in these wetlands. Based on an average plantation density of **500** trees per ha, it is estimated that approximately **255000** trees need to be uprooted using manual and mechanical means. Specific areas to be covered under the activity are shown in the google map. Therefore, meagre budget of **Rs. 0.025 Cr.** under this activity has been envisaged as operational cost for five years.

ii) Selective Dredging of silted Areas: -

In order to maintain biodiversity, improve habitat conditions and to create natural food processes for the inhabiting life forms in the wetland, necessary provision under this head has been kept for the purpose. To rehabilitate and restore habitat conditions in

the wetland, removal of silt and slash through mechanical and traditional means will be initiated which in turn will give economic benefit to the locals. The activity will include desilting in Blocks over an area of **468 Ha** of silted areas, 1 No of Gate and Settling chamber. The activity will be carried out by involving the auctioning process. Therefore, meagre budget of **Rs. 0.024 Cr.** under this activity has been envisaged as operational cost for five years. Besides for construction and maintenance of settling basin **Rs. 4.00 Cr** has been proposed.

iii) Water Quality Improvement: -

To monitor the health and pulse of the wetland, the physio chemical analysis of water in the wetland shall be got conducted through J&K Pollution Control Committee on regular and on sustained basis therefore, no budget has been envisaged for this activity. However, community based solid waste management will involve regular cleanliness drives in the wetland as well as in the adjoining villages to ensure clean surroundings and healthy wetland system. **Rs.0.20 Crore** has been envisaged under this activity for five years for conducting 400 such drives on regular intervals. Under this activity installation and Management of **60** Dust Bins in and around the wetland has been envisaged. Further in order to arrive at proper abstraction and use of water from and within the wetland for Human and ecological use Environment Flow Studies shall be awarded to the reputed organization on EOI basis to work for arriving at water budget in the wetland. For this activity **Rs.0.01 crores** has been earmarked in the plan.

II) Biodiversity Conservation: -

a) Waterbird Conservation including Inventorization and assessment:

Various surveys and studies are proposed to be carried out for inventorization and assessment of waterbird diversity like species wise estimates of waterbird populations assessment, key biodiversity assessment, Human activities and their impacts, Migration studies (bird banding, satellite tracking) and avian influenza surveillance. The surveys and studies shall be undertaken with the help of various organizations working in the field with support and coordination by the Wildlife Department. An amount of **Rs.0.06** Crore has been earmarked under this activity for five years.

b) Habitat Restoration and Management of Aquatic vegetation:-

During the plan period, the Department of Wildlife Protection (J&K) will work on to eradicate the excessive reeds and floating vegetation on controlled basis in all seasons except winters. This will be done to prevent excessive proliferation and simultaneous enhancement of water spread area for arrival of migratory water birds. Peat extractions will maximize open water spaces. Managing floating vegetation will also be undertaken during the plan period. Managing and maintaining navigational channels, making of clear pools, Fixing of Bird Perches and providing of food supplement during the lean periods will be undertaken under this component. **Rs. 3.56** Crores covering **185 ha** has been proposed to be earmarked under this activity for five years.

c) Control of Poaching:-

The large congregation of migratory birds in the wetlands of Kashmir in general and that Shallabugh in particular invite illegal poaching at a very large scale especially when these migratory birds fly from one wetland to other or settle in the adjoining paddy field for feeding. The poachers are equipped with modern gears like dummy ducks, duck calls, motorised mojos, and sophisticated fire arms to invite the attention of the migratory birds and then shoot at them killing large number of these migratory birds. The enforcement in place is trying its best to get in control of this menace by seizing large number of fire arms and booking the culprits under the relevant laws, however, not much a success has been achieved in this regard. Shortage of manpower and required amenities need to be addressed during the plan period. The community support to form village level committees shall be focused at in order to achieve the best results. **Rs. 0.15 Crores** has been proposed for this activity during the plan period for strengthening protection, setting up of temporary anti-poaching camps, informers, village level committees, staff amenities and incentives.

d) Research and Survey: -

Information on waterbirds and their habitats is collected mainly by the Wildlife Department, and other research organisations. The Wildlife Department has undertaken various waterbird monitoring programmes at Shallabugh over the last few decades. The information on waterbirds though patchy, is useful to provide some information on species diversity, seasonality and abundance. The University of Kashmir,

SKUAST-K and other organisations have undertaken several studies of the breeding and feeding habits of different resident and seasonal migrant waterbird species. However, detailed assessment of current waterbird species composition and abundance and their relationship to the different habitat types in the wetland will be undertaken during the plan period.

e) Capacity building: -

Capacity building is critical to the successful management of water birds and the habitats. This can be achieved through conducting periodic training programmes and infrastructure development for monitoring. Expertise and opportunities for training in waterbird assessment, monitoring, research and migration study exist within the country, with institutions such as Bombay Natural History Society (BNHS) - Mumbai, Salim Ali Centre for Ornithology and Natural History (SACON) - Coimbatore, Wetlands International - New Delhi, and Wildlife Institute of India (WII) - Dehra Dun. Periodic training programmes will be held for various target groups including field staff managers and decision makers, local NGOs and community groups. The training will be provided on methods to collect information on approaches to bird census, analysis of information developing monitoring protocols and interpretation of data for use at various levels. A cadre of trained technical staff shall be developed for trend analysis of waterbird populations in relation to habitat features. Specific training programmes shall be developed in collaboration with BNHS for assessment of bird migration and understanding the constraints in the pathways. Surveillance of

waterbirds for avian influenza and other zoonotic diseases shall employ scientific methodology and techniques as promoted by FAO.

Rs.0.15 Crore has been proposed for this activity during the five-year plan period.

III) Education, Awareness and Eco-Tourism Development:-

Development of sound ecotourism infrastructure need to be carefully established to ensure minimal impacts on the environment while at the same time maximizing opportunities for the visitors to enjoy the Shallabugh wetland and its biodiversity.

Development of recreational facilities

At present there are no facilities and these need to be developed taking into consideration the environmental factors and tourist carrying capacity of different areas. Following activities are therefore, proposed:

a) Board Walk and Nature Trails

The Boardwalks and nature trails will give the visitors a good chance to breathe in the fresh air and enjoy the peaceful environment of Shallabugh. The walking trail along the wetland has to be constructed well above the highest flood level of the wetland. Gates at the entry points will control these boardwalks and only serious nature lovers and birdwatchers will be allowed to access.

Guided tours will be arranged across the boardwalks in the wetland areas. Well-trained guides shall escort the visitors who shall be adequately briefed about the dos and don'ts while in an ecologically sensitive area.

b) Guided boat rides

Guided boat rides shall be arranged for nature lovers to help them explore the various aspects of Shallabugh. Local community groups shall be trained to take up interpretation activities.

c) Watch Towers

For the benefit of day visitors as well as organized groups, school/college students, **2** watchtowers are proposed. The locations of the watchtowers will be selected keeping in view the sensitivity as well as the accessibility to enjoy bird watching and photography besides keep watch and ward as well. Construction of these towers could be taken up during the low water season. Provision of equipment such as binoculars and spotting scopes for use of school/college groups and serious bird watchers shall be made by the Department. **Rs. 0.30 Crores** has been proposed for these activities during the plan period.

d) Publicity and Awareness: -

An amount of Rs. **0.305** Crore is proposed under this activity for five years to conduct and promote awareness rallies padyatras, Nature camps, organising world wetland day and other Environment related days. Making of documentaries, newsletters, brochures, pamphlets, posters and other publications etc are also proposed under this component.

iv) Sustainable Resource Development and Livelihood Improvement: -

Department of Wildlife Protection envisages convergence and application of major Government run programmes and schemes with better understanding and strong coordination mechanism with various sectoral Officers and Departments like Fisheries, Agriculture, Industries and commerce, Handicrafts, Entrepreneurship development, Craft Development Institute, Tourism and others.

To adopt seminar recommendations of one day consultative seminar on “Useful utilization of Wetland Biomass” and start pilot projects on establishing micro-enterprises with local fringe communities using wetland biomass. **Rs.0.05 crore** has been proposed under this activity during the plan period.

v) Institutional Development: -

Conscious about the fact that the wetlands are very important ecosystems and services rendered by them are unparalleled Government of Jammu and Kashmir has already established a separate Wetland Division under the Department of Wildlife Protection to manage and protect the notified wetlands in Kashmir region. The existing institution in place is implementing various programmes approved under various sectors to restore and rejuvenate Shallabugh on scientific lines. However, the institution in place needs to be strengthened and developed on modern lines to cope up with the complex challenges and the issues faced by the Shallabugh. These are:

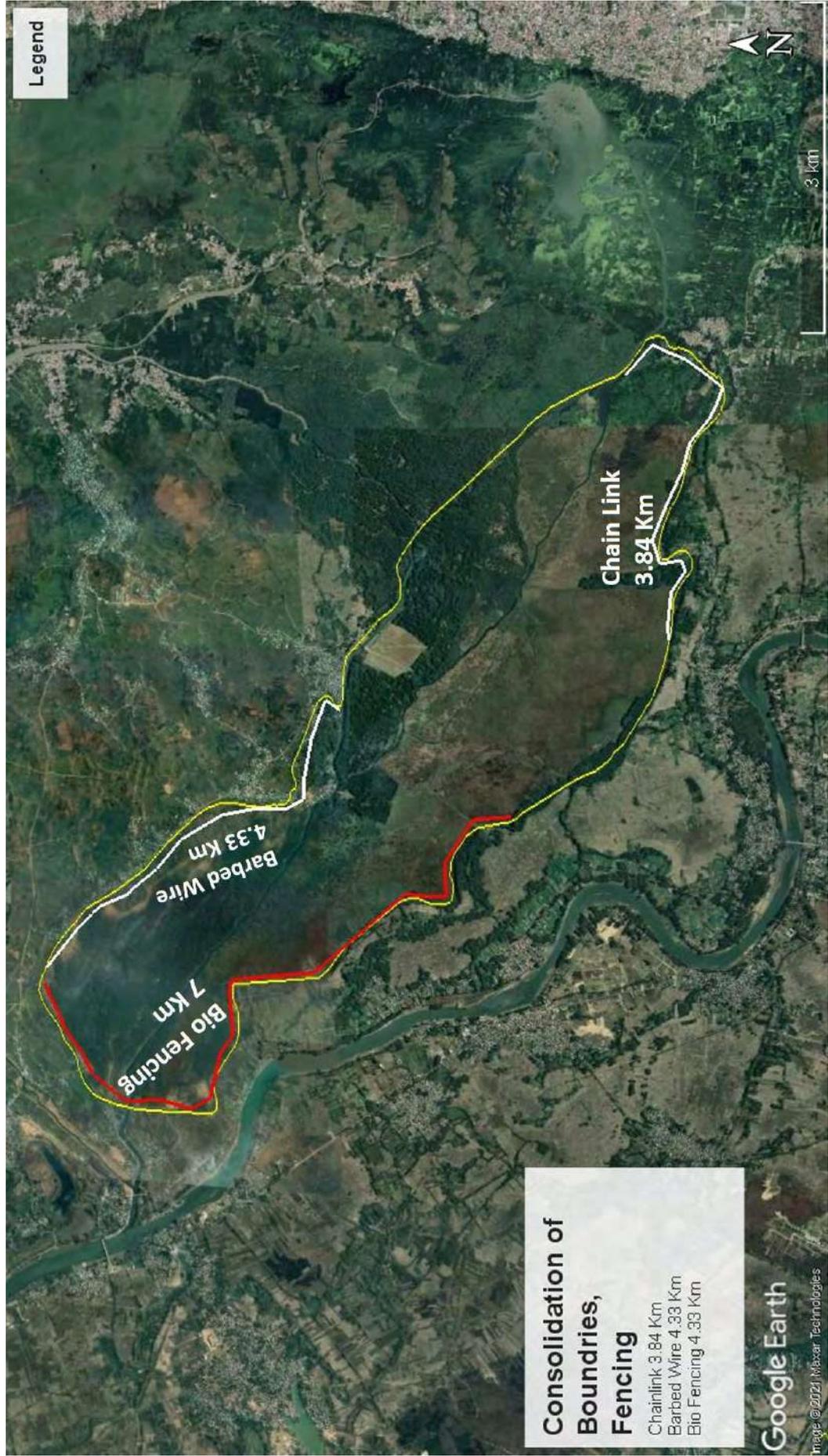
a) Infrastructure and Equipment Augmentation: -

Under this activity it is proposed to construct **one** number of staff quarter on the periphery of Shallabugh at Sangam. This will ensure proper watch and ward to protect the wetland from encroachment and from other anthropogenic pressures as also controlling illegal poaching. Under the activity it is also envisaged to procure important equipment and tools to facilitate management utilization for better scientific results. It will include Pontoons, spotting scopes, motorized driven boats, Wooden boats and dockyards etc. Under this component, **Rs.0.52 Crore** are proposed.

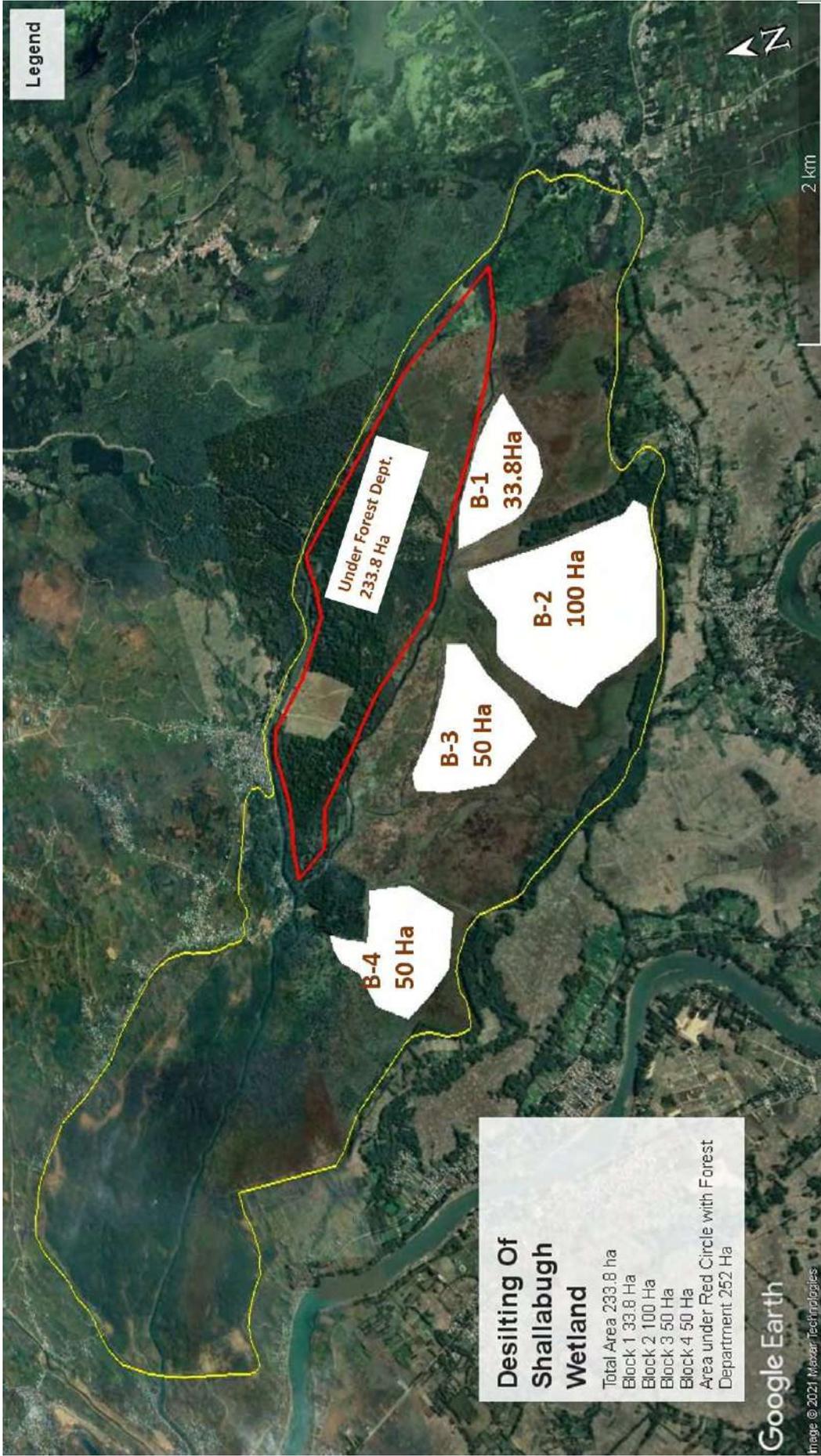
b) Monitoring and Evaluation: -

Monitoring the effectiveness of management action plan implementation is essential to assess the effectiveness of implementation. A third-party monitoring and evaluation shall be got conducted by reputed agency on EOI basis. In order to improve upon the efficiency during the implementation period it is proposed to procure one patrolling vehicle and 1 bike during the plan period including some unforeseen and miscellaneous contingencies. **Rs.0.205 Crore** is proposed under this component.

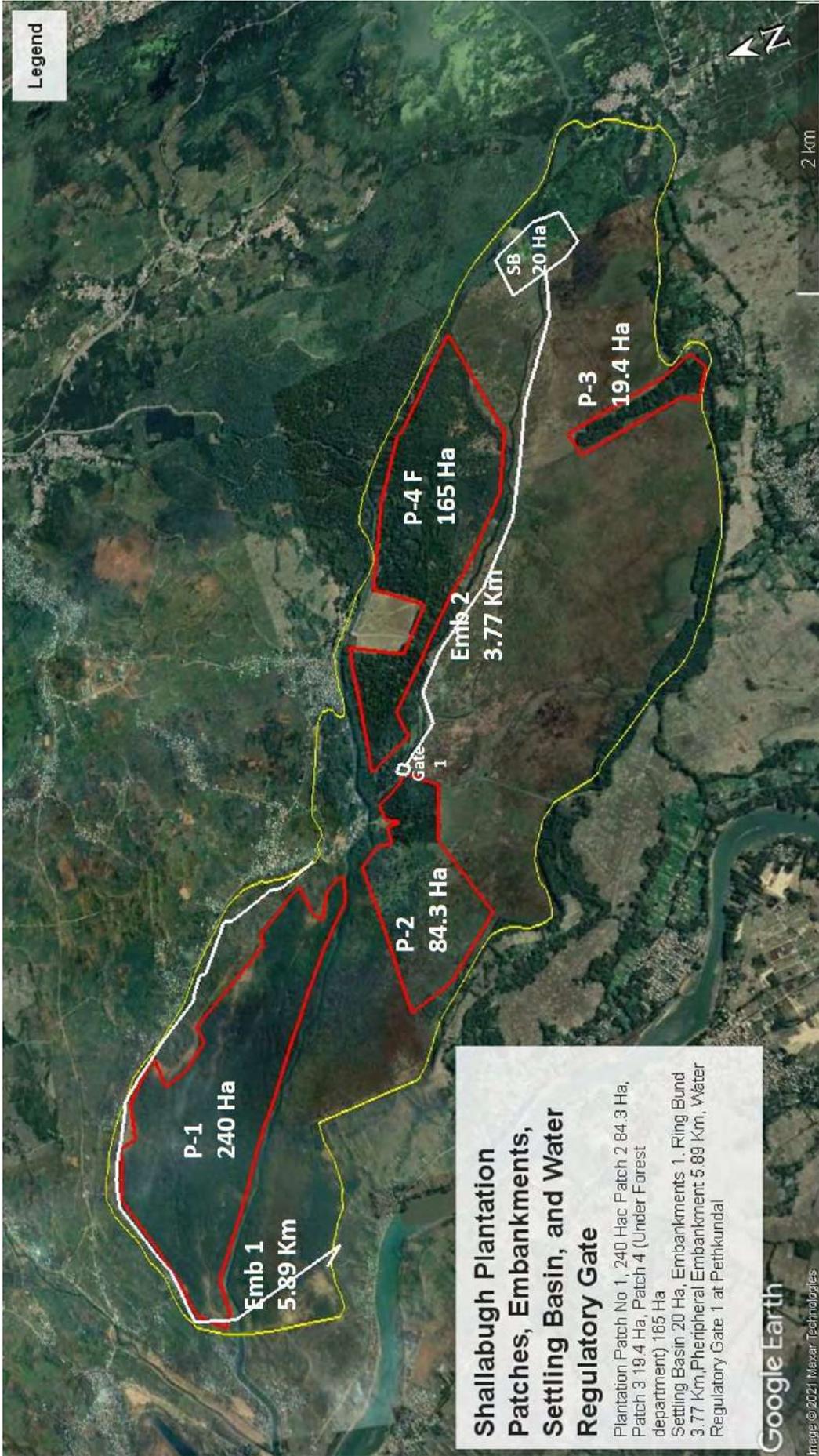
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Integrated Action Plan - Year wise Physical and Financial Phasing 2022-27 Shallabugh Wetland Conservtion Reserve

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Component and Activities	UNIT	RATE	Year 1		Year 2		Year 3		Year 4		Year 5		TOTAL SHALLABUG	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	PHY	FIN
1 Land and Water Resource Management														
1.1 Survey and Demarcation														
i Boundary demarcation	NOS	RS 7000	75	5.25	75	5.25	0	0.00	0	0.00	0	0.00	150	0.105
ii Fencing Chain Link	KM	40 LAKH	0	0.00	1	40.00	1	40.00	1	40.00	0.84	33.60	3.84	1.54
iii Barbed wire fencing	KM	7 LAKH	1	7.00	1.33	9.31	1	7.00	1	7.00	0	0.00	4.33	0.3
iv Bio fencing	No of plants	Rs.12.82	20000	2.56	30000	3.84	30000	3.84	30000	3.84	30000	3.84	140000	0.18
Embankment along peripheries	Cum	Rs.280	3000	8.40	3000	8.40	4000	11.20	4000	11.20	5320	14.90	19320	0.54
				23.21		66.80		62.04		62.04		52.34		2.66
1.2 Water Management														
A) Enhancing water holding capacity														
Removal of Willow / Poplar Plantations														
a) (Miscellaneous Charges Only)	Ha	Auction Based	19.4	0.10	84.3	0.42	150	0.75	105	0.52	150	0.75	509	0.025
		Auction Based	33.8	0.17	50	0.25	50	0.25	100	0.50	233.8	1.17	468	0.024
b) Selective dredging of silted areas														
i Willow / Poplar plantation cleared areas	Ha	Auction Based	19.4	0.10	84.3	0.42	150	0.75	105	0.52	150	0.75	509	0.025
		Auction Based	0	0.00	50000	1.00	50000	1.00	50000	1.00	50000	1.00	200000	0.04
ii Channels Water ways	CUM	APE	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	1	0.1
iii Regulatory Gates	No													
iv Construction and Maintainance of Settling Basins	Hac	20 Lakh	0	0.00	10	200.00	10	200.00	0	0.00	0	0.00	20	4
v Diversion of Flood Channel	KM	10 Lakh	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0
vi Demolition of Temp Cross Sectional Embankments to evict encroachments	KM	5 Lakh	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0
B) Water Quality Improvement														
a) Community based solid waste management system														
	Drive	Rs.-5000	40	2.00	40	2.00	40	2.00	40	2.00	40	2.00	200	0.1
	Drive	Rs.-5000	40	2.00	40	2.00	40	2.00	40	2.00	40	2.00	200	0.1

**MIRGUND
WETLAND
CONSERVATION
RESERVE**

6. Mirgund Wetland Conservation Reserve

6.1 Brief Description:-

Mirgund Wetland is situated in the Jhelum flood basin of Kashmir Valley. It is a paradise for migratory birds. It is just 16 km away from Srinagar on Gulmarg road sandwiched between Narbal, Check-i-Kawoosa, Mazhamz, Archandrahama, Arampur, Nupur and Mirgund villages. Mirgund wetland is a shallow, freshwater wetland associated with reed-beds and riverine marshes. Lying on the flood plain of the Jhelum flood channel the wetland is fed by the local runoff, the Sukhnag and the Ferozpur Nallas. The depth of the water generally varies between 0.1m and 0.5m. Much of the wetland dries out during the summer, and the water level fluctuates considerably according to the local runoff. Willow (*Salix* sp.) has been planted on the periphery of the wetland. Earthen bunds have been constructed to maintain the water level, and also to control siltation. The open water spread has floating communities of *Nympheacandicia* and *N. stellata*. The wetland is surrounded by paddy fields, pastures and plantations. All these habitat types provide foraging grounds for birds. The wetland is being extensively used for harvesting fodder and grazing livestock. The wetland is situated in district Budgam and Baramullah (Latitude 34⁰ 7' and Longitude 74⁰ 37',E) at an altitudinal height of 1563 msl.

6.2 FAUNA:

This **IBA** is an important wintering and staging ground for thousands of migratory waterfowl. These include: the Common Teal

Anas crecca, Northern Pintail *A. acuta*, Eurasian Wigeon *A. penelope*, Mallard *A. platyrhynchos*, Gadwall *A. strepera*, Northern Shoveller *A. clypeata* and Common Pochard *Aythya ferina*. Little Grebe *Tachybaptus ruficollis*, Little Bittern *Ixobrychus minutus*, Little Egret *Egretta garzetta*, Water Rail *Rallus aquaticus*, Common Moorhen *Gallinula chloropus*, Pheasant-tailed Jacana *Hydrophasianus chirurgus* and Whiskered Tern *Chlidonias hybridus* are said to breed in the marshes. Three to four Sarus cranes *Grus antigone* are regularly seen here. Many birds occur in much larger numbers than their 1% population threshold determined by Wetlands International (2002).

The migratory water birds that come to this wetland include Cranes, Duck, Geese and mainly the Mallards among others water birds during winter. Cinnamon sparrows, the black and yellow grosbeak, black bulbuls are also found.

Not much is known about other fauna, except that the Golden Jackal *Canis aureus* occurs here. A variety of fishes such as *Cyprinus carpio*, *Barbus conchonioides* and *Gambusia affinis* are found in the Jheel.

6.3 Vegetation:-

Among all the plant species the dominant ones include *Phragmites communis*, *Typha angustata*, *Carex*, *Cynodactylon*, *Polygonum*, *Nymphaea candida*, *Nymphaea setillata*, *Potamogeton*, *Ceratophyllum*, *Sagittaria*, *Trapa*, *Poa* species, many species of *Salix* and *Populus*, *Equistem*, *Dryopteris*, *Satrania*, *Marsilia quadrifolia* etc. An important medicinal plant namely *Acorus Calamus* locally called the Wai-mund grows over an estimated area of 10 acres. **Wai-mund** is traditionally

used in the treatment of digestive disorders, cough, cold and taken with a Kashmiri tea called the Kahwa.

6.4 Threats and Challenges:-

The principal threats to this wetland are siltation and eutrophication due to pollution.

6.5 Management Interventions: -

The management interventions proposed under integrated Management Action Plan for Mirgund envisages financial implications of **Rs. 5.01 Crores** to be phased in five-year period. The important interventions under the plan includes following:

I) Land and Water Resource Management

a) Survey & DemarcationRs 0.30 Crores

The survey and digital delineation has been completed jointly with Revenue Department and Demarcation Forest Division. The Process of fixing **50** Number of specially designed cement concrete boundary demarcation pillars will be completed during the first two years of implementation. The Demarcation shall however be further consolidated by way of closing the peripheries by way of Barbed wire fencing and Bio fencing as per site specific conditions. The Embankments which determine the boundary of the lake shall be strengthened by way of raising and consolidation.

b) Water Management:-

For any wetland to thrive and get rejuvenated adequate water level is important. To regulate and manage the desired water in Mirgund, following management interventions are proposed in the five-year plan.

i) Enhancing Water Holding Capacity: -

This will include removal of undesired willow plantations raised over the period inside the wetland. The plantations cover an area of about **57.40 ha** as assessed using Google earth latest images. These willow and popular trees need to be removed for enhancement of water holding capacity and improve overall water regimes in these wetlands. Based on an average plantation density of **500** trees per ha, it is estimated that approximately **28700** trees need to be uprooted using manual and mechanical means. Specific areas to be covered under the activity are shown in the google map. Therefore, meagre budget of **Rs. 0.003 Cr.** under this activity has been envisaged as operational cost for five years.

ii) Selective Dredging of silted Areas: -

In order to maintain biodiversity, improve habitat conditions and to create natural food processes for the inhabiting life forms in the wetland, necessary provision under this head has been kept for the purpose. To rehabilitate and restore habitat conditions in the wetland, removal of silt and slash through mechanical and traditional means will be initiated which in turn will give economic benefit to the locals. The activity will include desilting in Blocks

over an area of **55 Ha** of silted areas, construction of new embankment and demolition of intersectional temporary bunds. The activity will be carried out by involving the auctioning process. Therefore, meagre budget of **Rs. 0.151 Cr.** under this activity has been envisaged as operational cost for five years.

iii) Water Quality Improvement: -

To monitor the health and pulse of the wetland, the physio chemical analysis of water in the wetland shall be got conducted through J&K Pollution Control Committee on regular and on sustained basis therefore, no budget has been envisaged for this activity. However, community based solid waste management will involve regular cleanliness drives in the wetland as well as in the adjoining villages to ensure clean surroundings and healthy wetland system. **Rs. 0.05 Crore** has been envisaged under this activity for five years for conducting **100** such drives on regular intervals. Under this activity installation and Management of **30** Dust Bins in and around the wetland has been envisaged. Further in order to arrive at proper abstraction and use of water from and within the wetland for Human and ecological use Environment Flow Studies shall be awarded to the reputed organization on EOI basis to work for arriving at water budget in the wetland. For this activity Rs.0.01 crores has been earmarked in the plan.

II) Biodiversity Conservation: -

a) Waterbird Conservation including Inventorization and assessment:

Various surveys and studies are proposed to be carried out for inventorization and assessment of waterbird diversity like species wise estimates of waterbird populations assessment, key biodiversity assessment, Human activities and their impacts, Migration studies (bird banding, satellite tracking) and avian influenza surveillance. The surveys and studies shall be undertaken with the help of various organizations working in the field with support and coordination by the Wildlife Department. An amount of **Rs.0.035** Crore has been earmarked under this activity for five years.

b) Habitat Restoration and Management of Aquatic vegetation:

During the plan period, the Department of Wildlife Protection (J&K) will work on to eradicate the excessive reeds and floating vegetation on controlled basis in all seasons except winters. This will be done to prevent excessive proliferation and simultaneous enhancement of water spread area for arrival of migratory water birds. Peat extractions will maximize open water spaces. Managing floating vegetation will also be undertaken during the plan period. Managing and maintaining navigational channels, making of clear pools, Fixing of Bird Perches and providing of food supplement during the lean periods will be undertaken under this component. **Rs. 0.58** Crores covering **30 ha** has been proposed to be earmarked under this activity for five years.

c) Control of Poaching: -

The large congregation of migratory birds in the wetlands of Kashmir in general and that Mirgund in particular invite illegal poaching at a very large scale especially when these migratory birds fly from one

wetland to other or settle in the adjoining paddy field for feeding. The poachers are equipped with modern gears like dummy ducks, duck calls, motorised mojos, and sophisticated fire arms to invite the attention of the migratory birds and then shoot at them killing large number of these migratory birds. The enforcement in place is trying its best to get in control of this menace by seizing large number of fire arms and booking the culprits under the relevant laws, however, not much a success has been achieved in this regard. Shortage of manpower and required amenities need to be addressed during the plan period. The community support to form village level committees shall be focused at in order to achieve the best results. **Rs. 0.065** Crores has been proposed for this activity during the plan period for strengthening protection, setting up of temporary anti-poaching camps, informers, village level committees, staff amenities and incentives.

d) Research and Survey: -

Information on waterbirds and their habitats is collected mainly by the Wildlife Department, and other research organisations. The Wildlife Department has undertaken various waterbird monitoring programmes at Mirgund over the last few decades. The information on waterbirds though patchy, is useful to provide some information on species diversity, seasonality and abundance. The University of Kashmir, SKUAST-K and other organisations have undertaken several studies of the breeding and feeding habits of different resident and seasonal migrant waterbird species. However, detailed assessment of current waterbird species composition and abundance and their relationship to

the different habitat types in the wetland will be undertaken during the plan period.

e) Capacity building: -

Capacity building is critical to the successful management of waterbirds and the habitats. This can be achieved through conducting periodic training programmes and infrastructure development for monitoring. Expertise and opportunities for training in waterbird assessment, monitoring, research and migration study exist within the country, with institutions such as Bombay Natural History Society (BNHS) - Mumbai, Salim Ali Centre for Ornithology and Natural History (SACON) - Coimbatore, Wetlands International - New Delhi, and Wildlife Institute of India (WII) - Dehra Dun. Periodic training programmes will be held for various target groups including field staff managers and decision makers, local NGOs and community groups. The training will be provided on methods to collect information on approaches to bird census, analysis of information developing monitoring protocols and interpretation of data for use at various levels. A cadre of trained technical staff shall be developed for trend analysis of waterbird populations in relation to habitat features. Specific training programmes shall be developed in collaboration with BNHS for assessment of bird migration and understanding the constraints in the pathways. Surveillance of waterbirds for avian influenza and other zoonotic diseases shall employ scientific methodology and techniques as promoted by FAO.

Rs.0.04 Crore has been proposed for this activity during the five-year plan period.

III) Education, Awareness and Eco-Tourism Development:-

Development of sound ecotourism infrastructure need to be carefully established to ensure minimal impacts on the environment while at the same time maximizing opportunities for the visitors to enjoy the Mirgund wetland and its biodiversity.

Development of recreational facilities

At present there are no facilities and these need to be developed taking into consideration the environmental factors and tourist carrying capacity of different areas. Following activities are therefore, proposed:

a) Board Walk and Nature Trails

The Boardwalks and nature trails will give the visitors a good chance to breathe in the fresh air and enjoy the peaceful environment of Mirgund. The walking trail along the wetland has to be constructed well above the highest flood level of the wetland. Gates at the entry points will control these boardwalks and only serious nature lovers and birdwatchers will be allowed to access.

Guided tours will be arranged across the boardwalks in the wetland areas. Well-trained guides shall escort the visitors who shall be adequately briefed about the dos and don'ts while in an ecologically sensitive area.

b) Guided boat rides

Guided boat rides shall be arranged for nature lovers to help them explore the various aspects of Mirgund. Local community groups shall be trained to take up interpretation activities.

c) Publicity and Awareness: -

An amount of **Rs. 0.365 Crore** is proposed under this activity for five years to conduct and promote awareness rallies padyatras, Nature camps, organising world wetland day and other Environment related days. Making of documentaries, newsletters, brochures, pamphlets, posters and other publications etc are also proposed under this component.

iv) Sustainable Resource Development and Livelihood Improvement: -

Department of Wildlife Protection envisages convergence and application of major Government run programmes and schemes with better understanding and strong coordination mechanism with various sectoral Officers and Departments like Fisheries, Agriculture, Industries and commerce, Handicrafts, Entrepreneurship development, Craft Development Institute, Tourism and others.

To adopt seminar recommendations of one day consultative seminar on “Useful utilization of Wetland Biomass” and start pilot projects on establishing micro-enterprises with local fringe communities using wetland biomass. **Rs.0.03 crore** has been proposed under this activity during the plan period.

v) Institutional Development: -

Conscious about the fact that the wetlands are very important ecosystems and services rendered by them are unparalleled Government of Jammu and Kashmir has already established a separate

Wetland Division under the Department of Wildlife Protection to manage and protect the notified wetlands in Kashmir region. The existing institution in place is implementing various programmes approved under various sectors to restore and rejuvenate Mirgund on scientific lines. However, the institution in place needs to be strengthened and developed on modern lines to cope up with the complex challenges and the issues faced by the Mirgund. These are:

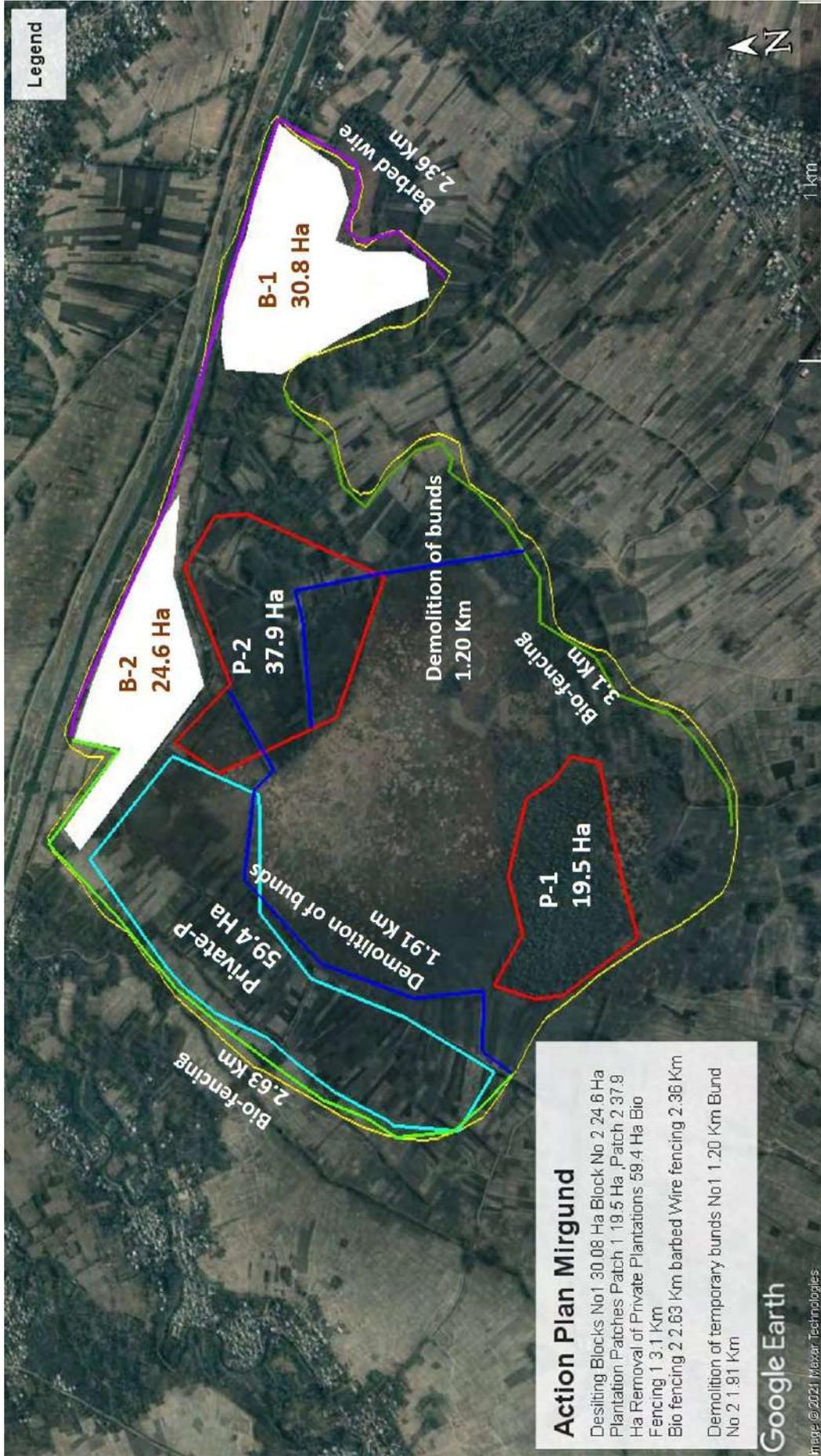
a) Infrastructure and Equipment Augmentation: -

Under this activity it is proposed to construct one number of staff quarter on the periphery of Mirgund. This will ensure proper watch and ward to protect the wetland from encroachment and from other anthropogenic pressures as also controlling illegal poaching. Under the activity it is also envisaged to procure important equipment and tools to facilitate management utilization for better scientific results. It will include Pontoons, spotting scopes, motorized driven boats and Wooden boats etc. Under this component, **Rs. 0.275 Crore** are proposed.

c) Monitoring and Evaluation: -

Monitoring the effectiveness of management action plan implementation is essential to assess the effectiveness of implementation. A third-party monitoring and evaluation shall be got conducted by reputed agency on EOI basis. In order to improve upon the efficiency during the implementation period it is proposed to procure 1 bike during the plan period including some unforeseen and miscellaneous contingencies. **Rs. 0.055 Crore** is proposed under this component.

11.10





**CHATTLUM
WETLAND
CONSERVATION
RESERVE**

7. Chattlum Wetland Conservation Reserve

7.1 Brief Description: -

Pampore is a small town in the South of Kashmir, where some satellite wetlands are located and dotted with archaeological marvels, renowned for its cash crop saffron (Kesar) production, not only in Asia but throughout the globe for the best quality. It is situated on the eastern bank of the river Jhelum merely 11 km away from Srinagar city located at 34.02° N and 74.93° E with an average elevation of 1,574 meters. Chatlam wetland with an area of 1100 Kanals (55 Ha) is situated on east of Pampore and is more or less, an oval shaped. The villages that are in close vicinity to this Reserve are Lalpora (Chatlam) and Meej on Northern side and Konibal-Munpora on eastern side, with Kranchu-Chandhara wetlands on Southern side. These satellite wetlands of Pampore in the valley are extremely important for biodiversity and livelihood values.

Chatlam Wetland Conservation Reserve locally called as BODSAR with total basin area of 2.1 Km^2 lies between $34^{\circ}.01'$ N latitude and $75^{\circ}.58'$ E longitude in the south of the Srinagar City at a distance of 16 Km. Out of total 2.1 Km^2 basin area that is bounded by a vast catchment area extending from Pampore and Bagi-inayatullah in the west and Konibal to Wuyan in the east, it has 0.7 Km^2 surface area and 1.4 Km^2 marshy area. The wetland is a permanent but relatively shallow water body with fluvial origin and enjoys a Sub-Mediterranean climate. It is fed by the perennial water channel of adjoining areas originating from the eastern mountain slopes, which makes its way, to wetland in the west in Chatalum village of tehsil Pampore of district Pulwama apart from being

the largely spring fed. The water table depends of the wetland is high and it remain with adequate water discharge throughout the year. The wetland reaches a maximum depth of 4.5 m in spring during snow melt and a minimum of 3.5 m in autumn. The catchment of the wetland houses 12 villages having a total population of 33,000 which use this wetland for fishing, hunting, irrigation and domestic purposes. Besides about 11,805 cattle head count dwells in the catchment area which pose grazing pressure on the wetland. The incessant increase in the agricultural activities in the catchment area is marked by various land use practices dominated by saffron and rice cultivation.

7.2 Flora & Fauna: -

Apart from local resident birds which breeds their the wetland provide ample and conducive habitat for breeding individuals of Mallards.

The vegetation ranges from submerged, attached, free floating to emergent. Shallow areas support thick stands of *Typha* and *Phragmites*. *Trapa natans*, *Nymphoides peltatum*, *Nymphoide candida* and *Nymphoides tellata* occur in the open water areas. There are many floating gardens in the lake. Plantation of *Salix alba* has been taken up along the shoreline, while rice is grown in the surrounding areas. These crop fields also provide foraging areas for birds.

Chatalum Wetland Reserve is an important wetland for both resident and migratory waterfowl. The wetland is particularly important as a wintering area for migratory ducks and geese, and as a breeding area for herons, egrets and rails.

7.3 Management Interventions

The management interventions proposed under integrated Management Action Plan for Chattlum envisages financial implications of **Rs. 2.77 Crores** to be phased in five year period. The important interventions under the plan includes following:

I) Land and Water Resource Management

a) Survey & DemarcationRs 0.62 Crores

The survey and digital delineation has been completed jointly with Revenue Department and Demarcation Forest Division. The Process of fixing **50** Number of specially designed cement concrete boundary demarcation pillars will be completed during the first two years of implementation. The Demarcation shall however be further consolidated by way of closing the peripheries by way of Chain-link fencing, Barbed wire fencing and Bio fencing as per site specific conditions. The Embankments which determine the boundary of the lake shall be strengthened by way of raising and consolidation.

b) Water Management: -

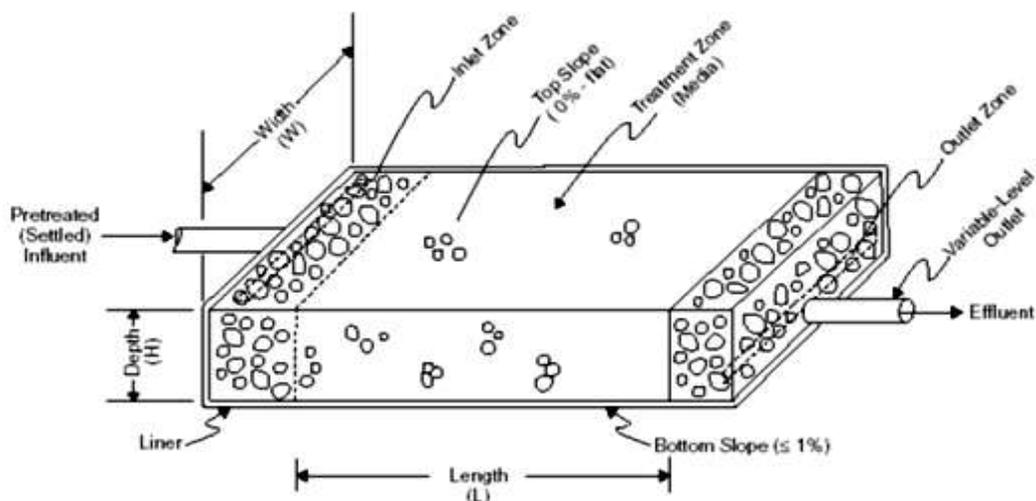
For any wetland to thrive and get rejuvenated adequate water level is important. To regulate and manage the desired water in Chattlum, following management interventions are proposed in the five-year plan.

i) Water Quality Improvement:-

To monitor the health and pulse of the wetland, the physio chemical analysis of water in the wetland shall be got conducted through J&K Pollution Control Committee on regular and on sustained basis therefore, no budget has been envisaged for this

activity. However, community based solid waste management will involve regular cleanliness drives in the wetland as well as in the adjoining villages to ensure clean surroundings and healthy wetland system. **Rs.0.05 Crore** has been envisaged under this activity for five years for conducting **100** such drives on regular intervals. Under this activity installation and Management of **30** Dust Bins in and around the wetland has been envisaged.

In order to control diffused pollution through wetland technology construction of artificial wetlands has been envisaged in the peripheral village zones. These will act as biofilters to address the leaching of any sewage, sewerage and any kitchen based liquid waste. This activity will involve **Rs.0.20 Crores** and **2 Ha** area. The cross-section design of constructed Wetland compartment is given as under:



II) Biodiversity Conservation: -

a) Water bird Conservation including Inventorization and assessment:

Various surveys and studies are proposed to be carried out for inventorization and assessment of waterbird diversity like species wise estimates of waterbird populations assessment, key biodiversity assessment, Human activities and their impacts, Migration studies (bird banding, satellite tracking). The surveys and studies shall be undertaken with the help of various organizations working in the field with support and coordination by the Wildlife Department. An amount of **Rs.0.025** Crore has been earmarked under this activity for five years.

b) Habitat Restoration and Management of Aquatic vegetation: -

During the plan period, the Department of Wildlife Protection (J&K) will work on to eradicate the excessive reeds and floating vegetation on controlled basis in all seasons except winters. This will be done to prevent excessive proliferation and simultaneous enhancement of water spread area for arrival of migratory water birds. Peat extractions will maximize open water spaces. Managing floating vegetation will also be undertaken during the plan period. Managing and maintaining navigational channels, making of clear pools, Fixing of Bird Perches and providing of food supplement during the lean periods will be undertaken under this component. **Rs. 0.31** Crores covering **16 ha** has been proposed to be earmarked under this activity for five years.

c) Control of Poaching:-

The large congregation of migratory birds in the wetlands of Kashmir in general and that Chattlum in particular invite illegal poaching at a very large scale especially when these migratory birds fly from one wetland to other or settle in the adjoining paddy field for feeding. The poachers are equipped with modern gears like dummy ducks, duck calls, motorised mojos, and sophisticated fire arms to invite the attention of the migratory birds and then shoot at them killing large number of these migratory birds. The enforcement in place is trying its best to get in control of this menace by seizing large number of fire arms and booking the culprits under the relevant laws, however, not much a success has been achieved in this regard. Shortage of manpower and required amenities need to be addressed during the plan period. The community support to form village level committees shall be focused at in order to achieve the best results. **Rs. 0.065** Crores has been proposed for this activity during the plan period for strengthening protection, setting up of temporary anti-poaching camps, informers, village level committees, staff amenities and incentives.

d) Research and Survey:-

Information on water birds and their habitats is collected mainly by the Wildlife Department, and other research organisations. The Wildlife Department has undertaken various water bird monitoring programmes at Chattlum over the last few decades. The information on water birds though patchy, is useful to provide some information on species diversity, seasonality and abundance. The University of Kashmir,

SKUAST-K and other organisations have undertaken several studies of the breeding and feeding habits of different resident and seasonal migrant waterbird species. However, detailed assessment of current waterbird species composition and abundance and their relationship to the different habitat types in the wetland will be undertaken during the plan period.

e) Capacity building

Capacity building is critical to the successful management of waterbirds and the habitats. This can be achieved through conducting periodic training programmes and infrastructure development for monitoring. Expertise and opportunities for training in waterbird assessment, monitoring, research and migration study exist within the country, with institutions such as Bombay Natural History Society (BNHS) - Mumbai, Salim Ali Centre for Ornithology and Natural History (SACON) - Coimbatore, Wetlands International - New Delhi, and Wildlife Institute of India (WII) - Dehra Dun. Periodic training programmes will be held for various target groups including field staff managers and decision makers, local NGOs and community groups. The training will be provided on methods to collect information on approaches to bird census, analysis of information developing monitoring protocols and interpretation of data for use at various levels. A cadre of trained technical staff shall be developed for trend analysis of waterbird populations in relation to habitat features. Specific training programmes shall be developed in collaboration with BNHS for assessment of bird migration and understanding the constraints in the pathways. Surveillance of water

birds for avian influenza and other zoonotic diseases shall employ scientific methodology and techniques as promoted by FAO.

Rs.0.04 Crore has been proposed for this activity during the five-year plan period.

III) Education, Awareness and Eco-Tourism Development: -

Development of sound ecotourism infrastructure need to be carefully established to ensure minimal impacts on the environment while at the same time maximizing opportunities for the visitors to enjoy the Chattlum wetland and its biodiversity.

Development of recreational facilities

At present there are no facilities and these need to be developed taking into consideration the environmental factors and tourist carrying capacity of different areas. Following activities are therefore, proposed:

a) Board Walk and Nature Trails:-

The Boardwalks and nature trails will give the visitors a good chance to breathe in the fresh air and enjoy the peaceful environment of Chattlum. The walking trail along the wetland has to be constructed well above the highest flood level of the wetland. Gates at the entry points will control these boardwalks and only serious nature lovers and birdwatchers will be allowed to access.

Guided tours will be arranged across the boardwalks in the wetland areas. Well-trained guides shall escort the visitors who shall be

adequately briefed about the dos and don'ts while in an ecologically sensitive area.

b) Guided boat rides:-

Guided boat rides shall be arranged for nature lovers to help them explore the various aspects of Chattlum. Local community groups shall be trained to take up interpretation activities.

c) Watch Towers

For the benefit of day visitors as well as organized groups, school/college students, **3** watchtowers are proposed. The locations of the watchtowers will be selected keeping in view the sensitivity as well as the accessibility to enjoy bird watching and photography besides keep watch and ward as well. Construction of these towers could be taken up during the low water season. Provision of equipment such as binoculars and spotting scopes for use of school/college groups and serious bird watchers shall be made by the Department. Rs. **0.45** Crores has been proposed for these activities during the plan period.

d) Publicity and Awareness: -

An amount of **Rs. 0.045** Crore is proposed under this activity for five years to conduct and promote awareness rallies padyatras, Nature camps, organising world wetland day and other Environment related days. Making of documentaries, newsletters, brochures, pamphlets, posters and other publications etc are also proposed under this component.

iv) Sustainable Resource Development and Livelihood Improvement: -

Department of Wildlife Protection envisages convergence and application of major Government run programmes and schemes with better understanding and strong coordination mechanism with various sectoral Officers and Departments like Fisheries, Agriculture, Industries and commerce, Handicrafts, Entrepreneurship development, Craft Development Institute, Tourism and others.

To adopt seminar recommendations of one day consultative seminar on “Useful utilization of Wetland Biomass” and start pilot projects on establishing micro-enterprises with local fringe communities using wetland biomass. **Rs.0.02 crore** has been proposed under this activity during the plan period.

v) Institutional Development: -

Conscious about the fact that the wetlands are very important ecosystems and services rendered by them are unparalleled Government of Jammu and Kashmir has already established a separate Wetland Division under the Department of Wildlife Protection to manage and protect the notified wetlands in Kashmir region. The existing institution in place is implementing various programmes approved under various sectors to restore and rejuvenate Chattlum on scientific lines. However, the institution in place needs to be strengthened and developed on modern lines to cope up with the complex challenges and the issues faced by the Chattlum. These are:

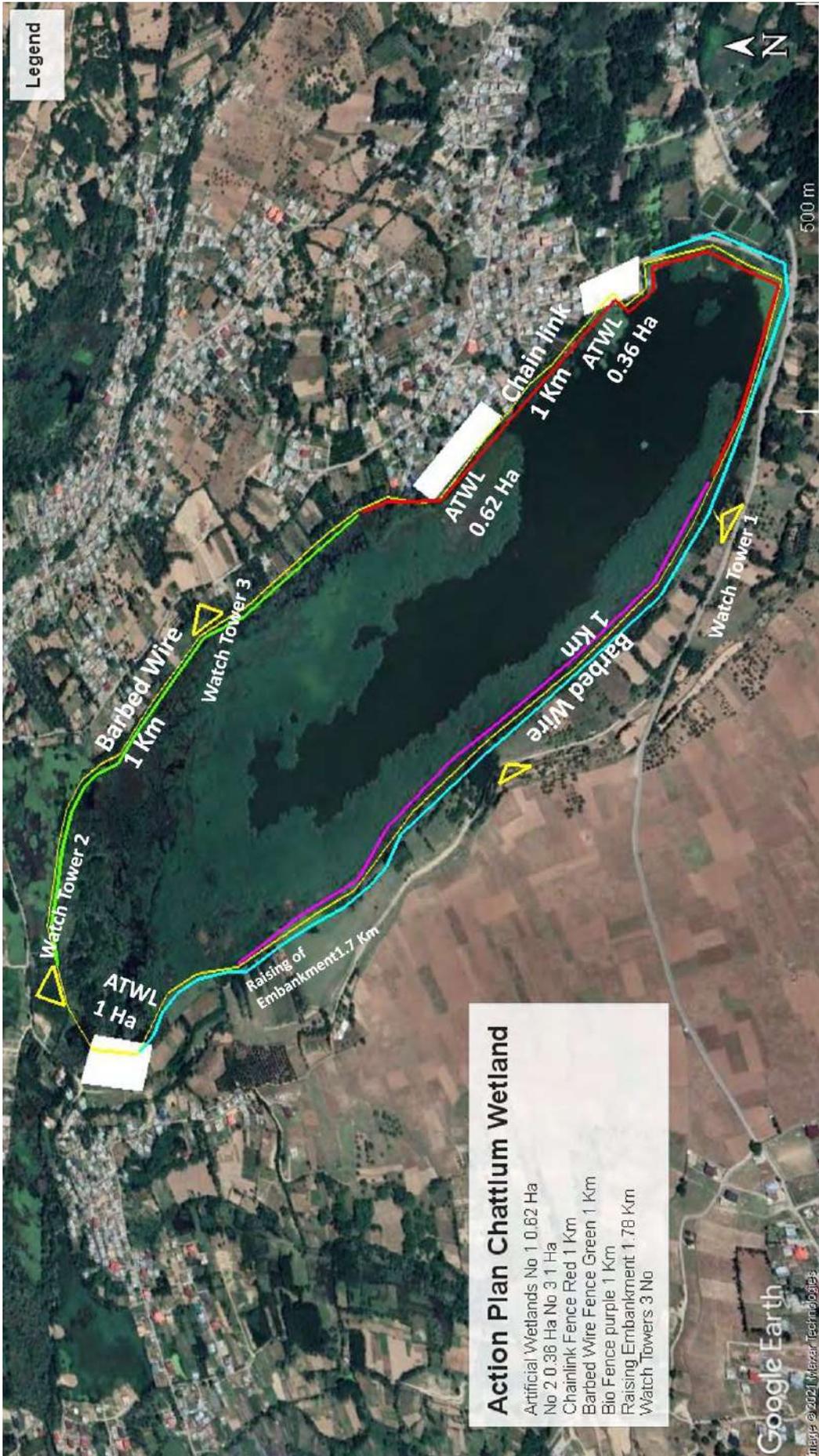
vi) Infrastructure and Equipment Augmentation:-

Under the activity it is also envisaged to procure important equipment and tools to facilitate management utilization for better

scientific results. It will include Pontoons, spotting scopes, motorized driven boats and Wooden boats etc. Under this component, **Rs. 0.2 Crore** are proposed.

b) Monitoring and Evaluation: -

Monitoring the effectiveness of management action plan implementation is essential to assess the effectiveness of implementation. A third-party monitoring and evaluation shall be got conducted by reputed agency on EOI basis. In order to improve upon the efficiency during the implementation period it is proposed to procure 1 patrolling Motor cycle during the plan period including some unforeseen and miscellaneous contingencies. **Rs.0.055 Crore** is proposed under this component.





Legend

Wetland Reserve

**Chattlum
Habitat
Improvement**

H1 08 Ha
H2 05 Ha
H3 03 Ha

Google Earth

Image © 2021 Maxar Technologies

600 m



Integrated Action Plan - Year wise Physical and Financial Phasing 2022-27
Chattlum Wetland Conservtion Reserve

Component and Activities		RATE	UNIT	Year 1						Year 2		Year 3		Year 4		Year 5		TOTAL CHATTLUM	
				Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Land and Water Resource Management																		
1.1	Survey and Demarcation																		
	i) Boundary demarcation	RS 7000	NOS	25	1.75	25	1.75	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	50	0.035
	ii) Fencing Chain Link	40 LAKH	KM	0	0.00	0.5	20.00	0	20.00	0	0.00	0	0.00	0	0.00	0	0.00	1	0.4
	iii) Barbed wire fencing	7 LAKH	KM	0.5	3.50	0.5	3.50	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	0.07
	iv) Bio fencing	Rs.12.82	No of plants	500	0.07	500	0.07	1000	0.13	1000	0.13	500	0.07	500	0.07	3000	0.005	0.005	
	Embankment along peripheries	Rs.280	CUM	1000	2.80	1000	2.80	1000	2.80	1000	2.80	1000	2.80	0	0.00	4000	0.11	0.11	
	Total Survey and Demarcation				8.12		28.12		22.93		2.87		0.07				0.62		
1.2	Water Management																		
A)	Enhancing water holding capacity																		
	Removal of Willow / Poplar Plantations	Auction Based	Ha	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.00	0	0.00	0
	a) (Miscellaneous Charges Only)																		
	b) Selective dredging of silted areas	Auction Based	CUM	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0
	i) Willow / Poplar plantation cleared areas	Auction Based	CUM	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0
	ii) Channels Water ways	Auction Based	CUM	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0
	iii) Regulatory Gates	APE	No	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0
	iv) Construction and Maintenance of Settling Basins	20 Lakh	Hac	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0
	v) Diversion of Flood Channel	10 Lakh	KM	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0
	Demolition of Temp Cross Sectional Embankments to evict encroachments	5 Lakh	KM	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0
	vi) Water Quality Improvement			0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0
	a) Community based solid waste management system	Rs.5000	Drive	10	0.50	10	0.50	10	0.50	10	0.50	10	0.50	10	0.50	50	0.025	50	0.025
	Wetland	Rs.5000	Drive	10	0.50	10	0.50	10	0.50	10	0.50	10	0.50	10	0.50	50	0.025	50	0.025
	Villages																		

	Control of diffused Pollution through Wetland Technology (Artificial Wetlands)	10 Lakh	HAC / No	0.62	6.20	0.36	3.60	1	10.00	0	0.00	0	0.00	2	0.2
	Dust Bins	Rs.5000	NOS	10	0.50	10	0.50	0	0.00	0	0.00	10	0.50	30	0.015
a)	Environment Flow Assessment Studies	LS	LS	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	LS	0
	Total Water Management				7.70		5.10		11.00		1.00		1.50		0.263
	Total Land & Water Management				15.82		33.22		33.93		3.87		1.57		0.884
2	Biodiversity Conservation														
2.1	Wetland Conservation Studies														
a)	Inventorization and assessment Studies														
i	Species wise estimates of waterbird populations	LS	LS	LS	0.50	LS	0.00	LS	0.00	LS	0.00	LS	0.00	LS	0.005
ii	Water regimes assesment	LS	LS	LS	0.00	LS	0.00	LS	0.00	LS	0.00	LS	0.00	LS	0
iii	Key biodiversity assesment	LS	LS	LS	0.00	LS	0.50	LS	0.00	LS	0.00	LS	0.00	LS	0.005
iv	Human activities and their impacts	LS	LS	0	0.00	LS	0.00	LS	0.50	LS	0.00	LS	0.00	LS	0.005
	Migration studies														
v	(bird banding and satellite and VHF tracking)	LS	LS	LS	0.50	LS	0.00	LS	0.00	LS	0.00	LS	0.50	LS	0.01
vi	Avian influenza surveillance	LS	LS	0	0.00	LS	0.00	LS	0.00	LS	0.00	LS	0.00	LS	0
	Total Studies a)				1.00		0.50		0.50		0.00		0.50		0.025
b)	Strengthening existing Wetland network														
	Habitat Restoration and Management of Aquatic Vegetation	1.925 Lakh	HAC	3	5.77	2.5	4.81	2.5	4.81	4	7.70	4	7.70	16	0.31
	Total b)				5.77		4.81		4.81		7.70		7.70		0.31
c)	Control of poaching														
	Establishment / Strengthening of Protection Camps	LS	LS	LS	1.00	LS	1.00	LS	1.00	LS	1.00	LS	1.00	LS	0.05
	Formation of bird protection committees	LS	LS	LS	0.50	LS	0.00	LS	0.50	LS	0.00	LS	0.50	LS	0.015
	Total c)				1.50		1.00		1.50		1.00		1.50		0.065
d)	Research and Survey	LS	LS	LS	0.50	LS	0.50	LS	0.50	LS	0.50	LS	0.50	LS	0.025
e)	Capacity building														
i	Training	LS	LS	LS	0.50	LS	0.00	LS	0.50	LS	0.00	LS	0.50	LS	0.015
ii	Workshops Seminars Visits and Tours	NOS	NOS	LS	0.50	LS	0.50	LS	0.50	LS	0.50	LS	0.50	LS	0.025
	Total e)				1.00		0.50		1.00		0.50		1.00		0.04
	Total Biodiversity Conservation				9.77		7.31		8.31		9.70		11.20		0.46
3	Education Awareness and Ecotourism Development														
3.1	Development of recreational facilities														
i	Inf Board Walk and Nature Trails	LS	LS	LS	2.00	LS	2.00	LS	3.00	LS	1.00	LS	1.00	LS	0.09
ii	Guided boat rides	LS	LS	LS	0.50	LS	0.50	LS	0.50	LS	0.50	LS	0.50	LS	0.025
iii	Watch Towers	Rs.15Lakh	No	0	0.00	1	15.00	1	15.00	1	15.00	0	0.00	3	0.45

**FASHKOORI
WETLAND
CONSERVATION
RESERVE**

8. Fashkoori Wetland Conservation Reserve

8.1 Brief Description: -

Fashkoori (Fushkoori) Wetland is situated in Pulwama District, very close to Pampore Town. It is spread over an area of 14 Ha and lies between 34° 1.022'N 74° 55.274'E and 34° 0.592'N 74° 55.319'E.

8.2 Flora & Fauna:-

This Wetland receives large congregations of Waterfowl during winters besides sizeable number of summer migrants and resident birds inhabit this wetland. The most dominant waterfowl families in Fashkoori Wetland are Anatidae followed by Ardeidae and Rallidae. The Wetland act as a satellite refuge for local migration patterns from adjoining other Pampore wetlands. Mallards have been recorded to breed in this wetland as tall patches of Typha provides a good and suitable condition for the duck to breed.

8.3 Threats and Challenges: -

There is issue of sewerage disposal from the adjoining township. Solid waste dumping in and around is also reported. Being adjoining to Pampore town, threat of encroachment also looms.

During harsh winter months when Icy period (Chillaikalan) hits the Kashmir Valley. Fashkoori Wetland usually freezes making the habitat unfavourable for birds to settle. This invites attention of the management and Department of Wildlife Protection breaks ice and create pools and arrange supplementary feed in the shape of the grains for the migratory birds.

8.4 Management Interventions

The management interventions proposed under integrated Management Action Plan for Fashkooi envisages financial implications of **Rs. 1.36 Crores** to be phased in five-year period. The important interventions under the plan includes following:

I) Land and Water Resource Management

a) Survey & DemarcationRs 0.56 Crores

The survey and digital delineation has been completed jointly with Revenue Department and Demarcation Forest Division. The Process of fixing **40 Number** of specially designed cement concrete boundary demarcation pillars will be completed during the first two years of implementation. The Demarcation shall however be further consolidated by way of closing the peripheries by way of Chain-link fencing, Barbed wire fencing and Bio fencing as per site specific conditions. The Embankments which determine the boundary of the lake shall be strengthened by way of raising and consolidation.

b) Water Management: -

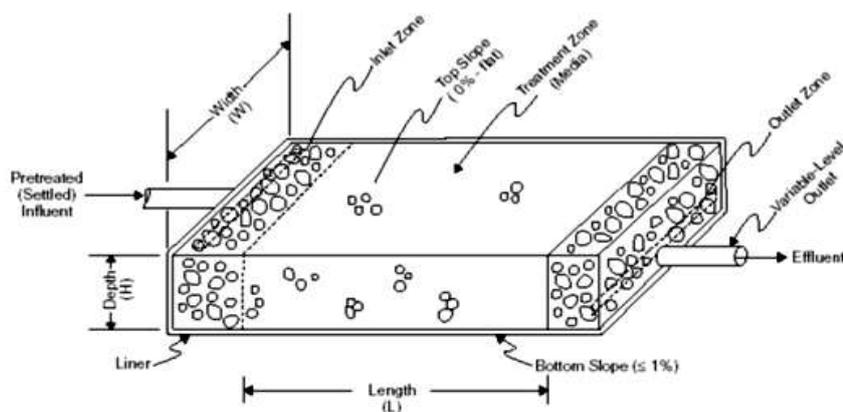
For any wetland to thrive and get rejuvenated adequate water level is important. To regulate and manage the desired water in Fashkooi, following management interventions are proposed in the five-year plan.

i) Water Quality Improvement: -

To monitor the health and pulse of the wetland, the physio chemical analysis of water in the wetland shall be got conducted through J&K Pollution Control Committee on regular and on sustained basis therefore, no budget has been envisaged for this

activity. However, community based solid waste management will involve regular cleanliness drives in the wetland as well as in the adjoining villages to ensure clean surroundings and healthy wetland system. **Rs.0.05 Crore** has been envisaged under this activity for five years for conducting **100** such drives on regular intervals. Under this activity installation and Management of **30** Dust Bins in and around the wetland has been envisaged. Further in order to arrive at proper abstraction and use of water from and within the wetland for Human and ecological use Environment Flow Studies shall be awarded to the reputed organization on EOI basis to work for arriving at water budget in the wetland. For this activity **Rs.0.01** crores has been earmarked in the plan.

In order to control diffused pollution through wetland technology construction of artificial wetlands has been envisaged in the peripheral village zones. These will act as biofilters to address the leaching of any sewage, sewerage and any kitchen based liquid waste. This activity will involve **Rs.0.23 Crores** and **2.2 Ha** area. The cross-section design of constructed Wetland compartment is give as under:



II) Biodiversity Conservation: -

a) Waterbird Conservation including Inventorization and assessment:

Various surveys and studies are proposed to be carried out for inventorization and assessment of waterbird diversity like species wise estimates of waterbird populations assessment, key biodiversity assessment, Human activities and their impacts, Migration studies (bird banding, satellite tracking) and avian influenza surveillance. The surveys and studies shall be undertaken with the help of various organizations working in the field with support and coordination by the Wildlife Department. An amount of **Rs.0.03** Crore has been earmarked under this activity for five years.

b) Habitat Restoration and Management of Aquatic vegetation: -

During the plan period, the Department of Wildlife Protection (J&K) will work on to eradicate the excessive reeds and floating vegetation on controlled basis in all seasons except winters. This will be done to prevent excessive proliferation and simultaneous enhancement of water spread area for arrival of migratory water birds. Peat extractions will maximize open water spaces. Managing floating vegetation will also be undertaken during the plan period. Managing and maintaining navigational channels, making of clear pools, Fixing of Bird Perches and providing of food supplement during the lean periods will be undertaken under this component. **Rs. 0.06** Crores covering **3 ha** has been proposed to be earmarked under this activity for five years.

c) Control of Poaching: -

The large congregation of migratory birds in the wetlands of Kashmir in general and that Fashkhoori in particular invite illegal poaching at a very large scale especially when these migratory birds fly from one wetland to other or settle in the adjoining paddy field for feeding. The poachers are equipped with modern gears like dummy ducks, duck calls, motorised mojos, and sophisticated fire arms to invite the attention of the migratory birds and then shoot at them killing large number of these migratory birds. The enforcement in place is trying its best to get in control of this menace by seizing large number of fire arms and booking the culprits under the relevant laws, however, not much a success has been achieved in this regard. Shortage of manpower and required amenities need to be addressed during the plan period. The community support to form village level committees shall be focused at in order to achieve the best results. **Rs. 0.065** Crores has been proposed for this activity during the plan period for strengthening protection, setting up of temporary anti-poaching camps, informers, village level committees, staff amenities and incentives.

d) Research and Survey: -

Information on water birds and their habitats is collected mainly by the Wildlife Department, and other research organisations. The Wildlife Department has undertaken various water bird monitoring programmes at Fashkooori over the last few decades. The information on waterbirds though patchy, is useful to provide some information on species

diversity, seasonality and abundance. The University of Kashmir, SKUAST-K and other organisations have undertaken several studies of the breeding and feeding habits of different resident and seasonal migrant waterbird species. However, detailed assessment of current waterbird species composition and abundance and their relationship to the different habitat types in the wetland will be undertaken during the plan period.

e) Capacity building

Capacity building is critical to the successful management of waterbirds and the habitats. This can be achieved through conducting periodic training programmes and infrastructure development for monitoring. Expertise and opportunities for training in waterbird assessment, monitoring, research and migration study exist within the country, with institutions such as Bombay Natural History Society (BNHS) - Mumbai, Salim Ali Centre for Ornithology and Natural History (SACON) - Coimbatore, Wetlands International - New Delhi, and Wildlife Institute of India (WII) - Dehra Dun. Periodic training programmes will be held for various target groups including field staff managers and decision makers, local NGOs and community groups. The training will be provided on methods to collect information on approaches to bird census, analysis of information developing monitoring protocols and interpretation of data for use at various levels. A cadre of trained technical staff shall be developed for trend analysis of waterbird populations in relation to habitat features. Specific training programmes shall be developed in

collaboration with BNHS for assessment of bird migration and understanding the constraints in the pathways. Surveillance of waterbirds for avian influenza and other zoonotic diseases shall employ scientific methodology and techniques as promoted by FAO.

Rs.0.05 Crore has been proposed for this activity during the five-year plan period.

III) Education, Awareness and Eco-Tourism Development:-

Development of sound ecotourism infrastructure need to be carefully established to ensure minimal impacts on the environment while at the same time maximizing opportunities for the visitors to enjoy the Fashkoori wetland and its biodiversity.

Development of recreational facilities

At present there are no facilities and these need to be developed taking into consideration the environmental factors and tourist carrying capacity of different areas. Following activities are therefore, proposed:

a) Board Walk and Nature Trails:-

The Boardwalks and nature trails will give the visitors a good chance to breathe in the fresh air and enjoy the peaceful environment of Fashkoori. The walking trail along the wetland has to be constructed well above the highest flood level of the wetland. Gates at the entry points will control these boardwalks and only serious nature lovers and birdwatchers will be allowed to access.

Guided tours will be arranged across the boardwalks in the wetland areas. Well-trained guides shall escort the visitors who shall be adequately briefed about the dos and don'ts while in an ecologically sensitive area.

b) Guided boat rides: -

Guided boat rides shall be arranged for nature lovers to help them explore the various aspects of Fashkooori. Local community groups shall be trained to take up interpretation activities.

c) Watch Towers

For the benefit of day visitors as well as organized groups, school/college students, **3** watchtowers are proposed. The locations of the watchtowers will be selected keeping in view the sensitivity as well as the accessibility to enjoy bird watching and photography besides keep watch and ward as well. Construction of these towers could be taken up during the low water season. Provision of equipment such as binoculars and spotting scopes for use of school/college groups and serious bird watchers shall be made by the Department. **Rs. 0.45 Crores** has been proposed for these activities during the plan period.

d) Publicity and Awareness: -

An amount of **Rs. 0.066 Crore** is proposed under this activity for five years to conduct and promote awareness rallies padyatras, Nature camps, organising world wetland day and other Environment related days. Making of documentaries, newsletters, brochures, pamphlets,

posters, digital signages, models etc are also proposed under this component

iv) Institutional Development: -

Conscious about the fact that the wetlands are very important ecosystems and services rendered by them are unparalleled Government of Jammu and Kashmir has already established a separate Wetland Division under the Department of Wildlife Protection to manage and protect the notified wetlands in Kashmir region. The existing institution in place is implementing various programmes approved under various sectors to restore and rejuvenate Fashkooori on scientific lines. However, the institution in place needs to be strengthened and developed on modern lines to cope up with the complex challenges and the issues faced by the Fashkooori. These are:

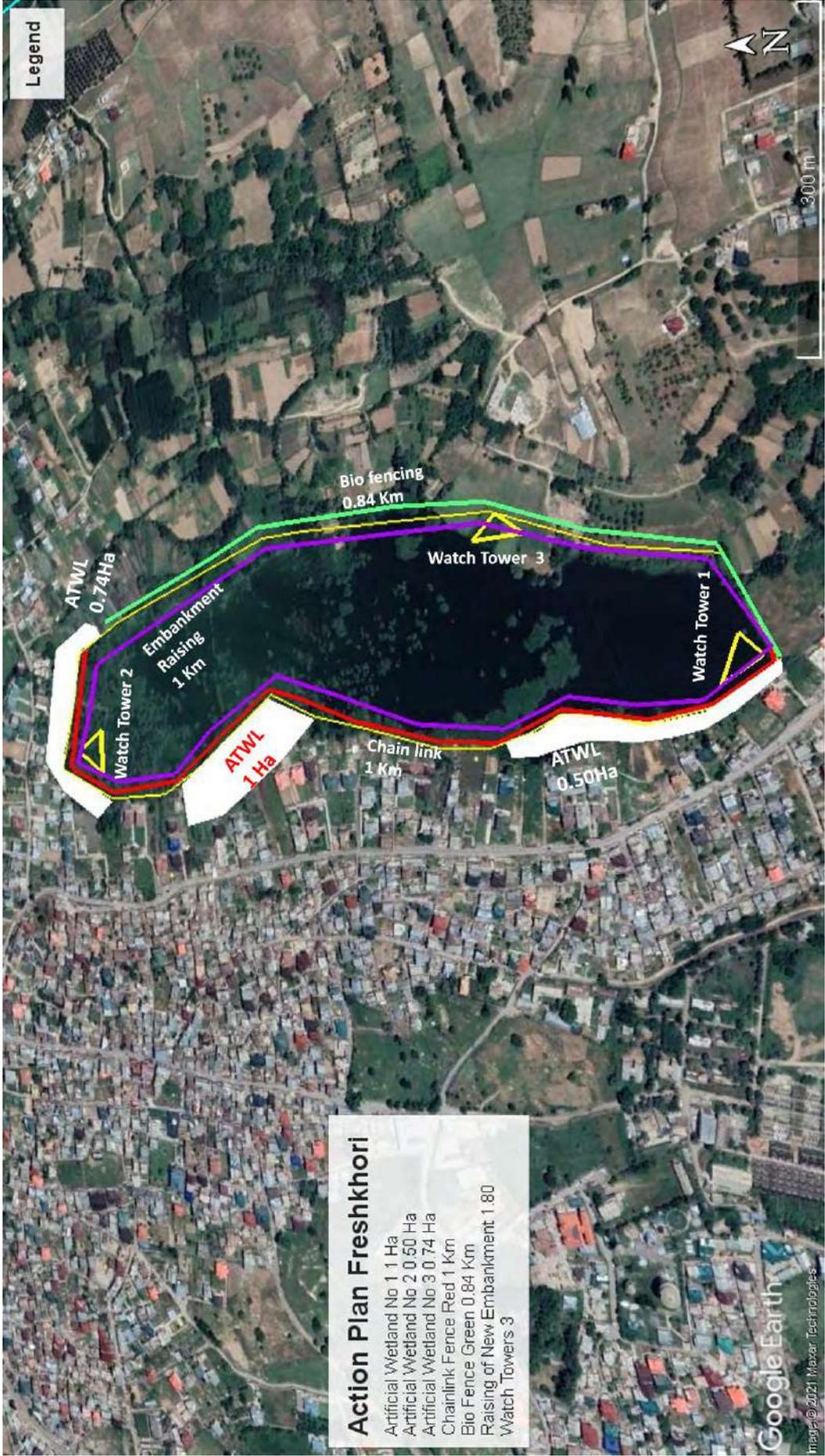
a) Infrastructure and Equipment Augmentation: -

Under the activity it is also envisaged to procure important equipment and tools to facilitate management utilization for better scientific results. It will include Pontoons, spotting scopes, motorized driven boats and Wooden boats etc. Under this component, **Rs. 0.155 Crore** are proposed.

b) Monitoring and Evaluation: -

Monitoring the effectiveness of management action plan implementation is essential to assess the effectiveness of implementation. A third-party monitoring and evaluation shall be got conducted by reputed agency on EOI basis. In order to improve upon

the efficiency during the implementation period it is proposed to procure 1 bike during the plan period including some unforeseen and miscellaneous contingencies. **Rs. 0.055 Crore** is proposed under this component.



Legend



Bio fencing
0.84 Km

Watch Tower 3

ATWL
0.74Ha

Embankment
Raising
1 Km

Watch Tower 1

Watch Tower 2

ATWL
1 Ha

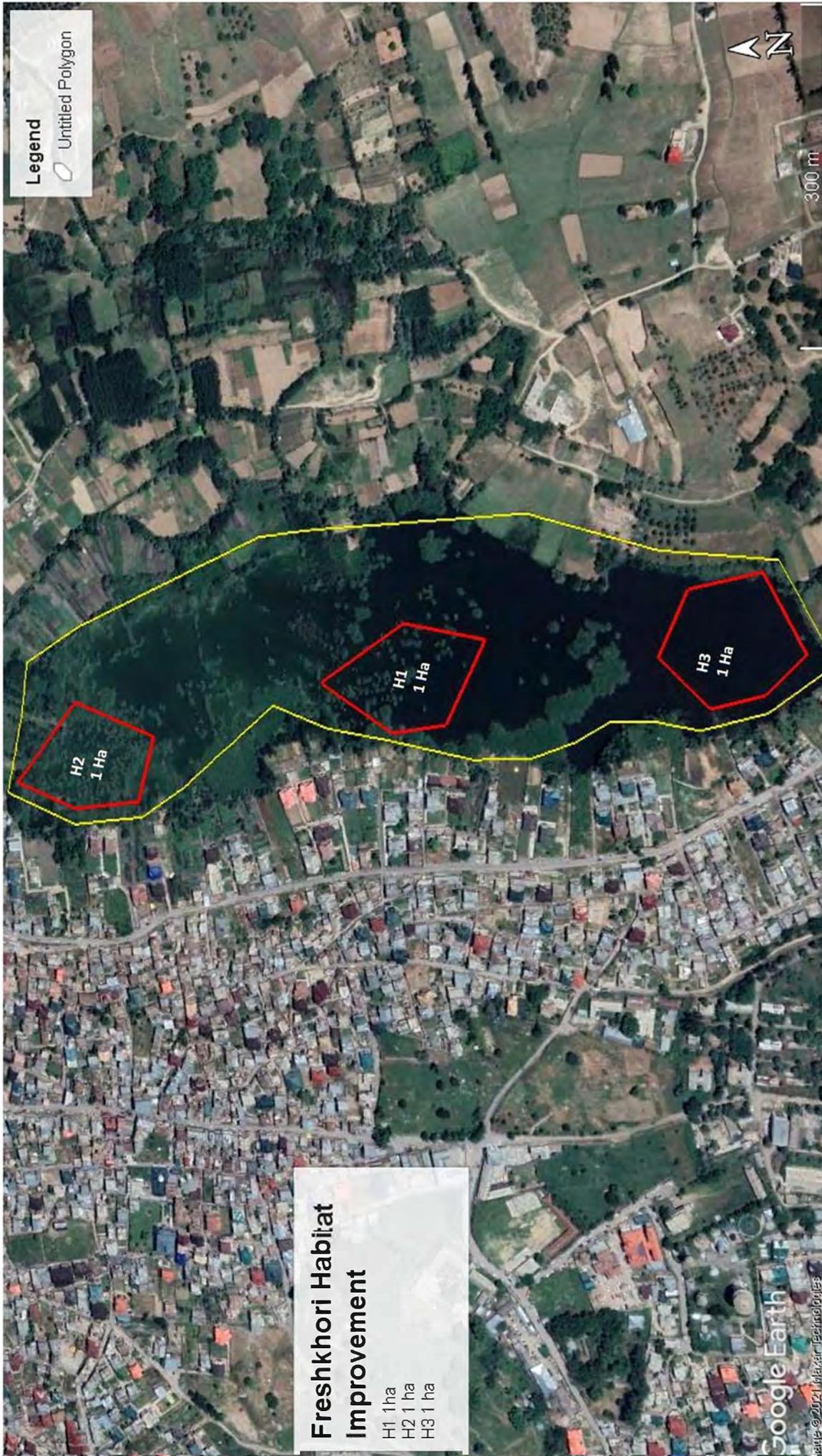
Chain link
1 Km

ATWL
0.50Ha

Action Plan Freshkhori
 Artificial Wetland No 1 1 Ha
 Artificial Wetland No 2 0.50 Ha
 Artificial Wetland No 3 0.74 Ha
 Chainlink Fence Red 1 Km
 Bio Fence Green 0.84 Km
 Raising of New Embankment 1.80
 Watch Towers 3

Google Earth

Image © 2021 Maxar Technologies



Integrated Action Plan - Year wise Physical and Financial Phasing 2022-27
Fashkoori Wetland Conservtion Reserve

Component and Activities		RATE	UNIT	AMT IN LAKH						IN CR					
				Year 1		Year 2		Year 3		Year 4		Year 5		TOTAL FUSHKOORI	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	PHY	FIN	
1	Land and Water Resource Management														
1.1	Survey and Demarcation														
	i) Boundary demarcation	RS 7000	NOS	20	1.40	20	1.40	0	0.00	0	0.00	0	0.00	40	0.028
	ii) Fencing Chain Link	40 LAKH	KM	0.5	20.00	0	0.00	0.5	20.00	0	0.00	0	0.00	1	0.4
	iii) Barbed wire fencing	7 LAKH	KM	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.00	0
	iv) Bio fencing	Rs.12.82	No of plants	5000	0.64	5000	0.64	5000	0.64	0	0.00	0	0.00	15000	0.02
	Embankment along peripheries	Rs.280	CUM	1000	2.80	1000	2.80	1000	2.80	1000	2.80	0	0.00	4000	0.112
	Total Survey and Demarcation				24.84		4.84		23.44		2.80		0.00		0.56
1.2	Water Management														
A)	Enhancing water holding capacity														
	Removal of Willow / Poplar Plantations	Auction Based	Ha	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0
	a) (Miscellaneous Charges Only)														
	b) Selective dredging of silted areas	Auction Based	Ha	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0
	i) Willow / Poplar plantation cleared areas	Auction Based	Ha	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0
	ii) Channels Water ways	Auction Based	CUM	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0
	iii) Regulatory Gates	APE	No	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0
	iv) Construction and Maintenance of Settling Basins	20 Lakh	Hac	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0
	v) Diversion of Flood Channel	10 Lakh	KM	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0
	vi) Demolition of Temp Cross Sectional Embankments to evict encroachments	5 Lakh	KM	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0
B)	Water Quality Improvement														
	a) Community based solid waste management system	Rs.5000	Drive	10	0.50	10	0.50	10	0.50	10	0.50	10	0.50	50	0.025
	Wetland														
	Villages	Rs.5000	Drive	10	0.50	10	0.50	10	0.50	10	0.50	10	0.50	50	0.025

	Control of diffused Pollution through Wetland Technology (Artificial Wetlands)	10 Lakh	HAC/No	0.5	5.00	0.5	5.00	0.5	5.00	0.5	5.00	0.24	2.50	2.2	0.23
	Dust Bins	Rs.5000	NOS	10	0.50	0	0.50	0	0.50	0	0.50	10	0.50	30	0.015
a)	Environment Flow Assessment Studies	LS	LS	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	LS	0
	Total Water Management				6.50		6.50		6.50		6.50		4.00		0.29
	Total Land & Water Management				31.34		29.94		10.84		8.80		4.00		0.85
2	Biodiversity Conservation														
2.1	Wetland Conservation Studies														
a)	Inventorization and assessment Studies														
i	Species wise estimates of waterbird populations	LS	LS	LS	0.25	LS	0.25	LS	0.25	LS	0.25	LS	0.00	LS	0.005
ii	Water regimes assesment	LS	LS	LS	0.00	LS	0.00	LS	0.00	LS	0.00	LS	0.00	LS	0
iii	Key biodiversity assesment	LS	LS	LS	0.20	LS	0.20	LS	0.20	LS	0.20	LS	0.00	LS	0.006
iv	Human activities and their impacts	LS	LS	0	0.00	LS	0.00	LS	0.00	LS	0.00	LS	0.00	LS	0
	Migration studies														
v	(bird banding and satellite and VHF tracking)	LS	LS	LS	0.25	LS	0.25	LS	0.25	LS	0.25	LS	0.25	LS	0.012
vi	Avian influenza surveillance	LS	LS	0	0.00	LS	0.00	LS	0.50	LS	0.50	LS	0.00	LS	0.005
	Total Studies a)				0.70		1.20		0.45		0.25		0.25		0.03
b)	Strengthening existing Wetland network														
	Habitat Restoration and Management of Aquatic Vegetation	1.925 Lakh	HAC	0.5	0.96	0.5	0.96	0.5	0.96	0.5	0.96	1	1.92	3	0.057
	Total b)				0.96		0.96		0.96		0.96		1.92		0.057
c)	Control of poaching														
	Establishment / Strengthening of Protection Camps	LS	LS	LS	1.00	LS	1.00	LS	1.00	LS	1.00	LS	1.00	LS	0.05
	Formation of bird protection committees	LS	LS	LS	0.50	LS	0.50	LS	0.50	LS	0.50	LS	0.50	LS	0.015
	Total c)				1.50		1.50		1.50		1.50		1.50		0.065
d)	Research and Survey	LS	LS	LS	0.50	LS	0.50	LS	0.50	LS	0.50	LS	0.50	LS	0.015
e)	Capacity building														
i	Training	LS	LS	LS	0.00	LS	0.00	LS	0.00	LS	0.00	LS	0.00	LS	0
ii	Workshops Seminars Visits and Tours	NOS	NOS	LS	1.00	LS	1.00	LS	1.00	LS	1.00	LS	1.00	LS	0.05
	Total e)				1.00		1.00		1.00		1.00		1.00		0.05
	Total Biodiversity Conservation				3.66		5.16		3.21		3.41		5.17		0.22
3	Education Awareness and Ecotourism Development														
3.1	Development of recreational facilities														
i	Inf Board Walk and Nature Trails	LS	LS	LS	0.00	LS	0.00	LS	0.00	LS	0.00	LS	0.00	LS	0
ii	Guided boat rides	LS	LS	LS	0.00	LS	0.00	LS	0.00	LS	0.00	LS	0.00	LS	0
iii	Watch Towers	Rs.15Lakh	No	1	0.00	0	0.00	1	0.00	0	0.00	1	0.00	3	0

**MANIBUGH
WETLAND
CONSERVATION
RESERVE**

9. Manibugh Wetland Conservation Reserve

9.1 Brief Description: -

Manibugh wetland is situated near Pampore town in district Pulwama and lies between 34° 0.111'N 74° 55.812'E & 33° 59.897'N 74° 55.595'E at an altitude 1588 mtr. Spread over an area of 7 Ha

9.2 Fauna:-

Among fauna, birds are considered as most exposed group of vertebrates that are used as trustworthy indicators of ecological health of an ecosystem. Manibugh Wetland is the breeding ground and the meeting point of many birds. The lentic ecosystem of wetland is of great ecological and socio-economic importance as it harbors a diverse collection of waterfowl. Manibugh wetland is providing a good habitat for birds with abundant food, safe place for roosting, nesting and breeding. From the ornithologist point of view, the Pampore Wetlands including Manibugh is a heaven for migratory species of birds, including endemic and near endemic ones. This Wetland is renowned for its beauty and favourite destination for bird watching, has a rich biodiversity and macrophyte richness. Besides, this mentioned inland wetland, there are three more satellite wetlands in its vicinity together they form integrated and complex ecosystem. These satellite wetlands offer refuge to thousands of migratory birds from different parts of the world including Central Asia and China.

A total of (85) species of birds belonging to twenty five (25) families including fifteen (15) species of migratory waterfowl have so far been recorded in Manibugh . These belong to the families of Anatidae,

Rallidae , Laridae, Hirundinidae , Accipitridae , Podicipedidae , Ardeidae, Sturnidae, Motacillidae, Paridae, Muscicapidae, Scolopacidae, Passeridae, Alcedinidae, Phalacro coracidae, Recurviro stridae, Upupidae , Columbidae,

9.3 Threats and Challenges: -

The principal threats to this wetland are siltation and eutrophication due to pollution lading to infestation of weeds.

9.4 Management Interventions

The management interventions proposed under integrated Management Action Plan for Manibugh envisages financial implications of **Rs. 0.94 Crores** to be phased in five-year period. The important interventions under the plan includes following:

I) Land and Water Resource Management

a) Survey & DemarcationRs 0.136 Crores

The survey and digital delineation has been completed jointly with Revenue Department and Demarcation Forest Division. The Process of fixing **50** Number of specially designed cement concrete boundary demarcation pillars will be completed during the first two years of implementation. The Demarcation shall however be further consolidated by way of closing the peripheries by way Bio fencing as per site specific conditions. The embankments which determine the boundary of the wetland shall be strengthened by way of raising and consolidation.

b) Water Management: -

For any wetland to thrive and get rejuvenated adequate water level is important. To regulate and manage the desired water in Manibugh, following management interventions are proposed in the five-year plan.

i) Water Quality Improvement: -

To monitor the health and pulse of the wetland, the physio chemical analysis of water in the wetland shall be got conducted through J&K Pollution Control Committee on regular and on sustained basis therefore, no budget has been envisaged for this activity. However, community based solid waste management will involve regular cleanliness drives in the wetland as well as in the adjoining villages to ensure clean surroundings and healthy wetland system. **Rs.0.05 Crore** has been envisaged under this activity for five years for conducting **100** such drives on regular intervals. Under this activity installation and Management of **30** Dust Bins in and around the wetland has been envisaged. Further in order to arrive at proper abstraction and use of water from and within the wetland for Human and ecological use Environment Flow Studies shall be awarded to the reputed organization on EOI basis to work for arriving at water budget in the wetland.

II) Biodiversity Conservation: -

a) Waterbird Conservation including Inventorization and assessment:

Various surveys and studies are proposed to be carried out for inventorization and assessment of waterbird diversity like species wise

estimates of waterbird populations assessment, key biodiversity assessment, Human activities and their impacts, Migration studies (bird banding, satellite tracking). The surveys and studies shall be undertaken with the help of various organizations working in the field with support and coordination by the Wildlife Department. An amount of **Rs.0.03** Crore has been earmarked under this activity for five years.

b) Habitat Restoration and Management of Aquatic vegetation: -

During the plan period, the Department of Wildlife Protection (J&K) will work on to eradicate the excessive reeds and floating vegetation on controlled basis in all seasons except winters. This will be done to prevent excessive proliferation and simultaneous enhancement of water spread area for arrival of migratory water birds. Peat extractions will maximize open water spaces. Managing floating vegetation will also be undertaken during the plan period. Managing and maintaining navigational channels, making of clear pools, Fixing of Bird Perches and providing of food supplement during the lean periods will be undertaken under this component. **Rs. 0.02** Crores covering **1 ha** has been proposed to be earmarked under this activity for five years.

c) Control of Poaching: -

The large congregation of migratory birds in the wetlands of Kashmir in general and that Manibugh in particular invite illegal poaching at a very large scale especially when these migratory birds fly from one wetland to other or settle in the adjoining paddy field for feeding. The poachers are equipped with modern gears like dummy ducks, duck calls,

motorised mojos, and sophisticated fire arms to invite the attention of the migratory birds and then shoot at them killing large number of these migratory birds. The enforcement in place is trying its best to get in control of this menace by seizing large number of fire arms and booking the culprits under the relevant laws, however, not much a success has been achieved in this regard. Shortage of manpower and required amenities need to be addressed during the plan period. The community support to form village level committees shall be focused at in order to achieve the best results. **Rs. 0.02 Crores** has been proposed for this activity during the plan period for strengthening protection, setting up of temporary anti-poaching camps, informers, village level committees, staff amenities and incentives.

d) Research and Survey:-

Information on waterbirds and their habitats is collected mainly by the Wildlife Department, and other research organisations. The Wildlife Department has undertaken various waterbird monitoring programmes at Manibugh over the last few decades. The information on waterbirds though patchy, is useful to provide some information on species diversity, seasonality and abundance. The University of Kashmir, SKUAST-K and other organisations have undertaken several studies of the breeding and feeding habits of different resident and seasonal migrant waterbird species. However, detailed assessment of current waterbird species composition and abundance and their relationship to the different habitat types in the wetland will be undertaken during the plan period.

e) Capacity building

Capacity building is critical to the successful management of waterbirds and the habitats. This can be achieved through conducting periodic training programmes and infrastructure development for monitoring. Expertise and opportunities for training in waterbird assessment, monitoring, research and migration study exist within the country, with institutions such as Bombay Natural History Society (BNHS) - Mumbai, Salim Ali Centre for Ornithology and Natural History (SACON) - Coimbatore, Wetlands International - New Delhi, and Wildlife Institute of India (WII) - Dehra Dun. Periodic training programmes will be held for various target groups including field staff managers and decision makers, local NGOs and community groups. The training will be provided on methods to collect information on approaches to bird census, analysis of information developing monitoring protocols and interpretation of data for use at various levels. A cadre of trained technical staff shall be developed for trend analysis of waterbird populations in relation to habitat features. Specific training programmes shall be developed in collaboration with BNHS for assessment of bird migration and understanding the constraints in the pathways. Surveillance of waterbirds for avian influenza and other zoonotic diseases shall employ scientific methodology and techniques as promoted by FAO. **Rs.0.02** Crore has been proposed for this activity during the five-year plan period.

III) Education, Awareness and Eco-Tourism Development: -

Development of sound ecotourism infrastructure need to be carefully established to ensure minimal impacts on the environment while at the same time maximizing opportunities for the visitors to enjoy the Manibugh wetland and its biodiversity.

Development of recreational facilities

At present there are no facilities and these need to be developed taking into consideration the environmental factors and tourist carrying capacity of different areas. Following activities are therefore, proposed:

a) Board Walk and Nature Trails:-

The Boardwalks and nature trails will give the visitors a good chance to breathe in the fresh air and enjoy the peaceful environment of Manibugh. The walking trail along the wetland has to be constructed well above the highest flood level of the wetland. Gates at the entry points will control these boardwalks and only serious nature lovers and birdwatchers will be allowed to access.

Guided tours will be arranged across the boardwalks in the wetland areas. Well-trained guides shall escort the visitors who shall be

adequately briefed about the dos and don'ts while in an ecologically sensitive area.

b) Watch Towers:-

For the benefit of day visitors as well as organized groups, school/college students, **2** watchtowers are proposed. The locations of the watchtowers will be selected keeping in view the sensitivity as well as the accessibility to enjoy bird watching and photography besides keep watch and ward as well. Construction of these towers could be taken up during the low water season. Provision of equipment such as binoculars and spotting scopes for use of school/college groups and serious bird watchers shall be made by the Department. **Rs. 0.30 Crores** has been proposed for these activities during the plan period.

c) Publicity and Awareness: -

An amount of **Rs. 0.042 Crore** is proposed under this activity for five years to conduct and promote awareness rallies padyatras, Nature camps, organising world wetland day and other Environment related days. Making of documentaries, newsletters, brochures, pamphlets, posters, digital signages, models etc are also proposed under this component

iv) Institutional Development: -

Conscious about the fact that the wetlands are very important ecosystems and services rendered by them are unparalleled Government of Jammu and Kashmir has already established a separate

Wetland Division under the Department of Wildlife Protection to manage and protect the notified wetlands in Kashmir region. The existing institution in place is implementing various programmes approved under various sectors to restore and rejuvenate Manibugh on scientific lines. However, the institution in place needs to be strengthened and developed on modern lines to cope up with the complex challenges and the issues faced by the Manibugh. These are:

a) Infrastructure and Equipment Augmentation: -

Under the activity it is also envisaged to procure important equipment and tools to facilitate management utilization for better scientific results. It will include pontoons, spotting scopes, motorized driven boats and wooden boats etc. Under this component, **Rs. 0.22 Crore** are proposed.

b) Monitoring and Evaluation:-

Monitoring the effectiveness of management action plan implementation is essential to assess the effectiveness of implementation. A third-party monitoring and evaluation shall be got conducted by reputed agency on EOI basis. Under this component, financial implications of **Rs.0.055 Crore** is proposed which include unforeseen and miscellaneous contingencies and purchase of one Motor Bike as well.



Legend

Feature 1



100 m

H1
0.5 Ha

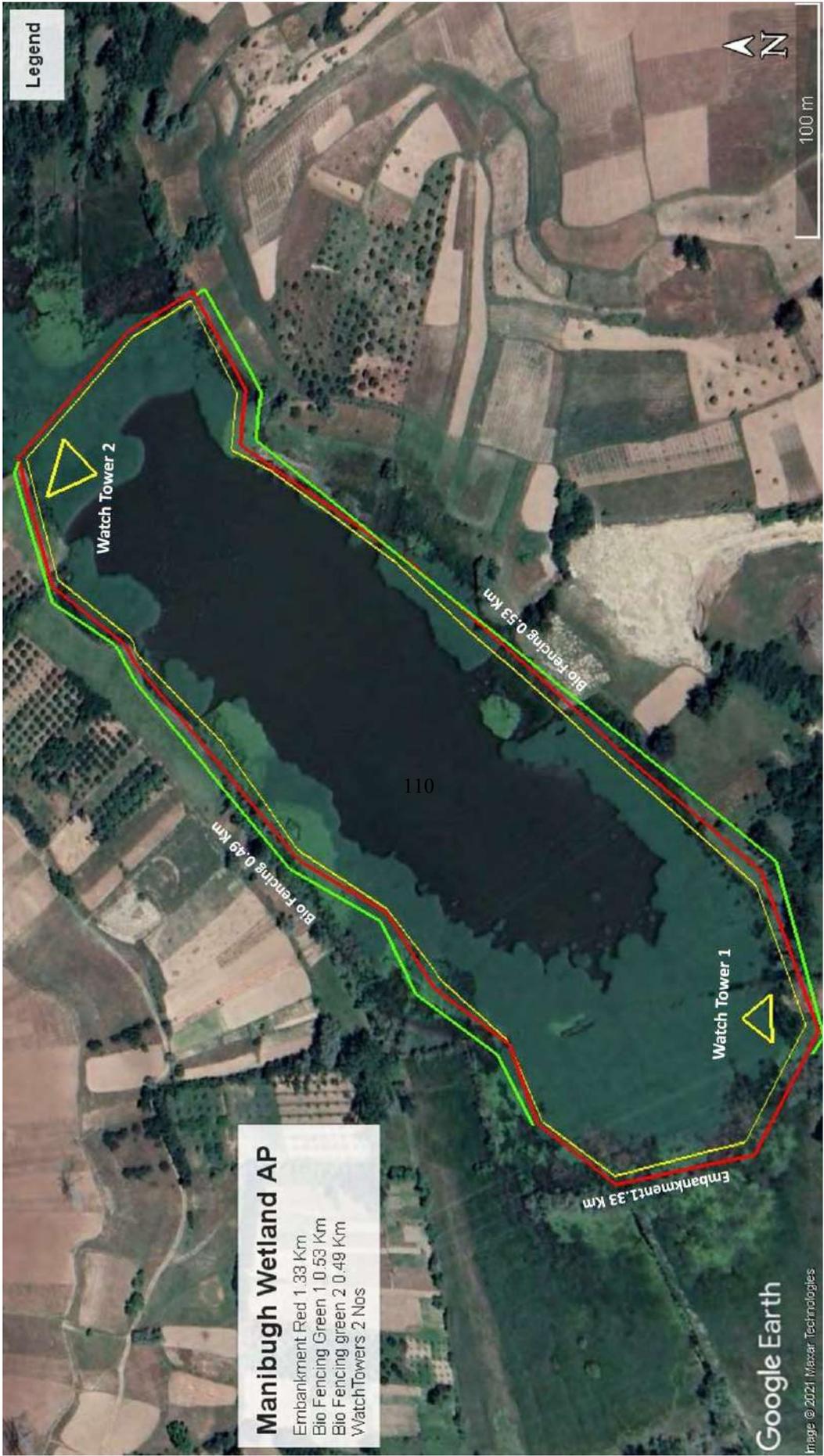
H2
0.5 Ha

Manibugh Habitat Improvement

H1 0.5 Ha
H2 0.5 Ha

Google Earth

Image © 2021 Maxar Technologies



Integrated Action Plan - Year wise Physical and Financial Phasing 2022-27
Manibugh Wetland Conservtion Reserve

Component and Activities	RATE	UNIT	AMT IN LAKH												TOTAL MANIBUGH			
			Year 1		Year 2		Year 3		Year 4		Year 5		Phy	Fin				
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin						
1	Land and Water Resource Management																	
1.1	Survey and Demarcation																	
	i) Boundary demarcation	RS 7000	NOS	25	1.75	25	1.75	0	0.00	0	0.00	0	0.00	0	0.00	50	0.035	
	ii) Fencing Chain Link	40 LAKH	KM	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.00	0	
	iii) Barbed wire fencing	7 LAKH	KM	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.00	0	
	iv) Bio fencing	Rs.12.82	No of plants	500	0.07	500	0.07	500	0.07	500	0.07	500	0.07	500	0.07	2500	0.0035	
	Embankment along peripheries	Rs.280	CUM	1000	2.80	1000	2.80	1000	2.80	1000	2.80	1000	2.80	1000	2.80	3500	0.1	
	Total Survey and Demarcation				4.62				2.87				1.47				0.136	
1.2	Water Management																	
A)	Enhancing water holding capacity																	
	Removal of Willow / Poplar Plantations	Auction Based																
	a) (Miscellaneous Charges Only)		Ha	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.00	0	
	b) Selective dredging of silted areas	Auction Based	CUM	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0	
	i) Willow / Poplar plantation cleared areas	Auction Based	CUM	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0	
	ii) Channels Water ways	Auction Based	CUM	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0	
	iii) Regulatory Gates	APE	No	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0	
	iv) Construction and Maintainance of Settling Basins	20 Lakh	Hac	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0	
	v) Diversion of Flood Channel	10 Lakh	KM	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0	
	Demolition of Temp Cross Sectional Embankments to evict encroachments	5 Lakh	KM	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0	
B)	Water Quality Improvement																	
	a) Community based solid waste management system	Rs.5000	Drive	10	0.50	10	0.50	10	0.50	10	0.50	10	0.50	10	0.50	50	0.025	
	Wetland	Rs.5000	Drive	10	0.50	10	0.50	10	0.50	10	0.50	10	0.50	10	0.50	50	0.025	
	Villages																	

**KRANCHOO
WETLAND
CONSERVATION
RESERVE**

10. Kranchoo Wetland Conservation Reserve:

10.1 Brief Description: -

Kreentchoo (Kranchoo) Wetland Conservation Reserve lies about 17 Kms east of Srinagar on Srinagar-Jammu National Highway. The area of wetland is 6.4 ha and it lies in Pulwama District. It is fed by its immediate watershed (Karevas) but largely it is spring fed. It has been named after Kranchoo village situated near it. The wetland has about 96% waterlogged area. There is no report of any encroachment in the wetland area under the jurisdiction of Department of Wildlife Protection. Kranchoo Wetland Conservation Reserve is an important wetland for both resident and migratory waterfowl. Hussain (1989) counted 64 species in and around the wetlands during bird ringing studies. The wetland is particularly important as a wintering area for migratory ducks and geese, and as a breeding area for herons, egrets and rails.

10.2 Flora & Fauna: -

Apart from local resident birds, the wetland provides ample and conducive habitat for breeding of Mallards. The wetland is particularly important as a wintering area for migratory ducks and geese, and as a breeding area for herons, egrets and rails.

Vegetation ranges from submerged, attached, free floating to emergent. Shallow areas support thick stands of *Typha* and *Phragmites*. *Trapa natans*, *Nymphoides peltatum*, *Nymphoide candida* and *Nymphoides tellata* occur in the open water areas. There are many

floating gardens in the lake. Plantation of *Salix alba* has been taken up along the shoreline, while rice is grown in the surrounding areas. These crop fields also provide foraging areas for birds.

10.3 Threats and Challenges: -

The principal threats to this wetland is siltation and eutrophication due to pollution leading to infestation of weeds.

10.4 Management Interventions

The management interventions proposed under integrated Management Action Plan for Kranchoo envisages financial implications of **Rs. 1.21 Crores** to be phased in five year period. The important interventions under the plan includes following:

I) Land and Water Resource Management

a) Water Management:-

For any wetland to thrive and get rejuvenated adequate water level is important. To regulate and manage the desired water in Kranchoo, following management interventions are proposed in the five-year plan.

i) Water Quality Improvement: -

To monitor the health and pulse of the wetland, the physio chemical analysis of water in the wetland shall be got conducted through J&K Pollution Control Committee on regular and on sustained basis therefore, no budget has been envisaged for this activity. However, community based solid waste management will involve regular cleanliness drives in the wetland as well as in the

adjoining villages to ensure clean surroundings and healthy wetland system. **Rs.0.05 Crore** has been envisaged under this activity for five years for conducting **100** such drives on regular intervals. Under this activity installation and Management of **30** Dust Bins in and around the wetland has been envisaged.

II) Biodiversity Conservation:-

a) Waterbird Conservation including Inventorization and assessment:

Various surveys and studies are proposed to be carried out for inventorization and assessment of waterbird diversity like species wise estimates of waterbird populations assessment, key biodiversity assessment, Human activities and their impacts, Migration studies (bird banding, satellite tracking) and avian influenza surveillance. The surveys and studies shall be undertaken with the help of various organizations working in the field with support and coordination by the Wildlife Department. An amount of **Rs.0.075** Crore has been earmarked under this activity for five years.

b) Habitat Restoration and Management of Aquatic vegetation: -

During the plan period, the Department of Wildlife Protection (J&K) will work on to eradicate the excessive reeds and floating vegetation on controlled basis in all seasons except winters. This will be done to prevent excessive proliferation and simultaneous enhancement of water spread area for arrival of migratory water birds. Peat extractions will maximize open water spaces. Managing floating vegetation will also be undertaken during the plan period. Managing and maintaining

navigational channels, making of clear pools, Fixing of Bird Perches and providing of food supplement during the lean periods will be undertaken under this component. **Rs. 0.03 Crores** covering **1.5 ha** has been proposed to be earmarked under this activity for five years.

c) Control of Poaching:-

The large congregation of migratory birds in the wetlands of Kashmir in general and that Kranchoo in particular invite illegal poaching at a very large scale especially when these migratory birds fly from one wetland to other or settle in the adjoining paddy field for feeding. The poachers are equipped with modern gears like dummy ducks, duck calls, motorised mojos, and sophisticated fire arms to invite the attention of the migratory birds and then shoot at them killing large number of these migratory birds. The enforcement in place is trying its best to get in control of this menace by seizing large number of fire arms and booking the culprits under the relevant laws, however, not much a success has been achieved in this regard. Shortage of manpower and required amenities need to be addressed during the plan period. The community support to form village level committees shall be focused at in order to achieve the best results. **Rs. 0.035 Crores** has been proposed for this activity during the plan period for strengthening protection, setting up of temporary anti-poaching camps, informers, village level committees, staff amenities and incentives.

d) Research and Survey:-

Information on waterbirds and their habitats is collected mainly by the Wildlife Department, and other research organisations. The Wildlife Department has undertaken various waterbird monitoring programmes at Kranchoo over the last few decades. The information on waterbirds though patchy, is useful to provide some information on species diversity, seasonality and abundance. The University of Kashmir, SKUAST-K and other organisations have undertaken several studies of the breeding and feeding habits of different resident and seasonal migrant waterbird species. However, detailed assessment of current waterbird species composition and abundance and their relationship to the different habitat types in the wetland will be undertaken during the plan period.

e) Capacity building

Capacity building is critical to the successful management of waterbirds and the habitats. This can be achieved through conducting periodic training programmes and infrastructure development for monitoring. Expertise and opportunities for training in waterbird assessment, monitoring, research and migration study exist within the country, with institutions such as Bombay Natural History Society (BNHS) - Mumbai, Salim Ali Centre for Ornithology and Natural History (SACON) - Coimbatore, Wetlands International - New Delhi, and Wildlife Institute of India (WII) - Dehra Dun. Periodic training programmes will be held for various target groups including field staff managers and decision makers, local NGOs and community groups. The training will be provided on methods to collect

information on approaches to bird census, analysis of information developing monitoring protocols and interpretation of data for use at various levels. A cadre of trained technical staff shall be developed for trend analysis of waterbird populations in relation to habitat features. Specific training programmes shall be developed in collaboration with BNHS for assessment of bird migration and understanding the constraints in the pathways. Surveillance of waterbirds for avian influenza and other zoonotic diseases shall employ scientific methodology and techniques as promoted by FAO. **Rs.0.03** Crore has been proposed for this activity during the five-year plan period.

III) Education, Awareness and Eco-Tourism Development:-

Development of sound ecotourism infrastructure need to be carefully established to ensure minimal impacts on the environment while at the same time maximizing opportunities for the visitors to enjoy the Kranchoo wetland and its biodiversity.

Development of recreational facilities:-

At present there are no facilities and these need to be developed taking into consideration the environmental factors and tourist carrying capacity of different areas. Following activities are therefore, proposed:

a) Board Walk and Nature Trails:-

The Boardwalks and nature trails will give the visitors a good chance to breathe in the fresh air and enjoy the peaceful environment of

Kranchoo. The walking trail along the wetland has to be constructed well above the highest flood level of the wetland. Gates at the entry points will control these boardwalks and only serious nature lovers and birdwatchers will be allowed to access.

Guided tours will be arranged across the boardwalks in the wetland areas. Well-trained guides shall escort the visitors who shall be adequately briefed about the dos and don'ts while in an ecologically sensitive area.

b) Guided boat rides:-

Guided boat rides shall be arranged for nature lovers to help them explore the various aspects of Kranchoo. Local community groups shall be trained to take up interpretation activities.

c) Watch Towers: -

For the benefit of day visitors as well as organized groups, school/college students, **2** watchtowers are proposed. The locations of the watchtowers will be selected keeping in view the sensitivity as well as the accessibility to enjoy bird watching and photography besides keep watch and ward as well. Construction of these towers could be taken up during the low water season. Provision of equipment such as binoculars and spotting scopes for use of school/college groups and serious bird watchers shall be made by the Department. **Rs. 0.30 Crores** has been proposed for these activities during the plan period.

C) Publicity and Awareness: -

An amount of **Rs. 0.05 Crore** is proposed under this activity for five years to conduct and promote awareness rallies padyatras, Nature camps, organising world wetland day and other Environment related days. Making of documentaries, newsletters, brochures, pamphlets, posters, digital signages, models etc are also proposed under this component

iv) Institutional Development: -

Conscious about the fact that the wetlands are very important ecosystems and services rendered by them are unparalleled Government of Jammu and Kashmir has already established a separate Wetland Division under the Department of Wildlife Protection to manage and protect the notified wetlands in Kashmir region. The existing institution in place is implementing various programmes approved under various sectors to restore and rejuvenate Kranchoo on scientific lines. However, the institution in place needs to be strengthened and developed on modern lines to cope up with the complex challenges and the issues faced by the Kranchoo. These are:

a) Infrastructure and Equipment Augmentation: -

Under the activity it is also envisaged to procure important equipment and tools to facilitate management utilization for better scientific results. It will include pontoons, spotting scopes, motorized

driven boats and Wooden boats etc. Under this component, **Rs. 0.384 Crore** are proposed.

b) Monitoring and Evaluation.....

Monitoring the effectiveness of management action plan implementation is essential to assess the effectiveness of implementation. A third-party monitoring and evaluation shall be got conducted by reputed agency on EOI basis. In order to improve upon the efficiency during the implementation period it is proposed to procure 1 Vehicle and one Motor bike during the plan period including some unforeseen and miscellaneous contingencies. **Rs. 0.155 Crore** is proposed under this component.



Action Plan Krenchoo

- Acquisition of Private owned Land White band1, 1.71 Ha
- Acquisition of Private Owned Land White Band 2, 1.43 ha
- Transfer of Govt. Land 1' 5.63 Ha
- Transfer of Govt owned Land 2, 11 ha
- Transfer of Govt. owned Land 3, 10 Hac



Integrated Action Plan - Year wise Physical and Financial Phasing 2022-27
Kranchoo Wetland Conservation Reserve

Component and Activities		UNIT	AMT IN LAKH						IN CR					
			Year 1		Year 2		Year 3		Year 4		Year 5		TOTAL	KRANCHOO
1	Land and Water Resource Management	RATE	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	PHY	FIN
1.1	Survey and Demarcation													
	i) Boundary demarcation	RS.7000	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0
	ii) Fencing Chain Link	40 LAKH	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.00	0
	iii) Barbed wire fencing	7 LAKH	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0.00	0
	iv) Bio fencing	Rs.12.82	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0
	Embankment along peripheries	Rs.280	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0
	Total Survey and Demarcation			0.00		0.00		0.00		0.00		0.00		0
1.2	Water Management													
A)	Enhancing water holding capacity													
	Removal of Willow / Poplar Plantations	Auction Based												
	a) (Miscellaneous Charges Only)		Ha	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
	b) Selective dredging of silted areas	Auction Based	Ha	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
	i) Willow / Poplar plantation cleared areas	Auction Based	Ha	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
	ii) Channels Water ways	Auction Based	CUM	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
	iii) Regulatory Gates	APE	No	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
	iv) Construction and Maintenance of Settling Basins	20 Lakh	Hac	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
	v) Diversion of Flood Channel	10 Lakh	KM	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
	Demolition of Temp Cross Sectional Embankments to evict encroachments	5 Lakh	KM	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
B)	Water Quality Improvement													
	a) Community based solid waste management system													
		Rs.:5000	Drive	10	0.50	10	0.50	10	0.50	10	0.50	10	0.50	50
		Rs.:5000	Drive	10	0.50	10	0.50	10	0.50	10	0.50	10	0.50	50
														0.025
														0.025

BUDGET

ABSTRACT

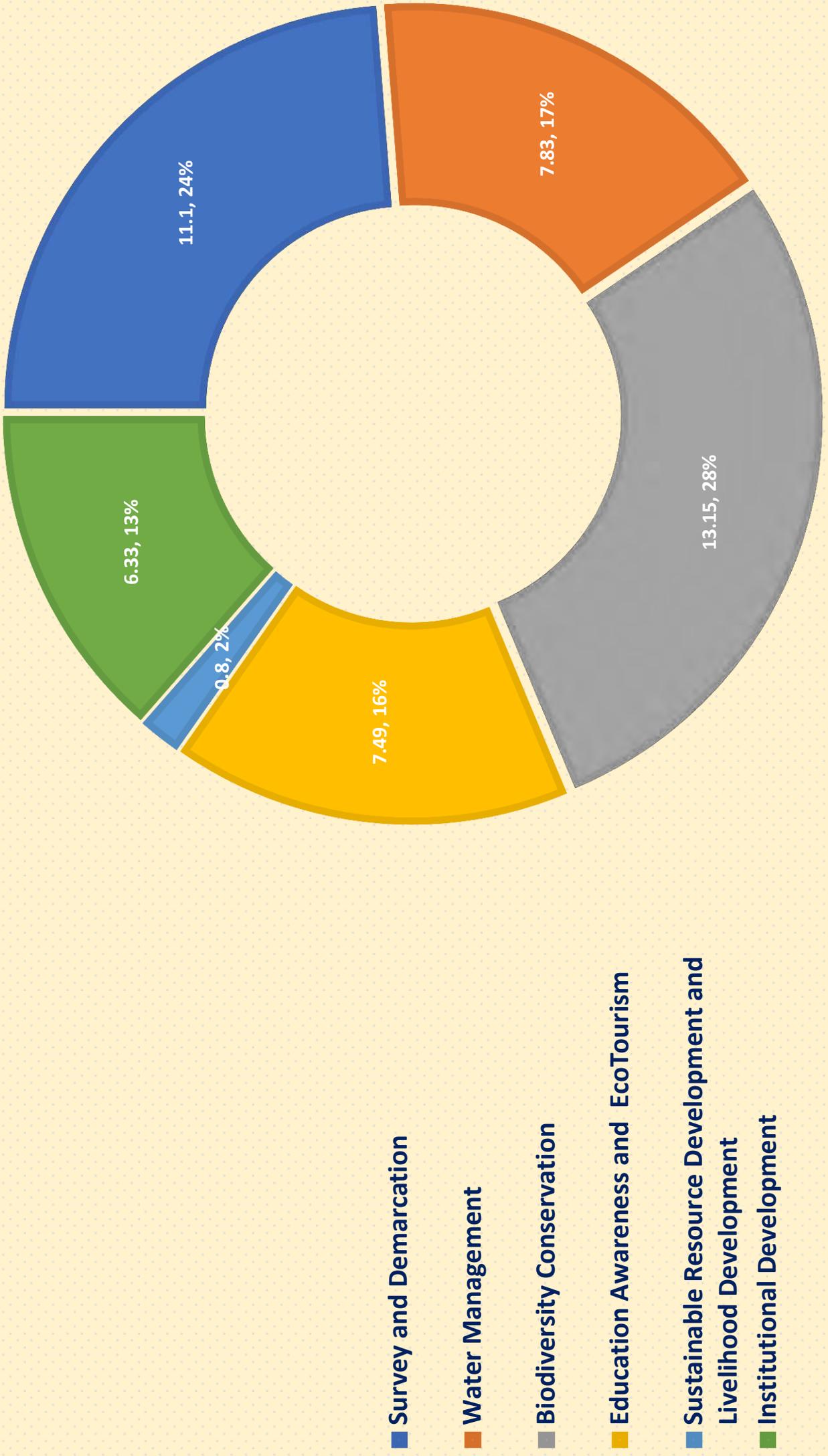
3.2 Development of visitor education facilities												
a)	Interpretation Centre	APE	No									
b)	Models & Digital signages	LS	LS	0.04	LS	0.03	LS	0.02	LS	0.02	LS	0.01
	Total 3.2			0.04		0.03		0.015		0.015		0.01
3.3 Publicity and Awareness												
	Rallies and Padyatras	LS	LS	0.1	LS	0	LS	0.00	LS	0.00	LS	0.00
	Nature Camps	LS	LS	0.1	LS	0.025	LS	0.01	LS	0.01	LS	0.01
	World Wetland Day / Bird festivals / Environment re	LS	LS	0.1	LS	0.04	LS	0.03	LS	0.04	LS	0.04
	Films / documentaries	LS	LS	0.1	LS	0.02	LS	0.00	LS	0.00	LS	0.00
	Newsletter and publications	LS	LS	0.1	LS	0.01	LS	0.02	LS	0.01	LS	0.01
	Total 3.3			0.6		0.12		0.053		0.065		0.042

Total Education Awareness and EcoTourism												
				4.18		0.71		0.368		0.08		0.432
4 Sustainable resource Development and Livelihood Improvement												
	Economic utilization of Wetland Biomass / Establishment of biomass based micro enterprise	LS	LS	0.3	LS	0.4	LS	0.03	LS	0.00	LS	0.00
	Total sustainable Resource Development & Livelihood			0.3		0.4		0.03		0		0
5 Infrastructure and Equipment Augmentation												
5.1	Infrastructure Development	20 LAKH	NOS	5	1	2	0.4	1	0.2	1	0.2	1
	Total 5.1			1		0.4		0.2		0		0.2
5.2	Equipment augmentation	15 LAKH	NOS	2	0.3	2	0.3	0	0.00	1	0.15	1
	i) Pontoons											
	ii) Spotting Scope	RS 8000	NOS	15	0.012	10	0.008	25	0.02	0	0.01	5
	iv) Motorized Driven Boats	10 LAKH	NOS	2	0.2	2	0.2	0	0.00	1	0	0
	v) Wooden Manual Driven Boats	0.5 Lakh	NOS	10	0.05	10	0.05	0	0	4	0.00	6
	vi) Fabricate Dockyards / other Machines	20 LAKH	NOS	1	0.2	1	0.2	1	0.2	0	0.00	0
	Total 5.2			0.762		0.758		0.075		0.155		0.184
5.3 Monitoring and Evaluation												
	Vehicles / Motor Bikes	LS	LS	0.2	LS	0.005	2	0.105	LS	0.01	LS	0.11
	Contingencies & Unforeseen	LS	LS	0.09	LS	0.05	LS	0.1	LS	0.05	LS	0.05
	Total 5.2			0.29		0.055		0.055		0.055		0.155
	Total Infrastructure & Equipment			2.05		1.213		0.33		0.21		0.539
Grand Total												
				16.13		9.46		12.81		2.03		1.22
										2.77		1.36
												0.94
												46.71

Component wise allocation proposed, 2022-2027

Component			Amt in CR
Land and Water Management			
		i) Survey and Demarcation	11.10
		ii) Water Management	7.83
		Total	18.93
Biodiversity Conservation			13.15
Education Awareness and Ecotourism			7.49
Sustainable Resource Development and Livelihood Development			0.80
Institutional Development			6.33
		Total	46.70

COMPONENT WISE ALLOCATIONS PROPOSED 2022-27



Wetland wise breakup (2022-2027)

SNO	Component (Amount in Crores)	Amount	Hokersar 1354 Ha	Hygam 719 Ha	Shallabugh 1691 Ha	Mirgund 406 Ha	Chattlum 43 Ha	Freshkooori 15.25 Ha	Kranchoo 6.40 Ha	Manibugh 5.30 Ha
1	Land and Water Management									
1.1	Survey and Demarcation	11.10	3.79	3.035	2.66	0.302	0.62	0.56	0	0.136
1.2	Water Management	7.83	1.11	1.33	4.44	0.26	0.265	0.295	0.065	0.065
2	Biodiversity Conservation	13.15	4.7	2.766	3.971	0.74	0.465	0.215	0.179	0.114
3	Education Awareness and Eco-Tourism	7.49	4.18	0.71	0.755	0.368	0.61	0.08	0.432	0.352
4	Sustainable Resource Development and Livelihood Development	0.80	0.3	0.4	0.05	0.03	0.02	0	0	0
5	Institutional Development	6.33	2.05	1.213	0.925	0.33	0.788	0.21	0.539	0.275
	Total	46.70	16.13	9.454	12.801	2.03	2.768	1.36	1.215	0.942

Wetland and Component-Wise Distribution of Funds



Integrated Management Action Plan 2022-27

Abstract Physical and Financial Details

S.No	Component	Item	Physical	Amount in Crore
1.1	Survey & Demarcation	Boundary Demarcation	540 B.Ps	0.38
1.2	----do----	Fencing Chain-link	20 Km	8.18
1.3	----do----	Barbed wire Fencing	13 km	0.89
1.4	----do----	Bio Fencing	545200 plants	0.70
1.5	----do----	Embankment along peripheries	34320 Cum	0.96

S.No	Component	Item	Physical	Amount in Crore	Remarks
1.2 a	Water Management (Enhancing water holding capacity)	Removal of willow/other plantations (from and within Wetlands)	833 ha 416500 plants	0.04 (Miscellaneous)	Expected sale Proceeds to be deposited as Revenue in the Govt. exchequer
b	-----do----	Selective dredging of silted areas	895 ha	0.05 (Miscellaneous)	Expected sale Proceeds to be deposited as Revenue in the Govt. exchequer
c	-----do----	Dredging of willow/other plantation cleared areas	833 ha	0.04 (Miscellaneous)	-----do-----
d	-----do----	Opening of channels and Waterways	353000 Cum	0.17	-----do-----
e		Water Regulatory Gates	5 No	0.30	

S.No	Component	Item	Physical	Amount in Crore	Remarks
f	Water Management (Enhancing water holding capacity)	Construction and Maintenance of settling basins	22 Ha	4.40	
g	----do----	Diversion of Flood Channel	3 Km	0.30	
h	----do----	Demolition of temporary cross sectional embankments to evict encroachments	6 Km	0.29	
1.3 a	Water Management (Water quality Improvement)	Community based solid waste Management System	850 Drives in Wetlands 850 Drives in Villages	0.86	Community based Cleanliness Drives
b	----do----	Dust Bins	360	0.18	

S.No	Component	Item	Physical	Amount in Crore	Remarks
c	Water Management (Water quality Improvement)	Control of diffused pollution through wetland technology (Artificial Wetlands)	11 Ha	1.13	To act as biofilters
2	Biodiversity Conservation	Wetland/Biodiversity Conservation Studies	6 Studies	0.61	
2.2	-----do----	Habitat Restoration and Management of Aquatic Vegetation	557 Ha	10.71	
2.3	-----do----	Control of Poaching	LS	0.91	Establishing/ Strengthening camps & Formation of Bird protection committees
2.4	-----do----	Research/Surveys & Capacity Building	LS	0.93	Trainings ,Work shops, Seminars, Visits & Tours

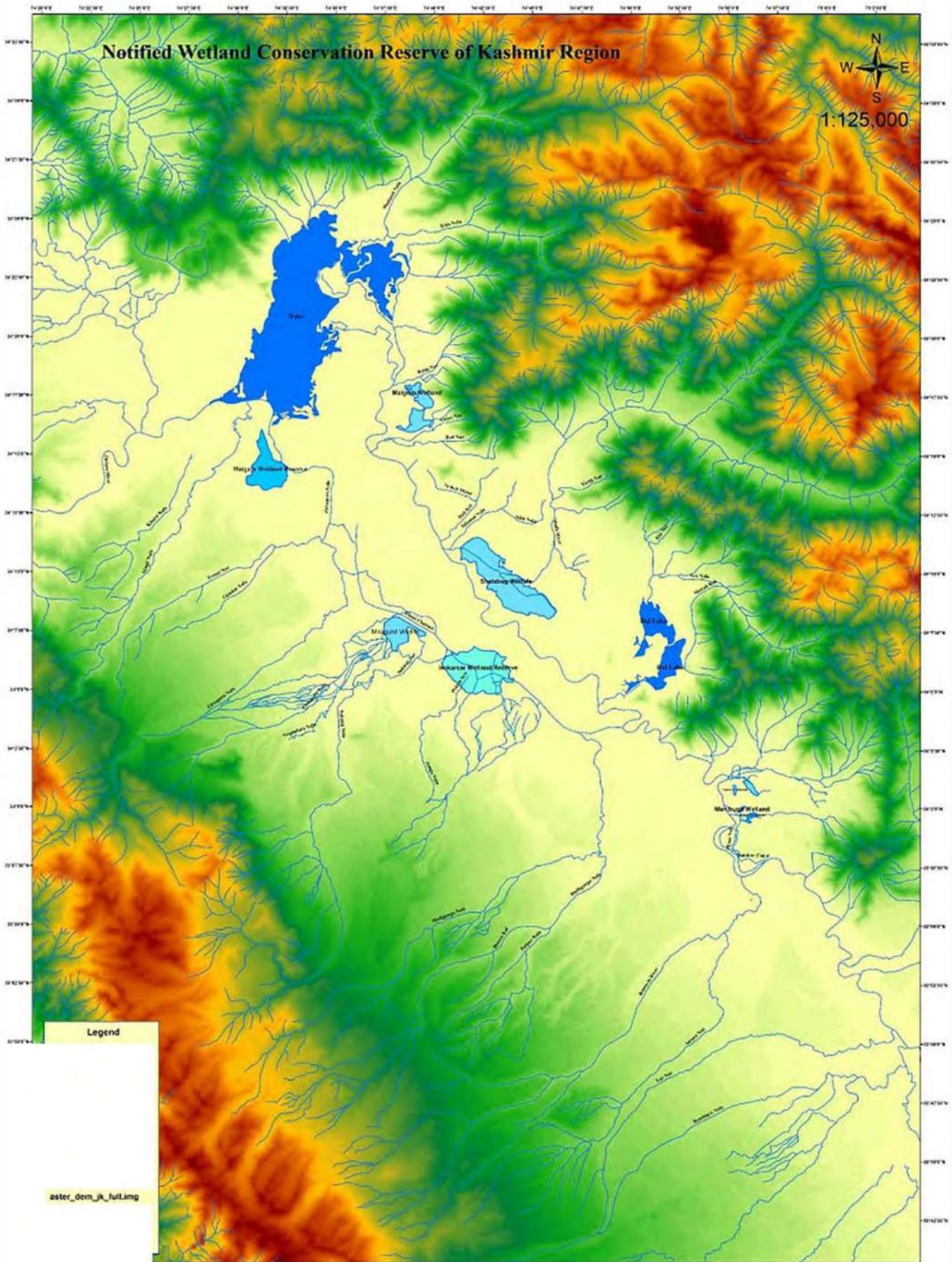
S.No	Component	Item	Physical	Amount in Crore	Remarks
3 3.1	Education Awareness and Eco-Tourism	Development of Recreational Facilities	20 No Watch Towers	3.62	Board Walks, Nature Trails, Guided Boat rides, Watch Towers
3.2	-----do-----	Development of Visitors Educational facility Centre (Models & Digital Signages)	1 No	2.63	Nature Interpretation Centre at Hokersar
3.3	-----do-----	Publicity & Awareness	LS	1.25	Rallies, Padyatras, Nature Camps, Wetland and other days, Documentary and news letter and publications.

Integrated Management Action Plan 2022-27

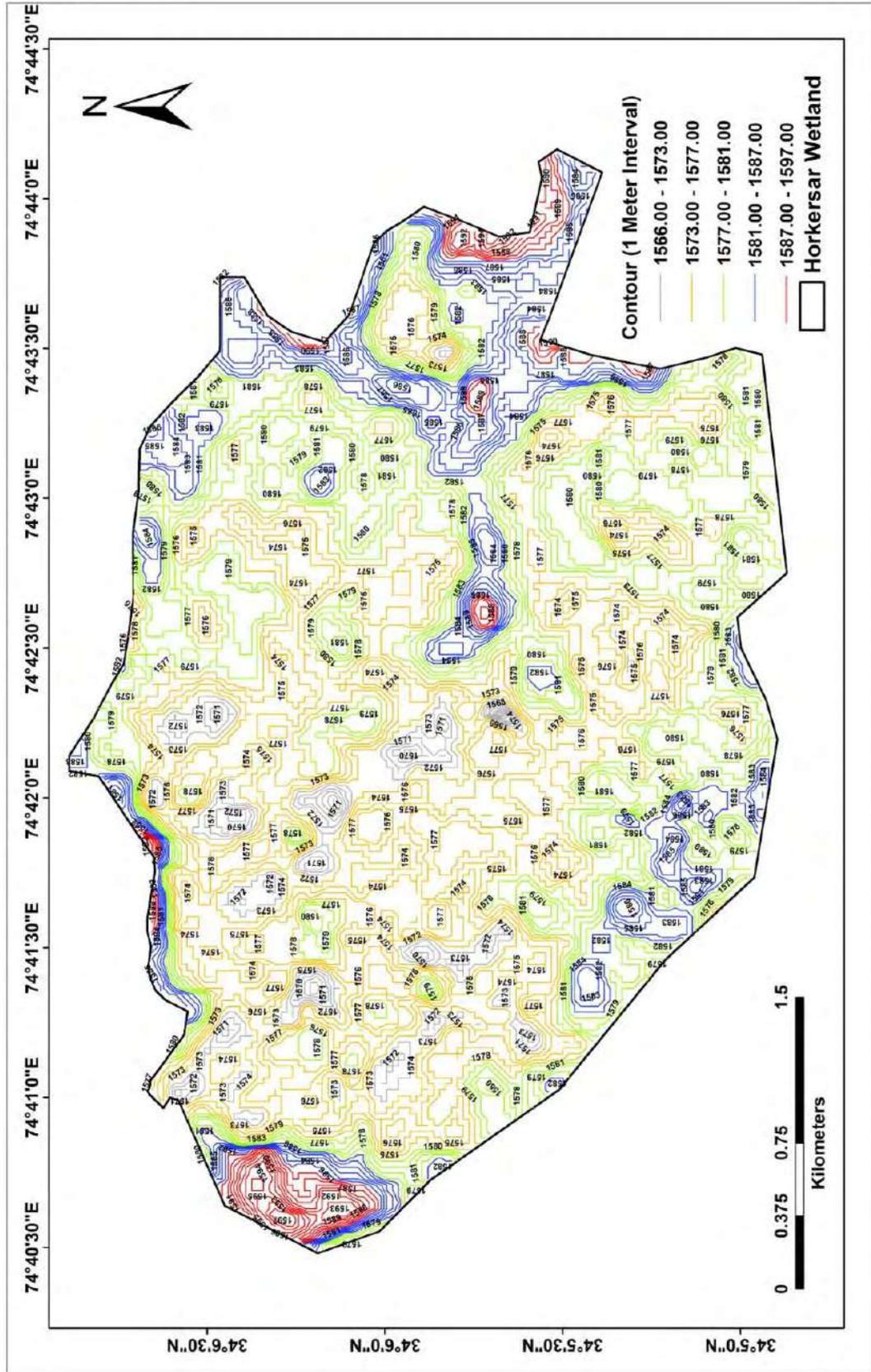
Abstract Physical and Financial Details

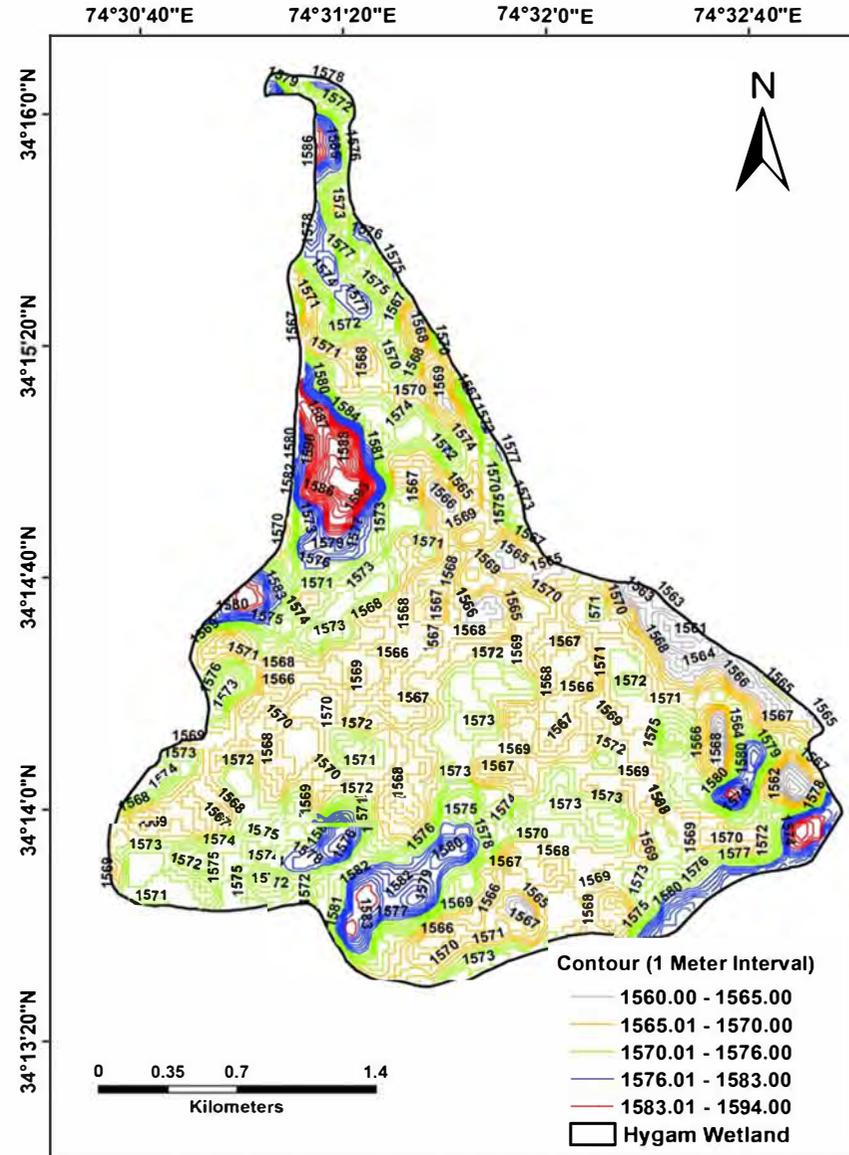
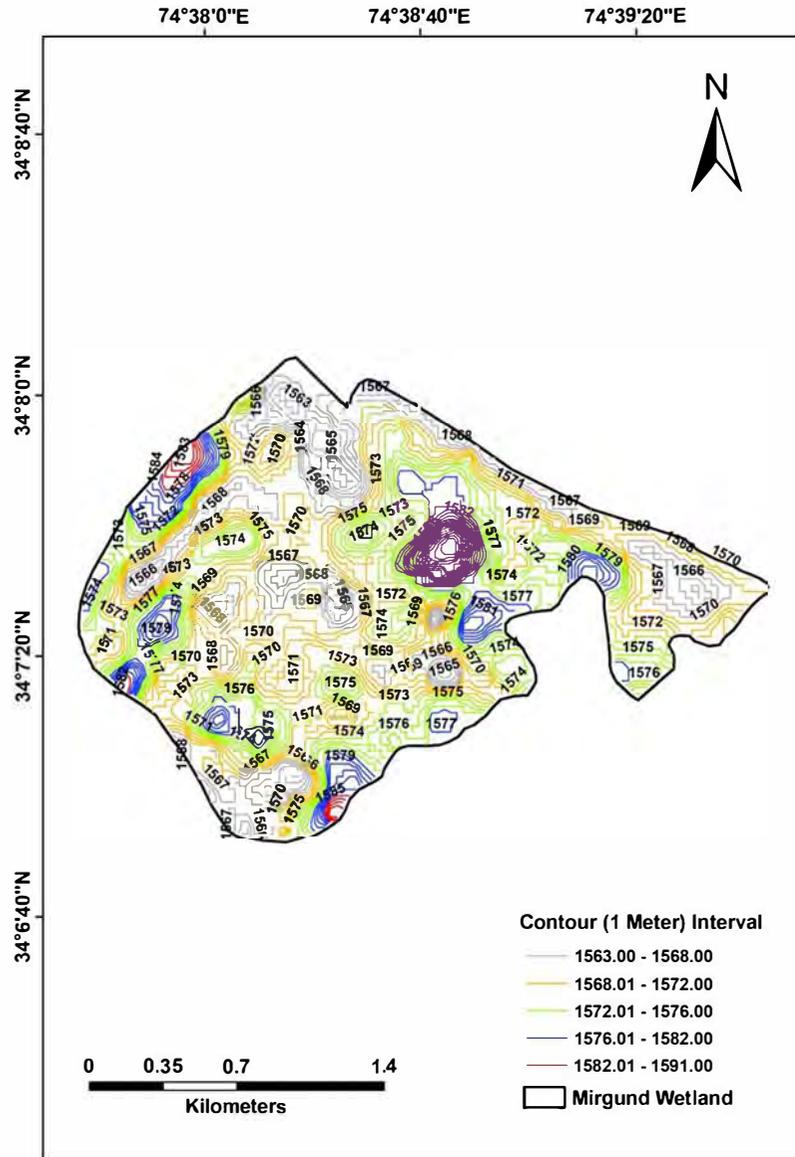
S. No	Component	Item	Physical	Amount in Crore	Remarks
4	Sustainable Resource Development and Livelihood	Economic utilization of wetland biomass & Establishment of biomass based micro enterprises for fringe communities.	LS	0.80	To Give a start to pilot projects in each wetland
5 5.1	-----do-----	Infrastructure Development	12 No	2.40	Staff Quarters & Antipoaching Reporting Centers
5.2	-----do-----	Equipment augmentation	LS	3.01	Pantoons, Spotting scopes, Motorized & wooden boats Etc.
5.3	-----do-----	Monitoring & Evaluation	LS	0.93	Vehicles, Bikes, Third party evaluation

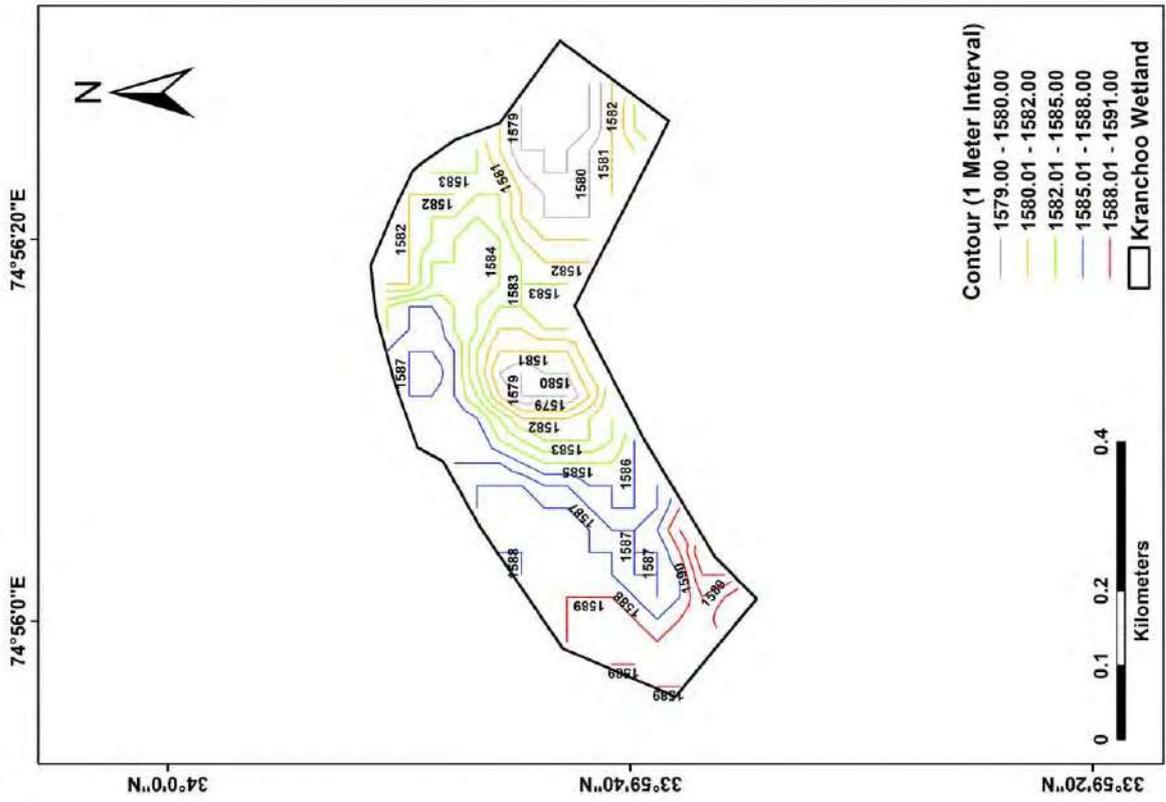
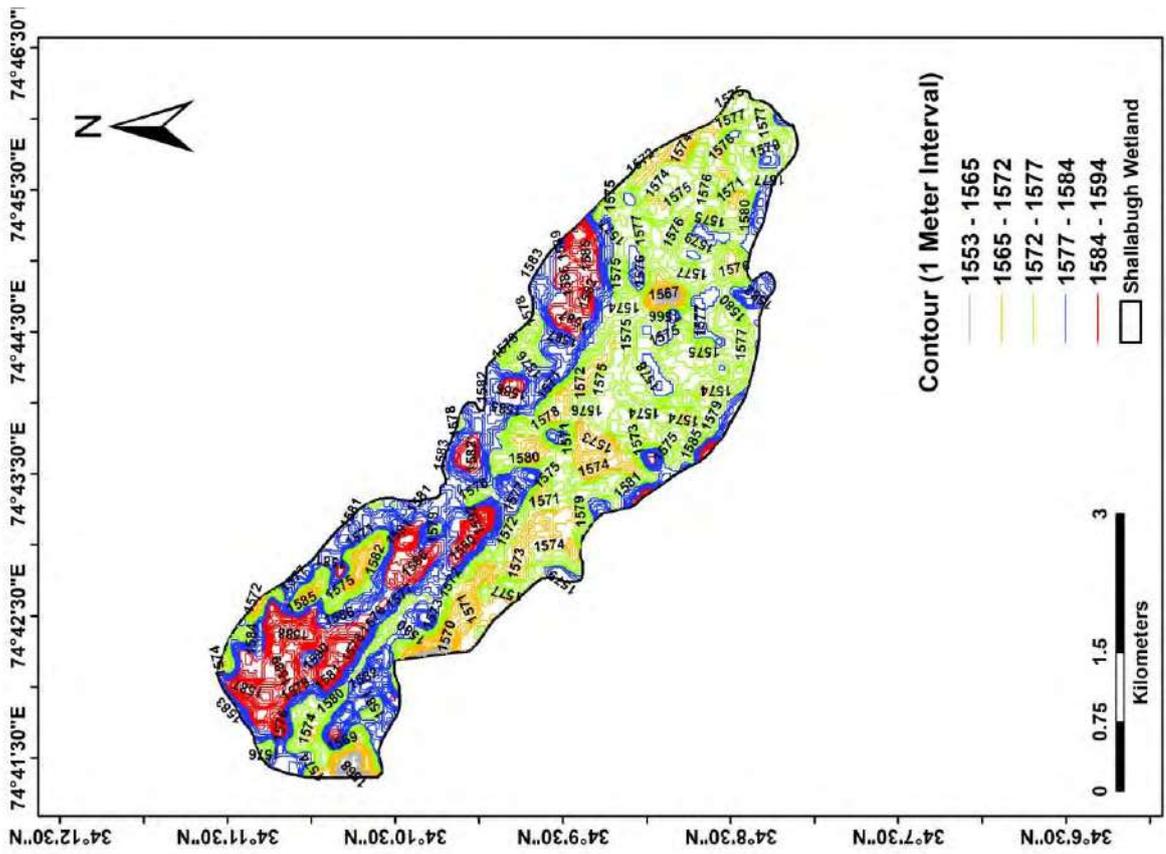
**CONTOUR &
CATCHMENT
MAPS OF
WETLANDS**



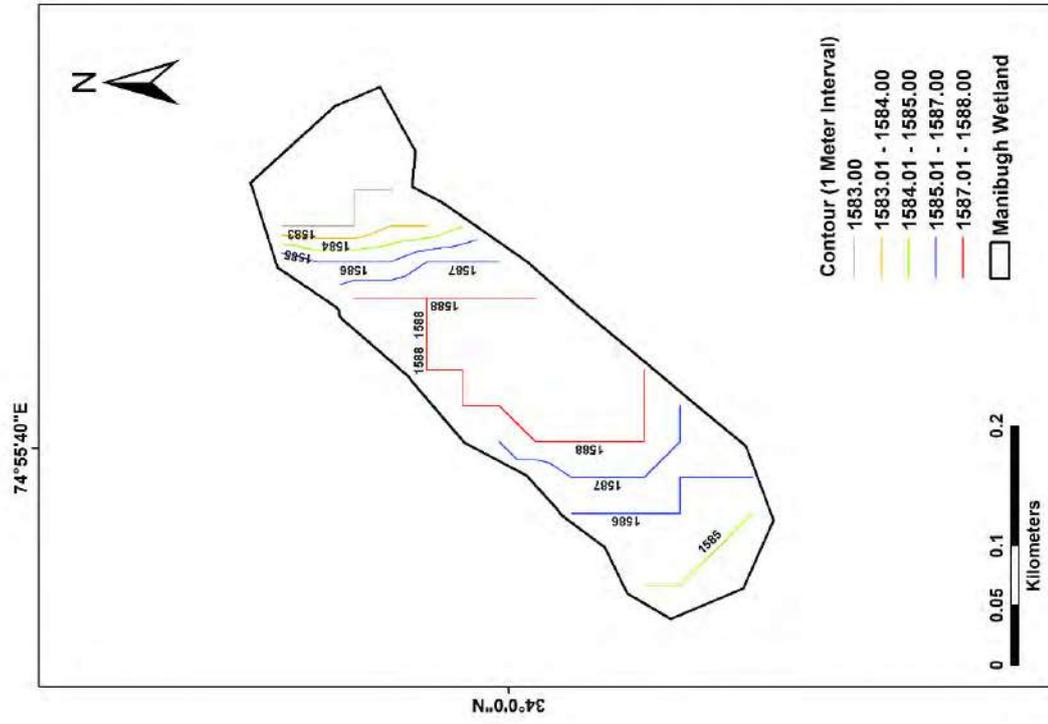
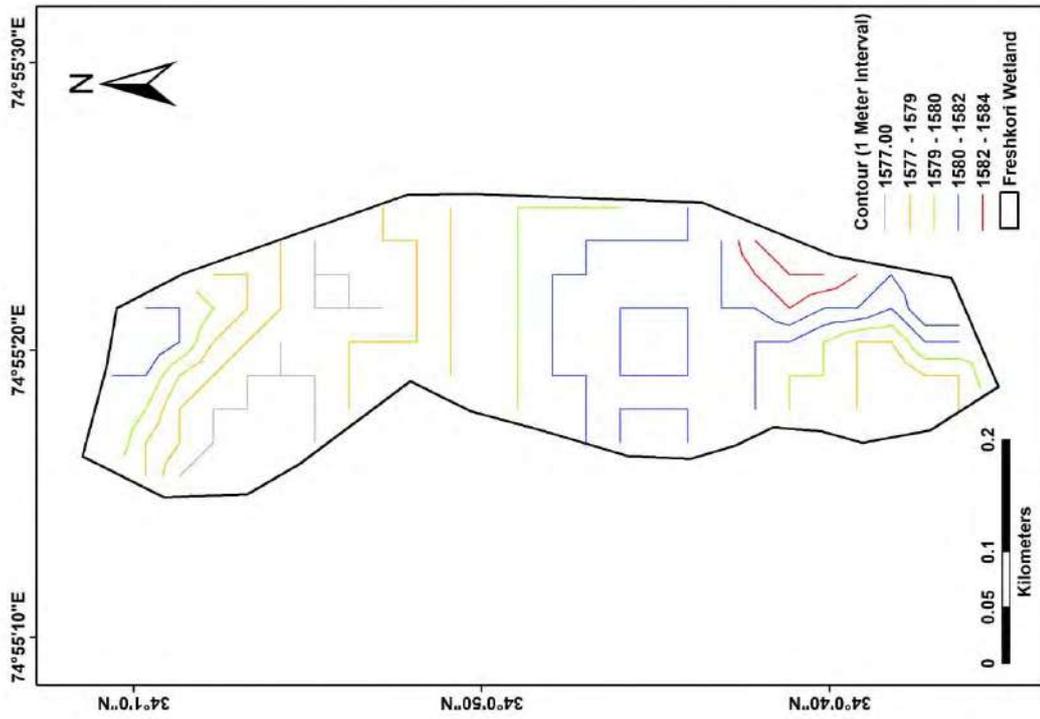
12 Contour Maps of Wetlands



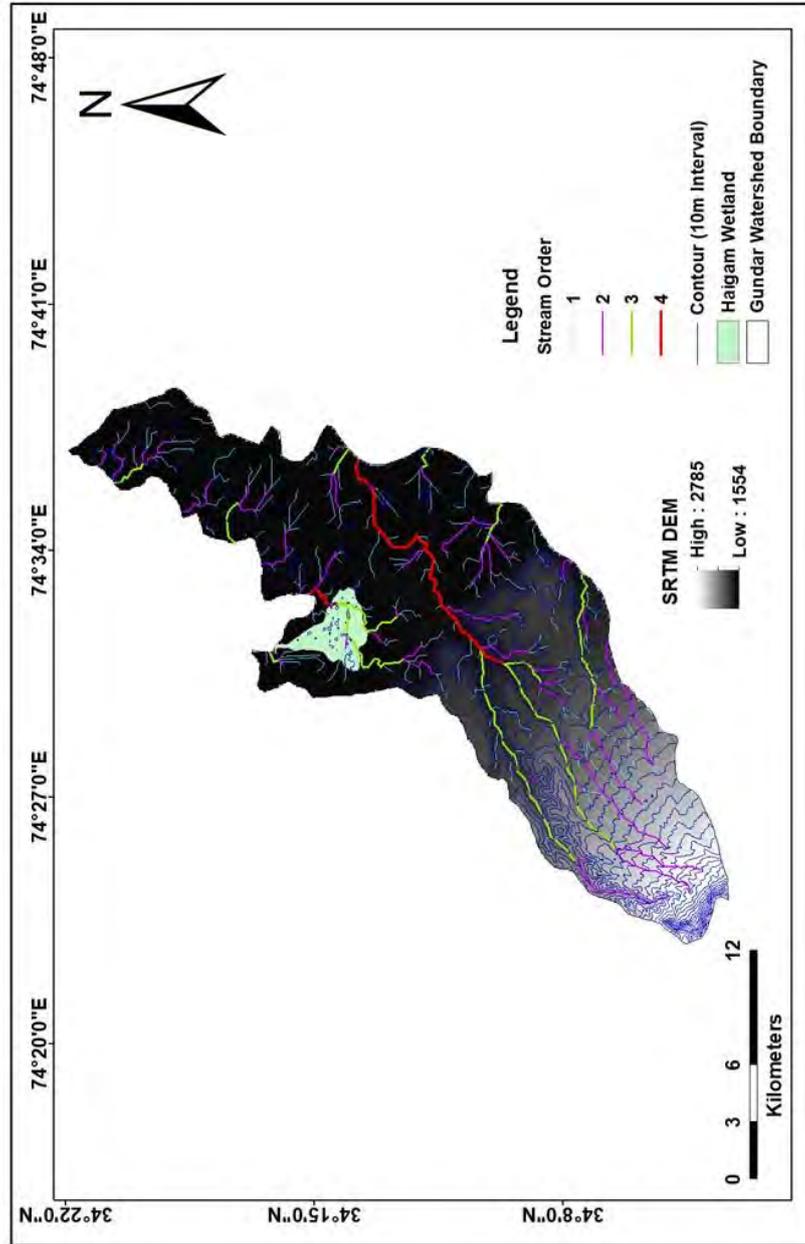


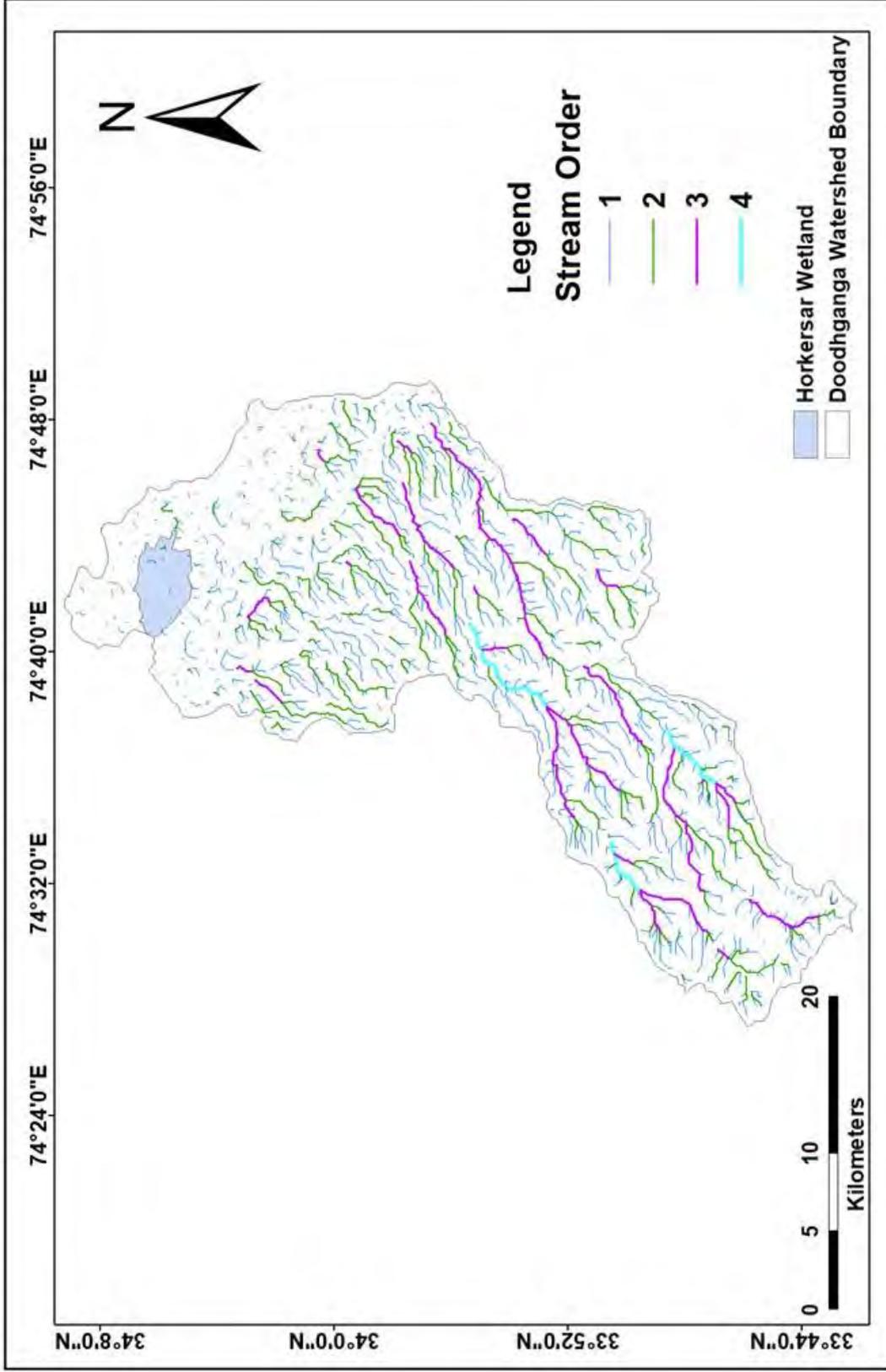


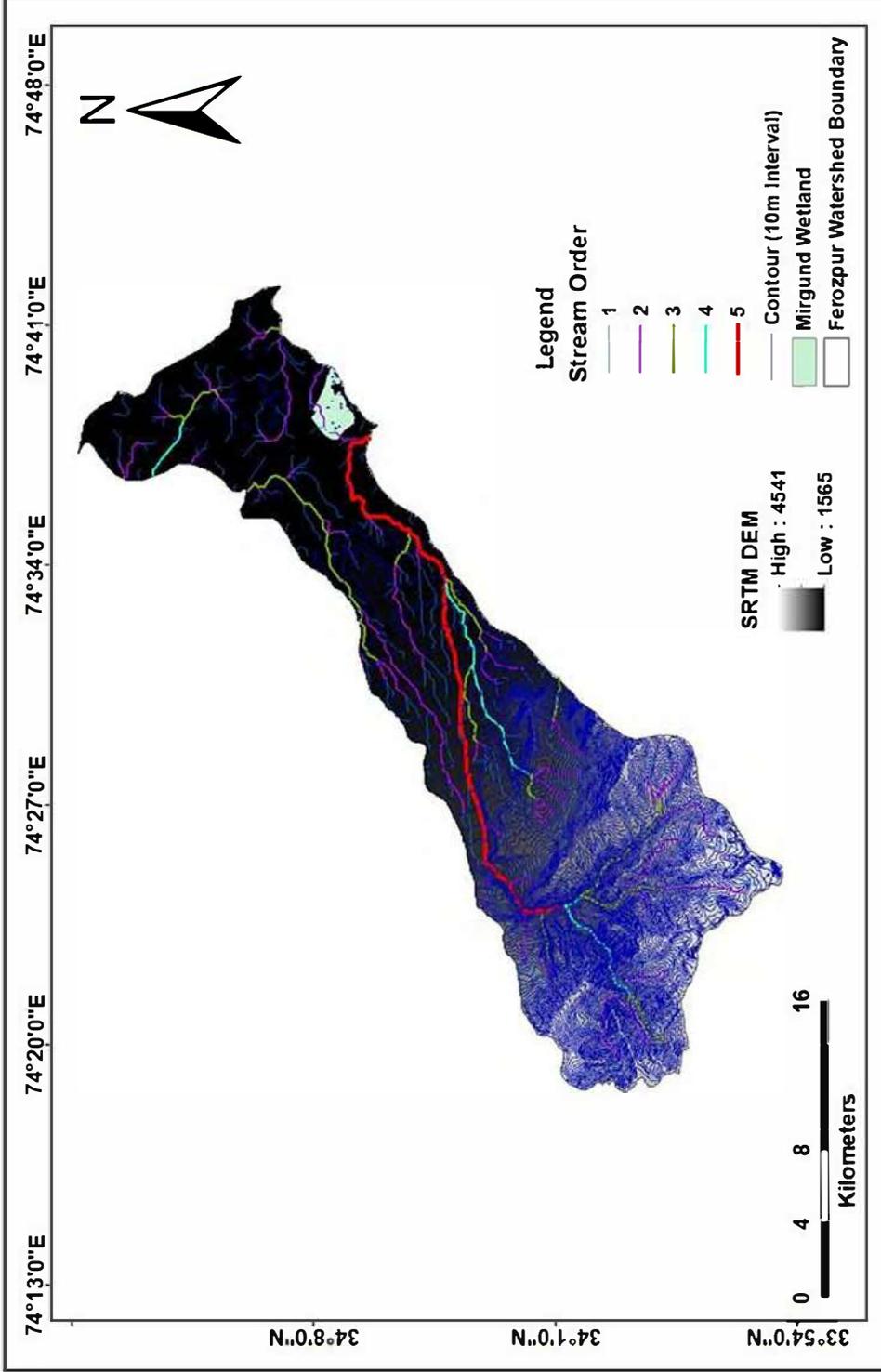
12.3

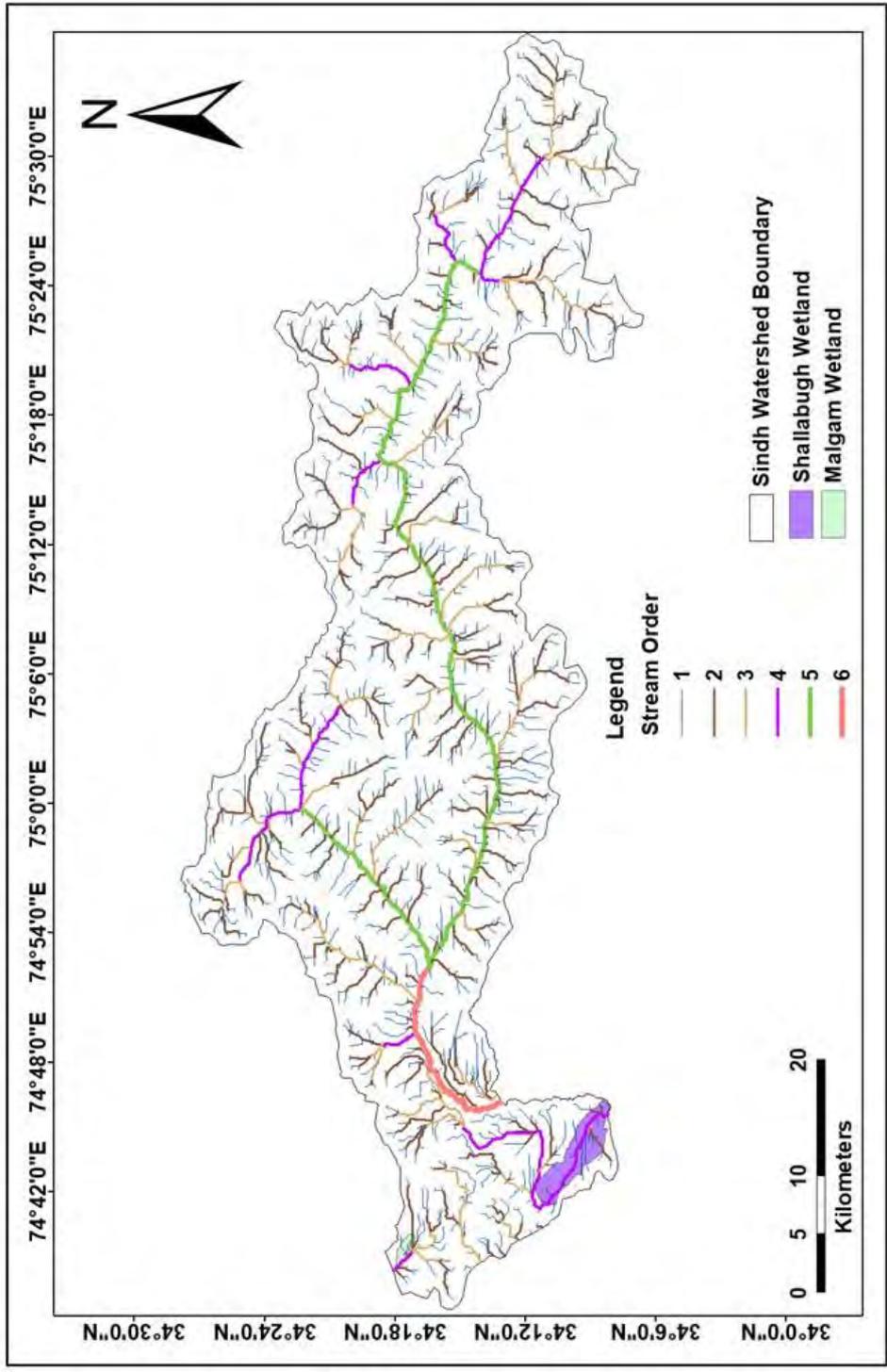


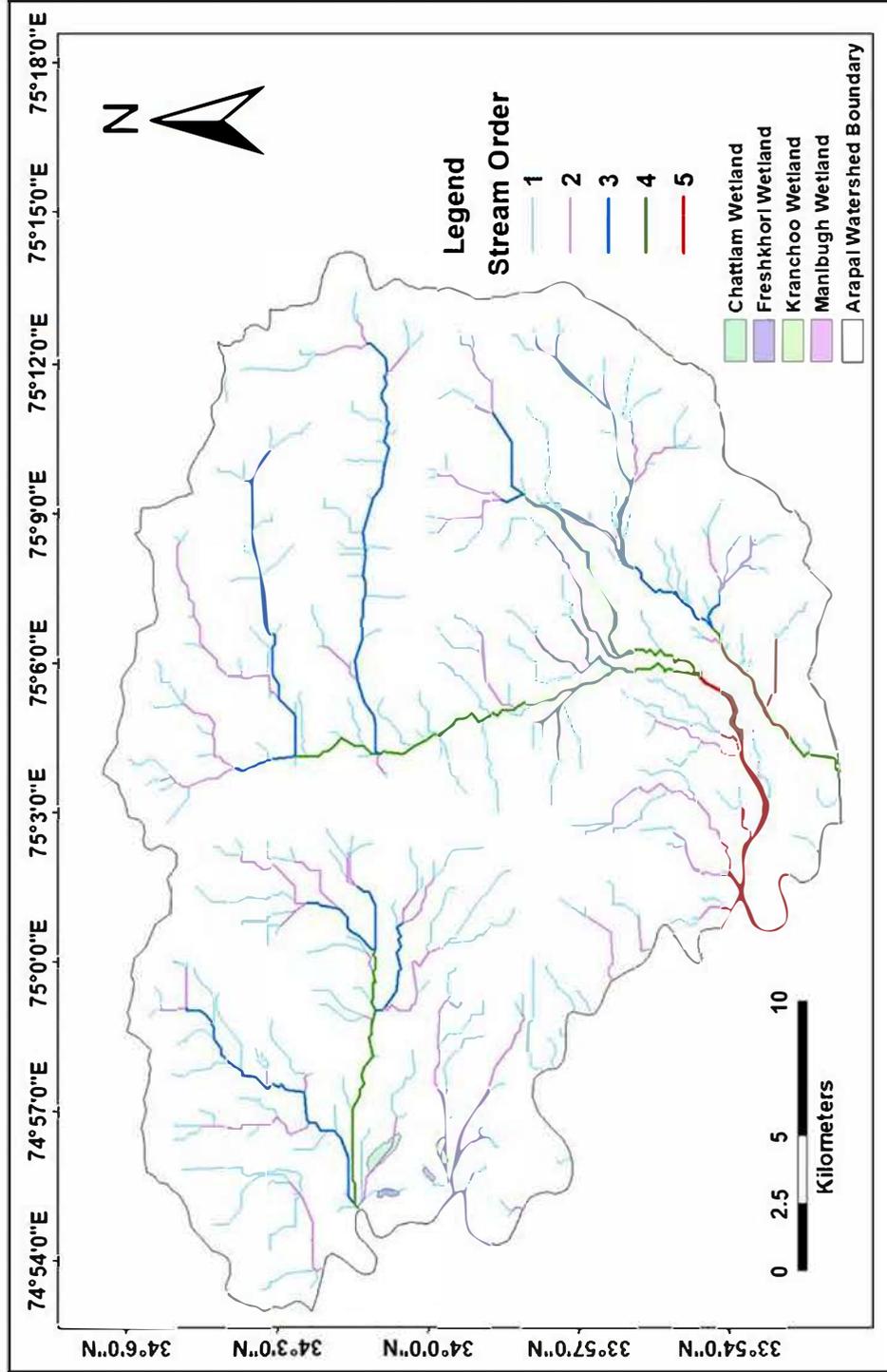
13. Catchment Maps of Wetland Conservation Reserves









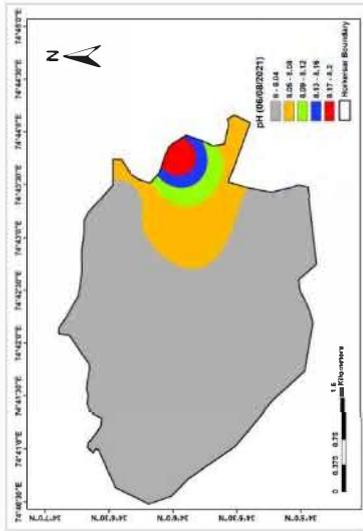


**Mapping of
Comparative Water
Quality Analysis
2020 & 2021**

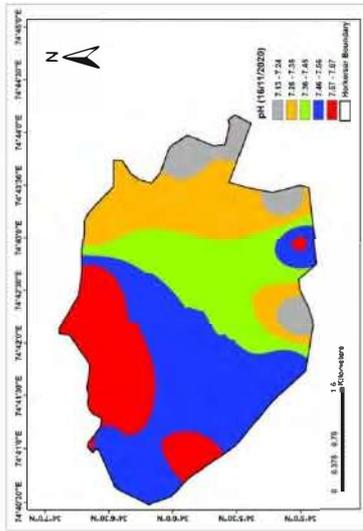
14. Mapping of Comparative Water Quality Analysis 2020 & 2021

Water Quality Analysis Mapping of Horkersar Wetland Using Geospatial Technology

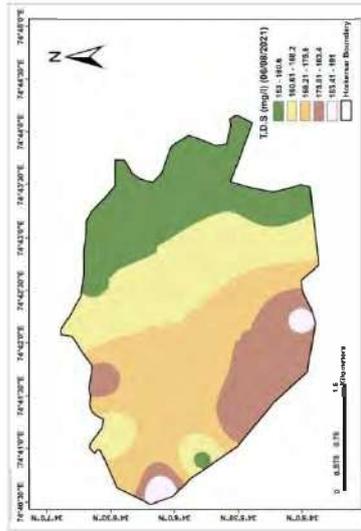
pH 2021



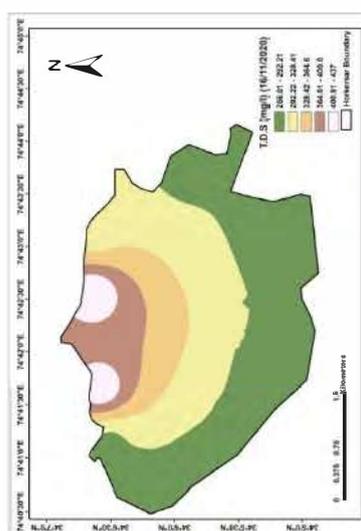
pH 2020



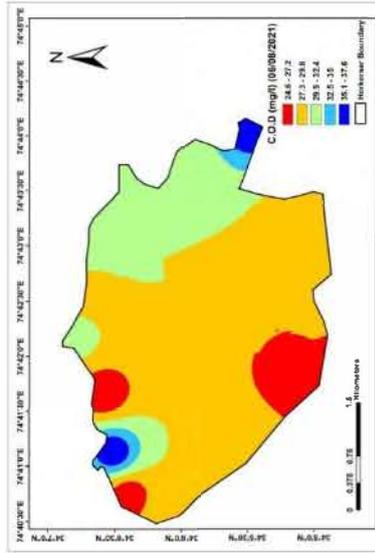
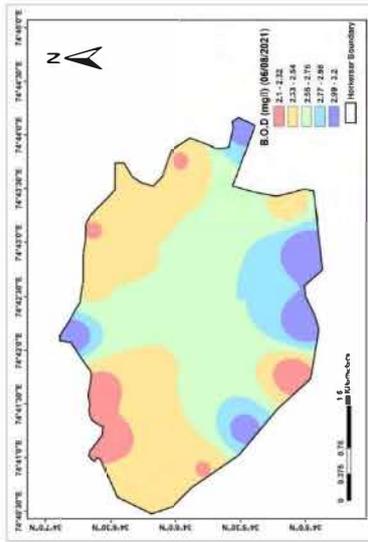
T.D.S 2021



T.D.S 2020

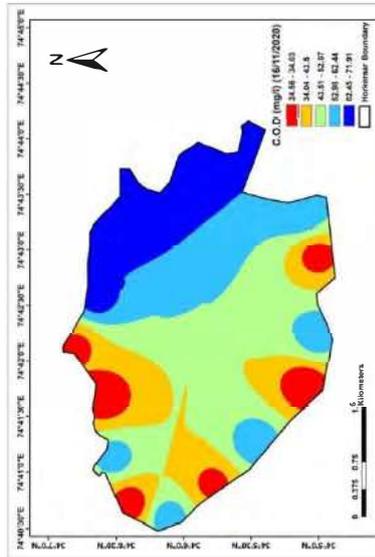
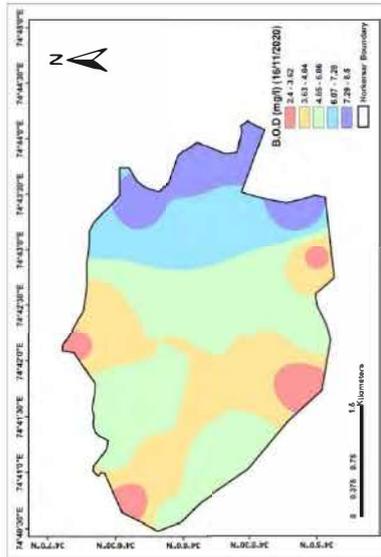


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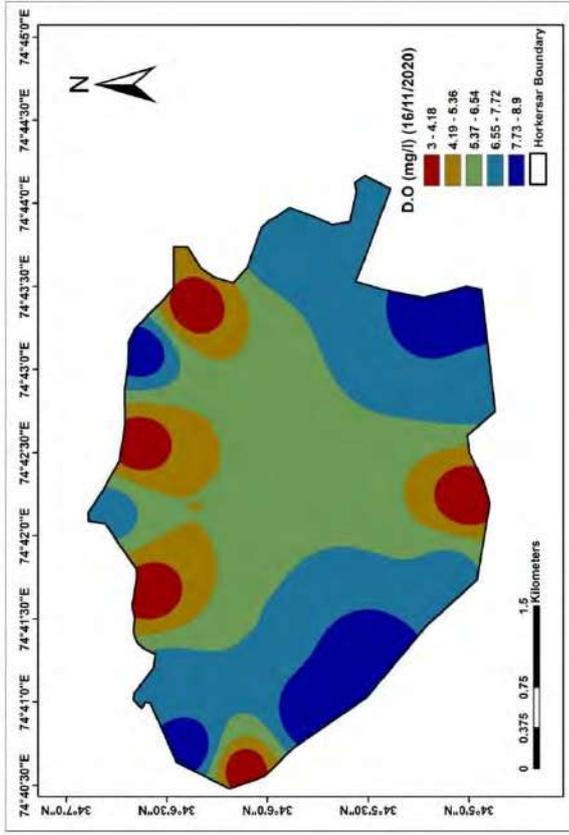


C.O.D 2021

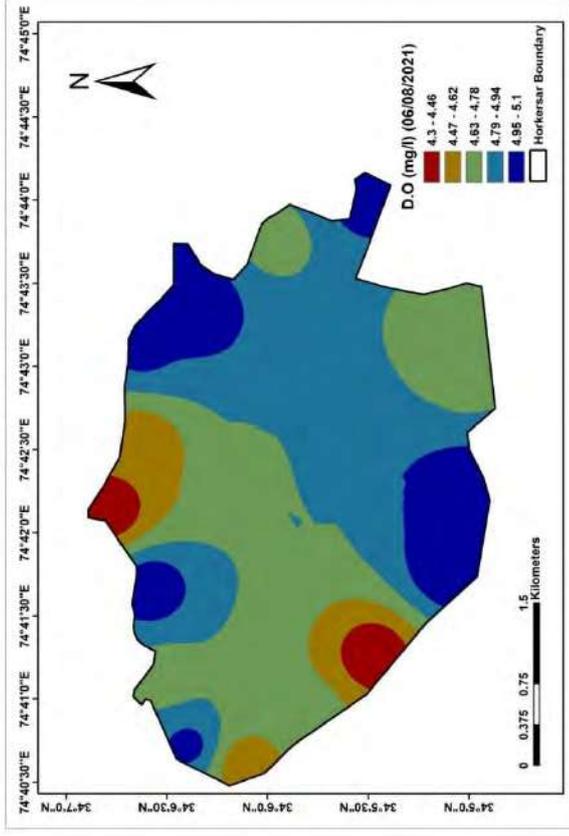
B.O.D 2020



C.O.D 2020



D.O 2020

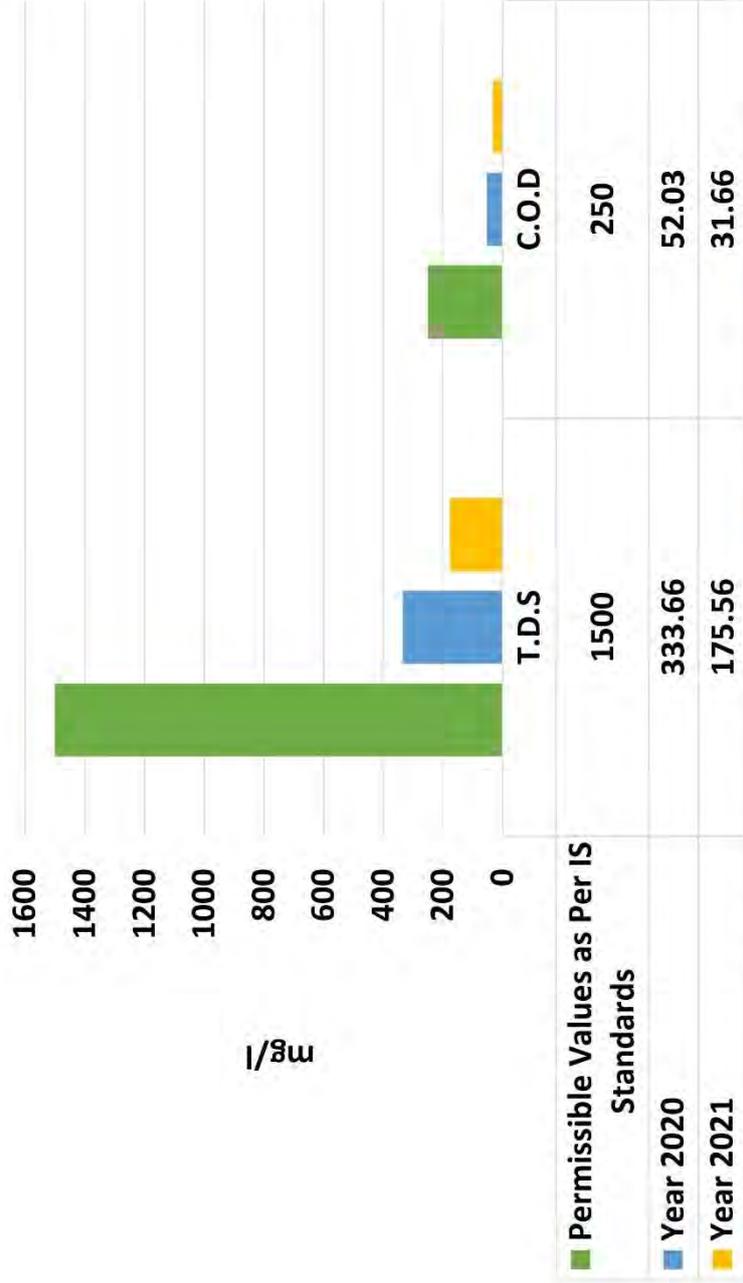


D.O 2021

PERMISSIBLE VALUES VS SITE PARAMETERS

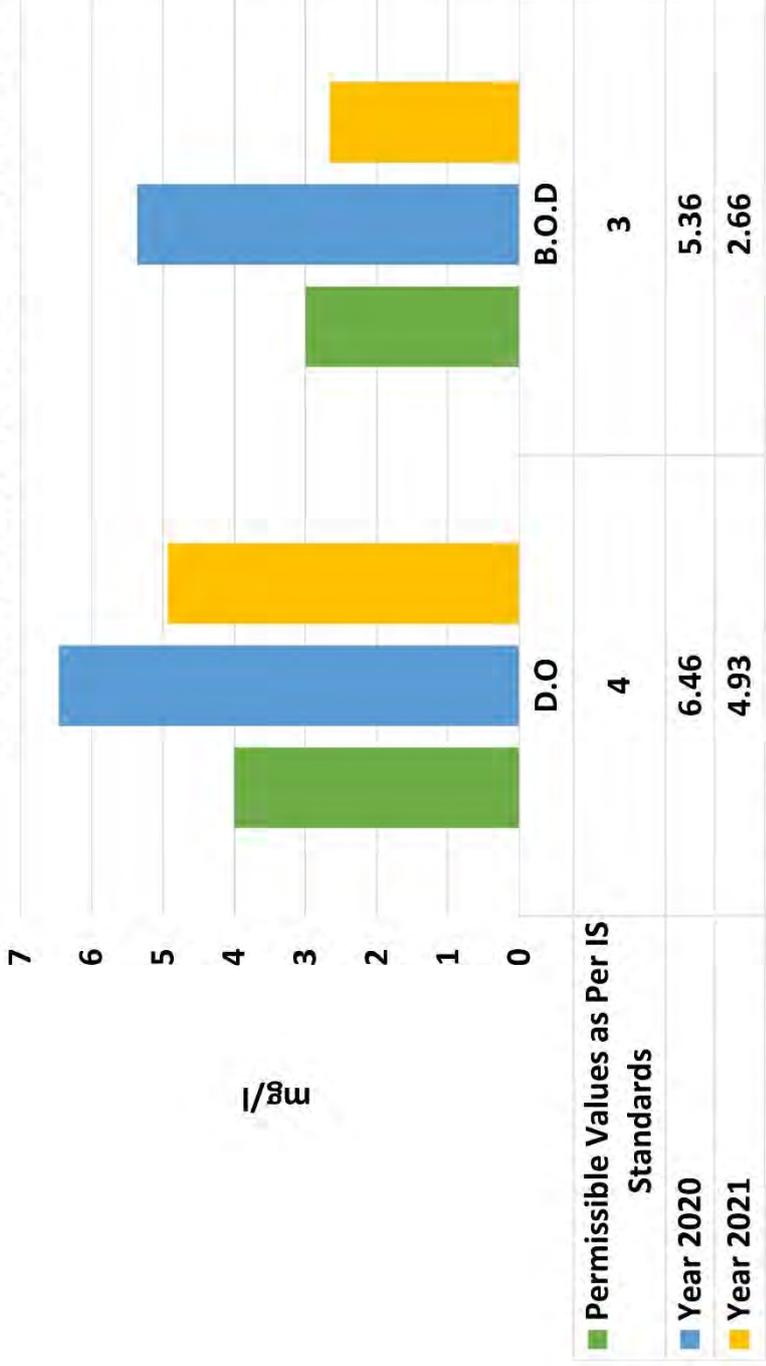


PERMISSIBLE VALUES VS SITE PARAMETERS



■ Permissible Values as Per IS Standards ■ Year 2020 ■ Year 2021

PERMISSIBLE VALUES VS SITE PARAMETERS



■ Permissible Values as Per IS Standards ■ Year 2020 ■ Year 2021

**ASIAN
WATERBIRD
CENSUS 2015-2021**

15. ASIAN WATERBIRD CENSUS 2015-2021

Asian Water Bird Census Details for the Year 2015,2016,2019,2020 and 2021 of Hokersar WLR

S.No	Common Name	Scientific Name	Local Name	2015	2016	2019	2020	2021
1	Little Grebe	<i>Tachybaptus ruficollis</i>	Pind	23	53	0	3	5
2	Great Crested Grebe	<i>Podiceps cristatus</i>	–	0	0	0	0	2
3	Great Cormorant	<i>Phalacrocorax carbo</i>	Mong	0	0	0	0	4
4	Indian Shag	<i>P.fuscicollis</i>	–	0	0	0	0	0
5	Little Cormorant	<i>Phalacrocorax niger</i>		0	3	0	0	1
6	Indian Pond-heron	<i>Ardeola grayii</i>	Broku	0	311	25	0	7
7	White Heron		–	0	0	0	0	0
8	Purple Heron			0	0	0	0	0
9	Black Crowned Night Heron			0	0	0	0	0
10	Grey Heron	<i>Ardea cinerea</i>	Brag	0	11	2	0	12
11	Great White Egret			0	0	0	0	0
12	White Egret			0	0	16	0	0
13	Cattle Egret	<i>Bubulcus ibis</i>	–	0	0	0	0	6
14	Little Egret	<i>Egretta garzetta</i>	Nil Braght	0	33	0	0	1
15	Large(Great) Egret	<i>Casmerodius albus</i>	–	0	0	0	0	0
16	Chestnut or Cinnamon Bittern	<i>I.cinnamomeus</i>	–	0	0	0	0	0
17	Black Bittern	<i>Ixobrychus flavicollis</i>	–	0	0	0	0	0
18	Black Stork	<i>Ciconia nigra</i>	–	0	0	0	0	0
19	large(Fulvous)Whistling Duck	<i>Dendrocygna bicolor</i>	–	0	0	0	0	0
20	Lesser Whistling-duck	<i>Dendrocygna javanica</i>	–	0	0	0	0	0
21	Grey lag Goose	<i>Anser anser</i>	Anz	80	352	0	805	13
22	Bar Headed Goose	<i>Anser indicus</i>		0	0	0	0	0

23	Tundra Swan	<i>Cygnus columbianus</i>		0	0	0	0	2
24	Brahminy (Ruddy) Shelduck	<i>Tadorna ferruginea</i>	Tsakow	0	200	0	0	3
25	Common Shelduck	<i>Tadorna tadorna</i>	–	0	0	0	0	5
26	Comb Duck	<i>Sarkidiornis melanotos</i>	–	0	0	0	0	0
27	Cotton Pigmy goose	<i>Nettapus coromandelianus</i>	–	0	0	0	0	0
28	Eurasian Wigeon	<i>Anas penelope</i>	Shirni Budan	10151	155	0	100	54
29	Blue Winged Teal	<i>Anas discors</i>	–	0	0	0	0	9100
30	Gadwall	<i>Anas strepera</i>	Dudan	101651	16142	112326	44600	26000
31	Mallard	<i>Anas platyrhynchos</i>	Nilij-Thuj	60079	40509	27122	84450	9000
32	Northern Pintail	<i>Anas acuta</i>	Sukh Pachan	65773	45566	39622	137660	589
33	Garganey	<i>Anas querquedula</i>	Nour	0	4223	0	0	4610
34	Northern Shoveler	<i>Anas clypeata</i>	Honk	70958	16298	30613	34720	3300
35	Marbled Teal	<i>Marmaronetta angustirostris</i>	–	0	0	0	0	0
36	Red-crested Pochard	<i>Netta rufina</i>	Toor	0	44	0	0	50
37	Common Pochard	<i>Aythya ferina</i>	Krukh	0	1010	0	4	920
38	Ferruginous Pochard	<i>A.nyroca</i>	Harwath	0	6	0	0	0
39	Tufted Pochard	<i>A.fuligula</i>	Tsarrow	5000	15	0	0	107
40	Common Merganser	<i>Mergus merganser</i>	–	0	0	0	0	8
41	Baillon's Crake	<i>Porzana pusilla</i>	–	0	0	0	0	0
42	White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	–	0	0	0	0	0
43	Ruddy Breasted Crake	<i>Porzana fusca</i>		0	0	0	0	2
44	Eurasian moorhen	<i>Gallinula chloropus</i>	Tech	13	1233	0	0	190
45	Common Moorhen			50	0	78	50	0
46	Eurasian Coot	#N/A	Kolaur	30746	33055	36692	5000	10906
47	Pheasant-tailed Jacana	<i>Hydrophasianus chirurgus</i>	Gond Kaw	0	0	0	0	0
48	Ibisbill	<i>Ibidorhyncha struthersii</i>	–	0	0	0	0	0
49	Black-winged Stilt	<i>Himantopus himantopus</i>	Lang Zeyet	0	5	0	0	0

50	Avocet	<i>Recurvirostra avosetta</i>	–	0	0	0	0	0
51	white tailed Lapwing	<i>V.leucurus</i>	–	0	0	0	0	0
52	Red wattled Lapwing	<i>V.indicus</i>	Frawell	0	5	0	0	5
53	Northern Lapwing	<i>Vanellus vanellus</i>	–	0	6	0	0	30
54	Yellow-wattled Lapwing	<i>Vanellus malarbaricus</i>	–	0	0	0	0	2
55	Little Ringed Plover	<i>Charadrius dubius</i>	–	0	0	0	0	0
56	Kentish Plover	<i>Charadrius alexandrinus</i>	–	0	0	0	0	0
57	Black-tailed Godwit	<i>Limosa limosa</i>	–	0	0	0	0	0
58	Bar-tailed Godwit	<i>Limosa lapponica</i>	–	0	0	0	0	0
59	Eurasian Curlew	<i>Numenius arquata</i>	–	0	0	0	0	0
60	Spotted Redshank	<i>Tringa erythropus</i>	–	0	0	0	0	0
61	Common Redshank	<i>Tringa totanus</i>	–	0	0	0	0	10
62	Marsh Sandpiper	<i>Tringa stagnatilis</i>	–	0	0	0	0	0
63	Common Greenshank	<i>Tringa nebularia</i>	–	0	0	0	0	1
64	Green Sandpiper	<i>Tringa ochropus</i>	–	0	0	0	0	5
65	Wood Sandpiper	<i>Tringa glareola</i>	–	0	0	0	0	1
66	Common Sandpiper	<i>Actitis hypoleucos</i>	Kouli Nalla	0	55	0	0	10
67	Eurasian Woodcock	<i>Scolopax rusticola</i>	–	0	0	0	0	0
68	Solitary Snipe	<i>Gallinago solitaria</i>	Cheh	0	4	0	0	0
69	Pinttail Snipe			0	0	0	0	10
70	Common Snipe	<i>Gallinago gallinago</i>		0	0	0	0	0
71	Temminck's Stint	<i>Calidris temminckii</i>	–	0	0	0	0	0
72	Ruff	<i>Philomachus pugnax</i>	–	0	0	0	0	0
73	Brown-headed Gull	<i>Larus brunnicephalus</i>	–	0	0	0	0	2
74	Steppe Gull/	<i>Laruscachinnas</i>		0	0	0	0	
75	Black Head Gull	<i>Chroicocephalus ridibundus</i>		0	0	0	0	2
76	Whiskered Tern	<i>Chlidonias hybrida</i>	–	0	0	0	0	1

77	Caspian Tern	<i>Sterna caspia</i>	–	0	0	0	0	0
78	River Tern	<i>Sterna aurantia</i>	–	0	0	0	0	0
79	Pallas's Fish-eagle	<i>Haliaeetus leucoryphus</i>	–	0	0	8	0	0
80	Western Marsh-harrier	<i>Circus aeruginosus</i>	–	0	0	1	6	30
81	Euro Asian Marsh Harrier			0	0	0	0	0
82	Osprey	<i>Pandion haliaetus</i>	–	0	0	0	0	0
83	Peregrine Falcon	<i>Falco peregrinus</i>	–	0	0	0	0	0
84	small blue kingfisher	<i>A.atthis</i>	–	0	33	33	0	0
85	white throated kingfisher	<i>H.smyrnensis</i>	Kol Toonth	0	58	0	1	17
86	Creasted kingfisher	<i>Megacerylr lugubris</i>	–	0	0	0	0	0
87	lesser Pied kingfisher	<i>Ceryle rudis</i>	Hor Kola Tonch/ Gaad Khaw	0	68	0	0	0
88	White Wagtail	<i>Motacilla alba</i>	–	0	0	0	0	10
89	Citrine Wagtail	<i>Motacilla citreola</i>	Peench Kean	0	2	0	0	5
90	Yellow Wagtail	<i>Motacilla flava</i>	–	0	0	0	0	2
91	Grey Wagtail	<i>Motacilla cinerea</i>	Khak Dobbai	0	6	0	0	10
92	White-throated Dipper	<i>Cinclus cinclus</i>	–	0	0	0	0	0
93	Grey-headed Swamphen	<i>Porphyrio porphyrio</i>	Wontech	0	521	911	12	100
94	EuroasianTeal	<i>Anas crecca</i>	Keus	157907	26899	63939	173650	74200
95	Common Kingfisher	<i>Alcedo atthis</i>	Kol Toonth	0	0	0	0	16
96	White Capped Water Redstart	<i>Chaimarrornis leucocephalus</i>	Wan cher	0	0	0	0	0
97	Brown Dipper	<i>C.palasioi</i>	Yakur	0	12	0	0	0
98	Black Kite	<i>Milvus Migrans</i>		0	0	0	0	50
99	Barn Swallow	<i>Hirundo Rustica</i>		0	0	0	0	0
100	Addatitional Species of Waterbodies (Paddy Field Pipet, dub chick winter wren starlings, common crow			0	0	0	7	0

***Asian Water Bird Census Details for the Year 2015,2016,2019,2020 and 2021
of Hygam WLR***

S.No	Common Name	Scientific Name	Local Name	2015	2016	2019	2020	2021
1	Little Grebe	<i>Tachybaptus ruficollis</i>	Pind	150	52	0	0	300
2	Great Crested Grebe	<i>Podiceps cristatus</i>	–	0	0	0	0	0
3	Great Cormorant	<i>Phalacrocorax carbo</i>	Mong	0	0	0	0	300
4	Indian Shag	<i>P.fuscicollis</i>	–	0	0	0	0	0
5	Little Cormorant	<i>Phalacrocorax niger</i>		0	0	0	0	0
6	Indian Pond-heron	<i>Ardeola grayii</i>	Broku	25	243	10	1	300
7	White Heron		–	0	0	0	0	0
8	Purple Heron			0	0	0	0	0
9	Black Crowned Night Heron			0	0	0	0	0
10	Grey Heron	<i>Ardea cinerea</i>	Brag	8	0	4	0	300
11	Great White Egret			0	0	0	0	0
12	White Egret			0	0	0	0	0
13	Cattle Egret	<i>Bubulcus ibis</i>	–	0	0	0	0	0
14	Little Egret	<i>Egretta garzetta</i>	Nil Braght	0	12	0	0	0
15	Large(Great) Egret	<i>Casmerodius albus</i>	–	0	0	0	0	0
16	Chestnut or Cinnamon Bittern	<i>I.cinnamomeus</i>	–	2	0	0	0	0
17	Black Bittern	<i>Ixobrychus flavicollis</i>	–	0	0	0	0	0
18	Black Stork	<i>Ciconia nigra</i>	–	0	0	0	0	0
19	large(Fulvous)Whistling Duck	<i>Dendrocygna bicolor</i>	–	0	0	0	0	0
20	Lesser Whistling-duck	<i>Dendrocygna javanica</i>	–	0	0	0	0	0
21	Grey lag Goose	<i>Anser anser</i>	Anz	32500	200	0	89	5500
22	Bar Headed Goose	<i>Anser indicus</i>		0	0	0	0	0
23	Tundra Swan	<i>Cygnus columbianus</i>		0	0	0	0	0
24	Brahminy (Ruddy) Shelduck	<i>Tadorna ferruginea</i>	Tsakow	0	32	0	0	0
25	Common Shelduck	<i>Tadorna tadorna</i>	–	0	0	0	0	0
26	Comb Duck	<i>Sarkidiornis melanotos</i>	–	0	0	0	0	0
27	Cotton Pigmy goose	<i>Nettapus coromandelianus</i>	–	0	0	0	0	0
28	Eurasian Wigeon	<i>Anas penelope</i>	Shirni	3300	74	5050	1500	85000

			Budan					
29	Blue Winged Teal	<i>Anas discors</i>	_	0	0	0	0	0
30	Gadwall	<i>Anas strepera</i>	Dudan	1750	14006	56	289	110000
31	Mallard	<i>Anas platyrhynchos</i>	Nilij- Thuj	17500	33206	180000	11500	74000
32	Northern Pintail	<i>Anas acuta</i>	Sukh Pachan	83600	36599	100000	8000	72500
33	Garganey	<i>Anas querquedula</i>	Nour	0	3501	0	0	30000
34	Northern Shoveler	<i>Anas clypeata</i>	Honk	20	13022	149	45	51000
35	Marbled Teal	<i>Marmaronetta angustirostris</i>	_	0	0	0	0	0
36	Red-crested Pochard	<i>Netta rufina</i>	Toor	0	32	0	0	0
37	Common Pochard	<i>Aythya ferina</i>	Krukh	900	622	0	0	13500
38	Ferruginous Pochard	<i>A.nyroca</i>	Harwath	4	4	0	0	6500
39	Tufted Pochard	<i>A.fuligula</i>	Tsarrow	0	10	0	0	0
40	Common Merganser	<i>Mergus merganser</i>	_	0	0	0	0	0
41	Baillon's Crake	<i>Porzana pusilla</i>	_	0	0	0	0	0
42	White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	_	0	0	0	0	0
43	Ruddy Breasted Crake	<i>Porzana fusca</i>		0	0	0	0	0
44	Eurasian moorhen	<i>Gallinula chloropus</i>	Tech	220	920	0	0	4900
45	Common Moorhen			20	0	0	0	0
46	Eurasian Coot	#N/A	Kolaur	0	20684	0	0	13300
47	Pheasant-tailed Jacana	<i>Hydrophasianus chirurgus</i>	Gond Kaw	0	0	0	0	0
48	Ibisbill	<i>Ibidorhyncha struthersii</i>	_	0	0	0	0	0
49	Black-winged Stilt	<i>Himantopus himantopus</i>	Lang Zeyet	0	2	0	0	0
50	Avocet	<i>Recurvirostra avosetta</i>	_	0	0	0	0	0
51	white tailed Lapwing	<i>V.leucurus</i>	_	0	0	0	0	0
52	Red wattled Lapwing	<i>V.indicus</i>	Frawell	0	0	0	0	0
53	Northern Lapwing	<i>Vanellus vanellus</i>	_	0	6	0	0	0
54	Yellow-wattled Lapwing	<i>Vanellus malarbaricus</i>	_	0	0	0	0	0
55	Little Ringed Plover	<i>Charadrius dubius</i>	_	0	0	0	0	0
56	Kentish Plover	<i>Charadrius alexandrinus</i>	_	0	0	0	0	0
57	Black-tailed Godwit	<i>Limosa limosa</i>	_	0	0	0	0	0
58	Bar-tailed Godwit	<i>Limosa lapponica</i>	_	0	0	0	0	0
59	Eurasian Curlew	<i>Numenius arquata</i>	_	0	0	0	0	0
60	Spotted Redshank	<i>Tringa erythropus</i>	_	0	0	0	0	0
61	Common Redshank	<i>Tringa totanus</i>	_	0	0	0	0	0
62	Marsh Sandpiper	<i>Tringa stagnatilis</i>	_	0	0	0	0	0
63	Common Greenshank	<i>Tringa nebularia</i>	_	0	0	0	0	0

64	Green Sandpiper	<i>Tringa ochropus</i>	–	2	0	5	0	0
65	Wood Sandpiper	<i>Tringa glareola</i>	–	0	0	0	0	0
66	Common Sandpiper	<i>Actitis hypoleucos</i>	Kouli Nalla	1	36	0	0	0
67	Eurasian Woodcock	<i>Scolopax rusticola</i>	–	0	0	0	0	0
68	Solitary Snipe	<i>Gallinago solitaria</i>	Cheh	7	6	0	0	0
69	Pinttail Snipe			0	0	3	0	0
70	Common Snipe	<i>Gallinago gallinago</i>		0	0	0	0	0
71	Temminck's Stint	<i>Calidris temminckii</i>	–	0	0	0	0	0
72	Ruff	<i>Philomachus pugnax</i>	–	0	0	0	0	0
73	Brown-headed Gull	<i>Larus brunnicephalus</i>	–	0	0	0	0	0
74	Steppe Gull/	<i>Laruscachinnas</i>		0	0	0	0	0
75	Black Head Gull	<i>Chroicocephalus ridibundus</i>		0	0	0	0	0
76	Whiskered Tern	<i>Chlidonias hybrida</i>	–	0	0	0	0	0
77	Caspian Tern	<i>Sterna caspia</i>	–	0	0	0	0	0
78	River Tern	<i>Sterna aurantia</i>	–	0	0	0	0	0
79	Pallas's Fish-eagle	<i>Haliaeetus leucoryphus</i>	–	0	0	0	0	0
80	Western Marsh-harrier	<i>Circus aeruginosus</i>	–	1	0	0	2	0
81	Euro Asian Marsh Harrier			0	0	0	0	0
82	Osprey	<i>Pandion haliaetus</i>	–	0	0	0	0	0
83	Peregrine Falcon	<i>Falco peregrinus</i>	–	0	0	0	0	0
84	small blue kingfisher	<i>A.atthis</i>	–	0	12	3	0	0
85	white throated kingfisher	<i>H.smyrnenis</i>	Kol Toonth	1	25	5	2	20
86	Creasted kingfisher	<i>Megacerylr lugubris</i>	–	0	0	0	0	0
87	lesser Pied kingfisher	<i>Ceryle rudis</i>	Hor Kola Tonch/ Gaad Khaw	0	30	0	0	0
88	White Wagtail	<i>Motacilla alba</i>	–	35	0	0	0	0
89	Citrine Wagtail	<i>Motacilla citreola</i>	Peench Kean	0	0	0	0	0
90	Yellow Wagtail	<i>Motacilla flava</i>	–	0	0	6	0	0
91	Grey Wagtail	<i>Motacilla cinerea</i>	Khak Dobbai	0	5	0	0	0
92	White-throated Dipper	<i>Cinclus cinclus</i>	–	0	0	0	0	0
93	Grey-headed Swamphen	<i>Porphyrio porphyrio</i>	Wontech	0	312	500	900	6350
94	EuroasianTeal	<i>Anas crecca</i>	Keus	2320	23533	50000	11000	99500

95	Common Kingfisher	<i>Alcedo atthis</i>	Kol Toonth	2	0	0	0	20
96	White Capped Water Redstart	<i>Chaimarrornis leucocephalus</i>	Wan cher	0	0	0	0	0
97	Brown Dipper	<i>C.palasioi</i>	Yakur	0	3	0	0	0
98	Black Kite	<i>Milvus Migrans</i>		0	0	0	0	0
99	Barn Swallow	<i>Hirundo Rustica</i>		0	0	0	0	0
100	Addatitional Species of Waterbodies (Paddy Field Pipet, dub chick winter wern starlings, common crow			10	0	0	0	0

Asian Water Bird Census Details for the Year 2015,2016,2019,2020 and 2021 of Shallabugh WLR

S.No	Common Name	Scientific Name	Local Name	2015	2016	2019	2020	2021
1	Little Grebe	<i>Tachybaptus ruficollis</i>	Pind	0	70	0	17	2
2	Great Crested Grebe	<i>Podiceps cristatus</i>	_	0	0	0	0	0
3	Great Cormorant	<i>Phalacrocorax carbo</i>	Mong	0	0	0	0	0
4	Indian Shag	<i>P.fuscicollis</i>	_	0	0	0	0	0
5	Little Cormorant	<i>Phalacrocorax niger</i>		0	0	0	0	0
6	Indian Pond-heron	<i>Ardeola grayii</i>	Broku	0	120	0	27	1
7	White Heron		_	0	0	0	0	0
8	Purple Heron			1	0	0	6	0
9	Black Crowned Night Heron			0	0	0	0	0
10	Grey Heron	<i>Ardea cinerea</i>	Brag	0	15	0	0	0
11	Great White Egret			0	0	0	0	0
12	White Egret			0	0	0	0	0
13	Cattle Egret	<i>Bubulcus ibis</i>	_	0	0	0	0	0
14	Little Egret	<i>Egretta garzetta</i>	Nil Braght	0	15	0	17	0
15	Large(Great) Egret	<i>Casmerodius albus</i>	_	0	0	0	0	0
16	Chestnut or Cinnamon Bittern	<i>I.cinnamomeus</i>	_	0	0	0	0	0
17	Black Bittern	<i>Ixobrychus flavicollis</i>	_	0	0	0	0	0
18	Black Stork	<i>Ciconia nigra</i>	_	0	0	0	0	0
19	large(Fulvous)Whistling Duck	<i>Dendrocygna bicolor</i>	_	0	0	0	0	0
20	Lesser Whistling-duck	<i>Dendrocygna javanica</i>	_	0	0	0	0	0
21	Grey lag Goose	<i>Anser anser</i>	Anz	33	13	0	0	0

22	Bar Headed Goose	<i>Anser indicus</i>		0	0	0	0	0
23	Tundra Swan	<i>Cygnus columbianus</i>		0	0	0	0	0
24	Brahminy (Ruddy) Shelduck	<i>Tadorna ferruginea</i>	Tsakow	0	10	0	0	0
25	Common Shelduck	<i>Tadorna tadorna</i>	_	0	0	0	0	0
26	Comb Duck	<i>Sarkidiornis melanotos</i>	_	0	0	0	0	0
27	Cotton Pigmy goose	<i>Nettapus coromandelianus</i>	_	0	0	0	0	0
28	Eurasian Wigeon	<i>Anas penelope</i>	Shirni Budan	4	21	0	120	0
29	Blue Winged Teal	<i>Anas discors</i>	_	2500	0	0	0	0
30	Gadwall	<i>Anas strepera</i>	Dudan	11000	9865	0	25	0
31	Mallard	<i>Anas platyrhynchos</i>	Nilij-Thuj	20000	9442	0	100	0
32	Northern Pintail	<i>Anas acuta</i>	Sukh Pachan	3500	20366	0	50	0
33	Garganey	<i>Anas querquedula</i>	Nour	0	1222	0	0	0
34	Northern Shoveler	<i>Anas clypeata</i>	Honk	900	4222	0	5	0
35	Marbled Teal	<i>Marmaronetta angustirostris</i>	_	0	0	0	0	0
36	Red-crested Pochard	<i>Netta rufina</i>	Toor	0	6	0	0	0
37	Common Pochard	<i>Aythya ferina</i>	Krukh	5	622	0	10	0
38	Ferruginous Pochard	<i>A.nyroca</i>	Harwath	10	0	0	0	0
39	Tufted Pochard	<i>A.fuligula</i>	Tsarrow	0	5	0	0	0
40	Common Merganser	<i>Mergus merganser</i>	_	0	0	0	0	0
41	Baillon's Crake	<i>Porzana pusilla</i>	_	0	0	0	0	2
42	White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	_	0	0	0	0	0
43	Ruddy Breasted Crake	<i>Porzana fusca</i>		0	0	0	0	0
44	Eurasian moorhen	<i>Gallinula chloropus</i>	Tech	0	203	0	0	53
45	Common Moorhen			0	0	45	60	0
46	Eurasian Coot	#N/A	Kolaur	9	5602	50	50	0
47	Pheasant-tailed Jacana	<i>Hydrophasianus chirurgus</i>	Gond Kaw	0	0	0	0	0
48	Ibisbill	<i>Ibidorhyncha struthersii</i>	_	0	0	0	0	0
49	Black-winged Stilt	<i>Himantopus himantopus</i>	Lang Zeyet	0	0	0	0	0
50	Avocet	<i>Recurvirostra avosetta</i>	_	0	0	0	0	0
51	white tailed Lapwing	<i>V.leucurus</i>	_	0	0	0	0	0
52	Red wattled Lapwing	<i>V.indicus</i>	Frawell	0	0	0	0	0
53	Northern Lapwing	<i>Vanellus vanellus</i>	_	0	0	0	0	0

54	Yellow-wattled Lapwing	<i>Vanellus malarbaricus</i>	_	0	0	0	0	0
55	Little Ringed Plover	<i>Charadrius dubius</i>	_	0	0	0	0	0
56	Kentish Plover	<i>Charadrius alexandrinus</i>	_	0	0	0	0	0
57	Black-tailed Godwit	<i>Limosa limosa</i>	_	0	0	0	0	0
58	Bar-tailed Godwit	<i>Limosa lapponica</i>	_	0	0	0	0	0
59	Eurasian Curlew	<i>Numenius arquata</i>	_	0	0	0	0	0
60	Spotted Redshank	<i>Tringa erythropus</i>	_	0	0	0	0	0
61	Common Redshank	<i>Tringa totanus</i>	_	0	0	0	0	0
62	Marsh Sandpiper	<i>Tringa stagnatilis</i>	_	0	0	0	0	0
63	Common Greenshank	<i>Tringa nebularia</i>	_	0	0	0	0	0
64	Green Sandpiper	<i>Tringa ochropus</i>	_	15	0	0	0	0
65	Wood Sandpiper	<i>Tringa glareola</i>	_	0	0	0	0	0
66	Common Sandpiper	<i>Actitis hypoleucos</i>	Kouli Nalla	12	11	0	0	3
67	Eurasian Woodcock	<i>Scolopax rusticola</i>	_	0	0	0	0	0
68	Solitary Snipe	<i>Gallinago solitaria</i>	Cheh	0	0	0	0	0
69	Pinttail Snipe			0	0	0	0	0
70	Common Snipe	<i>Gallinago gallinago</i>		0	0	0	0	0
71	Temminck's Stint	<i>Calidris temminckii</i>	_	0	0	0	0	0
72	Ruff	<i>Philomachus pugnax</i>	_	0	0	0	0	0
73	Brown-headed Gull	<i>Larus brunnicephalus</i>	_	0	0	0	0	0
74	Steppe Gull/	<i>Laruscachinnas</i>		0	0	0	0	0
75	Black Head Gull	<i>Chroicocephalus ridibundus</i>		0	0	0	0	0
76	Whiskered Tern	<i>Chlidonias hybrida</i>	_	0	0	0	0	0
77	Caspian Tern	<i>Sterna caspia</i>	_	0	0	0	0	0
78	River Tern	<i>Sterna aurantia</i>	_	0	0	0	0	0
79	Pallas's Fish-eagle	<i>Haliaeetus leucoryphus</i>	_	0	0	0	0	0
80	Western Marsh-harrier	<i>Circus aeruginosus</i>	_	3	0	0	5	0
81	Euro Asian Marsh Harrier			0	0	0	0	0
82	Osprey	<i>Pandion haliaetus</i>	_	0	0	0	0	0
83	Peregrine Falcon	<i>Falco peregrinus</i>	_	0	0	0	0	0
84	small blue kingfisher	<i>A.atthis</i>	_	6	0	30	10	0
85	white throated kingfisher	<i>H.smyrnensis</i>	Kol Toonth	0	2	0	10	3
86	Crested kingfisher	<i>Megacerylr lugubris</i>	_	0	0	0	0	0

			Hor Kola Tonch/ Gaad Khaw					
87	lesser Pied kingfisher	<i>Ceryle rudis</i>		0	11	0	7	3
88	White Wagtail	<i>Motacilla alba</i>	_	22	0	0	0	0
89	Citrine Wagtail	<i>Motacilla citreola</i>	Peench Kean	0	0	0	0	6
90	Yellow Wagtail	<i>Motacilla flava</i>	_	0	0	0	35	8
91	Grey Wagtail	<i>Motacilla cinerea</i>	Khak Dobbai	0	2	0	0	0
92	White-throated Dipper	<i>Cinclus cinclus</i>	_	15	0	0	0	0
93	Grey-headed Swamphen	<i>Porphyrio porphyrio</i>	Wontech	0	106	0	35	0
94	Euroasian Teal	<i>Anas crecca</i>	Keus	5000	18905	0	100	259
95	Common Kingfisher	<i>Alcedo atthis</i>	Kol Toonth	0	0	0	0	1
96	White Capped Water Redstart	<i>Chaimarrornis leucocephalus</i>	Wan cher	2	0	0	0	0
97	Brown Dipper	<i>C. palasii</i>	Yakur	0	4	0	0	0
98	Black Kite	<i>Milvus Migrans</i>		35	0	0	0	34
99	Barn Swallow	<i>Hirundo Rustica</i>		0	0	0	0	0
100	Addatitional Species of Waterbodies (Paddy Field Pipet, dub chick winter wern starlings, common crow			0	0	0	0	0
	Total			43072	70860	125	689	375

***Asian Water Bird Census Details for the Year 2015,2016,2019,2020 and 2021
of Pampore WLR's***

S.No	Common Name	Scientific Name	Local Name	2015	2016	2019	2020	2021
1	Little Grebe	<i>Tachybaptus ruficollis</i>	Pind	67	115	613	104	104
2	Great Crested Grebe	<i>Podiceps cristatus</i>	_	2	0	27	0	7
3	Great Cormorant	<i>Phalacrocorax carbo</i>	Mong	2	0	0	107	315
4	Indian Shag	<i>P.fuscicollis</i>	_	0	0	0	0	0
5	Little Cormorant	<i>Phalacrocorax niger</i>		0	0	0	11	12
6	Indian Pond-heron	<i>Ardeola grayii</i>	Broku	212	176	70	22	159
7	White Heron		_	0	0	0	0	0
8	Purple Heron			0	0	0	0	0
9	Black Crowned Night Heron			0	0	0	94	0
10	Grey Heron	<i>Ardea cinerea</i>	Brag	0	3	58	86	45
11	Great White Egret			0	0	8	0	0
12	White Egret			0	0	0	0	0
13	Cattle Egret	<i>Bubulcus ibis</i>	_	56	0	0	0	0
14	Little Egret	<i>Egretta garzetta</i>	Nil Braght	0	0	0	9	0
15	Large(Great) Egret	<i>Casmerodius albus</i>	_	0	0	0	0	0
16	Chestnut or Cinnamon Bittern	<i>I.cinnamomeus</i>	_	0	0	0	0	0
17	Black Bittern	<i>Ixobrychus flavicollis</i>	_	0	0	0	0	30
18	Black Stork	<i>Ciconia nigra</i>	_	0	0	0	0	0
19	large(Fulvous)Whistling Duck	<i>Dendrocygna bicolor</i>	_	0	0	0	0	0
20	Lesser Whistling-duck	<i>Dendrocygna javanica</i>	_	0	0	0	0	0
21	Grey lag Goose	<i>Anser anser</i>	Anz	0	25	14	47	35
22	Bar Headed Goose	<i>Anser indicus</i>		0	0	0	0	0
23	Tundra Swan	<i>Cygnus columbianus</i>		0	0	0	0	0
24	Brahminy (Ruddy) Shelduck	<i>Tadorna ferruginea</i>	Tsakow	0	0	10	29	0
25	Common Shelduck	<i>Tadorna tadorna</i>	_	0	0	0	0	1
26	Comb Duck	<i>Sarkidiornis</i>	_	0	0	0	0	0

		<i>melanotos</i>						
27	Cotton Pigmy goose	<i>Nettapus coromandelianus</i>	—	0	0	0	0	0
28	Eurasian Wigeon	<i>Anas penelope</i>	Shirni Budan	353	0	1723	4614	225
29	Blue Winged Teal	<i>Anas discors</i>	—	760	0	0	0	0
30	Gadwall	<i>Anas strepera</i>	Dudan	5583	15834	3482	4411	32809
31	Mallard	<i>Anas platyrhynchos</i>	Nilij-Thuj	6351	24023	7708	12195	52404
32	Northern Pintail	<i>Anas acuta</i>	Sukh Pachan	289	10669	2352	2973	16922
33	Garganey	<i>Anas querquedula</i>	Nour	0	2299	33	0	0
34	Northern Shoveler	<i>Anas clypeata</i>	Honk	3500	4812	4572	35519	14312
35	Marbled Teal	<i>Marmaronetta angustirostris</i>	—	4082	0	0	0	18
36	Red-crested Pochard	<i>Netta rufina</i>	Toor	13	20	0	0	2838
37	Common Pochard	<i>Aythya ferina</i>	Krukh	904	175	1301	1172	3255
38	Ferruginous Pochard	<i>A.nyroca</i>	Harwath	7	0	0	0	0
39	Tufted Pochard	<i>A.fuligula</i>	Tsarrow	25	0	143	243	0
40	Common Merganser	<i>Mergus merganser</i>	—	0	0	0	0	3
41	Baillon's Crake	<i>Porzana pusilla</i>	—	0	0	0	0	0
42	White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	—	0	0	0	0	0
43	Ruddy Breasted Crake	<i>Porzana fusca</i>		0	0	0	0	350
44	Eurasian moorhen	<i>Gallinula chloropus</i>	Tech	0	159	0	0	2356
45	Common Moorhen			364	0	689	839	0
46	Eurasian Coot	#N/A	Kolaur	3850	15155	1094	1341	3658
47	Pheasant-tailed Jacana	<i>Hydrophasianus chirurgus</i>	Gond Kaw	0	0	0	0	0
48	Ibisbill	<i>Ibidorhyncha struthersii</i>	—	0	0	0	0	0
49	Black-winged Stilt	<i>Himantopus himantopus</i>	Lang Zeyet	0	0	0	0	0
50	Avocet	<i>Recurvirostra avosetta</i>	—	0	0	0	0	0
51	white tailed Lapwing	<i>V.leucurus</i>	—	0	0	0	0	0
52	Red wattled Lapwing	<i>V.indicus</i>	Frawell	0	0	0	0	127
53	Northern Lapwing	<i>Vanellus vanellus</i>	—	0	0	0	21	0
54	Yellow-wattled Lapwing	<i>Vanellus malarbaricus</i>	—	0	0	0	0	0
55	Little Ringed Plover	<i>Charadrius dubius</i>	—	0	0	0	0	0
56	Kentish Plover	<i>Charadrius alexandrinus</i>	—	0	0	0	0	0

57	Black-tailed Godwit	<i>Limosa limosa</i>	_	0	0	0	0	0
58	Bar-tailed Godwit	<i>Limosa lapponica</i>	_	0	0	0	0	0
59	Eurasian Curlew	<i>Numenius arquata</i>	_	0	0	0	0	0
60	Spotted Redshank	<i>Tringa erythropus</i>	_	0	0	0	0	0
61	Common Redshank	<i>Tringa totanus</i>	_	0	0	0	0	0
62	Marsh Sandpiper	<i>Tringa stagnatilis</i>	_	0	0	0	0	0
63	Common Greenshank	<i>Tringa nebularia</i>	_	0	0	0	0	0
64	Green Sandpiper	<i>Tringa ochropus</i>	_	0	0	0	19	17
65	Wood Sandpiper	<i>Tringa glareola</i>	_	0	0	0	0	0
66	Common Sandpiper	<i>Actitis hypoleucos</i>	Kouli Nalla	0	8	0	3	91
67	Eurasian Woodcock	<i>Scolopax rusticola</i>	_	0	0	0	0	0
68	Solitary Snipe	<i>Gallinago solitaria</i>	Cheh	0	0	0	0	0
69	Pinttail Snipe			0	0	0	0	0
70	Common Snipe	<i>Gallinago gallinago</i>		0	0	0	0	0
71	Temminck's Stint	<i>Calidris temminckii</i>	_	0	0	0	0	0
72	Ruff	<i>Philomachus pugnax</i>	_	0	0	0	0	0
73	Brown-headed Gull	<i>Larus brunnicephalus</i>	_	0	0	0	0	0
74	Steppe Gull/	<i>Laruscachinnas</i>		0	0	0	0	0
75	Black Head Gull	<i>Chroicocephalus ridibundus</i>		0	0	0	0	0
76	Whiskered Tern	<i>Chlidonias hybrida</i>	_	0	0	0	0	8
77	Caspian Tern	<i>Sterna caspia</i>	_	0	0	0	0	0
78	River Tern	<i>Sterna aurantia</i>	_	0	0	0	0	0
79	Pallas's Fish-eagle	<i>Haliaeetus leucoryphus</i>	_	0	0	0	0	0
80	Western Marsh-harrier	<i>Circus aeruginosus</i>	_	0	0	0	38	0
81	Euro Asian Marsh Harrier			0	0	0	0	0
82	Osprey	<i>Pandion haliaetus</i>	_	0	0	0	0	0
83	Peregrine Falcon	<i>Falco peregrinus</i>	_	0	0	0	0	0
84	small blue kingfisher	<i>A.atthis</i>	_	4	2	0	7	3
85	white throated kingfisher	<i>H.smyrnensis</i>	Kol Toonth	11	33	79	33	60
86	Creasted kingfisher	<i>Megacerylr lugubris</i>	_	0	0	0	0	0
87	lesser Pied kingfisher	<i>Ceryle rudis</i>	Hor Kola Tonch/ Gaad Khaw	0	26	0	0	5
88	White Wagtail	<i>Motacilla alba</i>	_	0	0	0	2	3
89	Citrine Wagtail	<i>Motacilla citreola</i>	Peench Kean	0	0	0	1	30

90	Yellow Wagtail	<i>Motacilla flava</i>	_	15	69	102	104	222
91	Grey Wagtail	<i>Motacilla cinerea</i>	Khak Dobbai	0	0	23	0	23
92	White-throated Dipper	<i>Cinclus cinclus</i>	_	0	0	0	0	0
93	Grey-headed Swamphen	<i>Porphyrio porphyrio</i>	Wontech	0	210	3591	1145	1538
94	EuroasianTeal	<i>Anas crecca</i>	Keus	7667	10785	3873	6578	10196
95	Common Kingfisher	<i>Alcedo atthis</i>	Kol Toonth	0	0	0	0	50
96	White Capped Water Redstart	<i>Chaimarrornis leucocephalus</i>	Wan cher	0	1	0	0	0
97	Brown Dipper	<i>C.palasioi</i>	Yakur	0	7	0	0	0
98	Black Kite	<i>Milvus Migrans</i>		0	0	0	5	606
99	Barn Swallow	<i>Hirundo Rustica</i>		0	0	0	0	49
100	Addatitional Species of Waterbodies (Paddy Field Pipet, dub chick winter wern starlings, common crow			2	0	0	13	0
Total				34104	84537	31486	71682	142669

***Asian Water Bird Census Details for the Year 2015,2016,2019,2020 and 2021
of Mirgund WLR***

S.No	Common Name	Scientific Name	Local Name	2015	2016	2019	2020	2021
1	Little Grebe	<i>Tachybaptus ruficollis</i>	Pind	0	20	0	30	0
2	Great Crested Grebe	<i>Podiceps cristatus</i>	_	0	0	0	0	0
3	Great Cormorant	<i>Phalacrocorax carbo</i>	Mong	0	0	0	0	0
4	Indian Shag	<i>P.fuscicollis</i>	_	0	0	0	0	0
5	Little Cormorant	<i>Phalacrocorax niger</i>		0	0	0	0	0
6	Indian Pond-heron	<i>Ardeola grayii</i>	Broku	30	102	0	50	0
7	White Heron		_	0	0	0	0	0
8	Purple Heron			0	0	0	50	0
9	Black Crowned Night Heron			0	0	0	0	0
10	Grey Heron	<i>Ardea cinerea</i>	Brag	25	16	0	0	0

11	Great White Egret			0	0	0	0	0
12	White Egret			0	0	0	0	0
13	Cattle Egret	<i>Bubulcus ibis</i>	–	0	0	0	0	30
14	Little Egret	<i>Egretta garzetta</i>	Nil Braght	0	10	0	100	0
15	Large(Great) Egret	<i>Casmerodius albus</i>	–	0	0	0	0	0
16	Chestnut or Cinnamon Bittern	<i>I.cinnamomeus</i>	–	0	0	0	0	0
17	Black Bittern	<i>Ixobrychus flavicollis</i>	–	0	0	0	0	20
18	Black Stork	<i>Ciconia nigra</i>	–	0	0	0	0	0
19	large(Fulvous)Whistling Duck	<i>Dendrocygna bicolor</i>	–	0	0	0	0	0
20	Lesser Whistling-duck	<i>Dendrocygna javanica</i>	–	0	0	0	0	0
21	Grey lag Goose	<i>Anser anser</i>	Anz	0	30	0	0	100
22	Bar Headed Goose	<i>Anser indicus</i>		0	0	0	0	0
23	Tundra Swan	<i>Cygnus columbianus</i>		0	0	0	0	0
24	Brahminy (Ruddy) Shelduck	<i>Tadorna ferruginea</i>	Tsakow	0	0	0	0	0
25	Common Shelduck	<i>Tadorna tadorna</i>	–	0	0	0	0	0
26	Comb Duck	<i>Sarkidiornis melanotos</i>	–	0	0	0	0	0
27	Cotton Pigmy goose	<i>Nettapus coromandelianus</i>	–	0	0	0	0	0
28	Eurasian Wigeon	<i>Anas penelope</i>	Shirni Budan	50	0	0	200	7000
29	Blue Winged Teal	<i>Anas discors</i>	–	0	0	0	0	0
30	Gadwall	<i>Anas strepera</i>	Dudan	20	12055	0	100	4000
31	Mallard	<i>Anas platyrhynchos</i>	Nilij- Thuj	35	12066	0	50	60000
32	Northern Pintail	<i>Anas acuta</i>	Sukh Pachan	10	9822	0	100	70000
33	Garganey	<i>Anas querquedula</i>	Nour	0	1255	0	0	5
34	Northern Shoveler	<i>Anas clypeata</i>	Honk	20	10225	0	40	11000
35	Marbled Teal	<i>Marmaronetta angustirostris</i>	–	0	0	0	0	0
36	Red-crested Pochard	<i>Netta rufina</i>	Toor	0	15	0	0	0
37	Common Pochard	<i>Aythya ferina</i>	Krukh	0	55	0	0	1500
38	Ferruginous Pochard	<i>A.nyroca</i>	Harwath	0	0	0	0	0
39	Tufted Pochard	<i>A.fuligula</i>	Tsarrow	0	0	0	0	0

40	Common Merganser	<i>Mergus merganser</i>	–	0	0	0	0	0
41	Baillon's Crake	<i>Porzana pusilla</i>	–	0	0	0	0	0
42	White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	–	0	0	0	0	0
43	Ruddy Breasted Crake	<i>Porzana fusca</i>		0	0	0	0	0
44	Eurasian moorhen	<i>Gallinula chloropus</i>	Tech	0	511	0	0	0
45	Common Moorhen			0	0	0	110	0
46	Eurasian Coot	#N/A	Kolaur	10	9862	0	0	0
47	Pheasant-tailed Jacana	<i>Hydrophasianus chirurgus</i>	Gond Kaw	0	0	0	0	0
48	Ibisbill	<i>Ibidorhyncha struthersii</i>	–	0	0	0	0	0
49	Black-winged Stilt	<i>Himantopus himantopus</i>	Lang Zeyet	0	0	0	0	0
50	Avocet	<i>Recurvirostra avosetta</i>	–	0	0	0	0	0
51	white tailed Lapwing	<i>V.leucurus</i>	–	0	0	0	0	0
52	Red wattled Lapwing	<i>V.indicus</i>	Frawell	0	0	0	0	0
53	Northern Lapwing	<i>Vanellus vanellus</i>	–	0	0	0	0	0
54	Yellow-wattled Lapwing	<i>Vanellus malarbaricus</i>	–	0	0	0	0	0
55	Little Ringed Plover	<i>Charadrius dubius</i>	–	0	0	0	0	0
56	Black-tailed Godwit	<i>Limosa limosa</i>	–	0	0	0	0	0
57	Kentish Plover	<i>Charadrius alexandrinus</i>	–	0	0	0	0	0
58	Bar-tailed Godwit	<i>Limosa lapponica</i>	–	0	0	0	0	0
59	Eurasian Curlew	<i>Numenius arquata</i>	–	0	0	0	0	0
60	Spotted Redshank	<i>Tringa erythropus</i>	–	0	0	0	0	0
61	Common Redshank	<i>Tringa totanus</i>	–	0	0	0	0	0
62	Marsh Sandpiper	<i>Tringa stagnatilis</i>	–	0	0	0	0	0
63	Common Greenshank	<i>Tringa nebularia</i>	–	0	0	0	0	0
64	Green Sandpiper	<i>Tringa ochropus</i>	–	0	0	0	0	0
65	Wood Sandpiper	<i>Tringa glareola</i>	–	0	0	0	0	7
66	Common Sandpiper	<i>Actitis hypoleucos</i>	Kouli Nalla	0	0	6	0	3
67	Eurasian Woodcock	<i>Scolopax rusticola</i>	–	0	0	0	0	0
68	Solitary Snipe	<i>Gallinago solitaria</i>	Cheh	100	0	0	0	2
69	Pinttail Snipe			0	0	0	0	0
70	Common Snipe	<i>Gallinago gallinago</i>		0	0	0	0	3
71	Temminck's Stint	<i>Calidris temminckii</i>	–	0	0	0	0	0
72	Ruff	<i>Philomachus</i>	–	0	0	0	0	0

		<i>pugnax</i>						
73	Brown-headed Gull	<i>Larus brunnicephalus</i>	–	0	0	0	0	0
74	Steppe Gull/	<i>Laruscachinnas</i>		0	0	0	0	0
75	Black Head Gull	<i>Chroicocephalus ridibundus</i>		0	0	0	0	0
76	Whiskered Tern	<i>Chlidonias hybrida</i>	–	0	0	0	0	0
77	Caspian Tern	<i>Sterna caspia</i>	–	0	0	0	0	0
78	River Tern	<i>Sterna aurantia</i>	–	0	0	0	0	0
79	Pallas's Fish-eagle	<i>Haliaeetus leucoryphus</i>	–	0	0	0	0	0
80	Western Marsh-harrier	<i>Circus aeruginosus</i>	–	0	0	0	0	5
81	Euro Asian Marsh Harrier			0	0	0	0	0
82	Osprey	<i>Pandion haliaetus</i>	–	0	0	0	0	0
83	Peregrine Falcon	<i>Falco peregrinus</i>	–	0	0	0	0	0
84	small blue kingfisher	<i>A.atthis</i>	–	0	13	0	100	0
85	white throated kingfisher	<i>H.smyrnensis</i>	Kol Toonth	0	14	0	60	0
86	Crested kingfisher	<i>Megacerylr lugubris</i>	–	0	0	0	0	0
87	lesser Pied kingfisher	<i>Ceryle rudis</i>	Hor Kola Tonch/ Gaad Khaw	0	18	0	0	0
88	White Wagtail	<i>Motacilla alba</i>	–	0	0	0	6	
89	Citrine Wagtail	<i>Motacilla citreola</i>	Peench Kean	0	0	0	0	2
90	Yellow Wagtail	<i>Motacilla flava</i>	–	0	0	0	210	0
91	Grey Wagtail	<i>Motacilla cinerea</i>	Khak Dobbai	0	3	0	0	0
92	White-throated Dipper	<i>Cinclus cinclus</i>	–	0	0	0	0	0
93	Grey-headed Swamphen	<i>Porphyrio porphyrio</i>	Wontech	0	201	0	0	0
94	EuroasianTeal	<i>Anas crecca</i>	Keus	200	22108	0	600	50000
95	Common Kingfisher	<i>Alcedo atthis</i>	Kol Toonth	0	0	0	0	0
96	White Capped Water Redstart	<i>Chaimarrornis leucocephalus</i>	Wan cher	0	0	0	0	0

97	Brown Dipper	<i>C.palasioi</i>	Yakur	0	4	0	0	0
98	Black Kite	<i>Milvus Migrans</i>		0	0	0	0	10
99	Barn Swallow	<i>Hirundo Rustica</i>		0	0	0	0	0
100	Addatitional Species of Waterbodies (Paddy Field Pipet, dub chick winter wern starlings, common crow			0	0	0	0	0
		Total		500	78405	6	1806	203687

Minutes of Meetings

①

Government of Jammu and Kashmir
Forests, Ecology and Environment Department,
Civil Secretariat, Srinagar

Subject: Minutes of the review meeting held under the chairmanship of Commissioner/Secretary to the Govt. Forest, Ecology and Environment Department on 13-07-2021.

A meeting, under the chairmanship of Commissioner/Secretary to the Government, Forest, Ecology and Environment Department, was held on 13th of July, 2021, at 2.30 PM through Video Conferencing Mode. The following officers and/or their representatives attended the meeting:

- 1) Principal Chief Conservator of Forests (HoFF), J&K
- 2) Director, Ecology, Environment and Remote Sensing, J&K.
- 3) Director, Social Forestry, J&K
- 4) Chief Wildlife Warden, J&K
- 5) Director, Soil and Water Conservation, J&K
- 6) Director, Forest Research Institute, J&K
- 7) Managing Director, Forest Development Corporation, J&K
- 8) Director, Forest Protection Force, J&K
- 9) Member Secretary, Pollution Control Committee, J&K.
- 10) Director (Finance), Forest, Ecology and Environment Dept., J&K.

At the outset, the Chair welcomed the officers and the discussion on the agenda items followed. Following decisions were taken in the meeting:-

1. **Administrative inspections:** All the HoDs were requested to furnish reports *w.r.t.* administrative inspections held by them in their respective subordinate offices, on fortnightly basis, as per the following format: -

Name of the Department	Name of the office in which the administrative inspection was held	Date of inspection	Remarks (if any)
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2. **S.O. 324:** Attention of all the HoDs was invited to the instructions contained in S.O. 324 dated 22.10.2020, issued by the Finance Department, regarding review of performance of Government Employees. HoDs shall carry a screening of all the employees as per the S.O. 324. They were requested to expedite furnishing of the list of identified employees to be placed before the review committee for consideration of Competent Authority within 10 (ten) days.
3. **Ranking Index Format:** The discussion was also held regarding the initiative of Planning, Development & Monitoring Department to undertake the exercise of ranking the Departments on the basis of certain indices. The HoDs were requested to furnish the information required for filling in the Ranking index format, by 30th of each month.
4. **Audit Paras:** While appreciating the progress shown by the Departments in the follow-up of the matter with regard to clearance of Audit paras, OB items and adjustment of Red DC accounts, threadbare discussion was held on this agenda item. HoDs were requested to lay equal emphasis on the necessity of replying to and clearing Audit Paras and OB items; they shall keep a constant contact with

S. H. J.
16/07/21

the office of Principal Accountant General. The HoDs were requested to take all steps to have the OB items and audit paras cleared expeditiously. It was re-emphasized upon all the HoDs to have the vital matter vigorously tracked, and to get the audit paras of their respective Departments replied to, and have them settled, at the earliest. HoDs were also requested to get the data with regard to Audit Paras/OB items reconciled with AG's office for a correct figure. It was also advised to ensure clearance of the audit paras/OB items, with both sections, "Audit" as well as "Accounts" of the AG's Office.

5. **Cleanliness in Offices and displaying of boards:** Commissioner/Secretary to the Government, Forest, Ecology and Environment Department, also reiterated these instructions already issued to the subordinate offices for observing cleanliness in office(s)/premise(s) and to ensure that the boards depicting the names of Officers working in each office are displayed at appropriate place.
6. **DPCs:** The attention was also invited to the standing instructions for holding the DPC meetings as per the devised calendar to ensure regular career progression of the employees.
7. **Wetlands Management:** The issue of Wetlands' Management also came up for discussion and the Chair requested PCCF/Chief Wildlife Warden to ensure that the process of bio-fencing of Wetlands commences with full energy. Chief Wildlife Warden was also requested to share the status of the Comprehensive Management Plan for Wetlands to the Administrative Department.
8. **Involvement of VPPCs:** Commissioner/Secretary to the Govt., Forest, Ecology and Environment Department, also impressed upon the Director, Social Forestry Department, to get all the VPPCs engaged purposefully and they be made vibrant. Involvement of VPPCs in the Forest Development works be adequately publicized.

The meeting ended with vote of thanks to and from the Chair.


 (Subul-ul-Islam) Khat
 Deputy Secretary to the Government
 Forest, Ecology and Environment Department

No. FST-ADM/4/2021-04

Dated: 16-07-2021

Copy to the:

- 1) Principal Chief Conservator of Forests (HoFF), J&K.
- 2) Director, Ecology, Environment and Remote Sensing, J&K.
- 3) Director, Social Forestry, J&K
- 4) Chief Wildlife Warden, J&K
- 5) Director, Soil and Water Conservation, J&K
- 6) Director, Forest Research Institute, J&K
- 7) Managing Director, Forest Development Corporation, J&K
- 8) Director, Forest Protection Force, J&K
- 9) Member Secretary, Pollution Control Committee, J&K.
- 10) Director (Finance), Forest, Ecology and Environment Department, J&K
- 11) Director (Planning), Forest, Ecology and Environment Department, J&K
- 12) Pvt. Secretary to Commissioner/Secretary to the Government, Forest Ecology and Environment Department.
- 13) PA to Secretary in the Department of Forest, Ecology and Environment.
- 14) Stock file.

Office of the Chief Wildlife Warden J&K Jammu
 No: 1604/EST/2021/958-09 Dated: 17-07-2021

01-02 Copy of above forwarded to Regional Wildlife Warden Jammu, and Regional Wildlife Warden for information and necessary action on above subject.

03-12 All Wildlife Wardens of J&K for info & necessary action.

Amn Khat
 Wildlife Warden (Planning)
 Department of Wildlife Protection
 Jammu & Kashmir

Government of Jammu & Kashmir
Forest, Ecology & Environment Department
Civil Secretariat, Jammu/Srinagar

MINUTES OF MEETING

A Meeting was held under the Chairmanship of Commissioner/Secretary to Government, Forest, Ecology & Environment Department on 29.07.2021 at 12.30 PM in Meeting Hall at 1st Floor Civil Secretariat, Jammu to discuss the issues regarding order passed by the Principal Bench of the Hon'ble National Green Tribunal, on 22.07.2021 in O.A No. 351/2019 titled Raja Muzaffar Bhat V/s State of Jammu and Kashmir & others. The officers stationed outside attended through Video Conferencing.

The Following participants/Officers attended the meeting -

- 1 Chief Wildlife Warden, Jammu and Kashmir
- 2 Member Secretary, J&K Pollution Control Board, Jammu
- 3 Divisional Commissioner, Kashmir
- 4 Chief Executive Director, WUCMA, Srinagar
- 5 Director Urban Local Bodies, Kashmir
- 6 Director Rural Sanitation, J&K
- 7 Deputy Commissioners, Srinagar/Budgam/Baramulla/Ganderbal & Pulwama
- 8 Vice Chairman, Lakes & Waterways Development Authority Srinagar
- 9 Additional Secretary (Legal), Rural Development Department & P.A.

At the outset, the Commissioner/Secretary to Government, Forest, Ecology and Environment Department highlighted the importance of Wetlands and called for joint action by various Departments for their protection and conservation. Further, mentioned about the necessity of sustainability of wetlands which are part of our heritage. He further invited the attention of participants towards the issues raised in the order passed by the Hon'ble National Green Tribunal in O.A No. 351/2019 on 22.07.2021.

After holding threadbare discussions in the matter the following decisions have been taken:-

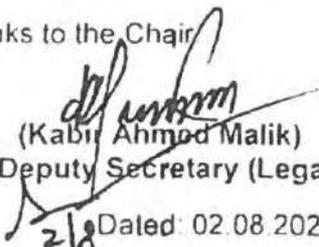
- 1 Divisional Commissioner, Kashmir shall hold a meeting of Joint Committee 'constituted vide GAD order No.878 of 2019 dated 25-07-2019' in the next week to review the progress with respect to the mitigatory measures to the challenges being faced by the wetlands with particular reference to the wetlands mentioned in the said NGT order.
2. Regional Wildlife Warden, Kashmir shall prepare the action plan with respect to the wetlands under the jurisdiction of a

2/0

Department of Wildlife Protection in time bound manner for submission of timely compliance to the Hon'ble NGT

3. CED, WUCMA and VC, LAWDA shall similarly ensure the completion of action plan with respect to Wullar and Dal Lakes respectively
4. The action plans shall include among others remedial action against weed infestation, sewerage discharges, solid waste dumping, siltation and encroachments.
5. The action plan should have provision for budget to address the challenges and authority responsible for implementation of the action plan shall also be designated
6. Director, Urban Local Bodies, Kashmir & Director, Rural Sanitation shall devise mechanism for preventing dumping of solid waste in the wetlands of their respective areas. They will take on board staff of Department of Wildlife Protection in this endeavor with regard to wildlife protected wetlands. A system for removal of any stray dumping of solid waste along the wetlands shall be put in place by Director Urban Local Bodies Kashmir and Director Rural Sanitation
7. The action plan shall also incorporate time bound removal of encroachments of wetlands and demarcation of their boundaries with Geo-tagging.
8. Director, Urban Local Bodies, Kashmir shall get the issue of disposal of sewerage into Freshkooori wetland examined on priority for remedial measures
9. All the concerned Deputy Commissioners shall provide necessary support in this regard.

The Meeting ended with vote of thanks to the Chair


(Kabir Ahmad Malik)
Deputy Secretary (Legal)

2/8 Dated: 02.08.2021

NO. FST/Lit/145/2019

Copy to the:-

- 1 Chief Wildlife Warden, Jammu and Kashmir
- 2 Member Secretary, J&K Pollution Control Board, Jammu
- 3 Divisional Commissioner, Kashmir.
- 4 Chief Executive Director, WUCMA, Srinagar
- 5 Director Urban Local Bodies, Kashmir

- 6 Director Rural Sanitation (D.S.R)
- 7 Deputy Commissioner, Navagrah/Badli and Harimall es. circles of Talukamra
- 8 Vice Chairman, Lakes & Watersheds Development Authority, Bangalore
- 9 Additional Secretary (Equal) Rural Development Department, P. O. S.
- 10 Private Secretary to Commissioner/Secretary to the Government, Department of Forest Ecology and Environment for information of Commissioner/Secretary

**Government of Jammu and Kashmir
Forest, Ecology and Environment Department, Civil Secretariat, Srinagar**

Subject: Minutes of the meeting regarding the issue Wetland Management held under the chairmanship of Commissioner/Secretary to the Government, Forest, Ecology and Environment Department on 14.07.2021.

A meeting was held under the chairmanship of Commissioner/Secretary to the Government, Forest, Ecology and Environment Department in his office chambers on 14th July, 2021 at 12.30 PM to discuss the Wetland Management in UT of Jammu and Kashmir, notified in Forest and Wildlife areas (Protected areas). The following officers attended the meeting:

- 1) Principal Chief Conservator of Forests (HoFF) J&K
- 2) Chief Wildlife Warden, J&K
- 3) Secretary in the Forest, Ecology and Environment Department
- 4) Regional Wildlife Warden Kashmir

At the outset, the chair welcomed the officers, while inviting their attention towards the issue regarding Wetlands Management. Principal Chief Conservator of Forests (HoFF) was requested to share their latest status in the matter. The chair also discussed the matter with Chief Wildlife Warden J&K also.

After detailed discussions following decision were arrived at:

1. To ensure ecological restoration of all wetlands falling in Forest and Wildlife areas
2. To formulate comprehensive Management Action Plans of each wetland, incorporating Bio fencing, wherever applicable.
3. PCCF (HOFF) shall submit a status Report regarding Action Plan, and future course of action to manage and restore wetlands in Forest areas.
4. The summary of wetlands falling in forest areas informed by PCCF (HoFF):

Region	Lakes/Wetlands	Ponds	Total	Total area
Jammu	162	89	251	21000 hec
Kashmir	398	0	398	
Total	560	89	649	21000 hec

5 Similarly APCCF (Wildlife /CWLW) informed that besides High altitude lakes falling in the protected areas, 14 wetlands/wildlife conservation Reserves are notified these are all river basin wetlands. Detail is summarised as under;

Region	No	Area in hec
Jammu	5	9650
Kashmir	9	4477
Total	14	14127

6 Chief Wildlife Warden J&K informed that in Kashmir Region formulation of integrated and comprehensive Management Action Plan, for all wetlands is under process. The task for formulating the Plan has been entrusted to NIT (Srinagar) and is likely to be completed in the month of September, 2021.

7 Chief Wildlife Warden also informed that Management Plan of Gharana wetland, in Jammu is at an advance stage of completion developed with the help of WWF-India and is expected to be completed by end of September, 2021. Further, Management Plan for Surinsar Mansar lake. is being prepared by Wildlife Institute of India, Dehradun and is likely to be completed by end of Oct. 2021.

8. The Commissioner/Secretary requested that PCCF/CWLW shall provide status of each wetlands on devised proforma, which shall include:

- Name of District
- Area of the wetland
- State of health of wetland.
- Current status of the management of plan
- Any intervention required for rejuvenation/restoration of the wetland.
- Bio fencing plan
- Tourism plan.
- Besides any other specific information, as may be felt desirable by PCCF/CWLW, shall be incorporated.

9. Commissioner/Secretary stated that both Wildlife/Forest Department should submit a synopsis capturing salient features, facts and management interventions required for these wetlands

10. Commissioner/Secretary Forests insisted that Bio-fencing by way of Planting feasible species along the fringes/boundaries of wetlands, should begin during Van Maha Utsav period.

11. Commissioner/Secretary Forests stated that, values, role, and characteristics of the wetlands should be properly highlighted, so that common

masses, are educated, in regard to the importance of these wetlands. Primary focus will be to highlight tourism potential of these sites.

Principal Chief Conservator of Forests (HoFF) J&K informed that in the Jammu region there is abundant Lantana medicinal flowering plant, which can be used as herbal medicine for treatment of various ailments. Hence a detailed report be sent from the PCCF, in this regard.

The meeting ended with votes of thanks to chair.

Ghulam Dastgeer Alam
(Ghulam Dastgeer Alam) 16/7

Under Secretary to the Government
Forest, Ecology and Environment Department

No.FST-Land/08/2021-02

Dated 16.07.2021

Copy to the;

- 1) Principal Chief Conservator of Forests (HoFF) J&K
- 2) Chief Wildlife Warden J&K
- 3) Secretary in the Forest, Ecology and Environment Department
- 4) Regional Wildlife Warden J&K Jammu/Kashmir
- 5) Pvt. Secretary to Commr/Secretary to the Government, Forest, Ecology and Environment Department

Office of the Chief Wildlife Warden J&K Jammu,

No. W.P./Estt/2021/970-81,

Dated: - 17-07-2021.

01-02 Copy of above and its enclosures forwarded to Regional Wildlife Warden Jammu and Regional Wildlife Warden

Kashmir for information please

03-12. All Wildlife Wardens of J&K for information and necessary action please.

Annu Gupta

Wildlife Warden (In-charge)
Department of Wildlife Protection
Jammu & Kashmir

Record Note of the meeting chaired by Chief Secretary on 03.08.2021 at 04:00 PM, in due deference of order dated 22.07.2021 of Hon'ble National Green Tribunal passed in OA No. 361/2019 titled 'Raja Muzaffer Bhat Vs State of Jammu & Kashmir & Ors.' at Meeting Hall 3rd Floor, Civil Secretariat, Srinagar.

Present:

1. Chief Secretary :in Chair
2. Commissioner/Secretary, Forest, Ecology & Environment Department.
3. Chairman, Jammu & Kashmir Pollution Control Committee. (through VC)
4. Chief Wild Life warden, Jammu & Kashmir. (through VC)
5. Member Secretary, Jammu & Kashmir Pollution Control Committee. (through VC)
6. Chief Executive Director, Wular Conservation & Management authority (WUCMA)
7. Vice Chairman, Lakes and Water Development Agency (LAWDA)
8. Deputy Commissioner's of Budgam, Bandipora, Baramulla, Srinagar & Pulwama. (through VC)

At the outset, order dated 22.07.2021 of Hon'ble National Green Tribunal (NGT) passed in OA No.361/2019 titled 'Raja Muzaffer Bhat Vs State of Jammu & Kashmir Ors.' was discussed. During discussions, Chief Secretary was informed that out of total 649 wetlands in UT of Jammu & Kashmir 398 wetlands fall in Kashmir province and 251 in Jammu.

2. The progress regarding directions on prevention of unscientific dumping of waste and encroachment, demarcation of wetlands in the Union Territory of Jammu & Kashmir was discussed by line departments. Regional Wild Life Warden, Kashmir made a power point presentation silent feature, challenges and remedial measures proposed for eight wetlands vis-a-vis Hokersar, Hygam, Shallbug, Mirgund, Krencho, Chattalam, Freshkhoori, Manibug Wetland Conservation Reserves. The discussion was held on implementation of the following points:

- i. The implementation of **Wetlands (Conservation and Management) Rules, 2010** in the said wetlands.
- ii. Preparation and Submission of detailed action plan, covering all remedial action against weed infestation, sewage discharges, solid waste disposal, encroachments etc. in respect of each of the wetland with budgetary support and identified accountable persons.
- iii. Preparation of Demarcation maps and latest status of demarcation of these wetlands.

- iv. Mitigation of weed infestation and encroachment issues of said wetlands.
- v. Prevention of dumping of waste and implementation of solid waste management rules in and around the catchment areas of said Wetlands.
- vi. Promotion of eco-tourism activities in wetlands.
- vii. Submission of the compliance report in the instant matter.

3. After detailed deliberations, the following decisions were taken:

S.No.	Agenda	Discussion/Decisions Taken thereof	Action by
1.	Implementation of Wetlands (Conservation and Management) Rules, 2010 in the wetlands of Kashmir.	Forest Department being Nodal Department shall ensure, strict and timely implementation of Wetland Rules, 2010, in all wetland of UT of Jammu & Kashmir in letter & spirit as regulatory framework for conservation and management	Forest Department H&UDD & Divisional Commissioner, Kashmir.
2	Preparation and Submission of detailed Action plan, covering all remedial action against weed infestation, sewage discharges, dumping of solid waste and its disposal, encroachments etc. on wetlands of Kashmir.	The Nodal Department in consultation with line department(s) shall prepare Detailed Action plan based on "wise use" scientific approach, considering ecological character and ecosystem services, with budgetary plan for wetlands of Kashmir, in consultation with stakeholders. The plan shall include present status of each wetlands and expected outcomes after the implementation of the action plan with the proposed interventions. The action plan shall be uploaded on the departmental website for a period of one week to invite suggestions from all stakeholders. The copy of same shall be	Forest Department, & H&UDD

N.A.P.U.B. [Signature]

[Signature]

→

		submitted to this office, within fifteen days by or before 18.08.2021.	
3.	Dumping of waste and implementation of solid waste management rules in and around the catchment areas of said Wetlands.	The line department(s) shall ensure no waste is dumped in and around the water bodies. There should be no plastic waste in the wetlands. Bio-remedial measures shall be taken, at the earliest to address the problems of sewerage entering the wetlands.	H&UDD, & Deputy Commissioners
4.	Preparation of Demarcation maps and latest status of demarcation of these wetlands.	The Forest department shall prepare digital maps of each wetland. The department shall also ensure demarcation of each wetland and Cent percent of progress is achieved in a time bound manner. Also, Bio-fencing of all the wetlands shall be ensured.	Forest Department
5.	Eradication of the weed infestation issues of said wetlands	The line department(s) shall ensure all scientific and modern practices are in place for mitigation of problem of infestation of weeds. In view of this, the proposal for utilising resource shall be framed by Regional Wild Life Warden, Kashmir, to work out the modalities for better utilisation of biomass in terms of energy and production of manures from weeds within weeks time.	Forest Department, H&UDD, Divisional Commissioner, Kashmir.
6.	Eviction of Encroachment and action thereof of said wetlands	Divisional Commissioner, Kashmir shall hold a meeting in week's time and shall take necessary action as per the direction(s) of Hon'ble NGT & mandate of Government. There should be zero tolerance for the chronic and habitual offenders/ encroachers. Immediate and prompt action shall be initiated for eviction	Forest Department, H&UDD, & Divisional Commissioner, Kashmir.

		<p>of encroachments in and around catchment of wetlands in question.</p> <p>The line department(s) in consultation with respective regional and district administration(s) shall take strict action against encroachers; the latest action taken report along with evidences may be submitted to this office at the earliest.</p>	
7.	Action for de-silting of wetlands	<p>The removal of silt from wetlands requiring action, to be taken up through auction mode.</p> <p>In order to maintain required amount of water and enhance water holding capacity in the Hokersar wetland, Sluice gate shall be installed within one month.</p>	Forest Department, & Jal Sakhti Department
8.	Development of approach roads and beautification of the entry points.	The line department(s) shall take up immediate action for improvement of approach roads and beautification of the entry points for all potential wetlands.	Forest Department, & H&UDD
9.	Other directions for all wetlands of Kashmir.	<p>For all wetlands line departments shall go for water quality analysis vis-à-vis BOD, COD, pH etc may take up at the earliest besides line department shall immediately start working for the following activities :-</p> <ol style="list-style-type: none"> i. Bio-fencing ii. Side buds where required. iii. Catchment area treatment. iv. Biodiversity index study. v. Key species study vi. Bioremediation vii. Eco-tourism. viii. Winter festivals ix. Construction of Watch towers. x. Boating activities. 	Forest Department.

		xi. USP xii. Installation of hoardings, Banners etc. xiii. Eco-trails xiv. Single use plastic compaigns xv. Marketing and Publicity for awareness of the general public etc.	
10.	Submission of the compliance status report in the instant matter.	The matter is again listed for hearing on 17.11.2021, the line department(s) shall ensure timely action in the matter and submit the compliances regarding the matter as on 31.10.2021 to the Forest Department (Nodal Department) for onward submission of same to Hon'ble NGT within fixed timeframe.	Forest Department & Divisional Commissioner, Kashmir

4. The meeting ended with a vote of thanks to the Chair.

Moghe
Special Secretary with Chief Secretary

No: PS/ CS/ Minutes/2021/140-C

Dated: 03.08.2021

Copy to the:

1. Principal Secretary, Housing & Urban Development Department.
2. Commissioner/Secretary, Forest, Ecology & Environment Department.
3. Divisional Commissioner, Kashmir.
4. Chairman, Jammu & Kashmir Pollution Control Committee.
5. Chief Wild Life warden, Jammu & Kashmir.
6. Member Secretary, Jammu & Kashmir Pollution Control Committee.
7. Chief Executive Director, Wular Conservation & Management authority (WUCMA)
8. Vice Chairman, Lakes and Water Development Agency (LAWDA)
9. Deputy Commissioner's of Budgam, Bandipora, Baramulla, Srinagar & Pulwama.
10. Private Secretary with the Chief Secretary, Jammu & Kashmir.

No: = WLP/104-08 Date 06-08-2021.
Copy for information & necessary action to the:-

Scanned with CamScanner

1. Regional Wildlife Warden, Jammu/Kashmir
2. Wildlife Warden, Wetlands/Kathua/Jammu

S. S. S.
Chief Wildlife Warden,
UT of J & K

Government of Jammu & Kashmir
Divisional Commissioner Kashmir

email: div.compln@gmail.com

tele: 0191 248118 Fax: 0191 248111, 247173

Subject:- Issues regarding the Wetlands of Kashmir Valley.

Divisional Commissioner, Kashmir took a meeting with regard to subject matter on **07.08.2021 at 4.00 PM** in meeting hall of this office.

Following Officers participated in the meeting:-

1. Deputy Commissioner, Bandipora, Ganderbal (Through VC).
2. Vice Chairman, LAWDA.
3. Regional Wild Life Warden, Kashmir.
4. ADC, Srinagar.
5. ADC, Baramulla, Budgam, Anantnag, Pulwama (Through VC).
6. Superintending Engineering, I&FC, Sr nagar.
7. Chief Sanitation Officer, SMC.
8. Rep. Director, Rakhs & Farms.
9. Rep. Pollution Control Board.

Regional Director, Pollution Control Board did not attend the meeting which have been viewed seriously and directed that he should personally attend next meeting.

At the outset, Divisional Commissioner, Kashmir while welcomed the participants showed displeasure on the absence of CED Wuller Conservation and Management Authority who was reportedly busy in another meeting but did not seek exemption in advance. Thereafter, Regional Wild Life Warden, Kashmir apprised the chair that the case titled Raja Muzafar Bhat was filed before the Hon'ble National Green Tribunal against the unscientific dumping of Municipal waste in to the Hokersar Wetland, Wullar Lake and Krenchoo Chandhara wetland. The Hon'ble NGT passed order in the matter dated 09.04.2019 & 26.04.2019 wherein it was sought constitution of joint committee of Pollution Control Board, Wild Life Protection Deptt. and Deputy Commissioners of Budgam, Srinagar and Bandipora & furnishing of factual and AIR. Moreover, it was directed that committee may also look in to the issue of encroachment of water bodies also.

Further, it has been apprised that two orders have been issued by Government for constitution of joint committee to examine the application and submit the factual report before the Hon'ble NGT, viz, one committee comprising of DC Budgam, Regional Director PCB & Regional Wildlife Warden Kashmir and

Sh

AI

second order wherein Deputy Commissioner Srinagar & Budgam have been added as members besides, Divisional Commissioner Kashmir its Chairman. Joint Committee headed by Divisional Commissioner, Kashmir submitted factual report /ATR before the National Green Tribunal in respect of three wet land viz, Wullar, Krenchoo and Hokarsar.

Furthermore, the Hon'ble Principal Bench National Green Tribunal New Dehli passed an order on 22.07.2021 where the National Wetland Committee was asked to expeditiously compile all relevant data about status of compliance of environmental norms in terms of directions of Hon'ble Supreme Court which covers 2,01, 503 wetlands. Out of the said data, data in respect of significant wetlands has been also asked to be placed before the Tribunal besides, other directions.

Thereafter the chair was apprised that recently the worthy Chief Secretary has also convened a meeting of stake holding departments regarding the matter and the chair directed ATR of the directions passed by Chief Secretary shall be submitted within 15 days positively.

After threadbare deliberations and discussion following decisions /directions were given

SNo.	Issue	Directions	Action by
1.	Bio-mass issue	It was apprised that a seminar is organizing by Wild Life Department on 14.08.2021 in which the reputed institution will deliberate scientifically & traditionally on the issue of bio mass, besides, the matter has been taken up with CSIR, Kashmir University, SKUAST, NIT Srinagar. The chair directed that action oriented suggestion/recommendations shall be given by the participants.	Regional Wild Life Warden (RWLW) Kmr.
2.	Silting	The chair directed that a meeting shall be conducted by I&FC, Wildlife Department, Geology & Mining and other stake holding departments and possibility shall be explored for submitting action plan on long term, medium term and short term measures.	RWLW/ I&FC/ G&M, Revenue Deptt. concerned
3.	Encroachment details	The chair directed the encroachment and other details of the wet lands shall be submitted by Wildlife and Revenue Department to this office	All DCs/ACRs, CE, I&FC, /

Done,

All information

Sh

Sh

Dene

4. **Wullar
Lake**

within two days positively by deputing the officials for deliberations. Moreover, I&FC was directed to share the details of the study conducted by Poona with regard to silting etc with Wild Life Department for its submission before the Hon'ble NGT.

**RWLW
Kmr.**

It was apprised that there was approximately 90 kanals of land under encroachment situated at outer parameters of the Wullar Lake out of which encroachment at 10 kanals have been removed. In total, 640 K of land is under encroachment including the government authorized/accommodated Sher Colony.

**CED DC
Bla/
Bandipora**

It was directed that matter of Kamas be taken with Rakhs and Farms so that action regarding the cultivation shall be taken as per the NGT directions within 15 days.

Further, a survey shall be conducted in about the Sher Colony where the details of decedents and other than decedents shall be explored within 15 days and excess cutting shall be completed within 15 days positively as well, the machinery for accessing cutting shall be provided by Wild Life Department.

5. **Haigam
Rakh**

It was apprised that only 76 kanals of land of Haigam Rakh is under structures, 15 kanals under plantation and 461 kanals under seasonal paddy cultivation. The chair directed that ADC Sopore and Wild Life department along with Tehsildar Khoi shall conduct demarcation process within 4-5 days and shall submit the information with break up. Besides, access cutting to the wetland shall be done and Wildlife Deptt. shall provide the machinery.

**RWLW
Kmr./ ADC
Soporer/Bla
/Tehsildar
Khoi**

*Demarcation
Completed*

6. **Hokersar**

The chair was apprised that 2273 kanals of land has been provided to Kamas for paddy cultivation by Rakhs & Farms besides plantation on 248 kanals existed on Srinagar side. The chair directed that in order to ascertain the actual data about the

**DC
Srinagar/
Budgam**

SM

SM

??

encroachment of out parameter of the water body concerned Tehsildar and Patwari shall attend this office on Monday along with all the records and information. ADC Srinagar shall ensure to provide actual figures / numbers about outer parameters.

I&FC Department has also float tenders for silting the chair directed that tendering shall be completed by or before 20.08.2021

7. Shallabugh

It was informed that 90% of the wetland is demarcated and only 10 percent is without demarcation which is under plantation, besides, there is no structure on the wetland. The chair directed that the demarcation with regard to wetland of Manasbal, Anchar (Ganderbal side) and Shallabugh shall be completed by or before 20.08.2021.

DC
Ganderbal

Now wetland
urgent

8. Pampore Wetlands viz, Krenchoo, Hashpori, Manibugh & Chatlam

It has informed that there is no encroachment issue on the wetlands, however, there is sewerage and drainage issue. Moreover, a joint visit has been conducted and task force has been framed by ULB, dust bins has been distributed to nearby household, but it has been informed that they (ULB) don't have any expertise for installation of STP/ETP. The chair directed that the data with regard to all the types of land in respect wetlands of pampore shall be completed, besides, the assessment of the out parameters and handover portion. Further, concerned NI, Patwari and Wildlife functionaries will attend this office alongwith the records on Monday viz, 19.0.2021.

DC
Pulwama/
CWLW
Kmr.

9. Narkara

The chair directed that Narkara Wetland shall be taken up by Wild Life Department for its conservation and protection.

RWLW
Kmr

10. Anchar

The chair directed that Anchar Wetland shall be taken up by Wild Life Department for its conservation and protection.

RWLW
Kmr

11. Dal Lake

VC LAWDA informed that the ATR/Action Plan of the directions of Honble NGT will be ready by or before Monday. (19.08.2021).

VC
LAWDA

12. NOC for Sh

Further the chair directed that no major

All

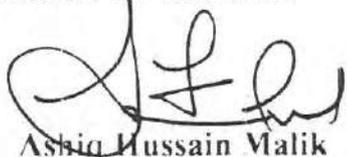
taking up
any Dev.
Work

development work shall be taken up for
execution within the parameters of wetlands
unless the NOC is issued by concerned
Authority.

concerned,
DC Bla/Ang/
Sgr /Pul/
Gbl/ Bndp/
Bud,
RWLW etc.

Before culminating the meeting the chair HLC (LAWDA) subcommittee meeting shall be conducted at an earliest and shall be submitted to this office. Besides, the data with regard to structures on the outer parameters of all wetlands including the Dal Lake shall be shared in soft as well as hard with this office.

The next meeting on the subject shall be held on 21.08.2021 at 4.00 PM.


Ashiq Hussain Malik
Deputy Director (E&S)

No. Divcom/Dev/117/ 2021-1

Dated: 17.08.2021

Copy for information and necessary action to the:

1. Deputy Commissioner, Baramulla/Anantnag/Srinagar/Bandipora/Pulwama/ Ganderbal/ Budgam.
2. Commissioner, SMC.
3. Regional Wildlife Warden, Kashmir.
4. Vice Chairman LAWDA/SIDA.
5. Director, Rakhs & Farms, Kashmir.
6. Chief Engineer, I&C Deptt. Kashmir.
7. Regional Director, Pollution Control Board, Kashmir.
8. DIO, Srinagar for information and n/a.



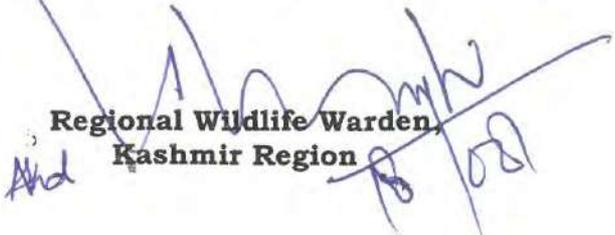
Government of Jammu and Kashmir
Department of Wildlife Protection
OFFICE OF THE REGIONAL WILDLIFE WARDEN KASHMIR REGION

No: RWLW/K/Tech/2021-22/906

Dated: 18-08-2021

1/-

Copy of above forwarded to Wildlife Warden, Wetlands Kashmir Division, for information and necessary action. She is advised to submit the point-wise Action Taken Report/necessary follow up action before 20th of August,2021 as Worthy Divisional Commissioner is holding a review meeting on 21st August,2021


Regional Wildlife Warden,
Kashmir Region

GOVERNMENT OF JAMMU & KASHMIR
UNION TERRITORY OF JAMMU AND KASHMIR
OFFICE OF THE DIVISIONAL COMMISSIONER KASHMIR

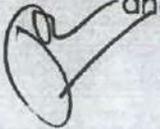
Subject: - OA No. 351/2019 titled Raja Muzaffar Bhat V/s state of J&K and others

Minutes of the meeting held on 13/08/2020 at 4.00Pm in the meeting hall of Divisional Commissioner Kashmir.

In order to review the decision taken in the previous meetings of the committee constituted vide Govt. Order No. 648 GAD of 2019 dated. 04.06.2019 read with GO Order No. 878-GAD of 2019 dated. 25.07.2019 in compliance to the order dated.09.04.2019 passed by the Hon`ble NGT in the captioned subject matter , the chairman of the committee i.e. Divisional Commissioner Kashmir has conducted 3rd meeting on the above said schedule date time and venue, wherein the following officers have participates;

1. DC Bandipora/ Budgam/ Addl. Dy. Commissioner Pulwama (Through VC).
2. Additional Deputy Commissioner, Srinagar.
3. Director Rakhs & Farms Kashmir
4. Regional Director, State Pollution Control Board, Kashmir
5. Regional Wildlife Warden, Kashmir.
6. Joint Commissioner SMC.
7. Representative of Chief Executive Director Wular Conservation and Management Authority (C.C.F) Kashmir.
8. Representative of Chief Engineer I&FC Srinagar
9. Representative of VC LAWDA.
10. Representative of Director Environments, Ecology & Remote Sensing Srinagar.

At the outset, the chair has asked to the wildlife warden Kashmir to apprise the participants about the back ground of the issues, which are main subject of the petition. It was apprised that there are two main issues are involved in the above referred petition before Hon`ble NGT viz Encroachment and Dumping of Solid waste Management in respect of Walur Lake, Hokersar



and Chandhara Kranchoo. In light of the decision taken in the previous meeting, the Hon`ble NGT is required to be apprised by a fresh progress report.

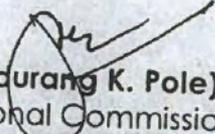
Accordingly, the Worthy Divisional Commissioner, Kashmir, after threadbare discussion issued instructions mentioned against each below mentioned issues:-

S.No	Issues	Discussion	Instruction	Action by
1.	Wular Lake; i. Mapping out of the area of the water bodies.	It is inform that the water bodies has been mapped	No action required	
	ii. Dumping of Solid Waste Management.	The dumping of solid waste is presently done at Bandipora bund side land provided by District Administration which is consisting of 35 Kanals and 1650 Ft is away from periphery of Wular Lake. The District Administration has further identified 20 Kanals Land at Mader Kunan Bandipora for disposal of such waste. However it is reported that near boundary pillar No. 1159 the dumping is continue at old site despite shifting.	The District Administration Bandipora, Municipal Committee Bandipora and Ex. Director WUCMA shall ensure that no Solid Waste is dump at old site where the dumping was taken place	DC Bandipora, MC Bandipora Chief Executive Director WUCMA
	iii. Removal of encroachments	On demarcation it has been found that 0.3 Sq. Kmt (560 Kanals Apx) has been encroached. Out of which 80 Kanals has been retrieved from the encroachers.	The DC Bandipora shall constitute a committee comprising of Addl. DC / Tehsildar and Rep. of WUCMA. The committee shall ensure the removal of encroachment by taking action under law against the defaulters, such process the completed by ending September, 2020.	DC Bandipora
2.	Hokarsar i. Mapping out of the area of the water bodies.	It is inform that the water bodies has been mapped	No action required	
	ii. Dumping of Solid Waste Management	It is informed that no solid waste has been dumped from Budgam site. However, from	The DC and MC Budgam shall ensure that no dumping of solid waste	DC & MC Budgam.

		Saibugh and Dharmulla side some dumping has been notice.	management shall be done in future.	
	iii. Removal of encroachments	Demarcation has been done and 83 pillars are to be installed out of which 35 has been installed and balance are been completed. Some encroachment closed to the perimeter of the Hokersar in Zainkote, Hajibagh, Saibugh, Dharmulla and Narbal village have been found. Accordingly ejection notices has been issued against the encroacher.	The Regional Wildlife Warden Kashmir has been directed to get retrieved the encroach land by end of September 2020	Regional Wildlife Warden Kashmir
3.	Kranchoo Chandhara i. Mapping out of the area of the water bodies.	It is informed that the water bodies have been mapped.	No action required	
	ii. Dumping of Solid Waste Management	No regular dumping of Municipal solid waste is taking place. However stray incidents of dumping of garbage at some sports by some locals has been reported.	The Regional Wildlife Warden Kashmir has been directed to ensure the removal of such dumping of garbage within a week time.	Regional Wildlife Warden Kashmir
	iii. Removal of encroachments	The kranchoo Chandhara wet land spread over 60 Ha area of state land, out of which 6.40 Ha has been handed over to the Wildlife Department. The rest of 53.60 Ha was to be handed over to the Wildlife Dept.	The concerned dealing hands of the Divisional Commissioner Kashmir office shall trace out the file pertaining to transfer of land from Revenue Dept. to Wildlife Dept. in order to take up the matter with the Govt. for finalization of the proposal.	Land Acquisition Section of Divisional Commissioner office Kashmir.
4.	Review of decision taken in the meeting held on. 26.06.2020, regarding compliance of NGT order dated. 10.05.2019 read	The response of all Deputy Commissioners of Kashmir division to the decision taken in the meeting held on. 26.06.2020 is still awaited. However the Regional Wildlife Warden has	All the concerned has been directed to furnish the Action Taken Report to this office within a week positively. Besides the copy of action plan formulated by the	All Deputy Commissioner's of Kashmir Division and Director Environments, Ecology & Remote Sensing Srinagar.

with 25.02.2020 and 01.06.2020 passed in OA No. 325/2015 titled Lt. Col. Sarvadaman Singh Oberoi V/s UOI and Other	submitted the information as per devised format.	Director Environments, Ecology & Remote Sensing Srinagar be also furnished to this office.	
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The meeting ended with the vote of thanks to and from the chair.


(Pandurang K. Pole) IAS
 Divisional Commissioner
 Kashmir/S

No. DivCom/RA-NGT/2020/62

Dated. 20/08/2020

Copy for information and necessary action please:-

1. Deputy Commissioner/ Srinagar/ Pulwama/ Shopian/ Kupwara/ Bandipora /Baramulla/ Budgam/ Kulgam/Ganderbal/ Anantnag.
2. Chief Executive Director Walur, Conservation and Management Authority.(CCF Kashmir)
3. Commissioner SMC.
4. Director Urban Local Bodies Kashmir,
5. Vice Chairman LAWDA.
6. Chief Engineer I&FC Srinagar.
7. Regional Director, State Pollution Control Board Kashmir
8. Director Rakhs and Farms Kashmir.
9. Director Industries and Commerce Kashmir.
10. Director Environments, Ecology and Remote Sensing Kashmir
11. Regional Wildlife Warden Kashmir.
12. In-charge Land Acquisition Section of Divisional Commissioner office Kashmir.

Notifications and other Land Records

N

11

11/11/55

HIS HIGHNESS' GOVERNMENT, JAMMU & KASHMIR

CHIEF SECRETARIAT.
(General Department.)

Amendment to Notifications under the Game Preservation Act
1998.

(1) Memorandum No. F/427/43 dated 25-6-45
from the Development Minister

(2)

ORDER No. 710 - O of 1945

Dated 17 - 7 - 1945

The notification forming an annexure to this order
is sanctioned and it is directed that it be published in the
Government Gazette.

By order in Council.

Confirmed.

[Signature]
MAHARAJA.

11/11/55

PSC attested
[Signature]
Principal Secretary
Jammu & Kashmir

[Signature]
21/7/45
PRIME MINISTER

6
(25)

NOTIFICATION 7

In exercise of the powers conferred by sub-section (3) of section 1 of the Jammu and Kashmir Game Preservation Act, 1928, the Government are pleased to exempt the following Game Sanctuaries and Game Reserves from the provisions of section 6 of the said Act to the extent that grazing therein may be permitted by the Chief Conservator of Forests.

GAME SANCTUARY.

Chunabasi basin in Apora valley as delineated in the map hereto annexed.

GAME RESERVES.

Jammu Province

Jaxota Forest I and II including Bagul Block in area near Kathua in the Kathua Forest Division.

- 1. Dalsar Rakh.
- 2. Warh Rakh.
- 3. ~~Warh Rakh~~
- 4. ~~Warh Rakh~~
- 5. Mansar (Tumral) Rakh.
- 6. Karan Rakh.
- 7. Kheri Rakh.
- 8. Igra Chak Rakh.
- 9. Radyal Rakh.
- 10. Makral Rakh.
- 11. Namangar Rakh.

Kashmir Province.

- 1. Chashmashahi Rakh.
- 2. Dera Rakh in Lidder Valley.
- 3. Khirram Pakh (Big Game area outside the State Pakh as delineated in map A hereto annexed).
- 4. Lo-ox Dachhigam Pakh, (as delineated in the map B hereto annexed).
- 5. Ijjas Big Game area (as delineated in map C hereto annexed)
- 6. Thejwas Mullah (as delineated in map D hereto annexed).
- 7. Lapparian Rakh.

NOTIFICATION 2

N

In exercise of the powers conferred by Section 5 of the Jammu and Kashmir Game Preservation Act, 1998, and in pursuance of Notification NO: 2 appended to the said Act, the Government are pleased to declare the following areas as Game Sanctuaries, Game Reserves and Reserved Areas respectively, namely:-

I. GAME SANCTUARIES, in Kashmir Province.

- ✓ I. Hajarian and Bewal Basins in Horbug Valley.
- ✓ II. Shankaracharya hill.
- ✓ III. Chumai basin in Arou valley.
- ✓ IV. Best, gam. as delineated in the Map annexed hereto Jammu Province.

- ✓ I. Soomjani and Sapphire along Mullah in Kishtwar.
- ✓ II. Pond near Sri Gouri Sankar in Kishtwar.
- ✓ III. Places sacred to all communities.

Ladakh

- ✓ I. Khushnoul and Yinu basins in Baltistan.
- ✓ II. Askor Mullah in Randa, Baltistan.

II. GAME RESERVES

CLASS A

Kashmir Province

- ✓ I. Achhabal. Rakht.
- ✓ II. Chhatargul Mullah in Sindh Valley.
- ✓ III. Vangat Mullah in Sindh Valley.
- ✓ IV. Kandi and Khrae Mullah in the Uri Tehsil the lower boundary of which is the new road to Haji Pir.
- ✓ V. Antero shooting area as specified in Schedule A.
- ✓ VI. Kasing and Kafir Khan area including Salkhala, the Koji and Shamasburry Rakht.

Jammu Province

- ✓ I. Shashera Forest- An area near Rajori in the Mirpur Forest Division.
- ✓ II. Jhallangar Forest- An area near Pooni in the Reeni Forest Division.
- ✓ III. Jasrota Forest I and II including Bagul Block- An area near Kathua in the Kathua Forest Division.

Ladakh

- ✓ I. Ovis Annon Blocks (specified in Schedule A)
- ✓ II. Sherou Blocks (specified in Schedule A)

CLASS B

Kashmir Province.

- i. Chashnanihahat Pakh.
- ii. Orra Pakh in Lidder Valley.
- iii. Khirram Pakh (Big Game area outside the State Pakh as delineated in the map A hereto annexed).
- iv. Lonar Pachhigam Pakh (as delineated in the map B hereto annexed.) Deleted & omitted
- v. Ajjan (Big Game area as delineated in map C hereto annexed).
- vi. Ibadjwan Mullah as delineated in map D hereto annexed.

Jammu Province.

- i. Dalseer Pakh.
- ii. Nath Pakh.
- iii. Outerh Pakh.
- iv. Mansar (Sagooon Pakh).
- v. Mansar (Tunnel Pakh).
- vi. Koran Pakh.
- vii. Kheri Pakh.
- viii. Igta Chak Pakh.
- ix. Badyal Pakh.
- x. Makwal Pakh.
- xi. Pannagar Pakh.

Note:- Shooting or killing of pigs within five miles of the Game Reserves Class B is prohibited.

CLASS C

Kashmir Province.

- i. Hygam Jhil.
- ii. Mirgund Jhil.
- iii. Ibo Pampur, Karanchu, Vanibong and Chandara Jhilo.

III. RESERVED AREAS

Kashmir Province.

- i. Dara Chikor Area.
- ii. Nishat Chikor Area.
- iii. Bren Chikor Area.
- iv. Zewan area delineated in map E.
- v. Khirram Chikor Area, outside the State Pakh as delineated in map F.
- vi. Ajjan Chikor Area.

1951/72/100/55
iii. Wuyan Chikor Area situated between Khrow and Khunmoo
sakis as delineated in map C.

Note:- Only two shoots will be permitted in Ajjan
Chikor Area at the discretion of the Game
Warden after His Highness the Maharaja
Bahadur leaves for Jammu. No permits will be
issued for Wuyan Chikor area after snowfall.

SCHEDULE A

1. The tributaries of the Indus from Dumbochik to Koyul.
2. The watershed of the Koyul river as far as its junction ^{with} the Indus, below this all tributaries, of the Indus as far as big bend of the river at Dugti.
3. Hanle river basin as far as south of Hangle Moratory.
4. Hanle river basin south of (3).
5. The tributaries of the Indus between the Hanle river and Puga river.
6. The country lying between 3 and 4 on the east 5 on the north and 6 on the west.
7. The basin of the Salt Lakes and tributaries of the Indus between (and including) the Puga river as far as the water of the Tiri Foo.
8. The basin of the Tsomeriri Lakes and the Phirai Nullah.
9. The Tiri Foo and the country lying to the north bounded by Indus on the north and east, the Leh Kulu road on the west and the watershed of Tsoker ^{Came} plain on the south.
10. The watershed of the Zera and Dakhohsa South.
11. The watershed of the Marka river.
12. The Karnah Nullah.
13. The triangular area lying between Choosbal on the north, the Frontier on the east, the watershed of the Choosbal river and Chamtnag Foo on the west and the Indus on the south from Chamtnag to Dugti.
14. The catchment area of Tameo river.
15. The Changchenzo area.

SCHEDULE B

1. The Igu and Chimre Nullah.
2. Nag and Sabu.
3. Phyang and Tana.

10/17/1915
(20/2)
LXX

4. Uda and Bawa.
5. Bawa and Uda.
6. Khat and Sural and Vally p...
7. Hada Shapta, Mulla and Khat.
8. Hada and Hada.
9. Hada and Hada.
10. Hada and Hada.
11. The ratched of the Zaker and
the Ska Mulla.
12. Hada.
13. Hada and Shang.
14. Hada.
15. Hada and Locky.
16. Hada.

per including

Edison

Notification III

15/12/1990

N

ADDENDUM TO SECTION 59 OF NOTIFICATION 4 OF THE
GAME ACT.

In exercise of the powers conferred by section 26 of the Jammu and Kashmir Game Preservation Act 1990, the Government are pleased to direct that the following further amendment shall be made in the Rules contained in Notification 4 issued under the said Act, namely:-

In rule 59 of the said Rules the full point at the end shall be deleted and the following proviso shall be added thereto, namely:-

" Provided that Hygam, Birgund, Lampur, Karanchar, Maniboog and Chandara Game Reserves shall be treated as reserved areas for the purposes of allotment of shootings therein and issue of permits therefor."

JG

S. Sharma

Notified

In exercise of the powers conferred by sub-section (3) of section 1 of the Jammu and Kashmir Game Preservation Act, 1998, the Government are pleased to direct that the following amendment shall be made in Notification NO: 1 issued under the said Act namely:-

For the Schedule appended to the said Notification the following schedule shall be substituted namely:-

SCHEDULE -

Dist of State Jammu.

Kashmir Province.

1. (Upper Dachigam including Grat) *(as demarcated.) Deleted & replaced*
2. Khumboo and grass-land between Sangri and Chak Khumboo.
3. Khrew including Ladu area (as demarcated).
4. Tral-our-Khiram (as demarcated). *(Tral-our-Khiram as demarcated)*
5. Khul basin in Anantnaga Tehsil.
6. Anchar lake from retkundal to Sangam.
7. Wakar Sar Jhil.

Jammu Province.

1. Balm.
2. Janghano.
3. Thanon.
4. Kotli.
5. Tandeh.
6. Nadali.
7. Laisi.
8. Sansoo.
9. Nehrani.
10. Kothian Dyar along with ^{Sia} S1a and Thandapani areas (as demarcated).

Notified

Areas, waters, water fields and floating fields which comprise Gagribal, Dal lake, Nagin lake, Anchar lake, Mansbal lake, Hokarsar lake and Haigam Rakh.

Revenue Department ¹Notification SRO-156 dated 15th April, 1971.—In pursuance of the provisions of the Explanation to section 132-B of the Jammu and Kashmir Land Revenue Act, Samvat 1996, as amended by the Jammu and Kashmir Land Revenue (Amendment Ordinance, 1971), the Government hereby specify in the Annexures 1, 2, 3, 4, 5 and 6 the areas, waters, water fields and floating fields which the Gagribal and Dal Lake, Nagin Lake, Anchar Lake, Mansbal Lake, Hokarsar Lake and Haigam Rakh shall respectively comprise.

TABLE

Name of Lake.	Khasra Nos. Buchwara.
Gagribal and Dal Lake.	From survey No. 1 to 66, 99 min, 149 min, 150 min, 151 min, 152 min, 355 min, 356 min, 357 min, 359 min, 377 min, 378 min, 379 min, 385 min, 386 min, 387 min, 457 min, 459 min, 458 min, 460 min, 461 min, 462 min, 482 min, 484 min including Bata Numbers. Khasra Nos. Nowpora. From No. 286 to 524, 549, 743/1 including Bata Numbers, and 242, 244 to 254/1 including Bata Numbers. Khasra Nos. Karpora. From Survey No. 1 to 2078 including Bata Numbers, whole village both parties (Badhar-Karpora).

1. SRO-156 of 1971 published in Govt. Gazette dated 15th April, 1971.

Name of Lake.

Khasra Nos. Buchwara.

Khasra Nos. Nandpora (A).

From Survey Nos. 761 to 3269, 3372
7202 including Bata Numbers.

ANNEXURE 2

Nagin Lake.

Khasra Nos. Nandpora (B).

From Survey Nos. 232 to 258, 258/1, 2
to 263, 266, 267, 268 to 270, 275 to 50
579 to 592, 600 to 635, 637, 653 to 68
686/1 including Bata Numbers.

ANNEXURE 3

Anchar.

Khasra Nos.

4268 to 4292, 938, 937, 936, 920, 1287,
1293, 1015, 1032, 1284, 1285, 1282, 1284314 to 4363, 2197, 171, 807, 807/1, 80
4054, 803, 789, 1221 to 1248, 4394, 439
4372, 1255 to 1547, 1564 to 1594, 1597
1879, 1918 to 2196, 2198, 2199, 2208
2733, 2740 to 2784, 2788 to 2831, 2882
3319, 3330 to 3360, 3367 to 3390 to 360
3629 to 4096, 4382 to 4433.

ANNEXURE 4

Mansbal.

68, 185, 186, 210 min, 216 min.

ANNEXURE 5

Hokarsar.

1164, 1165, 1166, 1167, 1168, 1169, 117
1171, 1172, 1173, 1174, 1175, 1176, 74
1236/745.

OFFICE OF THE TEHSILDAR NARBAL

The Wildlife Warden Wetlands,
Srinagar.

Subject: Statement showing land falling under Mirgund (Kawoosa Jagir) as per Revenue Records.
Ref:- Your office letter No:- WLW (WL) /Est/2021-22/704-705, Dated:- 23-08-2021

Sir / Madam

Regarding the subject and reference captioned above. In this context the requisite information as per the format is as under:-

S.No	Name of village	Proprietary Land		Section 5		Section 4		State Land		Grand Total	
		Kanal	Marla	Kanal	Marla	Kanal	Marla	Kanal	Marla	Kanal	Marla
1	Checki-Kawoosa (Kawoosa Jagir)	Nil	Nil	96	19	2793	3	4016	1	6906	3

Hence submitted for favour of information and further necessary action.

No:- 255 /OQ/TN/21-22
Date:- 26-08-2021

Yours Faithfully


Tehsildar
NARBAL
(OQ)



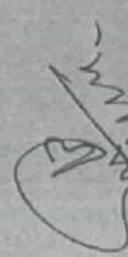
OFFICE OF THE TEHSILDAR KHOIE

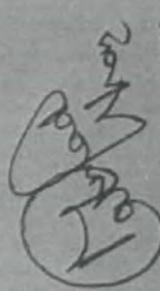
Statement showing the status of wet land falling in estate Rakh-Higam Tehsil Khoie

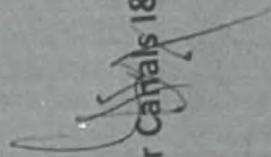
Name of The village	Total wet land Area		Total area demarcated		Area encroached out of demarcated land		Kind of encroachment with area				Structures Total			State land in wet land area	Kachari la wet land							
	As per revenue records						Paddy	Structure	Orchards/Plantation	Others	House Holds	Others	Tot									
	As stated by life Deptt.	As per revenue records																				
Rakhi Higam	K	M	K	M	K	M	K	M	K	M	K	M	K	M	K							
	14332	0	14133	11	14133	01	1897	02	1773	02	91	06	32	14	0	0	56	95	151	0	0	0

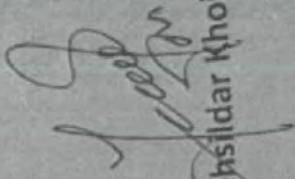
NOTE:- Demarcation has been completed by concerned team and this office is always ready to assist the Wild Life Department for removal of encroachment whenever they approach this office for the said purpose.

Hence demarcation report submitted for further favor of information and necessary action please.


Patwan Halqa


Range Officer Wildlife


Zildar Canals I&FC Sopore


Tehsildar Khoie

STATEMENT SHOWING THE DETAIL REGARDING QUANTUM OF LAND UNDER HOKERSAR

NAME OF TEHSIL	CENTRAL SHALTENG											
	SRINAGAR											
	ZAINAKOTE											
NAME OF REVENUE VILLAGE	QUANTUM OF LAND											
	UNDER HOUSES		UNDER TREES		UNDER CROP		VACANT		TOTAL		REMARKS	
	K	M	K	M	K	M	K	M	K	M		
PROPRIRATORY LAND	-	-	-	-	-	-	-	-	33	17	-	
LAND UNDER SEC 5	-	-	-	-	-	-	-	-	69	4	-	
LAND UNDER SEC 4 KAH CHARARAI	-	-	-	-	-	-	-	-	446	2	-	
SARKAAR	-	-	-	-	-	-	-	-	3356	18	-	
GRAND TOTAL	-	-	-	-	-	-	-	-	3906	1	-	

not: Submitted for Original to the
 Sesi/dor for further action.

[Signature]
 Patwar/ Halqa.....
 Department of Revenue
 Jammu & Kashmir
NATB TEHSILDAR
 Batamab, Sgr. 1

Register of Forests-Form No. 1 Forest Department Jammu and Kashmir State.

GAME DIVISION.

LAKE RANGE.

S. No.	Date of entry	Year of Demarcation	FOREST		Comptt. constituting the Forest	AREA IN		LENGTH OF BOUNDARIES		DESCRIPTION OF BOUNDARY	NAME OF INTERIOR CHAKS	AREA OF EACH CHAK		LENGTH OF BOUNDARY LINE OF CHAKS		REF. TO FILE
			NAME	Locality		Acres	Hectares	Miles	Kilo-Metres			Acres	Hectares	Miles	Kilo-metres	
22	28-4-61	1961	HAIGAM RAKH	Haigam Sopur		1846-2-0	747.150	9-169	14-7545	NORTH:— Willow Areas of Plantation Division SOUTH:— Cultivated Lands of Loli Pora, Indergam, Gosh Bug, Cohal and Teng Pora.					Case No. 10/10 Ningli Range	
23	0-0-1936	1936	MIR GUND "A"	Mir-gund	Budgam	246-5-3	99,8126	4-416	7-1030	NORTH:— Village Arampora SOUTH:— Kawosa Jageer and Kawosa Khalsa WEST:— Parni Sodar Shah EAST:— Mir Gund, Matchmar						

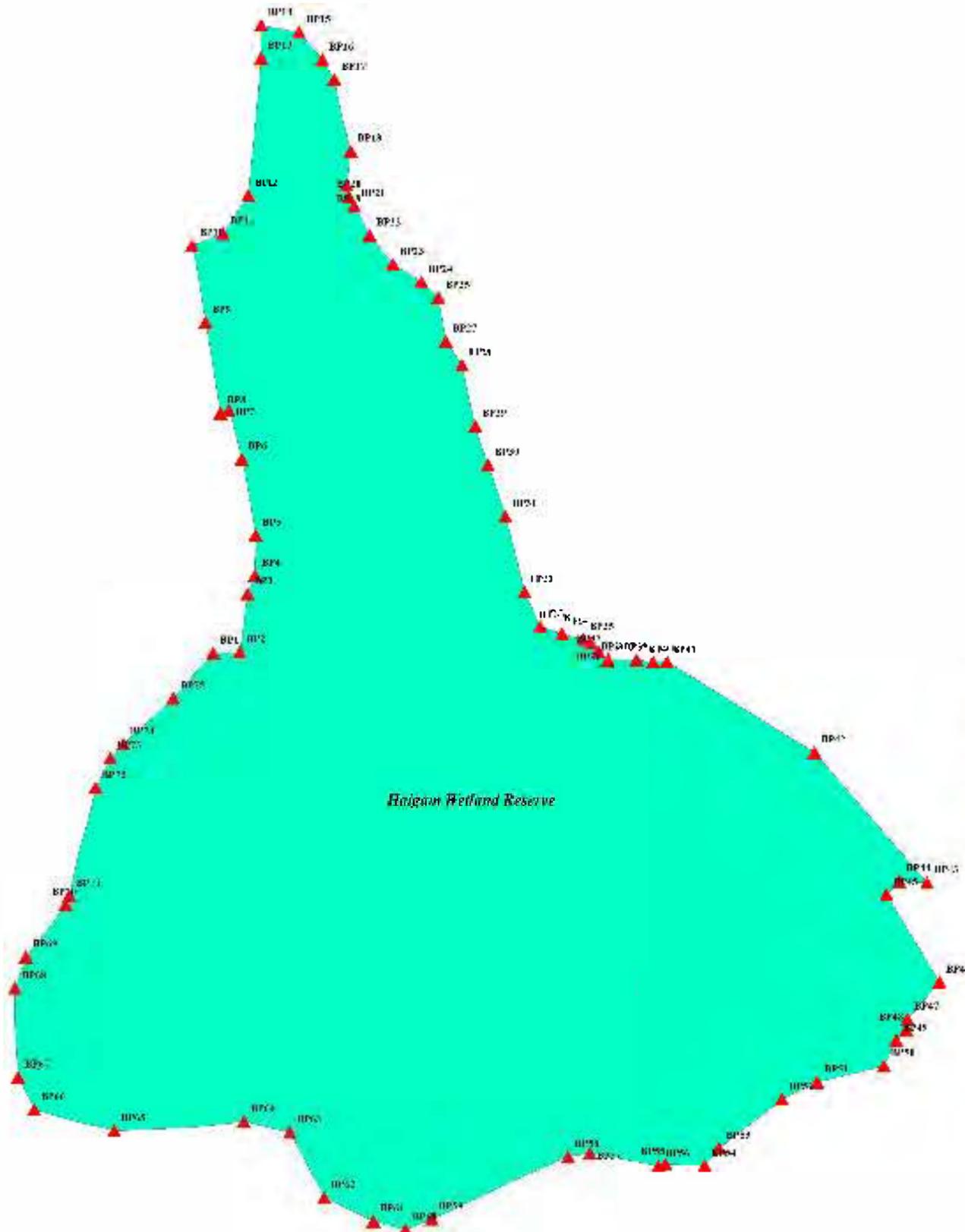
S. No.	Date of entry	Year of Demarcation	FOREST		Comptt. constituting the Forests	AREA		LENGTH OF BOUNDARIES		DESCRIPTION OF BOUNDARY	NAME OF INTERIOR CHAKS	AREA OF EACH CHAK		LENGTH OF BOUNDARY LINE OF CHAKS		REF. TO FILE
			NAME	Locality		Acres	Hectares	Miles	Kilo-meters			Acres	Hectares	Miles	Kilo-metres	
24	0-0-36	1936	HOKRA SAR LAKE	Hekarsar	Budgam	..	62	9-262	14,9037	NORTH:—Camping ground and Lavy pora SOUTH:—Village Soybug and EAST :-Haji Bagb and Khosbi pora WEST :-Nara Bal and Gora pora	1. Camping ground 2. Chak				Case No 7 Dew 1964-65	

Passed on 28-4-1961
R.M. ARKKS.

Digital Demarcated Map of Haigam Wetland Reserve Wetland Division Kashmir



1:15,000



Location	Latitude	Longitude
BP1	34°38'21.6527" N	74°37'11.20" E
BP2	34°38'21.684" N	74°37'11.18" E
BP3	34°38'21.957" N	74°37'11.441" E
BP4	34°38'21.117" N	74°37'11.927" E
BP5	34°38'20.807" N	74°37'11.697" E
BP6	34°38'20.527" N	74°37'11.547" E
BP7	34°38'21.567" N	74°37'11.307" E
BP8	34°38'21.057" N	74°37'11.057" E
BP9	34°38'20.137" N	74°37'10.707" E
BP10	34°38'20.207" N	74°37'10.657" E
BP11	34°38'20.207" N	74°37'10.657" E
BP12	34°38'20.207" N	74°37'10.657" E
BP13	34°38'20.207" N	74°37'10.657" E
BP14	34°38'20.207" N	74°37'10.657" E
BP15	34°38'20.207" N	74°37'10.657" E
BP16	34°38'20.207" N	74°37'10.657" E
BP17	34°38'20.207" N	74°37'10.657" E
BP18	34°38'20.207" N	74°37'10.657" E
BP19	34°38'20.207" N	74°37'10.657" E
BP20	34°38'20.207" N	74°37'10.657" E
BP21	34°38'20.207" N	74°37'10.657" E
BP22	34°38'20.207" N	74°37'10.657" E
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BP25	34°38'20.207" N	74°37'10.657" E
BP26	34°38'20.207" N	74°37'10.657" E
BP27	34°38'20.207" N	74°37'10.657" E
BP28	34°38'20.207" N	74°37'10.657" E
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BP39	34°38'20.207" N	74°37'10.657" E
BP40	34°38'20.207" N	74°37'10.657" E
BP41	34°38'20.207" N	74°37'10.657" E
BP42	34°38'20.207" N	74°37'10.657" E
BP43	34°38'20.207" N	74°37'10.657" E
BP44	34°38'20.207" N	74°37'10.657" E
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BP48	34°38'20.207" N	74°37'10.657" E
BP49	34°38'20.207" N	74°37'10.657" E
BP50	34°38'20.207" N	74°37'10.657" E
BP51	34°38'20.207" N	74°37'10.657" E
BP52	34°38'20.207" N	74°37'10.657" E
BP53	34°38'20.207" N	74°37'10.657" E
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BP56	34°38'20.207" N	74°37'10.657" E
BP57	34°38'20.207" N	74°37'10.657" E
BP58	34°38'20.207" N	74°37'10.657" E
BP59	34°38'20.207" N	74°37'10.657" E
BP60	34°38'20.207" N	74°37'10.657" E
BP61	34°38'20.207" N	74°37'10.657" E
BP62	34°38'20.207" N	74°37'10.657" E
BP63	34°38'20.207" N	74°37'10.657" E
BP64	34°38'20.207" N	74°37'10.657" E
BP65	34°38'20.207" N	74°37'10.657" E
BP66	34°38'20.207" N	74°37'10.657" E
BP67	34°38'20.207" N	74°37'10.657" E
BP68	34°38'20.207" N	74°37'10.657" E
BP69	34°38'20.207" N	74°37'10.657" E
BP70	34°38'20.207" N	74°37'10.657" E
BP71	34°38'20.207" N	74°37'10.657" E
BP72	34°38'20.207" N	74°37'10.657" E
BP73	34°38'20.207" N	74°37'10.657" E
BP74	34°38'20.207" N	74°37'10.657" E
BP75	34°38'20.207" N	74°37'10.657" E
BP76	34°38'20.207" N	74°37'10.657" E



Legend

- ▲ BP_No
- Haigam_Demarcation



Prepared by: *Shahid Ahmad ICT*



ANNEXURES

The Commissioner/ Secretary to Government
Department of Forest, Ecology & Environment
J&K., Srinagar

No:- DULB/Plg/2021/

Dated:

Subject:- Preservation/ Conservation of Fashkooori Wet Land.

Sir,

In reference to the above captioned subject, it is submitted that in pursuance to your instructions, the undersigned alongwith Executive Officer Municipal Committee Pampore and officers/ official of the Wildlife Pampore visited "**Fashkooori Wetland**" on 2nd August, 2021 to take stock of the water body. To ensure the protection of the wetland, on spot directions were issued to the concerned Executive Officer to immediately take following measures for safeguarding the water body:-

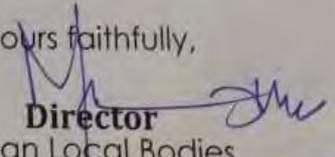
- To conduct regular cleanliness drives in and around the water body;
- To conduct IEC activities among the masses living in proximity of the wetland about it's safeguard and conservation;
- To constitute special task force who shall conduct regular sanitation drives in the water body and its adjacent areas;

In compliance to the directions, the Executive Officer Municipal Committee Pampore has taken immediate initiatives and has submitted his action taken report, copy of which is enclosed for reference.

Besides, taking above measures, it has been observed during the spot visit and also proposed by the accompanying team that a Sewage Treatment Plant is necessarily to be established to serve the real purpose of preservation and conservation of the vital wetland.

It would be apt to mention here that the engineering wings of this Directorate have already been abolished by the Government in the recent past and there is no expertise available with the department at present to prepare the DPR and construct an STP at the site. It is therefore, requested that the issue for preparation of the DPR for establishment of STP may kindly be taken up with the JKUEED Department, who have adequate expertise and resources available for the purpose.

Yours faithfully,


Director

Urban Local Bodies
Kashmir

Enclosures:

Copy to the:-

1. Principal Secretary to Government, Housing and Urban Development Department, J&K Jammu/Srinagar for favour of information.

Union Territory of Jammu & Kashmir
Office of the Municipal Committee Pampore

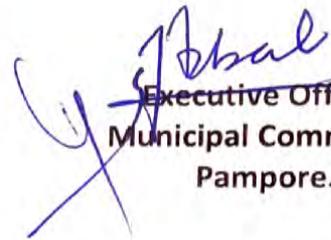
Subject: Constitution of Task Force for preservation / conservation of water bodies especially Fashkooori Namblabal.

In compliance of the directions passed by the Hon'ble NGT from time to time and in view of onspot direction of worthy Director Urban Local Bodies Kashmir during her visit to Fashkoo Wet Land alongwith Wild Life Warden Wet Land Division Hokersar, on 2/08/2021, a task force of following officials headed by Shri Bedar Ahmad Bedar – Sanitary Inspector of this institution is framed. The Task Force shall made frequent awareness among the people living in catchment area of Fashkooori water body regarding proper disposal of Solid Waste / Sewerage in consonance with the Solid waste Management Bye-Laws, 2019. The Task force shall impose Fine / Penalty on violation of the Bye-laws. Moreover the task force shall coordinate with the Wildlife Department while making any drive. Besides Shri Bedar Ahmad Bedar _ Sanitary Inspector shall utilize available men and machinery under his control on fortnight basis to clean the precious water body. ATR on regular basis must reach the undersigned on weekly basis.

Name of Official	Designation
Shri Arshid Ahmad Zahid	Food Inspector
Shri Mohammad Akbar Mir	Khilafwarzi Inspector
Shri Farooq Ahmad Ganie	Sanitary Supervisor
Shri Gulzar Ahmad Bhat	-do-
Shri Mohammad Shafi Bhat	Tax Collector
Sweepers as per requirement	

NO: MCP/2020-21/ 1173-77

Dated: 03/08/2021


Executive Officer,
Municipal Committee,
Pampore.

Copy to the:

1. Deputy Commissioner Pulwama for favour of information.
2. Director Urban Local Bodies Kashmir for favour of information.
3. Wild Life Warden Wet Land Division Hokersar Srinagar.
4. President Municipal Committee Pampore for information.
5. Range Officer Wild Life Protection Range Pampore wet lands.
6. All above Official / Staff for information and immediate compliance.



Government of Jammu & Kashmir
Directorate of Urban Local Bodies Kashmir
Habitat Centre, Bemina, Srinagar

:- 0-6:-

The Chief Executive Officers/ Executive Officers
Municipal Council Pulwama, Baramulla,
Bandipora, Ganderbal, Sopore, Budgam

No:- DULB/Plg/2021/ *14493-14534*

Dated: *29/07/2021*

Subject:- Meeting of the Forest, Ecology & Environment Department regarding the conservation and management of Wetlands.

Sir,

A meeting on the subject matter was held on 29th July, 2021 which was chaired by the Commissioner/ Secretary to Government, Forest, Ecology & Environment Department to discuss the issue regarding the directions passed by the Hon'ble National Green Tribunal Principal Bench, New Delhi in O.A. No. 351/2019 on 22.07.2021.

The directions of the Hon'ble Tribunal inter-alia provides for remedial measures to be taken for waste management, encroachments, sewages discharge and other effluents within an around the Wetlands. It has been desired that those Municipal Councils/ Committees, in whose jurisdiction, any of the wetlands falls shall liaise with the concerned authorities of the Wild Life Department and a protocol shall be formulated for proper cleaning/ waste collection and lifting of waste from the areas within and adjacent to the respective wetlands.

It is therefore enjoined upon all concerned Chief Executive Officers/ Executive Officer to comply the instructions in letter and spirit and the available machinery and equipment be put to the use in cleaning of the areas as per feasibility and dustbins may also be provided to the nearer habitations to ensure that there is no open littering of waste in these areas.

Weekly action taken report be submitted to this Directorate on every Saturday for onward submission to the concerned quarters.

Yours faithfully,

Enclosure: As above

[Signature]
Director
Urban Local Bodies,
Kashmir

Copy to the:-

1. Principal Secretary to Government, Housing and Urban Development Department, J&K, for favour of information.
2. Commissioner/ Secretary to Government, Forest, Ecology & Environment Department, J&K, for favour of information.



Government Of Jammu And Kashmir
Directorate of Urban Local Bodies Kashmir

The Regional Wildlife Warden
Kashmir Region.

No :- DULB/Plg/ 711/15048-51

Dated:-12 /08/2021

Subject:- Order of the Hon'ble National Green Tribunal dated :-22-07-2021 in O.A
No 351/2019.

Sir,

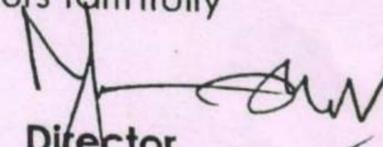
kindly refer your letter No: - RWLW/K/Estt/2021-22 /947-50 dated:-06/08/2021 regarding above quoted subject. In this connection , the compliance report with regard to the preservation/ conservation of Fashkooi wetland has already been submitted to the Commissioner Secretary to Govt. Department of Forest Ecology and Environment J&K Srinagar vide this office letter No DULB/Plg/20-21/15366-67 dated :-07/08/2021, (Copy Enclosed).

With regard to the meeting held under the Chairmanship of Commissioner Secretary to Govt. Department of Forest Ecology and Environment held on 29/07/2021 for conservation and management of wetlands, the concerned chief Executive officers/Executive officers have been directed to comply the instructions in letter and spirit and the available machinery and equipment be put to the use in cleaning of the areas as per feasibility and dustbins may also be provided to the nearer habitations to ensure that the no open littering of waste in these areas.

Moreover, Special Task Force have been constituted in the respective ULBs, who shall conduct regular sanitation drives in the water body and its adjacent areas.

Encls: (___ Lvs)

Yours faithfully


Director,
Urban Local Bodies,
Kashmir

Copy to the :-

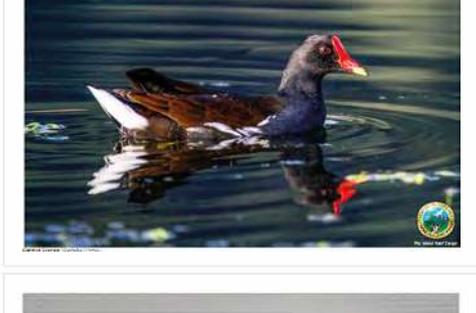
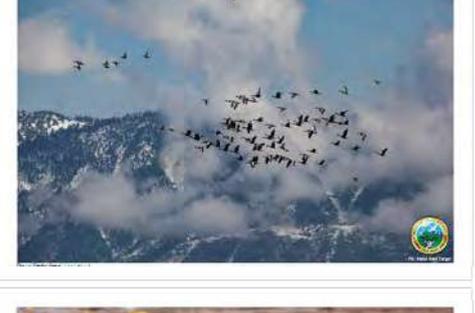
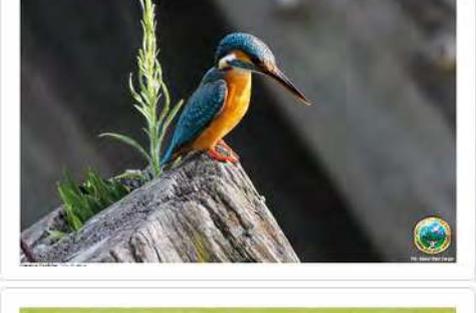
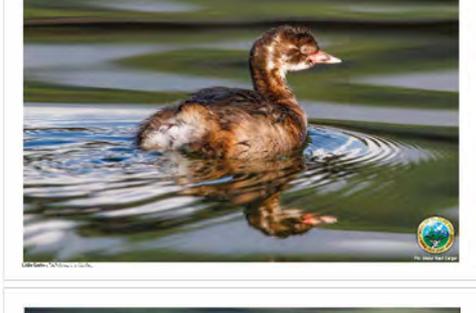
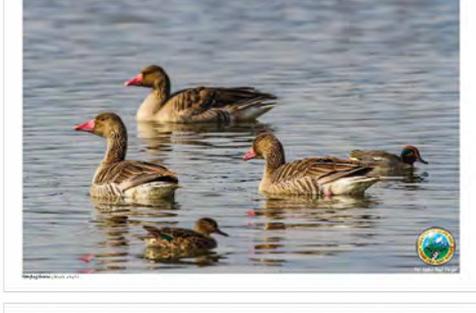
1. The Chief Wildlife Warden, J&K Govt. Jammu / Srinagar for favour of information.
2. The Divisional Commissioner Kashmir for favour of kind information.
3. Wildlife Warden Wetlands Srinagar for favour of information.

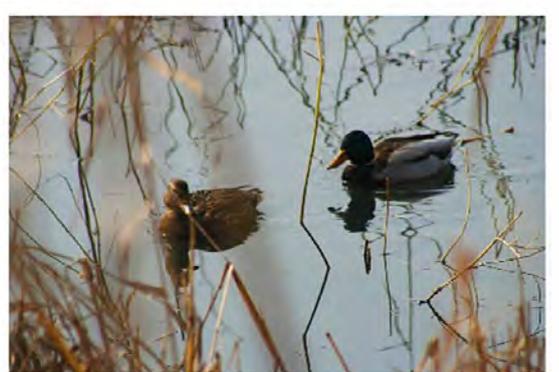
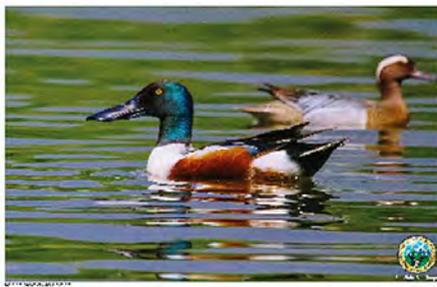
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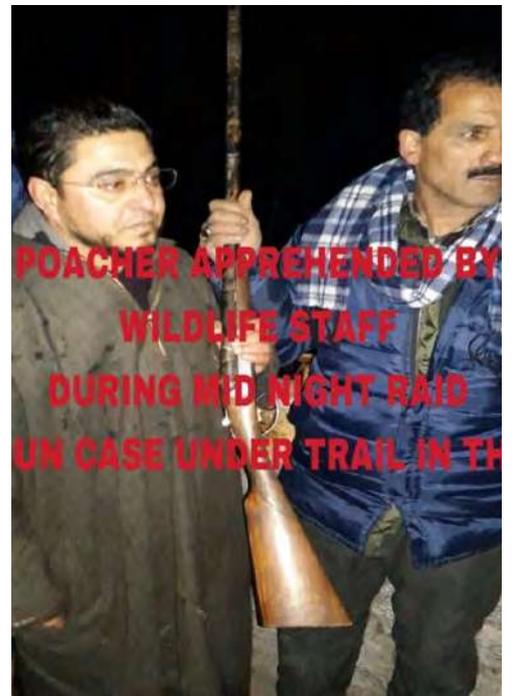
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Pictures







PRESENT ENFORCEMENT AND OTHER MANAGEMENT INTERVENTIONS



PLUGGING OF BREACHES & RESTORATION OF MARGINAL BUNDS IN HOKERSAR WETLAND



PLUGGING OF BREACHES & RESTORATION OF MARGINAL BUNDS



ONE DAY SEMINAR ON "USEFUL UTILIZATION OF WETLAND BIOMASS HELD ON 14-08-2021 AT DACHIGAM NATIONAL PARK

