

Sukhna Wetland in UT Chandigarh



Background

- **Sukhna Wetland** has been declared vide notification No. Forest/2020/74 dated 16.06.2020 under Rule 7 of the Wetlands (Conservation and Management) Rules 2017 wherein area of Sukhna Lake comprising of 493.00 acre has been declared Wetland. The extend of the Sukhna Wetland and its catchment area/zone of influence falling within the jurisdiction of UT Chandigarh spreading over a area of 7185.824 acre wherein prohibited regulated and promoted activities has been described.
- **Sukhna Lake** was built in the year 1958 across Sukhna Choe. **Man-made lake** was formed by constructing a **12.8 m high rock-fill earthen dam**. Spreads on foothills of the Shivalik mountain range and is a major tourist attraction. Administration has declared Sukhna Lake as Wetland. The soil in the catchment area is sandy, embedded with pockets of clay, which is highly susceptible to erosion by surface run off. At time of construction, storage capacity of the lake was 10.74 Million Cubic Meter. Catchment area has large number of water holes, grazing grounds and good plantations provide an **ideal habitat for the wild life**. It has rich floral diversity as 40 tree species, 18 shrubs, 10 climbers, 28 herbs, 16 grasses etc. Sukhna Wetland is an important **wintering ground for migratory birds**. Every year thousand of migratory birds visit.

Monitoring plan for the Wetlands and its catchment/zone of influence

Goal	Management Objective	Performance Indicator	Means of measurement	Frequency	Responsible Agency
Goal 1 Enhancing the hydrological and ecological integrity of the wetland	Objective 1: Wetland to be maintained in line with regulatory requirements of Wetlands (Conservation and Management) Rules, 2017	The activities notified to be regulated, prohibited and banned in Sukhna wetland and its zone of influence need to be enforced and regulated as and when needed	Technical and grievances issues related to Sukhna wetland and its catchment are resolved or action taken	As per requirement	Forests and Wildlife Department, UT Chandigarh
	Objective 2: Enhancing the hydrology integrity of the Sukhna wetland and its catchment by implementing a combination of engineering solutions and soil and water conservation (SMC) measures.	No loss in the wetland area or the water spread area during various seasons, water holding capacity increased, Sukhna choe and its tributaries are strengthened	Remote sensing and ground-truthing, bathymetric studies, data from discharge gauges	Once in three years	Forests and Wildlife Department, UT Chandigarh & Engineering and water resources Department, UT Chandigarh
	Objective 3: Improving Water quality in the Sukhna wetland.	Faecal and Total Coliform, DO BOD, nutrients (Nitrate and phosphate) & Wetland health cards	Water quality monitoring from sampling sites both in wetland and its catchment	Monthly	Chandigarh Pollution Control Committee, UT Chandigarh
	Objective 4: Conserving biological diversity of Sukhna Wetland	Population and diversity of wetland dependent species, Rapid Assessment of Wetland Ecosystem Services survey, Preybase assessment, spread of weed, disease control, increase in forest cover number of trainings conducted	Winter and summer avian surveys conducted, survey reports, Remote sensing and ground-truthing,	Waterbird counting needs to be conducted twice a year while other studies once in four years	Forests and Wildlife Department, UT Chandigarh Animal Husbandry and Fisheries Department, UT Chandigarh

Goal	Management Objective	Performance Indicator	Means of measurement	Frequency	Responsible Agency
Goal 2 Building and promoting sustainable ecotourism in the Sukhna wetland and its catchment (Zone of influence)	Objective 1: Developing sustainable eco-tourism in Sukhna wetland	Sustainable tourism roadmap Tourist related carrying capacity studies conducted for Sukhna Facilities to manage solid and liquid waste need to be functional and assessed monthly for its proper working.	Number of boats plying in the Sukhna wetland, their timings, boating practised in allotted zone, decentralized solid and liquid waste management is implemented. 100% plastic- free environment in the Sukhna Wetland Increased % of renewable energy-based infrastructure in the Sukhna Wetland.	As per requirement	Tourism Department, UT Chandigarh, CITCO, and Forests and Wildlife Department, UT Chandigarh
	Objective 2: Promoting community participation in eco-tourism in the Sukhna Wetland	Number of Recruitment, training and exposure visits of local nature guides, number of nature fairs organised	Increase in income generating activities, number of community persons, visitors inspired to take local actions for nature conservation	As per requirement	CITCO, Forests and Wildlife Department, UT Chandigarh & Tourism Department, UT Chandigarh,

Goal 3 Strengthening a multi- stakeholder institutional arrangement, cross-sectoral coordination and CEPA programme encouraging active stakeholder engagement for conservation of the Sukhna Wetland	Objective 1: Strengthening A multi-stakeholder institutional arrangement	Enhancement of Institutional capacity Functional and active wetland committee	Number of meetings and decisions/actions taken	As per requirement	Nodal Office of State Wetland Authority
	Objective 2: CEPA programme leads to active stakeholder engagement	Plan for CEPA prepared and implemented.	Number of community programmes, stakeholders are inspired to take local action for addressing issues of Sukhna wetland	As per requirement and resources	Forests and Wildlife Department, UT Chandigarh & Tourism Department, UT Chandigarh
	Objective 3: Promoting sustainable practices that enable Sukhna Wetland to continue providing vital ecological services while supporting controlled tourism, recreation, and sports activities.	Improved water quality, improved vegetation cover of aquatic biodiversity, improved waste management practices, enhanced renewal energy usage, improved visitor satisfaction	Zones defined for rowing and tourists boats, increase in number of birds and aquatic vegetation, guidelines in place for boat timings, speed and capacity limits of rowing boats and tourists boat, waste management strengthen and capacity limits followed. Enhanced usage of renewal energy.	As per requirement and resources	CITCO, Forests and Wildlife Department, UT Chandigarh & Tourism Department, UT Chandigarh, Engineering Department
Goal 4 Building and strengthening a monitoring mechanism for the Sukhna Wetland	Objective 1 - Building and strengthening a monitoring mechanism for the Sukhna Wetland	Monitoring system is built and used to take informed management decisions, assess effectiveness and to provide robust decision support system	Meetings, actions and decisions of Technical and Grievances committees & UT Wetlands Authority Mid-term and end-term review of APOs and management plan implementation to assess the extent to which stipulated objectives have been achieved with a high degree of resource efficiency and in participation with stakeholders.	As per Requirement	Nodal Office of UT Wetlands Authority Nodal Office of UT Wetlands Authority

Action Plan

Objectives	Actions	Implementing Department
Goal 1 Enhancing the hydrological and ecological integrity of the wetland		
Objective 1: Wetland to be maintained in line with regulatory requirements under Wetlands (Conservation and Management) Rules, 2017	• Control of poaching, fishing and strengthening of protection staff • Procurement of Boats, CCTV cameras, drones etc. and supporting infrastructure • Constructing check post, fire watch towers, fire lines, approach road or katcha path for patrolling/ inspection	Forest and Wildlife Department
Objective 2: Enhancing the hydrology integrity of the Sukhn wetland and its catchment by implementing a combination of engineering solutions and soil and water conservation (SMC) measures.	• Installing automatic weather stations and maintenance • Period Bathymetric Profile Assessment • Establishment of Gauges for water monitoring • Appropriate engineering measures to increase enhance the storage capacity of Sukhna lake • Afforestation, aided regeneration and its maintenance in Sukhna wetland and its catchment	Engineering and water resources Department, UT Chandigarh & Forest and Wildlife Department

	• Management of silt by carrying de-siltation operations (if required dredging) under the guidance of subject expert. • Appropriate engineering measures to control soil erosion and stabilize soil. • Climate risk assessments	
Objective 3: Improving water quality of the Sukhna Wetland	• Conduct periodic water quality testing at sampling points within the wetland and catchment. This includes monthly sampling at 5 locations in the Sukhna Wetland and Kansal, Saketri and Sukhna Choe.	Pollution Control Committee, UT Chandigarh
Objective 4: Conserving biological diversity of Sukhna Wetland	• Mapping of invasives macrophytes in Sukhna wetland, its catchment and their management by removal under the guidance of subject expert. • Systematic assessment and updating wetland biodiversity • Waterbird census • Stocking of fingerlings to increase the prey base in bird congregating areas. • Carbon, GHG flux assessment and nutrient budgeting for Sukhna • Economic valuation of biodiversity and ecosystem services • Disease control and establishing veterinary care shelters for preparedness for wildlife during and after extreme events • Training of site manager and staff on wetland ecology, participatory planning and monitoring and health card preparation, conflict resolution, community engagement • Training of frontline staff on sampling, instrumentation and wildlife disease identification • Resource material – newsletter, pamphlets, brochures, factsheets, maps and documentary films for outreach	Forest and Wildlife Department

Goal 2 Building and promoting sustainable ecotourism in the Sukhna wetland and its catchment (Zone of influence)

Objective 1:
Developing sustainable eco-tourism in the Sukhna wetland

- Local culture inventory (religious institutions, festivals, fairs etc.) and dissemination of information on wetlands
- Carrying Capacity of Sukhna Wetland to understand the Impact of boating (both rowing and tourist) on the health of the wetland.
- Installing and maintenance of information boards on significance of the site
- Environment event celebration
- Repair and maintenance of existing tourism infrastructure like watch towers etc.
- Create and operationalize tenting platforms in Sukhna wetland and its catchment
- Create and maintain Boardwalks and nature trails
- Construction of the main gate for Sukhna Wetland
- Construction of adequate public amenities– drinking water, toilets, resting sheds, eateries.
- Creating and functioning of waste management units, rainwater harvesting, wastewater treatment units
- Purchase and maintenance of spotting scopes, binoculars installed on pathways for tourists
- Creating and operation at Souvenir shop
- Promoting a plastic-free environment in the Sukhna wetland
- Implementing comprehensive waste disposal facilities in the Sukhna Wetland
- Promoting 100% renewable energy-based infrastructure in the Sukhna Wetland

Tourism Department,
UT Chandigarh/ Forests
and Wildlife Department/
CITCO/Engineering
Department,
Water Resources
Department

Objective 2: Promoting community participation in eco-tourism in the Sukhna Wetland	• Recruitment, training and exposure visits of local nature guides (bird guides, boat ride guides, tour guides etc.). • Purchase of binoculars, spotting scope, lifejackets and guidebooks for nature guides. • Identify and train local communities on homestay (lodging and accommodation) • Organize nature fairs or other people engaging activities and events like yoga camps etc.	Tourism Department, UT Chandigarh/ Forests and Wildlife Department/ CITCO/ Sports Department UT Chandigarh
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Goal 3 Strengthening a multi-stakeholder institutional arrangement, cross-sectoral coordination and CEPA programme encouraging active stakeholder engagement for conservation of the Sukhna Wetland

Objective 1: Strengthening a multi-stakeholder institutional Arrangement	• Regular meetings of UT Wetland Authority and sub committees on Sukhna wetland • Workshops, trainings and exposure visits regularly organised for members of State Wetlands Authority including technical and grievances committees	Forests and Wildlife Department (Nodal Department of State Wetlands Authority)
Objective 2: CEPA programme leads to active stakeholder engagement	• Enrol and capacity building exercise for wetland mitras • Scholarship for youngsters to conduct scientific research on various aspects of the Sukhna Wetland • Conducting citizen science programmes like tree watching, dragonfly watching etc. • Water school programme in atleast 50 schools around Sukhna wetland • Promoting sustainable horticulture practices • Promoting sustainable agriculture practices • Promote community based solid waste management systems.	Forests and Wildlife Department/ Environment Department/ Science and Technology Department.
Objective 3: Promoting sustainable practices that enable Sukhna Wetland to continue providing vital ecological services while supporting controlled tourism, recreation, and sports activities.	• Establishing a carrying capacity threshold (e.g., maximum boats allowed per day). • Seasonal restrictions on movement of boats during breeding and migratory seasons of birds and other important aquatic fauna. • Limited and strictly regulated boating (only “No Fuel using boats” allowed in Sukhna wetland) for tourism persons. • Boating allowed with guidelines on rowing boat zones, timings, speed and capacity limits. • Waste management units established and renewal energy utilization usage engaged in lake area of the Sukhna wetland.	Tourism Department, UT Chandigarh/ Forests and Wildlife Department/ CITCO/Sports Department

Goal 4 Building and strengthening a monitoring mechanism for the Sukhna Wetland		
Objective 1: Building and strengthening a monitoring mechanism for the Sukhna wetland	• Hiring of work force for functioning of the UT Wetlands Authority • Office equipment and supplies for the UT Wetlands Authority • Development of dedicated website, central database etc. • 3rd party monitoring • Annual Wetland Health Cards Report • Management Effectiveness Tracking Tool	Forests and Wildlife Department (Nodal Department of State Wetland Authority)