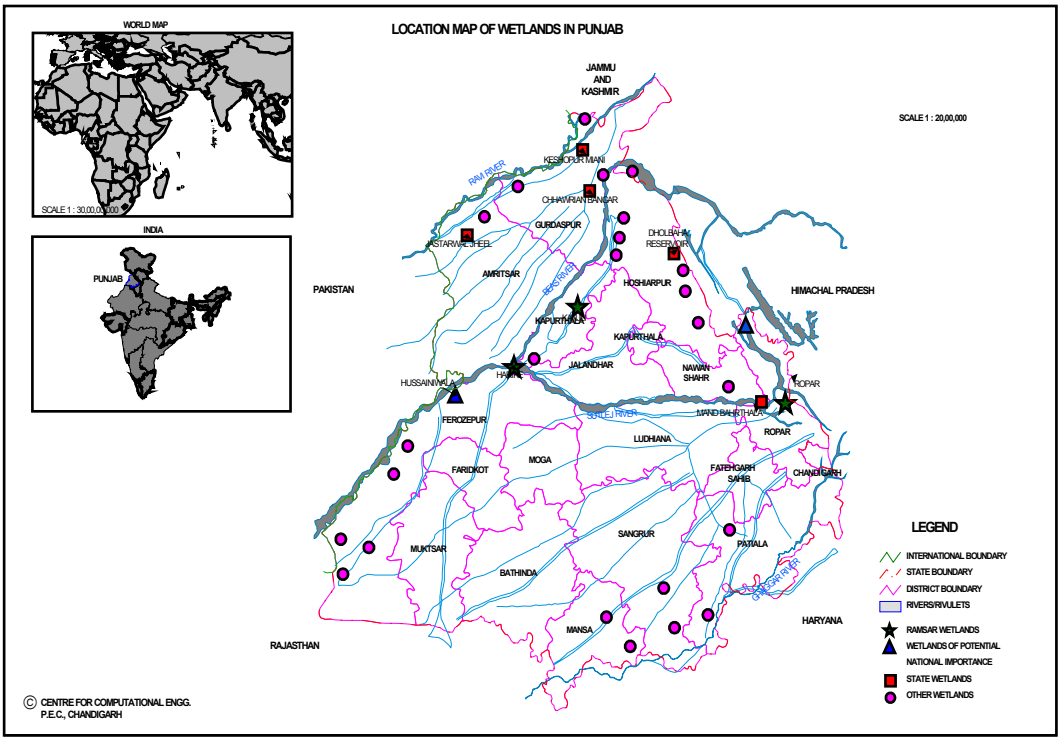
Conservation Programmes for Wetlands

I) Harike Wetland

Harike wetland is one of the largest freshwater wetlands in Northern India. It was included in the Ramsar List of Wetlands of international importance in 1990 and is amongst the nineteen Indian Ramsar Sites. This is the Man-made, riverine, lacustrine wetland formed due to construction of barrage in 1952. Located at the confluence of two major rivers of Punjab namely Sutlej and Beas it falls in three districts of Amritsar, Ferozepur and Kapurthala. Ministry of Environment and Forests, Govt. of India recognised the importance of Harike Ecological zone in 1987-88 and since then conservation and management programmes are being implemented by various executing departments like Forest, Wildlife, Fisheries, Irrigation, Soil Conservation, State Pollution Control Board, Town & Country Planning, Universities etc. PSCST is acting as a nodal agency for conservation and management of wetlands. This wetland spread over an area of 41 sq.km has been surveyed on ground and by remote sensing technology. Ground survey undertaken by Irrigation Department shows that out of total area of 3713.76 ha surveyed 2795.14 ha is under water. This wetland is ecologically important for serving as :

- Strategic reservoir for providing irrigation and drinking water supplies to Punjab and Rajasthan through Ferozepur and Rajasthan feeder canals with total carrying capacity of 29000 cusecs.
- Extremely rich biodiversity centre. 360 species of birds, 7 species of turtles, 4 species of snakes, 6 taxa of amphibians, 16 taxa of fishes, 189 taxa of invertebrates and 38 taxa of plants have been reported to occur at Harike.

- Vital habitat for obligate and facultative wetland and upland species of plants essential for sustainability of the entire ecosystem.
- Staging ground for diversity of avian fauna - an Avian paradise in Northern India. Recently it has been reported that some very important rare birds like Indian Skimmer, Yellow-eyed Pigeon, Sykes's Knightjar, Rufous-vented Prinia inhabit this wetland area (Kazmierczak *et. al*. 1998)
- Important natural fisheries resource in the State. About 50 species of fish have been reported.
- Master balance in hydrological regime, maintain high water quality and recharge ground water. While ground water table in most part of the State is receding badly, the areas near wetlands are rich in ground water resources. The water quality of this lake is also predominantly of 'A' Class as per the designated best use criteria in spite of the fact that huge volumes of polluted water reach this lake from industries and urban centres.
- Buffer for protecting downstream areas from mild floods.



This wetland is, however, under natural and demographic threats. Major threats to Harike wetland are listed below:

- Weed Growth: profuse growth and influx of noxious weed i.e. water hyacinth is adversely affecting the ecology of this lake.
- Siltation: Deposition of silt eroded from far off hill catchments and immediate areas has reduced the pond area from 41 sq.km. to 28 sq.km. area. The storage capacity of this lake has considerably reduced from 8381 ha meter in 1952 to 4650 ha meter in 1980 and further to 1820 ha meter in 1990.
- Encroachments: 792 ha area of Harike Wetland has been encroached upon by unauthorized public for carrying out agricultural operations.

- Pollution from industrial, urban and agricultural activities: About 700 Million Liters per day (mld) of polluted water from different towns & industries reach Harike Lake. Some of the important drains like Budha Nallah, which have been totally converted into sewers, carry the entire effluents of the mega towns like Ludhiana into the river Satlej. Interestingly, however, due to self-purification process, the water quality of this lake generally falls under category A.
- Fishing and Poaching: Harike wetland is a part of Harike Bird Sanctuary. Thus fishing and poaching of wild animals stands banned in the sanctuary under the Wildlife (Protection) Act. However illegal fishing and poaching does take place and it has been a cause of concern.
- Grazing: Indiscriminate grazing in the catchments and right in the wetland zones is damaging the wetland ecology.

II) Kanjli Wetland

Named after Village Kanjli, this wetland located near Kapurthala town (4 km from the city) is fed by Kali Bein, which originates near village Dhanoa in Hoshiarpur district and merges with river Sutlej (earlier Beas) upstream of Harike Reservoir. Spread over about 100 ha area at 31”32’ North latitude and $75^0$76’ East longitude, this wetland was included in the list of wetlands of national importance in 1988. Recognizing its hydro-ecological and socio-religious significance, this wetland has been included in the Ramsar List on the occasion of World Wetlands Day 2002. Maximum depth of water is recorded to be 25 feet. This wetland support diversity of resident and migratory avifauna, nurture large number of fish species, controls hydrological regime and is important from religious and recreational view points. Still, it is threatened due to profuse growth of water hyacinth, pollution, reduction in water inflow, encroachment, cutting & filling etc. With regard to water quality, marked

temporal variations have been reported in Punjab State Council for Science & Technology sponsored study conducted by Punjab Pollution Control Board. Water quality generally conforms to Class 'B' as per designated best use classification. It, however, falls to class 'D' at one location during the month of December.

Large scale filling up of Kali Bein at its upper terminal end and bringing it under cultivation besides over exploitation of groundwater resources are causing a reduction in the water flow, which will ultimately affect the Kanjli Wetland. Reduction in oozing out of water near the villages Dhanoa, Himatpur and Vadhaya in Hoshiarpur district has also happened due to diversion of Beas water through Mukerian Hydel Channel because the ground water recharging from Beas has drastically declined. To enhance flow in Kali Bein, 100 cusecs of water is being released from Mukerian Hydel Channel through siphon.

III) Ropar Wetland

Ropar Wetland spread over an area of 1365 ha came into formation in 1952 with the construction of Ropar Barrage over river Sutlej for diversion of water into Sirhind canal and Bist Doab Canal. This wetland is an important ecosystem for waterfowl and has great potential for fisheries, forest, agriculture, horticulture, wildlife and recreational activities besides serving an important role in ecological and hydrological functions. This is a unique wetland being located in the lap of Shivalik Foothills, which are important habitat for scaly anteater and a number of other vulnerable species. 119 species of birds and 20 species of fishes have been reported in this wetland area. Because of its tremendous ecological values, the Ministry of Environment & Forests, Govt. of India included this wetland in the list of wetlands of national importance in

1992 for undertaking conservation and management activities. Ropar has also been included in the Ramsar List of Wetlands of International Importance on the occasion of World Wetlands Day 2002.

IV) Other Important Wetlands

Council has also identified following wetlands requiring urgent attention for the conservation and management :

Sr.No.	Name of Wetland	Nearest Village	District	Area (ha)
	NATURAL WETLANDS			
1.	Keshopur-miani Jheel	Keshopur	Gurdaspur	404
2.	Chhawrian Banghar Chhamb	Kahnuwan	Gurdaspur	121
3.	Jastarwal Jheel	Jastarwal	Amritsar	54
4.	Mand Bharthala	Bharthala	Nawan Shahr	60
	MANMADE WETLANDS			
5.	Dholbaha Reservoir	Dholbaha	Hoshiarpur	53
6.	Hussainiwala Wetland	Hussainiwala	Ferozepore	688
7.	Nangal Lake	Nangal	Ropar	371