



भारतीय वन्यजीव संस्थान  
Wildlife Institute of India

NMCG-WII GANGA BIODIVERSITY  
CONSERVATION INITIATIVE PHASE II

PLANNING AND MANAGEMENT FOR  
AQUATIC SPECIES CONSERVATION AND  
MAINTENANCE OF ECOSYSTEM SERVICES  
IN THE GANGA RIVER  
BASIN FOR A CLEAN GANGA

HALF YEARLY REPORT  
JULY — DECEMBER 2021







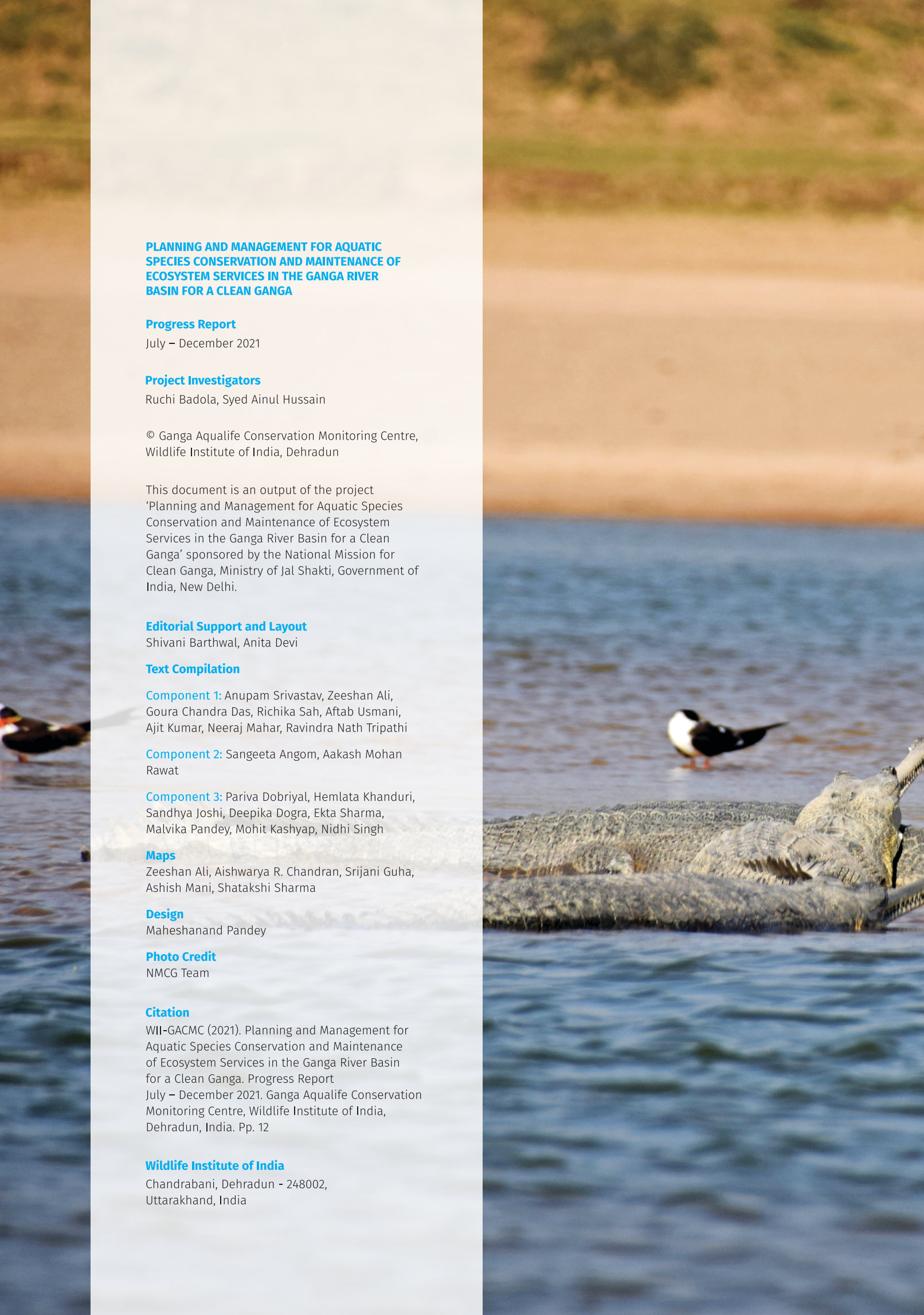


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The background of the page is a photograph of a river. In the foreground, a crocodile is partially submerged in the water, its head and part of its body visible. Two birds, possibly cormorants, are standing on the crocodile's back. The water is a deep blue, and the background shows a sandy or muddy riverbank with some green vegetation.

## **PLANNING AND MANAGEMENT FOR AQUATIC SPECIES CONSERVATION AND MAINTENANCE OF ECOSYSTEM SERVICES IN THE GANGA RIVER BASIN FOR A CLEAN GANGA**

### **Progress Report**

July – December 2021

### **Project Investigators**

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Wildlife Institute of India, Dehradun

This document is an output of the project 'Planning and Management for Aquatic Species Conservation and Maintenance of Ecosystem Services in the Ganga River Basin for a Clean Ganga' sponsored by the National Mission for Clean Ganga, Ministry of Jal Shakti, Government of India, New Delhi.

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### **Design**

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### **Photo Credit**

NMCG Team

### **Citation**

WII-GACMC (2021). Planning and Management for Aquatic Species Conservation and Maintenance of Ecosystem Services in the Ganga River Basin for a Clean Ganga. Progress Report July – December 2021. Ganga Aqualife Conservation Monitoring Centre, Wildlife Institute of India, Dehradun, India. Pp. 12

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## ACKNOWLEDGEMENTS

### Ministry of Jal Shakti (MOJS)

Pankaj Kumar, Secretary

### National Mission for Clean Ganga (NMCG)

Rajiv Ranjan Mishra, Director General

S. P. Vashishth, Executive Director (Admin)

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### Ministry of Environment, Forest & Climate Change (MoEFCC)

Uttarakhand Forest Department

Uttar Pradesh Forest Department

Bihar Forest Department

Jharkhand Forest Department

West Bengal Forest Department

Haryana Forest Department

Madhya Pradesh Forest Department

Rajasthan Forest Department

Nuclear Power Corporation of India Limited (NPCIL)

Narora Atomic Power Station (NAPS)

Ganga Task Force (GTF)

Nehru Yuva Kendra Sangathan (NYKS)

National Rural Livelihood Mission (NRLM)

State Rural Livelihood Mission (SRLM)

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The background of the entire page is a photograph of a wetland. In the foreground, several white birds with black wings and long red beaks are gathered near the water's edge. One bird is in flight, its wings spread wide. The water is calm, reflecting the sky. In the background, there is a sandy bank with sparse, dry vegetation under a clear sky.

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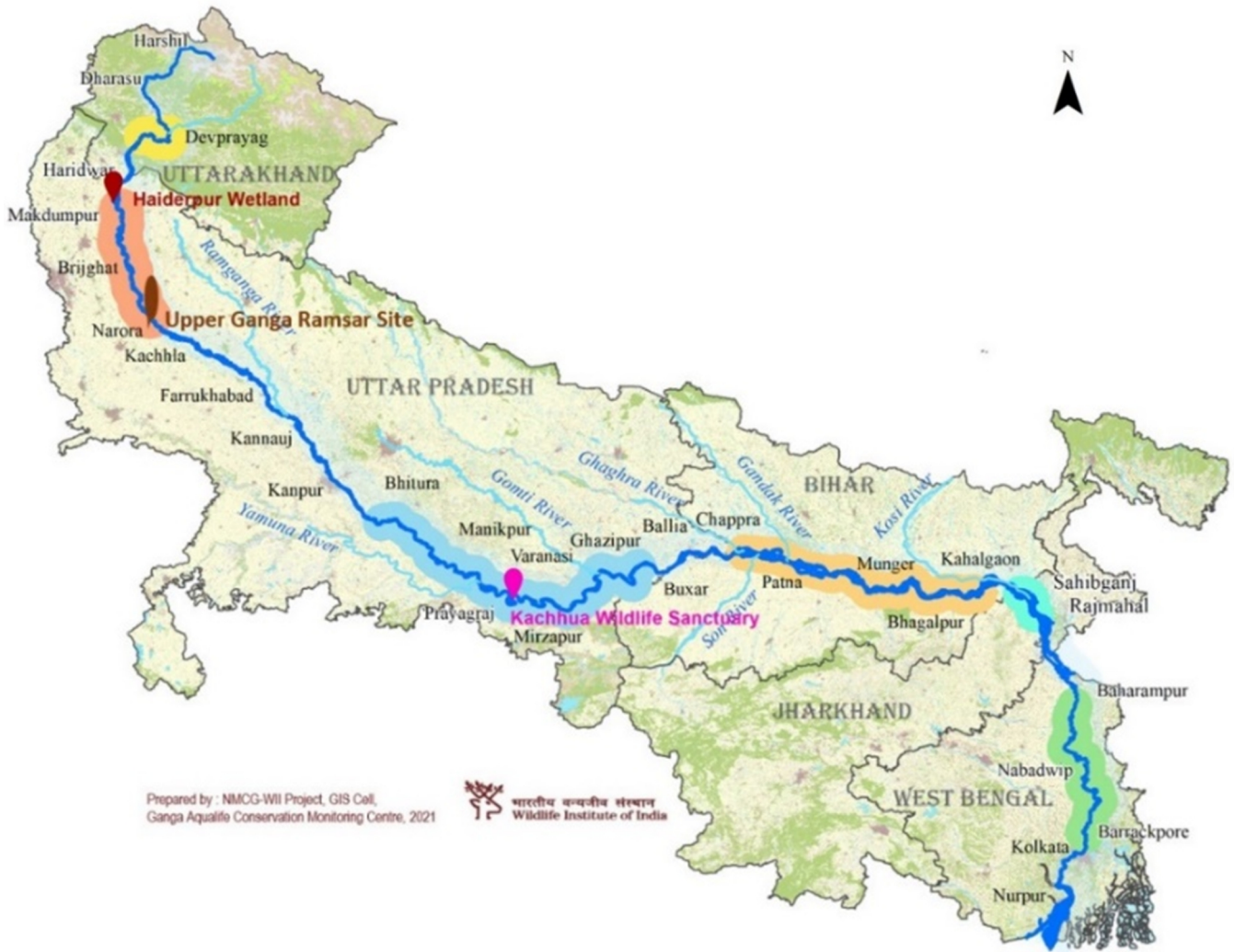
# COMPONENT 1

## SCIENCE-BASED AQUATIC SPECIES CONSERVATION AND MAINTENANCE OF ECOSYSTEM SERVICES IN THE GANGA RIVER BASIN

Habitat modification, fragmentation, invasive species, overexploitation, pollution and climate change are some of the looming threats to freshwater diversity. In addition, persistent xenobiotics, nano-particles and micro-plastics pose a toxicological risk to the freshwater ecosystem. This component aims to document the aquatic diversity of the Ganga River basin and the threats to them, for science-based aquatic species conservation planning. Such documentation would aid in the decision-making process and can facilitate the prediction of future impacts under various scenarios. In addition, the loss of individuals as a result of accidental trapping in fishnets, injury by crafts, and poaching also contribute to the decline in the population of the priority species, viz. Gangetic dolphin, otters, gharial and mugger. To address such emergent situations and to abate the loss of individuals, rescue and rehabilitation centres are being strengthened/upgraded at strategic locations along the Ganga River, through this component. Such efforts would aid in effective rescue and subsequent rehabilitation of the rescued individuals.

- Post-monsoon higher vertebrate survey was carried out in the mainstem Ganga River, from Haridwar to Farakka, covering a distance of 2,480 km to enumerate occupancy and encounter rate of Gangetic dolphins, smooth-coated otters, gharials, muggers, and waterbirds.
- For the post-monsoon survey, from identified fish sampling sites along the Yamuna, Ramganga, and Gandak rivers, the fish diversity focused survey was carried out in the Ramganga River.
- Cataloguing and tagging of fish samples were done. Conducted experimental fishing and participated in the dolphin count survey in Samastipur, Bihar. A fish market survey was also undertaken in Samastipur, Bihar, to estimate the fish diversity. Literature review and report writing for the fish sampling conducted in the Ramganga River is in progress.
- Intensive monitoring sites along the tributaries of the Ganga River viz. Kosi, Damodar, Rupnarayan, Son, Ramganga, Ghaghra, Gandak and Ajay rivers were identified and mapped on a geospatial domain. The post-monsoon (2021-22) higher vertebrate survey was initiated in Ramganga, and Kosi rivers.
- For the vegetation study, initiated a survey from Kaithi-Rajwari to the confluence area of the Gomti River to Pilibhit, Uttar Pradesh. So far, during the survey, 30 plant species belonging to 16 families have been recorded.
- To strengthen the conservation measures, management planning for the select priority areas along the mainstem Ganga River was done. Draft Action Plan for the Haiderpur wetland - a newly nominated Ramsar Site, and Kachhua Wildlife Sanctuary in Uttar Pradesh is currently under review.





## Management Plan of Kachhua Wildlife Sanctuary, Uttar Pradesh



Draft

बुझाई गयी



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DRAFT

## HAIDERPUR WETLAND

## Management Plan



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- During the post-monsoon survey, the biological samples were collected from different locations of Yamuna and Ramganga rivers in Uttarakhand, and Ghaghra, Sai, and Rapti rivers in Uttar Pradesh. For genetics study, extraction and quantification of DNA from biological samples of selected aquatic species collected from the Ghaghra, Sai, Rapti and Ramganga rivers and different localities of Uttar Pradesh is ongoing.
- Significant spatial variations observed in the water quality parameters and heavy metal concentrations in the tributaries reflect spatial variations of wastewater/sewage inflow, agricultural runoffs, flow regime and geophysical characteristics. Post-monsoon ecotoxicology survey (2021) is currently underway to investigate the temporal difference in the distribution pattern of the target contaminants.



- Upkeep and winter management of the rescue and rehabilitation centres at Narora and Sarnath were carried out. Meetings and discussions were carried out with the District Forest Officer, Ayodhya, Uttar Pradesh, to select rescue and interpretation centres locations. Meetings were also undertaken with the Divisional Forest Officer (DFO), Haridwar, Uttarakhand and DFOs of Shahanjapur, and Sitapur, Uttar Pradesh, to establish a turtle rescue and interpretation centre.
- The front line forest staff at Ayodhya and Lucknow Zoo were trained to handle and rescue key aquatic species.
- Sushri Uma Bharti, former Hon'ble Cabinet Minister, Ministry of Water Resources, River Development and Ganga Rejuvenation and Former Chief Minister, Madhya Pradesh, visited the Ganga Aqualife Rescue and Rehabilitation Centre, Narora and reviewed the activities undertaken at the centre.



- The Fifth meeting of the Monitoring Committee was held under the Chairmanship of Director General NMCG, Shri Rajiv Ranjan Mishra, on 30<sup>th</sup> July 2021, via video conferencing. The meeting was chaired by Director General, NMCG, Shri Rajiv Ranjan Mishra, and under the leadership of Director, Wildlife Institute of India, Dr Dhanajai Mohan. The Committee members Padam Bhushan Dr Anil Prakash Joshi, Dr B K Das, Director, CIFRI, Prof. Jamal Ahmad Khan, Aligarh Muslim University, Prof. Rajiv Sinha, IIT Kanpur, Dr Arun Kumar, Dolphin Institute appreciated the efforts put in by the NMCG-WII team to carry the project activities amidst the COVID-19 pandemic and congratulated the team.



- A book "Hydrophytes: Green lungs of Ganga River" was compiled and designed. The book provides information on the important and commonly occurring hydrophytes along the Ganga River.





# COMPONENT 2

## CAPACITY BUILDING OF THE FOREST DEPARTMENT AND OTHER STAKEHOLDERS IN MANAGING AQUATIC AND WETLAND RESOURCES

Successful implementation of the conservation action plan will depend on the capacity of the stakeholders trained in monitoring of aquatic biodiversity, management planning of wetland, rescue and rehabilitation protocols. Further, to detect any changes in habitat features and species assemblage in future, the capacity of different stakeholders including forest departments, animal husbandry departments, veterinarians and volunteers from concerned areas will be extremely critical. With this background, this component aims to developing capacities of stakeholders for effective conservation of the Ganga.

- To instil conservation values in the young minds, the Bal Ganga Prahari programme was launched in 2020, with the initiation of Phase II of the project. From July to December 2021, 34 schools were enrolled in the Bal Ganga Prahari Programme, in which students and teachers were sensitised about the Ganga and its biodiversity through various awareness activities and programmes.

***Don't throw it away, it can be used in some other way***



Bal Ganga Prahari during the vocational training programme at WII, Dehradun





Bal Ganga Prahari at Govt. Girls Inter College, Devprayag, Tehri Garhwal, Uttarakhand

- Between July and December 2021, one national-level spearhead training programme was conducted for the spearhead team members from the Ganga Task Force (GTF) and Eco Task Force (ETF). National level spearhead training programme for GTF and ETF on biodiversity conservation of the Ganga River and its tributaries was conducted at the WII, from the 27<sup>th</sup> September to 2<sup>nd</sup> October 2021. Twenty-five spearhead members were trained during the programme, which was aimed at building the capacities of the personnel on various dimensions of conservation aspects, including restoration, rejuvenation and management of the Ganga River Basin.



Spearhead team members of the GTF and ETF, with WII faculty and NMCG-WII project Team

- Online and offline trainings on the ecological survey, wetland conservation, participatory management, conservation education, rescue & rehabilitation, biological sample collection & preservation were conducted for forest officials, veterinarians, NCC & NSS, NPCIL, NYKS, Ganga Praharis, GTF, NGOs, professors, teachers, university & college students, and local communities were trained in these training programmes.



# COMPONENT 3

## DEVELOP COMMUNITY-BASED AQUATIC SPECIES CONSERVATION AND OUTREACH PROGRAMMES FOR THE GANGA RIVER BASIN

River conservation decision is a societal one, owing to trade-offs between competitive use of river's resources between maintaining ecological integrity as well as for sustaining the communities. Aligning local livelihoods with conservation goals is known to create a larger constituency of support for conservation, for which site-specific strategies needs to be developed. These communities should also be made aware about the role of an ecologically intact Ganga basin in enhancing the quality of life. The local communities residing along the banks of the Ganga River have high interests in conservation of the Ganga and its aquatic diversity. These local communities have shown their support to conservation initiatives for the Ganga River and some of the members of communities are now part of the Ganga Prahari cadre of trained volunteers. This component aimed to extend this trained cadre at the basin scale. The component also develops high-quality, science-based awareness and outreach material on Ganga River conservation.

- From July to December 2021, a total of 376 volunteers from the Ganga River basin joined the Ganga Prahari cadre. These volunteers are from the Ganga River's six tributaries and the Periyar River. The Ganga Praharis have a presence in 28 districts across five Ganga basin states, Himachal Pradesh, Uttarakhand, Uttar Pradesh, Jharkhand, Bihar, West Bengal, and Kerala. Additionally, one Ganga Prahari Mentor has been identified.
- Between July and December 2021, a total of 365 activities categorised under 18 types were carried out in the Ganga basin states. A total of 10,683 people participated in these activities. Of these, Ganga Praharis conducted 13 types of activities in which 2,542 people participated. These Ganga Praharis rescued 28 individuals, including crocodilians, turtles, snakes, and birds.



Community Based Approaches to Link Conservation and Green Economy



- Fourteen livelihood centres were established in Uttar Pradesh and West Bengal. During livelihood trainings in these livelihood centres, Ganga Praharis were trained in SHG account maintenance, packaging material making, health and wellness, bakery training, prasad, candle and incense stick making and art & craft (file covers, envelops, paper bags etc.). A total of 16 livelihood activities were conducted across the Ganga River states, in which 434 people were trained.
- 75<sup>th</sup> anniversary of independence was celebrated by launching a Mobile Exhibition depicting the biodiversity and livelihood of the people living on the banks of the Ganga River. This mobile exhibition travelled through the banks of the Ganga, Yamuna and Gomti rivers throughout the Wildlife Week, viz. 1<sup>st</sup> October till 7<sup>th</sup> October 2021. The exhibition aimed to create awareness amongst school children and the community about the importance of clean water, an environment free of pollution and river biodiversity. The Mobile Exhibition was flagged off at Bijnor, Uttar

Pradesh, on 1<sup>st</sup> October 2021, in the presence of DM Bijnor, DFO Muzaffarnagar, DFO Bijnor, officials of Ganga Task Force and Eco Task Force, and front line staff of the forest department. The mobile exhibition covered seven cities and reached out to about 1,500 people. The concluding ceremony was organised in collaboration with Uttar Pradesh Forest Department at the Zoo in Sarnath on 7<sup>th</sup> October 2021.

| Date                    | Location of the Mobile Exhibition |
|-------------------------|-----------------------------------|
| 1 <sup>st</sup> October | Bijnor                            |
| 2 <sup>nd</sup> October | New Delhi                         |
| 3 <sup>rd</sup> October | Kanpur                            |
| 4 <sup>th</sup> October | Kanpur                            |
| 5 <sup>th</sup> October | Sultanpur                         |
| 6 <sup>th</sup> October | Varanasi                          |
| 7 <sup>th</sup> October | Sarnath                           |



Flag-off ceremony of the Mobile Exhibition at Bijnor

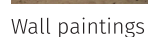




Glimpses of the culmination ceremony at Sarnath, Varanasi



- seven schools for *Jalmala Samwad* in Pilibhit, Sultanpur and Barabanki districts of Uttar Pradesh along the Gomti River. Panels were designed in identified schools in Pilibhit. Teachers in the identified schools were distributed the teaching kit - the *Ganga Gyan Kosh* and trainings were imparted to them on using the kit. Panels were designed for the *Jal-mala Samwad*, and school walls were painted accordingly.





- To mobilise stakeholders, including local communities, to participate in Ganga River conservation and cleanliness, Ganga Utsav was celebrated at 54 various locations along the Ganga River. The events were organised between 28<sup>th</sup> October to 3<sup>rd</sup> November 2021. A total of 88 activities such as awareness rallies, cleanliness drives, Ganga Prahari Handicraft Mela, exhibitions on the cultural and ecological value of the Ganga River were conducted, during which more than 10,000 people were sensitised and mobilised. An

exhibition on aquatic flora and fauna of the Ganga River basin and the conservation efforts by WII was displayed in coordination with Uttar Pradesh Forest Department, Lucknow, during Climate Change Conclave-2021 from 28<sup>th</sup> to 29<sup>th</sup> October 2021.

- Celebrated Nadi Utsav across the 30 districts of nine Ganga basin states from 17<sup>th</sup> till 23<sup>rd</sup> December 2021. The Nadi Utsav was celebrated through 166 activities with the participation of more than 14,000 people representing 22 stakeholder groups.



Flag-off ceremony for the Padyatra at Ayodhya during the Nadi Utsav

- Showcased activities conducted under the project for the conservation of the Ganga River Basin biodiversity during the "Shining Uttar Pradesh 2021" programme organised by the Government of Uttar Pradesh on the occasion of Azadi Ka Amrit Mahotsav at Varanasi.



The Hon'ble Minister of State, Stamp and Court free registration Shri Ravindra Jaiswal and the Hon'ble Chairman/State Minister, Labour and Employment Shri Raghuraj Singh visited the exhibits and applauded the work undertaken by WII





The Hon'ble Minister of State, Stamp and Court free registration Shri Ravindra Jaiswal and the Hon'ble Chairman/State Minister, Labour and Employment Shri Raghuraj Singh visited the exhibits and applauded the work undertaken by WII

- A stall was displayed during UP Climate Change Conclave 2021 at Lucknow from 28<sup>th</sup> to 29<sup>th</sup> October 2021 to showcase project activities. During his visit to the WII stall, Shri Yogi Adityanath, Hon'ble Chief Minister of Uttar Pradesh, and other dignitaries from the centre and state governments were briefed about the NMCG-WII project.



Hon'ble Chief Minister of Uttar Pradesh Shri Yogi Adityanath and other dignitaries from the Centre and State interacted with the NMCG-WII team and applauded the steps are taken by the team



More than one thousand visitors, including Padma Shri Himmata Ram Bhambhu, Advisor to the Chief Minister of Uttar Pradesh, Forest Officials, Media personnel, School Children, Staff of the police department, visited the stall



- During the Ganga Utsav and Nadi Utsav, "Ganga Prahari handicraft Melas" were organised at Bijnor, and Varanasi, Uttar Pradesh.



- A Ganga-Biodiversity Exhibition was organised in Dhaka Ganga Gram, Varanasi, to promote the River-Community relationship. The event also marked the presence of delegates from NMCG, Delhi. The Chief Guests of the event were Shri Mahavir Kaushji, Divisional Forest Officer, Sarnath and Shri Mahendra Yadav, Subedar, Ganga Task Force.



- A book "Ganga Ki Kahani –Prahariyon ki Zubani" was drafted and designed. The book is a compilation of experiences and views shared by the Ganga Prahari and Ganga Prahari Mentors on the socio-cultural and ecological values of the Ganga River.





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