

10th



6th to 8th January, 2023

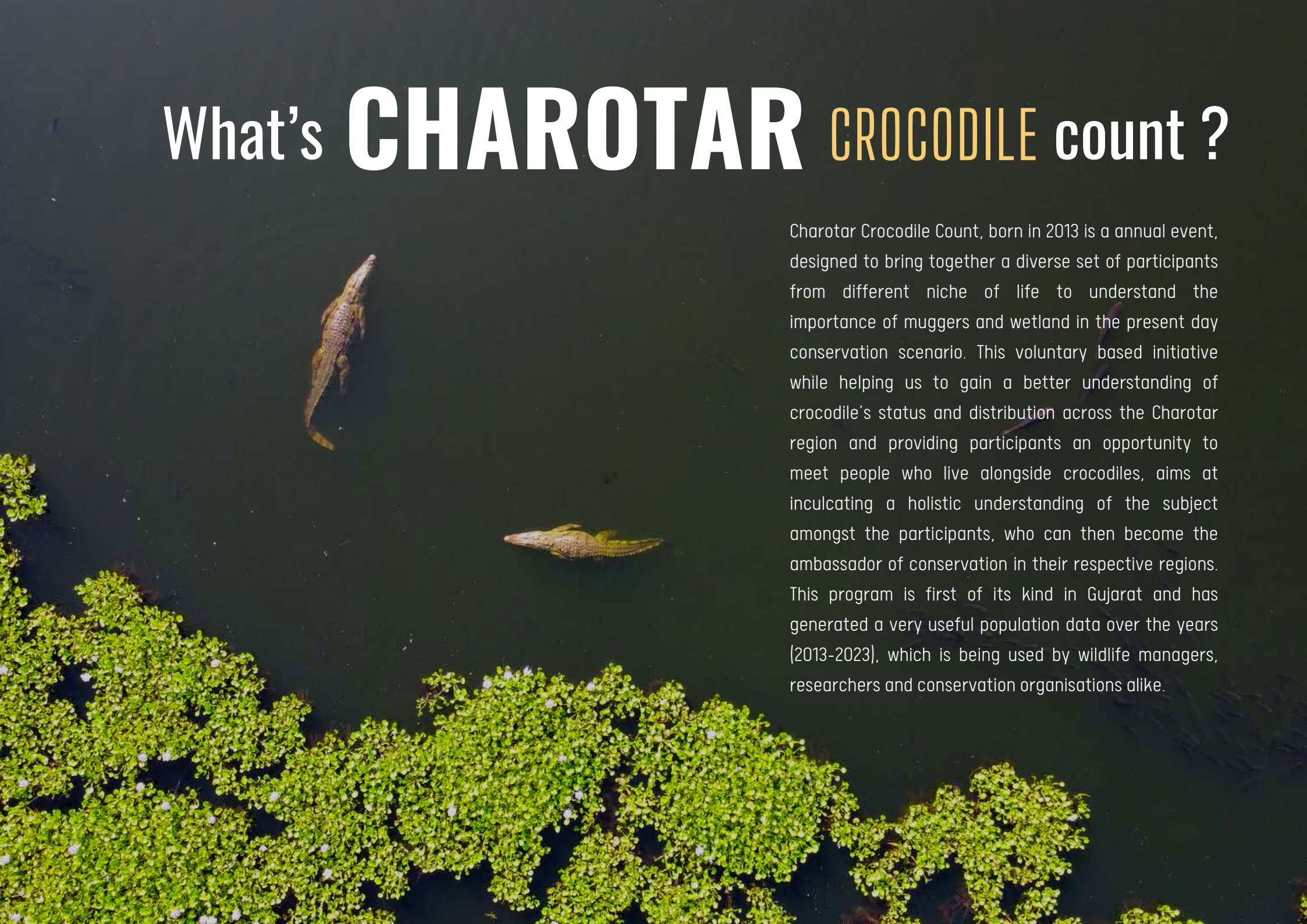


VOLUNTARY NATURE CONSERVANCY

 www.vncindia.org

 A citizen science initiative

What's **CHAROTAR** CROCODILE count ?



Charotar Crocodile Count, born in 2013 is an annual event, designed to bring together a diverse set of participants from different niches of life to understand the importance of muggers and wetland in the present day conservation scenario. This voluntary based initiative while helping us to gain a better understanding of crocodile's status and distribution across the Charotar region and providing participants an opportunity to meet people who live alongside crocodiles, aims at inculcating a holistic understanding of the subject amongst the participants, who can then become the ambassador of conservation in their respective regions. This program is first of its kind in Gujarat and has generated a very useful population data over the years (2013-2023), which is being used by wildlife managers, researchers and conservation organisations alike.

A high-angle photograph of a crocodile resting on a lush green wetland. The crocodile is positioned horizontally in the lower-left quadrant, facing right. Its dark, scaly body contrasts with the vibrant green of the surrounding vegetation, which consists of dense, low-growing plants. The background is a vast expanse of this green landscape, with some areas appearing slightly more saturated or darker, possibly due to shadows or water. The overall scene is a natural, undisturbed habitat.

HOW DOES THIS COUNT HELP?

The count provides an ideal opportunity to understand the significance of biodiversity and how villagers harmoniously coexist with muggers. It also helps participants understand the intimate relationship local communities share with ecosystem and understand how muggers indirectly manage ecosystem by functioning as keystone species. All relevant information on population observed during the count will be shared with concerned authorities for management purposes.

HOW DID WE COUNT THE CROCODILES?

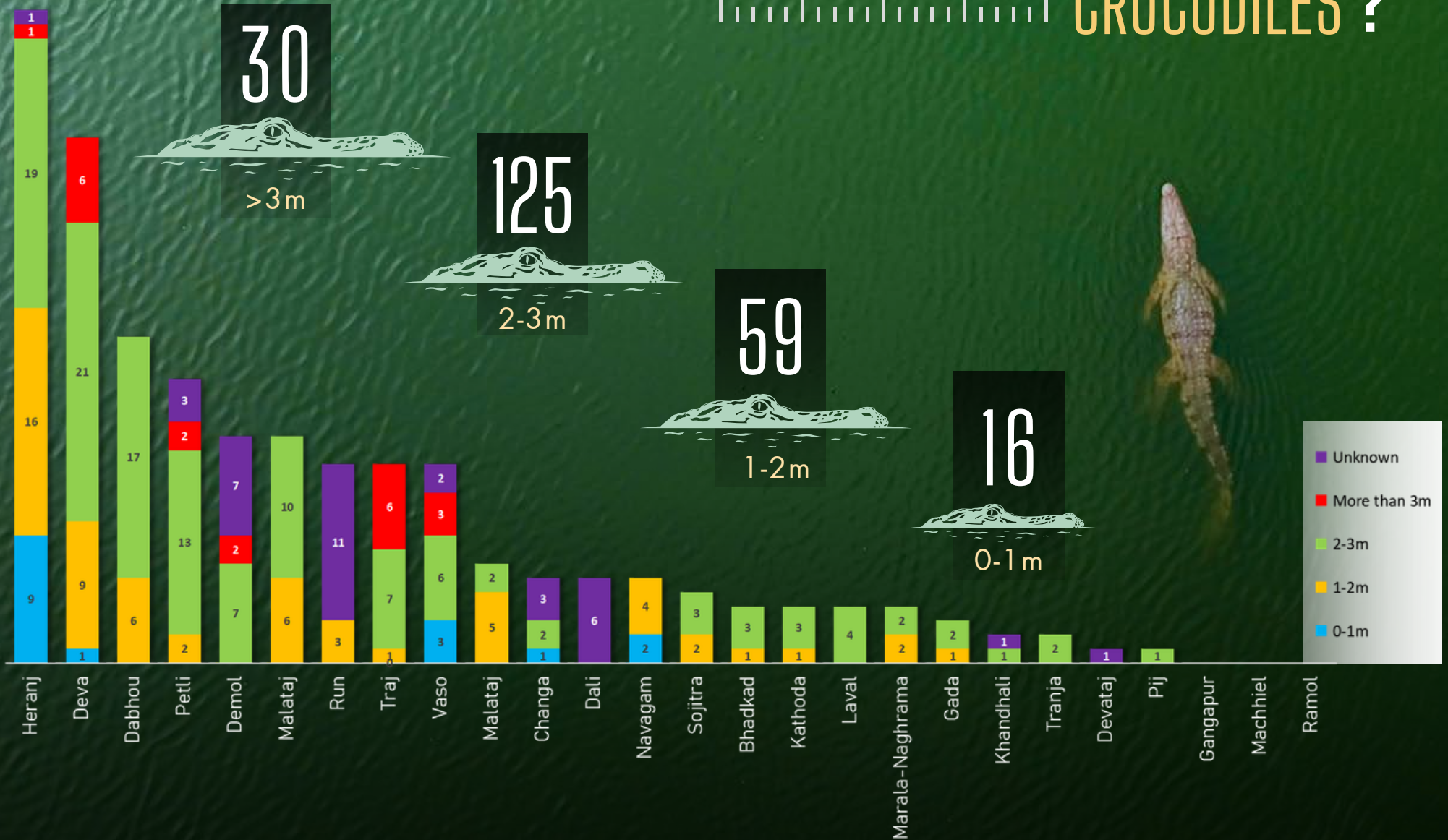
To count crocodiles in Charotar we used the Citizen Science approach, an exciting, multifaceted way to bring people from all walks of life together for research and conservation. For the count, teams of 5-10 volunteers, depending on the size of the water body to be surveyed, were allocated to various villages. The crocodile surveys were carried out using the "Day/Basking Survey", wherein the participants scanned the wetland from a suitable vantage point for the presence of crocodiles on the edge of water, basking areas and in water, and collected information on the number of individuals, size, location and activity (if any). The surveys began after 8:30 AM and continued till 2:00 PM, during which the crocodiles extensively indulged in basking.



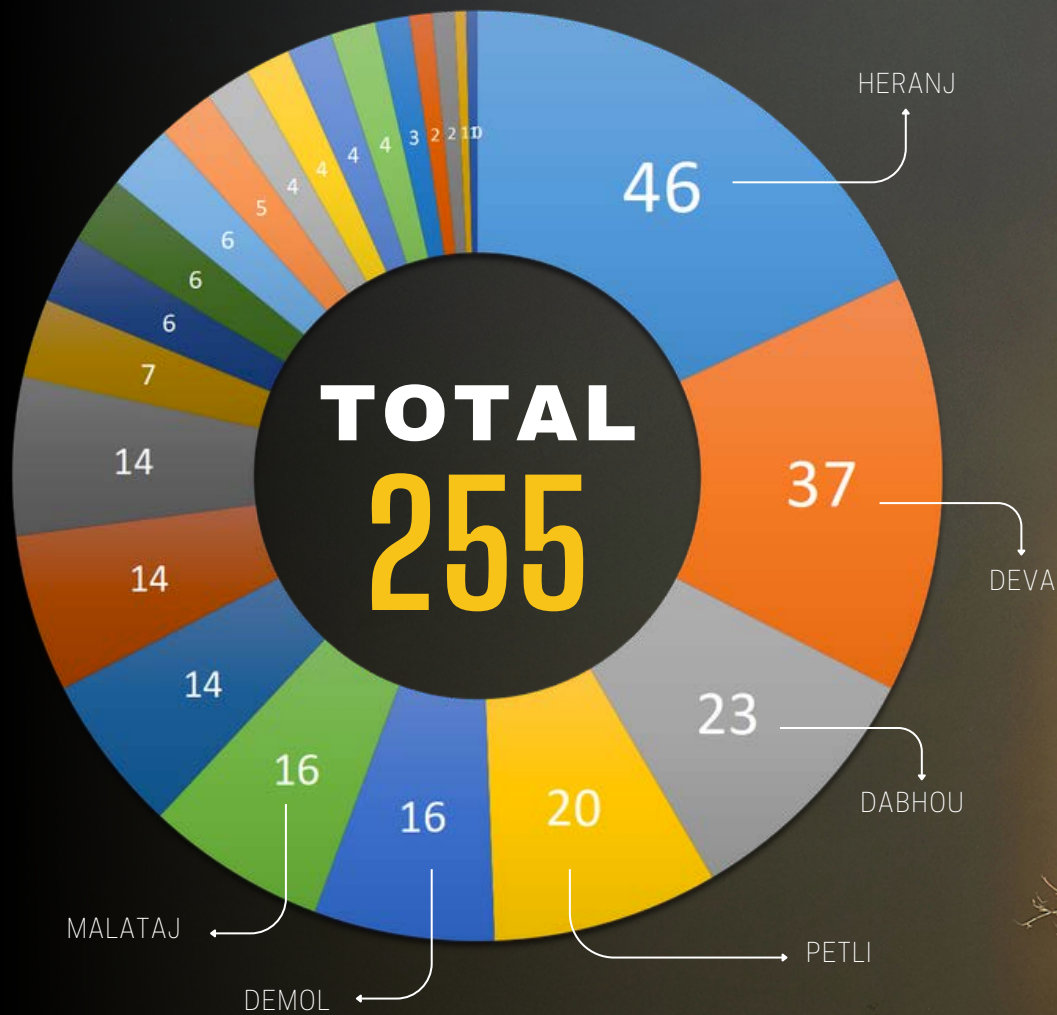
WHY IS THE CHAROTAR REGION IMPORTANT?

Charotar region is significant for sustenance of mugger population of Charotar and for meta-population of Central Gujarat. The region is also an important dispersal and breeding ground for muggers between the meta-populations in Central Gujarat. The region not only hosts an important population of muggers but also multitude of fascinating rich faunal diversity especially birds. Notable is the largest population of sarus cranes in the state survives in Charotar, and other parts of Anand-Kheda districts. However, the reason this population is important is that this population does not survive in any forested or protected area but in village pond and canals amongst humans. And the most intriguing aspect of these population is that the muggers and the villagers survive along each other without much conflicts, setting a fine example of what we know as "co-existence". Mahi Irrigation Project irrigates large areas in this region, and therefore an intensive irrigation canal network interlinks most of the water bodies. This extensive network of canal acts as travelling routes for the dispersing crocodiles, and thus favours genetic exchange. These wetlands serve as a lifeline for agriculture in and around the landscape. Moreover this population is very much safe compared to other population where habitat destruction and negative attitudes threatens their survival. Our earlier surveys have found that there exists a high tolerance of muggers amongst the people of Charotar. This ecological diversity and richness, in synergy with ecological services, acts as a lifeline for the people living in the region corridor. In order to secure this rich socio - ecological heritage, understanding and working towards protecting this area is of critical importance.

How **BIG** were the CROCODILES?



How many did we count?



Heranj, 46	Deva, 37	Dabhau, 23	Petli, 20
Demol, 16	Malataj, 16	Run, 14	Traj, 14
Vaso, 14	Malataj, 7	Changa, 6	Dali, 6
Navagam, 6	Sojitra, 5	Bhadrakad, 4	Kathoda, 4
Laval, 4	Marala-Naghrana, 4	Gada, 3	Khandhali, 2
Tranja, 2	Devataj, 1	Pij, 1	Gangapur, 0
Machhiel, 0	Ramol, 0		



Most of the crocodile sightings came from four villages i.e Heranj, Deva, Dabhau and Petli. These four villages together constituted almost half (49.41%) of the total sightings.

Significant populations (>10 individuals) were reported from villages like Demol (16), Malataj (16), Run (14), Traj (14) and Vaso (14).

Deva, which usually shows up at the top position in terms of crocodile numbers in our counts, ended up with its lowest tally this year with just 37 individual crocodiles sighted during the count. This low sighting of crocodiles have been the results of factors such as high level of water in the water body and large scale spread of water hyacinth (*Eichhornia crassipes*). These factors have affected the sightings and detections of crocodiles.

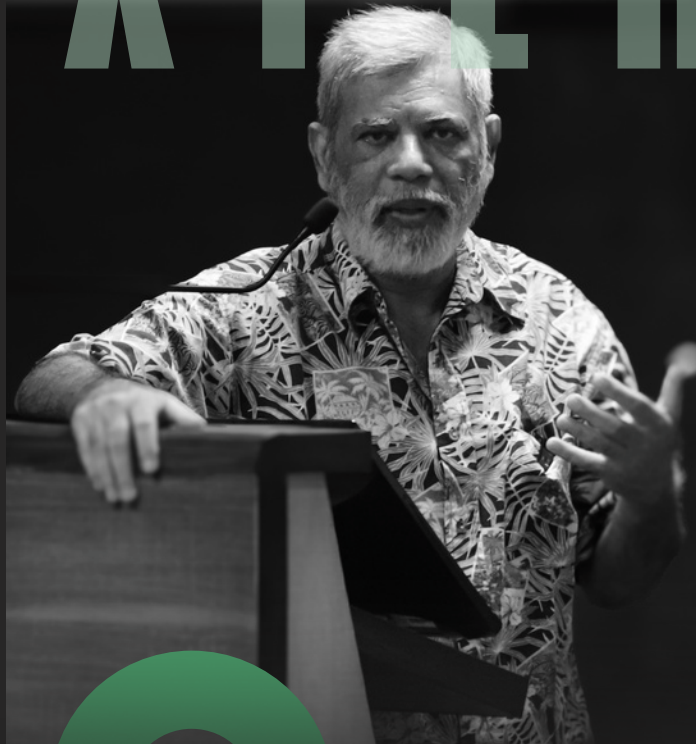
Ponds in most of the other villages were not cleaned up of their hyacinth cover, as they weren't given on lease to local fishermen since the lifting of COVID-19 lockdown. These fishermen have traditionally kept the ponds free from vegetation cover and garbage to ensure optimal harvest of fishes every year which also ensured a clean habitat for the crocodiles. This high growth of water hyacinth also impacts the quality of water in the ponds, thus affecting the population of fishes, which is the primary food for the crocodiles in this region.

THE EXPERTS



ANIRUDH VASAVA

He works as a project coordinator with VNC where he develops research and conservation projects. He is a member of the SSC/IUCN – Crocodile Specialist Group, and manages the crocodile research and conservation initiative at VNC. He developed and formalised the “Charotar Crocodile Count”, and has been successfully coordinating the program for the last ten years.



DR. RAJU VYAS

Dr. Vyas has over 30 years of extensive research and field experience in various herpetological projects and has been carrying out extensive assessment and mitigation of human mugger conflicts in the Gujarat state. He is the Joint Vice Chair of the IUCN/SSC/ Crocodile Specialist Group – South Asia and Iran, and a member of the IUCN/SSC South Asian Amphibian and Reptile Specialist Group and IUCN/SSC/ Conservation Breeding Specialist Group



VISHAL MISTRY

He has been involved in wildlife rescue and rehabilitation and has broad experience as a research assistant in various projects. He has assisted in surveys of carnivores and vulture population in various parts of Gujarat. In the past he has worked with prestigious organisations such as the Bombay Natural History Society (BNHS) and Wildlife Institute of India.





DR. BIVASH PANDA (CHIEF GUEST)

He is a well-known conservationist and is the Director of BNHS, which he joined after spending a lifetime as scientist faculty in the Endangered Species Department at the Wildlife Institute of India. He obtained a master's and doctoral degree in wildlife science from the Wildlife Institute of India, where he primarily focused on marine life, particularly the mass sea turtle nesting sites in Odisha.



DR. JATINDER KAUR

Dr. Jatinder Kaur, is a Wildlife Scientist, who pioneered India's first community based Sarus Crane conservation model. She has worked with prestigious institutions like WWF and Wildlife Trust of India. She is a member of the IUCN-Crane Specialist Group.

GUEST SPEAKERS



10th Charotar Crocodile Count 2023



ACKNOWLEDGEMENT

It brings us great joy in bringing this report of the recently concluded 8th Charotar Crocodile Count-2021. The event was a great success. A major thanks you to Dr. Devang Joshi, Registrar (CHARUSAT) and Dr. Bhaskar Pandya, Principal, Indukaka Ipcowala Institute of Management (CHARUSAT) who have been supporting the event since its inception. We hearty thank them for their valuable support and inspiration.

This program wouldn't have been possible without the efforts of VNC's volunteers who helped manage the count and coordinated the team in the field. We thank all the volunteers for their liberal help. You guys did an excellent job.

We additionally thank numerous organisations who have been supporting our aim of conserving crocodiles in Charotar. NAJA India (www.naja.in), has been our associate on numerous ventures, and an ardent supporter in different activities. The Rufford Small Grant Foundation and the Duleep Matthai Nature Conservation Trust supported our initial work on conservation of muggers in Charotar. Further supported was provided by Idea Wild. We are thankful to aforementioned organisation for supporting us. At last yet most importantly, we thank the residents of Charotar region who have acknowledged this species as co-occupant, and are focused on supporting mugger conservation in this area

Crocodile Research Team
Voluntary Nature Conservancy

