

12th



Counting Crocodiles for Conservation

3RD TO 5TH JAN' 2025



VOLUNTARY NATURE CONSERVANCY

 www.vncindia.org

////// A citizen science initiative

An aerial photograph of a wetland area. In the center, there is a large, irregularly shaped island covered in dense green vegetation. Several mugger crocodiles are visible on this island, some resting on the ground and others near the water's edge. The surrounding water is a murky green-brown color. In the top left corner, another crocodile is partially visible in the water. The overall scene depicts a natural habitat for these crocodiles.

WHAT IS CHAROTAR CROCODILE COUNT?

The Charotar Crocodile Count, initiated in 2013, is an annual, citizen-based monitoring programme designed to engage participants from diverse backgrounds in understanding the ecological significance of mugger crocodiles and wetland ecosystems within the contemporary conservation landscape. This voluntary initiative contributes to a systematic assessment of crocodile population status and distribution across the Charotar region, while simultaneously offering participants the opportunity to interact with communities that coexist with crocodiles. Through this immersive approach, the programme fosters a comprehensive understanding of human–crocodile relationships and promotes informed conservation advocacy among participants, who subsequently serve as ambassadors for wildlife conservation in their respective regions. As the first initiative of its kind in Gujarat, the Charotar Crocodile Count has generated a robust and continuous dataset from 2013 to 2025, which is widely utilised by wildlife managers, researchers, and conservation organisations for informed decision-making and policy planning.

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.

HOW DOES THIS COUNT HELP?

The Charotar Crocodile Count offers an excellent opportunity to highlight the region’s biodiversity and demonstrate how villagers live in harmony with mugger crocodiles. Participants learn about the close connection between local communities and the wetland ecosystem, including how mugger crocodiles act as a keystone species that helps maintain ecological balance. All crocodile observations and population data gathered during the Count are compiled and shared with wildlife managers and conservation authorities. Over years of monitoring, this has generated valuable data on crocodile numbers and distribution, which scientists and managers use to guide effective wetland management and species protection.



WHY IS THE CHAROTAR REGION IMPORTANT?

The Charotar region (central Gujarat's Anand–Kheda area) is a unique agricultural-wetland landscape that harbors an exceptionally large and growing population of Mugger crocodiles. This makes Charotar one of India's most important Mugger strongholds outside protected areas. Several interrelated factors explain its conservation significance:



Robust mugger population & genetic linkages: Charotar holds “one of the largest populations of mugger crocodiles in India”. It sustains the local population and serves as a dispersal/breeding hub linking Central Gujarat's meta-population. An extensive network of irrigation canals interconnects its ponds and tanks, allowing crocs to migrate and exchange genes. In effect, Charotar acts as a genetic corridor between isolated croc populations in Gujarat.

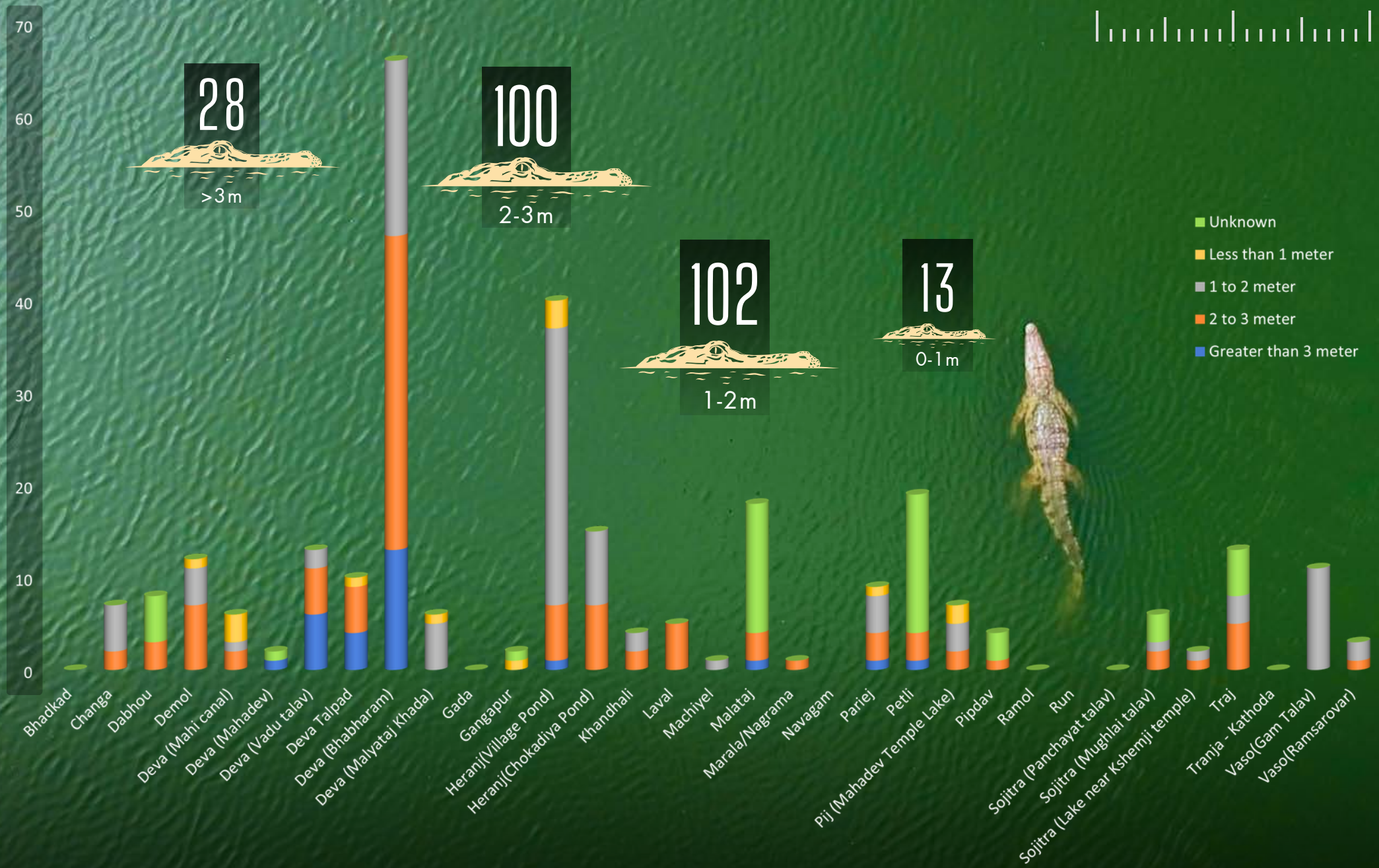
Rich wetland biodiversity: Beyond crocodiles, Charotar's wetlands support diverse fauna. It sustains Gujarat's largest Sarus crane population, many other waterbirds, amphibians and fish thrive here. As apex predators and keystone species, muggers themselves help maintain wetland health by regulating prey and recycling nutrients. Protecting Charotar thus preserves a rich mosaic of freshwater biodiversity.

Irrigation and ecosystem services: The same ponds and canals that house crocs are lifelines for local agriculture. Seasonal waterbodies store monsoon runoff and supply irrigation to fields. Villagers often lease these lakes to fishermen, generating income and increasing fish stocks – which in turn provide abundant prey for crocodiles. Healthy wetlands also recharge groundwater and buffer floods and droughts, directly benefiting the farming economy.

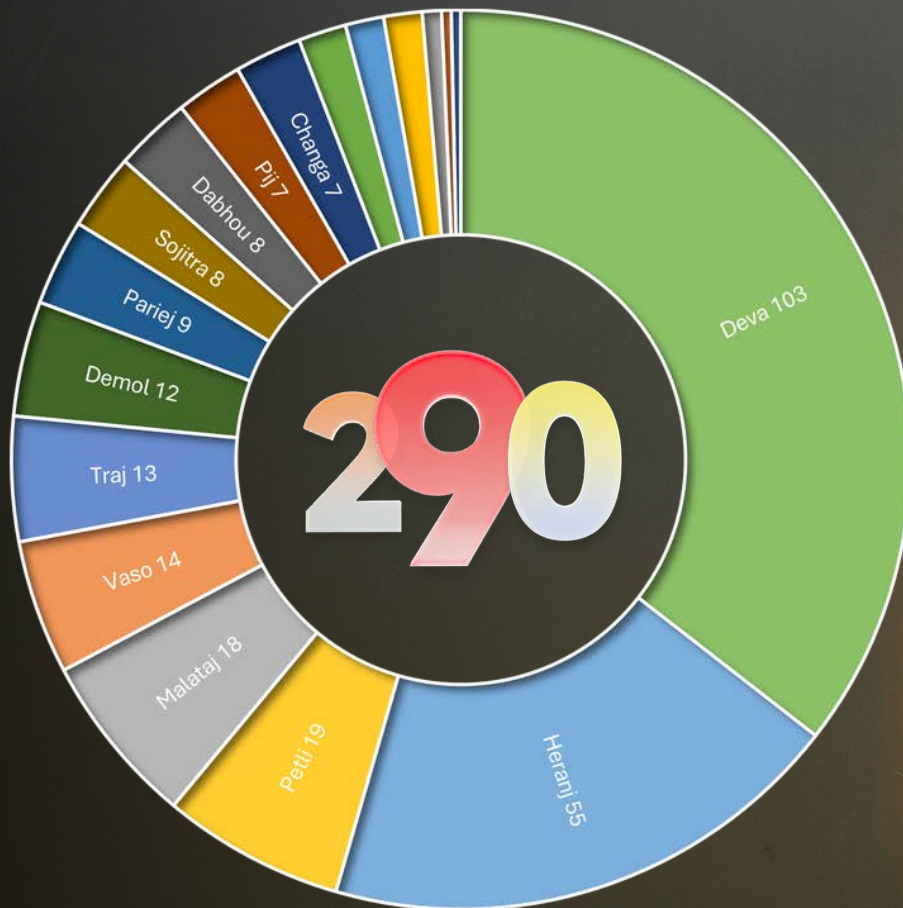
Human–wildlife coexistence: Perhaps most remarkable is Charotar's culture of tolerance. Unlike in many regions, crocs here share space with people in village ponds and rice fields without major conflict. Local attitudes are overwhelmingly positive; our surveys report rising crocodile numbers but the villagers do not retaliate. We hold “Children Crocodile fests” in schools to instill pride in these reptiles. Significantly, no Mugger has been poached or killed for its skin or eggs here– people understand that crocodiles have the right to live here.

Socio-economic and cultural value: Protecting crocodiles and wetlands preserves ecosystem services (irrigation, fisheries) that underpin the regional economy. It also maintains a socio-ecological heritage. In essence, saving the crocs means safeguarding the very water and land resources that communities depend on.

HOW BIG WERE THE CROCODILES?



HOW MANY DID WE COUNT?



The 2025 crocodile count recorded a total of 290 individuals across surveyed villages. The distribution pattern shows a marked shift compared to previous years, with Deva and Heranj emerging as the two primary strongholds. Deva alone accounts for 103 crocodiles, and Heranj for 55, together representing more than half of all observations. This significant increase is closely linked to recent pond management practices. In both villages, ponds have been leased to fishermen, resulting in systematic removal of water hyacinth and improved water conditions—factors that enhance both habitat suitability and visibility of crocodiles during the count.

Other villages with notable populations include Petli (19), Malataj (18), Vaso (14), Traj (13), Demol (12), Pariej (9), Sojitra (8), Dabhau (8), Pij (7) and Changa (7). While these numbers are modest compared to Deva and Heranj, they still indicate stable or gradually recovering populations, especially in areas where water bodies remain partially cleaned or naturally less congested by vegetation.

The clearing of hyacinth has improved water quality, supported healthier fish populations, and provided open basking areas, all of which contribute to higher crocodile presence and detectability. Villages where such management has not taken place continue to exhibit comparatively lower counts, reflecting ongoing challenges associated with unchecked aquatic weed growth.



ANIRUDH VASAVA

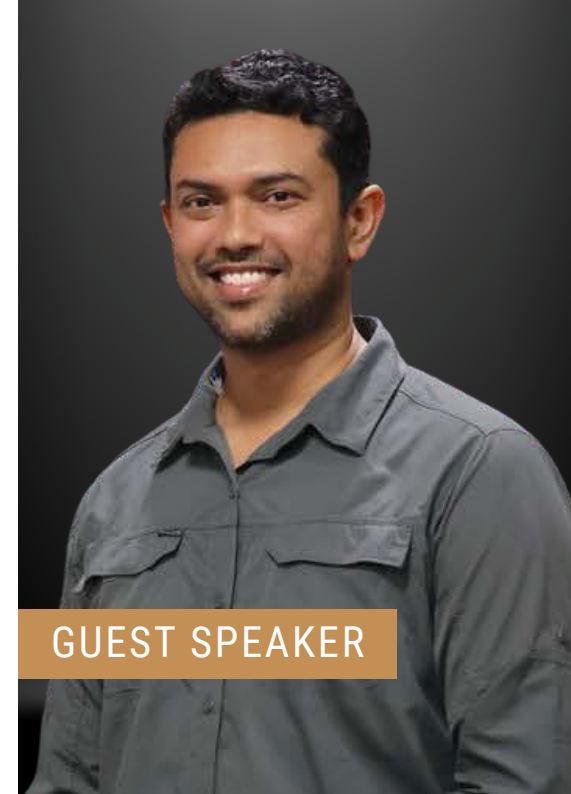
**Executive Director, VNC-INDIA
Member - Crocodile Specialist
Group**

An interdisciplinary biologist and a strong advocate of community-based conservation, he founded initiatives like the Charotar Crocodile Count, Children's Crocodile Festival, and Crocodile Guardian Initiative to engage communities and youth in wildlife coexistence.

SOHAM MUKHERJEE

**Additional Director
Sardar Patel Zoological Park**

Soham Mukherjee is a wildlife biologist with a deep specialization in crocodilians and snakes, and active interests in arachnids and birds of prey. He is a leading conservationist with significant field and research experience. His previous roles include Conservation Head at The Gerry Martin Project, Assistant Curator at Madras Crocodile Bank Trust, and Wildlife Incharge at Animal Help Foundation. Soham is widely respected for his contributions to reptile conservation and wildlife rehabilitation in India.



GUEST SPEAKER



YASHENDU JOSHI

**PhD Fellow at the National Museum
of Natural History**

He is studying human-nonhuman relationships and how animals adapt to cities. He holds a master's in Wildlife Biology and Conservation from NCBS-TIFR, Bengaluru. His thesis, "The Crocodile Conundrum of Charotar," explored the coexistence between people and marsh crocodiles in Gujarat

GUEST SPEAKER

DR. HARSHIL PATEL

**Scientist at the Thackeray Wildlife
Foundation, Mumbai**

A naturalist from Valsad, Gujarat, specializes in the systematics and taxonomy of reptiles and amphibians, while also exploring broader biodiversity and conservation. He earned his PhD in 2018 from Veer Narmad South Gujarat University, Surat.

In his career, he has described 4 new genera, 18 new reptile species, and one plant species, with nearly 70 research publications. His current focus is documenting biodiversity across scales and tackling the Linnean, Wallacean, and Darwinian shortfalls in conservation.



GUEST SPEAKER



Glimpses CCC 2025



BRUCE SHWEDICK



CHIEF GUEST

Bruce Shwedick (born 1959, Munich, Germany) is an internationally recognized crocodilian specialist and the Managing Director of the Crocodilian Conservation Center of Florida. His lifelong passion for reptiles began in childhood during his visits to the Smithsonian's National Zoological Park and the National Museum of Natural History, experiences that laid the foundation for a distinguished career in reptile conservation, research, and education.

In 1978, Bruce participated in the first workshop on crocodile research and farming in Africa, where he documented Nile crocodile nesting and egg-laying behavior. This formative field experience propelled his enduring commitment to the study of crocodilians. Over the decades, he has conducted extensive research across Africa, Asia, and South America, collaborating with conservation organizations worldwide to advance the protection of crocodilian species and their habitats.

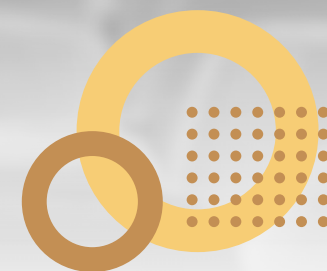
Bruce is the founder of Reptile Discovery Programs, a lecture and outreach initiative through which he has delivered educational presentations at more than 1,000 schools, zoos, and aquariums. His programs have played a vital role in increasing public understanding of reptiles and fostering respect for the ecological importance of crocodilians.

He regularly contributes to conservation efforts, participates in species survival planning, and conducts training courses for zookeepers and aquarists. Despite the physical risks inherent in his work—reflected in the many injuries he has sustained—Bruce remains unwavering in his dedication to reptile conservation and education.

With a career spanning more than four decades, Bruce Shwedick continues to be a leading advocate for crocodilian conservation and a respected source of expertise within the global herpetological community.



12th Charotar Crocodile Count 2025



ACKNOWLEDGEMENT

It brings us great joy in bringing this report of the recently concluded 12th Charotar Crocodile Count-2025. 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. 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





VOLUNTARY NATURE CONSERVANCY

www.vncindia.org/www.crocodilecount.org

101, Radha Darshan,
B/H Union Bank of India,
Vallabh Vidyanagar – 388120
Anand, Gujarat

Call: +91-9898142170

Email: info@vncindia.org/anirudh@vncindia.org