

5TH CHAROTAR CROCODILE COUNT-2018

Counting Crocodile for Conservation

6th -7th January 2018

A Citizen Science Initiative By

Voluntary Nature Conservancy



Voluntary Nature Conservancy
www.vncindia.org

VOLUNTARY NATURE CONSERVANCY

Voluntary Nature Conservancy (VNC), also known as Vidyanagar Nature Club (registered as Public Charitable Trust No: E/2659/Anand), is one of the most active NGO working for the cause of environment awareness and protection in Gujarat. Located in Vallabh Vidyanagar town of Charotar region, VNC has been active at grass-root level since its inception in 1988. VNC stands tall due to a committed team of volunteers who are the backbone of the activities and hence it aptly gets its name as 'Voluntary Nature Conservancy'. VNC has been actively involved in nature conservation through education, awareness, research and conservation. Its working areas are inclusive of community based environmental programs, education programs, programs for reducing pollution, eco-friendly drives, tree plantation programs, research on endangered species and conservation initiatives. VNC has successfully carried out campaigns to 'Save the Whale Shark' (in collaborations with Wildlife Trust of India) and vulture in Gujarat. Recent initiatives include carnivore conservation in Kutch, mugger conservation in Gujarat and human-wildlife conflict mitigation. Today VNC is accredited by GEF (Global Environment Facility), and is a member of GEA (Global Environmental Action) and SAYEN (South Asia Youth & Environment Network). VNC is also a registered Non Profit Foundation as Voluntary Nature Conservancy in USA.

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What's Charotar Crocodile Count?

Charotar Crocodile Count is a citizen science initiative by VNC, and was designed and implemented to involve people from various walks of life to come together, take part in monitoring crocodile and contribute to the conservation of this ancient species. This voluntary based initiative while helping us to gain a better understanding of crocodile's status and distribution across the Charotar region also provides an opportunity to city dwellers an onsite experience of observing crocodiles in their natural habitat and meet people who live alongside crocodiles.

HOW DID Croc Count BEGIN?

Through the initial funding from Rufford Small Grant Program and Duleep Matthai Nature Conservation Trust, VNC established the Project "Conserving Crocodile in Charotar", an initiative to monitor crocodile populations, their habitat, and their interaction with humans, as well as initiate steps to protect the species in the Charotar region of Gujarat. VNC's efforts, so far, have been able to identify nearly 30 crocodile occupied sites in Charotar, which have been regularly monitored by VNC's crocodile research team. One of the main objectives of this project is to create awareness among the communities, both at local and national level. As a result "Charotar Crocodile Count" was born.

This citizen science initiative event was designed to involve people from various walks of life to come together for the conservation of this species. Today, Charotar Crocodile Count is a proven tool for monitoring the distribution and population of crocodile populations.

In December 2013, VNC conducted its first volunteer based crocodile count and enlisted volunteers across the state to monitor crocodiles. The dream to systematically survey crocodile over a wide geographic range and involving people was in place. Since then VNC has conducted four Charotar Crocodile Count and the number of participants has grown to more than 350.

This year VNC conducted the 5th Charotar Crocodile Count on 6th-7th January 2018, and was attended by 85 participants from all over India. This program is first of its kind in India and it has generated a very useful data contributing significantly towards understanding crocodile's status and distribution in this region.

Where's Charotar?

Charotar region consists of parts two districts of Gujarat, namely Anand and Kheda. It is located between the two major rivers; Sabarmati on the western side and Mahisagar river on the eastern in central Gujarat. In Gujarati, the word "Charotar or Charutar" means a pot full of gold. This was supposedly coined because of the agricultural fertility of the area.

Because of the unique mixture of landscape feature, this region harbors varieties of birds, and hosts the highest densities of sarus crane (*Grus antigone*) in the state. Although Charotar region do not have forested areas, the region have highest density of urban trees in the state, and is considered green bowl of Gujarat. The peculiar quality of the landscape is that, each village have at least one pond (some have even 10), which the people primary use for domestic purpose, agricultural use, and fishing. Some wetlands are also used for growing water chestnut (Commonly known as Singada or Singoda in India). These wetlands serve as a lifeline for agriculture in and around the landscape. Mahi Irrigation Project irrigates large areas in this region. An intensive irrigation canal network interlinks most of the ponds and lakes. This extensive network of canals and kans (mud walled canals) acts as travelling routes for the dispersing crocodiles.

Why Charotar?

Studies conducted by VNC's crocodile research team reveal that the wetlands of Charotar host a very significant population of mugger crocodiles. Other places in India also hold significant numbers of this species, but what is intriguing is that this population survives amongst the humans, and vice versa, without much conflict, setting a fine example of what we know as "co-existence". So preserving this relation is very important and demands the understanding of the population trend, habitat quality and availability, food availability and human-crocodile relations. Charotar Crocodile Count is a part of this larger initiative to understand and protect crocodiles in these village ponds as long as possible.

Why Count Crocs In Charotar?

Charotar Crocodile Count is not just an adventure walkout to count muggers but has a bigger goal of creating awareness and gathering public support for the conservation of this prehistoric species outside protected area. We expect to draw attention of national and global conservation community towards this place that represents unique example of co-existence between humans and crocodiles.

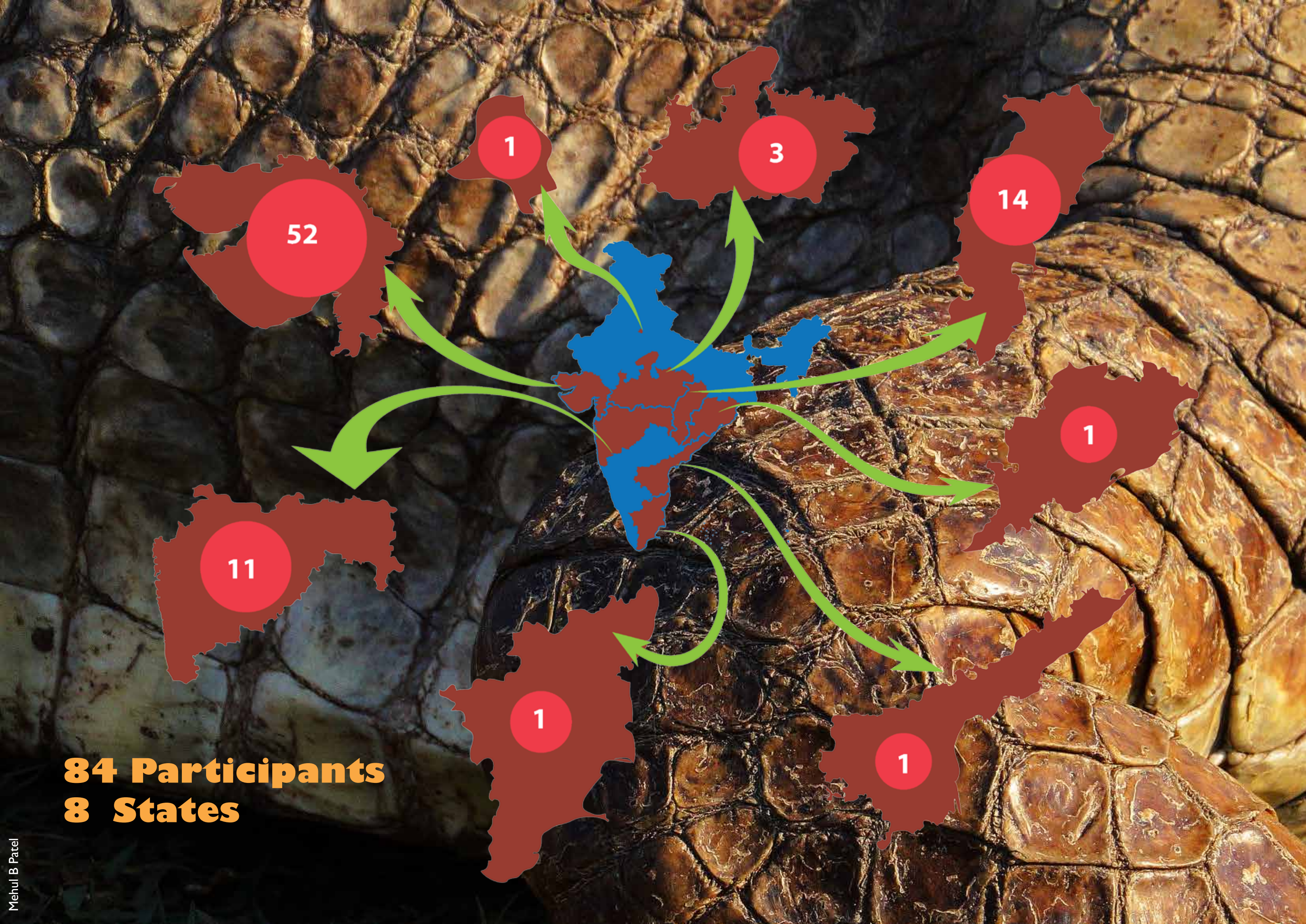
In addition, the event is also to gain insight of the region and to learn from the villagers, how they coexist with crocodiles. This event represents the commitment by nature lovers to contribute towards the conservation of mugger crocodiles.

Moreover counting crocodiles and being able to compare data between years can help with the early detection of problems. The information gathered guides the management initiatives and enables the authorities to make informed responses to development activities. Even if it is an estimate, as long as it is done the same way each time, you can build up a picture or trend of what is happening to that species. So to help conserve this majestic species, we should know how many and where they are?

How Did You Count Crocodiles ?

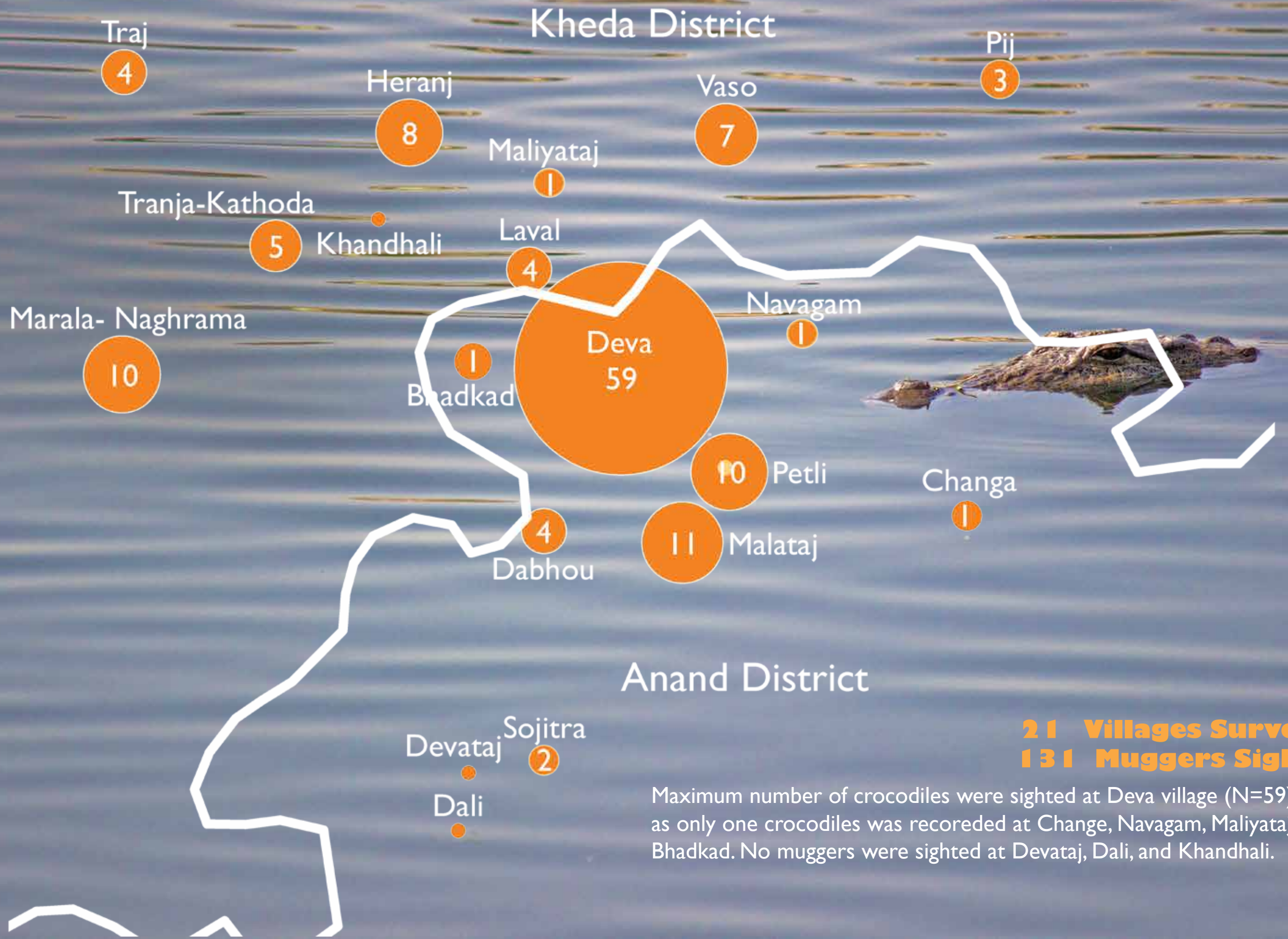
VNC used an approach called "Citizen Science" to count crocodiles in Charotar. Citizen Science is an exciting, multifaceted way to bring people from all walks of life together for research and conservation. It is where the public volunteers time to assist scientists in their research. In other word, citizens become "Citizentists" (citizen+scientists). Citizentists are a kind of large research team, gathering data on a scale that would be hard to achieve otherwise. For crocodile counts, a team of 5-12 volunteer, depending on the size of the water body to be surveyed, is allocated to various villages. All volunteers count the crocodiles in their assigned places on the same day and between the same time periods (10:00 to 14:00 hours). These surveys are the one of the method we use for monitoring trends of crocodiles in Charotar.





84 Participants
8 States

How Many Did You Count?



21 Villages Surveyed
131 Muggers Sighted

Maximum number of crocodiles were sighted at Deva village (N=59), where as only one crocodiles was recoreded at Change, Navagam, Maliyataj and Bhadrakad. No muggers were sighted at Devataj, Dali, and Khandhali.

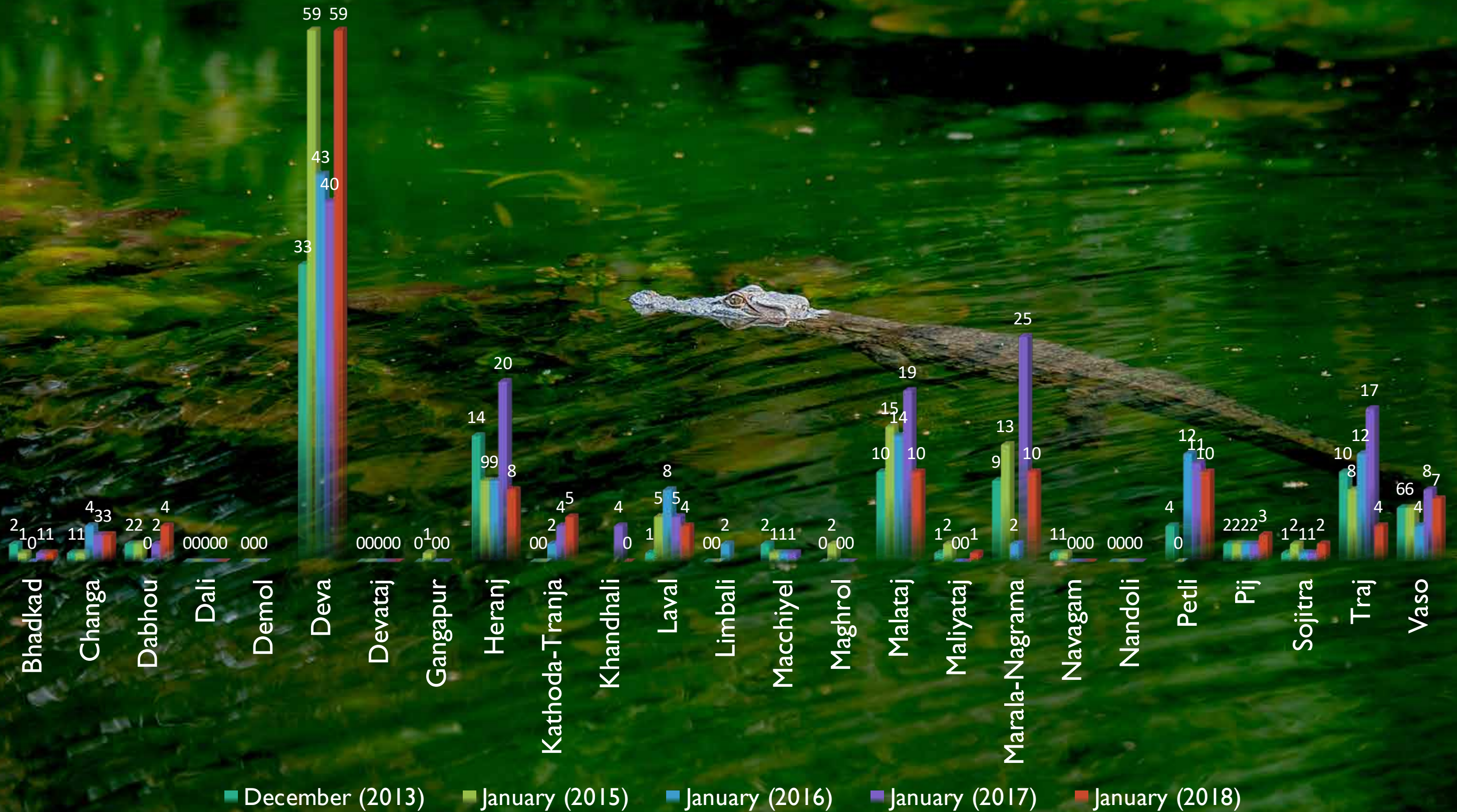


How Big Were The Muggers?

Of the 131 individuals sighted, 63 were bigger than two meters, 44 were of size between 1-2 meters, 12 were of size less than one meter and rest were of unknown size.



How Many Did You Count Compared To Earlier Counts?



Launch Of “Muggers Of Vadodara” Book By Dr.Raju Vyas

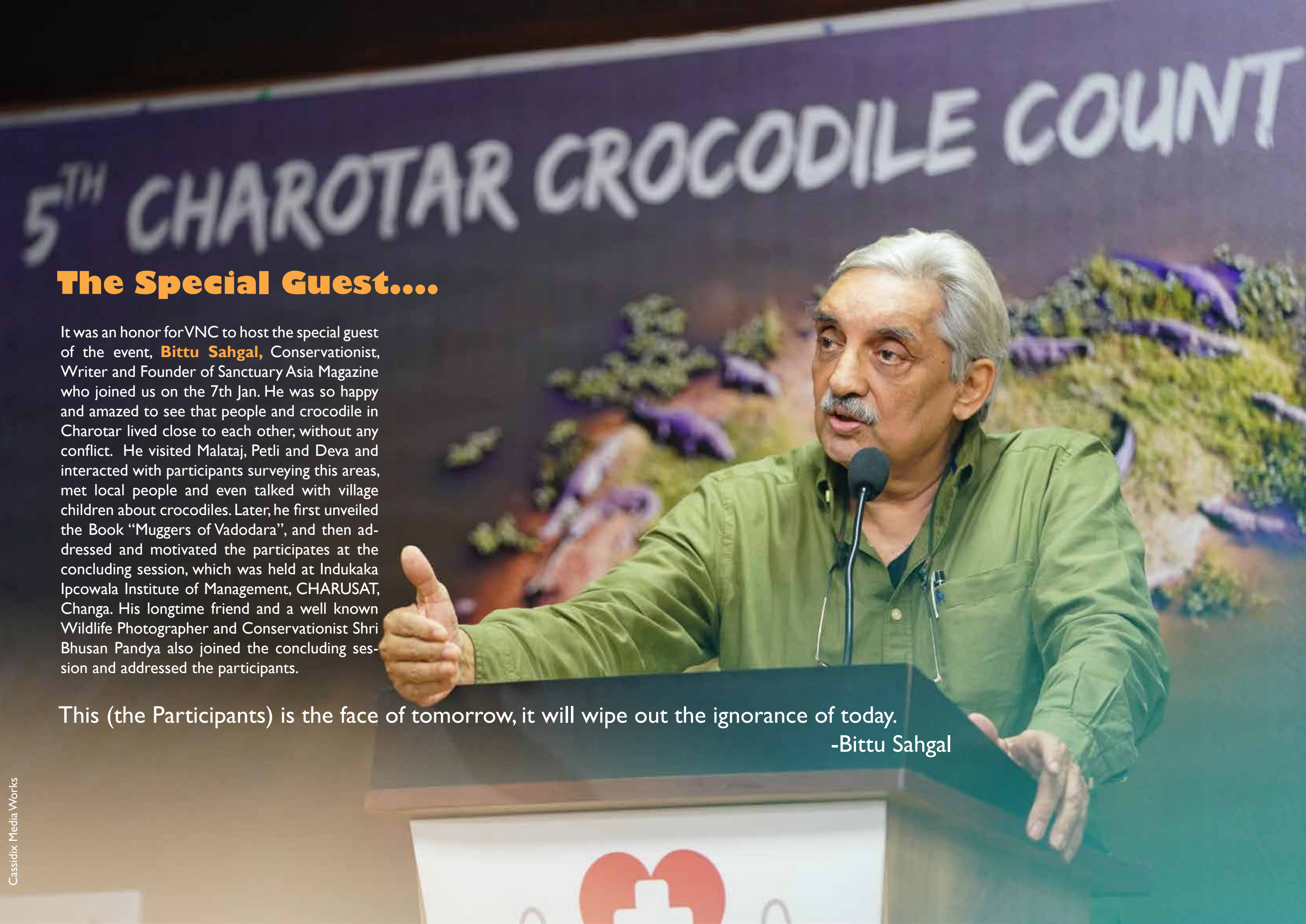
It was great pleasure and honor for VNC to publish and launch the Book “Muggers of Vadodara” by our very own Dr. Raju Vyas. The book was unveiled by Bittu Sahgal, environmental activist, writer, founding editor of Sanctuary Asia, followed by a short talk by Raju Vyas about the book.

Using his unequalled knowledge of muggers, derived from almost thirty years of observing them in their natural habitat amidst the city, Dr. Raju Vyas has opened up a window peeping into the unknown and mysterious realm of these urban crocodiles of Vadodara. In this book, Raju Vyas talks about various facets such as the status of muggers in Gujarat and Vadodara, the city and the river they live in, their cultural and ecological importance, their relation with humans, prevailing human-mugger conflict and how that can be resolved.

Forward by Professor Dr. Grahame Webb, Chairman of the IUCN-SSC Crocodile Specialist Group, this book is a lucid medium, which finally reveals the persona of this prehistoric creature: elusive, powerful, and mysterious—and in desperate need of our help to survive. This book will appeal to both experts and amateur.



A copy of the book “Muggers of Vadodara” can be availed from VNC’s office



The Special Guest....

It was an honor for VNC to host the special guest of the event, **Bittu Sahgal**, Conservationist, Writer and Founder of Sanctuary Asia Magazine who joined us on the 7th Jan. He was so happy and amazed to see that people and crocodile in Charotar lived close to each other, without any conflict. He visited Malataj, Petli and Deva and interacted with participants surveying this areas, met local people and even talked with village children about crocodiles. Later, he first unveiled the Book “Muggers of Vadodara”, and then addressed and motivated the participants at the concluding session, which was held at Indukaka Ipcowala Institute of Management, CHARUSAT, Changa. His longtime friend and a well known Wildlife Photographer and Conservationist Shri Bhusan Pandya also joined the concluding session and addressed the participants.

This (the Participants) is the face of tomorrow, it will wipe out the ignorance of today.

-Bittu Sahgal

Way Forward & Some Thoughts

The two days of 5th Charotar Crocodile Count 2018, held on 6th-7th January, were absolutely amazing, with people from different parts of the country meeting each other, working together in the field, meeting people from local community, and learning things, experiencing things they never did before. On top, we had the pleasure of Bittu Sahgal meeting us and encouraging us. However, we did not get the results that we were expecting, due in part to high water levels. Even the night count that followed the basking count did not produce good numbers of crocodiles that survive in Charotar. We expect that the night count in the summer will yield a better representation of the crocodile population in Charotar.

The data collected during this two day not necessarily represent the absolute data of the mugger population in Charotar. Variables such as local climate, water level, season, disturbances and observer's experience affect the estimation of the crocodile count, and needs to be accounted for during the monitoring. A regular, systematic and longtime monitoring is a necessary element of a project, to derive better understanding of the population. That's what VNC's crocodile research team has been doing and will keep doing in the coming times. What is required is that we work together to build long-term information about crocodiles, to maintain the prevailing co-existence, and spread awareness to keep this species surviving in these areas. So do what you can. Tell your stories from here to others, and regularly do a bit towards wildlife conservation.

The human-crocodile relationship in Charotar is unique; as such co-existence is rarely seen in the present world, as all the participants must have seen themselves during the event. This is a world we do not want to keep to ourself or for few scientist. We want people, irrespective of their age and profession, to come and see this world themselves, and share the stories, experience and learning with the other world. We know we will keep the tradition going, and we will see people coming from different parts of the world to be a part of this event so that they too experience the beauty of this ancient, prehistoric and majestic creature.



A Glimpse.... 5th Charotar Crocodile Count



Participants in the field



Bittu Sahgal interacting with VNC's team (Left) and Participants (Right)



Participants in the field (Left & Right)



Anirudh Vasava (Left) and Madhu Menon (Right) coordinating the concluding session and book launch event



Dr. Raju Vyas (Left) and Soham Mukherjee (Right) training and teaching participants



Bittu Sahgal addressing the participants during the concluding session of the Charotar Crocodile Count



Participants sharing their experiences (Left & Right)





Dhaval Patel presenting a token of gift to Bittu Sahgal (Left) and Bhushan Pandya (Right)



Bhushan Pandya presenting his photographed pictures to Dhaval Patel (Left) and Dr. Raju Vyas (Right)



Bhushan Pandya addressing the participants



Dhaval Patel giving the vote of thanks

ACKNOWLEDGEMENT

The 5th Charotar Crocodile Count-2018 was an incredible success!! The main credit goes to all the participants, who gave two days of hard work to make this event possible. It was fantastic to see many young and old, amateurs and trained, naturalist and researchers together in the field enjoying themselves! Thank you to everyone who participated! We hope you enjoyed your visit as much as we enjoyed having you here.

This time it was more important, since we were also celebrating the launch of the book “Muggers of Vadodara” by Dr. Raju Vyas, a longtime friend of VNC and a well-known herpetologist. We appreciate the time that over 150 attendees took to visit and celebrate with us. Seeing each of you there and having so much support made the event successful and memorable.

Our thanks and appreciation go out to the special guest Bittu Sahgal, Conservationist and Founder of Sanctuary Asia Magazine, for taking the time to attend, launch the book and encourage the participants during the concluding session and book launch event. His presence was an honor for VNC, and greatly contribute to the success for the event. We wish we would have had more time to talk, but perhaps that will happen another day. Many a times we feared he might not make it, because of his busy schedule, but he was undaunted. Thank you so much for coming.

We also thank Bhushan Pandya, conservationist, veteran wildlife photographer and a close friend of Bittu Sahgal, for attending the event and encouraging participants. We could not have reached Bittu Sahgal, if it was not for the help offered by him. For this, we acknowledge him.

A big thank you to Dr. B G Patel, PROVOST (Charusat), Dr. Devang Joshi, Registrar (Charusat), Dr. Govind Dave, Principal, Indukaka Ipcowala Institute of Management. Dr. Bhaskar Pandya, HOD, Humanities and Social Sciences for their support and hosting the book launch event and concluding session of 5th Charotar Crocodile Count at Charusat, Changa, and participating in the celebration of this event.

We thank Madhu Menon, Managing Trustee, ANALA, and a friend and an advisor to VNC, who readily agreed to take on the responsibility of introducing VNC and Bittu Sahgal to all the participants during the concluding session and Book Launch Event.

We also thank Hemin Patel, Vishal Patel and Pragnesh Patel of Maruti Solaris, who have been longtime patrons of VNC, for allowing us to use the space at Maruti Solaris to conduct the program.

It was the help offered by Rohit Vyas, conservationist and veteran wildlife photographer that led us to Bhushan Pandya, which made the way possible for inviting Bittu Sahgal for the event. For this, we thank him from our heart.

We thank Shastri Narayan Charandas Swami of Vrajbhoomi International School for the transportation facility provided, which eased our efforts to transport the participants to the field. We also thank Mehul B Patel, Jignesh Patel, Asha Shah, Mukesh Patel, who not actively participated in the event, but also assisted in transporting the participants to field. Mehul B Patel also kindly let us use his excellent photographs as gifts to Bittu Sahgal and Bhushan Pandya. We acknowledge him for this generous support.

We are grateful to Shri Ashwin Parmar, DCF, Social Forestry Division, Nadiad for their excellent help throughout the crocodile count. We also thank all range forest officers, foresters, beat guards and for accompanying the participants in the field and sharing their experience and knowledge with them.

VNC also thank Biren Patel, for the delicious Gujarati lunch served to the guests at the Nisarg Hostel, Changa on 7th Jan 2018.

We acknowledge the media support from Sunil Adesara and the team of Cassidix Media Works, for documenting the event fantastically.

We also thank the Volunteers of VNC who helped us manage the program and coordinated the team in the field.

We also thank many organisation who has supported us in the past, and have been supporting our initiative of conserving crocodiles in Charotar. NAJA Organisation (www.naja.in), has been our collaborator on many projects, and continuous to be a supporter in other initiatives as well. The Rufford Small Grant Foundation (RSGF) provided the initial funding that moved our project from a small grass roots project to a large research and conservation project on mugger crocodiles. To RSGF we are forever grateful! Further, Anirudh Vasava received the Duleep Matthai Fellowship from Duleep Matthai Nature Conservation Trust for the monitoring of muggers in Charotar. Idea Wild also provide in-kind support to our project. This all boosted the project to great extent. We are thankful to both organizations for supporting us.

Finally but above all, we thank the villagers of Charotar who have accepted this primitive species as co-inhabitant, and are committed to supporting mugger conservation. Again, on behalf of the VNC and its team, we respectfully acknowledge and thank all the participants, guest, and supporters. This event wouldn't have been a success without all of your support!

We look forward to many more events and please keep an eye on our calendar for updates!

Crocodile Research Team
Voluntary Nature Conservancy

Meet The Croc Team Of VNC

Anirudh Vasava : He works as Project Coordinator with VNC where he develops and manages research and conservation projects. He has broad interest in large predator ecology and human-wildlife conflicts, and has more than seven years of experience in wildlife research. He was associated with Wildlife Institute of India for more than two years and has been well trained in advanced wildlife techniques like Capture-Mark-Recapture, Distance sampling, Occupancy Modelling and Radio Telemetry at WII. His current research integrates ecological studies (large predators) with geospatial analysis to develop spatial models for management and conservation needs, and human dimensions of wildlife conservation. He leads and manages the crocodile research and conservation initiative at VNC, and coordinates all the relevant activities.



Mehul A. Patel : Mehul Patel coordinates education as well as wildlife rescue and rehabilitation programme of VNC and is actively involved in mitigation of urban HWC since 2009. He has provided reptile education to more than a lakh people in both urban and rural region of Charotar. As a part of Crocodile Research Team, he has conducted several educational programs for creating awareness about crocodile.



Vishal Mistry : Vishal has been involved in wildlife rescue and rehabilitation for more than ten years and has broad experience as research assistance in various research projects. He has assisted in surveys of carnivores, herbivores, birds and vulture population in various parts of Gujarat. In past he has worked with prestigious organisations such as Bombay Natural History Society (BNHS) and Wildlife Institute of India. Vishal is an indispensable part of VNC's Crocodile Research Team, and assist in crocodile monitoring, nest and burrow survey and awareness programs.



Dhaval Patel : He is the founder and managing trustee of Voluntary Nature Conservancy. Since 1988, he has been actively involved in environment education, awareness and protection, and has more than 20 years of experience in educating the public. He is co-opted member of Animal Welfare Board of India, and is appointed as Honorary Wildlife Warden for Anand district. He is an active part the crocodile research team at VNC, and assist in developing educational programs for creating awareness about crocodiles.



Dr. Raju Vyas : Dr. Vyas has 30 year's extensive research and field experience in various herpetological projects and has published extensively on the subject. He 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. He has been an active part of all the projects on crocodile that are being carried out at VNC.

Soham Mukherjee : Soham is a herpetologist and wildlife rehabilitator based in Ahmedabad. In past he has worked with various organisation such as Madras Crocodile Bank Trust (MCBT), The Gerry Martin Project and Humane Society International. He was instrumental in developing the enrichment and behavioral training programs for crocodilians and other reptiles at MCBT. He currently works as a consultant programme director at a wildlife rehabilitation centre in Ahmedabad, leads human-crocodile conflict mitigation and snakebite mitigation projects in Gujarat. A long time associates of VNC, he is a collaborator in the human-crocodile conflict mitigation project.





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