Nitin Sekar

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SUMMARY

- A conservation scientist striving for a society with vibrant ecosystems, equitable human development and access to nature, and institutions safeguarding the welfare of wild and domestic animals.
- Committed to an inter-sectoral approach to conservation that includes creative interventions and partnerships with governments, companies, and cultural institutions well beyond protected areas.
- Passionate promoter of a phase-shift towards data-driven conservation; a practitioner and innovator in rigorous and interdisciplinary (ecology, economics, sociology, psychology) monitoring and evaluation.

WORK EXPERIENCE

WORLDWIDE FUND FOR NATURE-INDIA (WWF-INDIA)

National Lead—Elephant Conservation

Science, Policy, & Programming

Led the development and am leading implementation of an elephant conservation science/policy strategy for India's largest conservation NGO. Our efforts span elephant landscapes in South, North, and Northeast India.

- Developed a vision statement and overarching theory of change to help synergize previously disparate elephant conservation efforts across the country, raising hundreds of thousands of dollars for new projects.
- Led the development of a Field Manual for Managing Human-Elephant Conflict, co-published by WWF India and the Indian Ministry of Environment, Forests, and Climate Change's Project Elephant in 2022; the manual is being translated into eight Indian languages will help promote best practices across states with elephants.
- Developed a monitoring and evaluation framework that has spurred projects to develop novel methods in measuring psycho-social orientations towards wildlife, governance capacity of local conservation institutions, elephant habitat quality, and identification of individual elephants for management, as well as partnerships to improve the management and analysis of data related to human-elephant conflict.
- Co-leading or supporting (sometimes through student mentorship) about a dozen research projects relating to elephant conservation. Disciplines covered include ecology, econometrics, psychology, design, policy, and governance studies.
- Co-leading or supporting priority conservation initiatives such as protecting elephant corridors, reforming compensation policies for victims of human-elephant conflict, demonstrating a model for removal and replacement of lantana (an invasive plant), publishing an IKEA-style manual for building low-cost non-lethal power fences, and developing tools for dealing with human-elephant conflict (including questions of ethical treatment in captivity).
- Co-developed and helped execute the first successful scientific collarings of wild elephants in Assam, provided key assistance in securing the freedom of celebrity elephant Rivaldo in Tamil Nadu, led writing of a report to help prevent denotification of Shivalik Elephant Reserve, and aided in securing the Kallar elephant corridor outside of Coimbatore.

US AGENCY FOR INTERNATIONAL DEVELOPMENT, OFFICE OF FORESTRY AND BIODIVERSITY DC AAAS Science-Policy Fellow 2015-2017

Focused on improving rigor of monitoring, evaluation, and learning (ME&L) of USAID-funded projects, improving consideration of human rights and equity in policy and implementation, and supporting office operations.

- Advised development of an ME&L plan for the \$10M Reducing Opportunities for the Unlawful Trade in Endangered Species (ROUTES) partnership which unites the private sector, NGOs, and government to combat wildlife crime.
- Provided critical review of an environmental impact assessment, forestalling an Asian Development Bank-funded road through Jaldapara National Park, home to India's second largest population of one-horned rhinos.
- Led preparations and design for one of USAID's first impact evaluations of a conservation project, laying groundwork for an academic advisory committee and models for a request for proposals for a USAID mission.
- Conservation expert on committee examining USAID's policies regarding indigenous peoples, focusing on how to promote indigenous peoples' rights while also furthering conservation objectives.
- Activity manager for literature review on indigenous peoples and conservation outcomes.
- Short-term USAID lead on an interagency working group to reduce violence against environmental defenders.
- Helped conduct a political economy assessment and learning review for USAID's biodiversity work in Uganda.
- Re-designed "enabling conditions for biodiversity conservation" module for environmental officers' training.
- Provided inputs for USAID's new voluntary policy on compulsory resettlement and USAID assistant administrator's testimony to Congress Subcommittee on State, Foreign Operations, and Related Programs.

New Delhi, Coimbatore 2018-present

EDUCATION	
PRINCETON UNIVERSITY Doctor of Philosophy, Ecology and Evolutionary Biology Dissertation: "Asian elephants are essential as seed dispersers in a disturbed tropical forest."	Princeton, NJ 2008 –2014 GPA: 4.0/4.0
Science, Technology, and Environmental Policy Certificate, School of Public and Int'l Affairs2010 – 2015Research: "The voluntariness and socioeconomic consequences of village relocations from Melghat Tiger Reserve, India."Conducted qualitative/quantitative villager interviews, collaborating with rights-based NGOs and Forest Department.	
UNIVERSITY OF NORTH CAROLINA, CHAPEL HILL B.S. in Biology, B.S. in Environmental Science, Minor in Chemistry Phi Beta Kappa; <i>Summa cum laude</i> ; honors thesis research topic: "The use of four elephant corridors by wild and domestic animals in Mudumalai Wildlife Sanctuary, India."	Chapel Hill, NC 2004 – 2008 GPA:4.0/4.0
ORGANIZATION FOR TROPICAL STUDIES Study Abroad Program in South Africa Studied ecology and conservation biology; faculty from University of Witswatersrand and University of Cape Town.	Durham, NC Spring 2006 GPA:4.0/4.0

PEER-REVIEWED PUBLICATIONS

Kajaria, S.[†], **Sekar, N.**[†], Sharma, S. (2022). Charisma failure: understanding differences in support for conservation of Asian elephants compared to tigers and African elephants. *Biological Conservation*. [†] - equal contribution authors

Kamdar, A., Baishya, H., Nagendra, H., Ratnam, J., Smith, D., & Sekar, N. (2022). Human–elephant conflict mitigation as a public good: what determines fence maintenance? *Ecology and Society*, 27(3).

Project Elephant, WWF India. (2022). *Field Manual for Managing Human-Elephant Conflict*. New Delhi: WWF India. **[Led a team across institutions to conceptualize, write, and collect peer review for this manual].**

Shaw, A., Accolla, C., Chacón, J.M., Mueller, T. L., Vaugeois, M., Yang, Y., Sekar, N., Stanton, D. (2021). Differential retention contributes to racial/ethnic disparity in U.S. academia. *PLoS ONE*, 16(12): e0259710.

Sekar, N.*, Shiller, D. (2020). Engage with animal welfare in conservation. Science, 369 (6504): 629-30.

Sekar, N.*, Lee, C.-L., Sukumar, R. (2017). Functional nonredundancy of elephants in a disturbed tropical forest. *Conservation Biology*, 31(5):1152-1162.

Sekar, N. (2016). Tigers, Tribes, and Bureaucrats: the voluntariness and socioeconomic consequences of village relocations from Melghat Tiger Reserve, India. *Regional Environmental Change*, 16:111-123.

Sekar, N.*, Giam, X., Sharma, N. P., Sukumar, R. (2016). How much *Dillenia indica* seed predation occurs from Asian elephant dung? *Acta Oecologica*, 70:53-59.

Sekar, N.,* Sukumar, R. (2015). The Asian elephant is amongst the top three frugivores of two tree species with easily edible fruit. *Journal of Tropical Ecology*, 31:385-394.

Sekar, N.*, Lee, C., Sukumar, R. (2015). In the elephant's seed shadow: the prospects of domestic bovids as replacement dispersers of three tropical Asian trees. *Ecology*, 96: 2093-2105.

Sekar, N.*, Weiss, J. M., Dobson, A. P. (2014). Willingness-to-pay and the perfect safari: valuation and cultural evaluation of safari package attributes in the Serengeti and Tanzanian Northern Circuit. *Ecological Economics*, 97: 34-41.

Sekar, N., Sukumar, R. (2013). Waiting for Gajah: an elephant mutualist's contingency plan for an endangered megafaunal disperser. *Journal of Ecology*, 101: 1379-1388. [selected as Editor's Choice]

Sekar, N.*, Shah, N. K., Abbas, S. A., Kakkar, M. (2011). Research options and priorities for controlling zoonotic disease in India, 2010-2015. *PLoS ONE*, 6(2): e17120. <u>http://www.plosone.org/article/info:doi/10.1371/journal.pone.0017120</u>.

BOOKS

Sekar, N. (2022). *What's Left of the Jungle*. New Delhi: Bloomsbury, India. [a 350-page narrative non-fiction book on human-wildlife conflict and coexistence]

Sekar, N. (2022). *Elephants: The Super Creatures*. New Delhi: WWF India. [a picture book explaining elephants' incredible natural history and behavior; published in English, Hindi, and Tamil]

WORK SUBMITTED OR IN PREPARATION

Sekar, N., Deomurari, A., Kayina, A., Smith, D., Baishya, H., Kumari, P., Sharma, S., Bhatt, T., Somanathan, E. (in prep). Effectiveness of anti-depredation squads in reducing mortality from human-elephant conflict in Sonitpur District, Assam, India.

Diaz-Osorio, F., Sharma, S., Sekar, N., Gulati, S. (in prep). Where the wild elephants are? Locating a charismatic species using media reports.

OTHER NOTABLE PUBLICATIONS

Sekar, N., Kshettry, A., Gaur, M., Athreya, V. (2023). Reforming how India governs the human-wildlife interface. *The India Forum*. January 3. <u>https://www.theindiaforum.in/environment/reforming-how-india-governs-human-wildlife-interface</u>

Gaur, M.[†], **Sekar, N.**[†], Baishya, H. (2023) The de jure and the de facto of the compensation payments system for humanelephant conflict in Sonitpur district, Assam. <u>Osf.io</u>. [†] - equal contribution authors

WWF India (2021). The Critical Need for Elephant Reserves. A WWF India report. https://wwfin.awsassets.panda.org/downloads/the_critical_need_for_elephant_reserves.pdf. [Led a team of authors]

Nagesh, T., Nahar, P., Baishya, H., Smith, D., Joshi, P., Singh, A., Shaikh, M. N., **Sekar, N.** (2021). Using design methods to identify opportunities to prevent train-elephant collisions in India. *Proceedings of Relating Systems Thinking and Design, 2020* (Ahmedabad, India; https://rsdsymposium.org/the-jumbo-problem/)

Sekar, N. (2020). Policy lessons from the elephant death in Kerala. The Indian Express. 12 June.

Sekar, N., Shiller, D. (2020). Animal welfare science aids conservation—Response. Science, 370: 181-181.

Sekar, N., Clark, W., Dobson, A., Coelho, P. C. F., Hannam, P.,... Nowak, K. (2018). Ivory crisis: Growing no-trade consensus. *Science*, 360(6386): 276-7.

Holland, M. B., Dupre, S. I., Lawry, S., Shobe, B., Baker, J., Duchelle, A. E., Kelly, A., Masuda, Y. J., Robinson, B. E., **Sekar, N.** (2018). How does indigeneity influence socio-ecological conditions in community forests? Center for International Forestry Research (CIFOR) Evidence-Based Forestry Report.

Hsiang, S. M., **Sekar, N.** (2016). Evidence should be used in global management of endangered species: a reply to the CITES Technical Advisory Group. Convention on International Trade in Endangered Species (CITES) Conference of Parties 17 Inf. 96.

Sekar, N., Hsiang, S. M. (2016). Submission featured in, "Debate: Would a legal ivory trade save elephants or speed up the massacre?" *The Guardian*. <u>Saturday 1 October</u>.

Hsiang, S. M., **Sekar**, N. (2016). Does legalization reduce black market activity? Evidence from a global ivory experiment and elephant poaching data. *National Bureau of Economic Research* Working Paper no. 22314.

Sekar, N. (2013). Tolerance for the charismatic marauders: culture in wildlife conservation. *Economic and Political Weekly*, 48(24): 10-13.

REFEREE WORK

Global Ecology and Conservation Conservation and Society Journal of Natural History Animal Conservation Society for Conservation Biology's Implementation Plan (2017) Technical reviewer for Center for Advanced Defense Studies report on wildlife trafficking via airlines Technical reviewer for US Agency for International Development's Wildlife Crime Tech Challenge Science and Diplomacy Conservation Biology Ecosphere

RECOGNITION AND FELLOWSHIPS

Longlisted for Tata Literature Live! 2022 First Book Award – Non-fiction (2023).

Indian Express "Book to Look Out For in 2022": *major newspaper's editors recommend my book* What's Left of the Jungle *along with books by Ramachandra Guha and Amitav Ghosh* (2022).

US Agency for International Development Certificate of Recognition: *in recognition of service to USAID's Office of Forestry and Biodiversity (2017).*

American Association for the Advancement of Science (AAAS) Science-Policy Fellowship: two-year placement of scientists with advanced degrees in government to improve use of science in policy development (2015).

John L. Harper Young Investigator's Prize: British Ecological Society int'l award for promising researcher (2014).

Princeton University Class of 1976: \$5k for research related to tiger conservation (2013).

Denver Zoological Foundation grant: \$5k funding for dissertation field work (2011).

World Wildlife Fund Asian Rhino and Elephant Action Strategy program grant: \$5k funding for dissertation field work (2011).

Perkins Fellow with Princeton University's Environmental Institute and Woodrow Wilson School: one year of support (classes, research) for environmental policy certificate (2010).

National Science Foundation Graduate Research Fellowship: \$90K given over three years to outstanding graduate students in NSF-supported disciplines (2010).

Francis Boyer Fellowship in the Life Sciences, Princeton University: for scholar in the biological sciences (2009).

R.E. Coker Award, University of North Carolina: award to graduating senior (1/yr) for excellence in research in organismal biology or ecology (2008).

Algernon Sydney Sullivan Award, University of North Carolina: given to senior male (1/yr) outstanding in humanitarian contributions (2008).

Morris K. Udall Scholarship: Congressionally established national award for academic excellence and commitment to the environment (2006 and 2007).

Ernest L. Mackie Award, University of North Carolina: junior male (1/yr) outstanding in scholarship, leadership.

Finalist for Rhodes Scholarship; finalist for Harry S. Truman Scholarship (2007)

Order of the Golden Fleece, University of North Carolina: university's highest honor for service (2007).

Summer Undergraduate Research Fellowship, University of North Carolina: \$3K to study ecology in Siberia (2005).

North Carolina Fellow, University of North Carolina: four-year selective leadership program (2005).

Trustee Scholar, University of North Carolina: four-year merit scholarship covering tuition (2004).

NOTABLE PRESENTATIONS

Featured author at the Vidarbha Literary Festival, February 5-6, 2022.

"Science and action for addressing human-elephant conflict." Invited talk, Conference on Human Casualties from Wildlife Conflict, University of British Columbia, Vancouver: October 8, 2022.

"Why do we conserve species that kill people?" **Plenary speech** at *Life and Lives*, 25th anniversary event for the Ashoka Trust for Research in Ecology and the Environment. Bengaluru, India: August 18, 2022. https://www.youtube.com/watch?v=DUCNY0bYyhk.

Book launch of *Elephants: The Super Creatures*. Crossword Books in Mumbai, India: August 12, 2022.

Book event for What's Left of the Jungle with Madras Book Club, June 8, 2022 (remote). https://youtu.be/jQH-1brD62g

"What's Left of the Jungle: the realities and mythology of living with wildlife." Book event, Blue Tokai, Bengaluru. June 4, 2022.

What's Left of the Jungle virtual book launch event with Mahesh Rangarajan, Prerna Bindra, Ruth DeFries, and Sejal Worah. Bloomsbury India and WWF India. March 4, 2022. <u>https://youtu.be/jQH-1brD62g</u>

Book event for What's Left of the Jungle with the Northeast Writers' Forum, February 26, 2022 (remote).

Invited speaker on careers in translational ecology for the Cary Institute's research experience for undergraduates program, July 9, 2021 (remote).

"Motivations for wildlife conservation: does elephant conservation make sense?" Invited speaker for Masters in Wildlife Biology and Conservation Program at the National Centre for Biological Sciences, Bangalore, June 16, 2021 (remote).

"Wildlife conservation and social justice." Invited speaker for Professor David Kanter's class on Environment and Society, New York University, March 1, 2021 (remote); February 20, 2018; February 21, 2017.

"Careers in ecology and conservation." Invited panelist as part of Inclusive Ecology workshop (aimed to serve underrepresented groups), Centre for Ecological Sciences, Indian Institute of Science, Bangalore, February 26, 2021 (remote).

"Ecodemiology: playing the long game to address human-wildlife conflict." Invited speaker for Seminar on Human-Wildlife Conflict, Ashoka University, November 3, 2020 (remote).

"Lessons from around the bend." Invited speaker for *Alternative Careers in Science* seminar series, Princeton University, October 9, 2021 (remote).

"Science-based conservation at WWF-India." Invited speaker panel, National Center for Biological Sciences, Bangalore, August 8, 2019.

"Wildlife conservation and social justice." Invited speaker for Ashoka University, October 11, 2018.

"Examining the functional ecology and sociology of human-wildlife coexistence." Invited speaker, Centre for Ecological Sciences, Indian Institute of Science, Bangalore. March 14, 2018.

"Elephant ivory trade: evidence from a global ivory experiment and elephant poaching data." Invited speaker to The Nature Conservancy's Africa Team. November 15, 2017 (remote).

"Moonshots for conservation: the prospects of cultured meat as a solution to challenges in agriculture, climate, and biodiversity." Presentation with Carolyn Mattick for US Department of Agriculture researchers and USAID Biodiversity Working Group, Washington, DC. April 18, 2017.

"The ivory trade and elephant conservation." Invited speaker for two-person panel at University of Pennsylvania Law School, Philadelphia, commemorating 20th anniversary of the Master of Environmental Studies program. Sept. 15, 2016.

"Does legalization reduce black market activity? Evidence from a global ivory experiment and elephant poaching data." USAID Biodiversity Working Group, Washington, DC. August 4, 2016.

"Nature conservation and rule of law." Wilson Center Symposium on *Rule of Law and the Environment: Rights, Resources, and Governance*. Representing USAID's Office of Forestry and Biodiversity. January 16, 2016.

"Functional or ornamental? Asian elephants as seed dispersers in a disturbed tropical forest." Invited talk, conference on Ecology in Space and Time, Indian Institute of Science, Bangalore, April 10, 2015.

"Tigers, Tribes, and Bureaucrats: relocations from Maharashtra's Melghat Tiger Reserve." Invited public lecture, Nehru Memorial Museum and Library, New Delhi, India, March 9, 2015.

"Do we need elephants?" Invited guest lecture, Nehru Learning Center for Children and Youth, Delhi, India. March 9, 2015.

Invited guest lecture, School of Human Ecology, Ambedkar Universiy, Delhi, India. February 20, 2015.

"Waiting for Gajah: an elephant mutualist's contingency plan for an endangered megafaunal disperser." Invited lecture, British Ecological Society-Société Française d'Ecologie annual meeting, Lille, France, December 11, 2014.

"Tigers, Tribes, and Bureaucrats: persuading Indian tribals to voluntarily relocate for conservation." Invited public lecture, David Bradford Seminar in Science, Technology, and Environmental Policy, Princeton University, Dec. 2014.

"Elephant economics." Invited speaker. Global March for Elephants and Rhinos, Princeton, NJ. October 2014.

"Paying for paradise: using Northern Tanzania safari package prices to understand tourist willingness-to-pay." Penn-Princeton-Rutgers-Columbia annual retreat, Columbia University, April 2013.

"Do we need elephants? The relative importance of elephants and alternative frugivores for seed dispersal in India." Guest lecturer, ecology class at University of Findlay, October 2012.

"In the absence of giants: predicting how the loss of Asian elephants may affect seed dispersal in Buxa Tiger Reserve results so far" (delivered in Hindi). Workshop for Indian Forest Department officers. Nature Interpretation Center, Rajabhatkhawa, West Bengal. August 2011.

"Ecology of Elephants" (Hindi). 3rd Annual Railway Officials Sensitization Program by the Indian Forest and Railway Departments to help prevent train-elephant collisions. Alipurduar Junction Station, West Bengal. August 2011.

TEACHING EXPERIENCE

Thesis co-adviser for Bachelor's student at the National Institute of Design, Ahmedabad	2021
Research mentor/member of thesis committee for Master's student at National Center for Biological Sciences, Bengaluru	2019-20
Research mentor/member of thesis committee for Master's student at Indian Statistical Institute (Delhi)	2019-20
Research mentor for Master's student at the National Institute of Design, Ahmedabad	2018-19
<i>Module instructor</i> , "Biodiversity 201" for USAID University, delivered lessons on evaluations and the use of evidence in conservation.	December 2016
PRINCETON UNIVERSITY Assistant in instruction, "The Environment: Science and Policy." Aided Council on Science and Technology in course preparation; led and helped plan precepts.	Princeton, NJ Spring 2013
Assistant in instruction, "Biology of Organisms." Taught labs, graded assignments, and provided general support to students.	Fall 2008
 UNIVERSITY OF NORTH CAROLINA, CHAPEL HILL Instructor, UNC William and Ida Friday Center for Continuing Education: First undergraduate asked to teach a class in program (which included a Noble Prize laureate) Taught a month-long course on "biodiversity and conservation in the face of poverty." 	Chapel Hill, NC October 2007
Undergraduate teaching assistant, scholars' seminar, "Religion 166: Amnesty, Punishment, and Forgiveness." Helped plan classes and led small-group discussions.	Spring 2007

SERVICE LEADERSHIP EXPERIENCE

Working group member for the newly founded Coexistence Consortium, <u>https://www.coexistenceconsortium.com/</u> (2021-present).

Member of eleven-person committee constituted by the Forest Department to try to address human-elephant conflict in the state of Tamil Nadu. <u>https://www.thehindu.com/news/cities/Coimbatore/11-member-expert-panel-to-study-elephant-population-in-tamil-nadu/article32071677.ece</u>. (2020-2022).

Science advisor (with honorarium) for the Learning Design Group at the Lawrence Hall of Science at UC Berkeley as they developed a second-grade life science unit on seed dispersal (2016).

Pro-bono consultant for the NGO Elephant Experts, which seeks to bring positive reinforcement training and other best practices to captive elephants across south and southeast Asia (2015-2016).

PRINCETON UNIVERSITY

Founder and coordinator for departmental Sustainability Committee (2009-10, 2013-14)

- Procured used ceramic plates, altered norm from using disposable dishware for seminar lunches to reduce waste
- Data-driven community engagement to reduce the carbon footprint of meal orders for department events

Pilot developer for Buxa Computer Lab for underprivileged children in Buxa Tiger Reserve, India (2011-12)

- Collaborated with NGO Kramden to secure low-cost computers for village children;
- Helped acquire funding to bring US undergraduate to teach students to use computers;
- Built a computer lab, collaborated with local schools and community members, helped manage computer lab.

Princeton, NJ

Graduate student advisor for Princeton University Ashoka Changemakers team that helped the NGO Summer Advantage design curricula in the arts and sciences for summer programs geared at underserved youth (2010).

Volunteer for six weeks for the Obama Campaign: persuasion calls, voter registration (including for ex-felons), canvassing, GOTV (2008).

UNIVERSITY OF NORTH CAROLINA, CHAPEL HILL

Chapel Hill, NC

Co-founder and co-coordinator, UNC-Duke-Bennett Millennium Village Project (2005-2008):

- Collaborated with the Columbia University Earth Institute, NGO Millennium Promise, and student leaders at Duke University and Bennett College to establish first student-led partnership with a Millennium Village;
- Worked with student groups to host events and forums to critically evaluate MVP and development issues;
- Presented to corporate and private donors, helping raise \$1 million towards our \$1.5 million goal to support the efforts of the village of Marenyo, Kenya to achieve the Millennium Development Goals.

Field biologist in South Africa, May-July 2006:

- Collected behavioral data (alone) on a troop of wild chacma baboons living in an exotic pine and eucalyptus forest to predict effects of Cape Town government's plan to remove the exotic forest on human-baboon conflict
- Conducted vegetation surveys, biodiversity surveys of rodents and reptiles, bird censuses, and literature reviews; first year of data collection for long-term study on effects of elephants on biodiversity of Kruger National Park.

Founder of UNC's Measles Initiative project: worked with Duke University and UNC student organizations to raise over \$13000 in two semesters for the Red Cross' Measles Initiative (2004-5).

OTHER PERTINENT INFORMATION

LANGUAGES:

Tamil: highly proficient (speaking); Hindi: highly proficient (speaking); intermediate (reading/writing)

TECHNOLOGY:

Experienced: Microsoft Office; R Project (programming language); Novice: Matlab, Mathematica