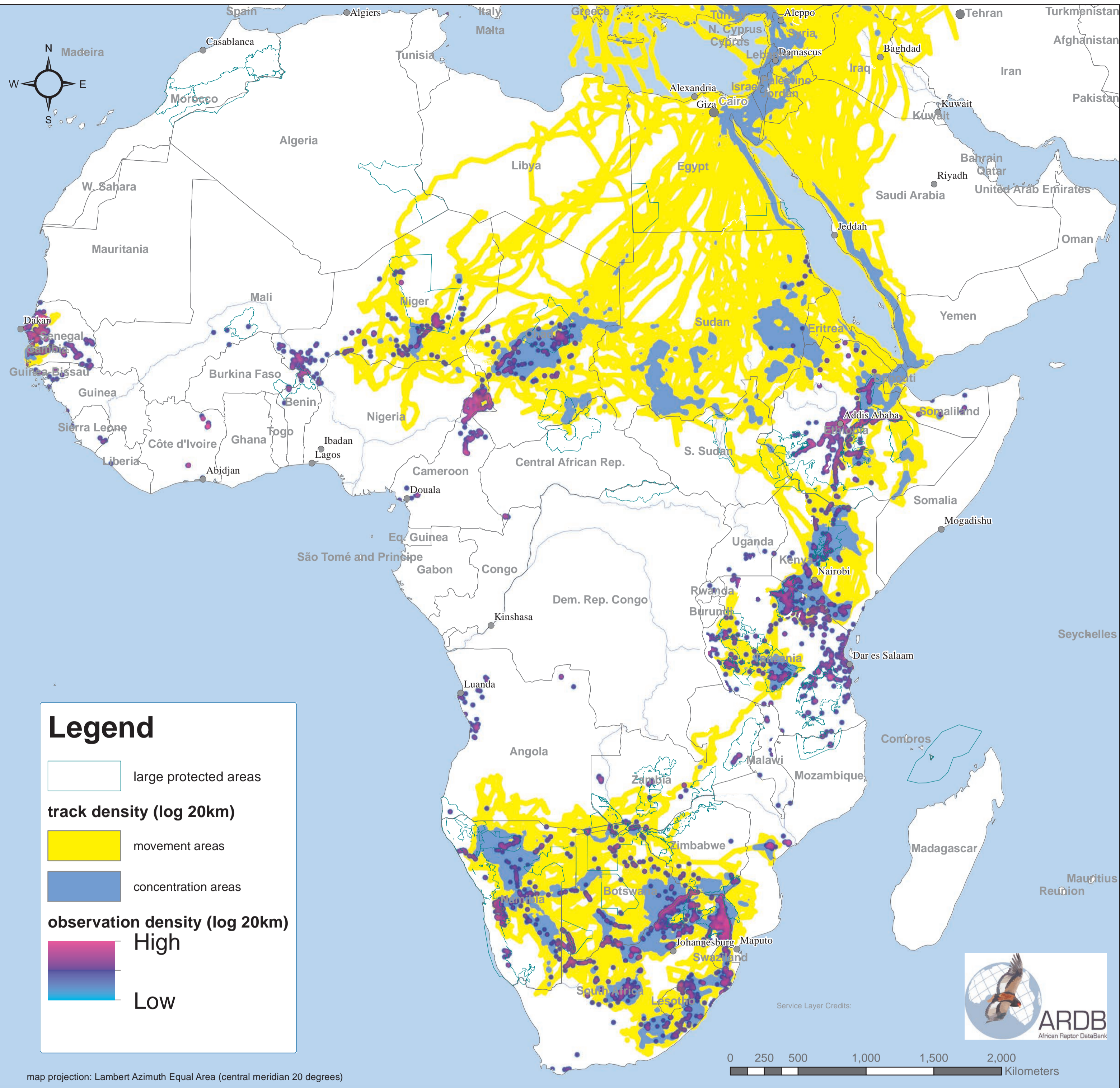


strongholds: observation data



METHODS:
 Our sightings and specimen records for African vultures are drawn from the African Raptor Databank (ARDB). Considerable efforts were made by Ralph Buij and numerous observers to draw in new vulture data for areas identified as gaps in the database, notable examples being Zambia, Northern Mozambique, Sudan, South Sudan and throughout West Africa. Much new data were gathered during 2014-2017. At the time of analysis (15/2/2017) the ARDB held 11,543 records of African vultures (separated before and after 31/12/1977 into 1914 historic records and 9629 recent records). A point density analysis shown here was conducted on all the recent data points summing, for each 1 km² grid cell, all records within 20 km. We used a natural logarithm value of this density grid to reveal both low and very high density values and exclude areas with no observations. For methods on the satellite track data see movement maps or mapping methods document for more details. Shown on this map are the concentration areas and movement areas derived from logarithms of the track density within 20km radius.

CREDITS: Coordination: Ralph Buij (Wageningen University & Research), Corinne Kendall (North Carolina Zoo), Ara Monadjem (University of Swaziland). Data collation: Lutfur Rahman & Lou Luddington (Habitat Info). Analysis & map production: Rob Davies (Habitat Info). Finance: The vulture surveys, data gathering and habitat and threat modeling were funded by the following organisations through Wageningen University & Research (which also contributed resources): Dutch Ministry of Economic Affairs, WWF-Netherlands, UNEP-CMS Raptors MoU, North Carolina Zoo, Fondation LePal Nature, Quagga Foundation, Stichting Vogelpark Avifauna, Stichting Koninklijke Rotterdamse Diergaarde, Detroit Zoological Society, and Stichting Wildlife. Through The Peregrine Fund this project benefited greatly from access to the ESRI Grant Scheme. Data on vultures were contributed or facilitated by the following individuals: Yilma D Abebe, Hichem Azafzaf, Laila Bahaa El Din, Neil & Liz Baker, Clive R Barlow, Keith Bildstein, Claire Bracebridge, Andy Branfield, Erik & Asaph Brohaugh, Joost Brouwer, Chris Brown, Evan Buechley, Ralph Buij & Barbara Croes, Andre Botha, Mike Cadman, Alazar Daka Rufo, Rob Davies, Maria Diekmann, Nina Farwig, Oliver Fox, Toby Galligan, Beckie Garbett, Ashwell Glasson, Roi Harel, Stratton Hatfield, Ohad Hatzofe, Joseph Heymans, Constant Hoogstad, Mawdo J Jallow, Walter Jubber, Gregory Kallenecker, Adam Kane, Chris Kelly, Alan & Meg Kemp, Corinne Kendall, Holger & Claire Kolberg, Bernard & Antje Madden, Glyn Maude, John Mendelsohn, Mike McGrady, Ara Monadjem, Campbell Murn, Ran Nathan, Karin Nelson, Stoyan Nikolov, Darcy Ogada, Steffen Oppel, Louis Phipps, Bram Plot, Thomas Rabeil, Sascha Rosner, Lizanne Roxburgh, Volker Salewski, Andrea Santangeli, Dana Schabo, Orr Spiegel, Lindy Thompson, Simon Thomsett, Dirk van Stuyvenberg, Rien van Wijk, Munir Virani, Tim Wacher, Kerri Wolter (VULPRO) and numerous other African Raptor Databank observers; and by the following organisations: AFRICAN RAPTOR DATABANK, AFRICAN IMPACT, BIRDLIFE INTERNATIONAL & NATURESERVE, BIRDLIFE BULGARIA (BSPB), BIRDLIFE TUNISIA (AAO), BOISE STATE UNIVERSITY, CITES (MIKE DATABASE), ENDANGERED WILDLIFE TRUST, HAWK CONSERVANCY TRUST, HAWK MOUNTAIN SANCTUARY, INTERNATIONAL UNION FOR CONSERVATION OF NATURE (AFRICAN ELEPHANT DATABASE & REDLIST MAPS), ISRAEL NATURE & PARKS AUTHORITY, NATURAL HISTORY MUSEUM (TRING), MOVEBANK, NIOKOLO-KOBA CITIZEN SCIENCE PROJECT, NORTH CAROLINA ZOO, RAPTOR BOTSWANA, RARE AND ENDANGERED SPECIES TRUST, ROYAL SOCIETY FOR THE PROTECTION OF BIRDS, TANZANIAN BIRD ATLAS, THE PEREGRINE FUND, UNIVERSITY OF UTAH, VULPRO, WEST AFRICAN BIRD DATABASE, WILDLIFE ACT AND WILDLIFE CONSERVATION SOCIETY.

