

Enabling Technology for Tracking and Conserving Birds.

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About BCN

- ▶ Bird Conservation Nepal, BCN, is the leading organization in Nepal, focusing on the conservation and status of birds and their habitats. BCN seeks to promote interest in the birds among the general public, encourages research on birds, and identify major threats to birds. BCN is a partner of Birdlife international which has a network of more than 120 organizations around the world.


Discovery of migration of birds

- ▶ Every year, a Bar-tailed Godwit, embarks a nonstop transequatorial flight lasting at least seven days and nights from Alaska to New Zealand by travelling more than 12,000 kilometers. Arctic Terns have been found to travel 7000 kilometers in a single calendar year from Arctic to Antarctica.
- ▶ Only in the past century or so, with the advent of bird banding, satellite tracking and more widespread field studies have researchers been able to connect bird populations that winter in one area and nest in another place.

Why are ornithologists tagging the birds?

- ▶ There are 23 species of vultures in the world and 9 species of vultures have been recorded in Nepal. During 1980s, there was about 1 to 1.6 million vultures but now, their numbers have dwindled to about 20 thousand.
- ▶ BCN is funded by RSPB (The Royal Society for the Protection of Birds). Solar powered bird transmitters log GPS locations and upload data via GSM/GPRS networks. Users can log into the websites for example Ornitela, Argos, Ecotone and retrieve the data by paying the data transfer fees.

Use of transmitters for the conservation of birds

- ▶ Depending on the motivation of study transmitter is used to know their home range, breeding ground, feeding station, nesting site, habitat and migratory route.
 - ▶ BCN has successfully tagged 79 White-rumped Vultures (critically endangered) including 40 wild and 39 captive White-rumped Vultures, 3 Red-headed Vultures (near threatened), and Bengal Floricans (critically endangered).
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Trapping of Wild Vultures

Walk-in trap



Satellite tagging methodology





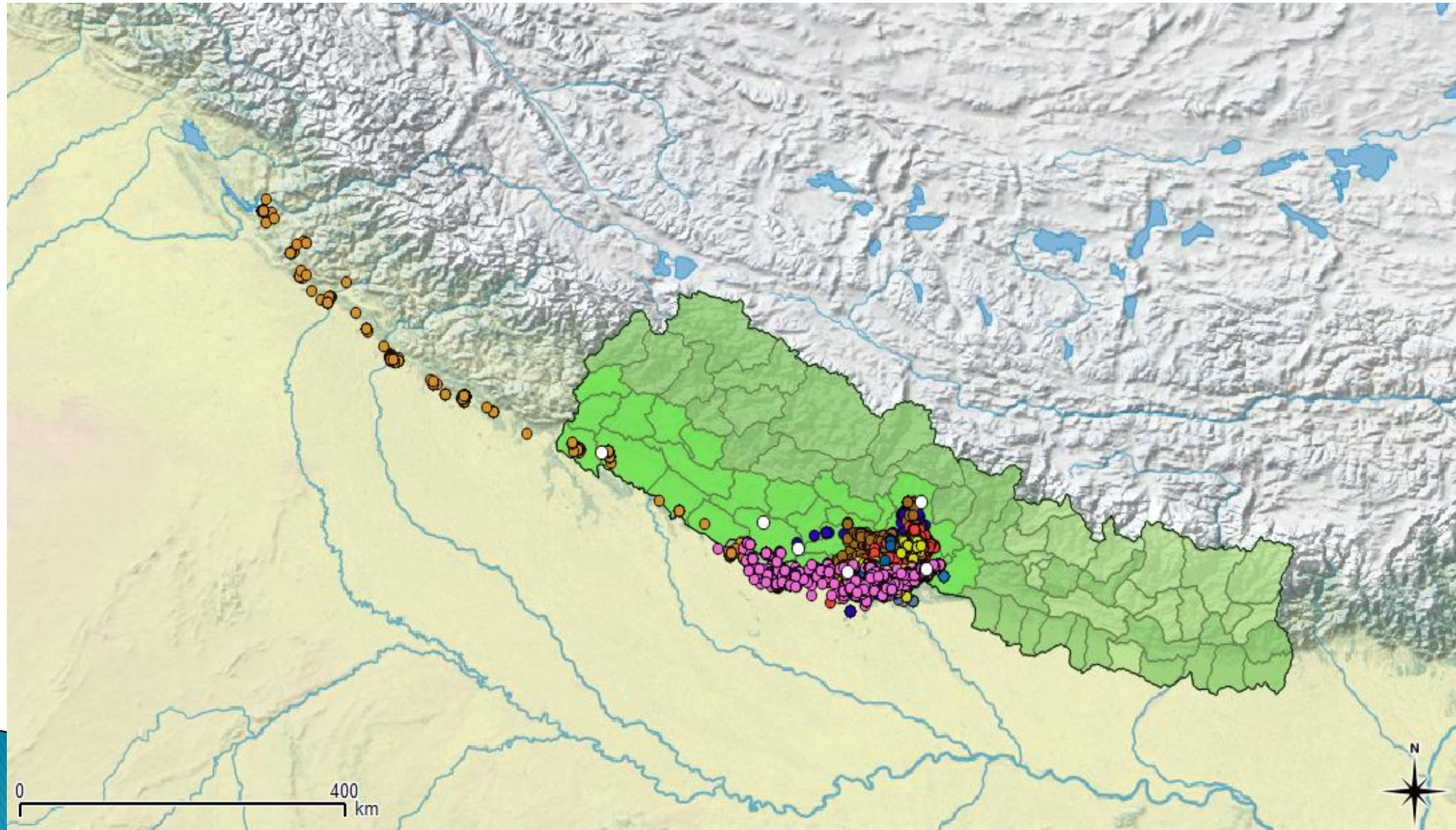
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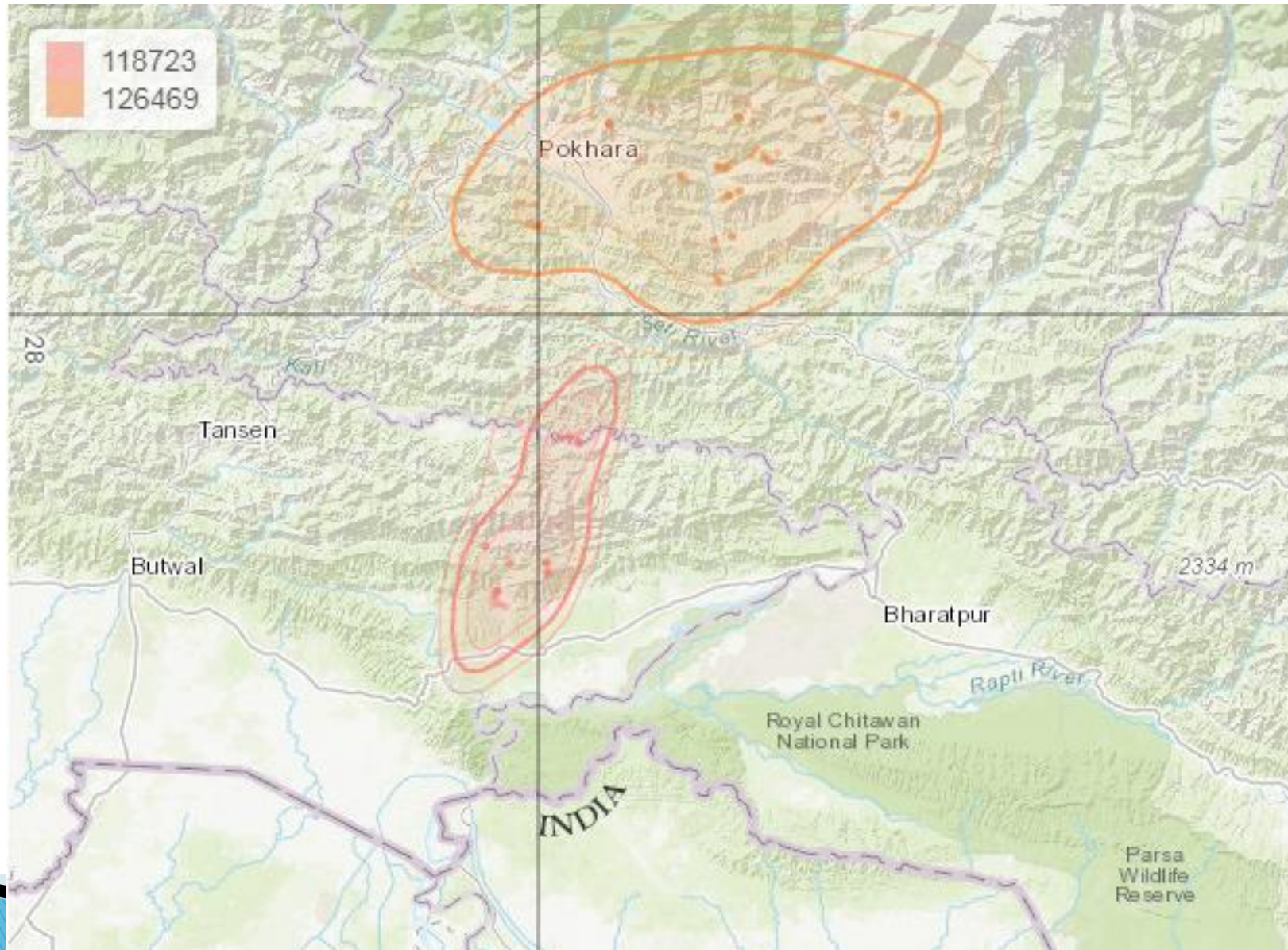
Movement of tagged wild Vulture



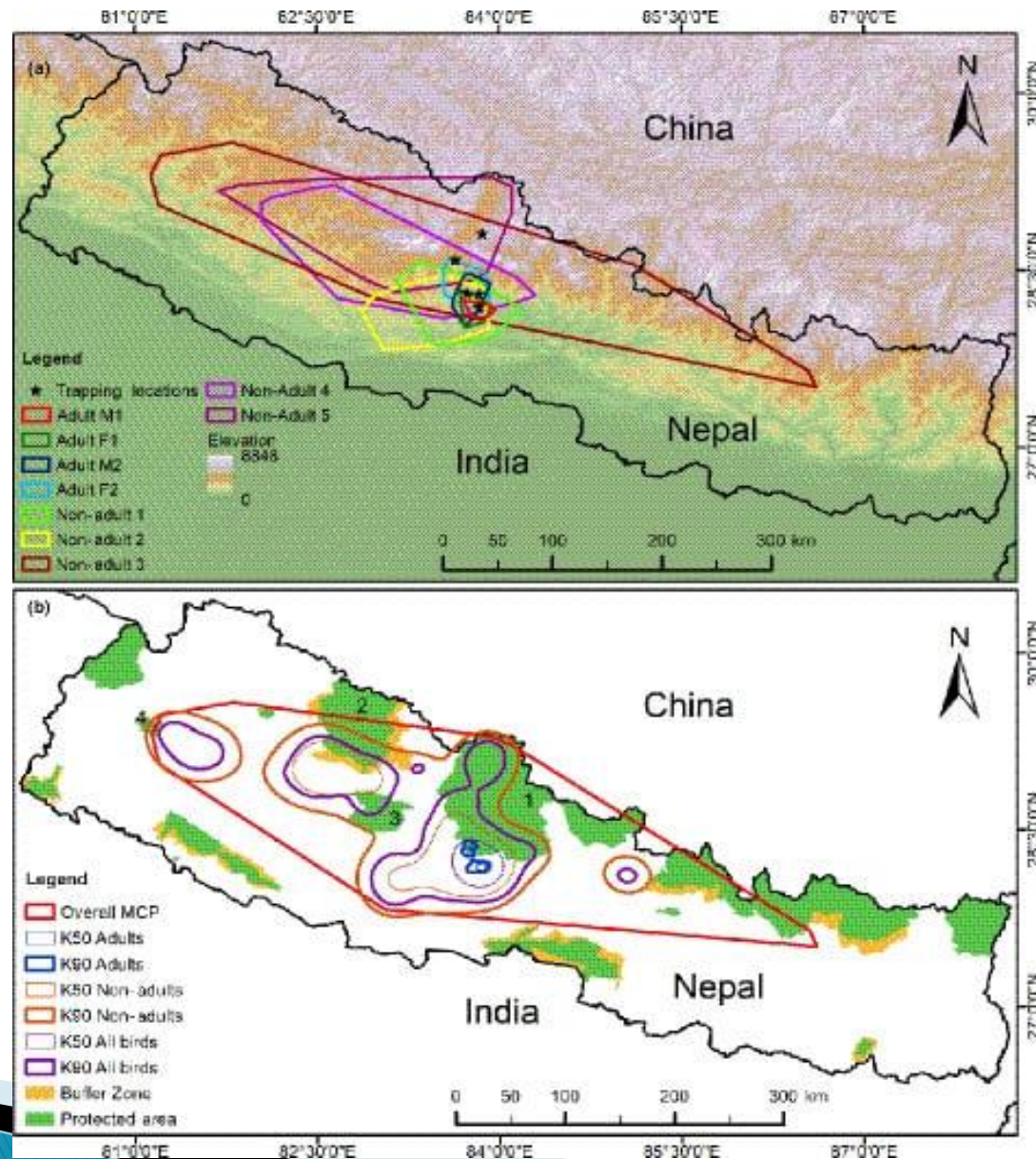
Satellite tagging of wild Red-headed Vulture



Movement of tagged Red-headed vulture



Movement of tagged Bearded Vulture




Subedi *et al.* 2019

Movement of tagged Himalayan Griffon



Conclusion:

- ▶ There are many successful attempts of the introduction of vulture feeding sites known as 'restaurants' that provides diclofenac free carcass to the vultures and it has made a positive comeback of the vultures after the conservation measures aided by the use of satellite tagging. The studies on the vultures were implemented in Nepal to declare Vulture safe zones throughout the country.
 - ▶ The question is, if interested, how can UNISEC introduce the transmitters in reasonable price for the wildlife studies in Nepal and how can we access the data with whatever technology is available at the moment?
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References

- ▶ Scientificamerican.com
 - ▶ Vulture Safe Zone published by Bird Conservation Nepal and Birdlife International
 - ▶ Interviews with BCN members: Ankit Bilash Joshi, Ishana Thapa, Arend Van Riessen, Niraj Dahal,, Mohan Bikram Shrestha, Santosh Bajagain, Jaya N Bhandari.
 - ▶ Presentation pictures provided by Ankit Bilash Joshi (BCN).
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Thank you

