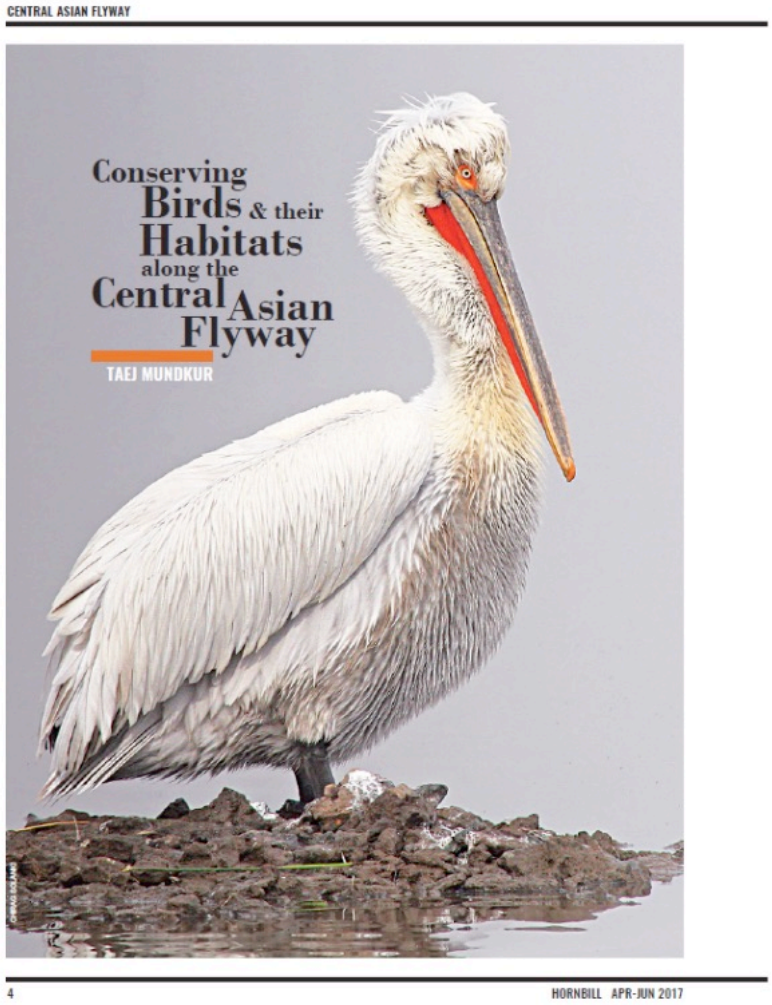
Advances in Bird Migration Research and Conservation in the Central Asian Flyway



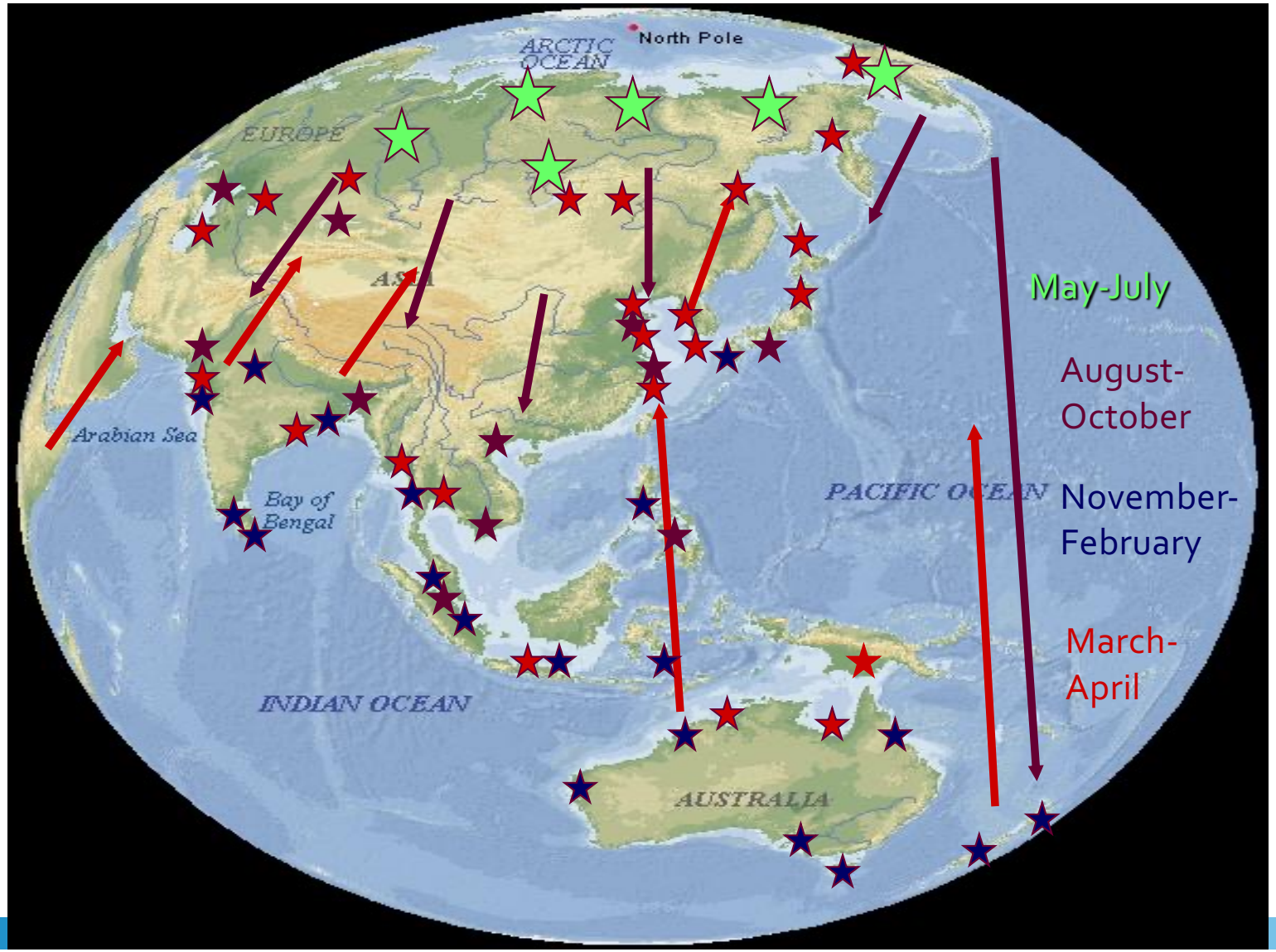
Presented by

Dr Taej Mundkur

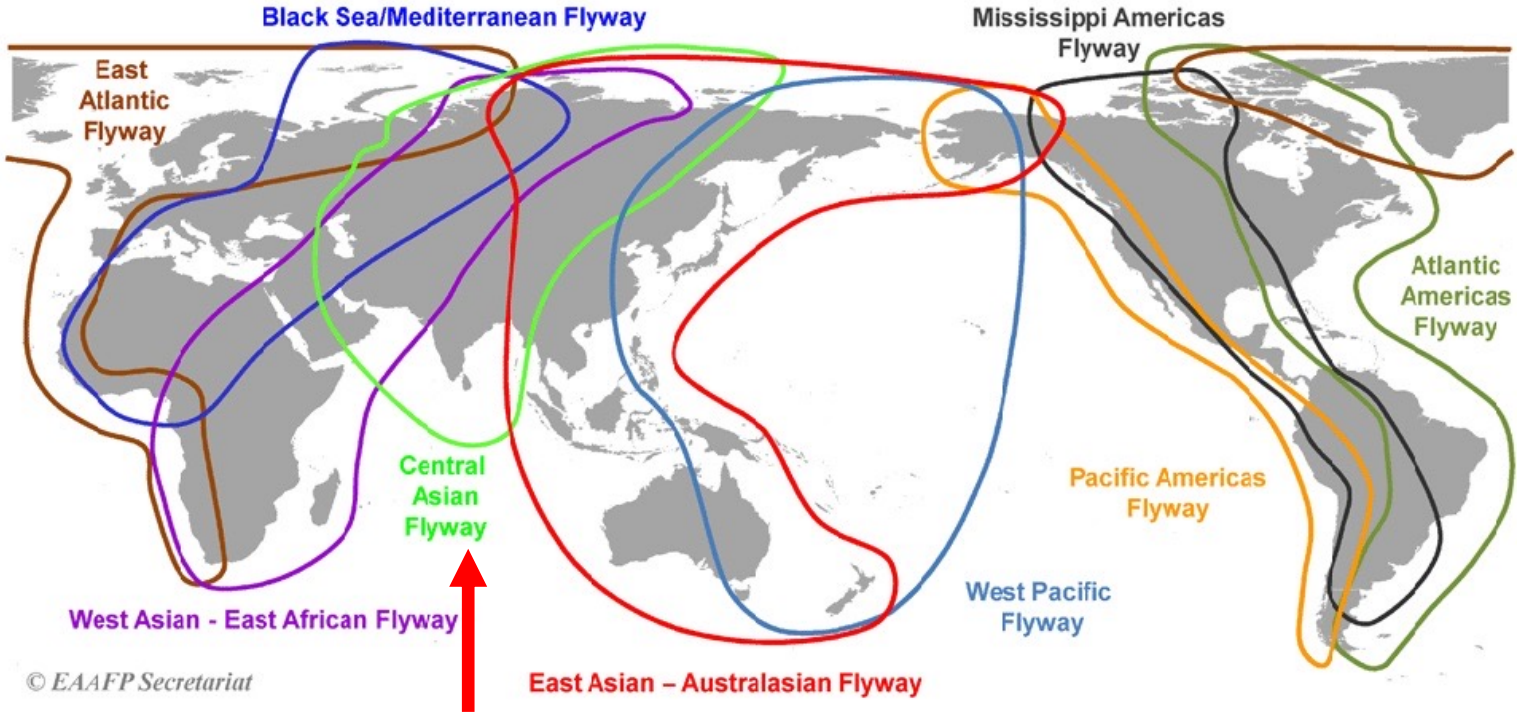
Senior Advisor, Wetlands International

Good Earth Environmental, The Netherlands

Taej.mundkur@gmail.com


ARCTIC OCEAN
North Pole
EUROPE
ASIA
Arabian Sea
Bay of Bengal
PACIFIC OCEAN
INDIAN OCEAN
AUSTRALIA
May-July
August-October
November-February
March-April

Major waterbird flyways

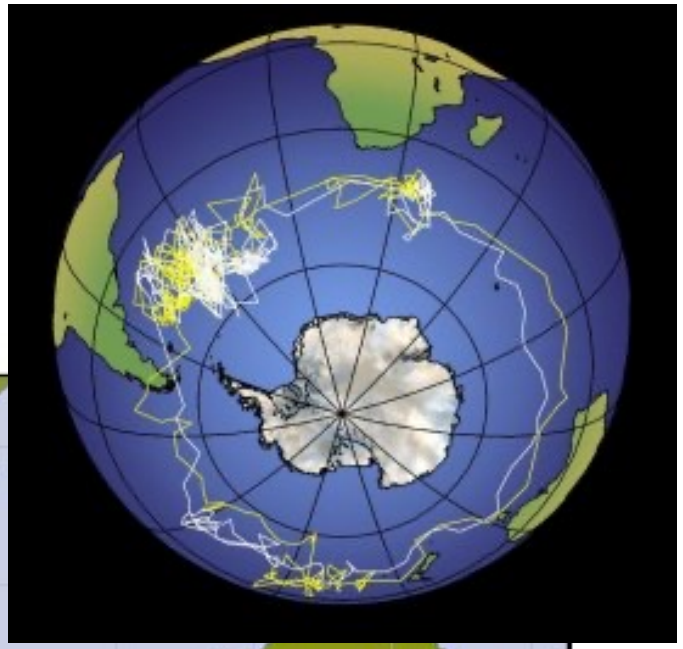


"A flyway is the entire range of a migratory bird species (or groups of related species or distinct populations of a single species) through which it moves on an annual basis from the breeding grounds to non-breeding areas, including intermediate resting and feeding places as well as the area within which the birds migrate."

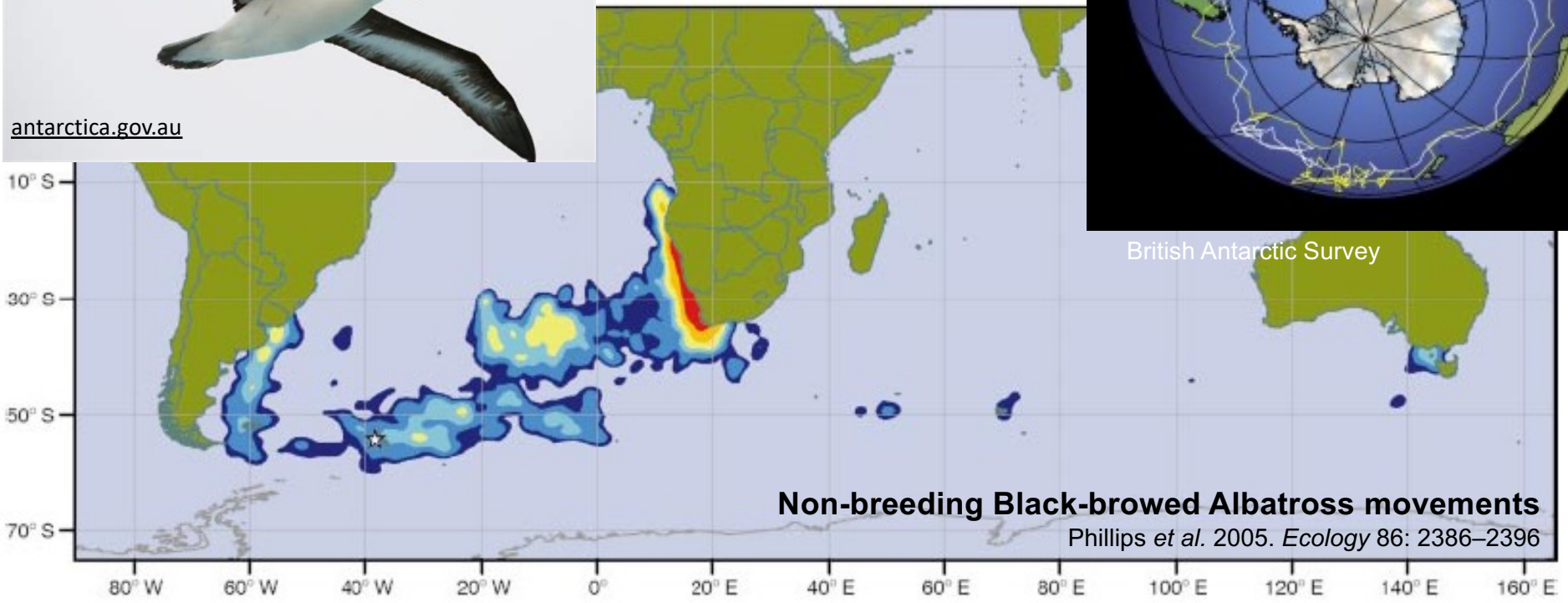
(*Boere, G.C. & Stroud, D.A. 2006. The flyway concept: what it is and what it isn't. Waterbirds around the world. Eds. G.C. Boere, C.A. Galbraith & D.A. Stroud. The Stationery Office, Edinburgh, UK. pp. 40-47. Available on: http://jncc.defra.gov.uk/worldwaterbirds)*

What are flyways? Ocean flyways?

antarctica.gov.au



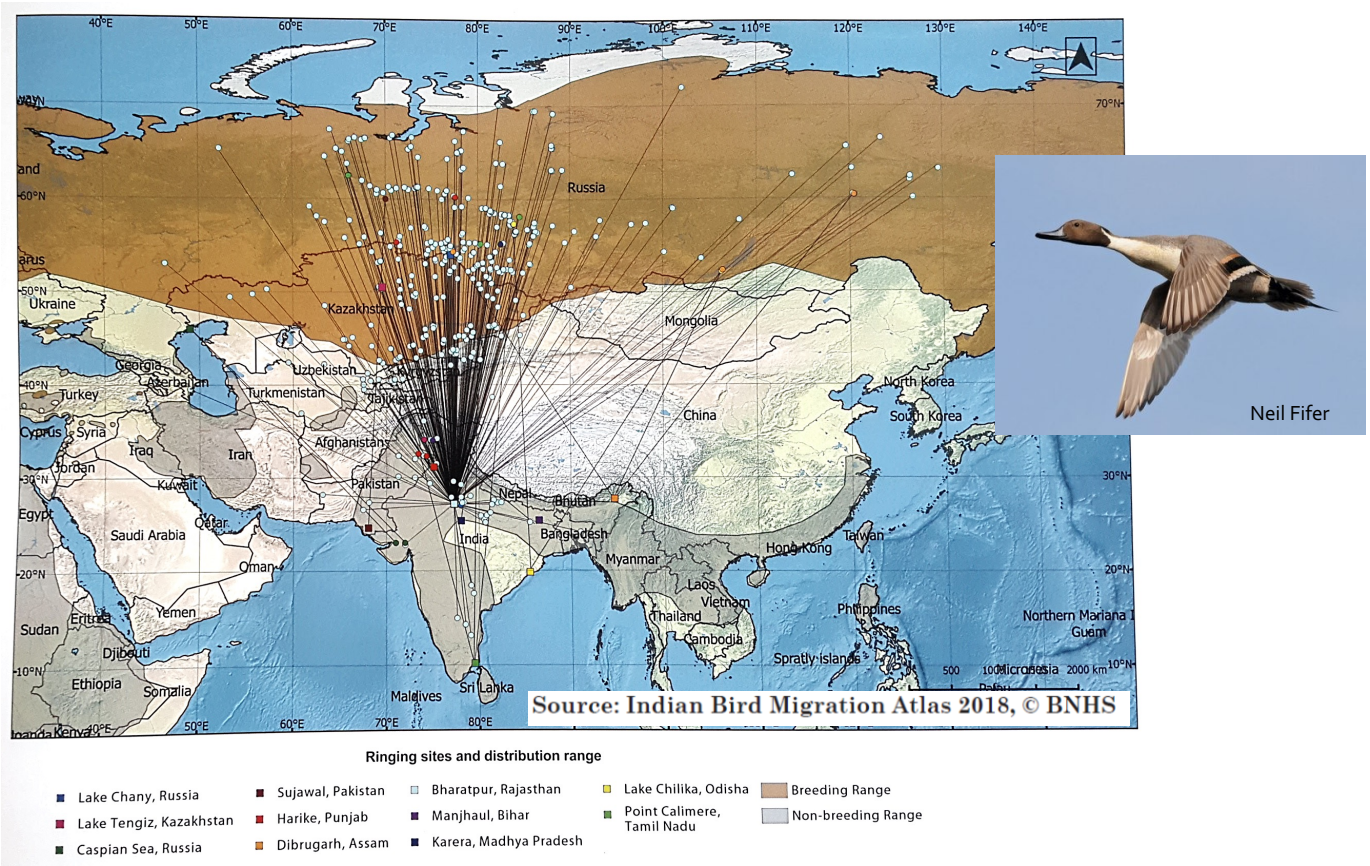
British Antarctic Survey



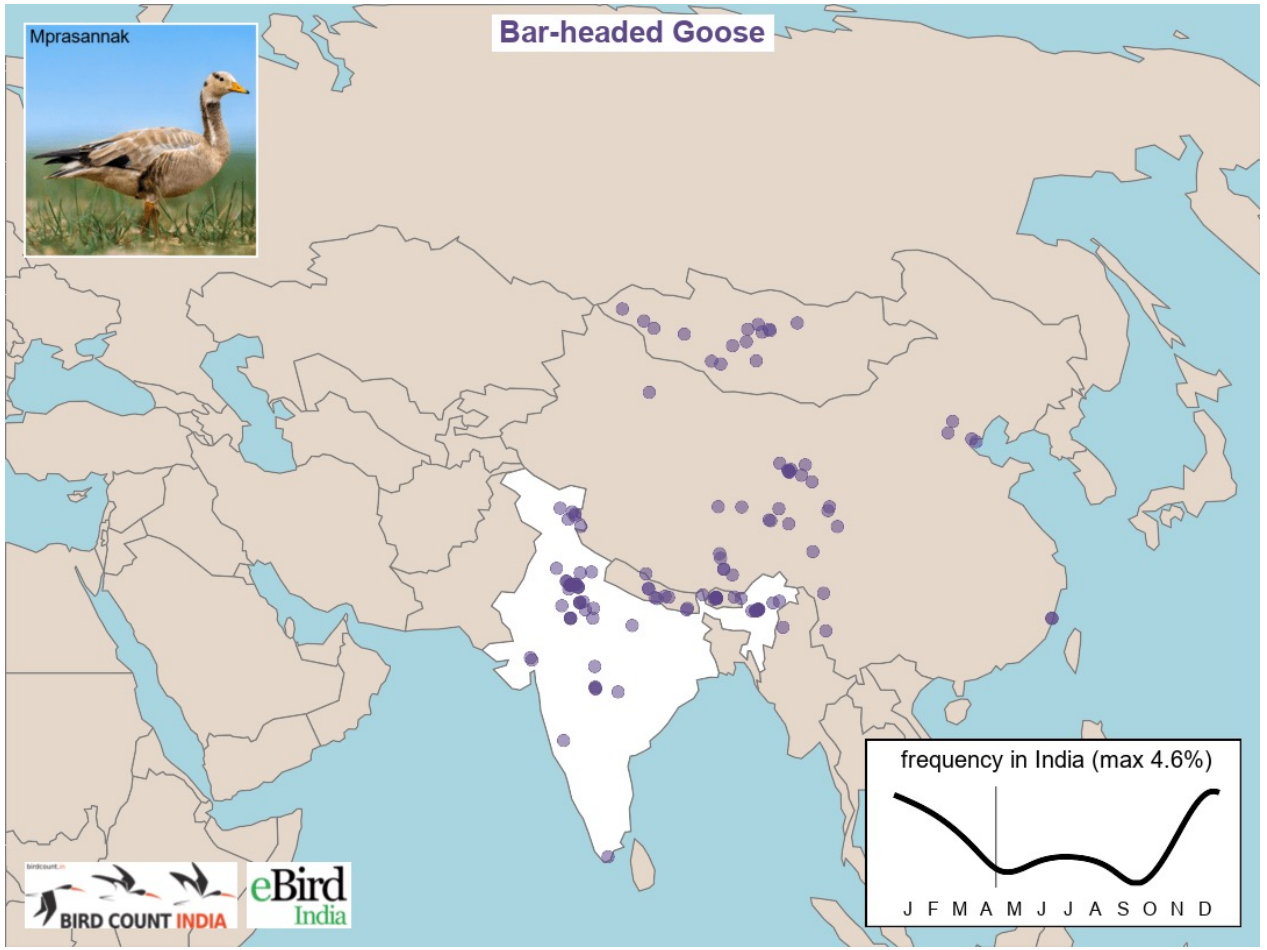
Non-breeding Black-browed Albatross movements

Phillips *et al.* 2005. *Ecology* 86: 2386–2396

Migration of Northern Pintail *Anas acuta* in the Central Asian Flyway (movements of ringed birds)

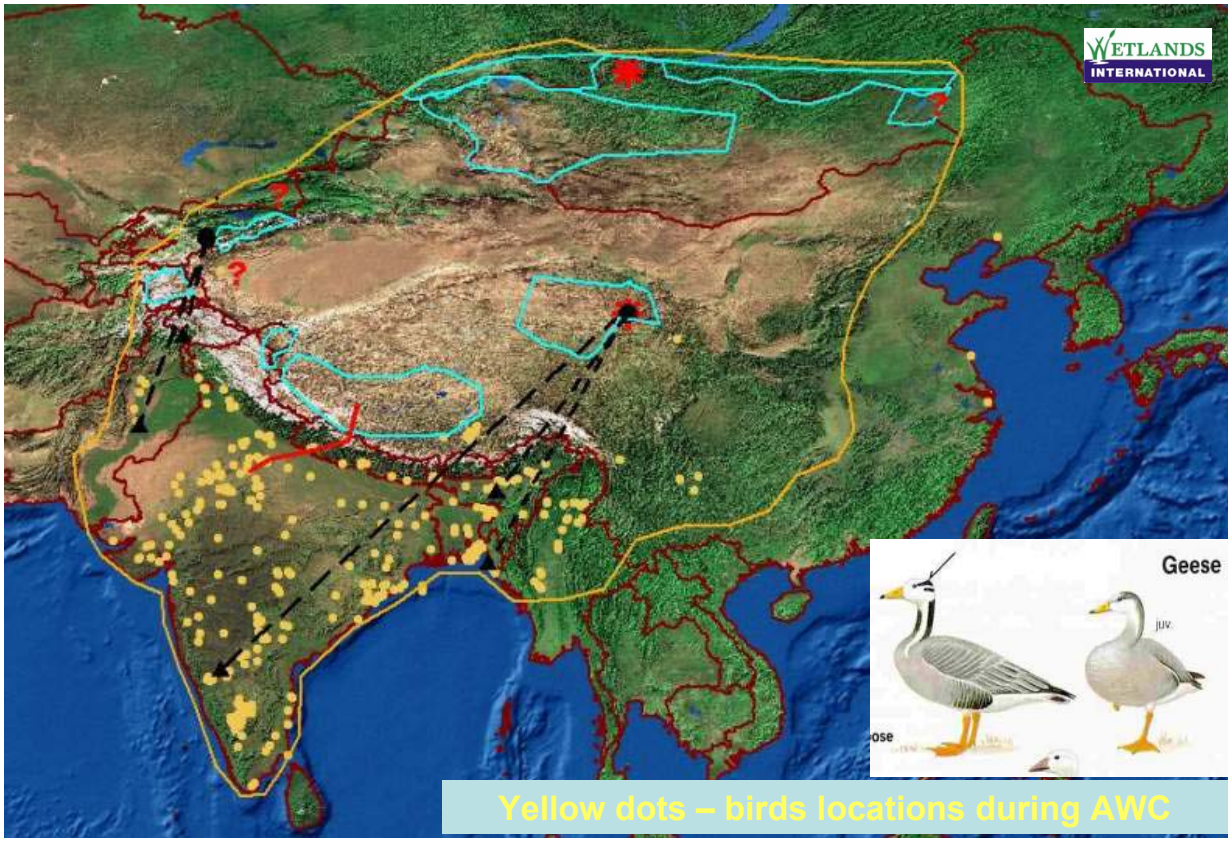


Migration of Bar-headed Goose *Anser indicus*

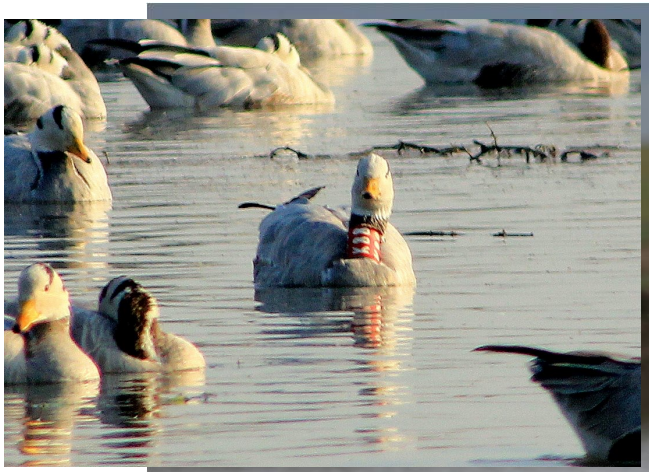


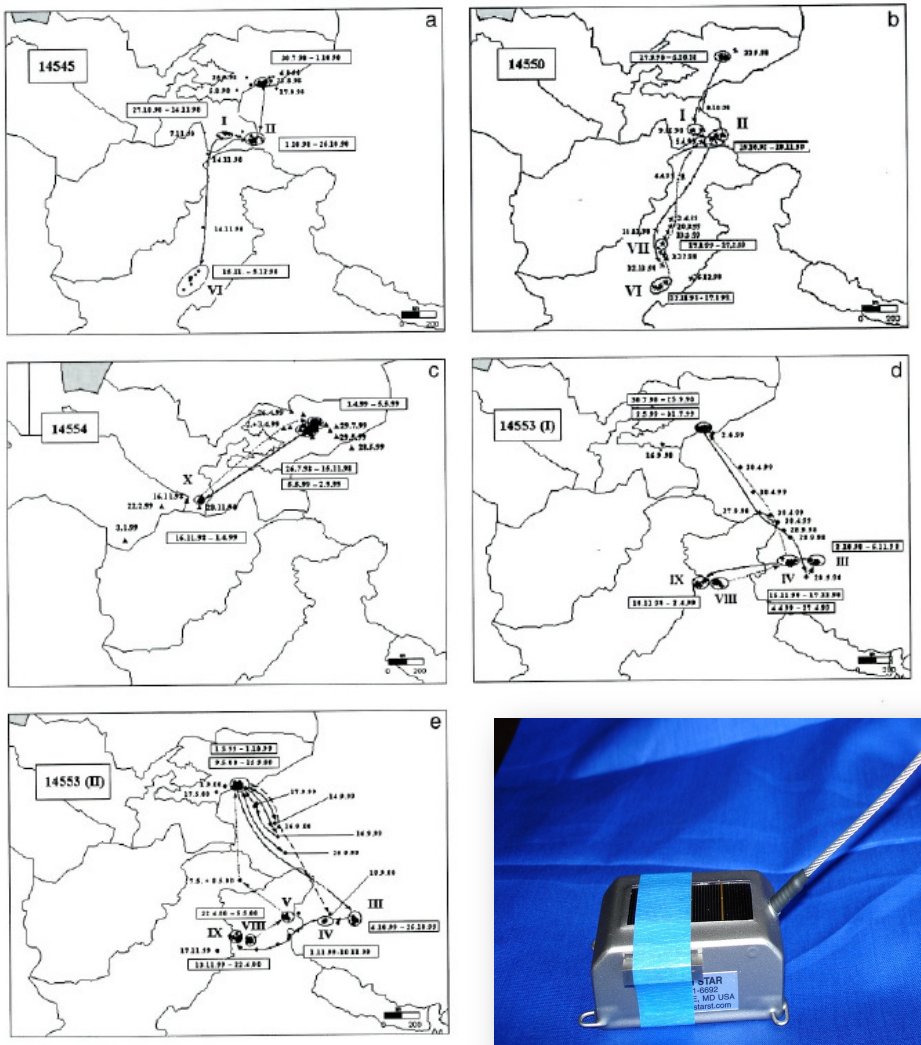
Barheaded Goose (State of information 2006)

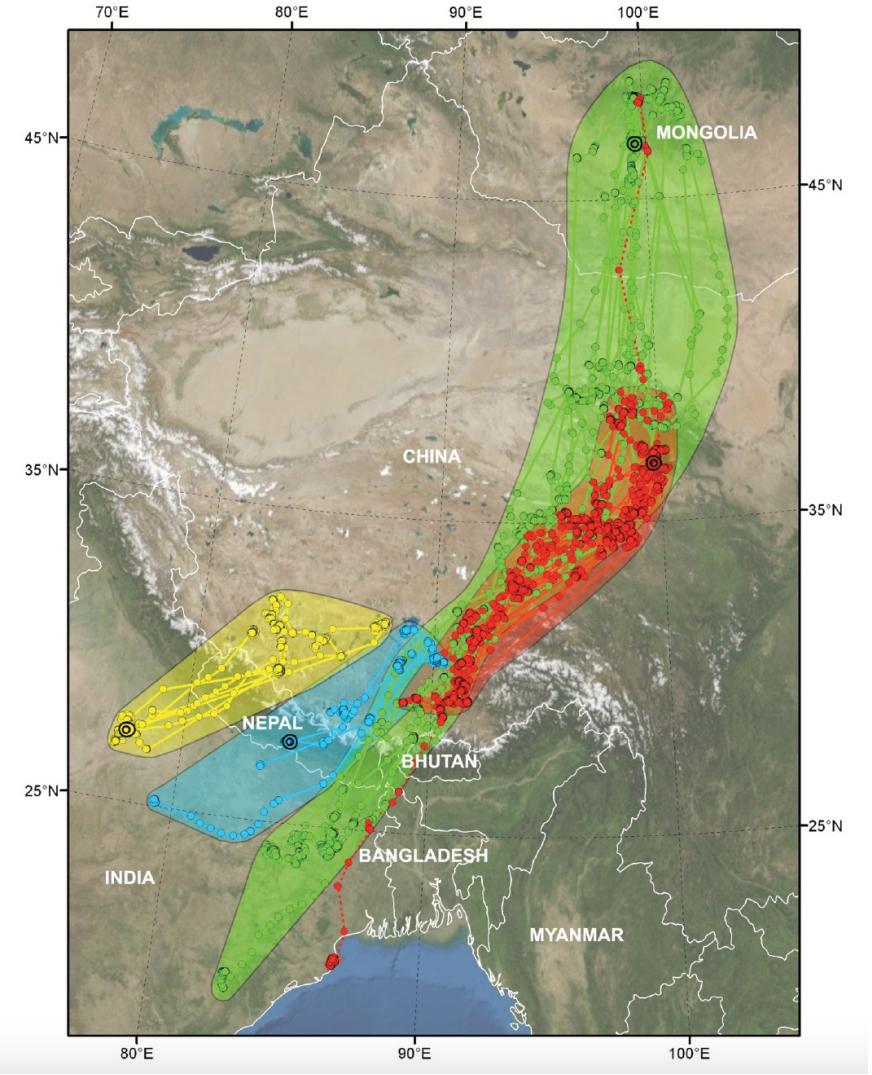
Barheaded Goose migration and non-breeding period distribution



Different neck collar colours for different countries







Takekawa et.al. (2009) Wildfowl 59: 100–123

Migration of Barheaded Goose in relation to Highly Pathogenic Avian Influenza

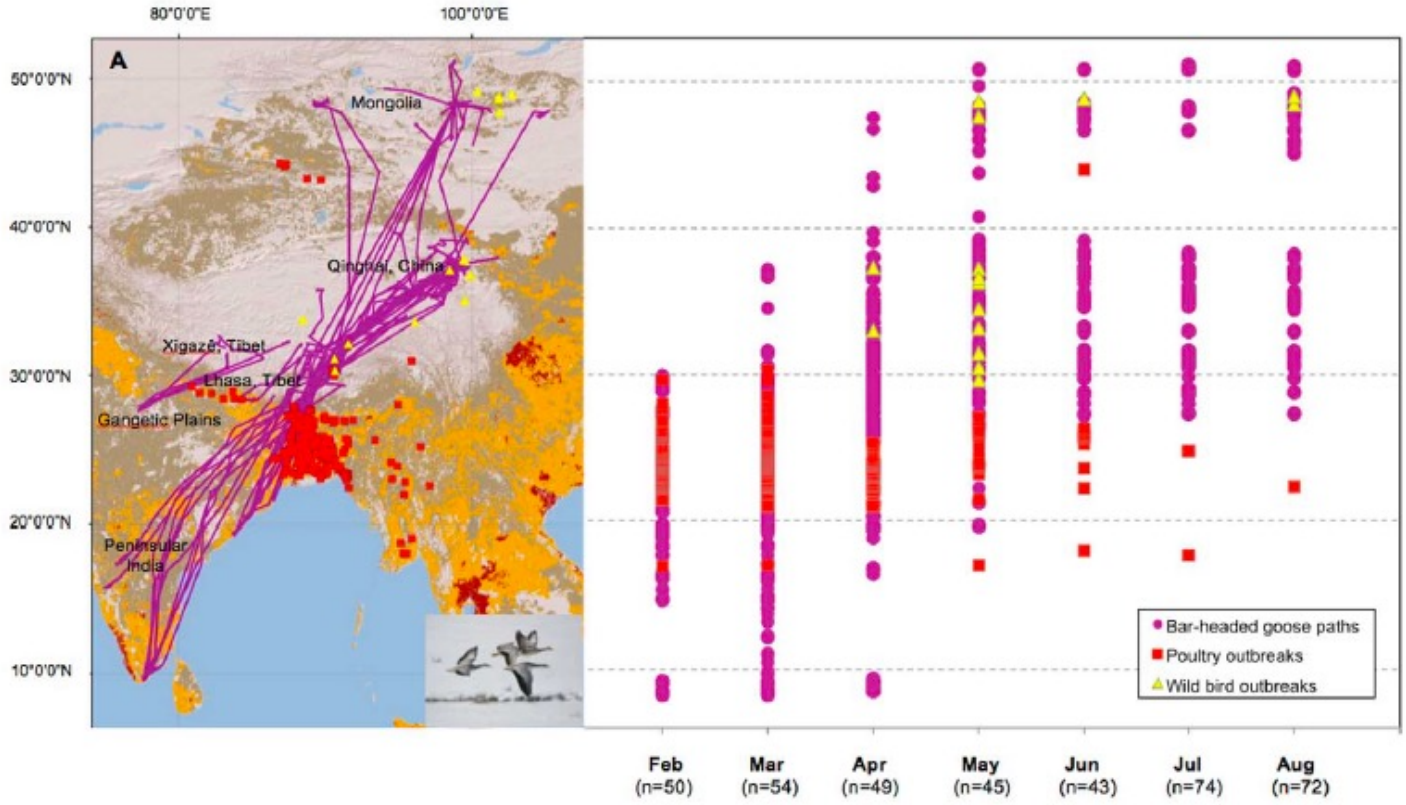
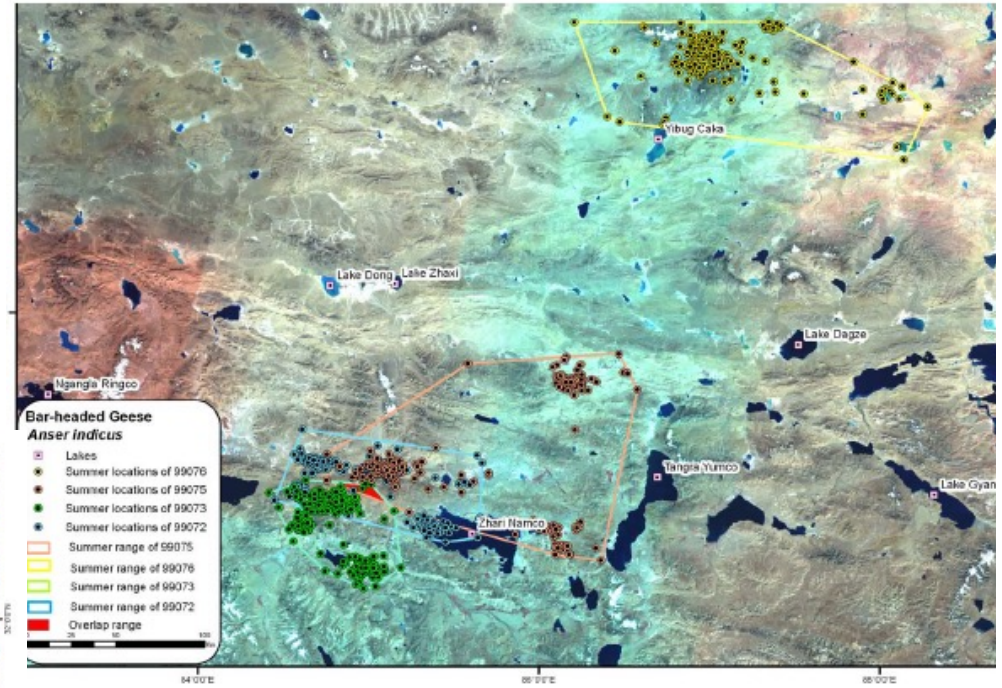
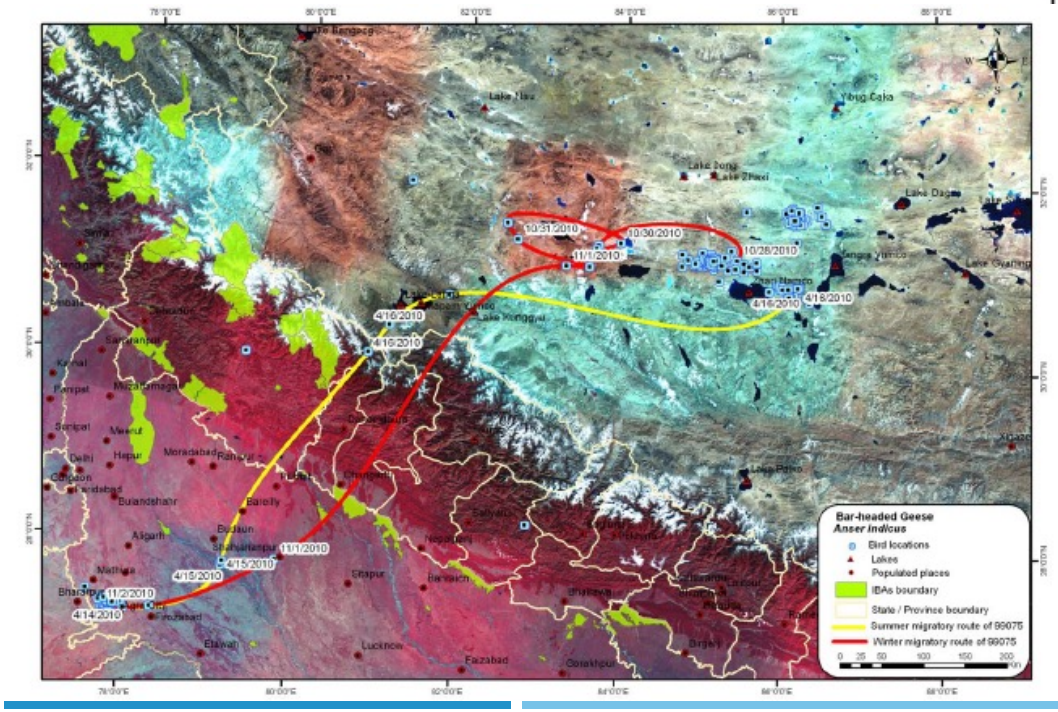


Figure 1. Northward movement of bar-headed geese in relation to HPAI H5N1 outbreaks in the Central Asian Flyway, 2005–2010.

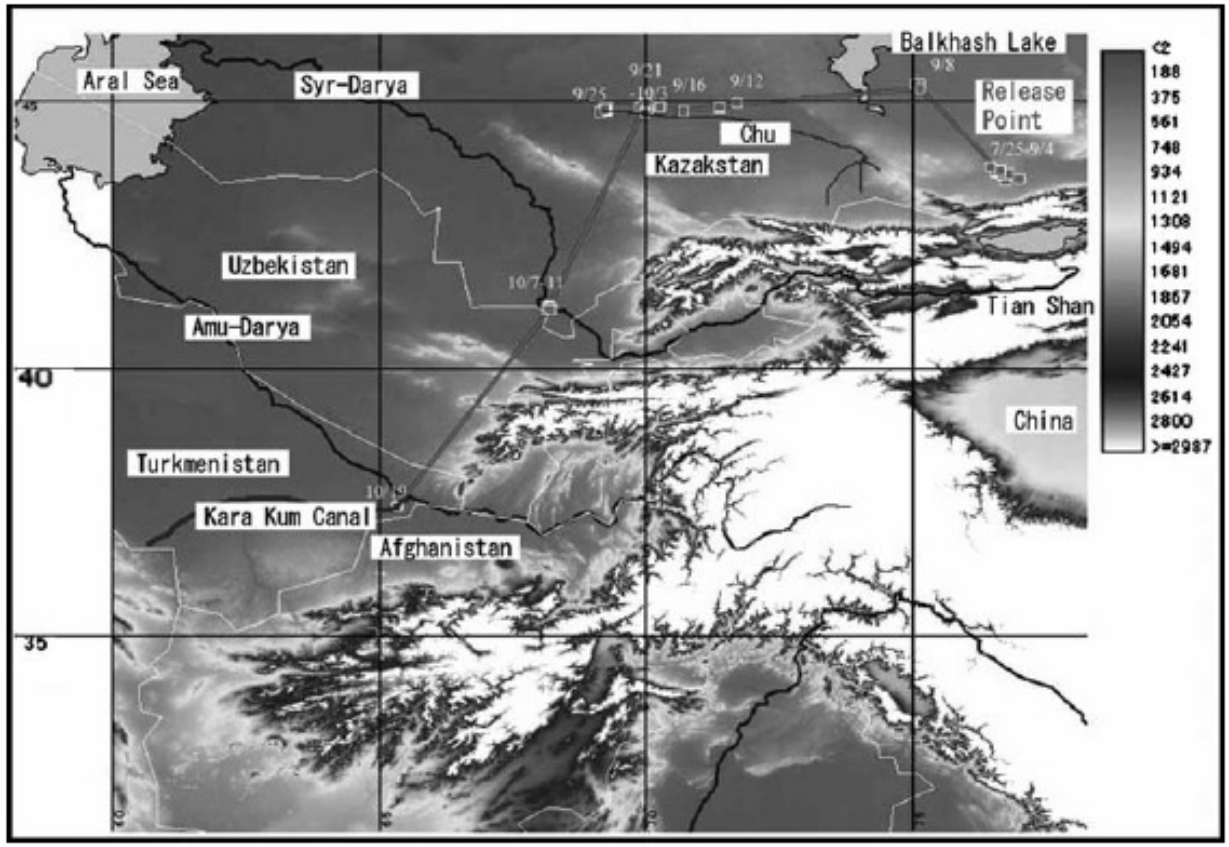
Migration of Bar-headed Goose

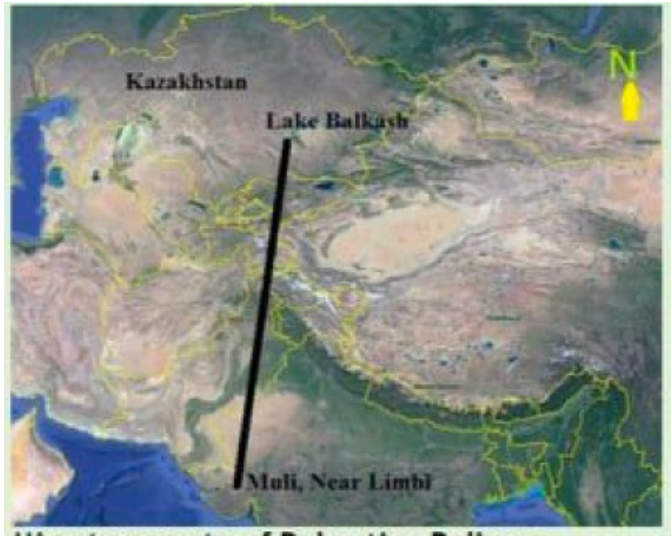




Kalra et al. 2011. J. Bombay Nat. Hist. Soc., 108 (2)

Dalmatian Pelican

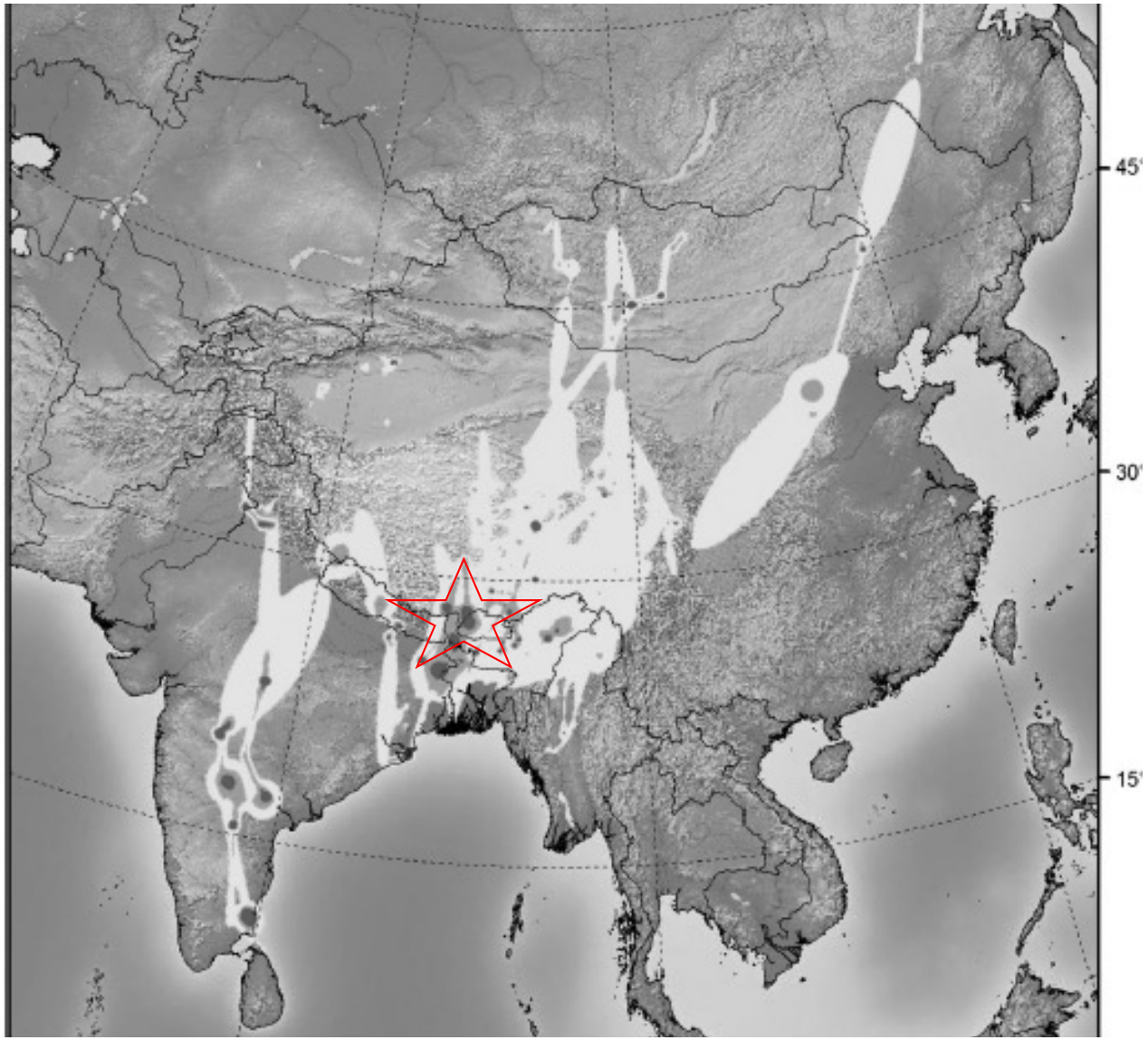




Jalaplavit (ISSN 2321-1881), Vol. 10, No. 1 2020

Morimoto et al. (2005) Landscape Ecol Eng 1: 85–92

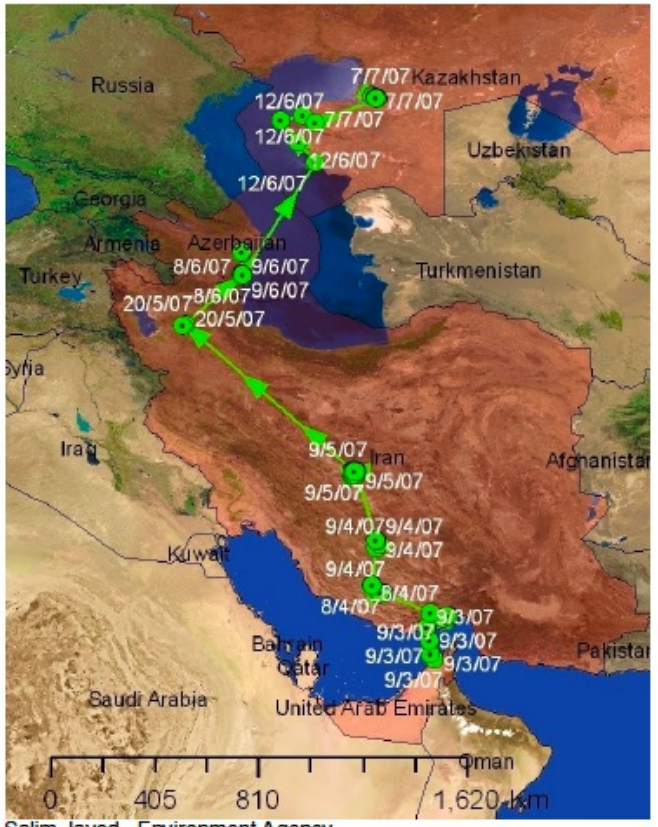
Migration of ducks in CAF



Namgail et al 2017. Himalayan Thoroughfare: Migratory Routes of Ducks over the Rooftop of the World. In Prins, H and Namgail, T. (eds.). Bird Migration across the Himalayas - Wetland Functioning amidst Mountains and Glaciers. Cambridge University Press, pp 30-44. http://978-1-107-11471-5

Greater Flamingo

Year-round migration across the Palk Straits and Gulf of Mannar, without confirmation of breeding in the south Indian /Sri Lankan region. Source - S Balachandran

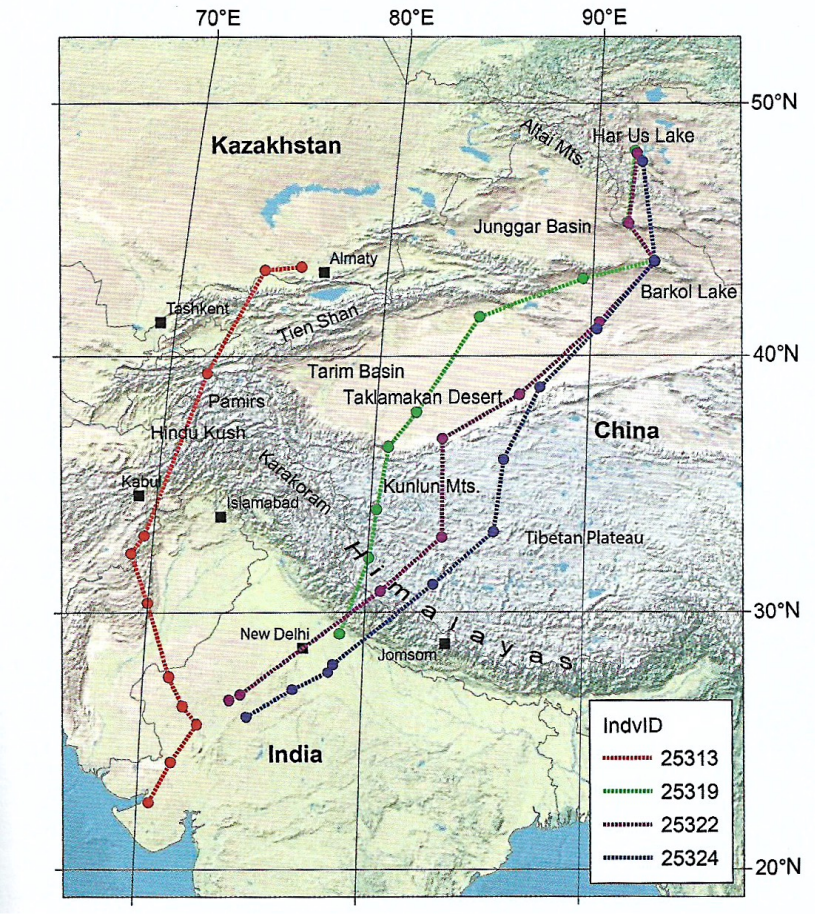


Salim Javed, Environment Agency

Migration between breeding area in UAE to northernmost breeding area of the Greater Flamingo in Kazakhstan.

Eurasian (Common) Crane migration

Migration of Demoiselle Cranes *Anthropoides virgo* across the Himalayas – western breeders



Source: Higuchi & Minton. 2017. Migratory Routes across the Himalayas used by Demoiselle Cranes. *In* Prins, H and Namgail, T. (eds.). Bird Migration across the Himalayas - Wetland Functioning amidst Mountains and Glaciers. Cambridge University Press, pp 45-57.

Migration of Demoiselle Cranes *Anthropoides virgo* across the Himalayas – eastern breeders

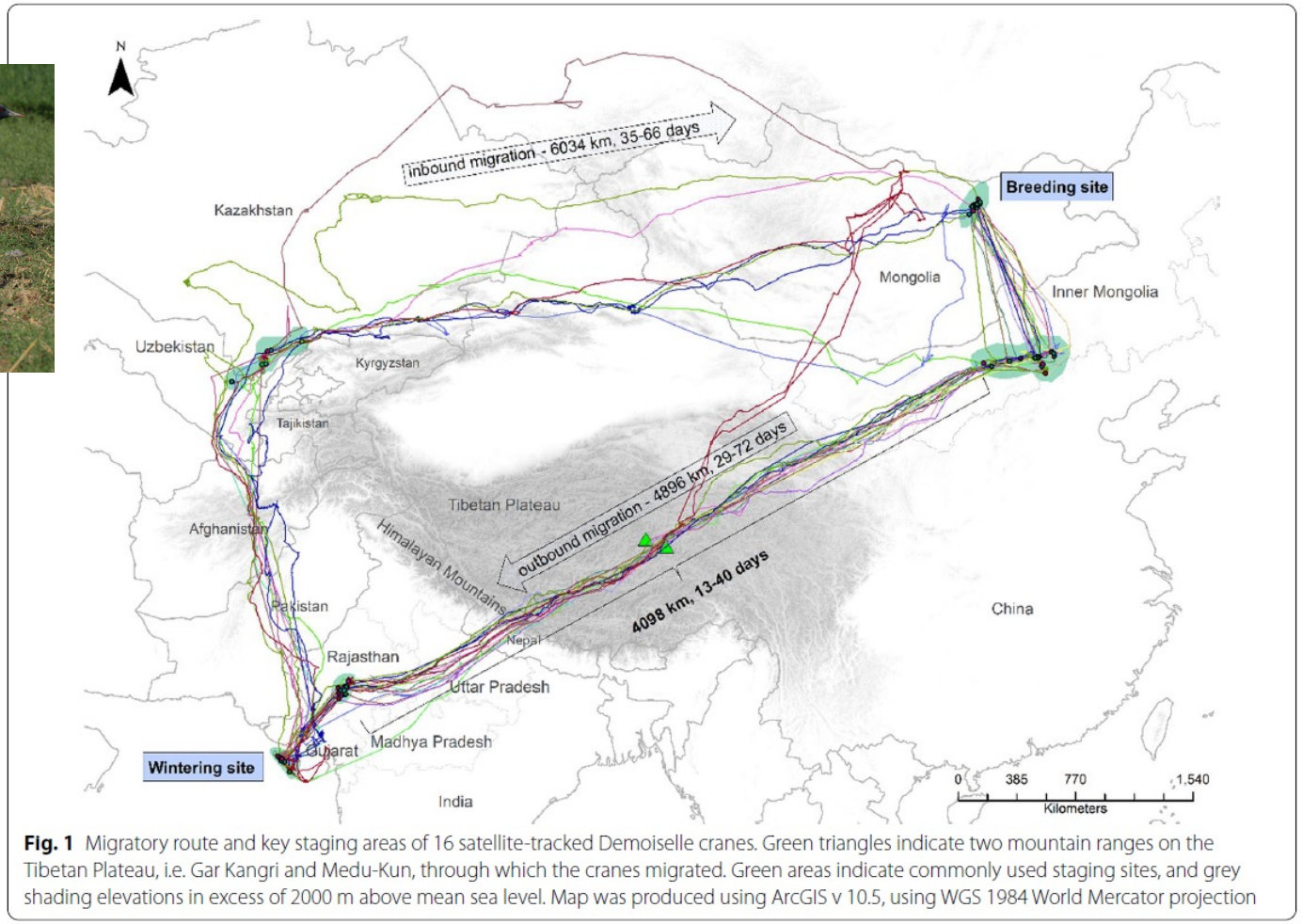


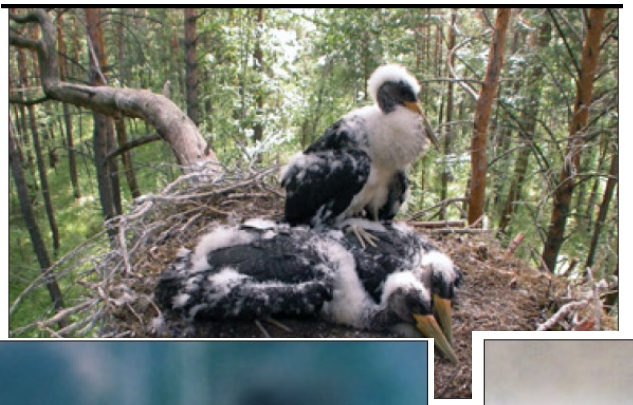
Fig. 1 Migratory route and key staging areas of 16 satellite-tracked Demoiselle cranes. Green triangles indicate two mountain ranges on the Tibetan Plateau, i.e. Gar Kangri and Medu-Kun, through which the cranes migrated. Green areas indicate commonly used staging sites, and grey shading elevations in excess of 2000 m above mean sea level. Map was produced using ArcGIS v 10.5, using WGS 1984 World Mercator projection

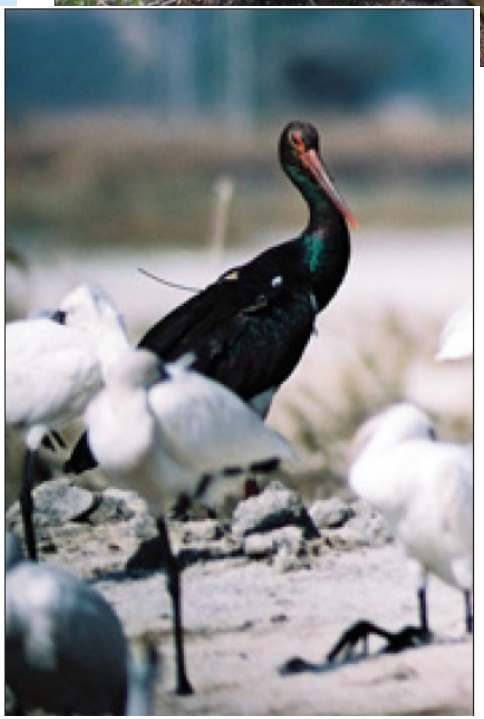
Source: Galtbalt *et al. Movement Ecology (2022) 10:4* https://doi.org/10.1186/s40462-022-00302-z

Black Stork Migration

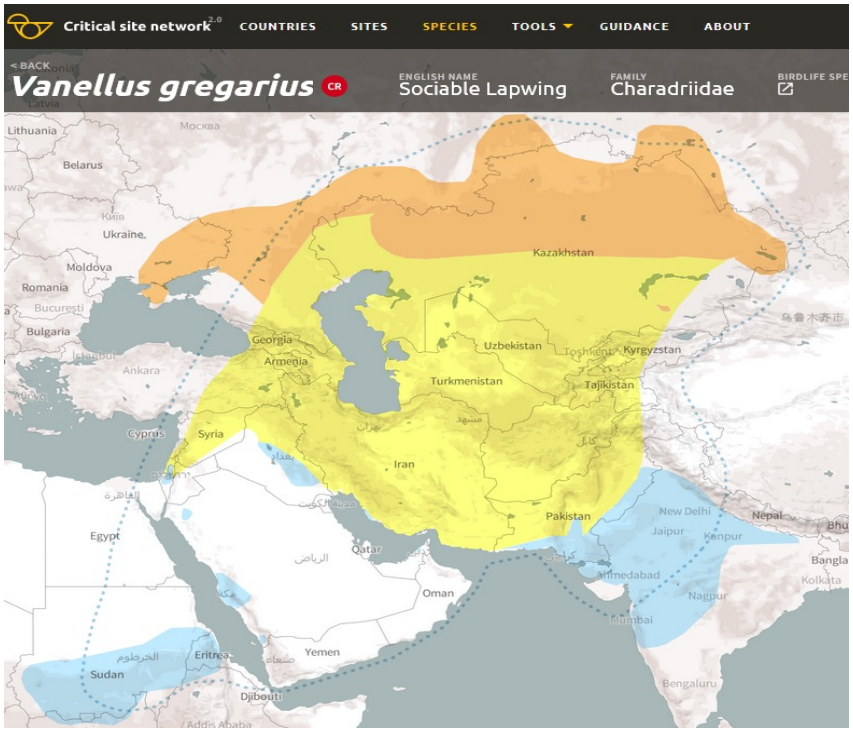
www.rozhlas.cz/odyssey

In blue colour the journey of Iristu from Siberia to India, in red colour Altynai.



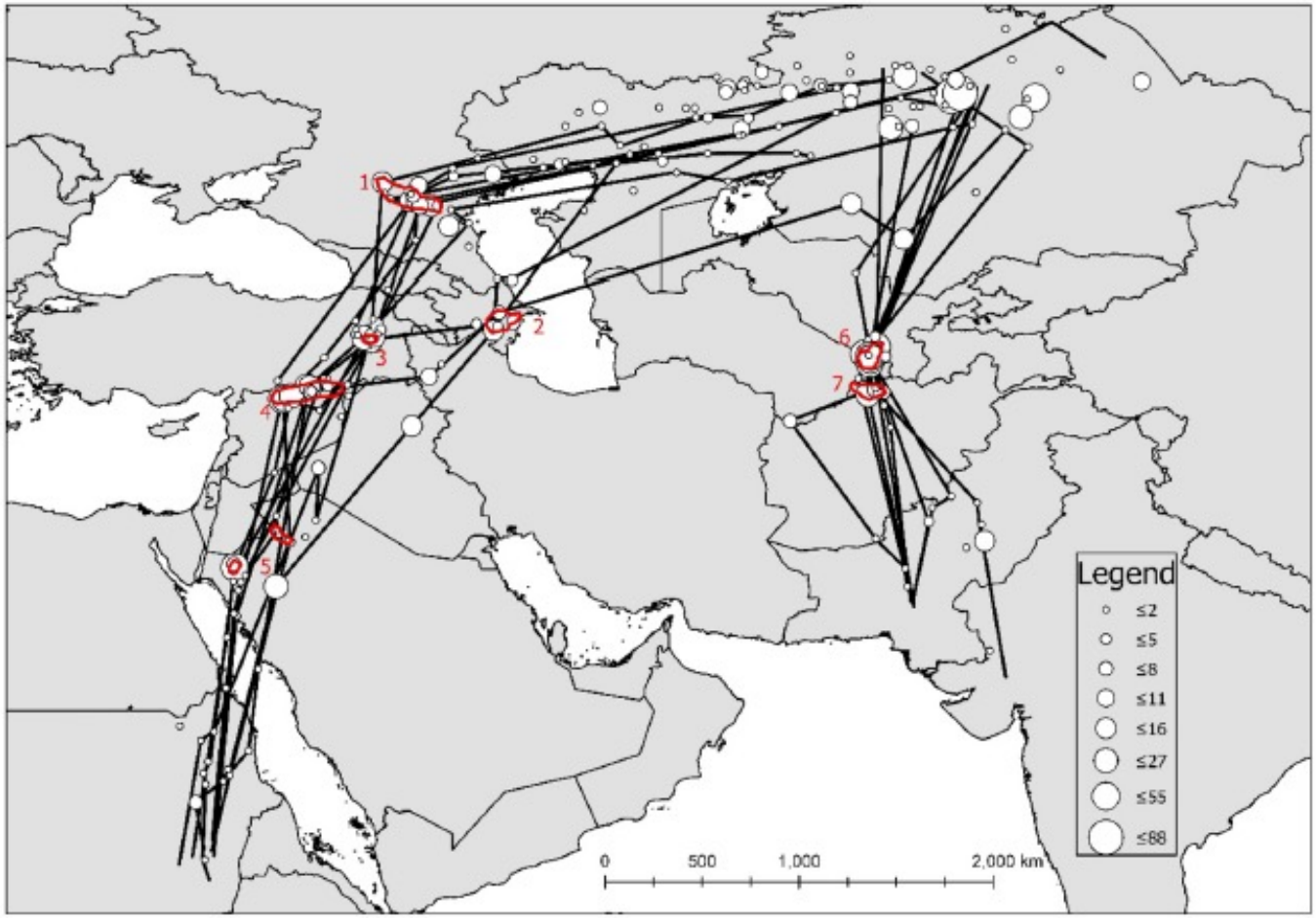


Migration range of birds in the Central Asian Flyway



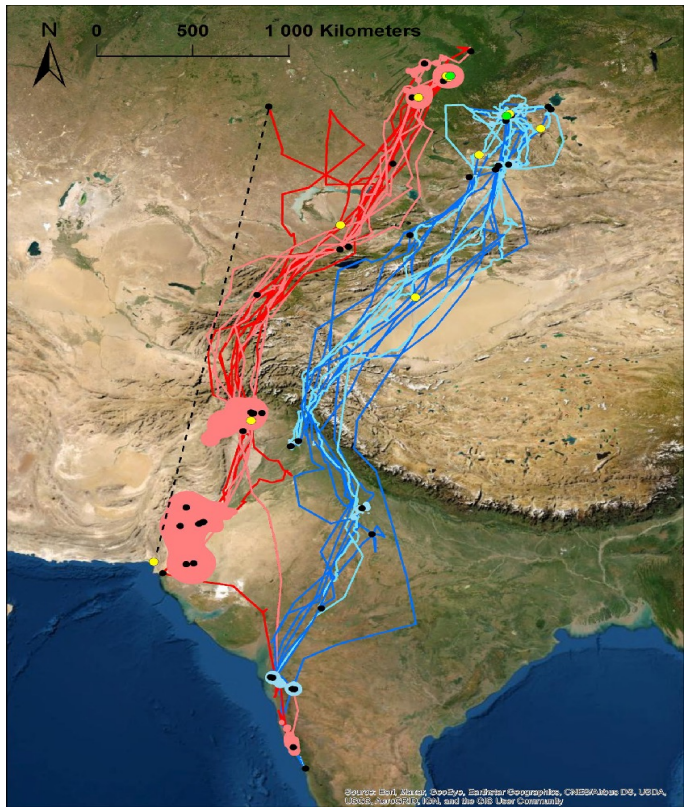
Sociable Lapwing, a Critically Endangered temperate breeding migrant to South Asia & north east Africa
http://critical-sites.wetlands.org/en

Sociable Lapwing



Donald et al. 2020. J of Ornithology https://doi.org/10.1007/s10336-020-01844-y

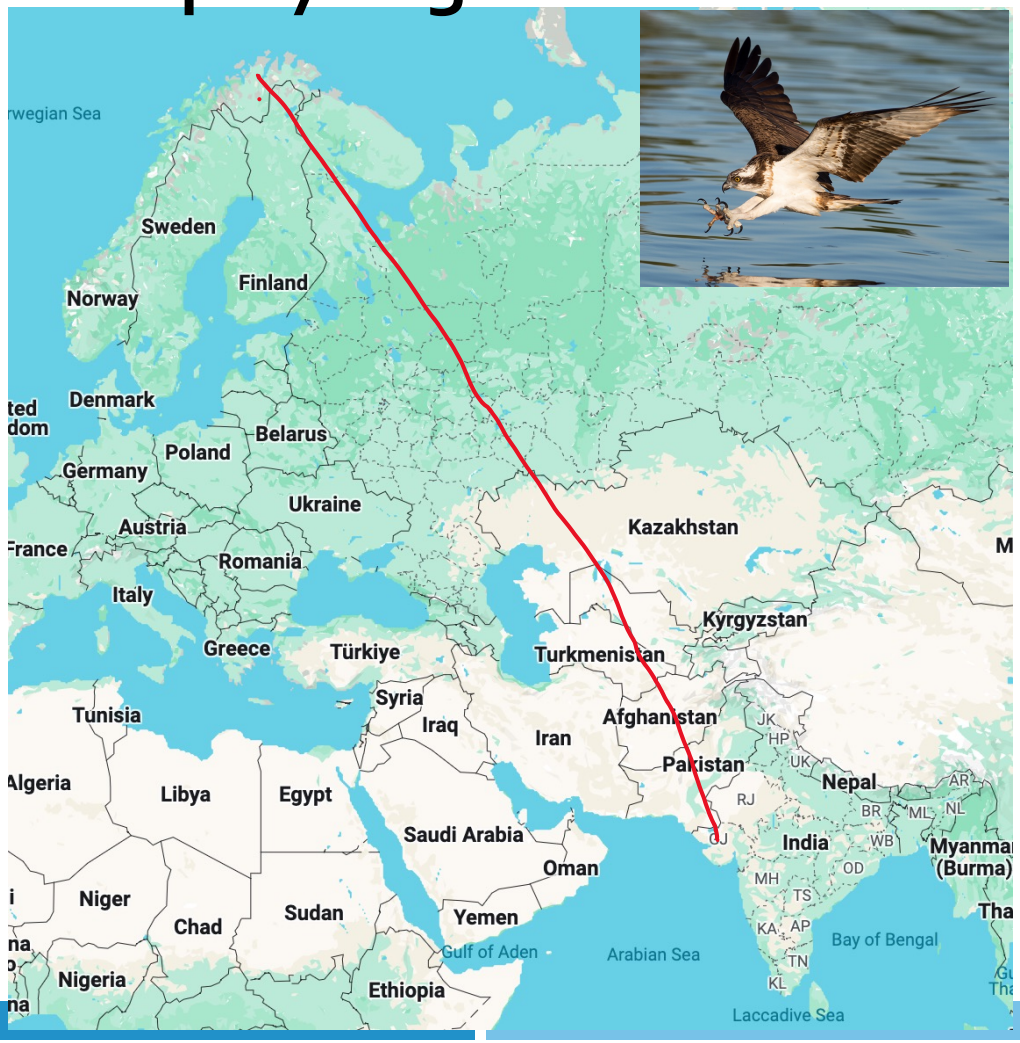
Migration range of birds in the Central Asian Flyway



Migration routes of Black Kite

Source: Literák et al. 2022. Black Kites on a flyway between Western Siberia and the Indian Subcontinent. Scientific Reports, 12(1), 5581. https://doi.org/10.1038/s41598-022-09246-1

Osprey migration



[Reprint From Journal Bombay Nat. Hist. Society, Vol. 85(1) 190 April 1988]

11. RECOVERY OF A NORWEGIAN RINGED OSPREY IN GUJARAT, INDIA

On November 5, 1985, Mr. A. N. Jadeja saw a large bird falling into his field after having collided with a high tension electric line near Kajurda village (22°20′ N, 69°42′ E), Jamnagar district, Gujarat. The bird was dead when picked up and had a ring on one leg. He removed the ring (Museum Stavanger Norway, 231503) and buried the bird. I learnt about this incident in the market place of Jamnagar, met Mr. A. N. Jadeja and contacted the Museum Stavanger. The Museum informed me that the bird was an Osprey, *Pandion haliaetus* (Linné), ringed as a chick on July 13, 1985 at Hastfoss (69°07′ N, 29°04′ E), Norway. This would mean that the young bird had flown a distance of at least 5855 km. This is probably the first record of a European ringed Osprey recovered in India. The Osprey is a winter migrant to most of the Indian subcontinent, with a few possible nesting pairs in the Himalayas (Ali and Ripley 1982).

TAEJ MUNDKUR

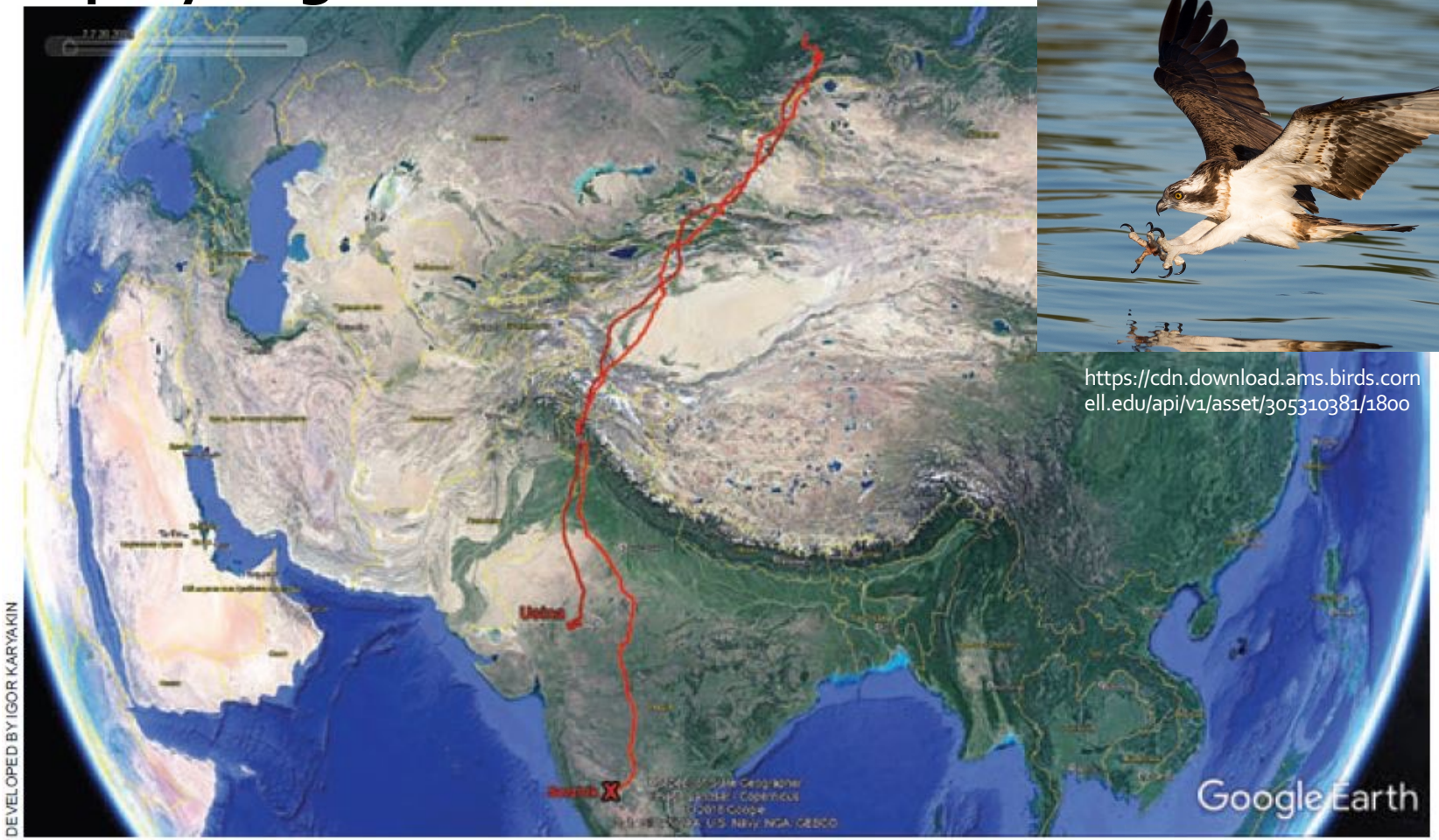
DEPARTMENT OF BIOSCIENCES,
SAURASHTRA UNIVERSITY,
RAJKOT - 360 005,
GUJARAT,
May 30, 1986.

REFERENCE

ALI, SALIM & RIPLEY, S. DILLON (1982): Handbook of the Birds of India and Pakistan. Compact Edition. Oxford University Press, Delhi.

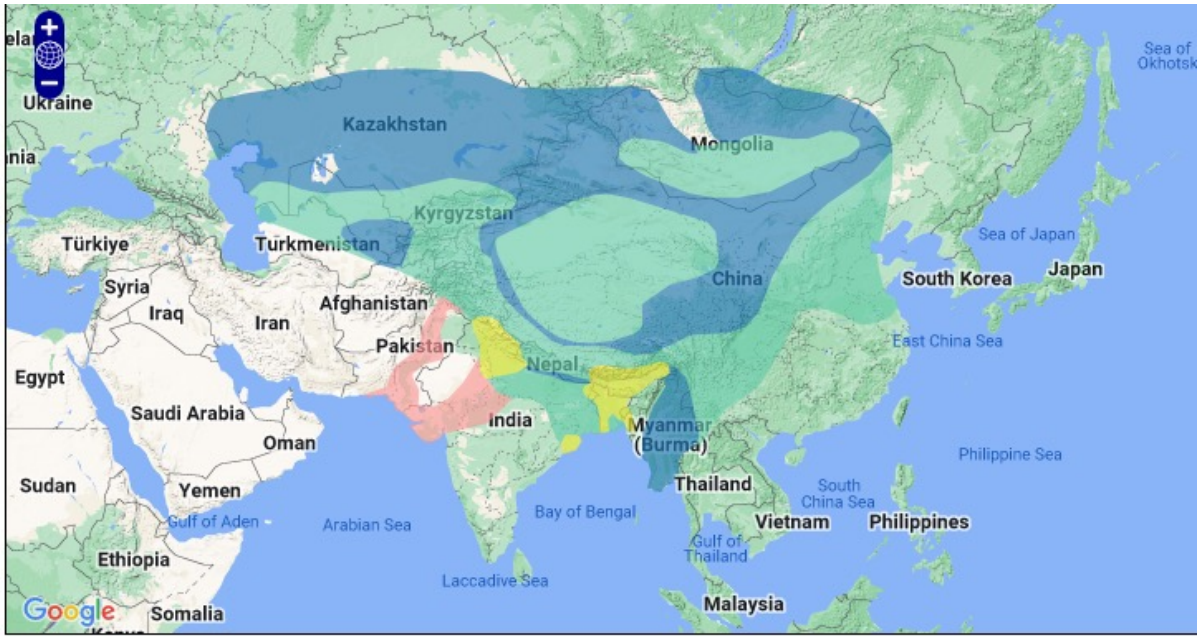
Osprey migration

https://cdn.download.ams.birds.cornell.edu/api/v1/asset/305310381/1800



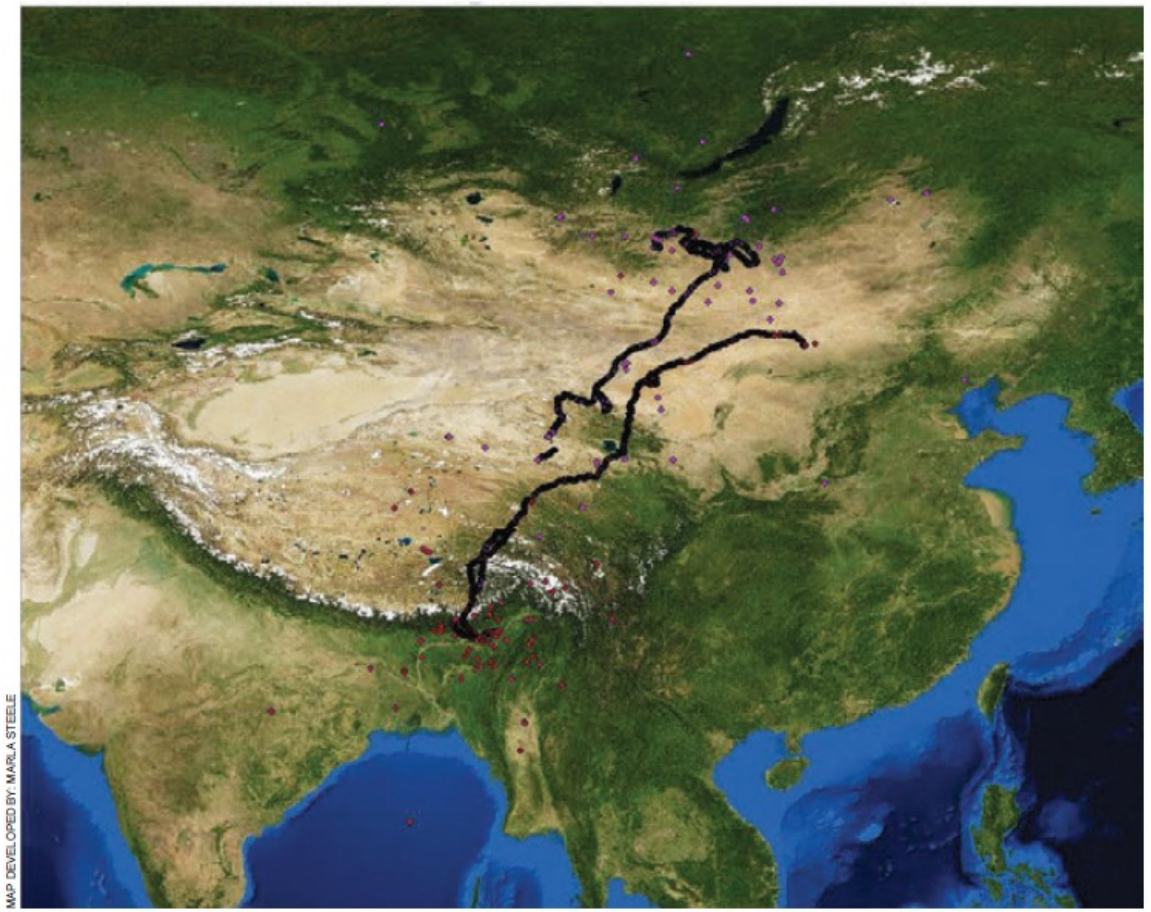
Bhatt et al. 2020. A tale of two Ospreys. Hornbill. Hornbill. Jan-Mar. 4-9.

Migration range of birds in the Central Asian Flyway



“Reverse” migration pattern of Endangered Pallas’s Fish-eagle breeds in south Asia and migrates north to Central Asia *http://datazone.birdlife.org/species/factsheet/pallass-fish-eagle-haliaeetus-leucoryphus*

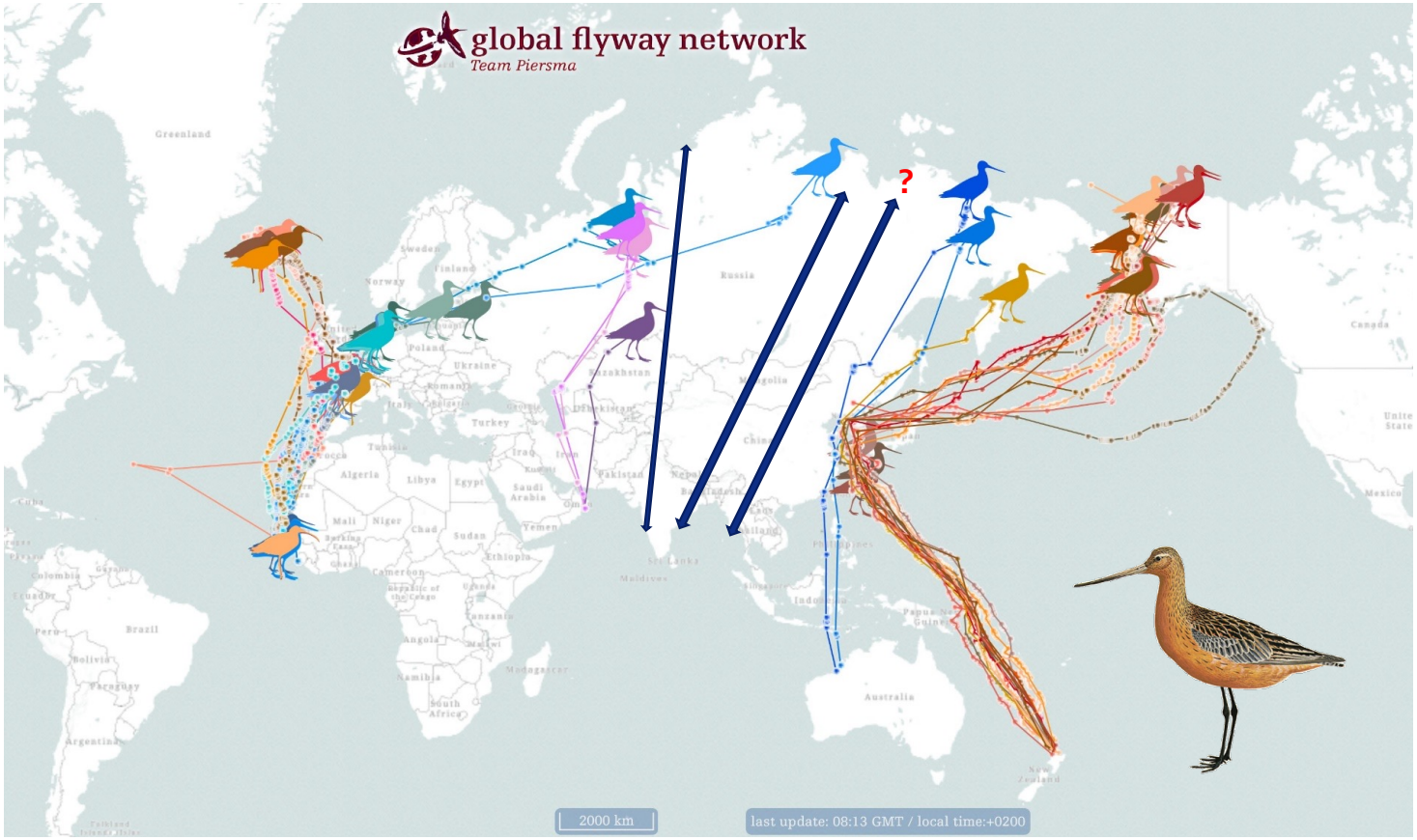
Pallas's Fish Eagle migration



Migration route of Pallas's Fish-eagle, Assam–Mongolia, 2014

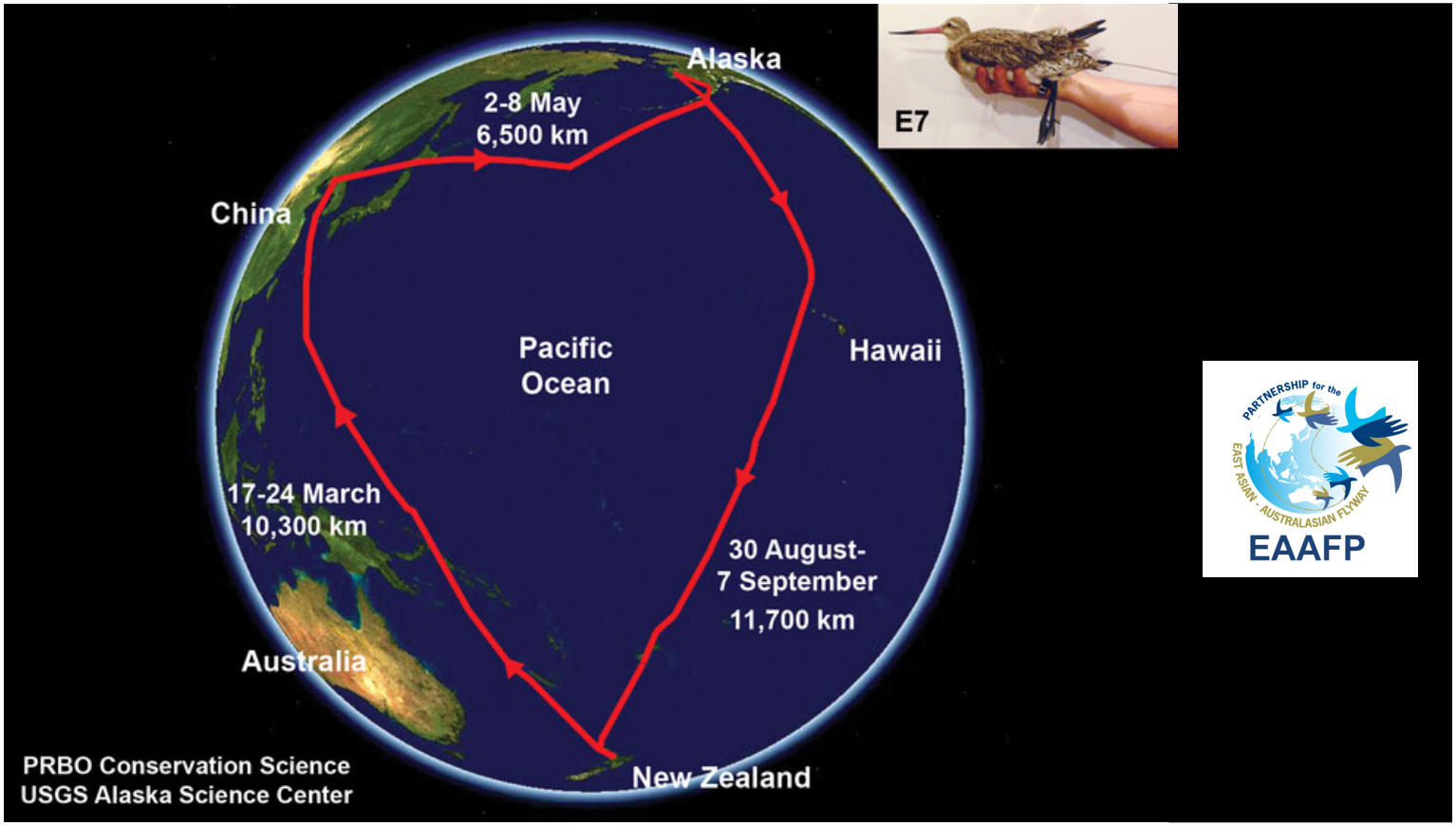
Ranade, S. 2020 Raptor migration in India – time to unravel the mystery. Hornbill 2020.

Bar-tailed Godwit *Limosa lapponica* northward migration 2020 in three major flyways

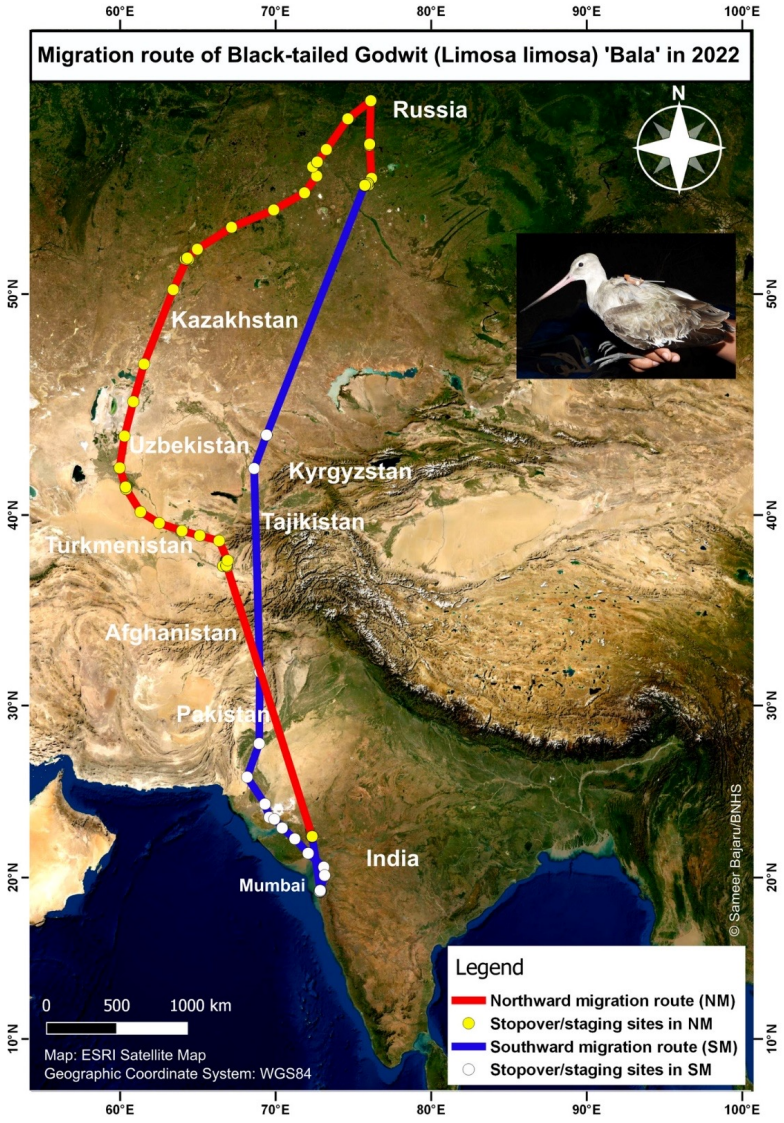


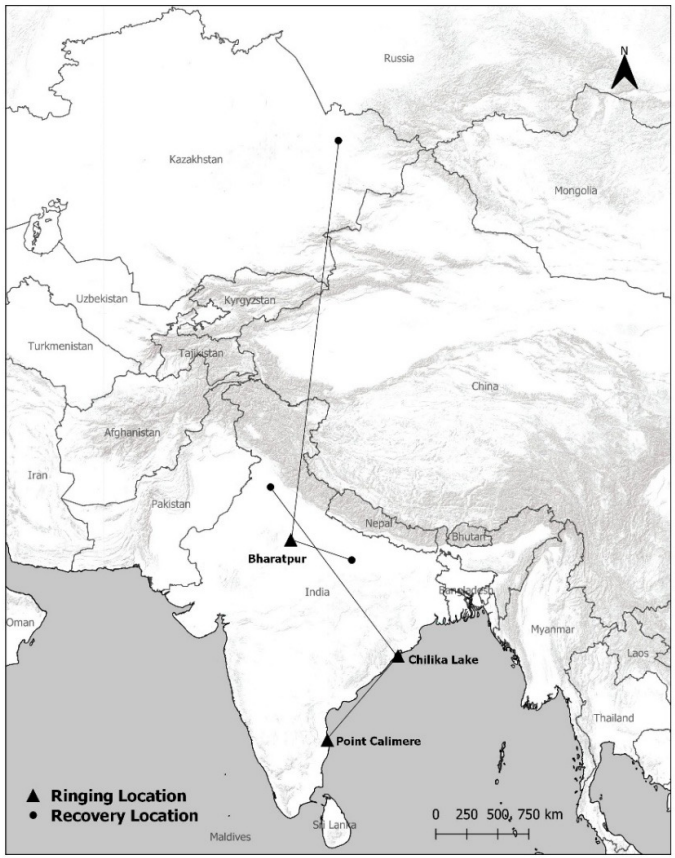
https://www.globalflywaynetwork.org/

Bar-tailed Godwit *Limosa lapponica* migration across the Pacific



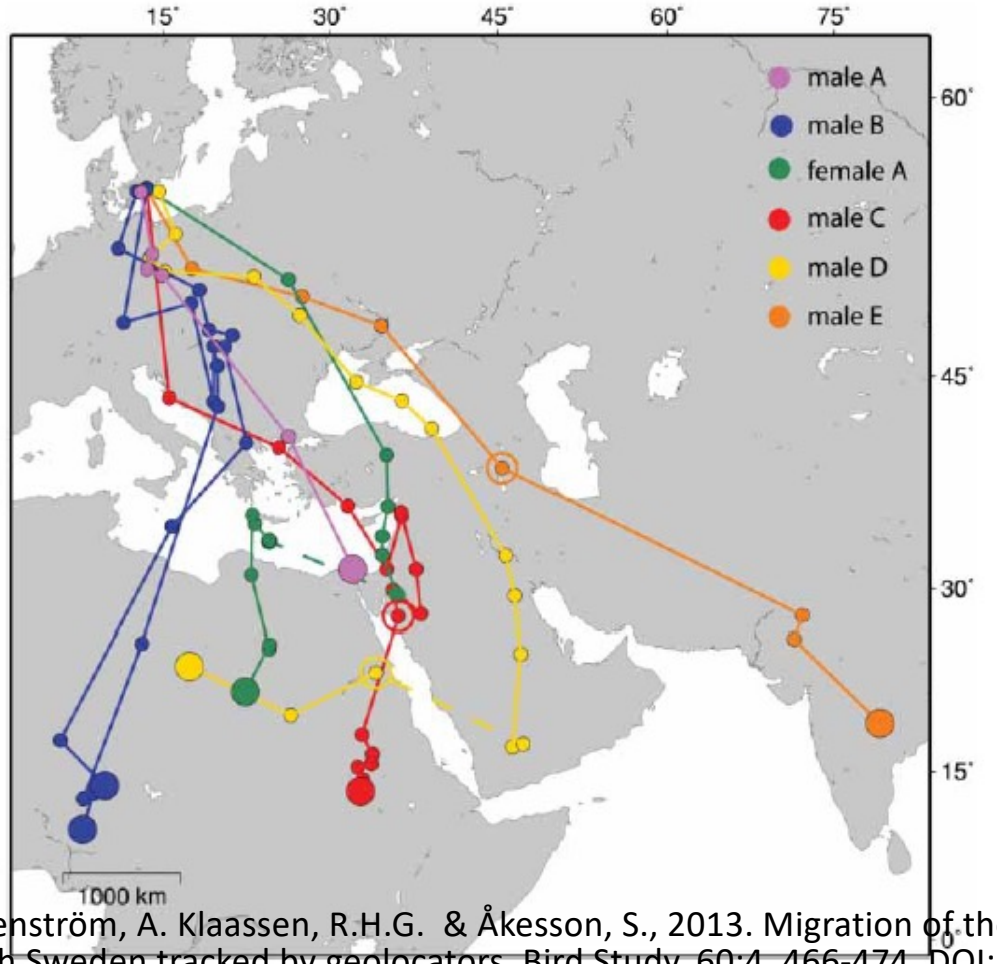
Migratory Black-tailed Godwit – Mangaljodi, Odisha, India

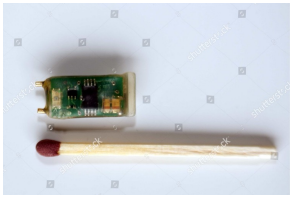




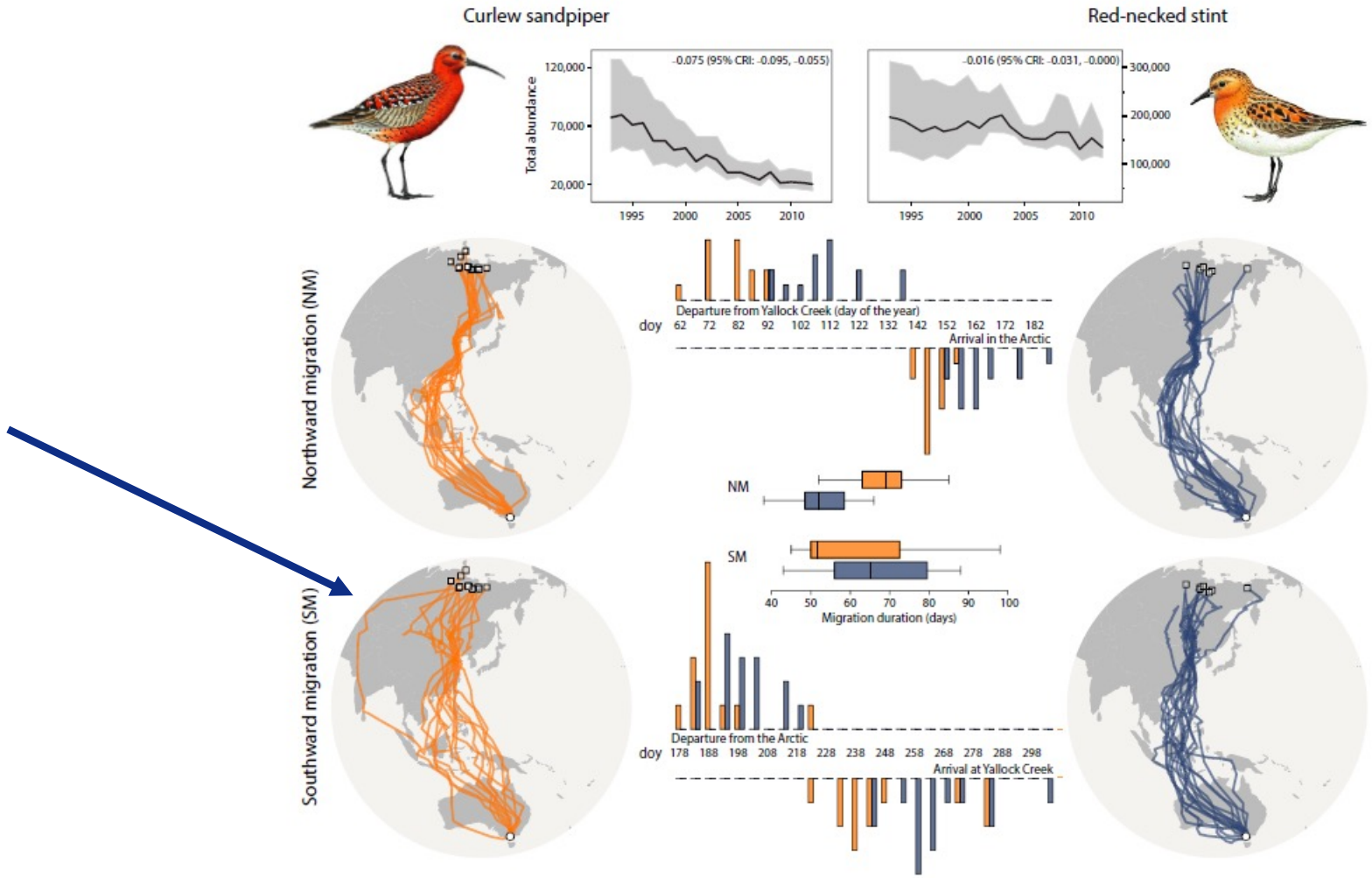
Source: Bajaru et al. 2023. Tracking of Black-tailed Godwit Limosa limosa (Family Scolopacidae) Reveals Migratory Route, Stopover and Staging Sites Between Wintering (India) and Breeding Grounds (Siberia) in the Central Asian Flyway (CAF).Journal of Bombay Natural History Society. 120. DOI: 10.17087/jbnhs/2023/v120/170693

Little Ringed Plover



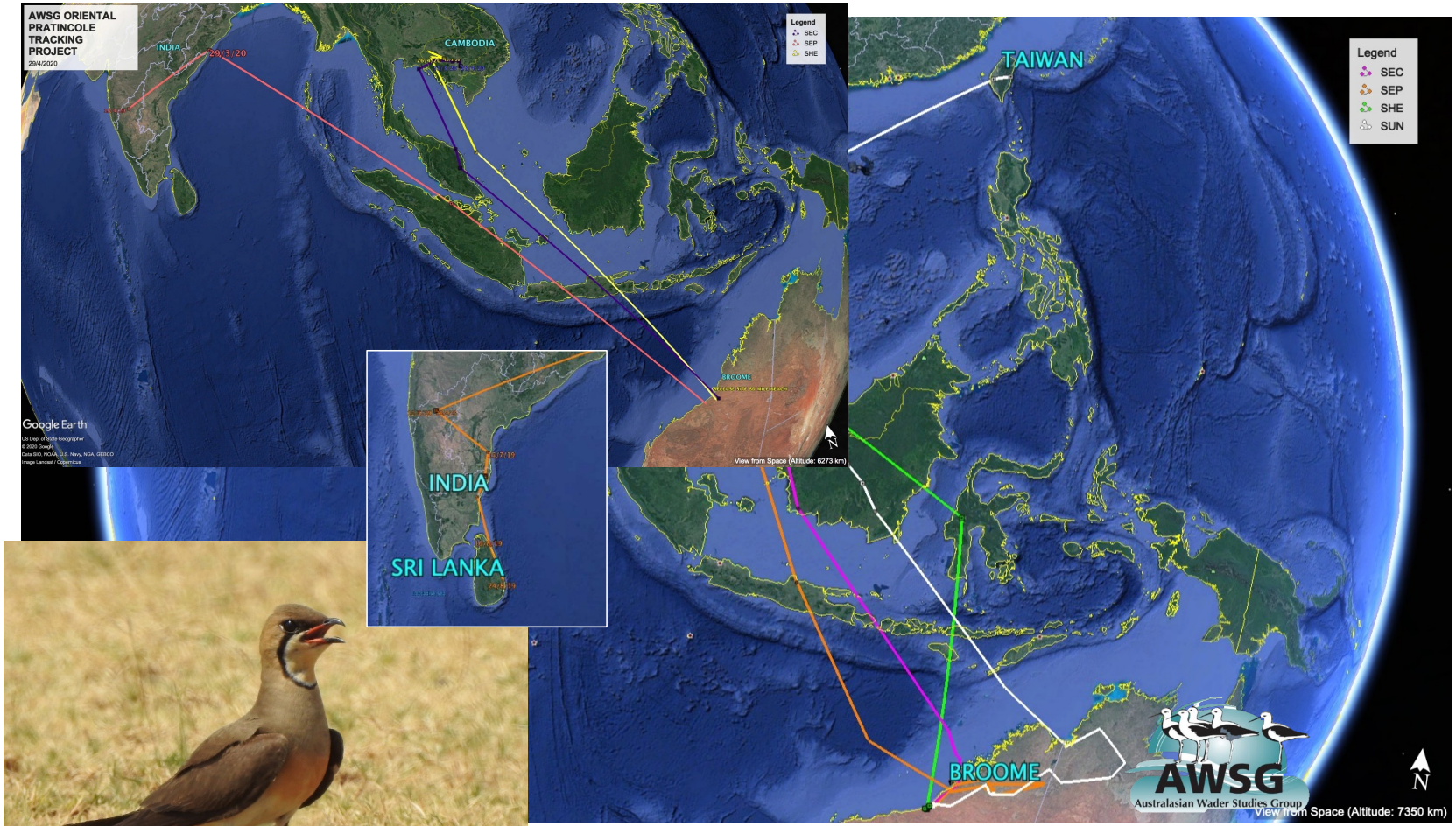


Hedenström, A. Klaassen, R.H.G. & Åkesson, S., 2013. Migration of the Little Ringed Plover *Charadrius dubius* breeding in South Sweden tracked by geolocators, Bird Study, 60:4, 466-474, DOI: 10.1080/00063657.2013.843635.



Lisovski, S., Gosbell, K., Minton, C., & Klaassen, M., 2021. Migration strategy as an indicator of resilience to change in two shorebird species with contrasting population trajectories. Journal of Animal Ecology 90 (9):2005–2014.

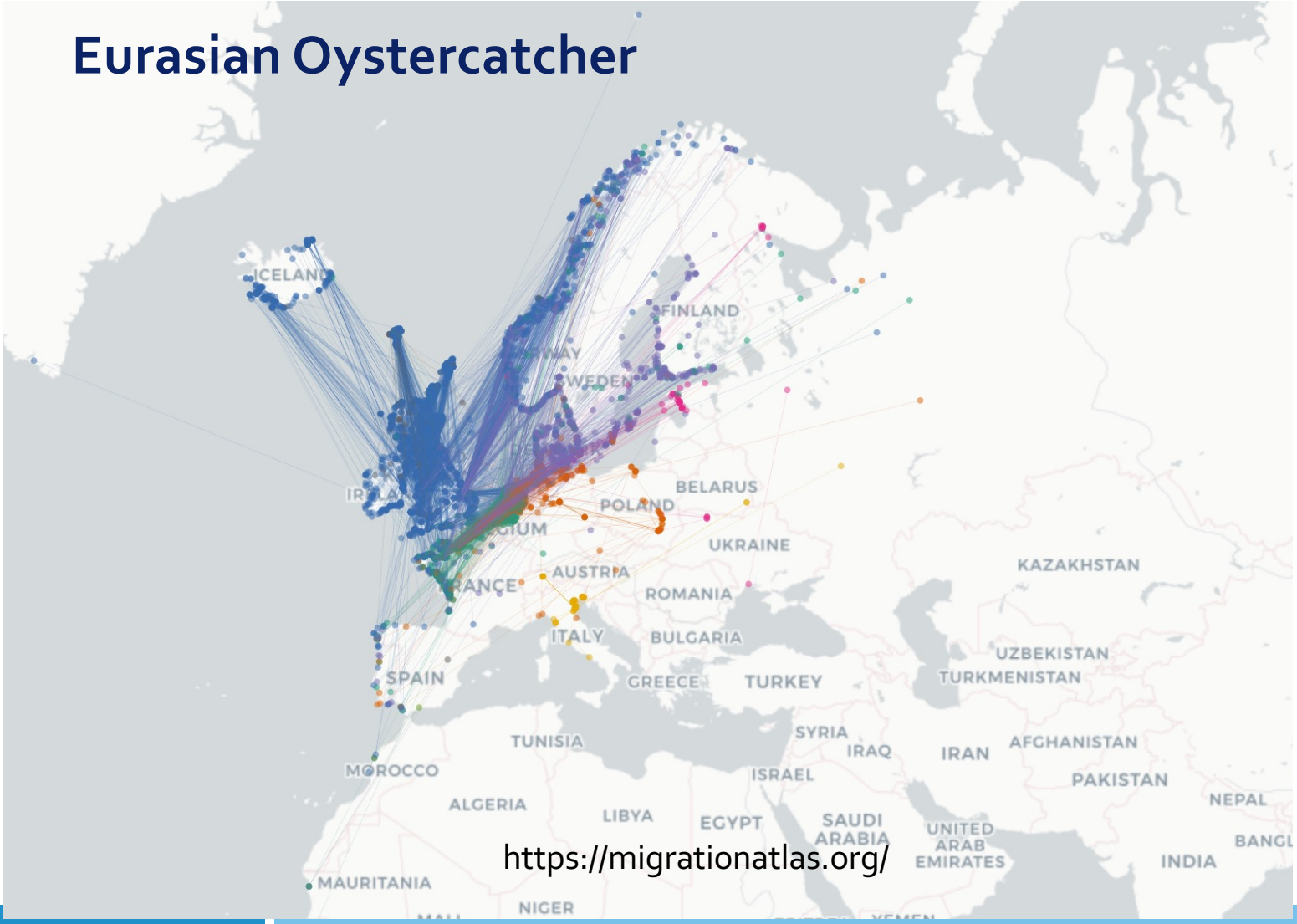
Oriental Pratincole *Glareola maldivarum*



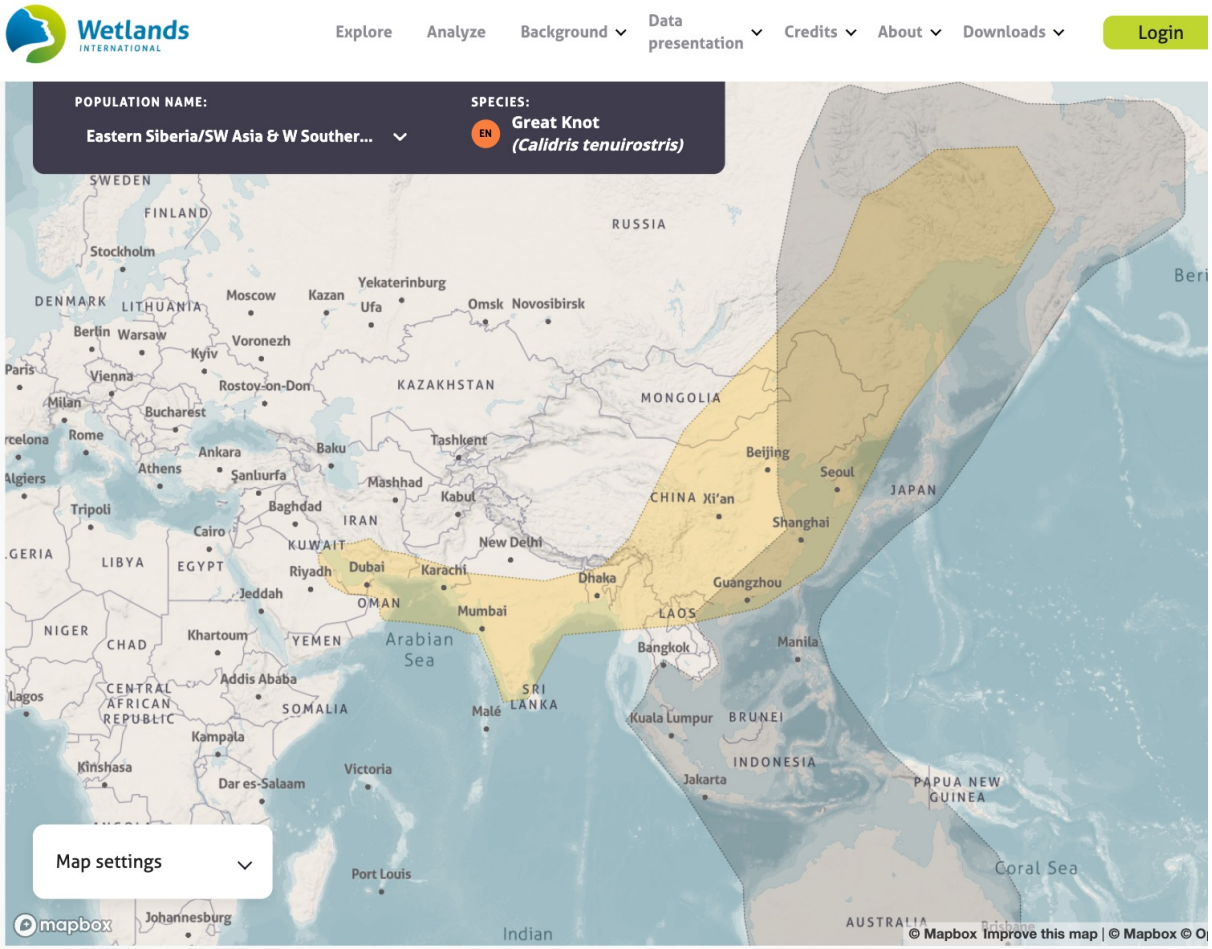
Eurasian Oystercatcher

Eurasian Oystercatcher

Eurasian Oystercatcher



Great Knot



https://wpp.wetlands.org/

This wader was ringed as a juvenile on 12.08.22 at Khairusova-Belogolovaya estuary on the western coast of Kamchatka peninsula, Russia. Was retrived on 15.11.22 at Chavakkad, Kerala by Sreenivasan PP, Dr Kalesh Sadasivan (TNHS), and P.B. Samkumar (BSB). We are thankful to Dmitry Dorofeev for sharing the ringing data.

Great Knot

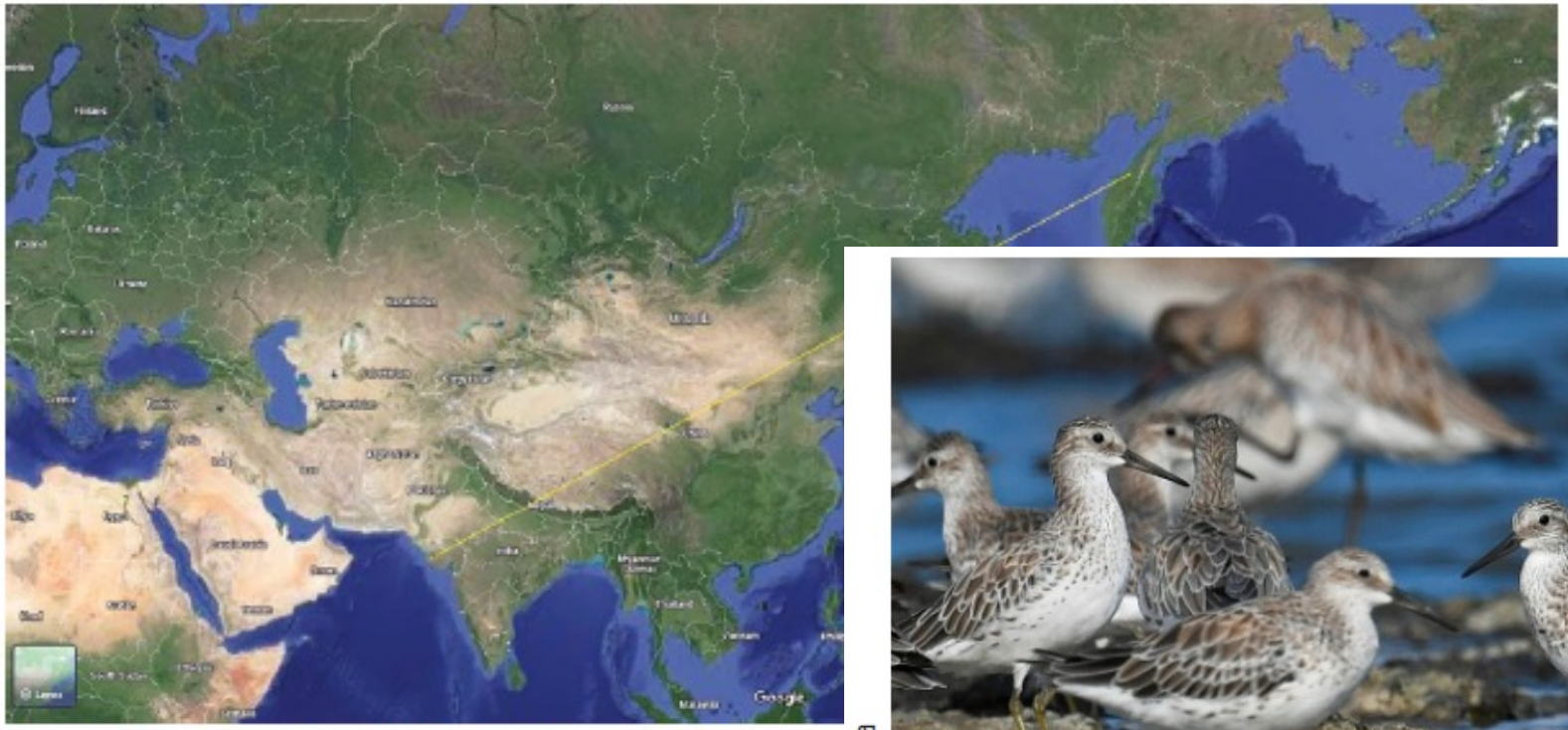


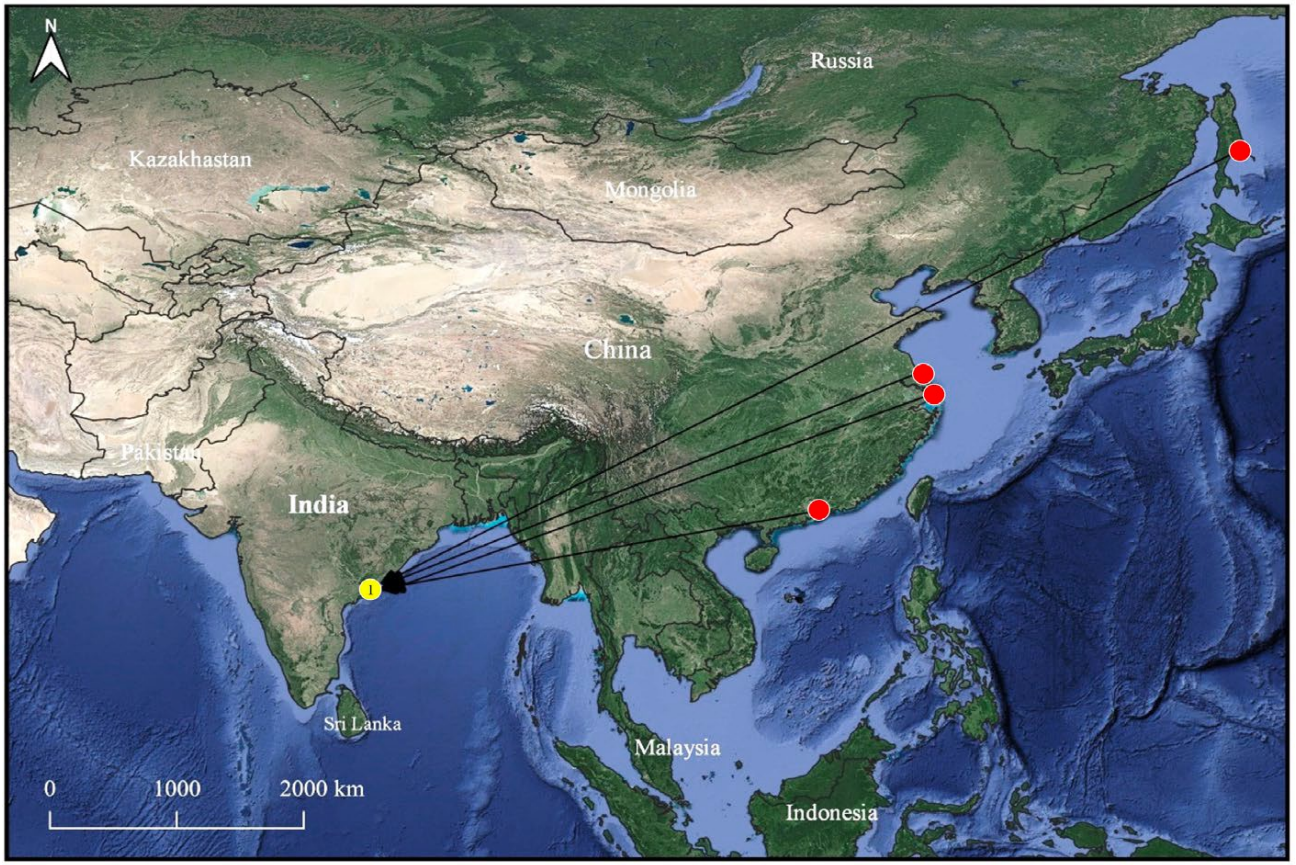
Fig. 1. Known end points of migration of 6Z from Ka

Yashodhan Bhatia

30. Great Knot 6Z assuming non-breeding plumage, was photographed on 25 October 2020.

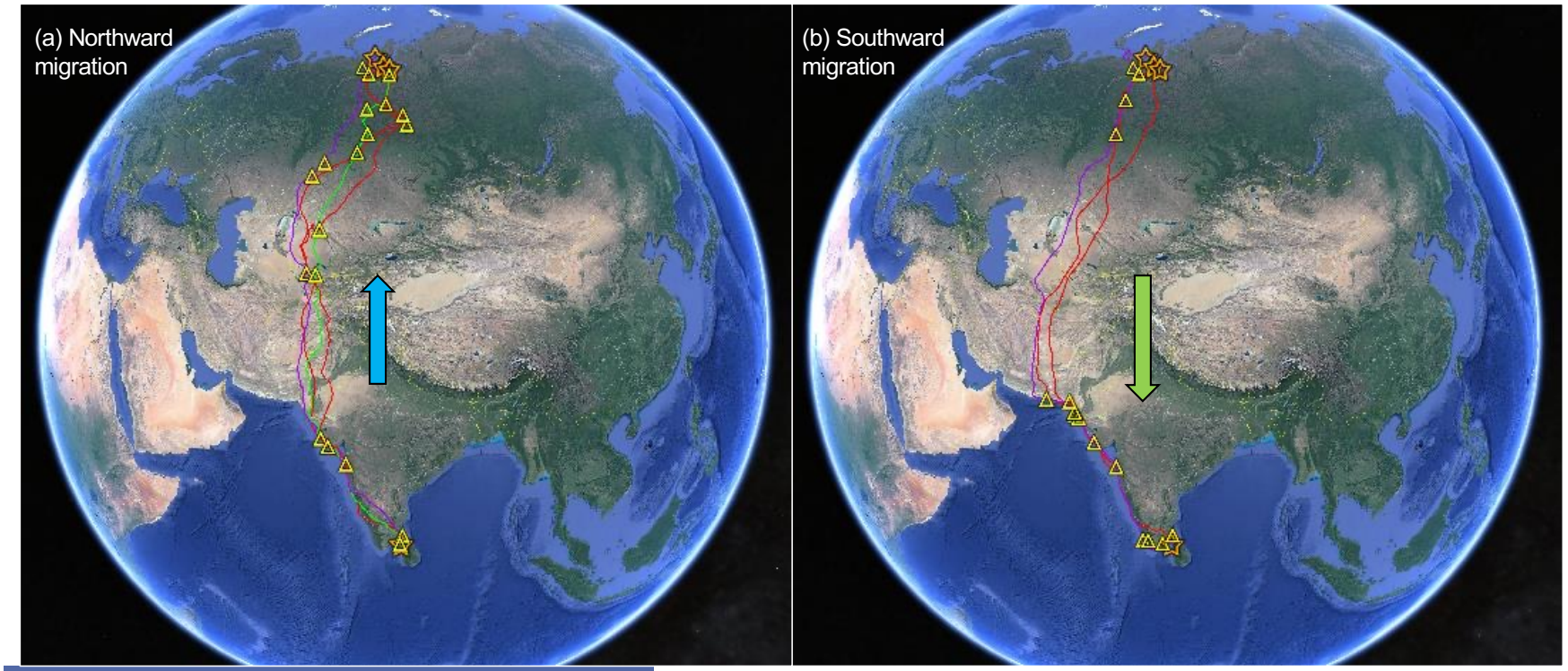
Indian BIRDS Vol. 19 No. 1 (Publ. 5 July 2023)

Great Knot



Sathiyaselvam et al. 2020. Stilt. 73-74: 66-68.

Migration of Heuglin's Gulls from Sri Lanka to the Arctic



Stopover sites

Breeding/ Non-breeding Grounds

Panagoda et al. 2023.

Northward migration of Brown-headed Gulls

Both gulls travelled to high-altitude lakes (~4700 m AMSL) of the Tibetan plateau of China, to breed during the boreal summer

(a) Angzicuo Lake

(b) Gerencuo Lake

Total migration distance covered	**3173.2 ± 534.3 km**
Duration of migration	**7.5 ± 2.1 days**
Stopover duration	**approximately 2 days (41-42 hours)**

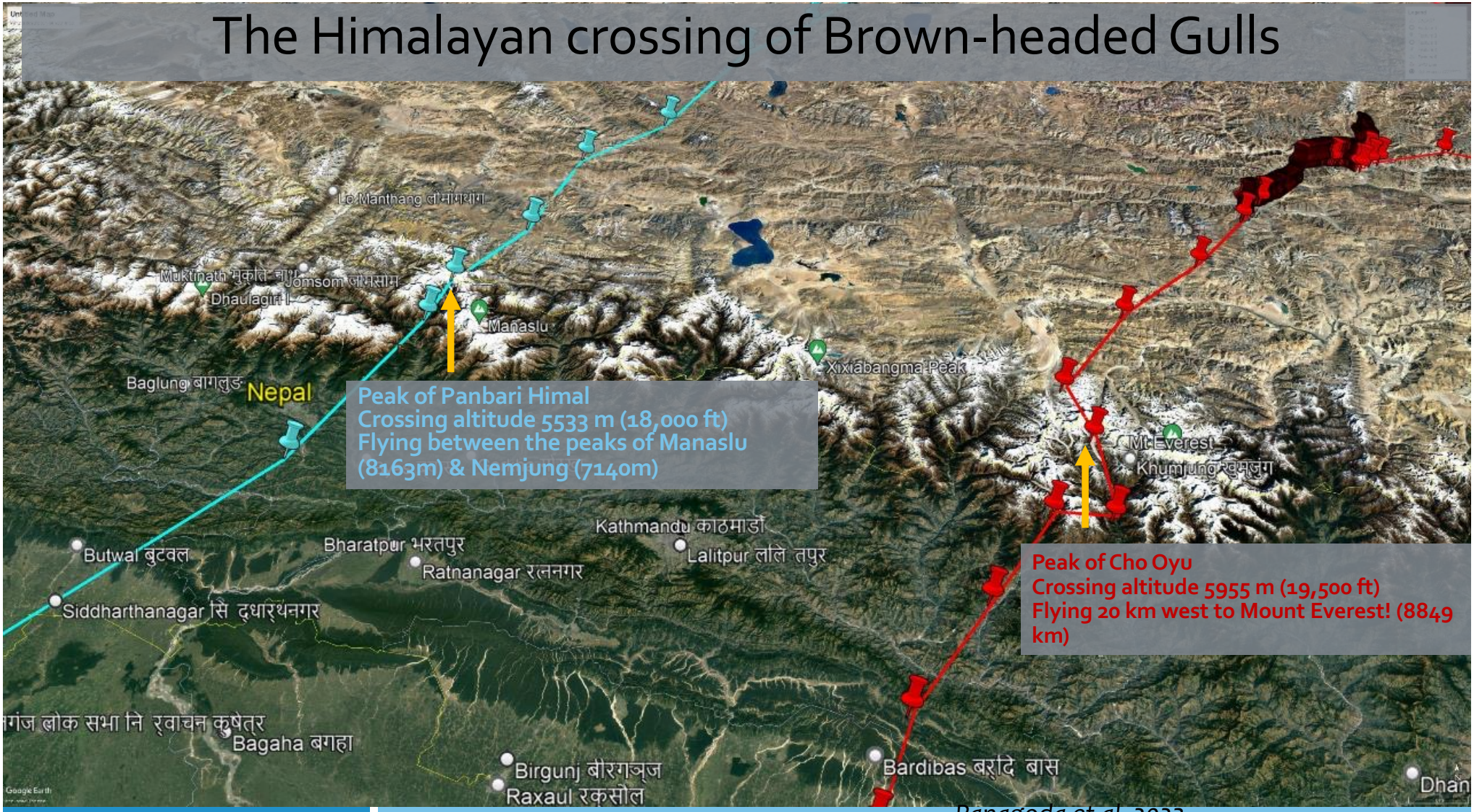
They stopped over in the Ganges River, India

(a) close to Varanasi, Uttar Pradesh

(b) in Patna, Bihar

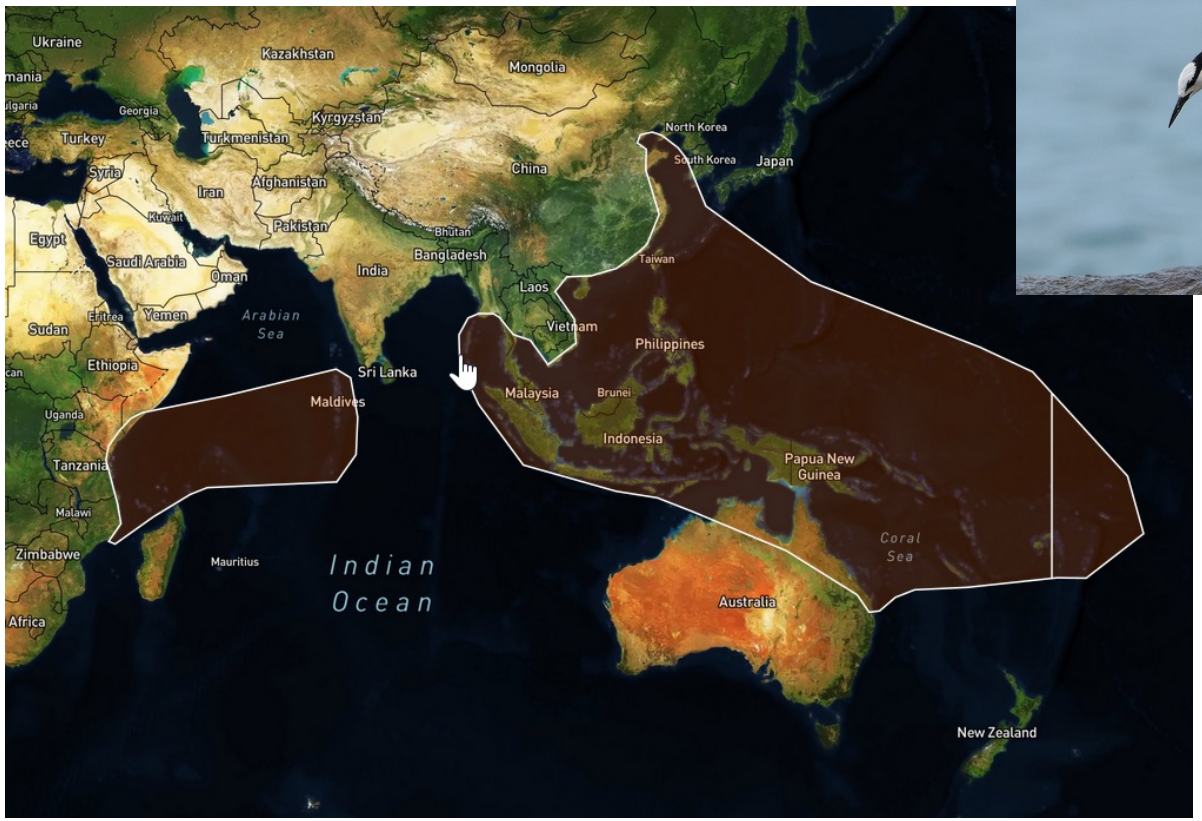
Panagoda et al. 2023.

The Himalayan crossing of Brown-headed Gulls



Panagoda et al. 2023.

Black-naped Tern *Sterna sumatrana*

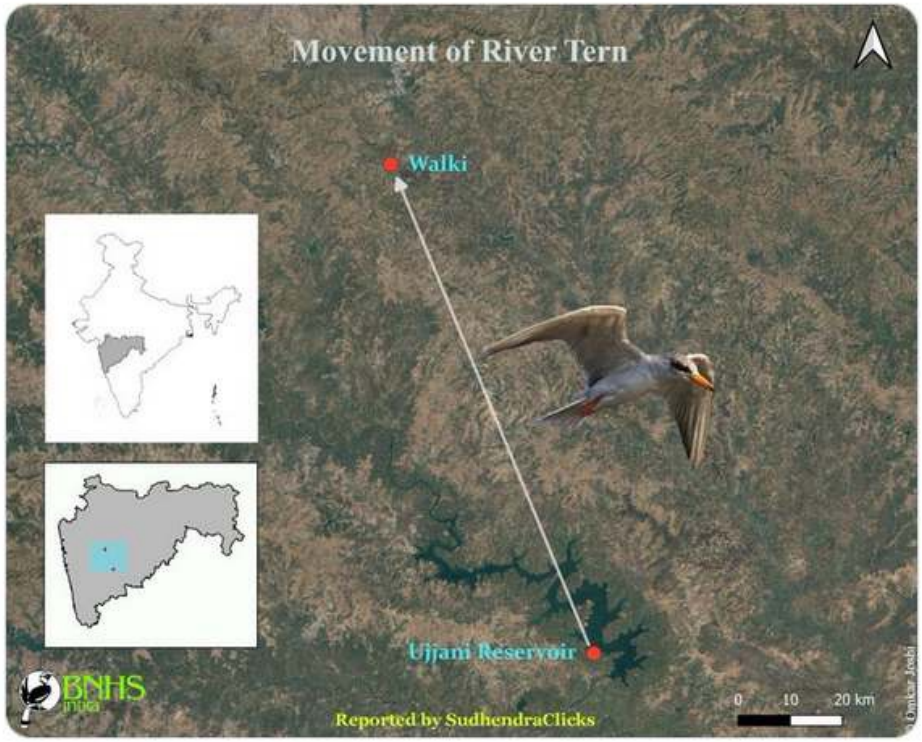


https://wpp.wetlands.org/

Indian River Tern

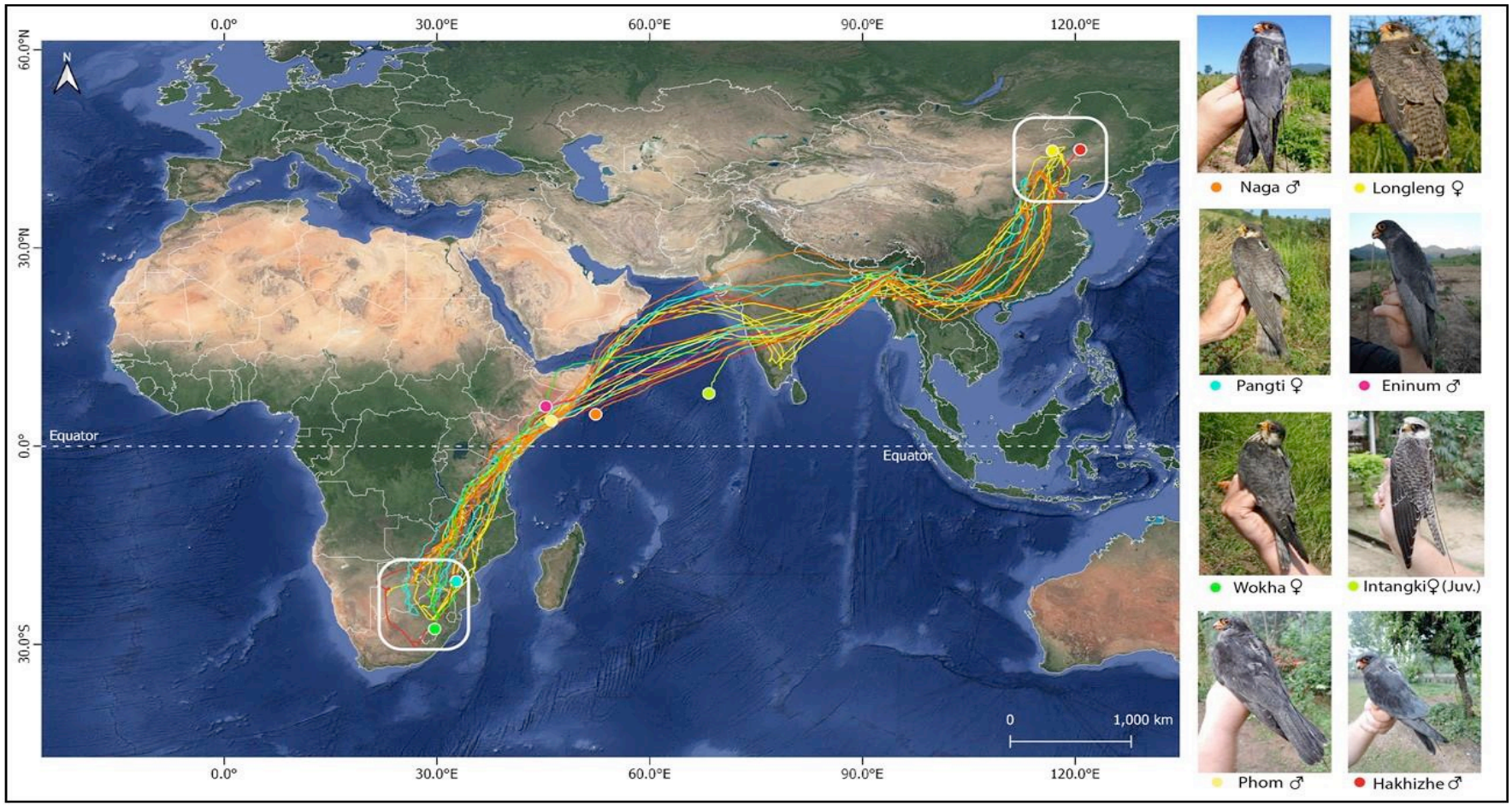
Bombay Natural History Society
@BNHSIndia

All wetlands are essential for waterbirds to survive - we tagged the chick of a River Tern at Ujjani Dam, Maharashtra in June 2022. Seven months later the bird was resighted by @SudhendraClicks close to Ahmednagar. @MangroveForest @MahaForest



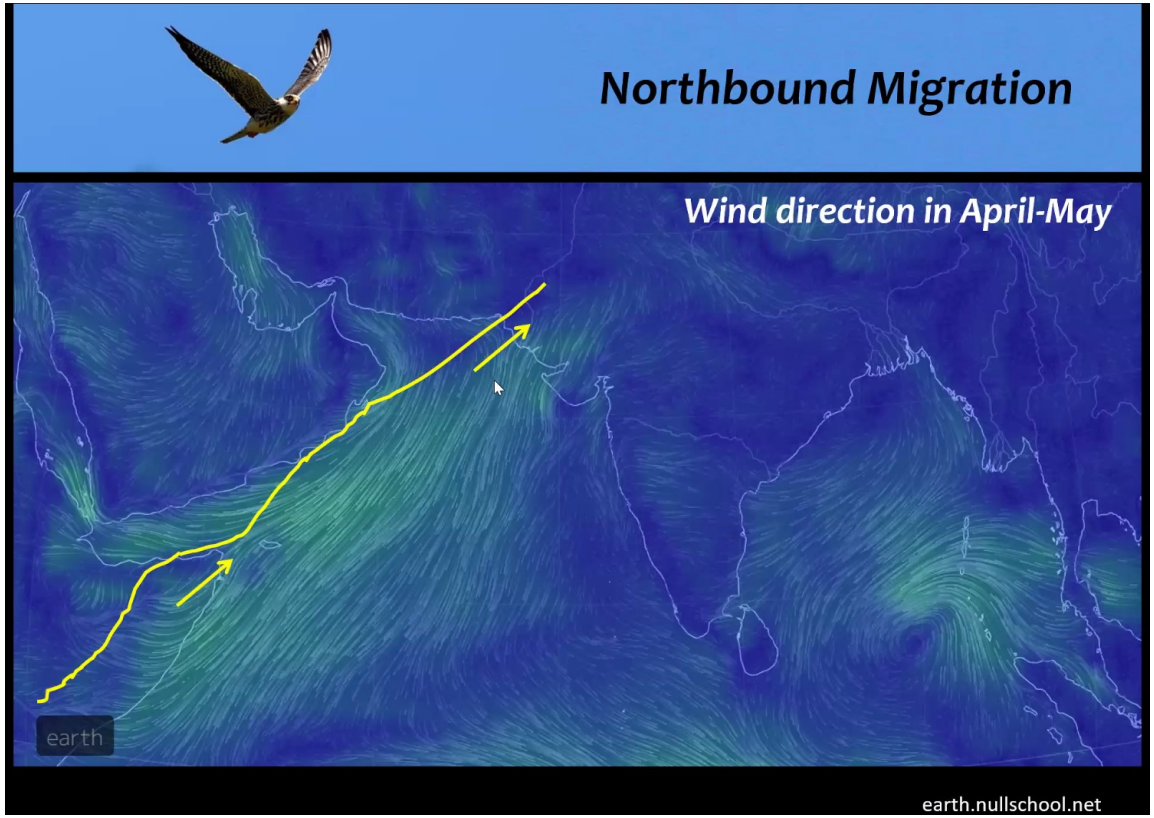
11:49 AM · Jan 26, 2023 · **1,939** Views

Amur Falcon Migration



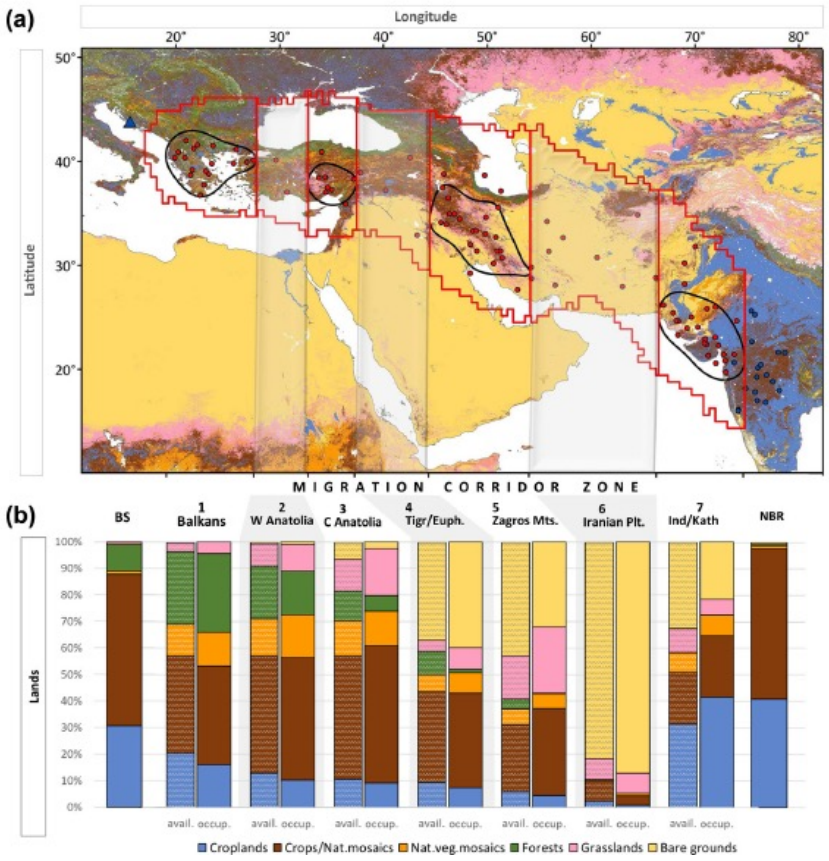
Source: Kumar, R.S. (Ed.), 2021. Understanding the Amur Falcon *Falco amurensis* their stop-over sites in Nagaland and their migratory routes for better conservation planning. Wildlife Institute of India. Technical Report No. 2021/21. Pg. 191

Amur Falcon migration



Dr Suresh Kumar, WII

Black-headed Bunting



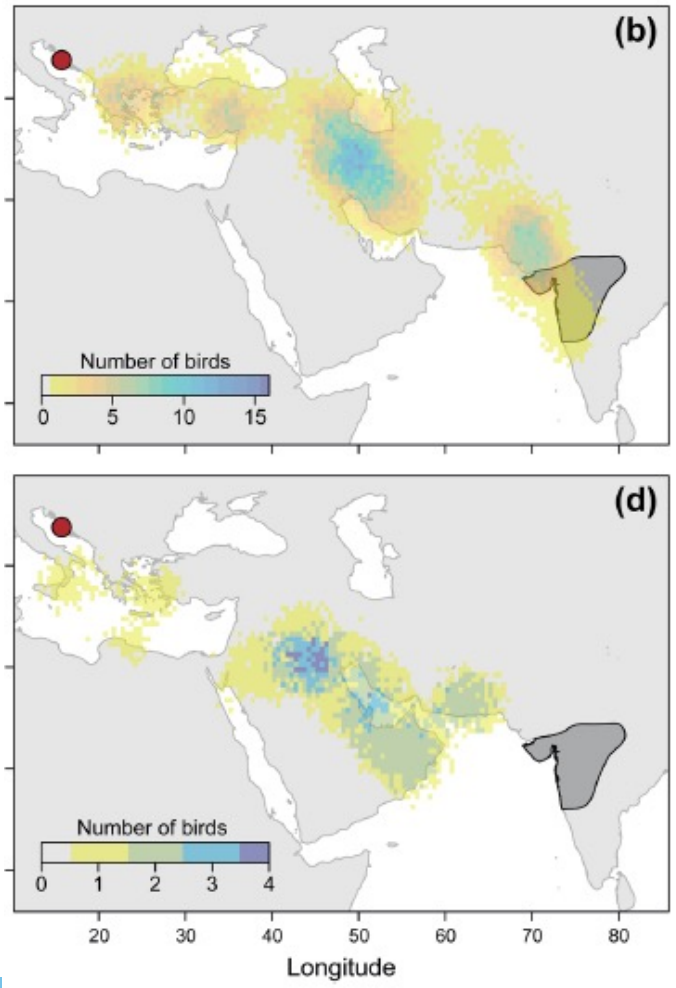
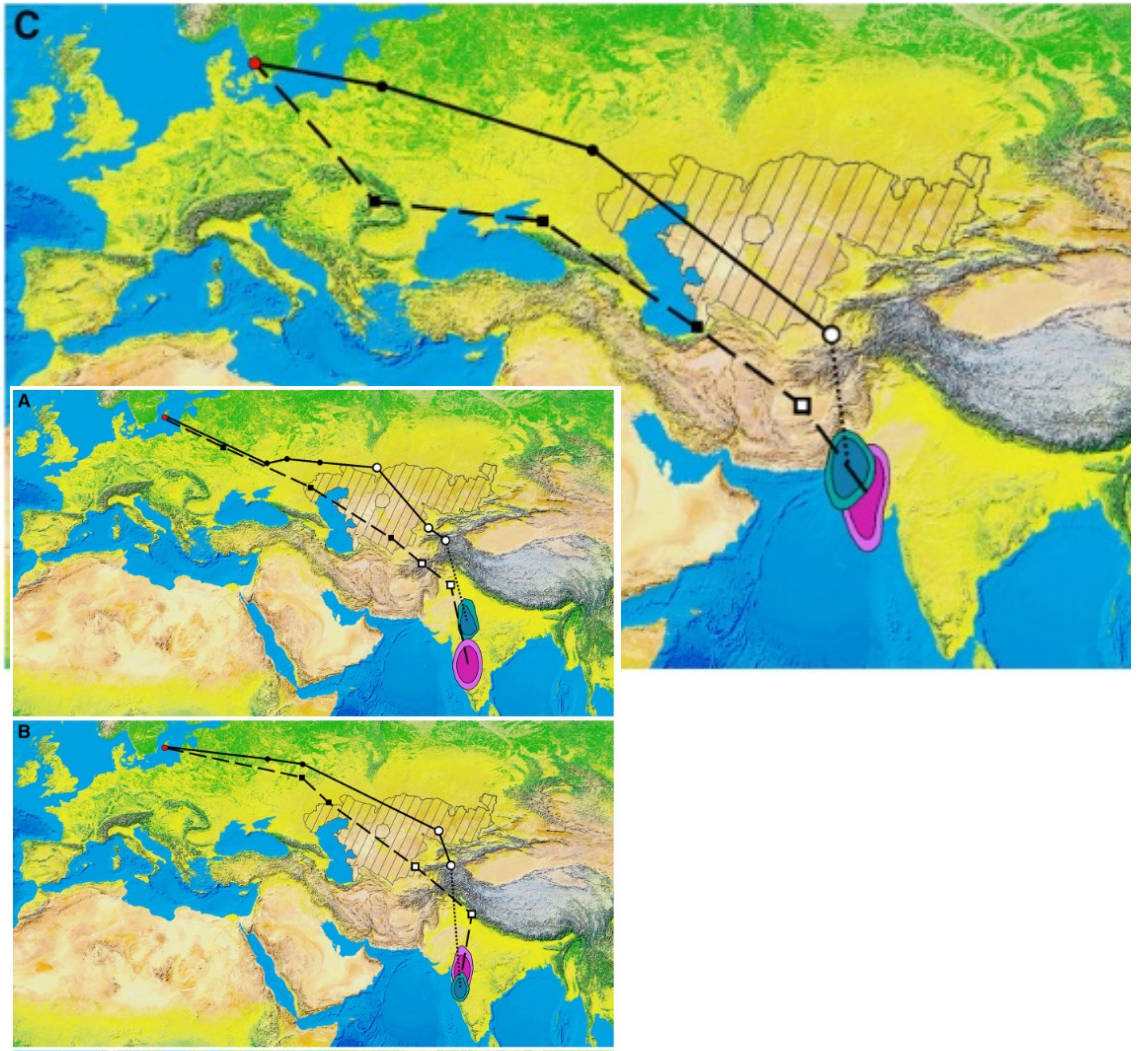


Figure 1. The adult black-headed bunting males were equipped with the geolocators SOI-GDL2.0 and SOI-GDL2.1 (Swiss Ornithological Inst.). The geolocators, including stalk and harness weighed between 0.62 and 0.70 g, which corresponded to approximately 2.0% (range 1.7–2.4%) of a male's body mass ($\bar{x}$ = 32.2 g range 28.9–35.6 g).

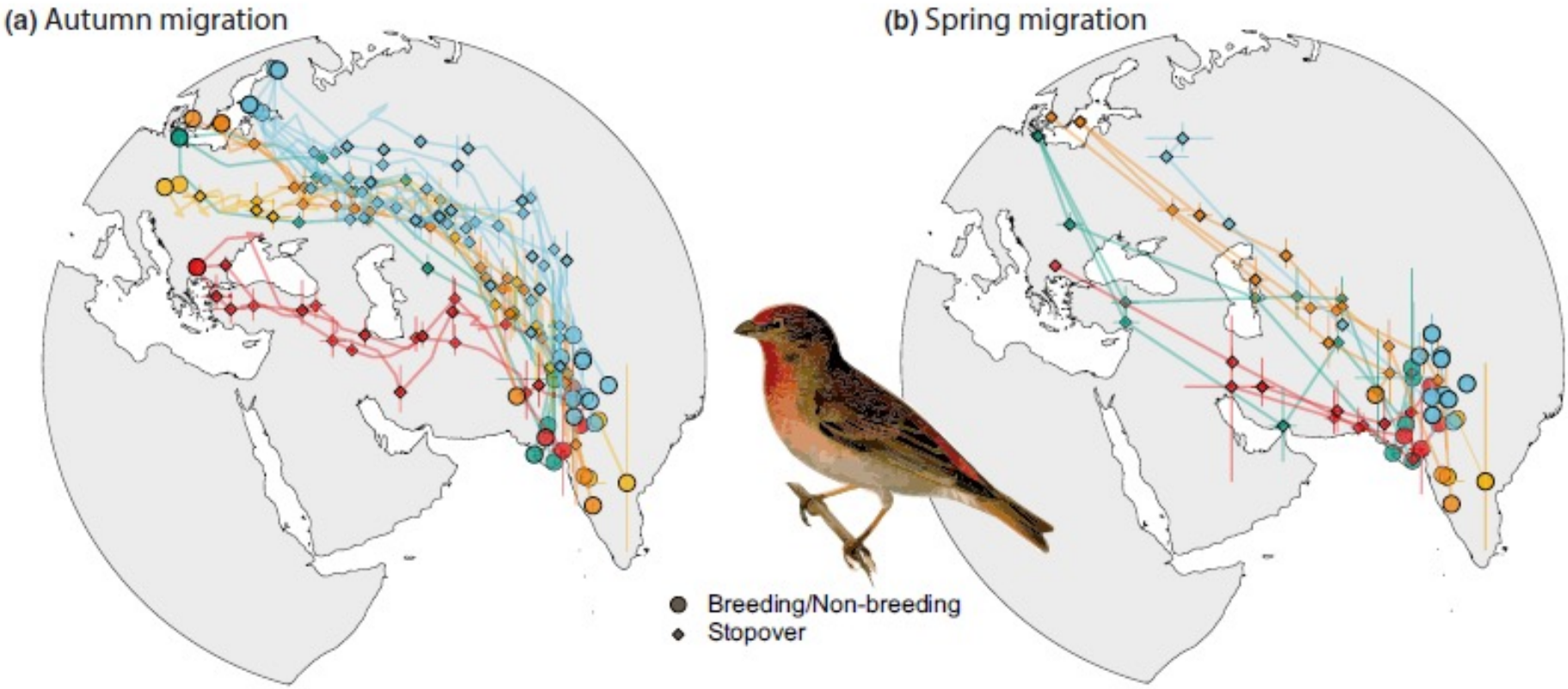
Common Rosefinch

www.pbase.com/omar_brannstrom

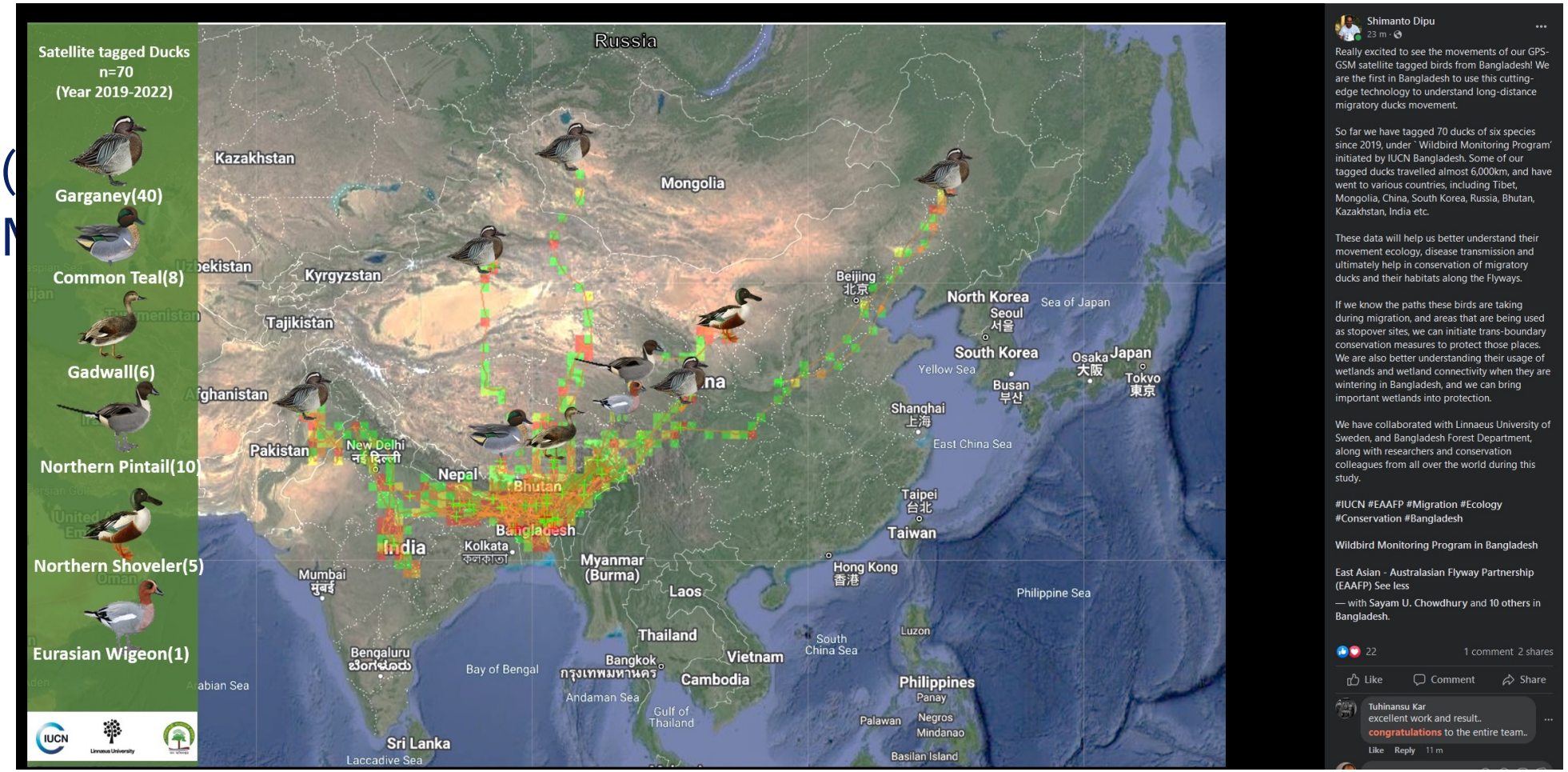


Stach et al. 2016. Migration routes and timing in a bird wintering in South Asia, the Common Rosefinch Carpodacus erythrinus. J Ornithol. DOI 10.1007/s10336-016-1329-3

Common Rosefinch



Lisovski et al. *2021. The Indo-European flyway: Opportunities and constraints reflected by Common Rosefinches breeding across Europe. Journal of Biogeography. 48:1255–1266 DOI: 10.1111/jbi.14085*



Shimanto Dipu
23 m ·

Really excited to see the movements of our GPS-GSM satellite tagged birds from Bangladesh! We are the first in Bangladesh to use this cutting-edge technology to understand long-distance migratory ducks movement.

So far we have tagged 70 ducks of six species since 2019, under `Wildbird Monitoring Program' initiated by IUCN Bangladesh. Some of our tagged ducks travelled almost 6,000km, and have went to various countries, including Tibet, Mongolia, China, South Korea, Russia, Bhutan, Kazakhstan, India etc.

These data will help us better understand their movement ecology, disease transmission and ultimately help in conservation of migratory ducks and their habitats along the Flyways.

If we know the paths these birds are taking during migration, and areas that are being used as stopover sites, we can initiate trans-boundary conservation measures to protect those places. We are also better understanding their usage of wetlands and wetland connectivity when they are wintering in Bangladesh, and we can bring important wetlands into protection.

We have collaborated with Linnaeus University of Sweden, and Bangladesh Forest Department, along with researchers and conservation colleagues from all over the world during this study.

#IUCN #EAAFP #Migration #Ecology #Conservation #Bangladesh

Wildbird Monitoring Program in Bangladesh

East Asian - Australasian Flyway Partnership (EAAFP) See less

— with Sayam U. Chowdhury and 10 others in Bangladesh.

22 1 comment 2 shares

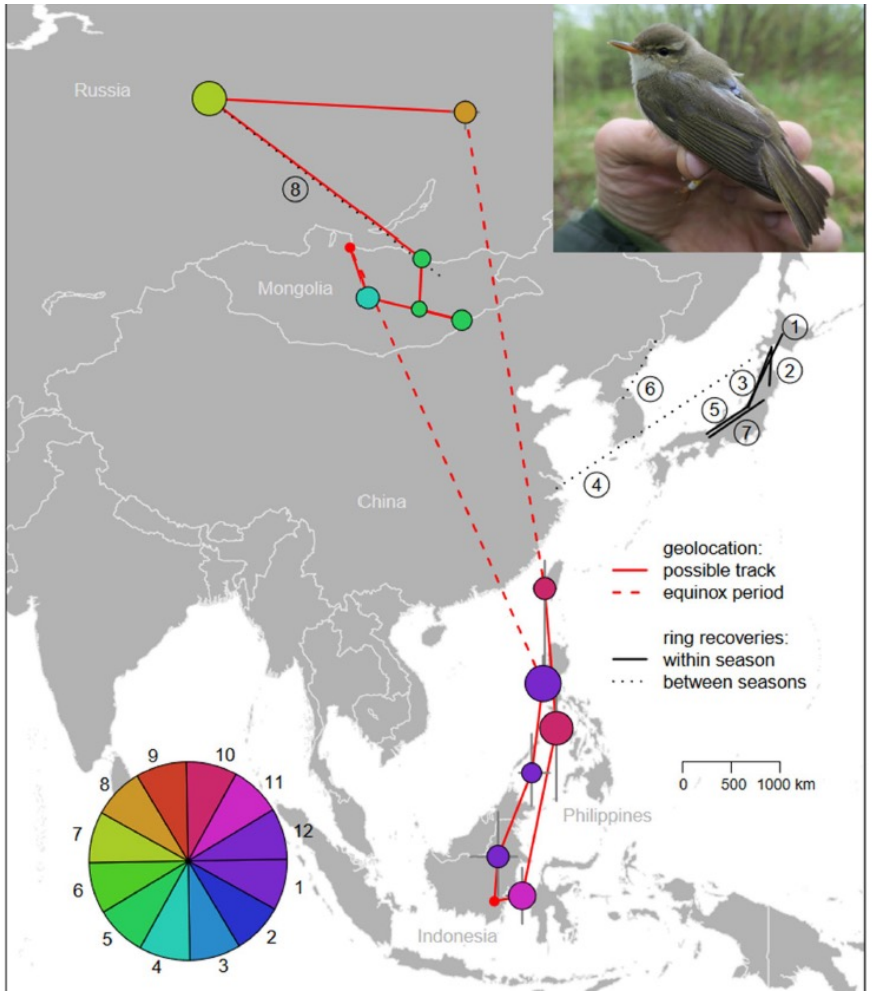
Like Comment Share

Tuhinansu Kar
excellent work and result..
congratulations to the entire team..
Like Reply 11 m

https://www.facebook.com/photo.php?fbid=10228563691136659&set=a.2113029584724&type=3&notif_id=1654679284401063&notif_t=feedback_reaction_generic_tagged&ref=notif

Arctic Warbler

Autumn migration	
Departure from breeding area	08 August 2019
Total duration (days)	57
Migration distance (km)	6763
Direct distance (km)	6291
Detour (%)	8
Migration speed (km/day)	119
Arrival at first wintering area	04 October 2019
Non-breeding (boreal winter)	
Duration of wintering period (days)	153
Distance traveled	3571
Spring migration	
Departure from last wintering area	05 March 2020
Total duration (days)	91
Migration distance (km)	7066
Direct distance (km)	5658
Detour (%)	25
Migration speed (km/day)	78
Arrival at breeding area	04 June 2020
Total distance	17,400



- Heim et al 2024. From Siberia to Indonesia: tracking the migration of the Arctic Warbler *Phylloscopus borealis*. Journal of Ornithology, https://doi.org/10.1007/s10336-024-02146-3

Bewick's Swan

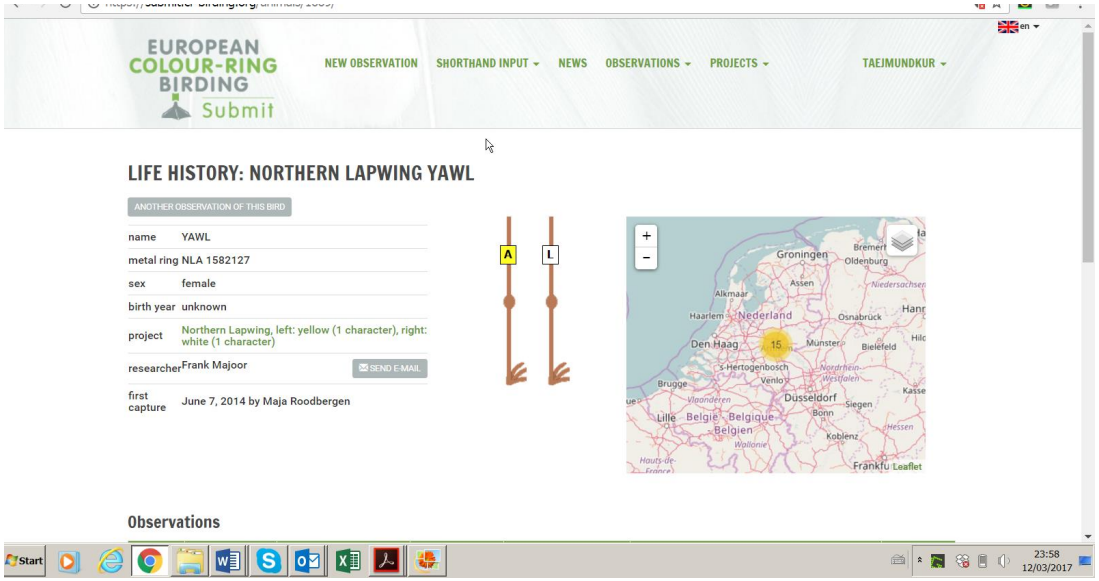
Bewick 2015

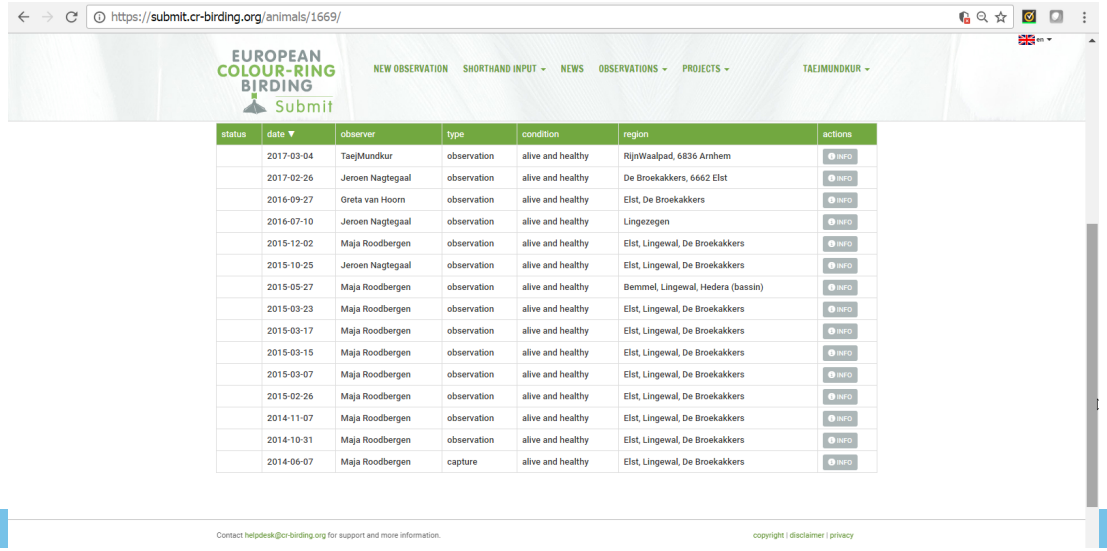
Nick Brown

https://odnature.naturalsciences.be/bebirds/fr/blog_swans/post_1923

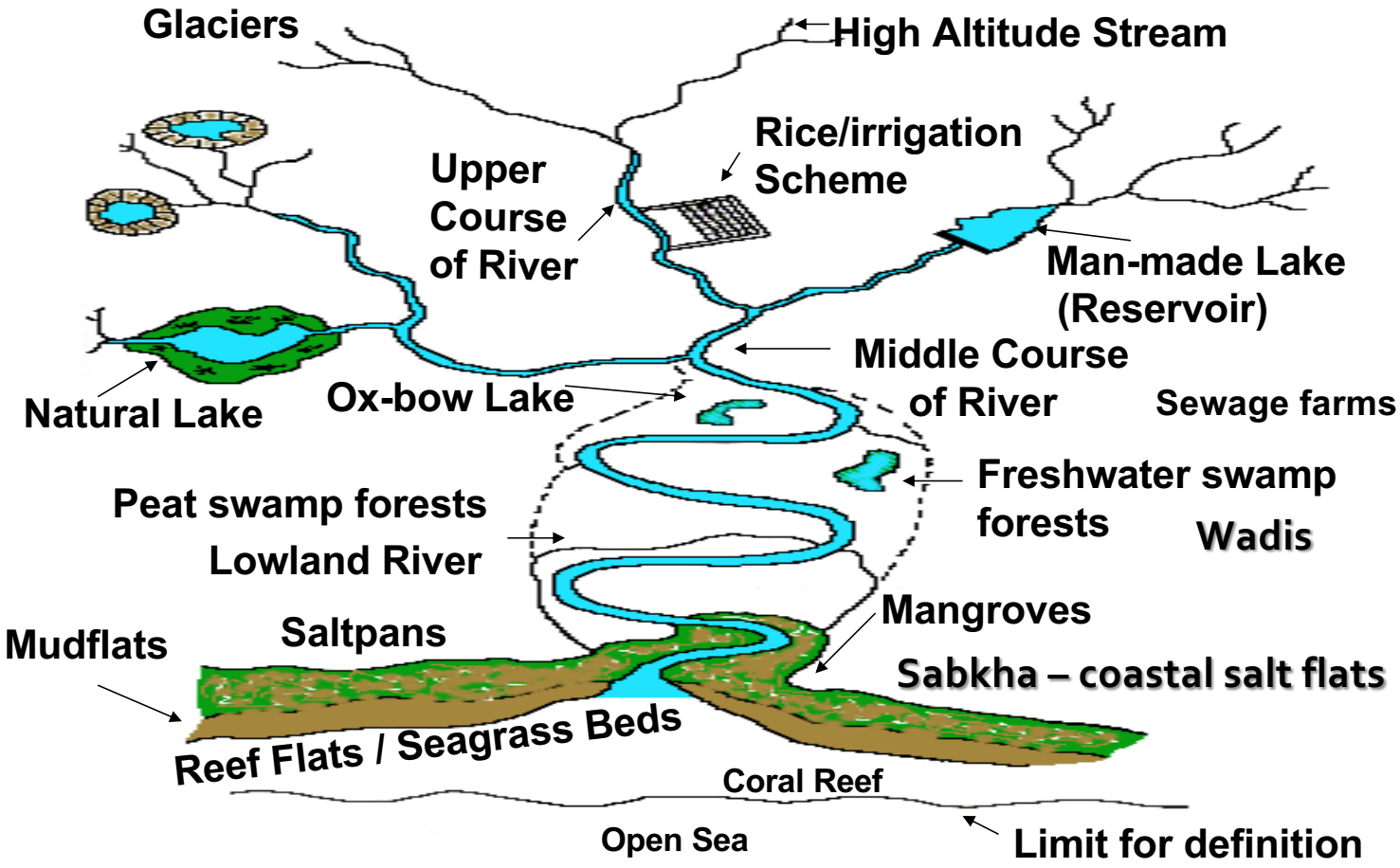
Northern Lapwing

Suffolk Biodiversity Information Service





Types of wetlands



The Ramsar definition of "wetland"

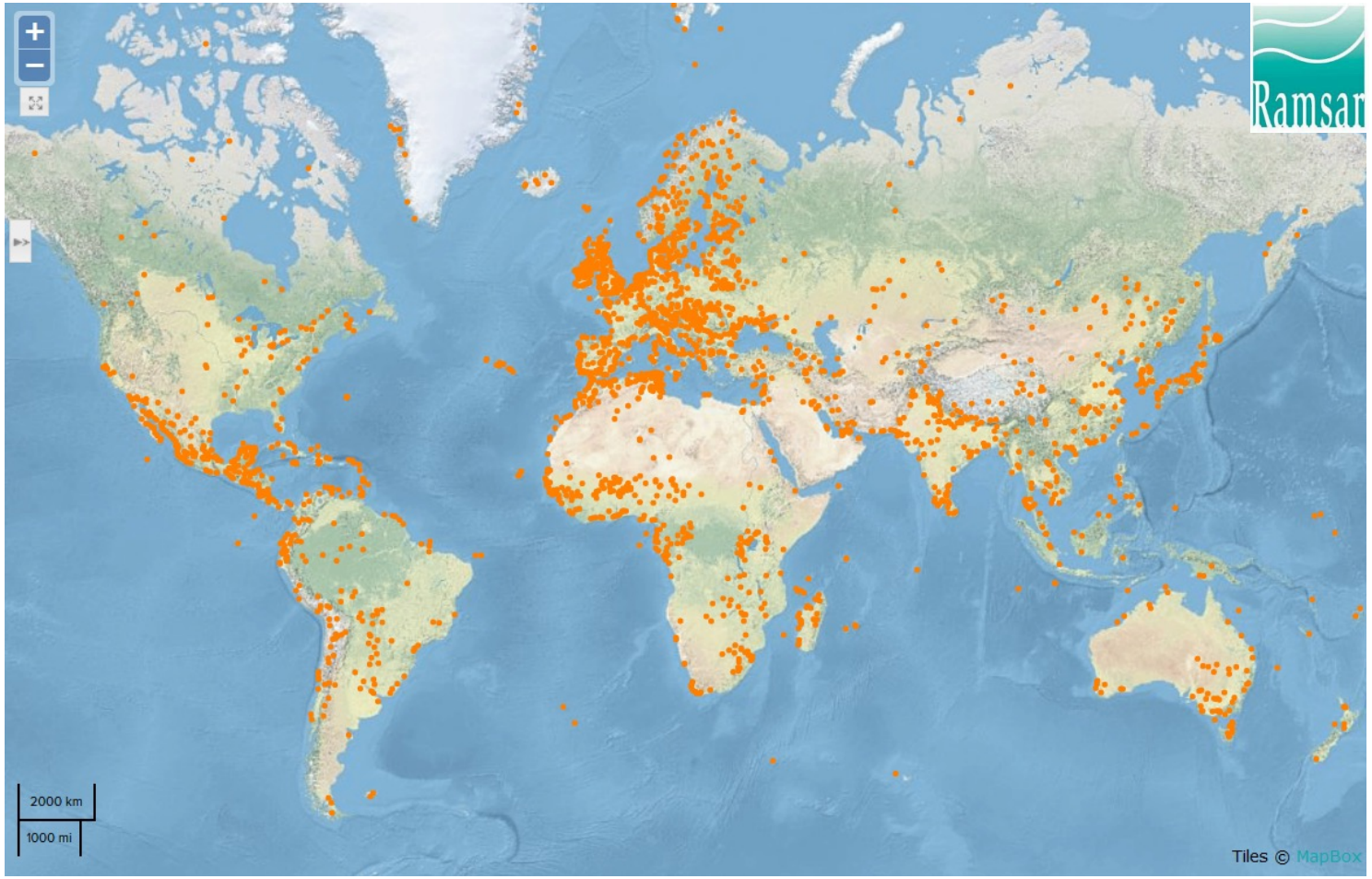
- "Wetlands are areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres" (Article 1.1).

- In addition, Ramsar sites "may incorporate riparian and coastal zones adjacent to the wetlands, and islands or bodies of marine water deeper than six metres at low tide lying within the wetlands" (Article 2.1).

- Importantly, the Convention aims at the listing of natural or semi-natural wetlands, but also allows for the designation of purpose-built, or human-made, wetlands, assuming they satisfy at least one of the Criteria.

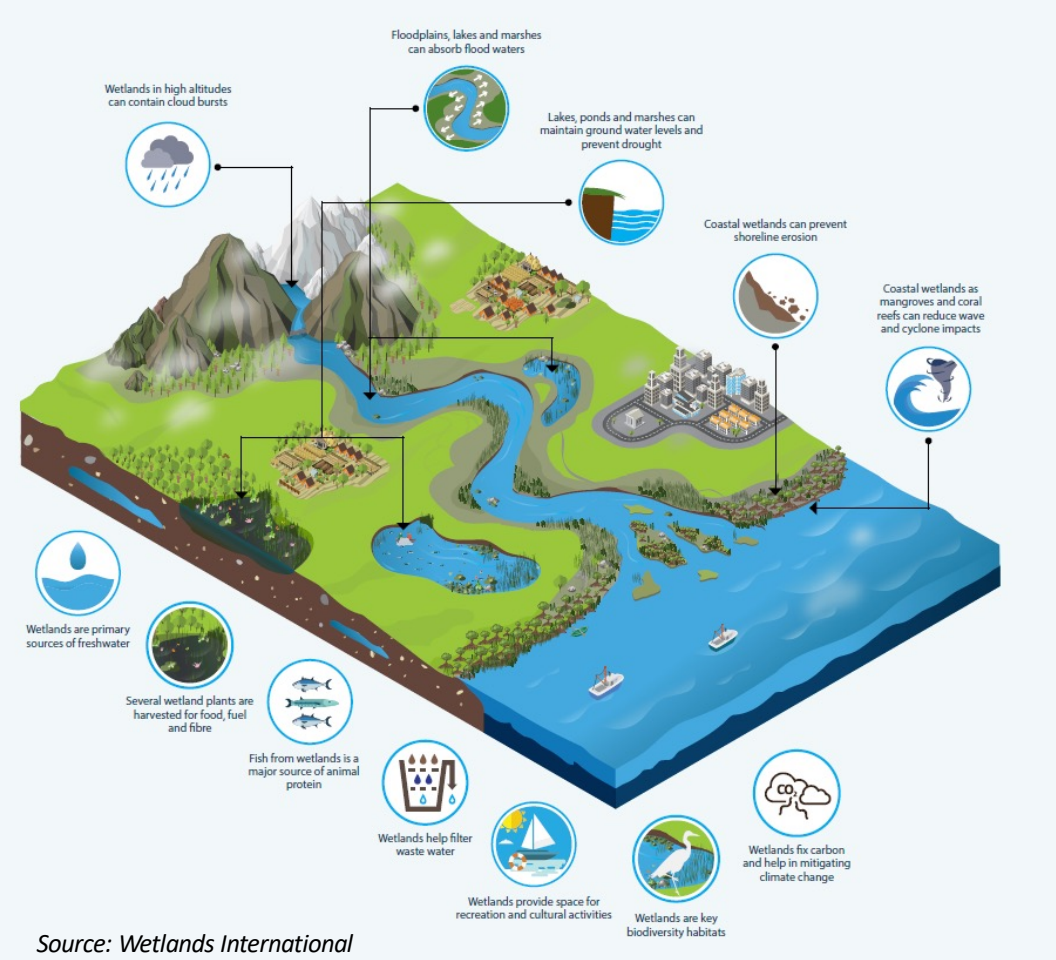
Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance of the Convention on Wetlands (Ramsar, Iran, 1971)

Map of Ramsar Sites (wetlands of international importance)



171 countries
2,495 Sites covering
256,878,029 ha
75 sites in India

Management of landscapes from mountain to sea



Source: Wetlands International

Water insecurity – many causes, no technical fix

1. Water shortage

leading to temporary or long-term impacts on supply

2/3

of the world's population will be living in water-stressed countries by 2025

2. Poor water quality

for human consumption & within the wider environment

>500,000
children under five died of diarrhea in 2013

Water contamination
human & livestock waste, fertilizers & pesticides, pharmaceuticals & heavy metals

3. Rising number of extreme climatic events

including floods & droughts

Droughts which are ofte
with migration and conf

4. Disruption of natural flows

in a growing number of rivers and inland bodies

1/5

of the planet's remaining free flowing rivers will be reduced due to hydropower

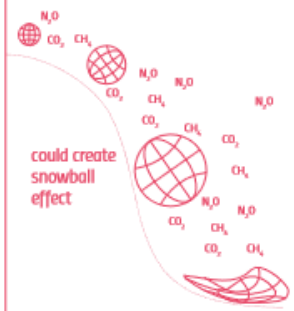
5. Land degradation

as a result of altered hydrology and poor irrigation management

20%
of irrigated land area suffered from crop yield reductions due to salinity

6. Climate change impacts

due to release of greenhouse gases from water systems & wetlands



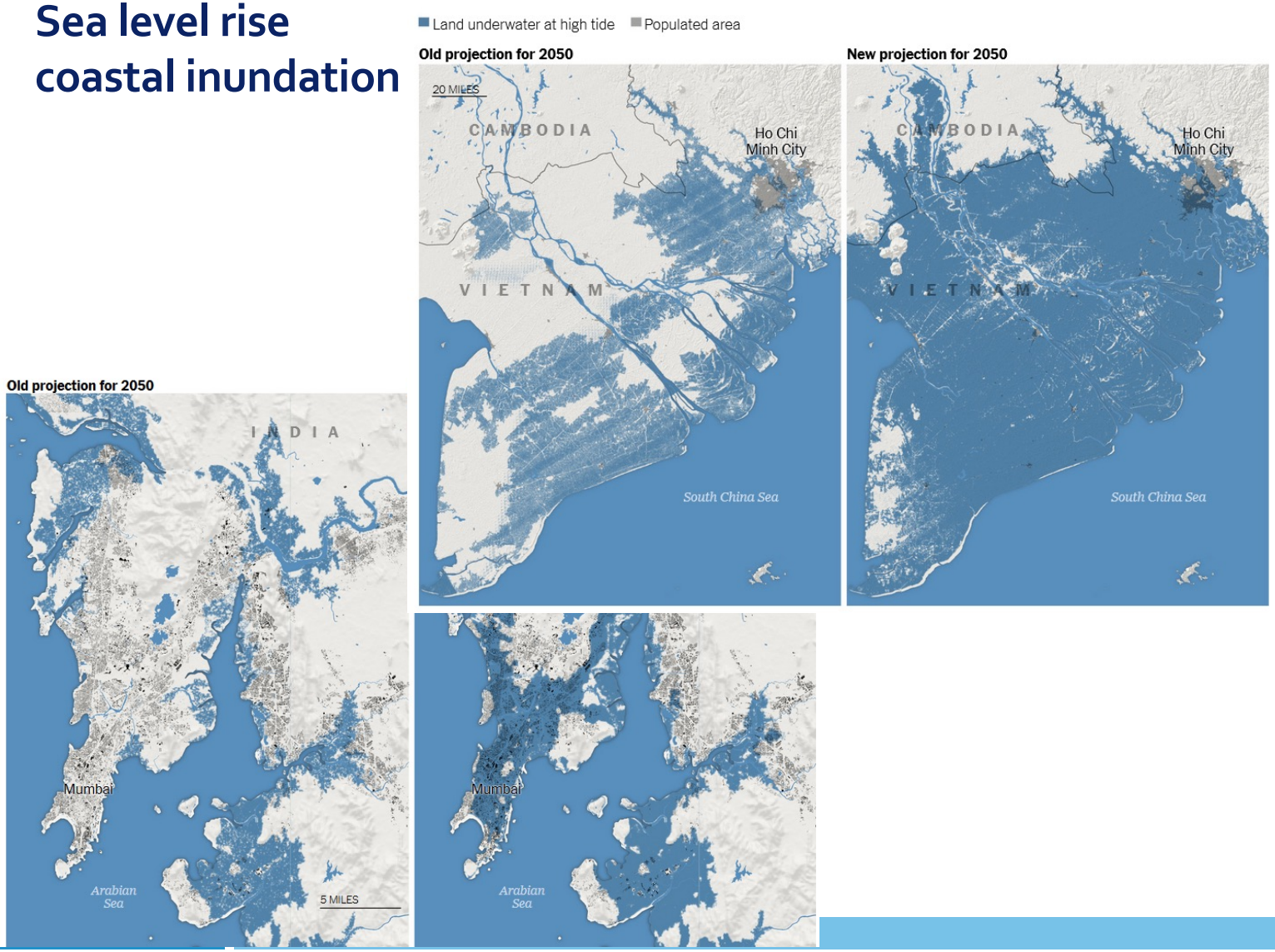
could create snowball effect

7. Loss of biodiversity

& water related ecosystem services

One in three freshwater fish species is threatened with extinction

Sea level rise coastal inundation



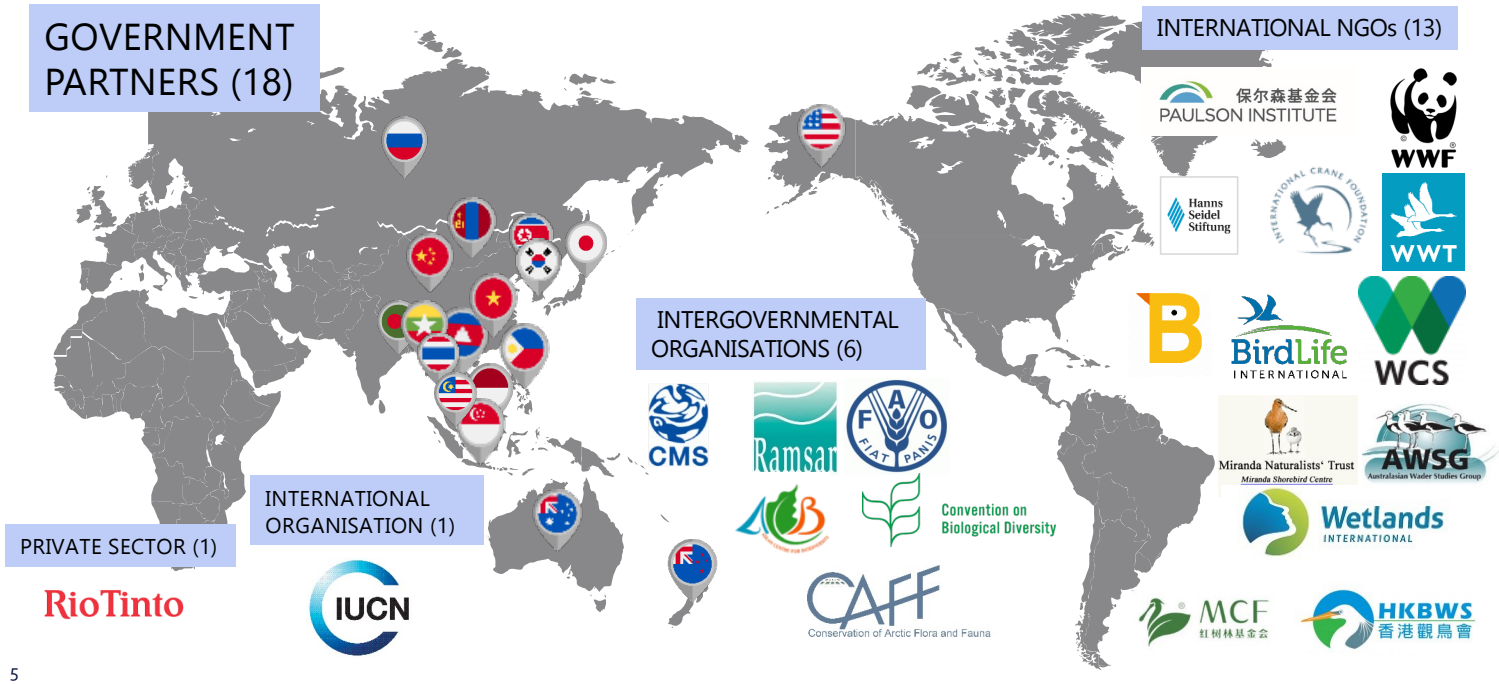
Infrastructure & energy development

Reducing plastics and wastes in wetlands

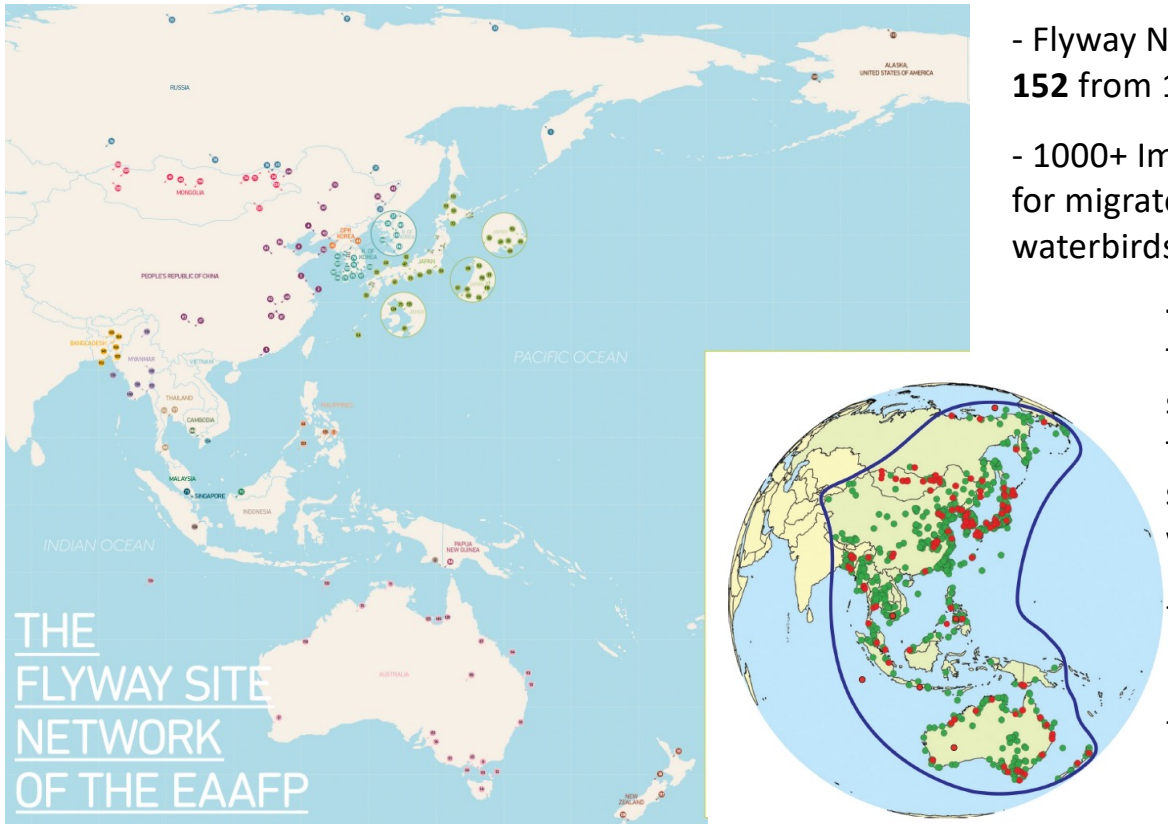
International conservation frameworks

East Asian-Australasian Flyway Partnership

PARTNERS OF EAAFP (39)



EAAFP Flyway Site Network



- Flyway Network Sites: **152** from 19 countries

- 1000+ Important sites for migratory waterbirds

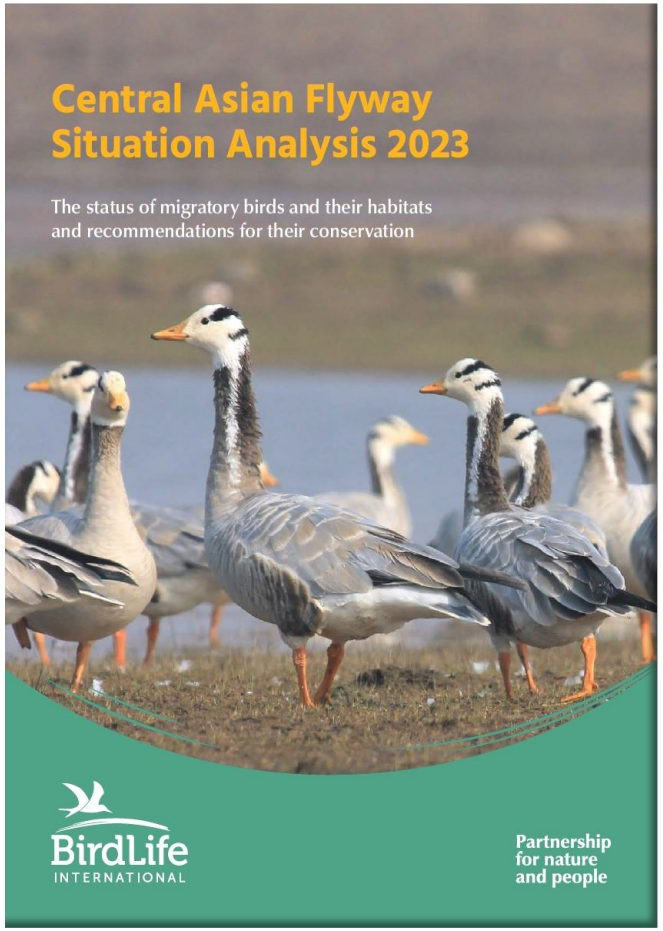
- Aim: To make sure the sites are sustainably managed to support the survival of migratory waterbirds

- Meeting criteria of a Ramsar Site
- Designated by Government

Overview of the Central Asian Flyway

- Only major largely land-locked flyway
- High variety of ecological conditions
- Many species breeding on the arctic coast
- High migratory waterbird biodiversity, >279 migratory waterbird populations of 182 species
- 29 globally threatened & near-threatened waterbird species (incl. Siberian Crane, White-headed Duck, Lesser Whitefronted Goose)

CAF Initiative under CMS – road from Gandhinagar to Samarand



International initiatives and partnerships

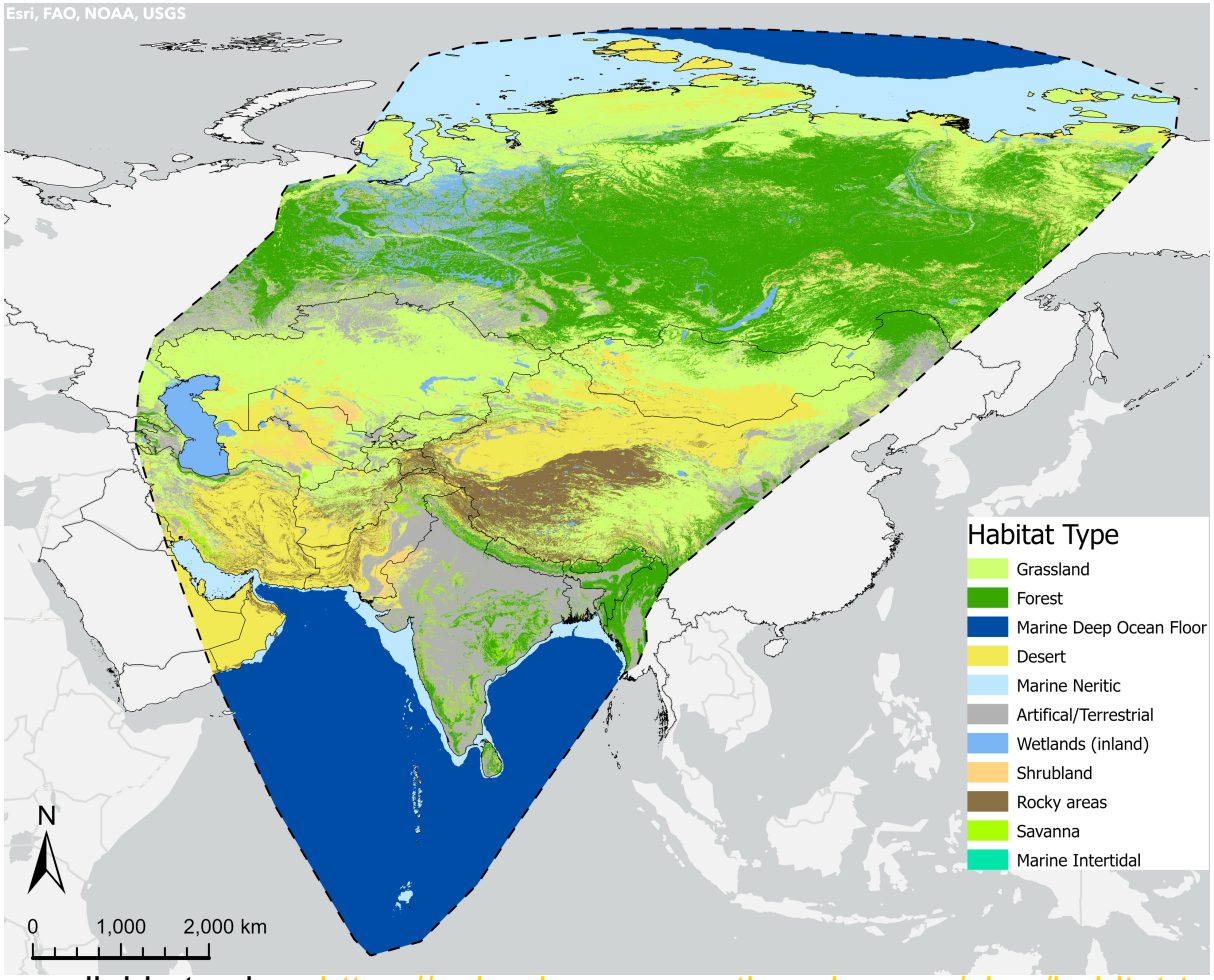
- African Eurasian Waterbird Agreement
- African Eurasian Raptors MOU
- African Eurasian Migratory Landbirds Action Plan
- CAF Waterbird Action Plan
- East Asian – Australasian Flyway Partnership
- Ramsar Convention on Wetlands
- World Heritage Convention

Western / Central Asian Site Network for the Siberian Crane and Other Migratory Waterbirds

National Planning for Conservation

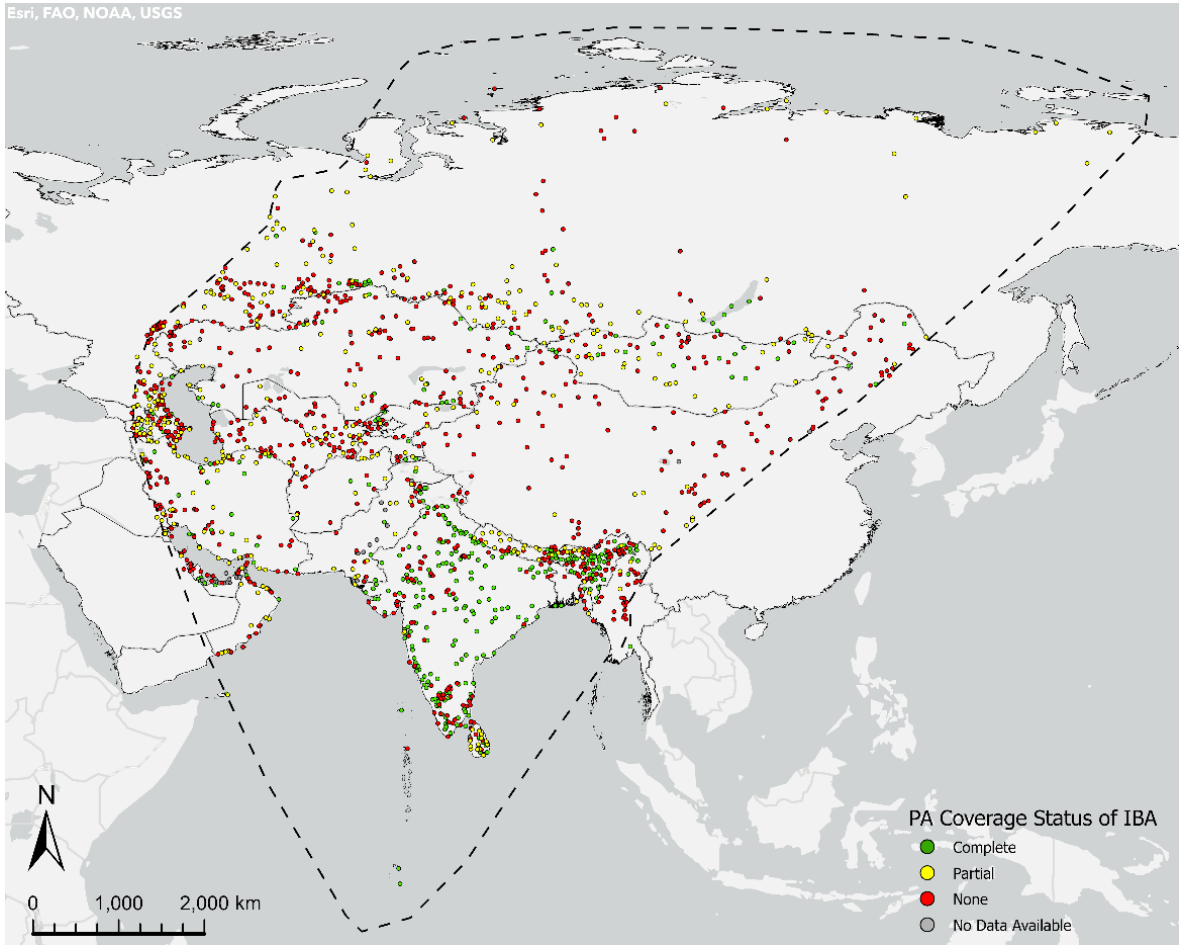
- Integrating priorities for action with international cooperation
- Covering multi species and taxa
- Includes a range of habitats
- Habitat Management & restoration
- Species conservation Planning
- Multiple stakeholders
- National to local action
- Awareness raising
- Capacity building
- Research
- Monitoring
- Policy development
- Meeting national commitments to international development and conservation targets

Major habitats of the CAF (based on the first global map of IUCN habitats



(Jung et al 2020 - available to view: https://uploads.users.earthengine.app/view/habitat-types-map)

Map of Important Bird Areas for migratory birds in the Central Asian Flyway



Source: Protected Planet (WDPA, October 2022) and BirdLife International.

Source: Mundkur *et al.* 2023. *Central Asian Flyway – Situation Analysis: The status of migratory birds and their habitats and recommendations for their conservation*. Report by BirdLife International, Cambridge.

Western / Central Asian Site Network for the Siberian Crane and Other Migratory Waterbirds

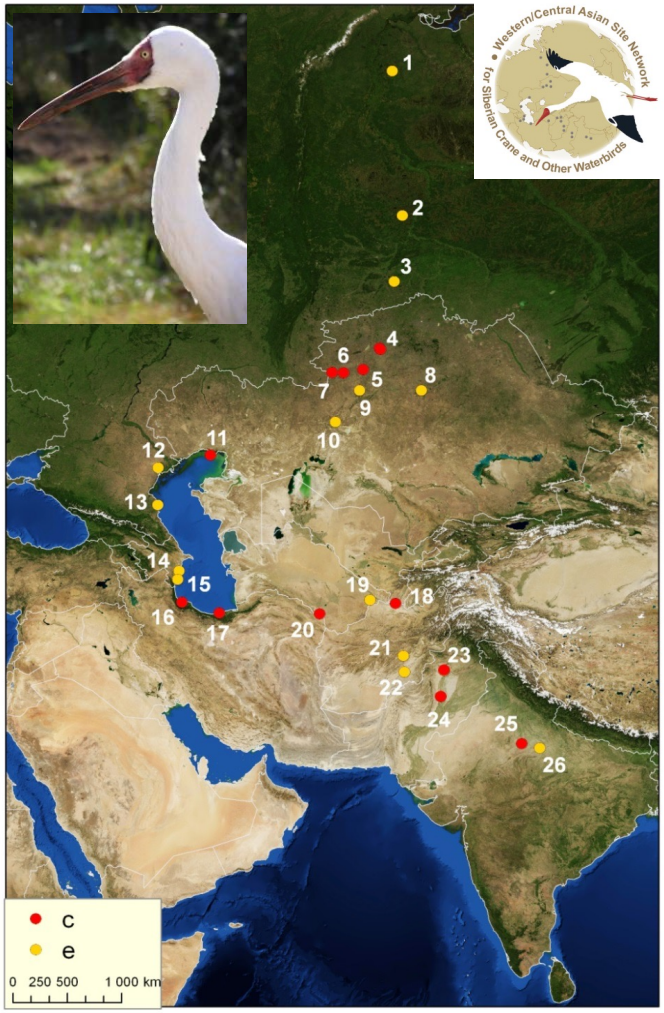
Goal of the Site Network

To ensure the long-term conservation of the Siberian Crane and other migratory waterbirds along the Western and Central Asian Flyways through recognition and appropriate management of a network of internationally important sites.

Principles of the Site Network

The initiative to establish a Siberian Crane site network under the CMS MoU will focus attention on:

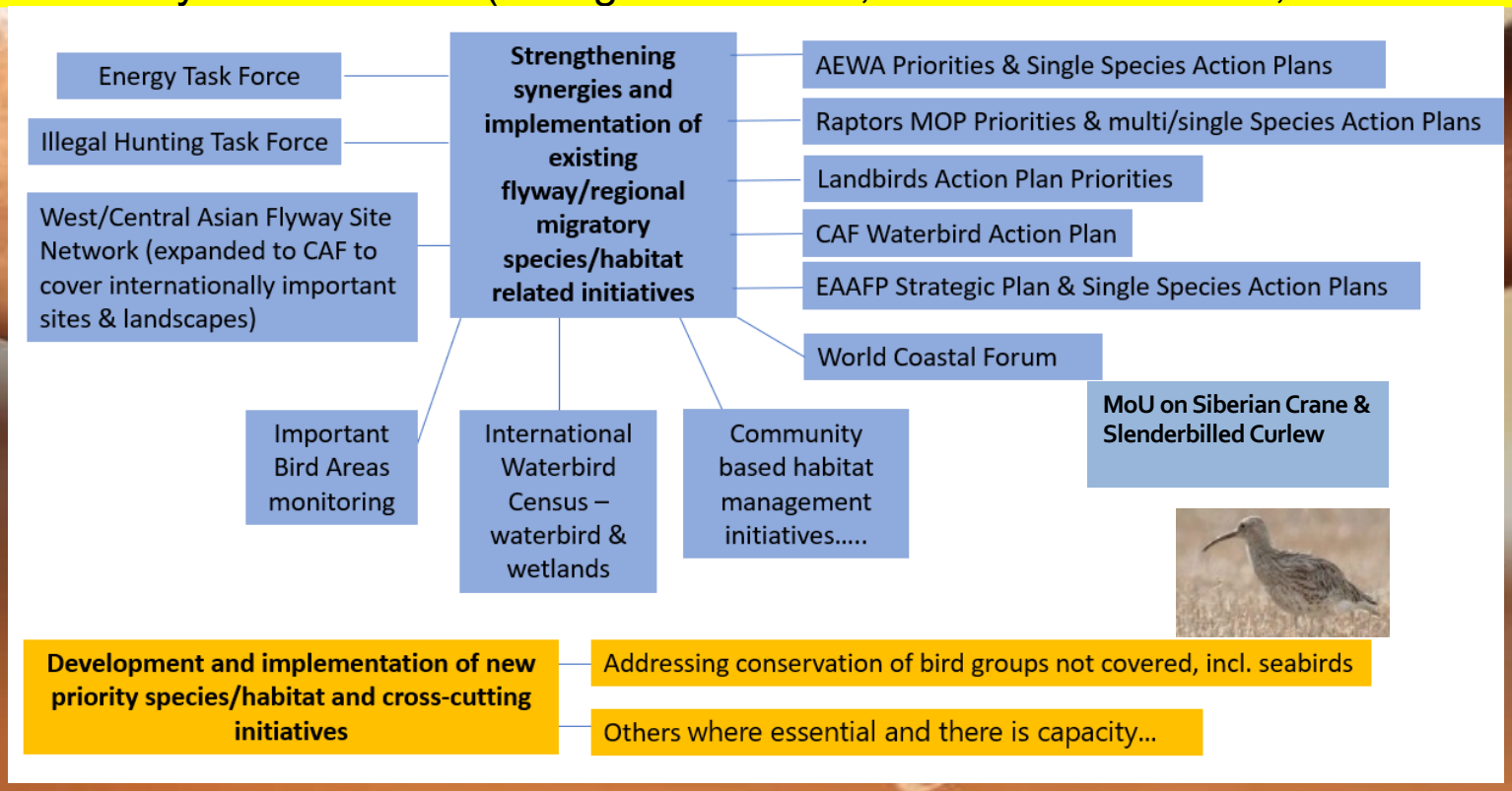
- Sites of importance for the conservation or recovery of the Siberian Crane;
- Sites which are also important for other migratory cranes and waterbirds;
- Involving local people in conservation efforts at the sites.



Main recommendations of the CAF Situation Analysis

A. Development of a collaborative framework

Improve coordination & build synergies among international frameworks, both formal & informal & key stakeholders (incl. governments, international NGOs, scientists & others)



Source: Mundkur *et al.* 2023. *Central Asian Flyway – Situation Analysis: The status of migratory birds and their habitats and recommendations for their conservation*. Report by BirdLife International, Cambridge.

Main recommendations of the CAF Situation Analysis

B. **Species management**

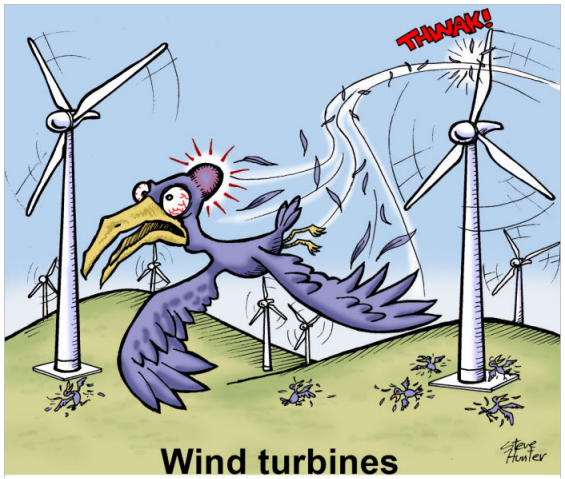
- implementation of existing single species or multispecies action plans for globally threatened species & development of others
- listing of eight globally threatened & one near-threatened CAF species under the CMS Appendices.

Source: Mundkur *et al.* 2023. *Central Asian Flyway – Situation Analysis: The status of migratory birds and their habitats and recommendations for their conservation*. Report by BirdLife International, Cambridge.

Main recommendations of the CAF Situation Analysis 2/3

C. Taking & trade of migratory birds

- collisions from powerlines
- tackling illegal taking
- poisoning, diseases
- taking & trade of migratory birds - regulation of legal taking

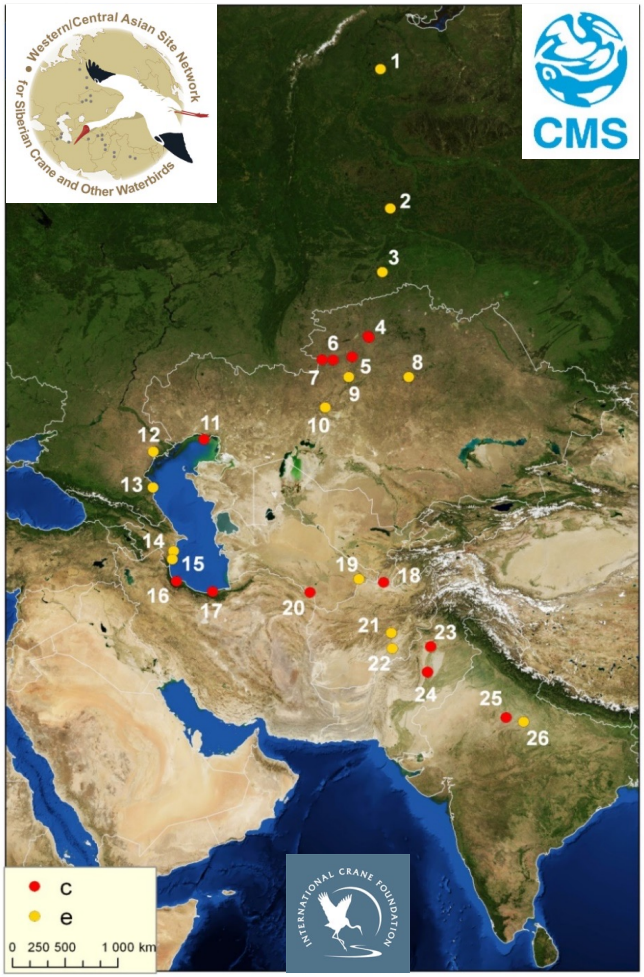


Source: Mundkur *et al.* 2023. *Central Asian Flyway – Situation Analysis: The status of migratory birds and their habitats and recommendations for their conservation*. Report by BirdLife International, Cambridge.

Main recommendations of the CAF Situation Analysis

D. ***MANAGEMENT OF IMPORTANT SITES AND NETWORKS***

- identification & management of sites of national or international importance to migratory bird species,
- establishment of a critical site network (>1700 sites)
- Facilitate and promote the designation of important sites for migratory birds under appropriate national and international conservation categories.
- Establish or review conservation site management plans incorporating prescriptions for migrant species.



Source: Mundkur *et al.* 2023. *Central Asian Flyway – Situation Analysis: The status of migratory birds and their habitats and recommendations for their conservation*. Report by BirdLife International, Cambridge.

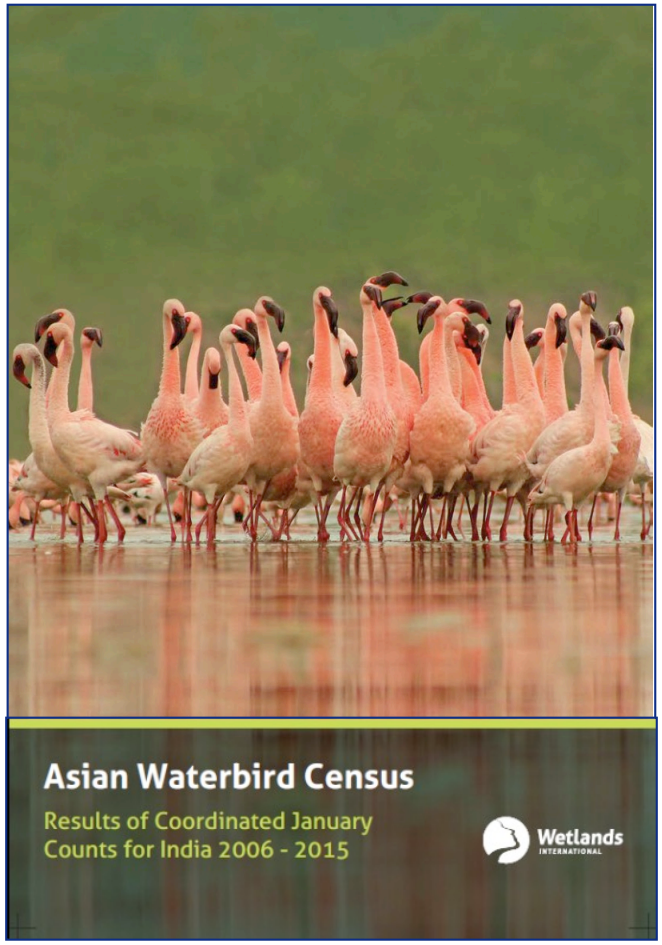
Main recommendations of the CAF Situation Analysis

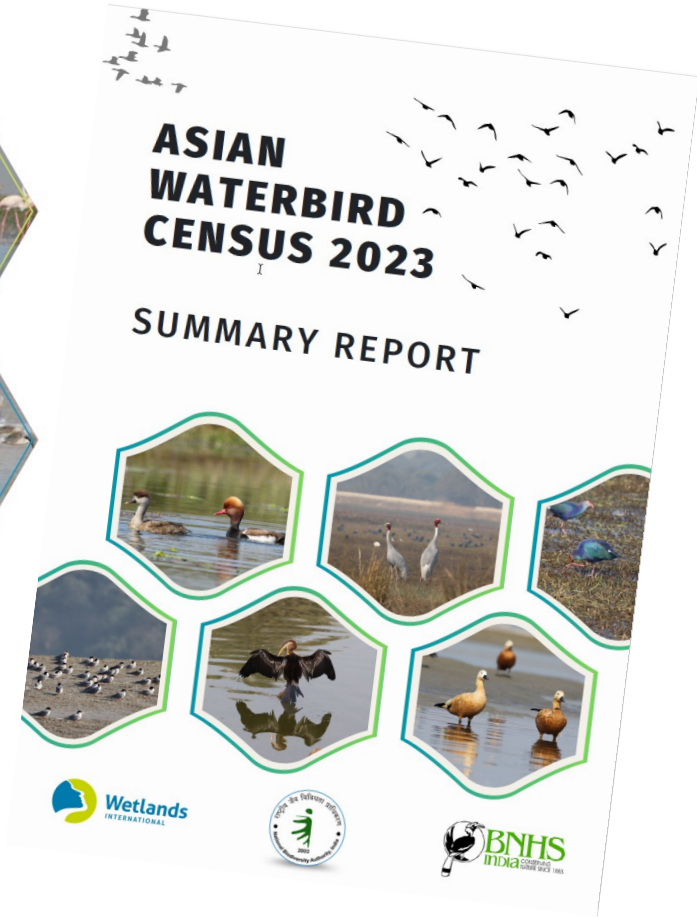
***F*. Research & monitoring**

- monitoring of population trends, understanding causes of population change in migratory species, habitat use & management
- understanding migration patterns & connectivity along flyways
- building capacity
- improving exchange of information, collaboration & coordination between researchers

Source: Mundkur *et al.* 2023. *Central Asian Flyway – Situation Analysis: The status of migratory birds and their habitats and recommendations for their conservation*. Report by BirdLife International, Cambridge.

AWC National Reports





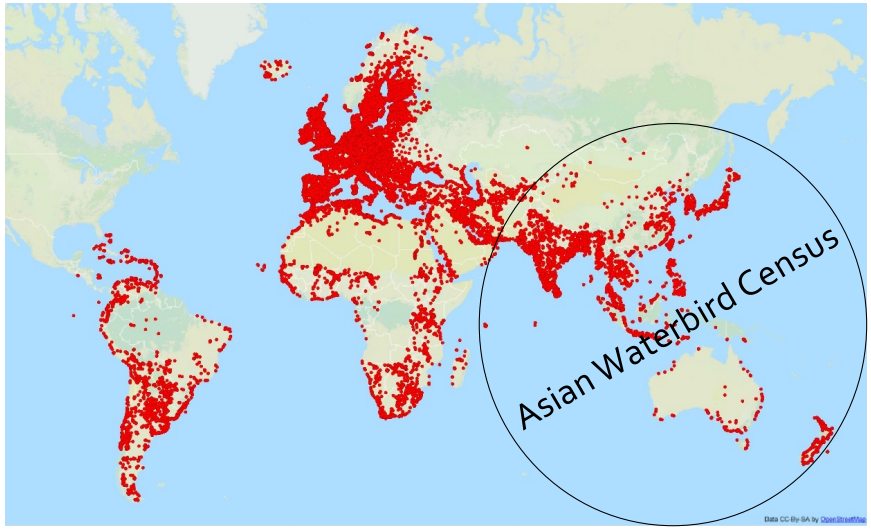
Monitoring waterbirds - International Waterbird Census

- A worldwide monitoring programme, covering all waterbird species
- Initiated in 1967, now the longest running global citizen science biodiversity monitoring programme
- Counts repeated annually in

  January/February and/or July

Objectives

1. Obtain information of waterbird populations at wetlands, for monitoring of populations and evaluation of sites
2. Monitor the status and condition of wetlands
3. Encourage greater interest and promote conservation



More on : www.wetlands.org/IWC

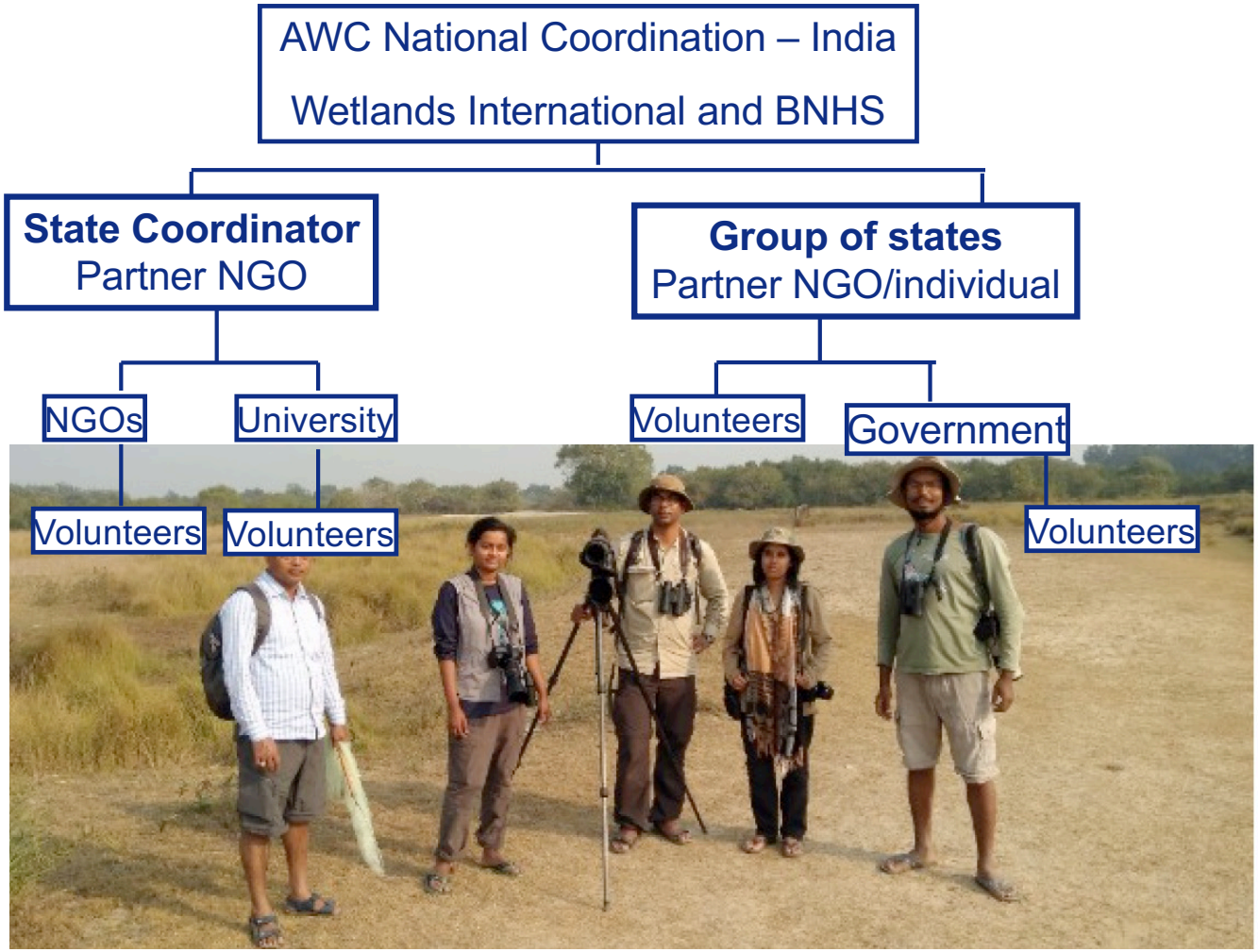
AWC networks of networks

Regional Coordinators
- Flyway summary reports
- Flyway database

National Coordinator
- Promotion
- Review of counts
- National reports
- National database

State Coordinator
- Promotion
- Review of counts
- State Reports
- Conservation

Volunteer Counters
- Site-based counts
- 'look-see' survey
- Submit counts
- January/February (mid-winter)


AWC National Coordination – India
Wetlands International and BNHS
State Coordinator
Partner NGO
Group of states
Partner NGO/individual
NGOs
University
Volunteers
Government
Volunteers
Volunteers
Volunteers

Volunteer waterbird monitoring network


AWC Coordinators


AWC volunteer network

Using a Standard Monitoring Methodology

Wetlands INTERNATIONAL

INTERNATIONAL WATERBIRD CENSUS

Guidance on waterbird monitoring methodology:
Field Protocol for waterbird counting

Contents

Download from https://bit.ly/3tpAeYj

Considerations for monitoring

- WHERE TO COUNT WATERBIRDS
- EQUIPMENT
- IDENTIFICATION
- COUNT METHODS:
  - INLAND SITES
  - TIDAL SITES
  - GROUND COUNT
  - BOAT SURVEY
  - AERIAL SURVEY
  - USE OF DRONES
- WHAT TO RECORD
- HOW TO COUNT IN BLOCKS
- THE IMPORTANCE OF ZERO COUNTS
- SPECIAL COUNTS
- ROOST COUNTS
- COLONIAL NESTING SPECIES
- SEPERATION OF ADULT AND JUVENILES
- WHEN TO COUNT
- ADVANTAGE OF MORE FREQUENT CENSUS
- LINKING WATERBIRD MONITORING WITH OTHER CONSERVATION AND RESEARCH ACTIVITIES
- RECORDING OF TAGGED BIRDS

Data Submission for the Asian Waterbird Census

By participants

1. AWC Count & Site Data Entry 2025 File - Excel
2. eBird + AWC eBird 2025 Wetland Assessment Form (Google Form)
3. AWC Word Form (to be phased out in future)

AWC India eBird Wetland Assessment Form

Asian Waterbird Census India eBird 2021 Wetland Assessment Form

INTRODUCTION

The Asian Waterbird Census (AWC) is an international programme that focuses on monitoring the status of waterbirds and wetlands. It also aims to increase public awareness on issues related to wetland and waterbird conservation. The census is carried out each January as a voluntary activity at national and local level. The AWC is co-ordinated by Wetlands International as part of global programme, the "International Waterbird Census".

The census has three major objectives:
1. Obtain information on an annual basis of waterbird populations at wetlands in the region during the non-breeding period of most species (January), as a basis for evaluation of sites and monitoring of populations.
2. Monitor on an annual basis the status and condition of wetlands.
3. Encourage greater interest in waterbirds and wetlands amongst people, and thereby promote the conservation of wetlands and waterbirds in the country and region.

Submission of your AWC count and wetland information can be provided in three ways:
1. eBird+AWC India Wetland Assessment Information (this form, see below)
2. AWC India Data Entry Form 2021 (Excel format)
   The Excel Forms are available on request from awc@wetlands.org. These forms need to be submitted by email to a state coordinator (see https://www.wetlands.org/profile/india/) and cced to awc@wetlands.org. If there is no state coordinator, this information is sent direct to Wetlands International at awc@wetlands.org.

To use the eBird+AWC India Site Information, participants are provided with basic instructions on methods and guidelines for participating in the census and making the counts. You are requested to:

Do note that only eBird submissions accompanied by an AWC India-eBird Site Information will be accepted and included in the national and regional AWC overviews. So kindly complete the regular eBird count and this Site form for each site separately. Guidance for filling and submission of this form is provided below.

Kindly provide feedback on how we may improve this form in the last section in this form or by email to awc@wetlands.org.

GUIDANCE IN SUBMISSION OF THE AWC INDIA eBIRD FORM

The Wetland Assessment form requests the following information: basic information on the wetland, Visit Conditions, Wetland Characteristics, Main Uses, Threats to the Wetland and Threats to the waterbirds.

Please submit only one form per site covered. The AWC has a list of wetland sites that have been covered in previous years. We encourage you to check the list and to use the same site name as used before. This is important to enable long-term monitoring of sites and birds between years. The BNHS has a list of wetland Important Bird and Biodiversity Areas (IBAs). Both lists are available on https://docs.google.com/spreadsheets/d/16EgY41A4CSpx7AYIg27RiN2Em5fmuBvNeLD8-zuzWmU/edit?usp=sharing

For large-sized sites with well known and clearly demarcated sub-sites (or count unit area), it is necessary to submit a form for each sub-site. It is important to be able to identify the name of the sub-site clearly, for e.g. Chilika Lake--Mangalajodi; Chilika Lake--Nalabana, are two separate sub-sites within the Chilika Lake. It is possible that you will cover such sub-sites on different days or by different teams covering sub-sites simultaneously. The state coordinator/Wetlands International can review the counts and can combine accurately.

If there are multiple lists for a single site, ensure that there is no double counting across lists. In which case, please submit a separate form for each eBird list so that the state coordinator/Wetlands International can review the counts and can combine accurately.

Thank you for taking the time to fill in and submit your complete counts and site information. Your contribution to wetland and waterbird conservation is greatly appreciated

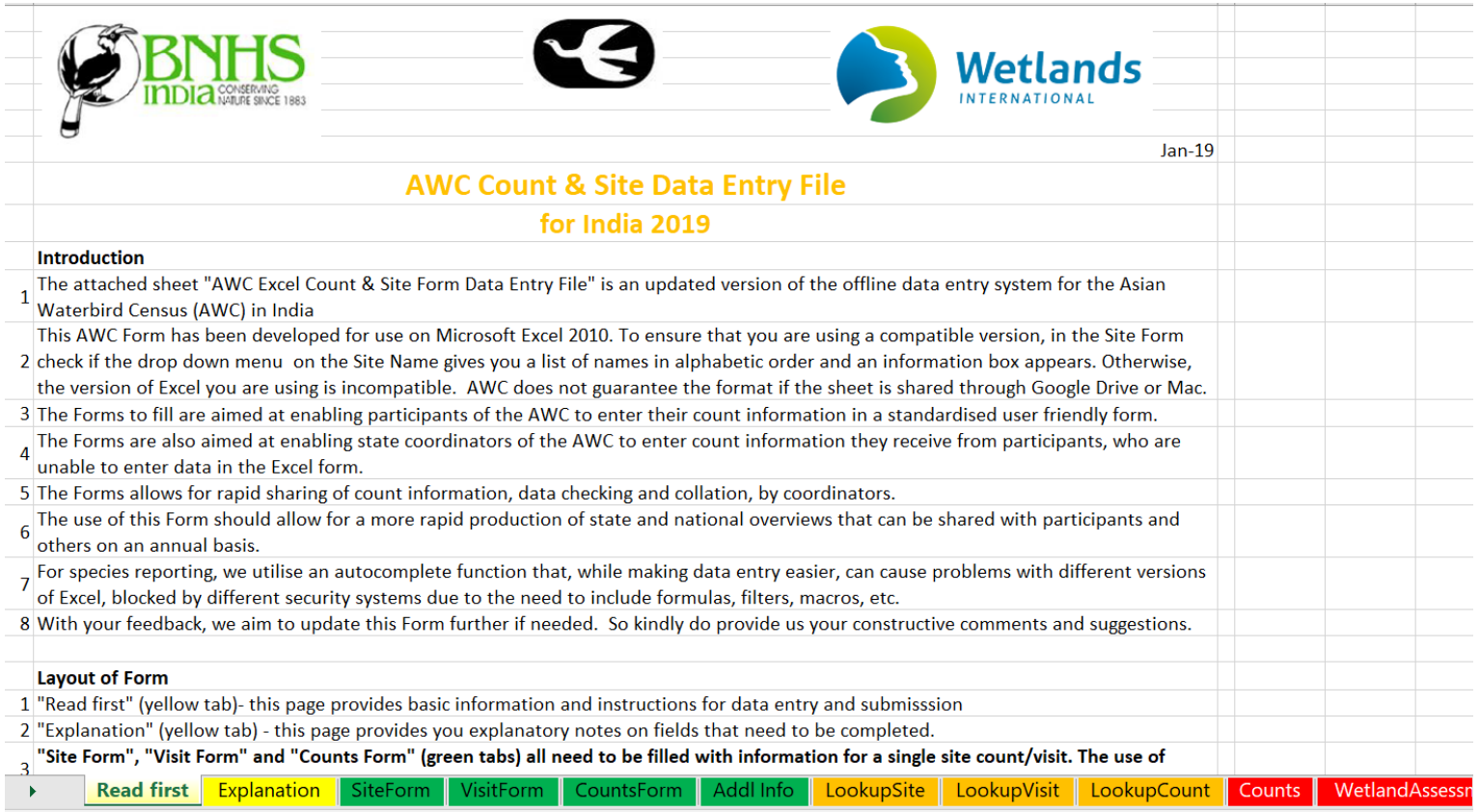
BNHS India | BIRD COUNT INDIA | Wetlands International

NEXT

Page 1 of 7

Download from - http://bit.ly/3qGsUWr

AWC Count & Site Data Entry File - Excel



Jan-19

AWC Count & Site Data Entry File for India 2019

Introduction

1 The attached sheet "AWC Excel Count & Site Form Data Entry File" is an updated version of the offline data entry system for the Asian Waterbird Census (AWC) in India

2 This AWC Form has been developed for use on Microsoft Excel 2010. To ensure that you are using a compatible version, in the Site Form check if the drop down menu on the Site Name gives you a list of names in alphabetic order and an information box appears. Otherwise, the version of Excel you are using is incompatible. AWC does not guarantee the format if the sheet is shared through Google Drive or Mac.

3 The Forms to fill are aimed at enabling participants of the AWC to enter their count information in a standardised user friendly form.

4 The Forms are also aimed at enabling state coordinators of the AWC to enter count information they receive from participants, who are unable to enter data in the Excel form.

5 The Forms allows for rapid sharing of count information, data checking and collation, by coordinators.

6 The use of this Form should allow for a more rapid production of state and national overviews that can be shared with participants and others on an annual basis.

7 For species reporting, we utilise an autocomplete function that, while making data entry easier, can cause problems with different versions of Excel, blocked by different security systems due to the need to include formulas, filters, macros, etc.

8 With your feedback, we aim to update this Form further if needed. So kindly do provide us your constructive comments and suggestions.

Layout of Form

1 "Read first" (yellow tab)- this page provides basic information and instructions for data entry and submisssion

2 "Explanation" (yellow tab) - this page provides you explanatory notes on fields that need to be completed.

3 **"Site Form", "Visit Form" and "Counts Form" (green tabs) all need to be filled with information for a single site count/visit. The use of**

Read first | Explanation | SiteForm | VisitForm | CountsForm | Addl Info | LookupSite | LookupVisit | LookupCount | Counts | WetlandAssessn

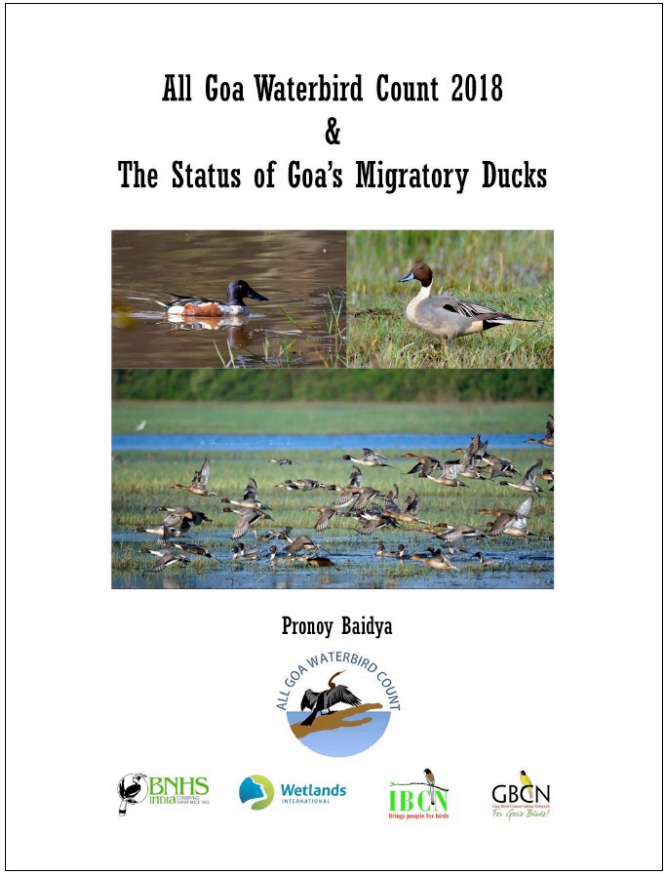
Excel count form -> IWC form

	A	B	C	D	E
1		AWC SITE FORM (INDIA)			
2	IF EXISTING SITE	General info (see Explanation for details)	IF NEW SITE (or to provide update of Existing Site)		
3	Uttar_Pradesh	← State →		* required field for new sites	
4	Chambal River (Nationa	← Site name →		* required field for new sites	
5	0	←District →		* required field for new sites	
6	0	←Nearest Town →			
7	0	← Sitecode			
8	0	← Protection →			
9	26.3525	←Latitude →		* required field for new sites	
10	79.052378	←Longitude →		* required field for new sites	
11	0	←Source →			
12	0	← Area →			
13	0	← Altitude →			
14	0	←Flood start →			
15	0	←Flood end →			
16		←Permanence of wetland →			
17		←Max depth of wetland →			
18		Habitat types			
19	0	←Open seas, bays, straits →			
20	0	←Estuaries, tidal mudflats, salt marshes →			
21	0	←Brackish or saline lakes, lagoons, salt pans →			
22	0	←Rivers, streams, canals, drains →			
23	0	←Freshwater marshes, flooded areas →			
24	0	←Freshwater lakes, ponds →			
25	0	←Reservoirs, barrages, tanks →			
26	0	←Gravel pits, mineral workings, mining pools →			
27	0	←Fish ponds, shrimp ponds →			

Read first | Explanation | SiteForm | VisitForm | CountsForm | Addl Info | LookupSite | LookupVisit | LookupCount | Counts

AWC State Level Reports

Highlighting local issues and trends



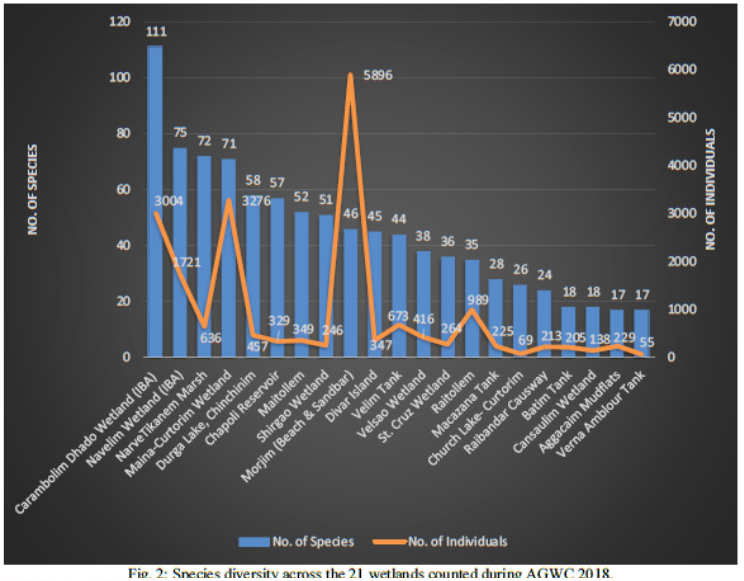
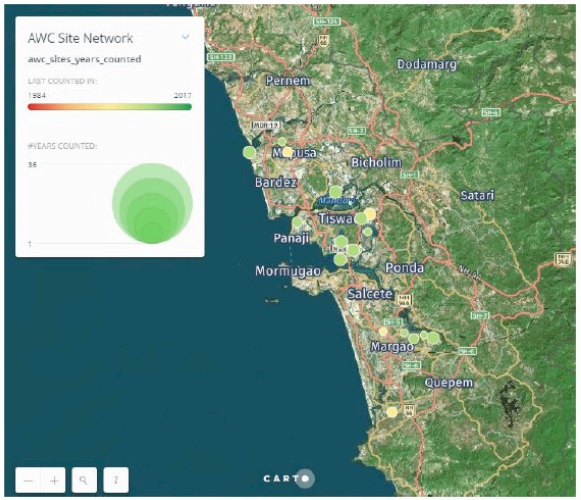


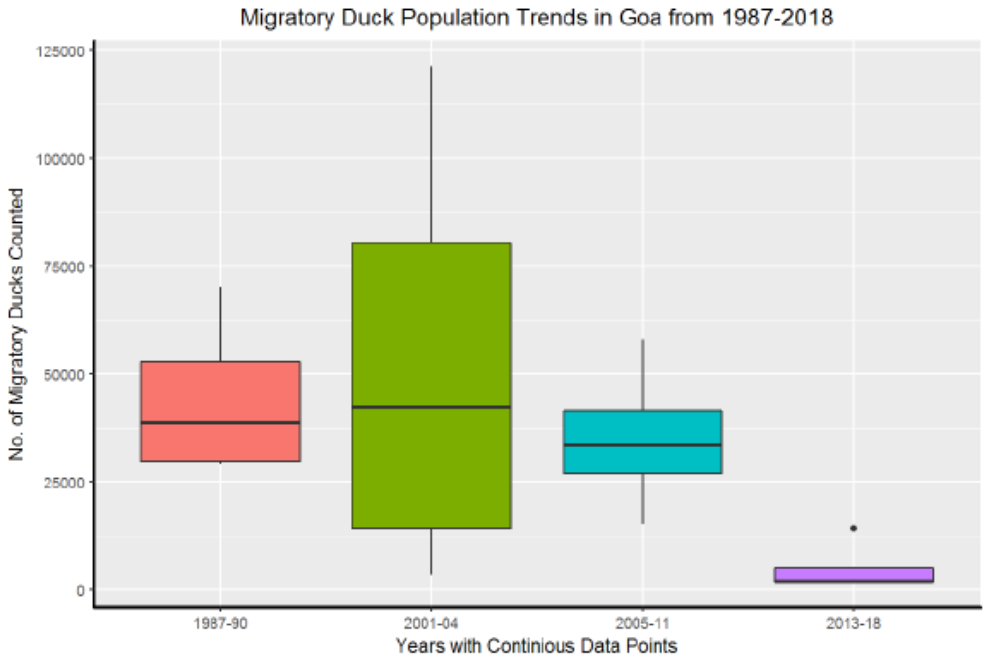
Fig. 2: Species diversity across the 21 wetlands counted during AGWC 2018.

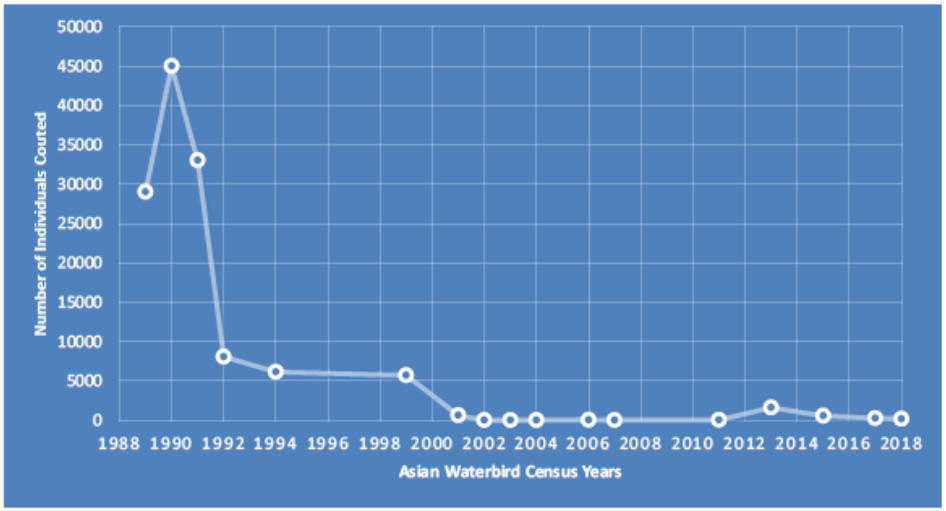


Baidya, P. 2018. All Goa Waterbird Count 2018 & the status of Goa's migratory ducks. Goa Bird Conservation Network.

AWC State Level Reports

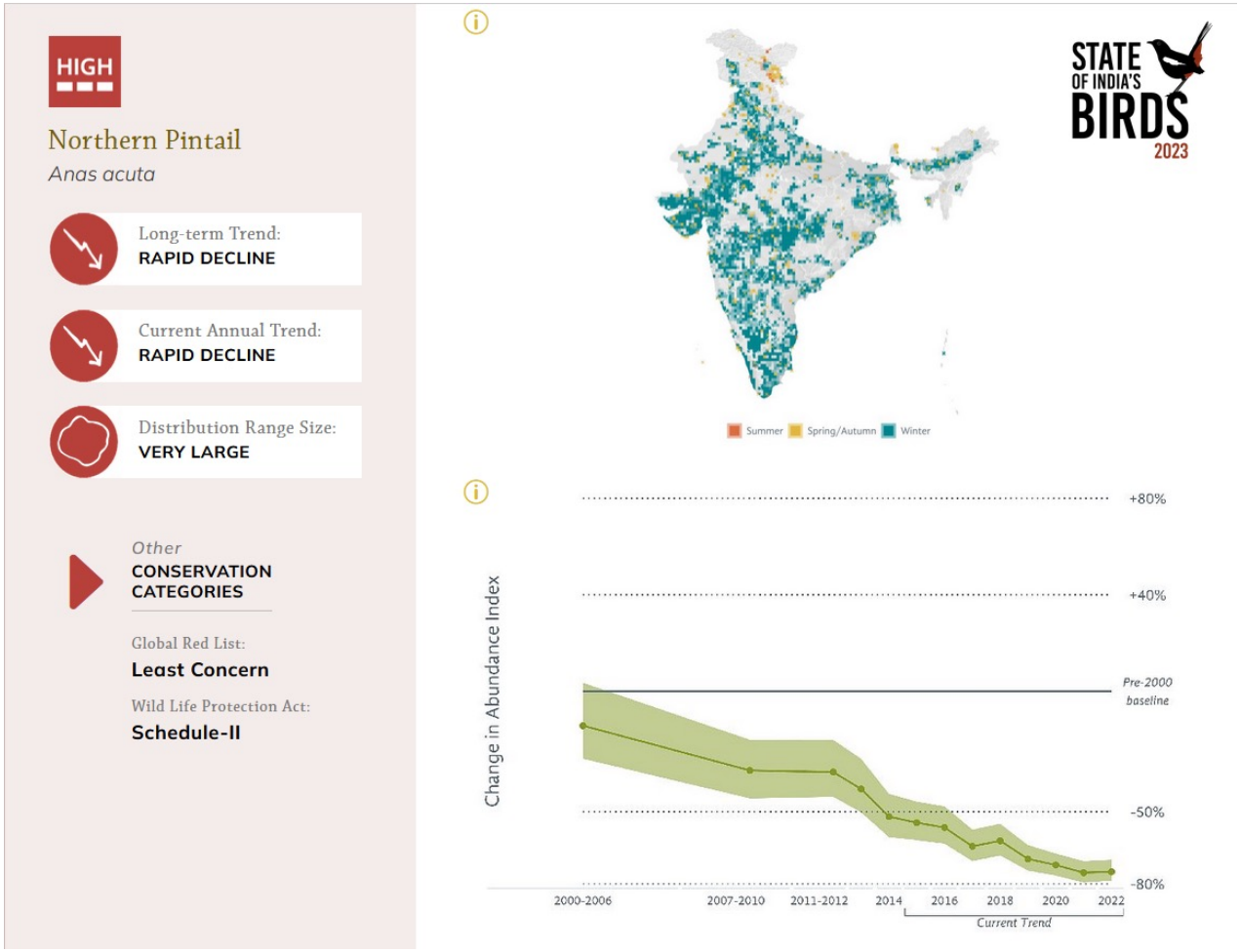
Highlighting local issues and trends





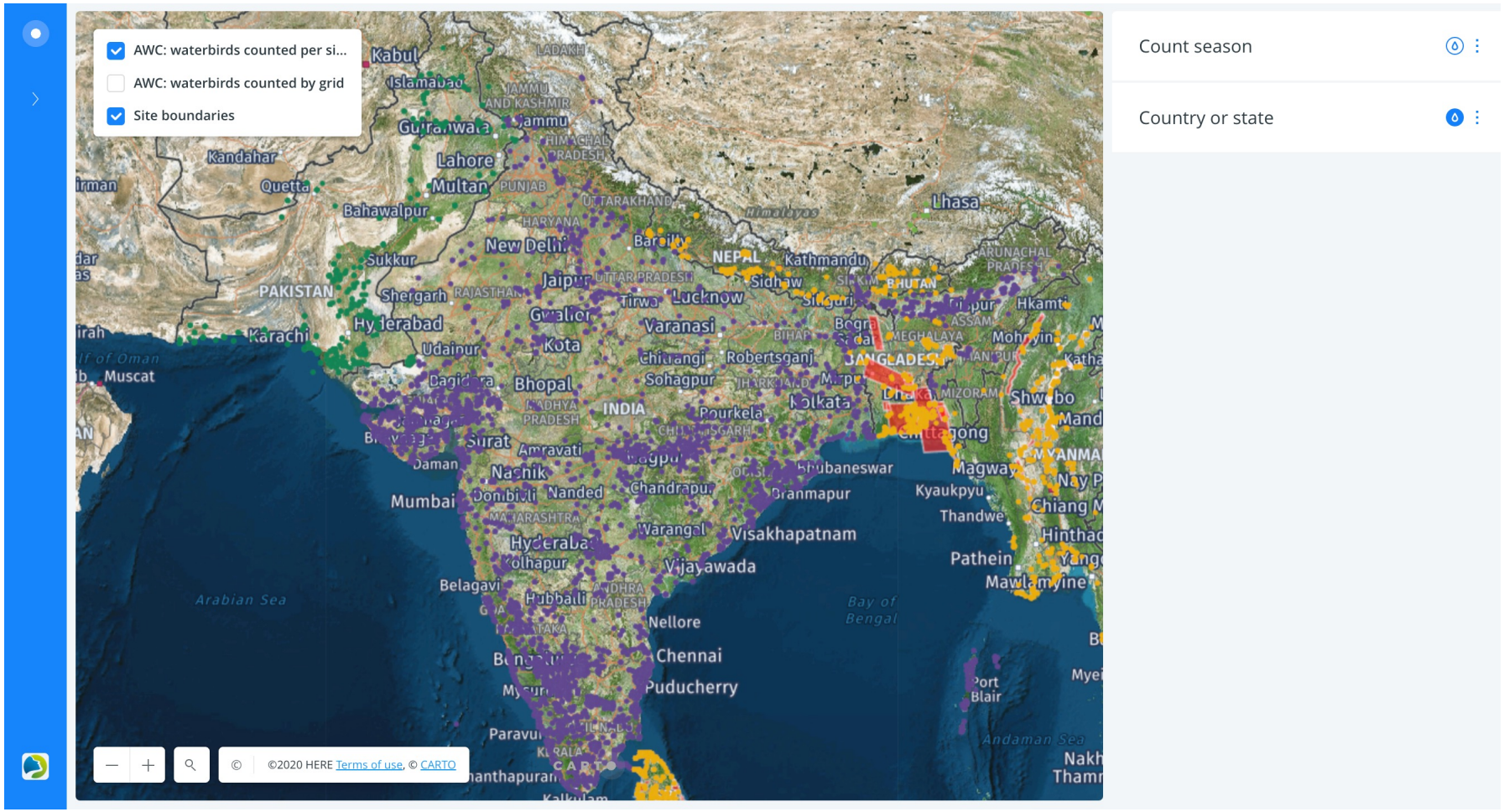
Baidya, P. 2018. All Goa Waterbird Count 2018 & the status of Goa's migratory ducks. Goa Bird Conservation Network.

State of India's Bird Report 2023 (tracking trends of species)



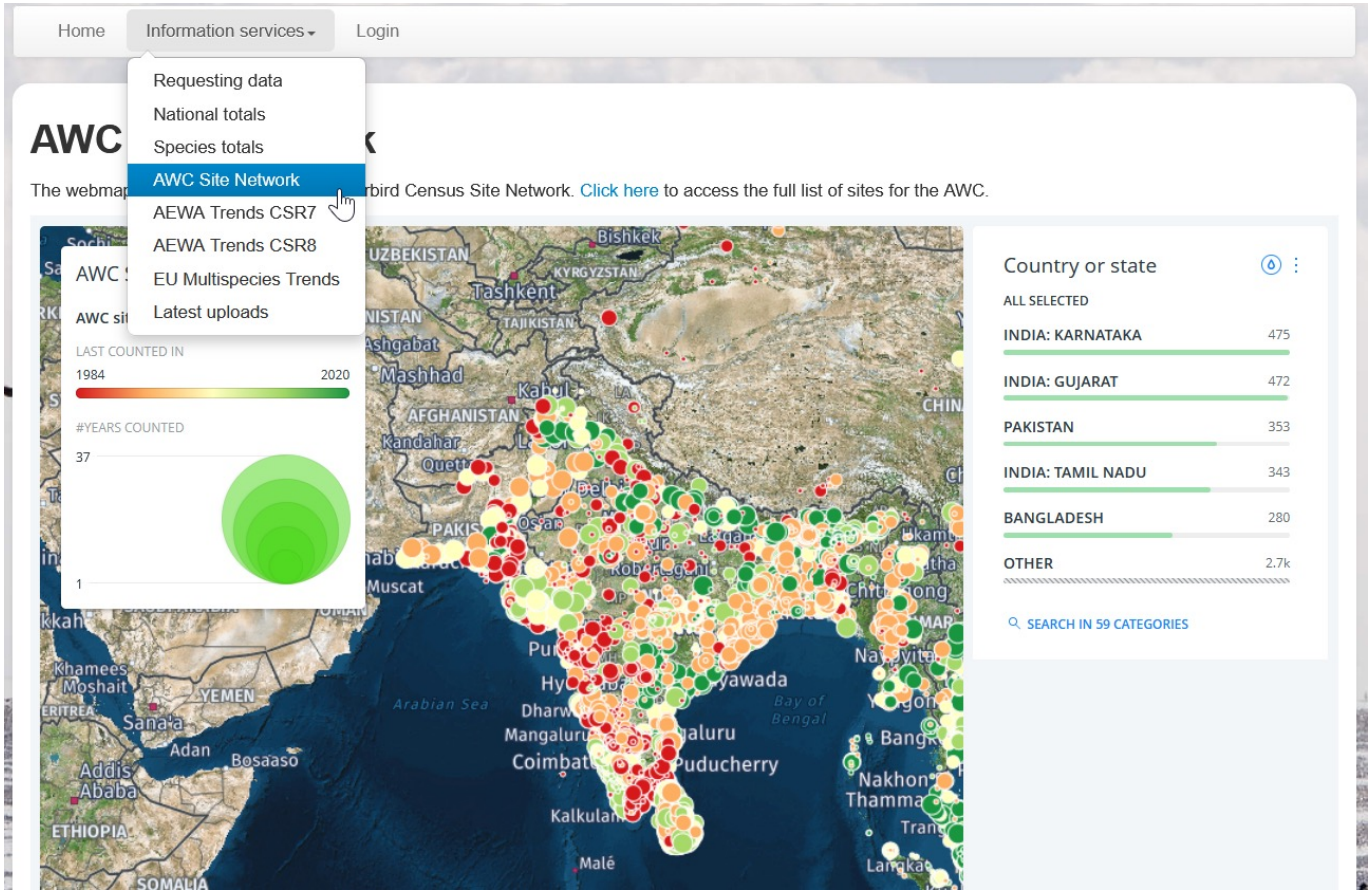
https://stateofindiasbirds.in/species/norpin/

Asian Waterbird Census Sites (reported to date since 1987 with latitude and longitudes)



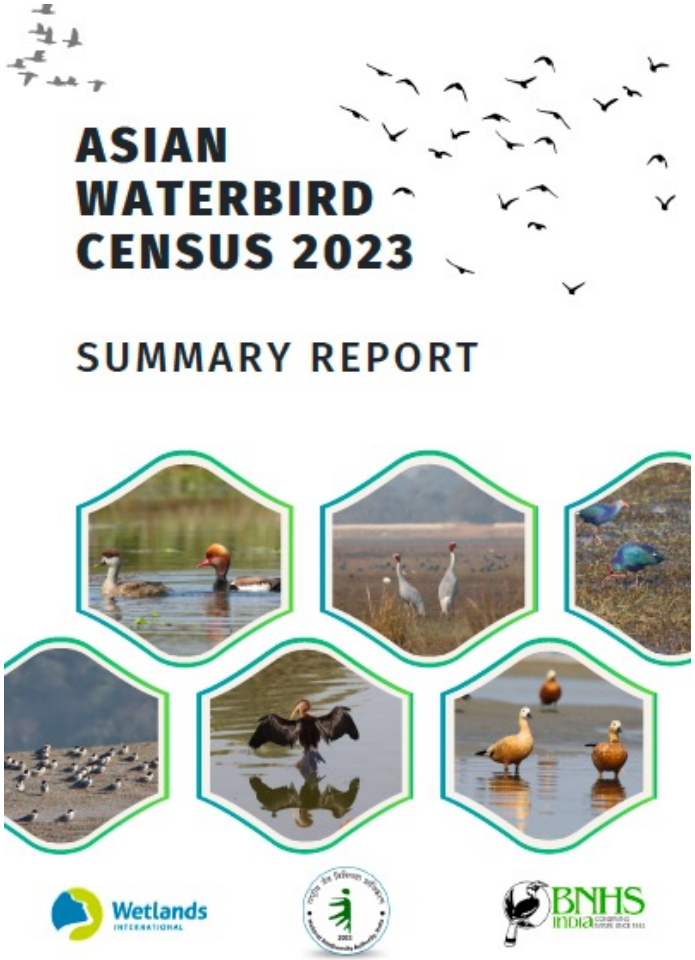
https://iwc.wetlands.org/index.php/awcsites

Asian Waterbird Census Site Network – online



http://iwc.wetlands.org/index.php/awcsites

AWC Annual National Summary Report



Map 2 Ramsar sites reported during AWC 2023

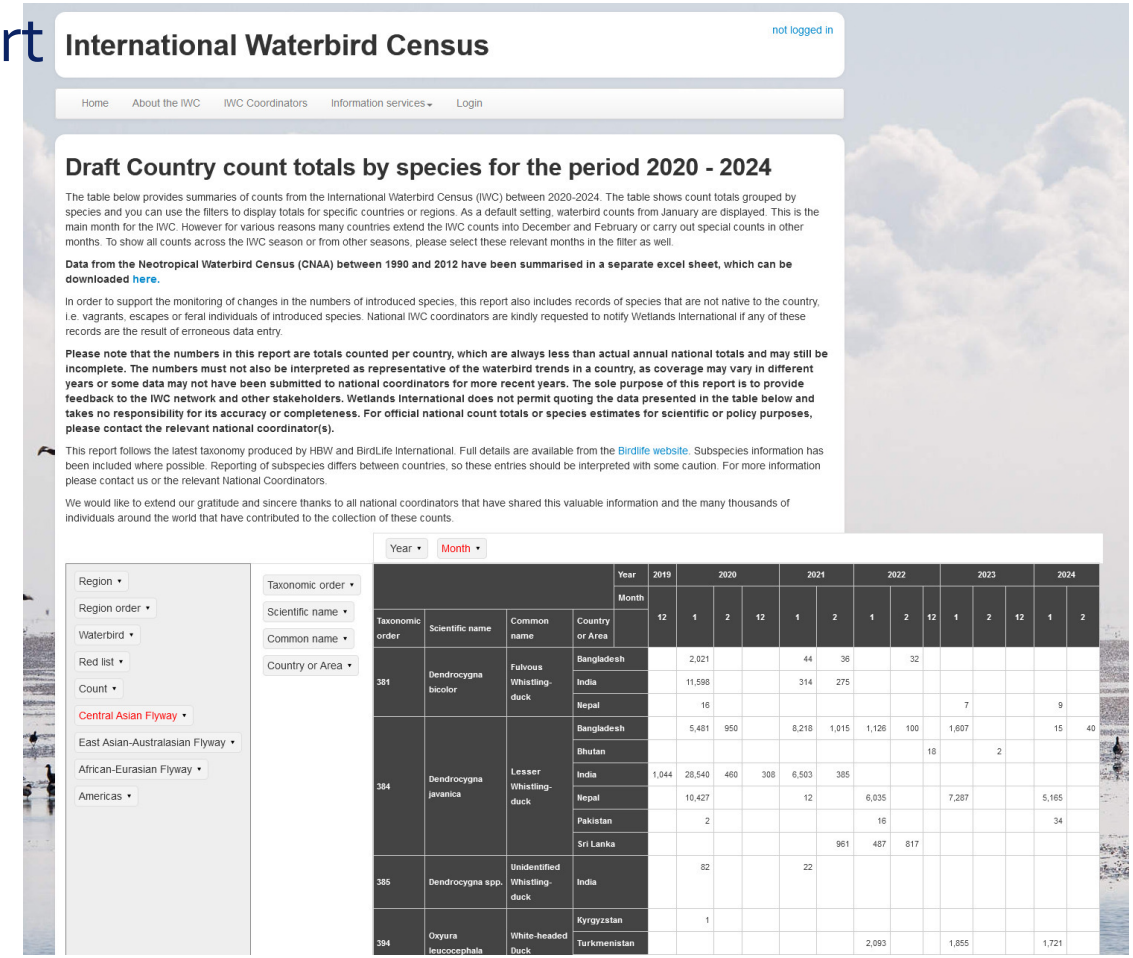
13 | Page

Threats to wetlands reported during Asian Waterbird Census 2023

Figure 8 Threats to wetlands reported during the AWC 2023

IWC Portal – access AWC Summary information

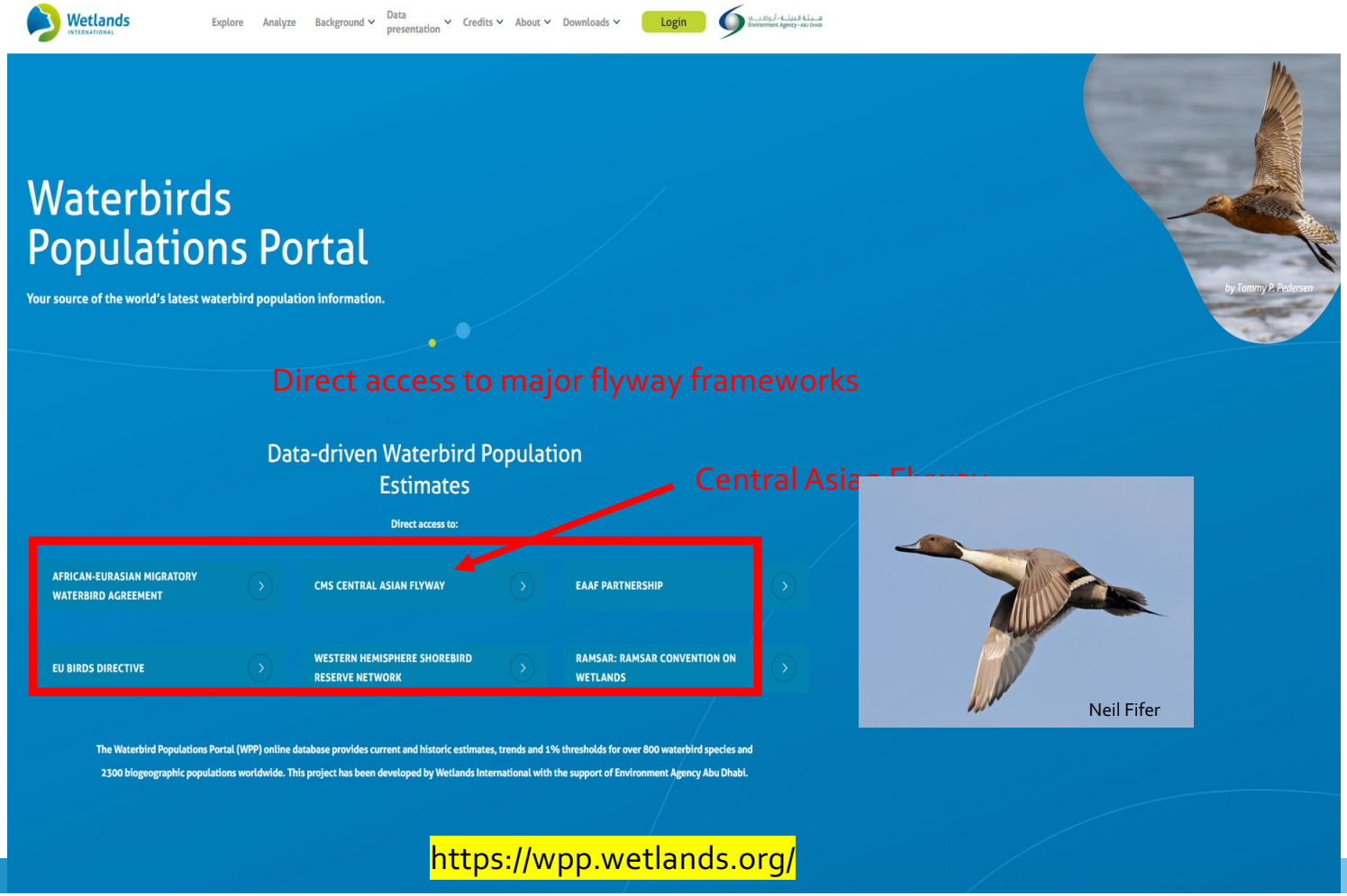
Latest draft 2020-2024 report – by species totals



Taxonomic order	Scientific name	Common name	Country or Area	2019	2020			2021		2022			2023			2024	
				12	1	2	12	1	2	1	2	12	1	2	12	1	2
381	Dendrocygna bicolor	Fulvous Whistling-duck	Bangladesh		2,021			44	36		32						
			India		11,598			314	275								
			Nepal		16								7			9	
384	Dendrocygna javanica	Lesser Whistling-duck	Bangladesh		5,481	950		8,218	1,015	1,126	100		1,607			15	40
			Bhutan									18		2			
			India	1,044	28,540	460	308	6,503	385								
			Nepal		10,427			12		6,035			7,287			5,165	
			Pakistan		2					16						34	
			Sri Lanka						961	487	817						
385	Dendrocygna spp.	Unidentified Whistling-duck	India		82			22									
394	Oxyura leucocephala	White-headed Duck	Kyrgyzstan		1												
			Turkmenistan							2,093			1,855			1,721	

- https://iwc.wetlands.org/index.php/spectotals

Waterbird Populations Portal – official source of information on waterbird population size and trends



https://wpp.wetlands.org/


Neil Fifer

Waterbirds Populations Portal

Wetlands INTERNATIONAL

Explore Analyze Background Data presentation

POPULATION NAME:
S Asia (non-bre)

SPECIES:
LC Northern Pintail
(Anas acuta)

Map settings

ICELAND SWEDEN NORWAY RUSSIA Moscow London Berlin BELARUS UKRAINE KAZAKHSTAN MONGOLIA Beijing Madrid Rome Istanbul TURKMENISTAN CHINA JAPAN Shanghai MOROCCO Cairo IRAQ IRAN Riyadh Karachi Dhaka Guangzhou OMAN LAOS Manila YEMEN CAMBODIA Lagos ETHIOPIA Malé Kuala Lumpur KENYA

mapbox

Species information

https://wpp.wetlands.org/

Common name	**Northern Pintail**	Scientific name	*Anas acuta*	Global Red List	● LEAST CONCERN
Order name	**Anseriformes**	Family name			


Neil Fifer

Population information

Population name	**S Asia (non-bre)**		
Breeding range	**C Siberia, C Asia**	Non-breeding rang	
Ramsar regions	**Asia**		

Conservation frameworks

CAF Action Plan, Ramsar Convention, CAFF

Population size

Collapse

Publication	Start year	End year	Minimum	Maximum	Estimate quality	Notes	References
WPE 5	0	0	1000000	1000001	Best guess	N8054	R407
WPE 4	0	0	1000000	1000001	No quality assessment	N5342	R407
WPE 3	1987	1991	100000	1000001	No quality assessment		R519
WPE 2	1987	1991	100000	1000001	No quality assessment		R519
WPE 1	1987	1991	100000	1000001	No quality assessment		R519

Population trend

Collapse

Publication	Start year	End year	Trend	Trend quality	Notes	References
WPE 5	1977	1991	DEC	No quality assessment		R519
WPE 4	1977	1991	DEC	No quality assessment		R519
WPE 3	1977	1991	DEC	No quality assessment		R519
WPE 2	1977	1991	DEC	No quality assessment		R519
WPE 1	1977	1991	DEC	No quality assessment		R519

Population 1% level

Collapse

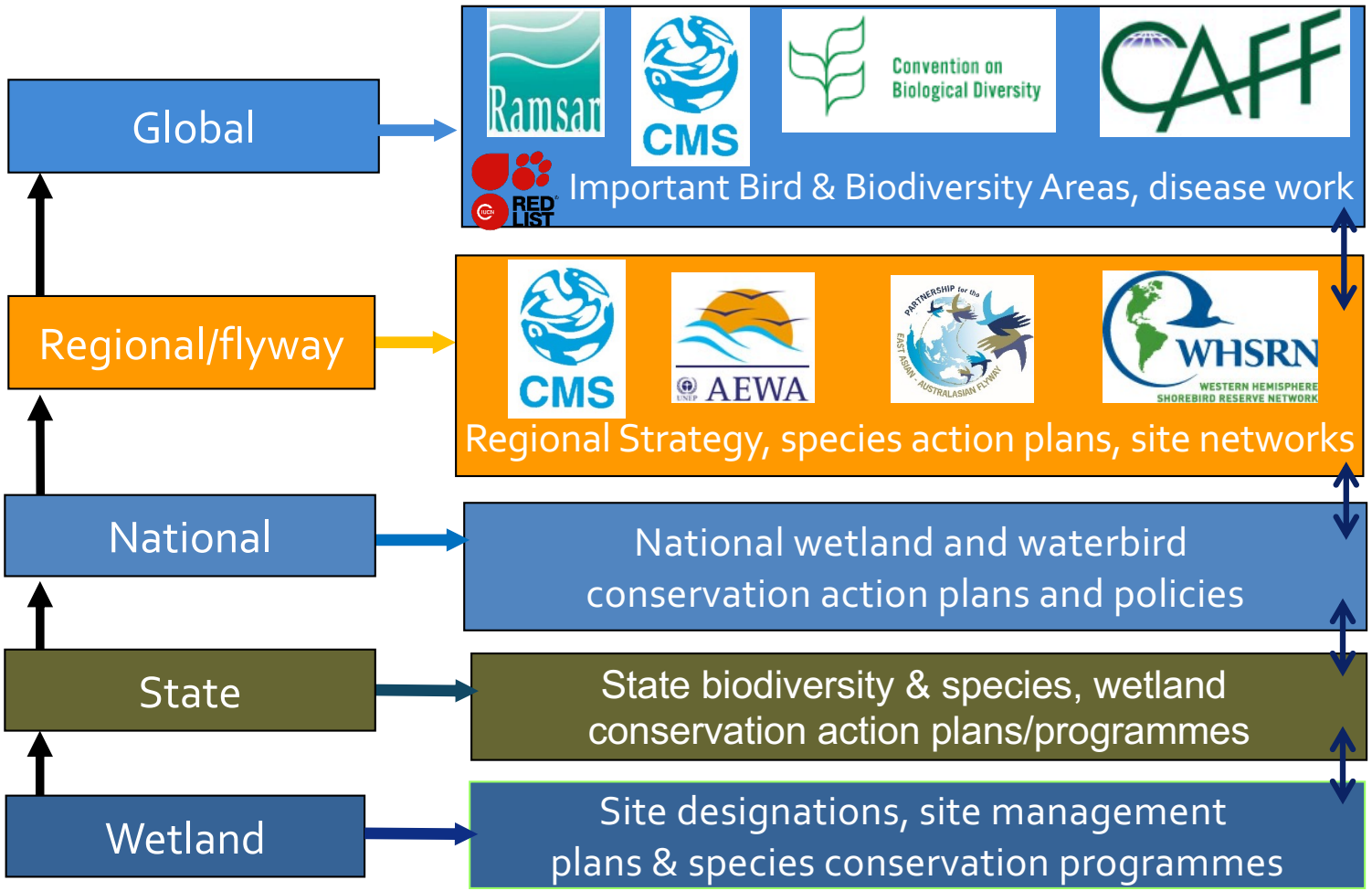
Publication	Yearset	1 percent	Notes
WPE 5	2012	20000	
WPE 4	-1	-1	N6810
WPE 3	-1	-1	N6810
WPE 2	-1	-1	N6810
WPE 1	-1	-1	N6810

Ramsar Site designation

References

- R407 - Li, David, and Asian Waterbird Census network in litt. 2005.
- R519 - Perennou, C.P., Mundkur, T. and Scott, D.A. 1994. The Asian Waterfowl Census 1987-1991: distribution and status of Asian waterfowl. IWRB Spec. Publ. No. 24. AWB Spec. Publ. No. 86. Slimbridge, UK and Kuala Lumpur, Malaysia.

Existing users of International Waterbird Census monitoring information



Latest Initiative for Central Asian Flyway

Resolution - UNEP/CMS/COP14.13

1. Decides to **establish an Initiative for the CAF (ICAF) as a platform for international cooperation under CMS**

2. Decides to **establish a Coordination Unit (based in India)**

3. Adopt a **Terms of Reference** for operation of ICAF

4. Implement ICAF through a **Programme of Work (POW)**

5. *Encourage* Parties, Range States, IGOs, NGOs and donors to contribute to ICAF objectives, and to **support the ICAF through with financial and technical resources**

Covers all migratory bird species – 600+

https://www.cms.int/sites/default/files/document/cms_cop14_res.14.13_initiative-for-central-asian-flyway_e.pdf

Remit of Initiative for Central Asian Flyway

The initiative will:

a) develop and implement a Programme of Work (POW) that aligns with, and facilitates the development and implementation of, relevant resolutions, decision and plans adopted by the CMS, the CMS Family flyway instruments and other non-CMS frameworks relevant to conservation of migratory birds along the CAF;

b) take measures that allow and secure ecological connectivity of populations;

c) identify any relevant priority species or issues of importance in the CAF not covered by existing instruments and frameworks and make recommendations to the governing bodies of the Convention, the CMS Family flyway instruments and other participating non-CMS frameworks to make resolutions, decisions, or other agreements to fill these gaps;

d) identify research gaps and priorities in the conservation of migratory birds for the CAF;

e) promote innovative approaches that deliver sustainable benefits to the local communities as well as migratory birds and their habitats;

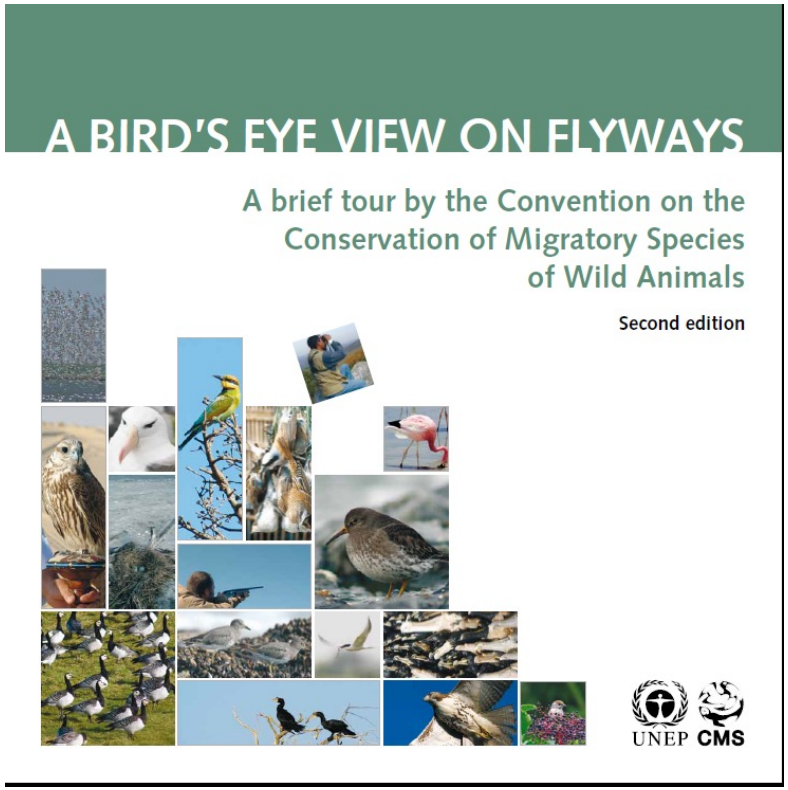
f) develop and increase the capacity of Range States, stakeholders and local communities to conserve and manage, as well as monitor, populations of the migratory bird species and their habitats;

g) assist in resource mobilization for priority actions including through cooperation with international financial institutions and public and/or private organizations;

h) improve citizen science, education, and awareness on the need to conserve migratory birds and their habitats in the CAF; and

i) enhance and facilitate communication and information sharing between the CAF Range States.

https://www.cms.int/sites/default/files/document/cms_cop14_res.14.13_initiative-for-central-asian-flyway_e.pdf



Thank you

https://www.cms.int/sites/default/files/publication/cms_pub_pop-series_bird-eye-view-flyways_2ed_web.pdf