

# An introduction to current leopard survey work across West Africa

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# Introduction

## West Africa

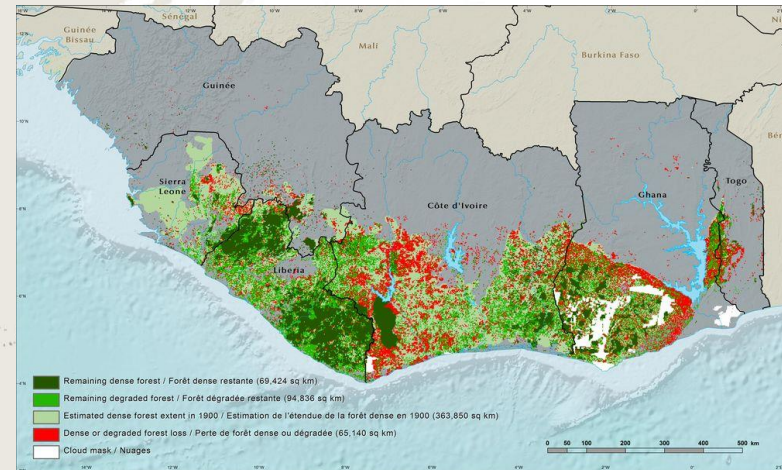
- Total land area of over 6 million km<sup>2</sup>
- Inhabited by 426 million people (5% of world population)
- Population growth rate of >2.5%/a (greatest in the world of any geographic region)



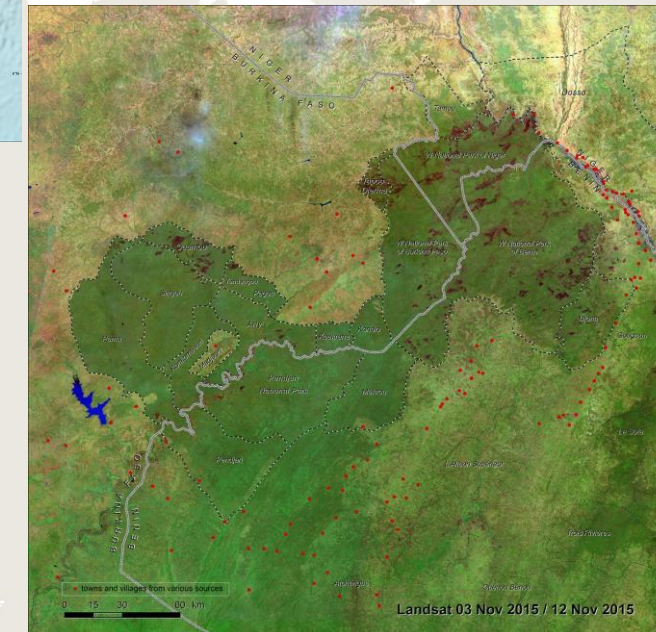
# Introduction

## West Africa

- Contains more than ¼ of Africa's mammal species
- Very wide range of different habitats
- The Upper Guinean forest is the main hotspot for biodiversity and potential leopard stronghold
- One of the most critically fragmented ecoregions in the world (only 10% of original forest cover remain)



Upper Guinean forest change from 1975 to 2013.



Land-use change in the W-Arly Pendjari Complex. Source: Sentinel,2 images, 2015.



# Introduction



<https://eros.usgs.gov/westafrica>

- 1,936 nationally protected areas (9.6% of the region), of which 53 PAs have international designation
- Most of endangered species confined to within PAs
- Around 90% of existing PAs are too small to contain viable populations of leopards and other large carnivores

**Internationally designated sites**

- Biosphere Reserve / Réserve de Biosphère
- Ramsar Site / Site Ramsar

**Nationally designated sites**

- National Park / Parc National
- Nature Reserve / Réserve Naturelle
- Faunal Reserve / Réserve de Faune
- Wildlife Sanctuary / Sanctuaire de Faune
- Forest Reserve / Forêt Classée



# Introduction

## Leopards in West Africa

- 86-95% range loss (compared to 28–51% in Southern Africa and 63–75% in all of Africa (Jacobson et al. 2016))
- Largest PAs are the remaining strongholds but face numerous pressures and threats
- Wide range of threats (poaching for body parts, overhunting of prey, habitat loss, HWC)
- Recent genetic research suggests that leopards in West Africa **might** warrant designation as a separate sub-species (Anco et al. 2018)



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# Introduction

## Leopards in West Africa

- Only nine putative leopard populations may remain in West Africa
- Recommendation of the 1st Meeting of the Range States for the Joint CMS-CITES African Carnivore Initiative (2018) was to **develop and implement a conservation strategy for the leopard in West Africa**
- ACI PoW:
  - Objective 1: Conservation Planning
    - Result 1.4: Conservation strategies
      - **Activity 1.4.4: Regional Conservation Strategies**



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# Introduction

## Develop a conservation strategy for the leopard in West Africa

- First step: **Assessment of status and threats** across the region:
  - Distribution
  - Local abundance and population trends
  - Threat assessment
  - Review of conservation opportunities



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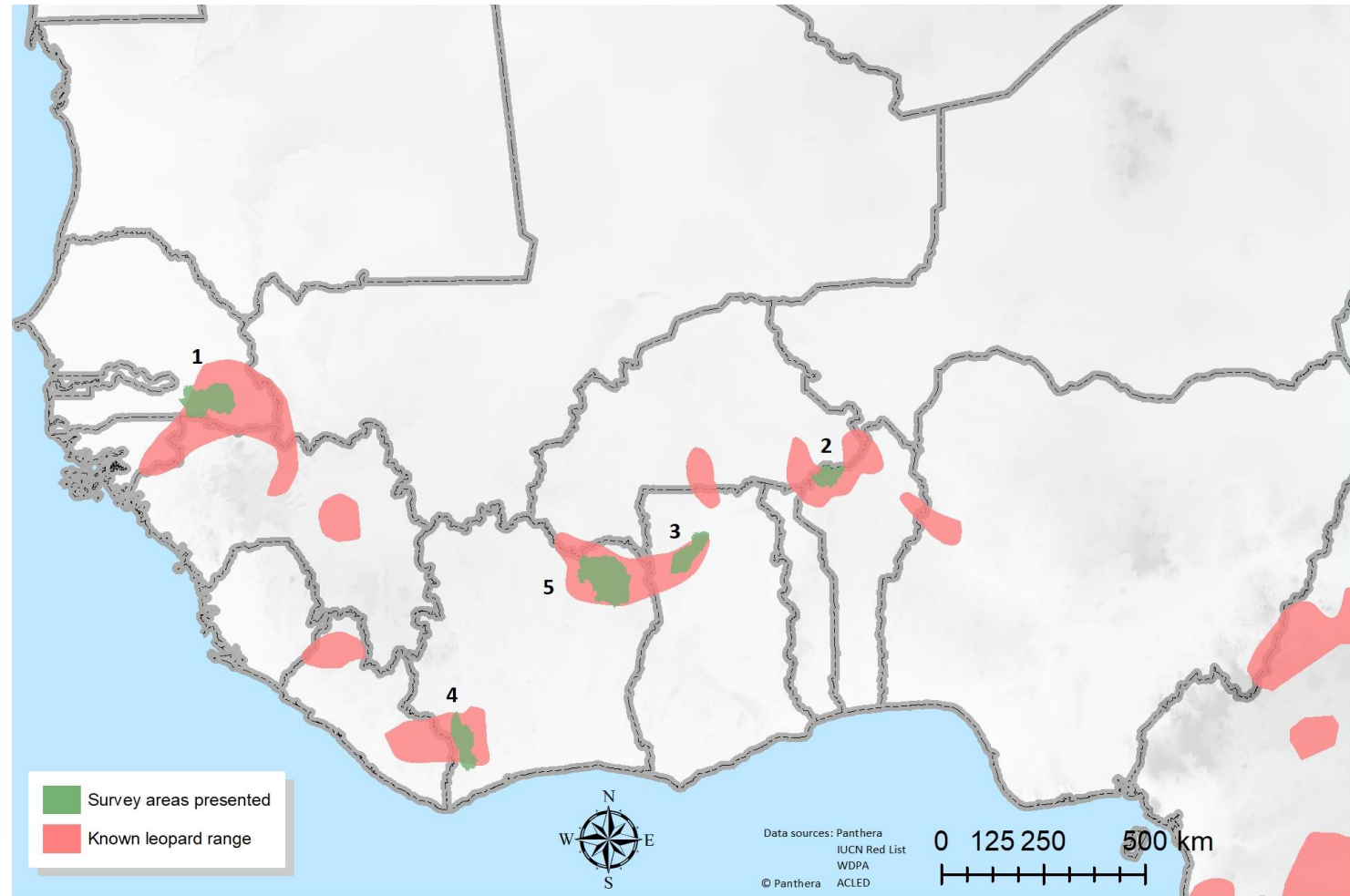


# Methods

## Baseline surveys on distribution, status and threats

Survey work started in the last 5 putative strongholds for leopards in West Africa:

1. Niokolo-Koba National Park, Senegal
2. Pendjari National Park, Benin
3. Mole National Park, Ghana
4. Taï National Park, Ivory Coast
5. Comoé National Park, Ivory Coast





# Methods

1. Establishing distribution and density:
  - i. Camera-trap surveys in core areas of stronghold PAs (study areas of 500-1500 km<sup>2</sup>)
  - ii. Estimation of leopard density using SECR analysis
  - iii. Online questionnaire to determine global distribution in the region
2. Establishing main threats:
  - i. Field data from leopard surveys
  - ii. Market surveys
  - iii. Interviews with various local respondents (hunters, village chiefs, rangers, etc.)
  - iv. Online questionnaire



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## Preliminary results – densities

<b>National Park</b>	<b>Country</b>	<b>Size of national park (km<sup>2</sup>)</b>	<b>Percentage area surveyed</b>	<b>Number of cameras (number of paired stations)</b>	<b>Number of camera trap days</b>
Niokolo-Koba	Senegal	9 130	16.7	139 (63)	11 082
Pendjari	Benin	2 784	54.5	96 (15)	8781
Mole	Ghana	4 577	11.4	100 (50)	6926
Tai	Ivory Coast	5 560	8.2	100 (50)	TBD
Comoé	Ivory Coast	11 491	TBD	TBD	TBD



## Preliminary results – densities

National Park	Country	Number of pictures taken	Number of mammal species detected	Total number of leopard pictures (number of individual leopards)	Estimated density (per 100 km <sup>2</sup> of suitable habitat)
Niokolo-Koba	Senegal	121 282	45	168 (51)	3.6 ± 0.9
Pendjari	Benin	107 777	38	77 (27)	1.06 ± 0.30
Mole	Ghana	117 693	36	161 (19)	1.7 ± 0.4
Taï	Ivory Coast	TBD	TBD	TBD	TBD
Comoé	Ivory Coast	TBD	TBD	TBD	TBD



# Preliminary results – threats

## 1. Poaching of leopard prey



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# Preliminary results – threats

## 2. Poaching of leopards for trade in body parts

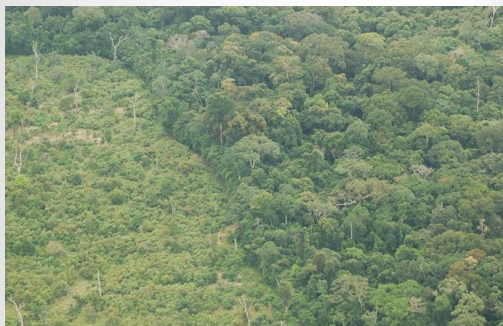
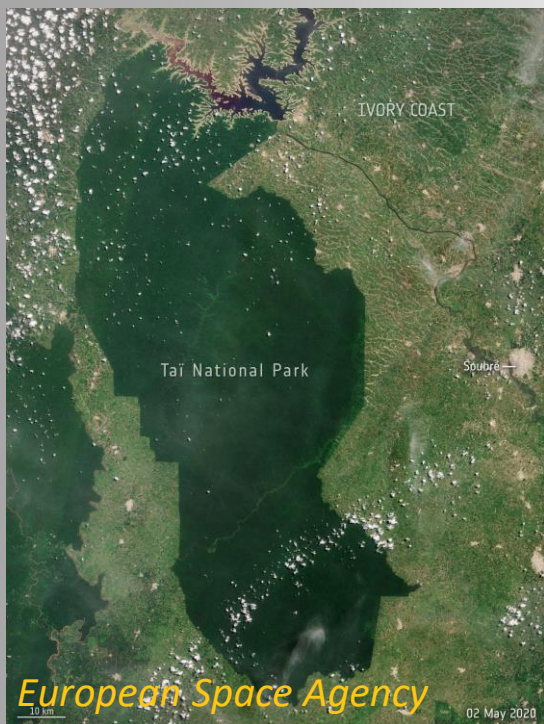


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# Preliminary results – threats

## 3. Habitat destruction/fragmentation



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# Preliminary results – current distribution in West Africa

Updated distribution map still under development  
(questionnaire survey ongoing)



## Next steps

- Finish survey in Taï and deploy one in Comoé NP
- Analyse and report on the questionnaire results, and develop an update distribution map
- Feed updated distribution data into global leopard Red List assessment
- In collaboration between the IUCN CSG and West African leopard range states, develop a **Regional conservation strategy for the leopard in West Africa**





Thank you

