



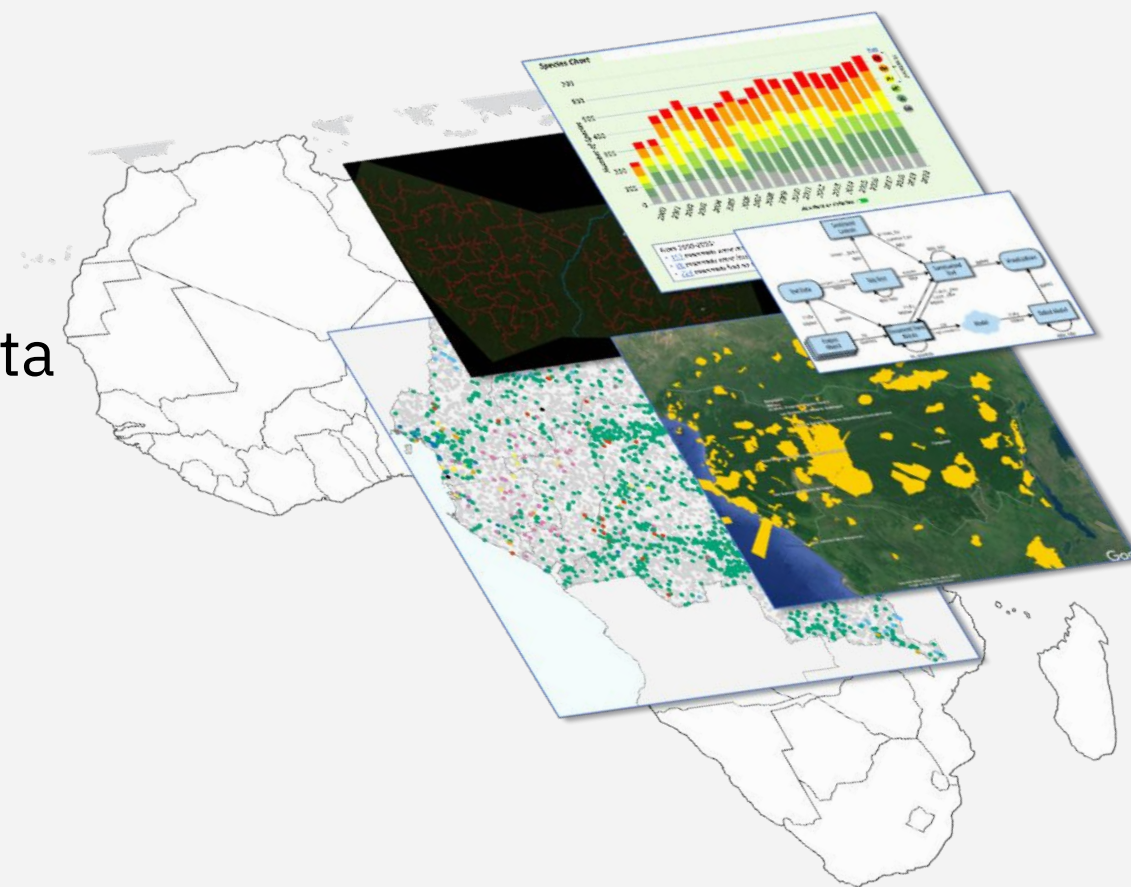
# Species Protection Platform

April 2023

**PROJECT CANOPY**  
Environmental Intelligence for Africa's Rainforest

## Our unique approach to Congo Basin conservation

- We use a threats-based framework
- We integrate spatial and non-spatial data
- We focus on helping local organizations





## What do we need to know about species protection?

- The gaps between scientific extinction risk, national species protection laws and international trade regulation are **unknown**
- This hinders the making of good policy, effective law enforcement, etc
- By comparing IUCN Red List, national laws and CITES, we can ask questions like:
  - What are the *exact species* that are threatened but not protected by national laws?
  - How many are *endemic* to the Congo Basin, or its rainforest habitats?
  - For any Congo Basin country, what would an *up-to-date species protection law* look like?

- **We can identify – in real time – whether science, national and international laws are aligned**
- Users can generate detailed lists of threatened and protected species
- Useful to local governments, capacity-building organizations, law enforcement, advocacy groups




# Mockup Walk-through

Visualizing the platform

**PROJECT CANOPY**  
Environmental Intelligence for Africa's Rainforest



## Users can immediately focus their search...

 PROJECT CANOPY :: SPECIES DATABASE

Tell Me,

Which are the current endangered select species in the Congo Basin ?

☐ *amphibians*

☒ *birds*

☒ *mammals*

☐ *reptiles*

OK ▾

Answer

PROJECT CANOPY :: SPECIES DATABASE

< **BACK** *The current Conservation Status (IUCN), National Protection Status, + Int'l Protection Status (CITES) of all land vertebrates in the Congo Basin.*

### CONTROLS

☐ Rainforest Only
 ☐ Endemic Only
 ☐ Exclude Data Deficient

☐ 10 ≥
 ☐ 10 ≤

☐ PRINT
 ☐ SHARE

#### GRAPHIC

Class ☐ Geography ☐ Absolute ☐ Relative

Class	Number of Species
Amphibian	~550
Birds	~450
Mammals	~500
Reptile	~350

#### SPECIES LIST

Search by species


Scientific Name	Common Name	Species Class	Threat Class
Acanthixalus Spinosus	African Wart Frog	Amphibian	CR
Acanthocercus Atricolis	Black Necked Agama	Amphibian	EN
Acanthocercus Atricolis	Uganda Blue Headed	Amphibian	VU
Acanthocercus Atricolis	Black Necked Agama	Amphibian	NT
Acanthocercus Atricolis	Black Necked Agama	Bird	LC
Acanthocercus Atricolis	Black Necked Agama	Bird	DD
Acanthocercus Atricolis	Uganda Blue Headed	Mammal	CR
Acanthocercus Atricolis	Black Necked Agama	Mammal	EN
Acanthocercus Atricolis	Black Necked Agama	Mammal	VU
Acanthocercus Atricolis	Black Necked Agama	Reptile	NT
Acanthocercus Atricolis	Black Necked Agama	Reptile	LC
Acanthocercus Atricolis	Black Necked Agama	Reptile	DD

### NUMERIC

	Amphibian	Bird	Mammal	Reptile
CR	21	7	16	7
EN	34	22	44	4
VU	226	1207	414	62
NT	12	46	37	5
LC	18	39	52	10
DD	0	0	1	0




## ...With instant identification of species – and legal – gaps

 PROJECT CANOPY

⋮ SPECIES DATABASE

< What is the current conservation status of all land vertebrates in the Congo Basin ?

 FILTERS

Location

☐ Rainforest Only


Species


☐ Endemic Only

Recency

☐ 10 ≥ yrs

☐ 10 ≤ yrs

 PRINT

 SHARE

PROTECTIONS BY GEOGRAPHY

Selections in this chart will populate the Species List below

Conservation Status Category IUCN		National Protections							Int'l Protections	
		REGION	CMR	CAR	DRC	EQG	GAB	RoC		
Protected Species	+	<a href="#">101</a>	<a href="#">101</a>	<a href="#">101</a>	<a href="#">101</a>	<a href="#">101</a>	<a href="#">101</a>	<a href="#">101</a>		<a href="#">101</a>
Vulnerable Species	+	<a href="#">257</a>	<a href="#">257</a>	<a href="#">257</a>	<a href="#">257</a>	<a href="#">257</a>	<a href="#">257</a>	<a href="#">257</a>		<a href="#">257</a>
with Protections	+	<a href="#">48</a>	<a href="#">48</a>	<a href="#">48</a>	<a href="#">48</a>	<a href="#">48</a>	<a href="#">48</a>	<a href="#">48</a>		<a href="#">48</a>
without Protections	+	<a href="#">48</a>	<a href="#">48</a>	<a href="#">48</a>	<a href="#">48</a>	<a href="#">48</a>	<a href="#">48</a>	<a href="#">48</a>		<a href="#">48</a>

SPECIES LIST

⋮

Species IUCN				National Protections						Int'l	
Scientific	Common	Class	Threat	CMR	CAR	DRC	EQG	GAB	RoC		
Acanthixalus Spinosus	African Wart Frog	Amphibian	●	<a href="#">Class A</a>	<a href="#">Class A</a>	<a href="#">Class A</a>	<a href="#">Class A</a>	<a href="#">Class A</a>	<a href="#">Class A</a>		<a href="#">Appendix 2</a>
Acanthixalus Spinosus	African Wart Frog	Amphibian	●	<a href="#">Class C</a>	<a href="#">Class C</a>	<a href="#">Class C</a>	<a href="#">Class C</a>	<a href="#">Class C</a>	<a href="#">Class C</a>		<a href="#">N/A</a>
Acanthocercus Atricollis	African Wart Frog	Reptile	●	<a href="#">Class B</a>	<a href="#">Class B</a>	<a href="#">Class B</a>	<a href="#">Class B</a>	<a href="#">Class B</a>	<a href="#">Class B</a>		<a href="#">Class B</a>
Acanthocercus Atricollis	African Wart Frog	Reptile	●	<a href="#">Class A</a>	<a href="#">Class A</a>	<a href="#">Class A</a>	<a href="#">Class A</a>	<a href="#">Class A</a>	<a href="#">Class A</a>		<a href="#">Class A</a>
Acanthixalus Spinosus	African Wart Frog	Amphibian	●	<a href="#">Class B</a>	<a href="#">Class B</a>	<a href="#">Class B</a>	<a href="#">Class B</a>	<a href="#">Class B</a>	<a href="#">Class B</a>		<a href="#">Class B</a>

hello@projectcanopy.org





# National Laws

Initial reading & Findings



## National laws are crucial but difficult to work with

- Laws first have to be found, then read, then *understood*
- Only after the correct names of species have been identified can they be 'mapped' to IUCN and CITES
- This is the **missing link**
- Without this work, gaps cannot be identified...and the data is **dirty**

### Manual transcription required (DRC)

<i>C. aethiopsis</i> (Linnaeus, 1758)	Singe vert
<i>E. patas</i> (Schreber, 1775)	Patas
<i>L. a/bigena</i> (Gray, 1850) "	Mangabey à gorge blanche
<i>M. talapoin</i> (Schreber, 1774)	Talapoin
<i>Papio anubis</i> (J.B. FISCHER, 1829)	Babouin
<i>E. elegantulus</i> (LE CONTE, 1857)	Galago élégant
<i>G. matschiei</i> (LORENZ, 1917)	Galago du Congo
<i>G. moholi</i> (A. Smith, 1836)	Galago moholi
<i>G. senegalensis</i> (E. Geoffroy, 1796)	Galago du Senegal

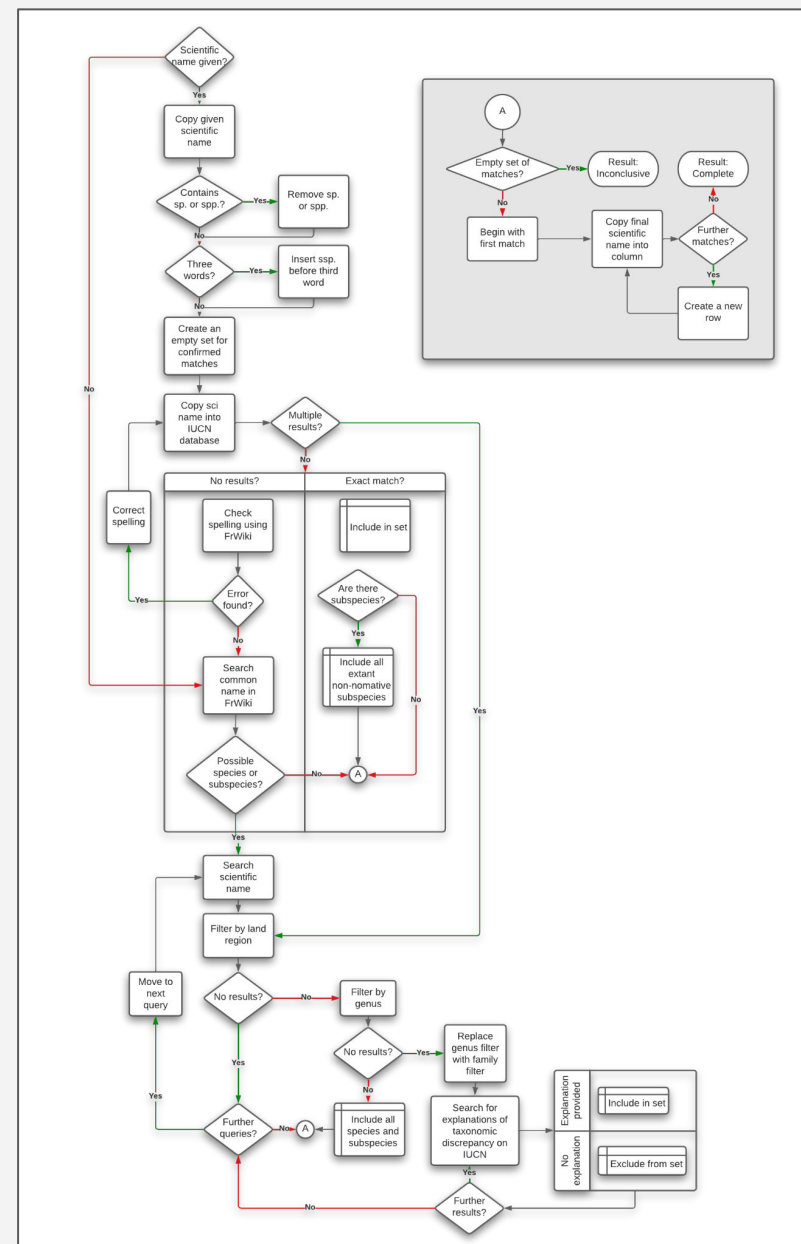
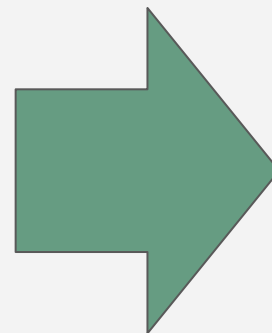
### Taxonomic errors and ambiguities (Gabon)

Cobe des roseaux	Kobus redunca arundinum	<i>Redunca redunca</i>
Daman des arbres	Dendrohyrax arboreus	<i>Dendrohyrax arboreus</i>
Galago spp	Galago spp	<i>Galagoides thomasi</i>
Galago spp	Galago spp	<i>Galagoides demidoff</i>
Potto spp	Potto spp	<i>Perodicticus edwardsi</i>
Potto spp	Potto spp	<i>Arctocebus aureus</i>
Oryctérope	Orycteropus afer	<i>Orycteropus afer</i>
Céphalophe de grimm	Sylvicapra grimmia	<i>Sylvicapra grimmia</i>




## Methodology

- We created a **rigorous decision tree**, to take the species named in laws and map them to what actually exists in IUCN\*
- In many cases, the **laws are unclear** about which species they are actually claiming to protect
  - We catalogued 11 types of errors, and many species had more than one!
- Our results are preliminary and we welcome expert input



\*Special thanks to Maya Newman-Toker for her hard work here!

## Our three key findings: Accuracy, age and utility

- These laws contain **extremely high error rates**
  - Cameroon is the most accurate, achieving only 57%
- Many **laws are old** and this compromises accuracy (eg, CAR's is from 1984)
- Correct **common names** are an afterthought
  - This limits accessibility and utility to non-specialists such as local communities, journalists
- Our [brief](#) has much more detail on these issues 



Overall accuracy of national species protection laws is low...

	Cameroon	Republic of Congo	Gabon	DRC	CAR	Totals / Avg accuracy
Given # of species	393	102	44	306	105	<b>950</b>
Final # of species	396	105	46	326	210	<b>1083</b>
Total # errors	176	57	33	166	221	<b>653</b>
<i>Date of adoption</i>	<i>1 Apr 2020</i>	<i>21 Apr 2011</i>	<i>19 Jan 2011</i>	<i>20 May 2006</i>	<i>1984</i>	<b>N/A</b>
<b>Accuracy</b>	<b>57.32%</b>	<b>48.57%</b>	<b>34.78%</b>	<b>53.37%</b>	<b>0.00%*</b>	<b>38.81%</b>

\* CAR law only gives common names

...and is partly a consequence of the age of legislation



For example, a preliminary analysis of gaps for Gabon...

<i>Gaps in Gabonese law as written</i>	
Threatened (CR/EN/VU) species in final list	17
Species listed in law but not extant in Gabon	4
<i>Extant</i> threatened species in final list *	15
Extant threatened species (Aves, Mammalia, Reptilia, and Amphibia), by IUCN	53
Extant threatened species not covered by law	<b>38</b>

\* includes two additional extant subspecies

...found that **72%** of threatened species are not covered

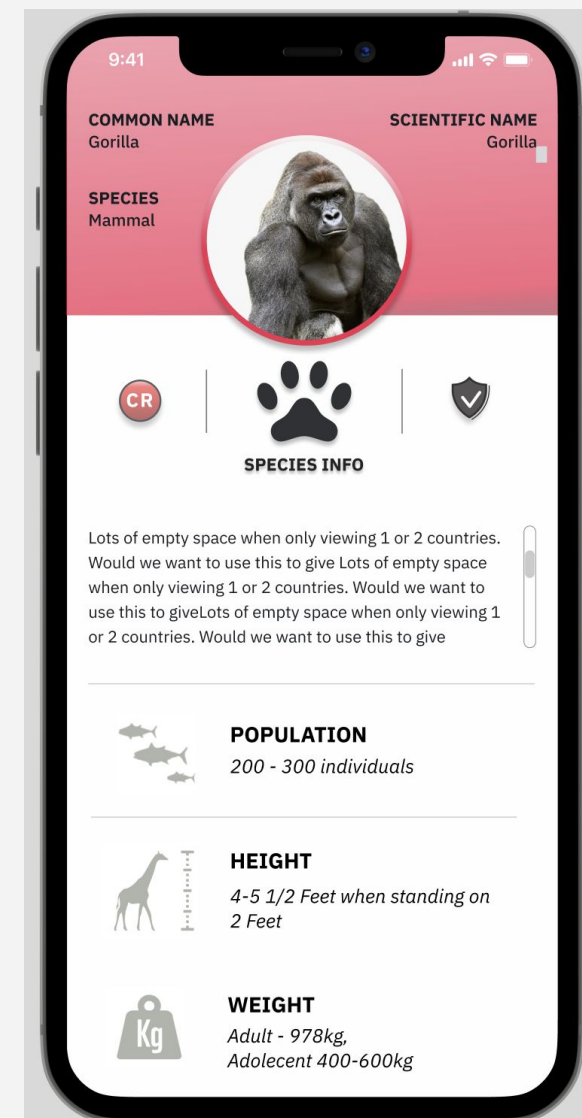
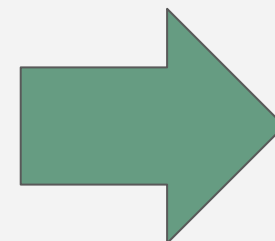


# Next Steps

Stakeholder feedback

# Benefits of a fully operational platform

- This will be an **evergreen resource**
  - Fully automated updates of Red List and CITES
  - Project Canopy will monitor laws, updating as needed
- Can be extended/repurposed to include applications such as species ID cards for LEAs, CSOs
- We are continuing development with volunteers but now we need your help!







## Current roadmap for continued development

**2Q2023**

- Gather use cases
- Develop prototype

**3Q2023**

- Develop funding proposals
- Refine prototype based on feedback
- Formalize partnership

**4Q2023**

- Launch platform with partners
- Begin data-gathering for next iteration

**2024+**

- Integrate new datasets, end products
- Scale across Congo Basin

# Stakeholders: **How can this help your work?**

- What kind of work would you use this platform for?
- What other datasets would you like to see integrated into this platform?
- Can you think of anybody else who would find this information useful?
- Can you help us come up with a better name for the platform?

For example, we can use the same approach to

- Expand the database to include *Congo Basin tree species*, especially those involved in ISL, incorporating key insights such as the minimum felling diameter, and amount of C/m<sup>3</sup> or C/ha.
- Go beyond the Congo Basin to include *land vertebrates for all of sub-Saharan Africa*.