

Identification platform for the Iberian Lynx

Antón Álvarez (Consultor, WWF España)



The iberian lynx (*Lynx pardinus*), looking towards the future



The iberian lynx (*Lynx pardinus*),
**looking towards the
future**

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**Favorable
Conservation
Status**

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**Favorable
Conservation
Status**



Specific



Measurable



Assignable



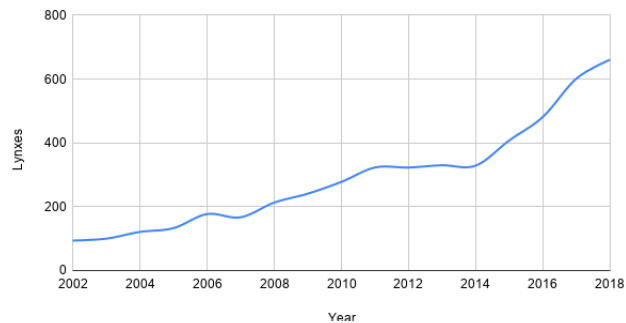
Relevant



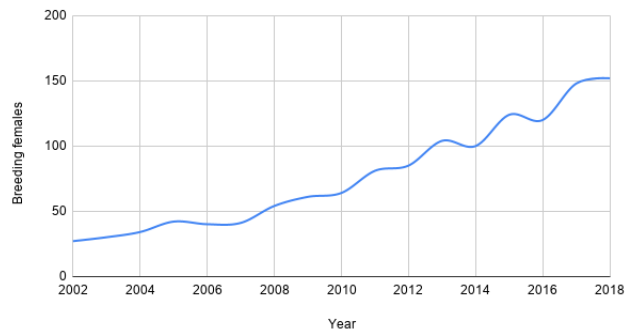
Time-based



Mesurable - Lynxes

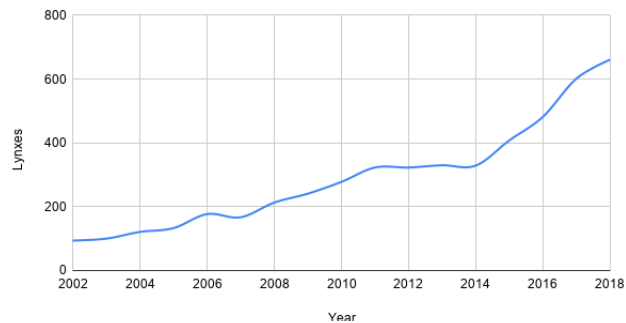


Mesurable - Breeding females

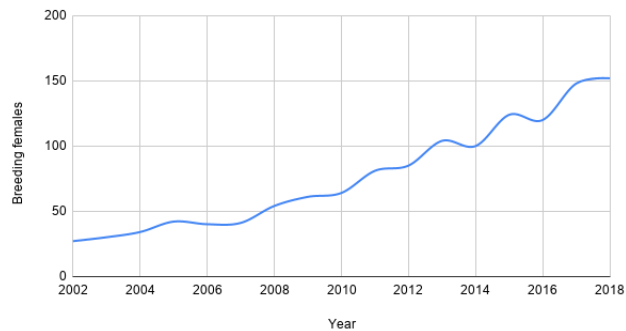




Mesurable - Lynxes

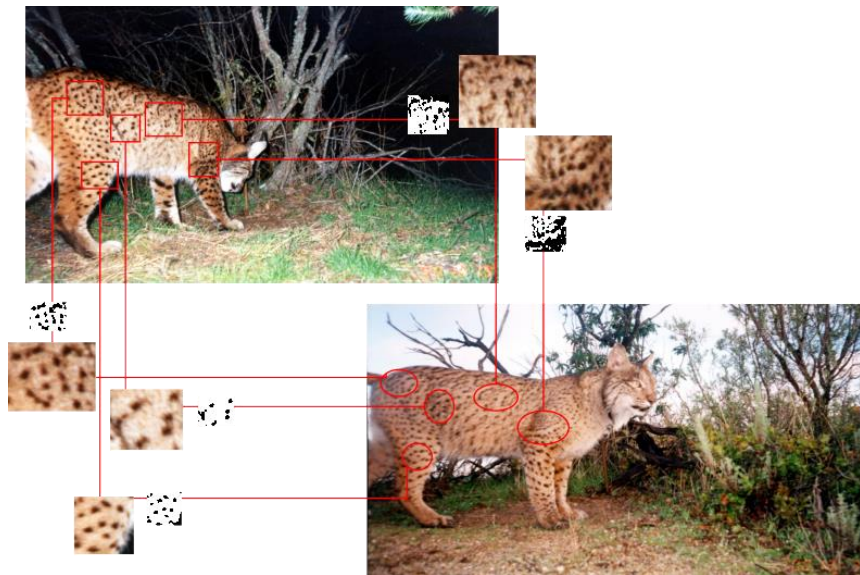


Mesurable - Breeding females



Measurable

WILDBOOK
for Iberian Lynx



Proyecto Life Naturaleza 06NAT/E/209

LINCE
2006 - 2011
Conservación y reintroducción del lince ibérico en Andalucía

Catálogo de foto-identificación del lince ibérico en Andalucía
Campana 2010

En este catálogo se incluyen los ejemplares mayores de un año fotografiados en la campaña rutinaria de foto-trampas de 20 del 90% de la población.
El seguimiento de foto-trampas de EGMASA-Junta de Andalucía.

Nombre: Carla
Sexo: Hembra **Cohorte: 2006**
Población: Sierra Morena Ascendencia: Casandra









Time-based

The iberian lynx (*Lynx pardinus*), looking towards the future

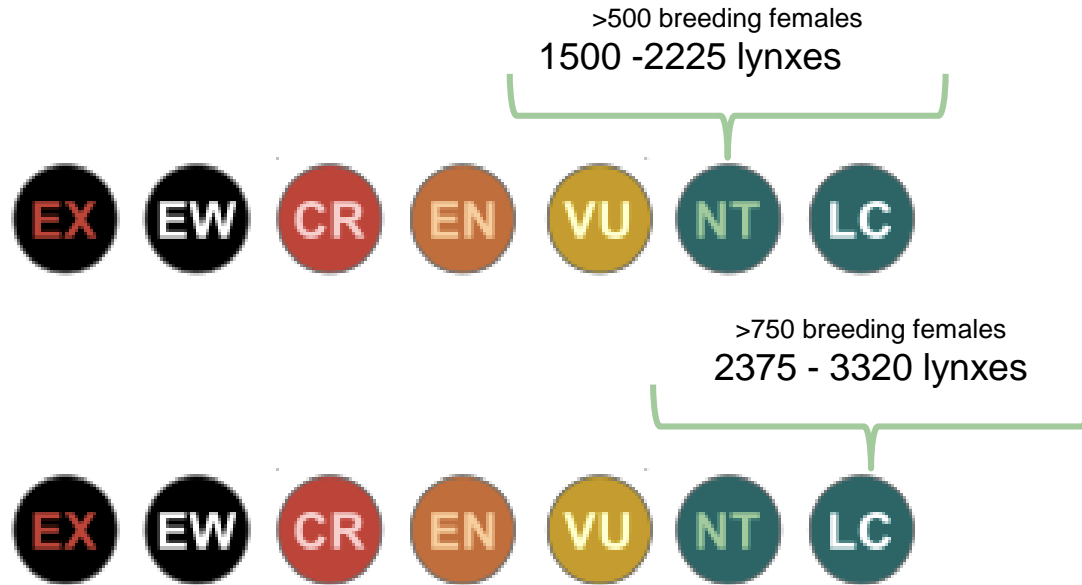




Specific



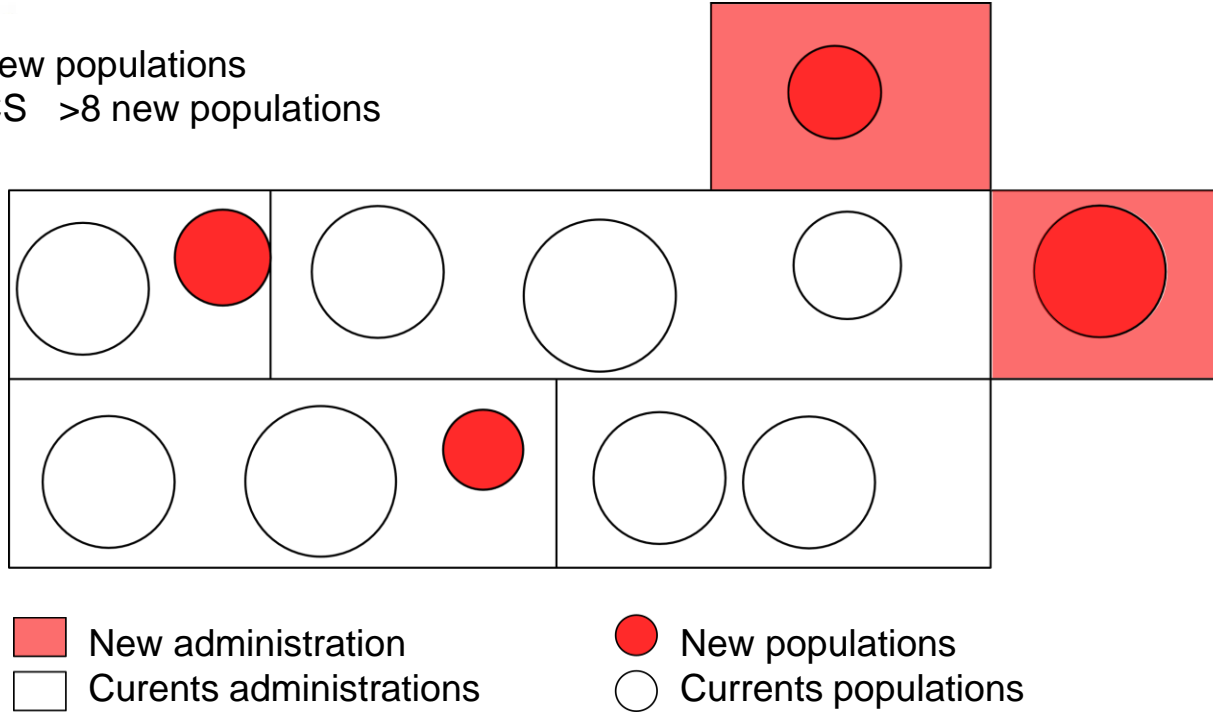
WILDBOOK
for Iberian Lynx

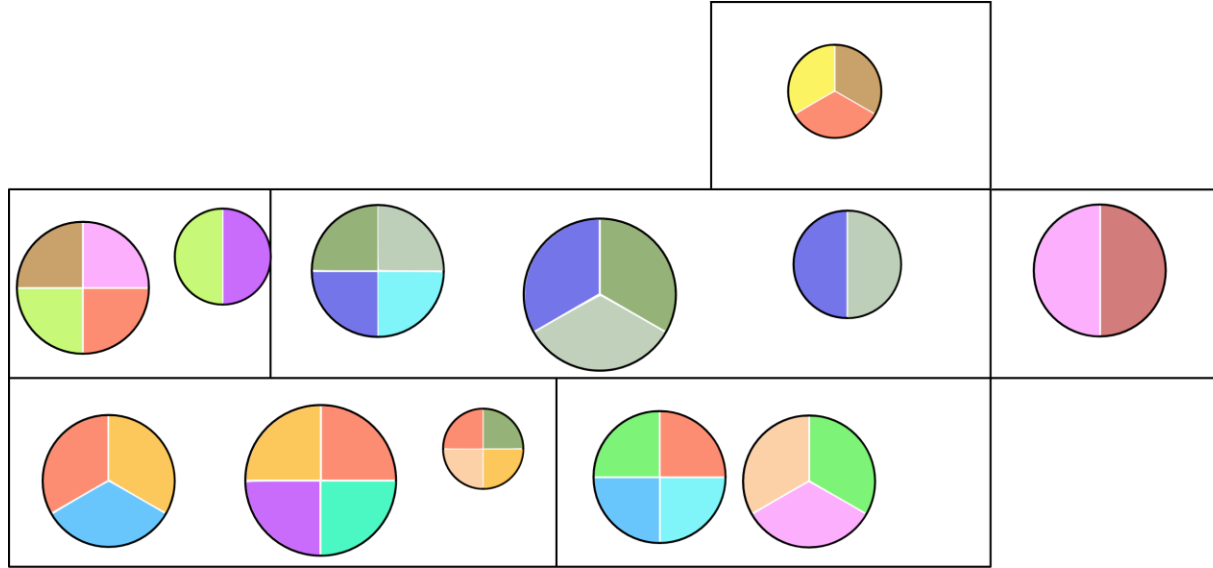


Favorable Conservation Status



- NT >3 new populations
- LC – FCS >8 new populations

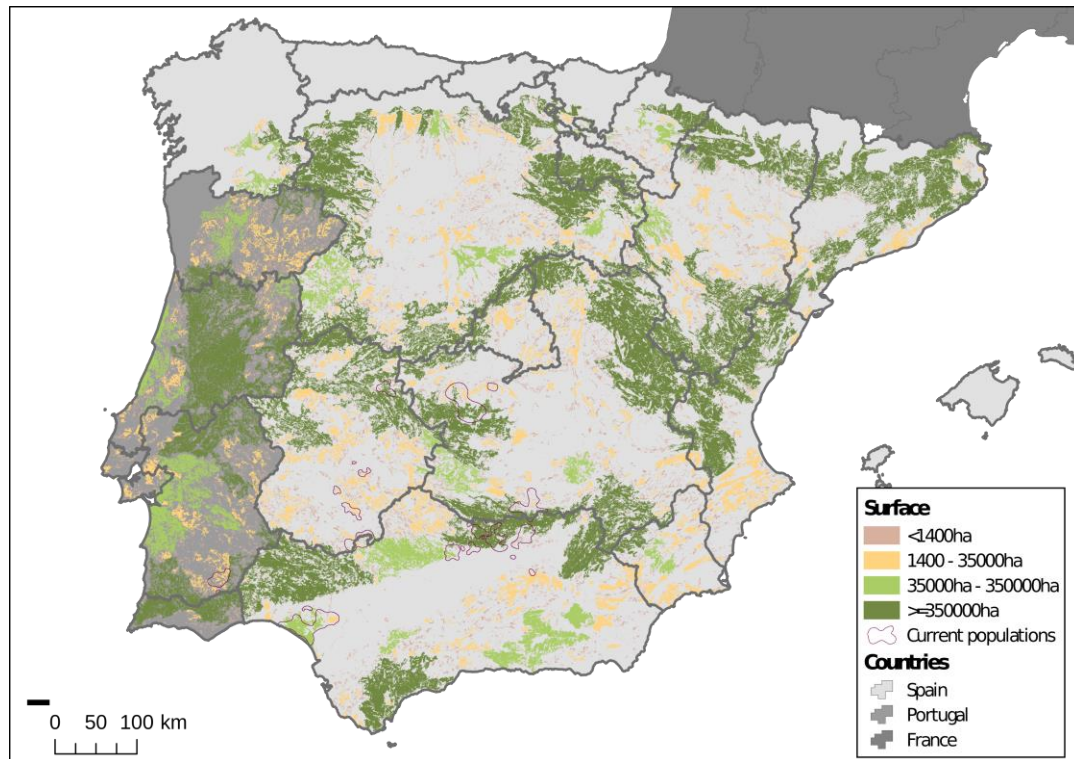


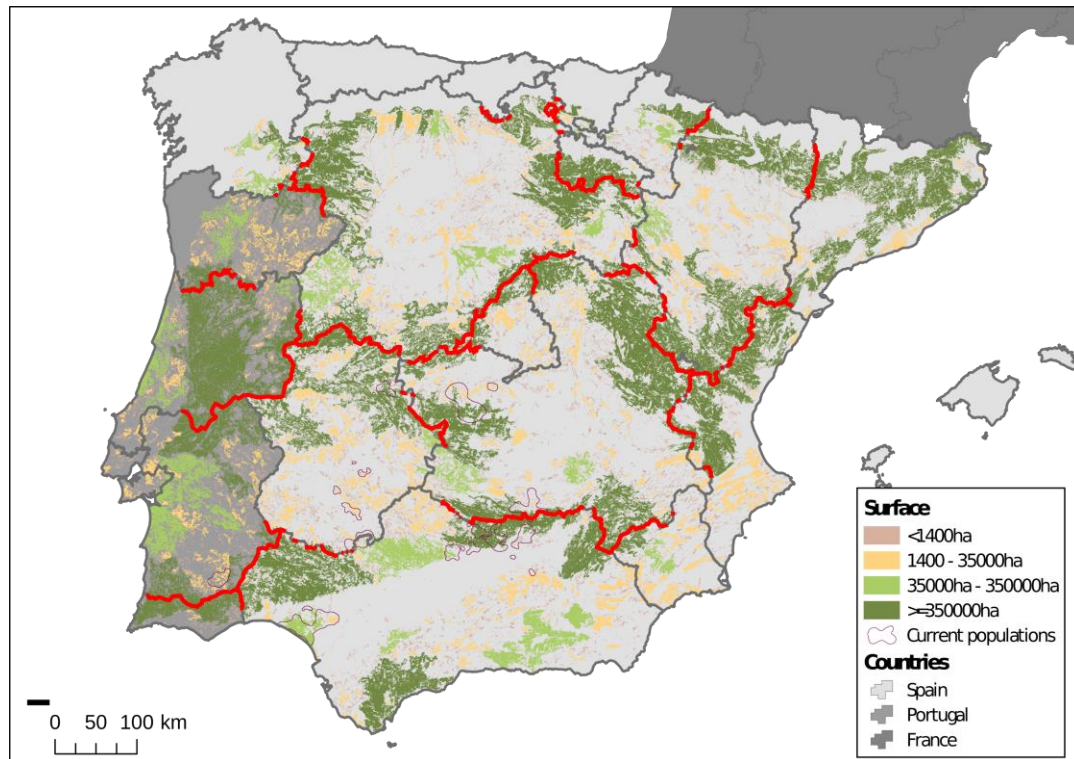


Administrations
 Populations

Entities

involve



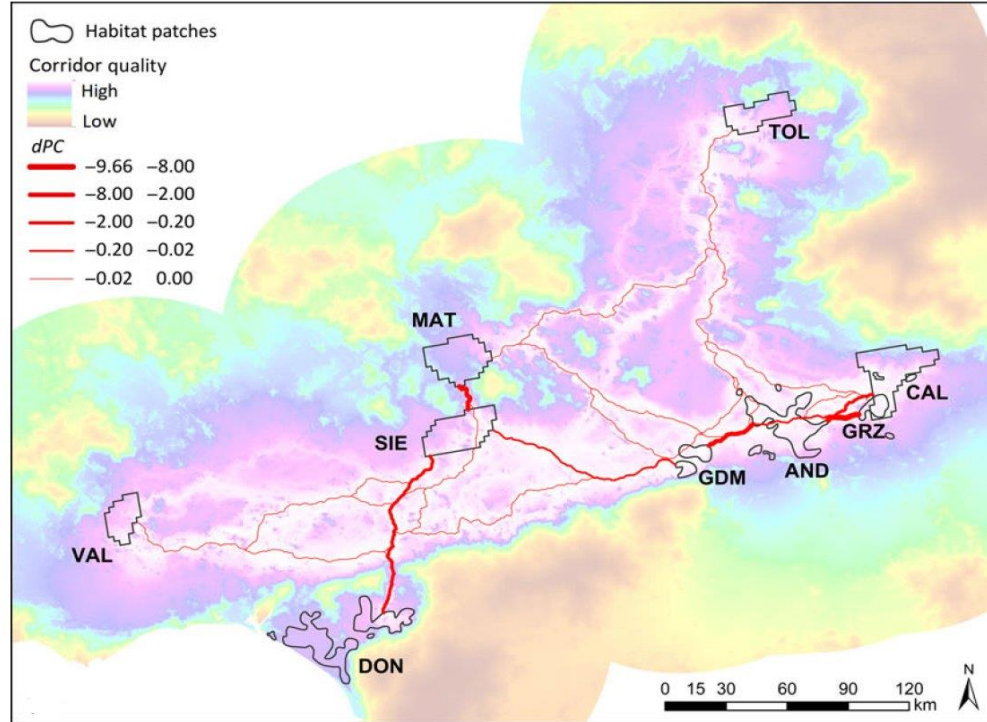






Traveler lynxes

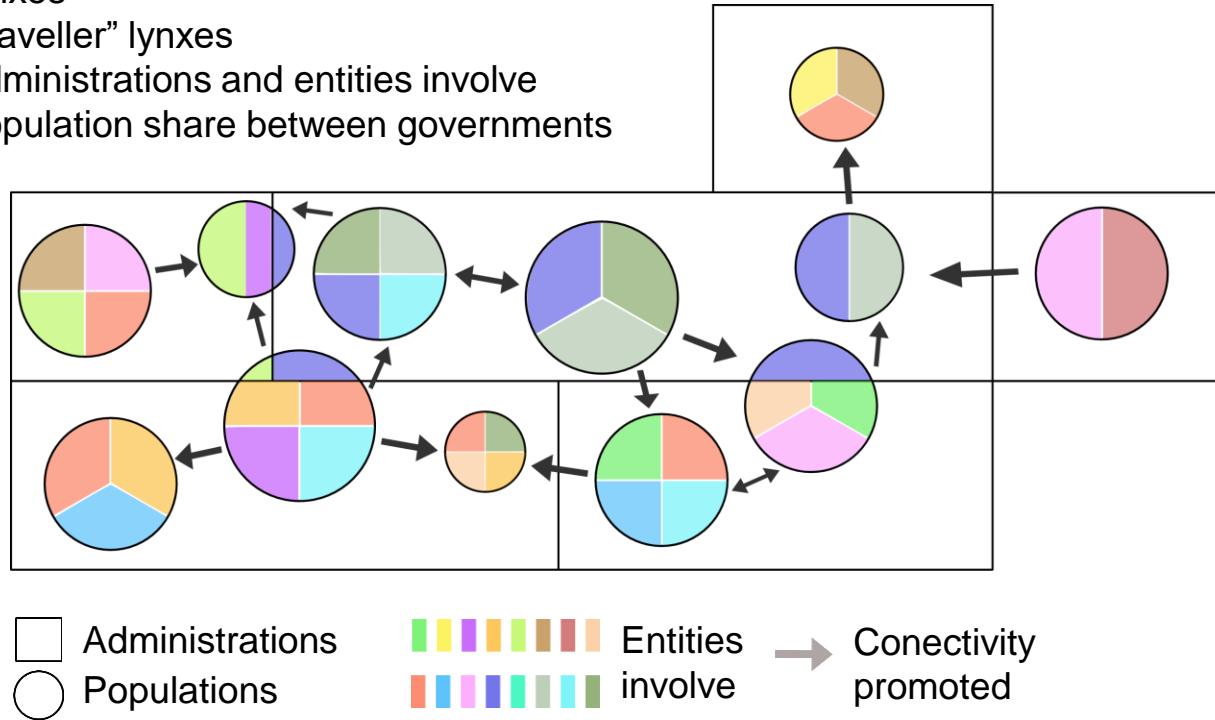
- Caribu
- Carla
- Litio
- Luna
- Hongo
- Kaa
- Khan
- Kentaro
- Moruno
- Mundo
- Nuria
- Negral
- Quentaro

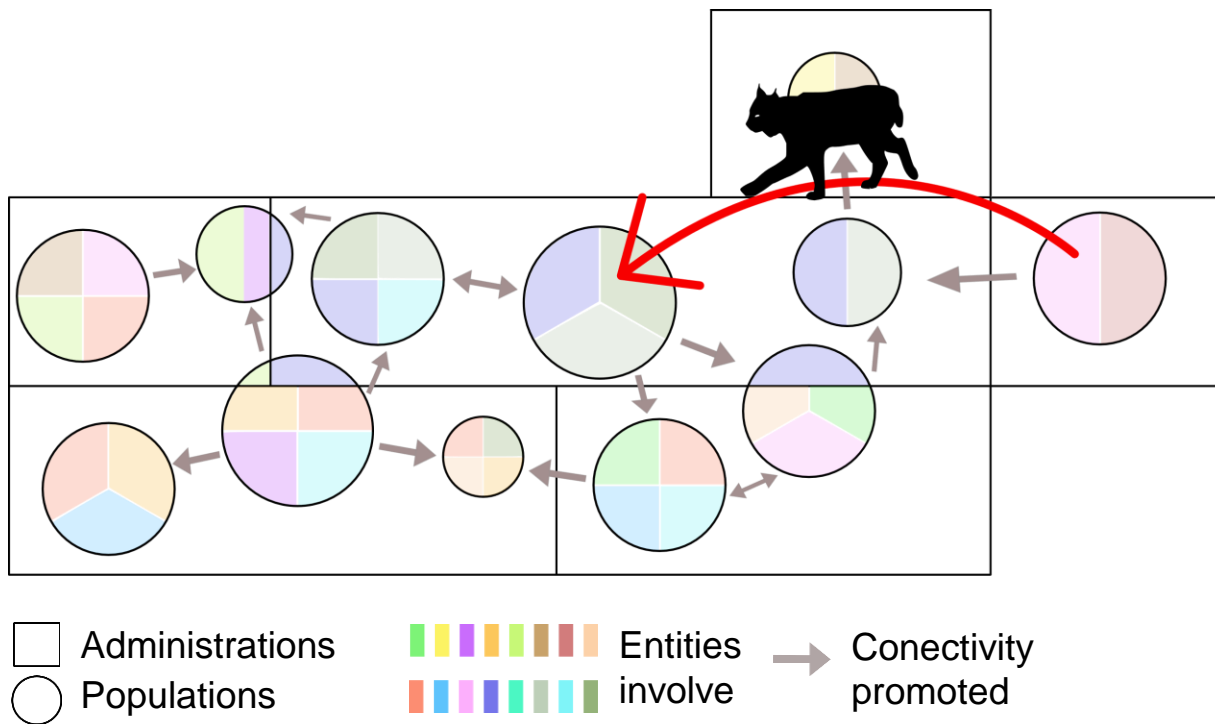


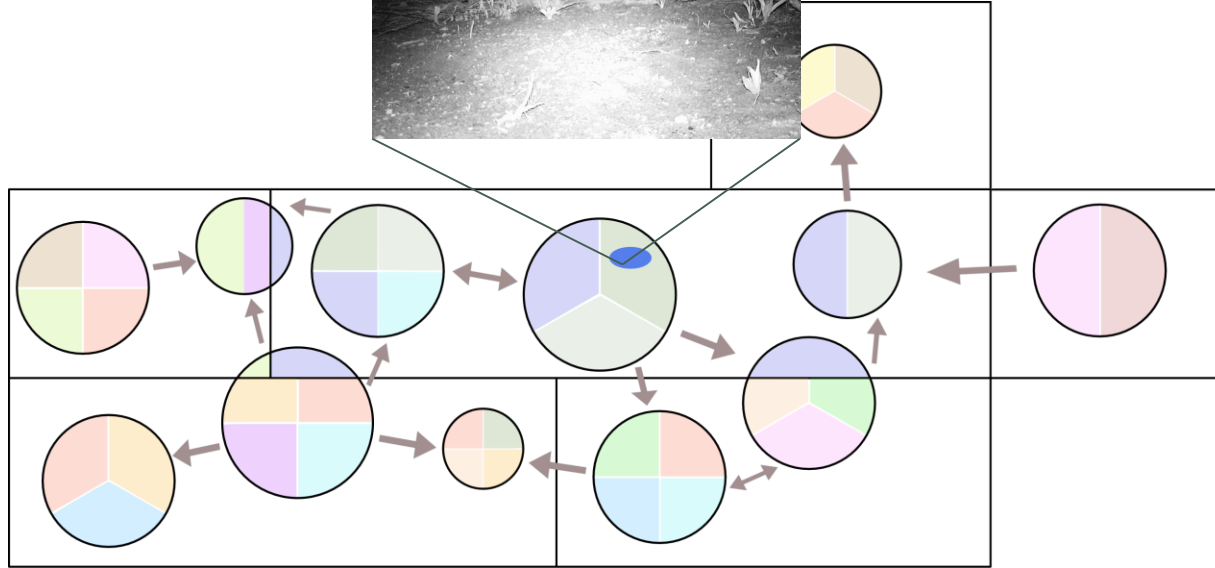
Traveler lynxes

- Caribu
- Carla
- Litio
- Luna
- Hongo
- Kaa
- Khan
- Kentaro
- Moruno
- Mundo
- Nuria
- Negral
- Quentaro

- More lynxes
- More “traveller” lynxes
- More administrations and entities involve
- More population share between governments





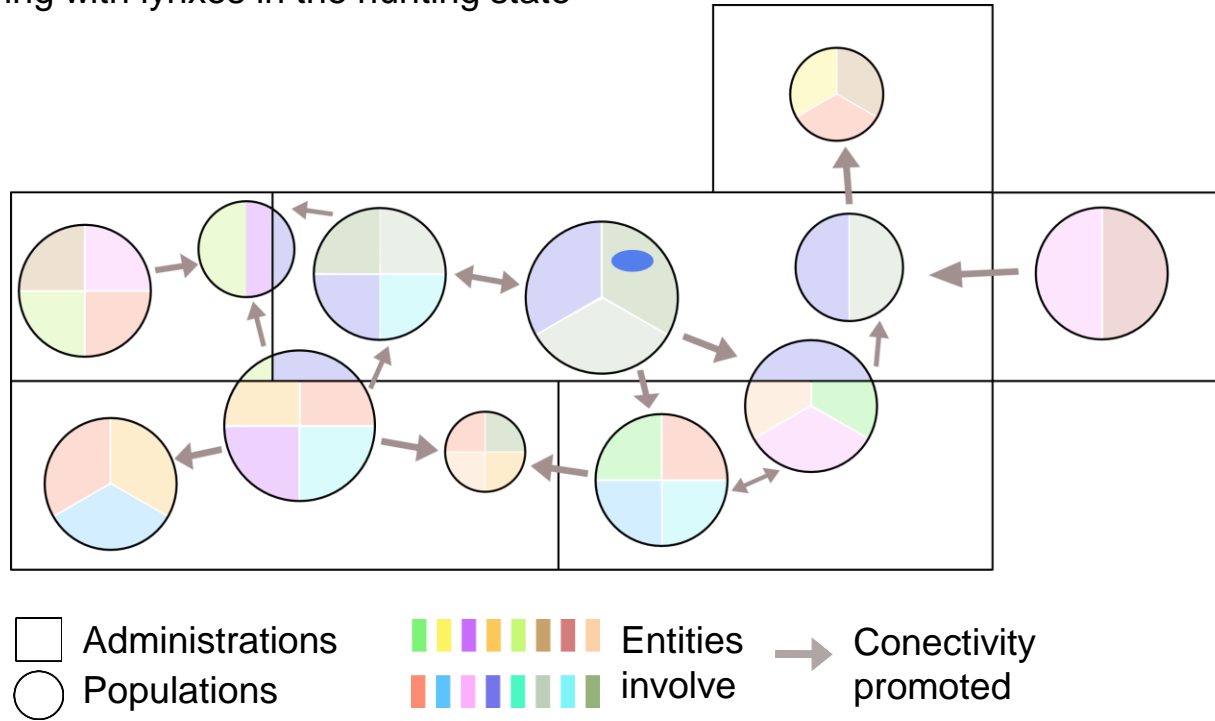


□ Administrations
○ Populations

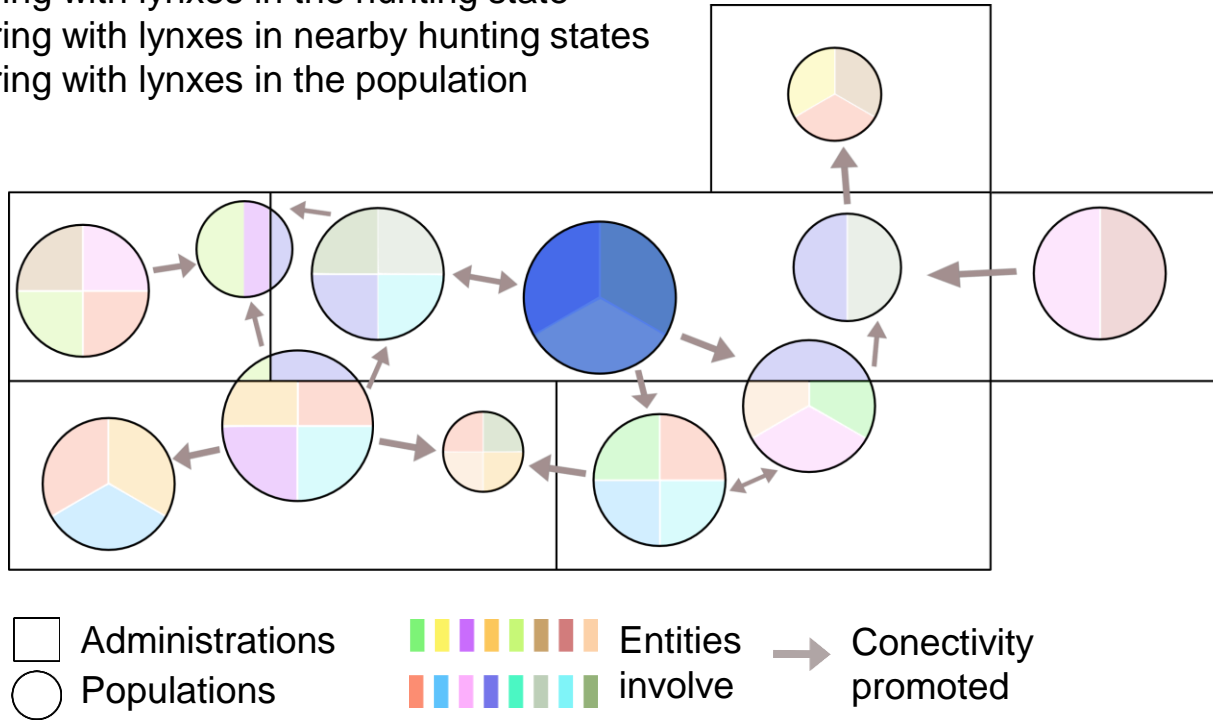
Entities involve
[Colorful squares] involve

→ Conectivity promoted

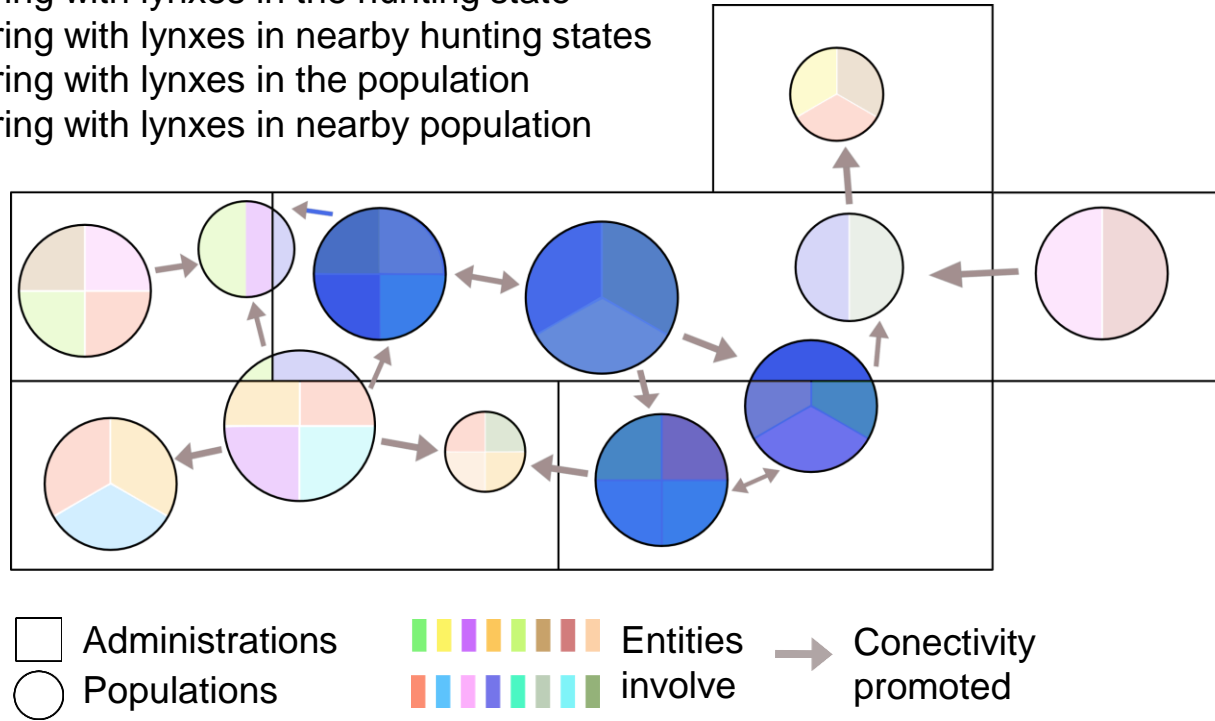
1. Comparing with lynxes in the hunting state



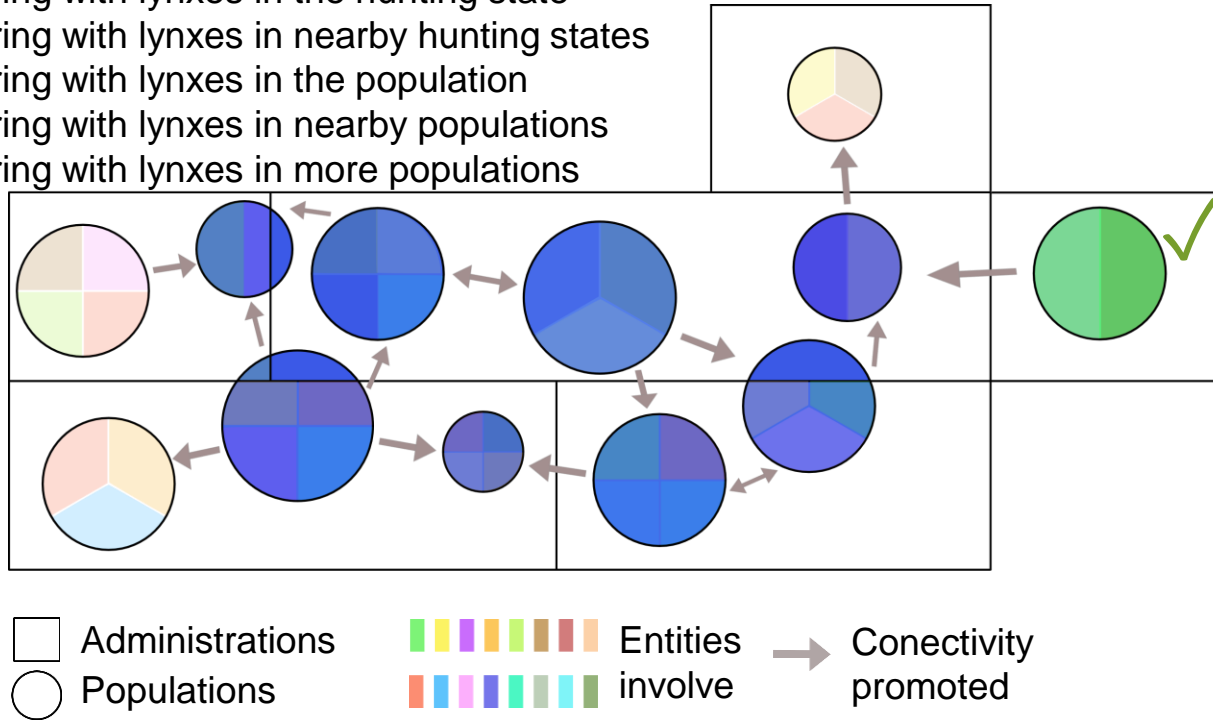
1. Comparing with lynxes in the hunting state
2. Comparing with lynxes in nearby hunting states
3. Comparing with lynxes in the population



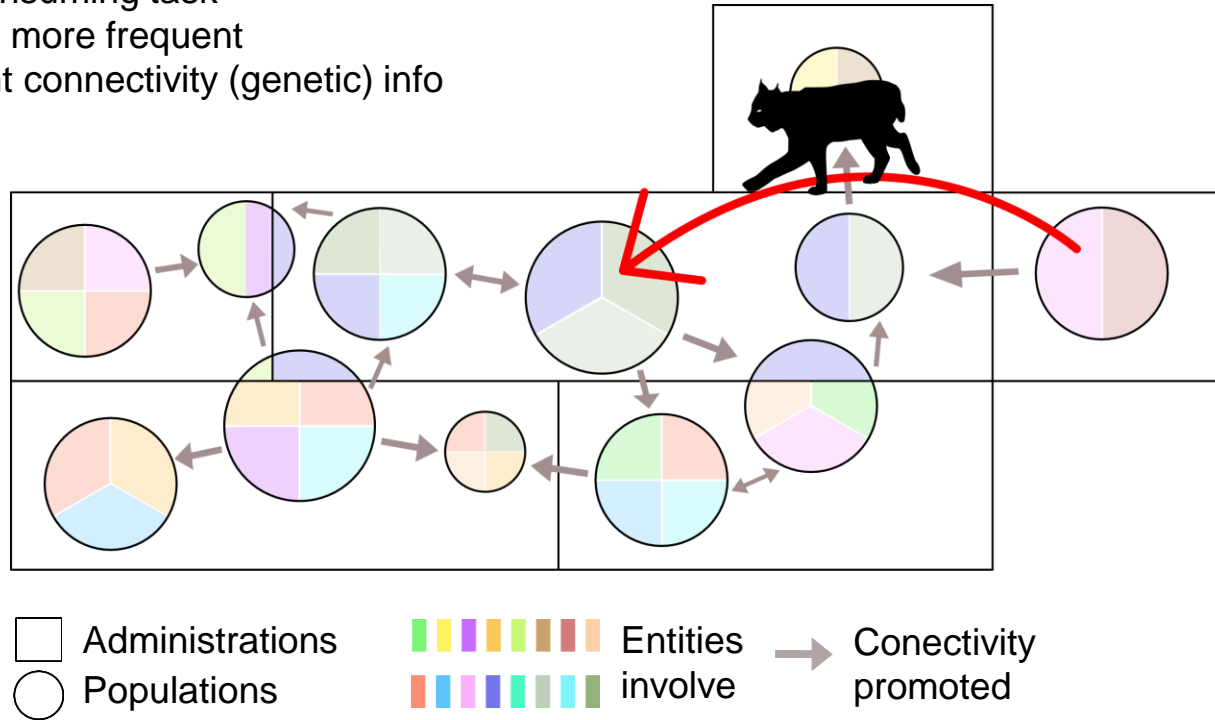
1. Comparing with lynxes in the hunting state
2. Comparing with lynxes in nearby hunting states
3. Comparing with lynxes in the population
4. Comparing with lynxes in nearby population



1. Comparing with lynxes in the hunting state
2. Comparing with lynxes in nearby hunting states
3. Comparing with lynxes in the population
4. Comparing with lynxes in nearby populations
5. Comparing with lynxes in more populations



- Time consuming task
- It will be more frequent
- Relevant connectivity (genetic) info



The iberian lynx (*Lynx pardinus*), looking towards the future



The iberian lynx (*Lynx pardinus*), looking towards the future



Study, identify and protect the Iberian Lynx!



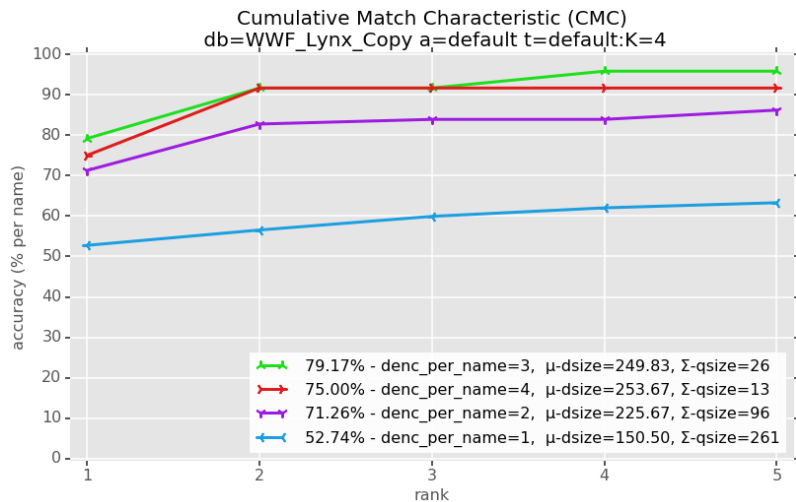
February 2015 Finland



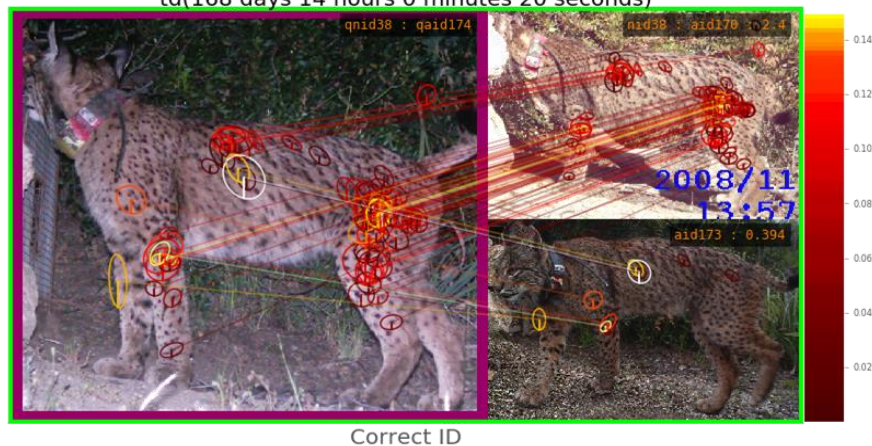


Wildbook for Lynx - Preliminary Study

Jonathan Crall, Charles Stewart, and Jason Parham, Rensselaer Polytechnic Institute
Jason Holmberg, Wild Me



name_score=2.8, name_rank=#2,
td(168 days 14 hours 0 minutes 20 seconds)

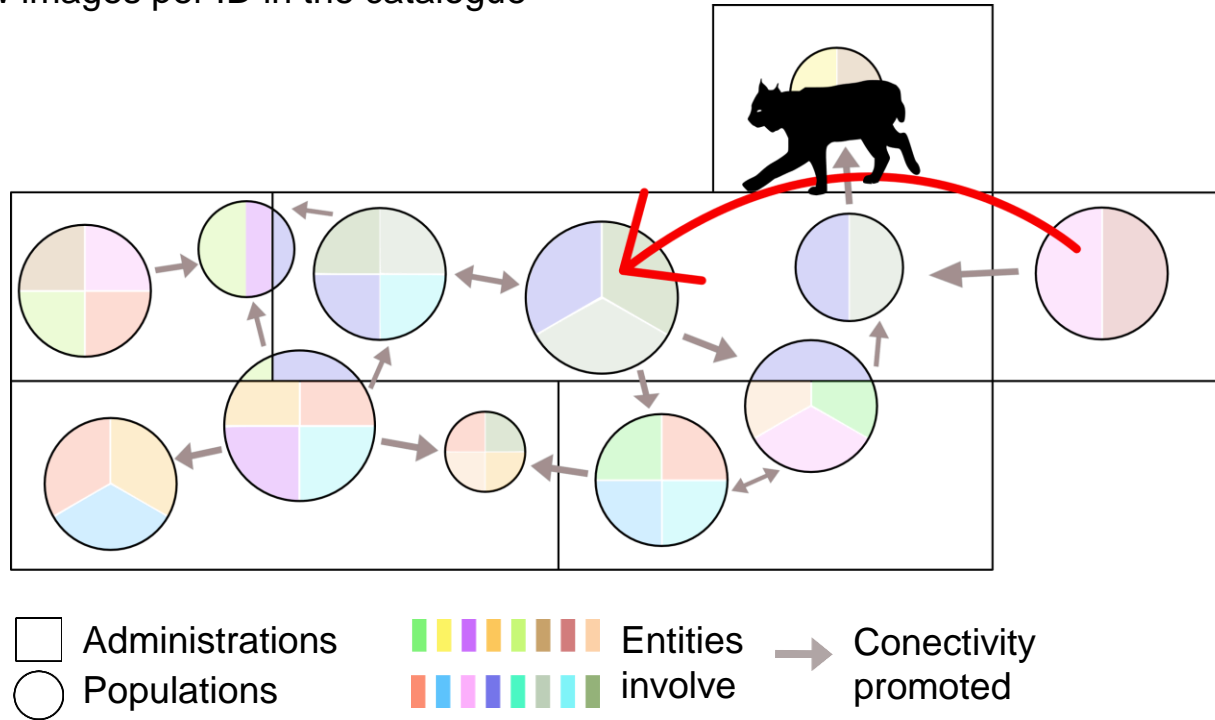


December 2016 USA

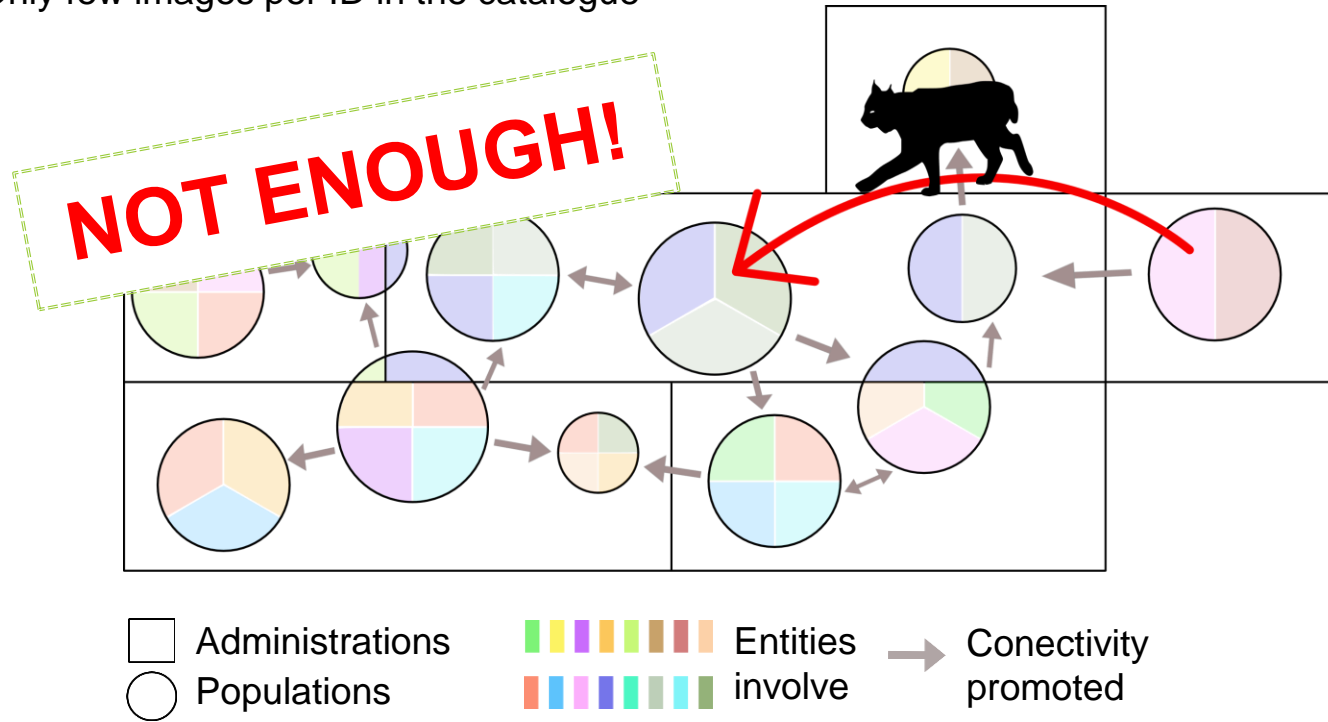
Wildbook uses computer vision to compare new IDs to the existing database



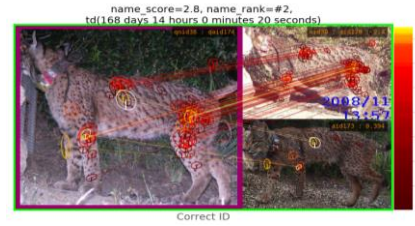
- Only few images per ID in the catalogue



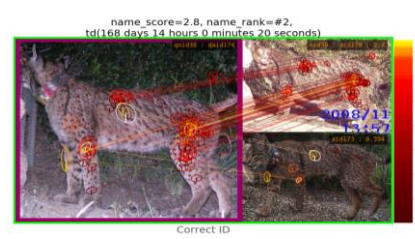
- Only few images per ID in the catalogue



AI IDENTIFICATION



AI IDENTIFICATION



WEB PLATFORM



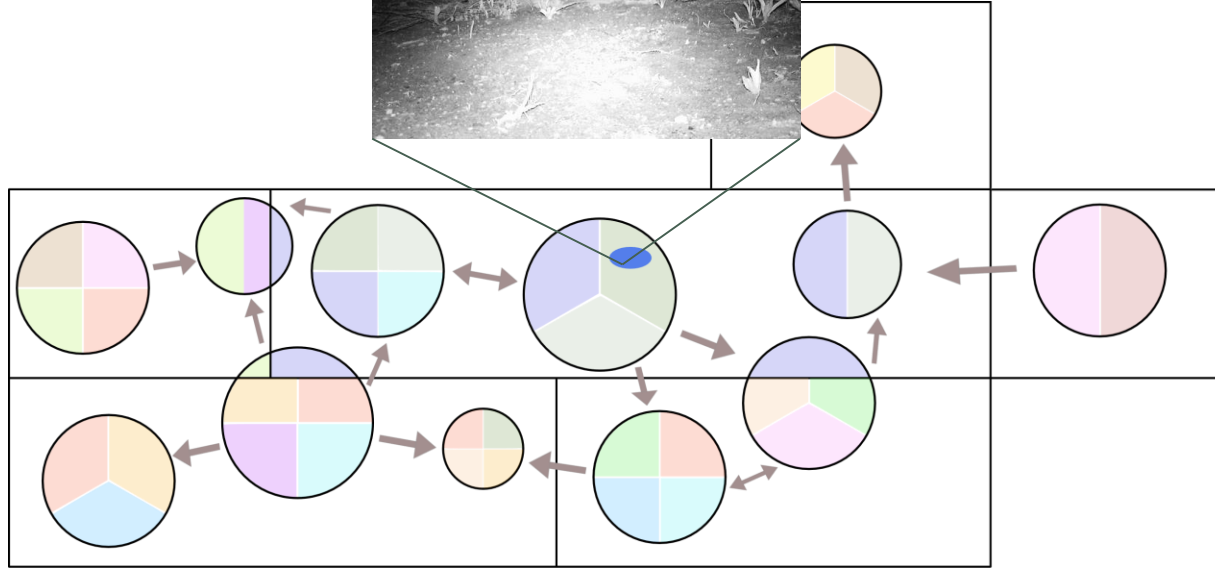
DATA BASE



COLLABORATION



DIFFERENT TYPE OF
USER ACCOUNT



□ Administrations
○ Populations

Entities involve
[Colorful bar]

→ Conectivity promoted

HOW IT WORKS: Where?

1. Rename the image with the name of your trapping station



GG.GOI.17 (1).JPG

Knowing which trapping station corresponds to each encounter you know where it comes from. From the file name, its corresponding trapping station will be associated with each encounter.

HOW IT WORKS: Where?

1. Rename the image with the name of your trapping station



GG.GOI.17 (1).JPG

Trapping Station	
id 471badf4-2e05-4be4-8de6-afdb450f6f67	
Name	GG.COI.17
Hunting State	Gorgogl
Type Of Site	camera trap
Utm X	419666.0
Utm Y	4223199.0
Epsg Proj Code	EPSG:23030
Country	Spain
Government Area	Jaén
Population	Andujar
Days Not Working	5
Lure	Orina
Reward	
Type Of Camera	Covert MP16 Black
Traps Per Night	93
Comments	
Date	11-28-2017 00:00
Date End	01-01-2018 00:00

Knowing which trapping station corresponds to each encounter you know where it comes from. From the file name, its corresponding trapping station will be associated with each encounter.

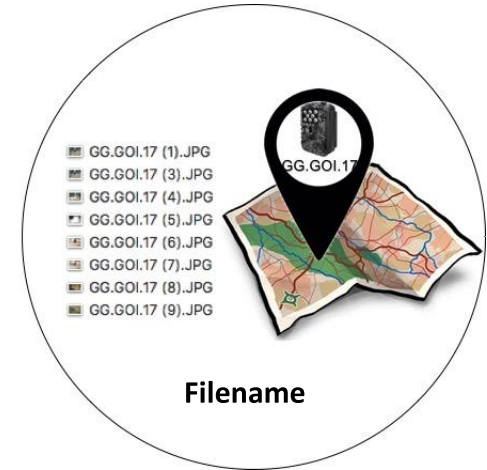
HOW IT WORKS: Where?

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Trapping Station	
id 471badf4-2e05-4be4-8de6-afdb450f6f67	
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Hunting State	Gorgogil
Type Of Site	camera trap
Utm X	419666.0
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Epsg Proj Code	EPSG:23030
Country	Spain
Government Area	Jaén
Population	Andujar
Days Not Working	5
Lure	Orina
Reward	
Type Of Camera	Covert MP16 Black
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Date	11-28-2017 00:00
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Knowing which trapping station corresponds to each encounter you know where it comes from. From the file name, its corresponding trapping station will be associated with each encounter.

HOW IT WORKS: When?

2. From the metadata that accompany the images you can know on what day and at what time each capture was made.



Date: 24/09/2019
Hour: 12:58

HOW IT WORKS: Who?


3. Wildbook uses computer vision to compare new IDs to the existing database

several
options {

Matches based on pattern 12/1/2019 1:04:58 Hover mouse over listings below to compare results to target. Links to encounters and individuals given next to match score.

1	5.5962	enc 439ca7d8-afbb
2	0.1304	inspect match

TARGET 2015-03-26T23:16 TestTS_UCM1 10.JPG [enc 253cv4f5-dset](#)




03.26.2015 23:16:52 007 004°C 039°F 4009

#2

Alternate references:

- [Annot ba0ee1f5-380](#) [Encounter 95137b](#) [Gandalf](#)



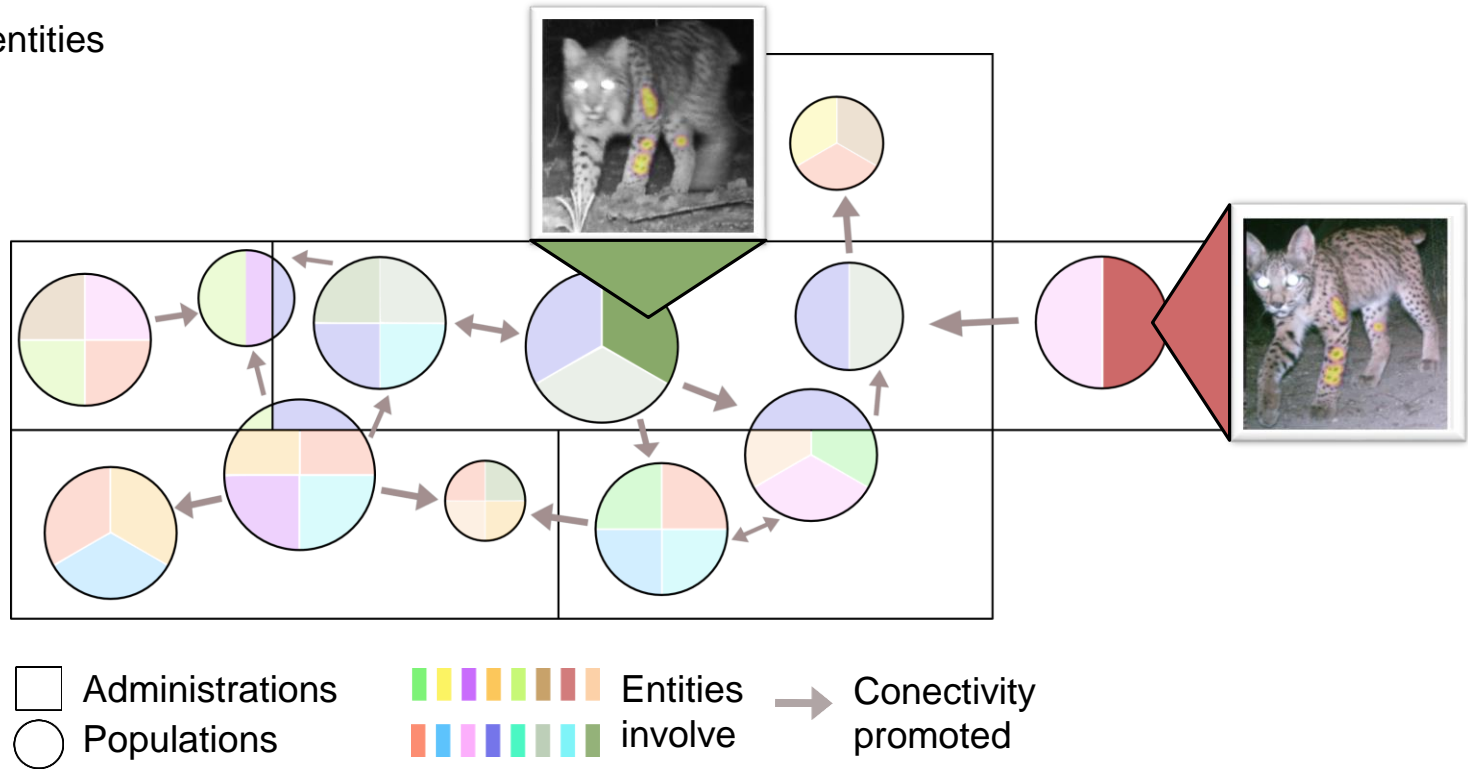
2007/12/04 03:23:16

HOW IT WORKS: Who?

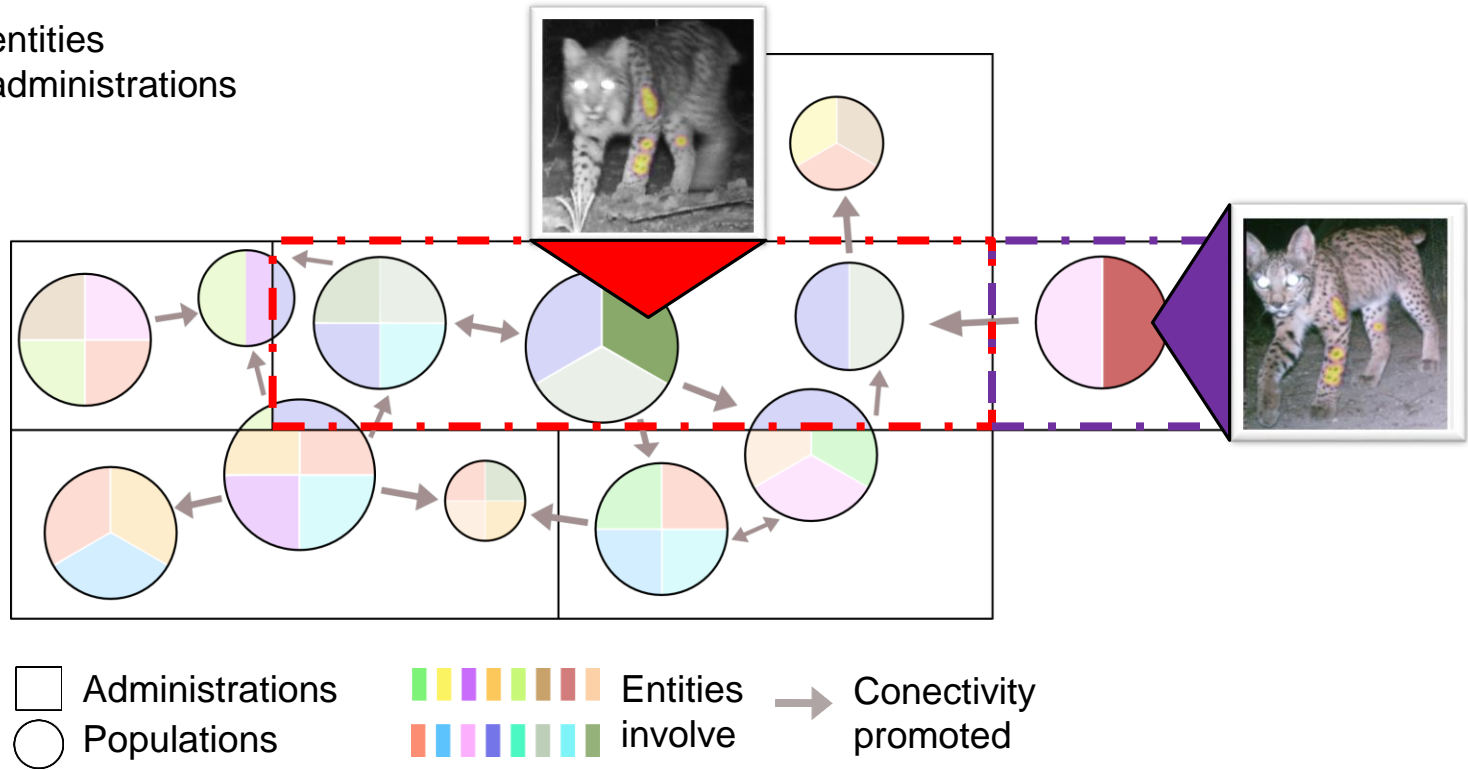
4. Researchers then visually confirm a match to an existing animal in the database



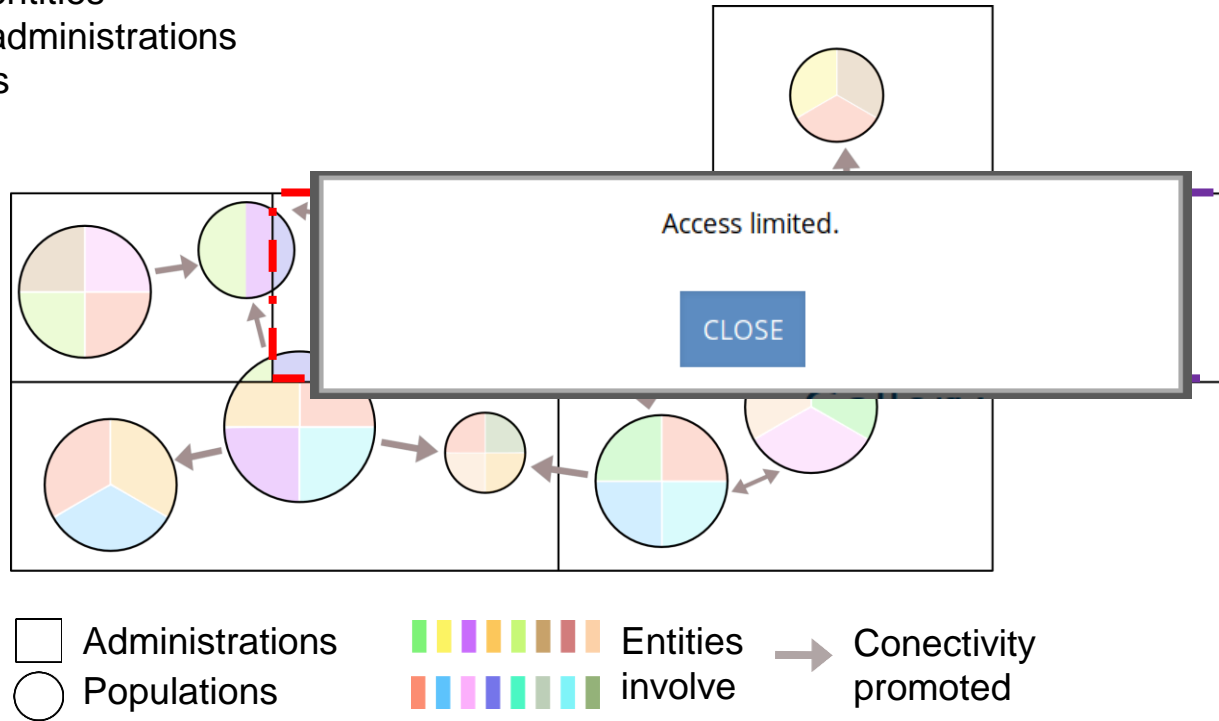
■ Different entities



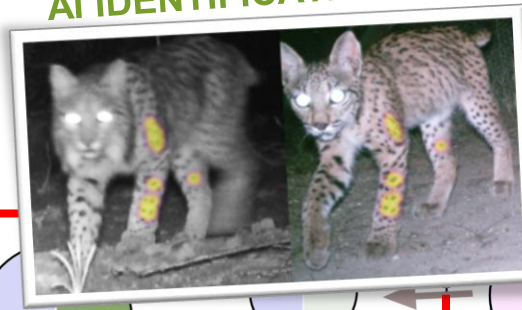
- Different entities
- Different administrations



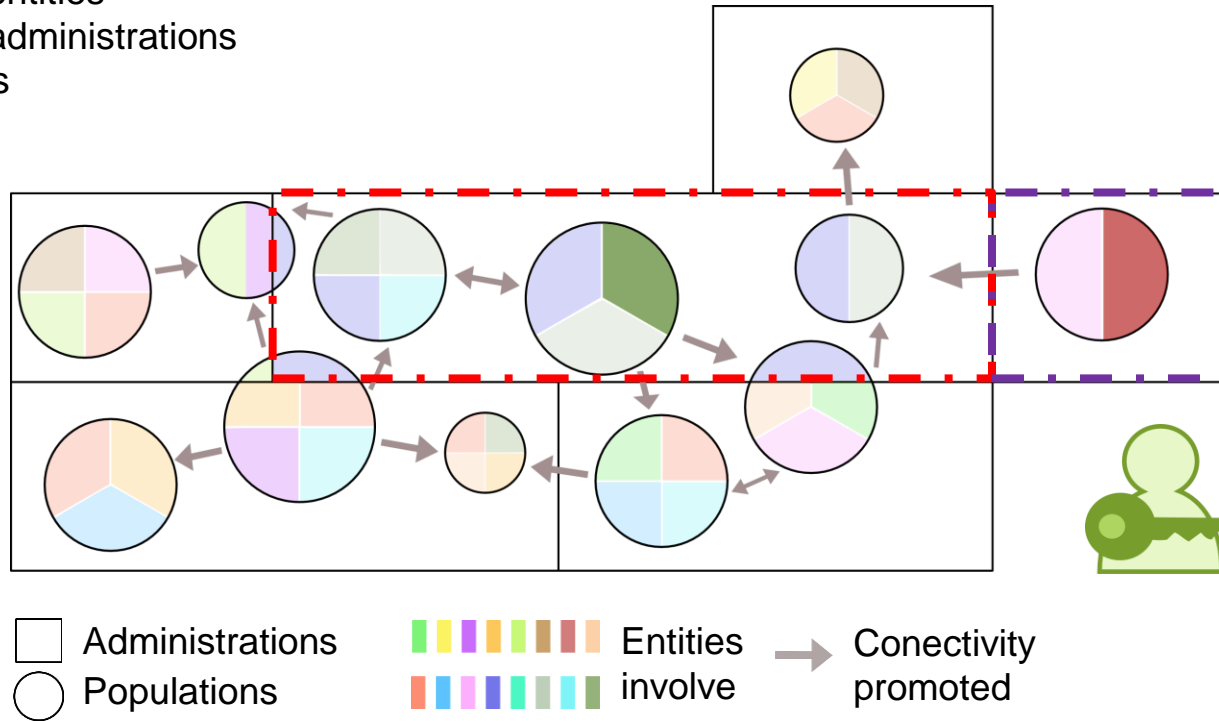
- Different entities
- Different administrations
- No access



- ## AI IDENTIFICATION



- Different entities
- Different administrations
- No access
- All access









lcevert.com

02-20-2011 00:00:58



l3oavert.com

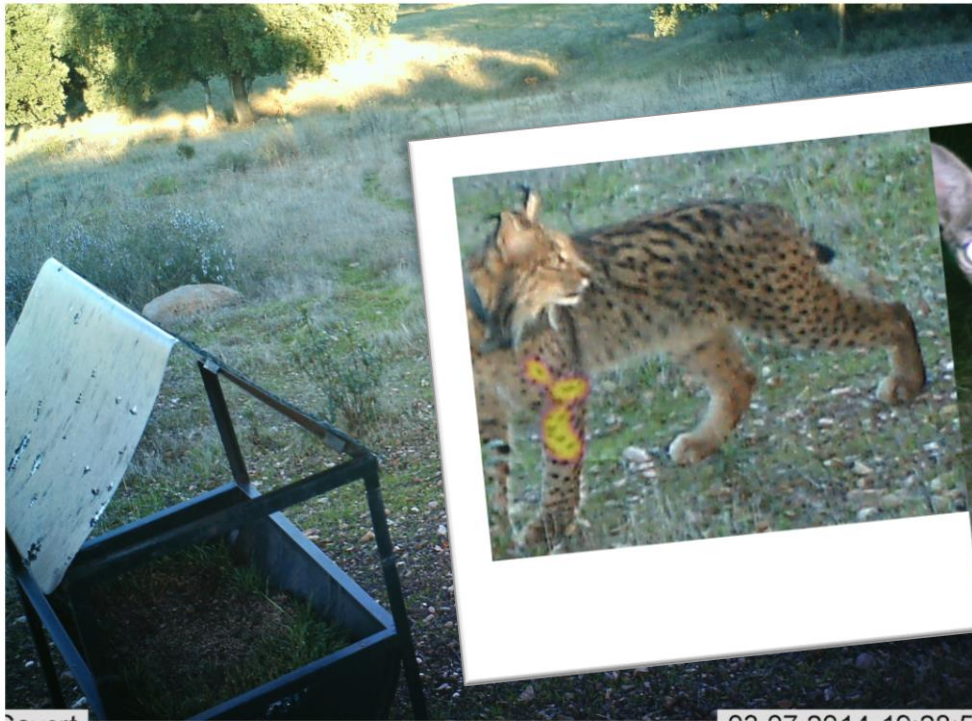


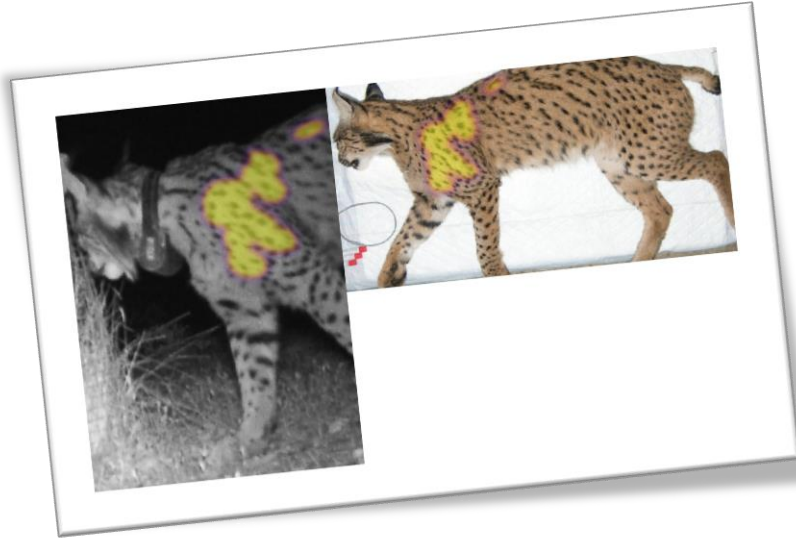
02-20-2011 00:00:58





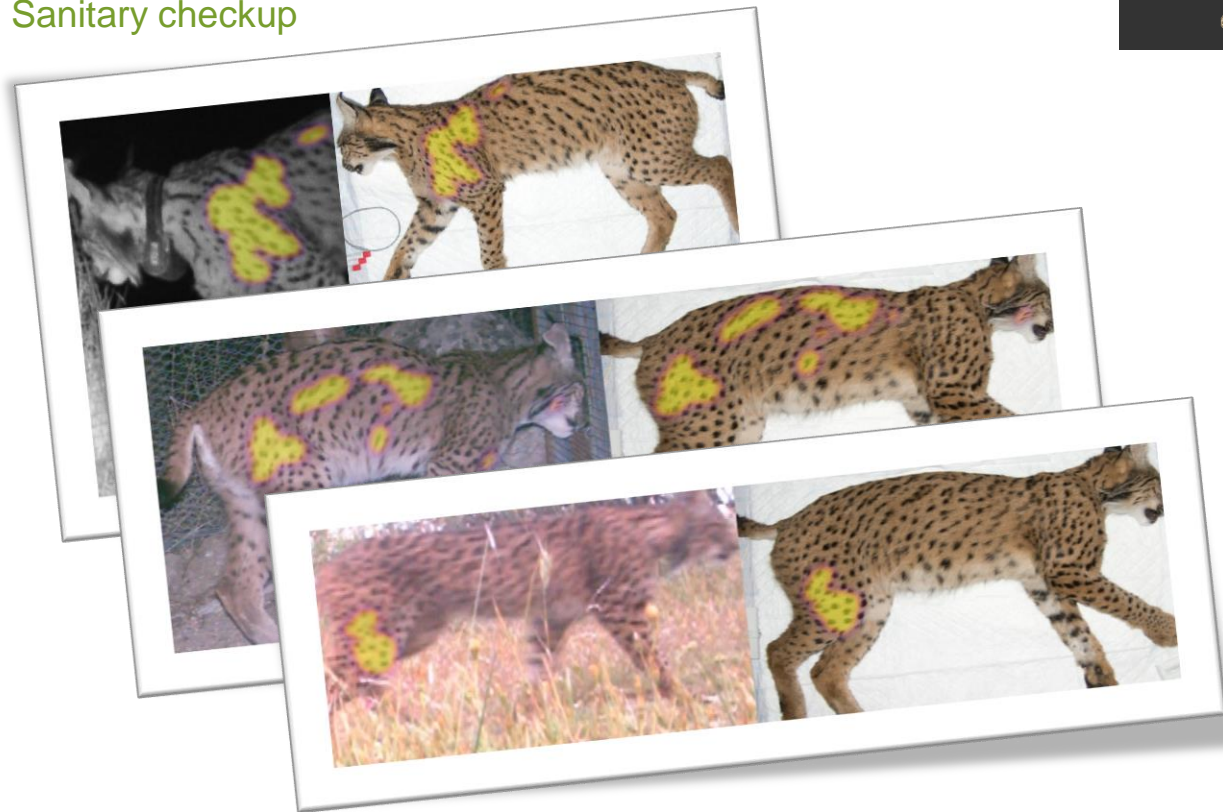








Sanitary checkup



Sanitary checkup



Biological Samples

+ Add biological sample

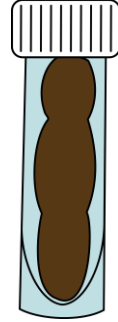
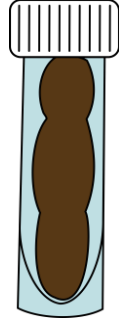
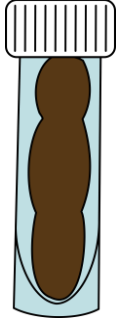
Sample ID (required)	<input type="text"/>
Alternate sample ID	<input type="text"/>
Sample type	<input type="text"/>
Preservation method	<input type="text"/>
Storage lab ID	<input type="text"/>
Sampling Protocol	<input type="text"/>
Sampling effort	<input type="text"/>
Field sample number	<input type="text"/>
Field notes	<input type="text"/>
Remarks	<input type="text"/>
Institution ID	<input type="text"/>
Collection ID	<input type="text"/>
Collection code	<input type="text"/>
Dataset ID	<input type="text"/>
Dataset name	<input type="text"/>

Set

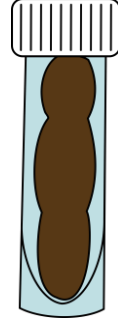
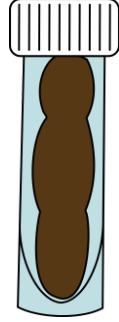
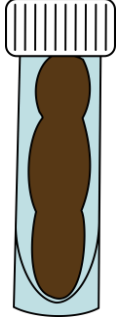
The iberian lynx (*Lynx pardinus*), looking towards the future



Genetic monitoring



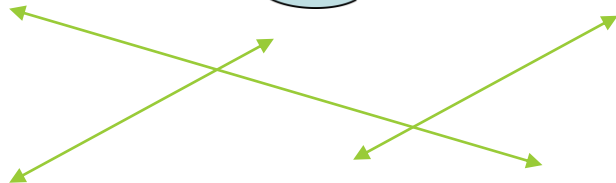
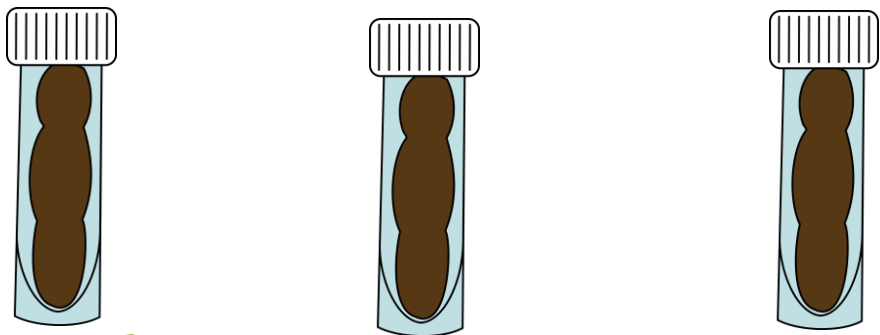
Genetic monitoring



Camera-Trap
monitoring



Genetic monitoring



Camera-Trap
monitoring



Biological Samples

+ Add biological sample

Sample ID (required)

Alternate sample ID

Sample type

Preservation method

Storage lab ID

Sampling Protocol

Sampling effort

Field sample number

Field notes

Remarks

Institution ID

Collection ID

Collection code

Dataset ID

Dataset name

Set

and more...



Output for advanced
analysis



Biological samples



Package
“Rwildbook”



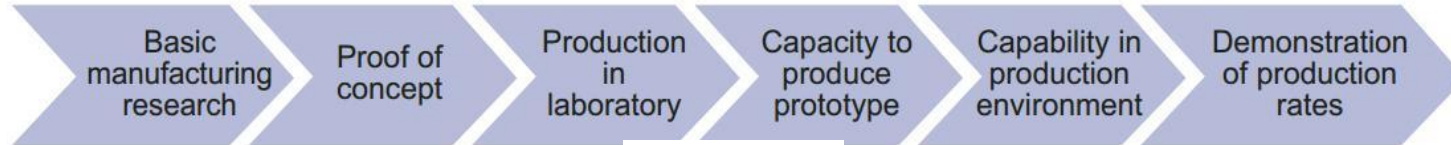
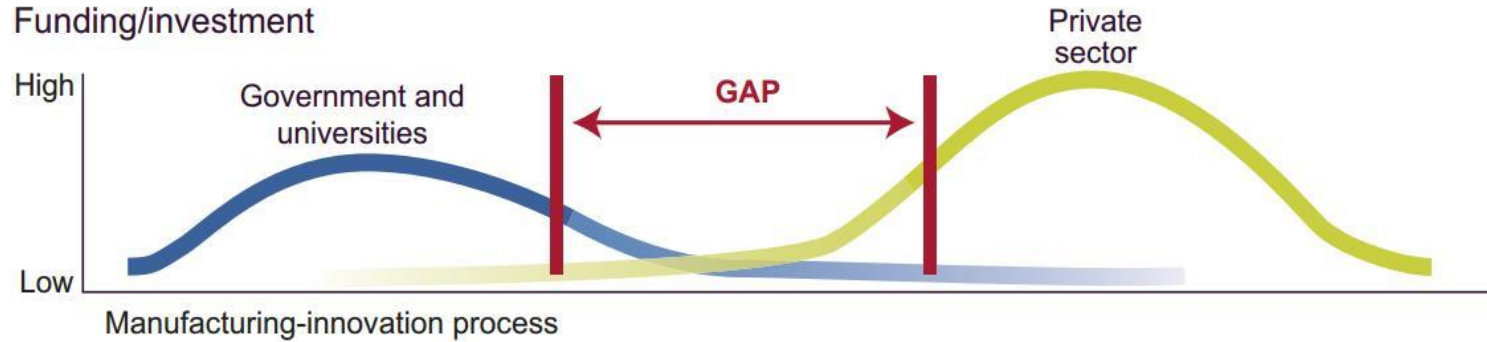
Data Base



Interactive
maps



Collaboration



The iberian lynx (*Lynx pardinus*), looking towards the future

Thank you!