



condatis



# Condatis Case Study Results: *Mount Halimun Salak National Park*

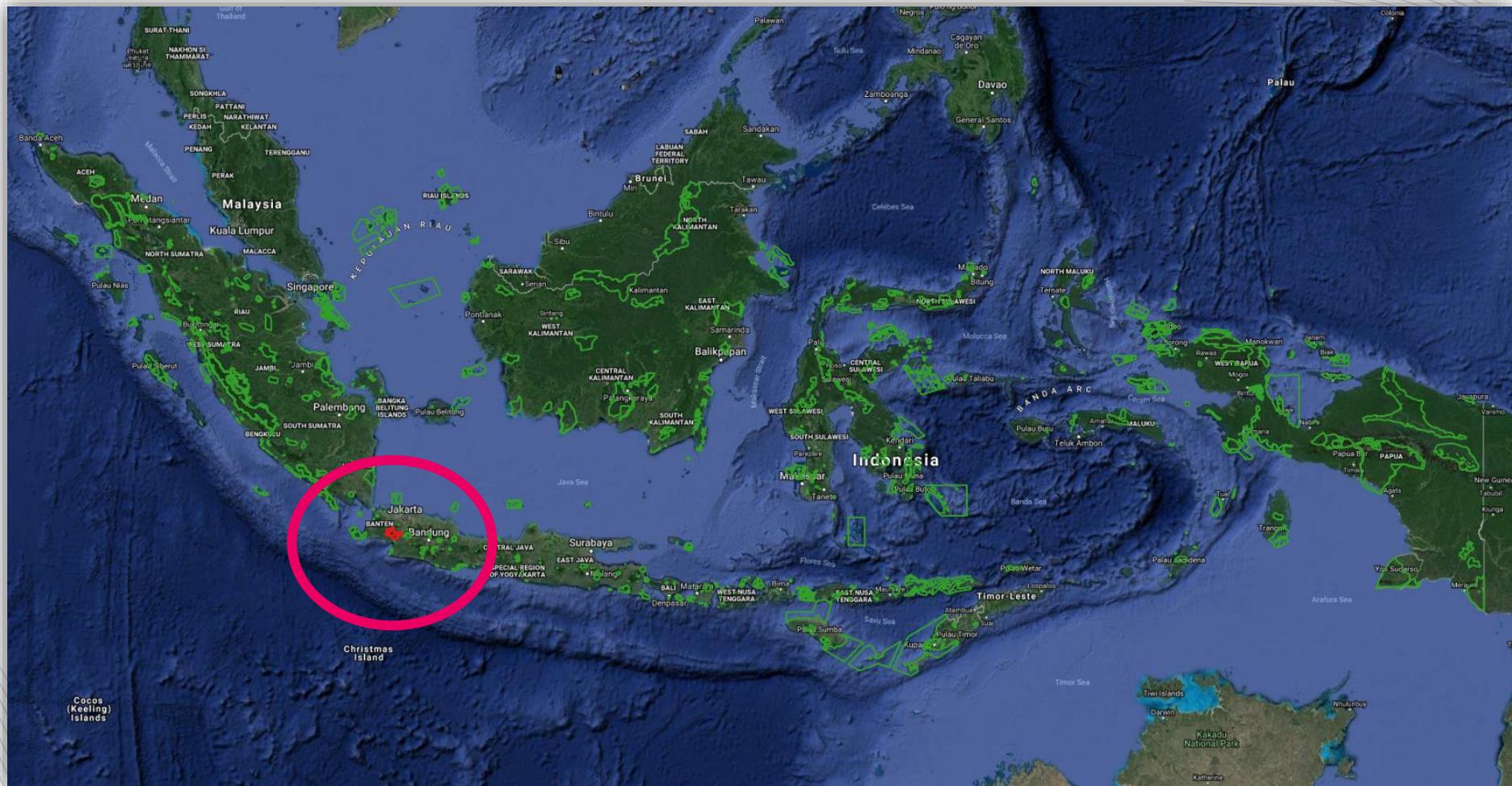
LYDIA COLE, JENNY HODGSON & KATH ALLEN

TAMAN NASIONAL GUNUNG HALIMUN-SALAK, JAVA • 29<sup>TH</sup> NOVEMBER 2018

- **Background to project**
- **Goals**
- **Condatis inputs**
- **Results**
- **Application**
- **Q&A**



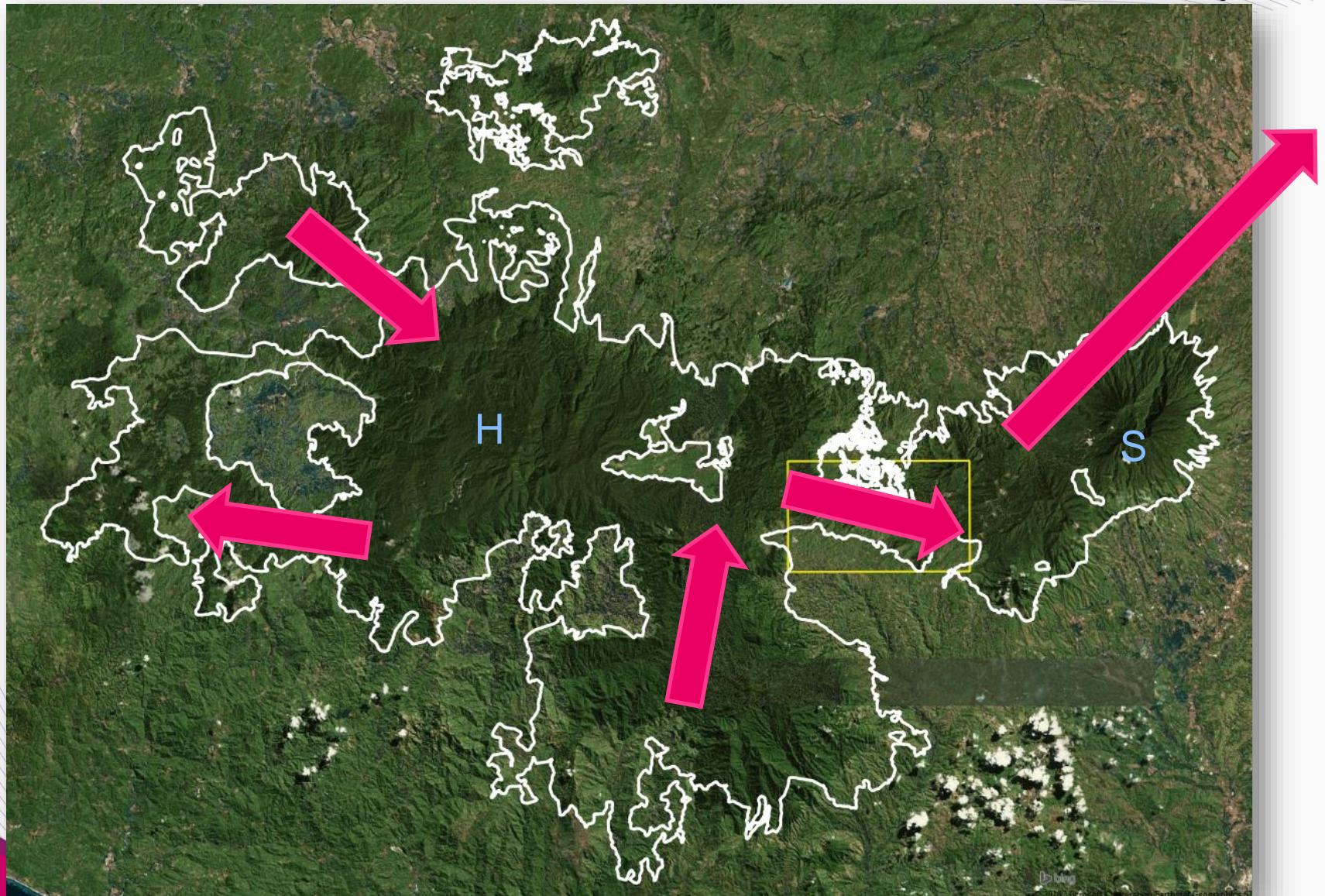
# CASE STUDY 2 – Mount Halimun Salak National Park



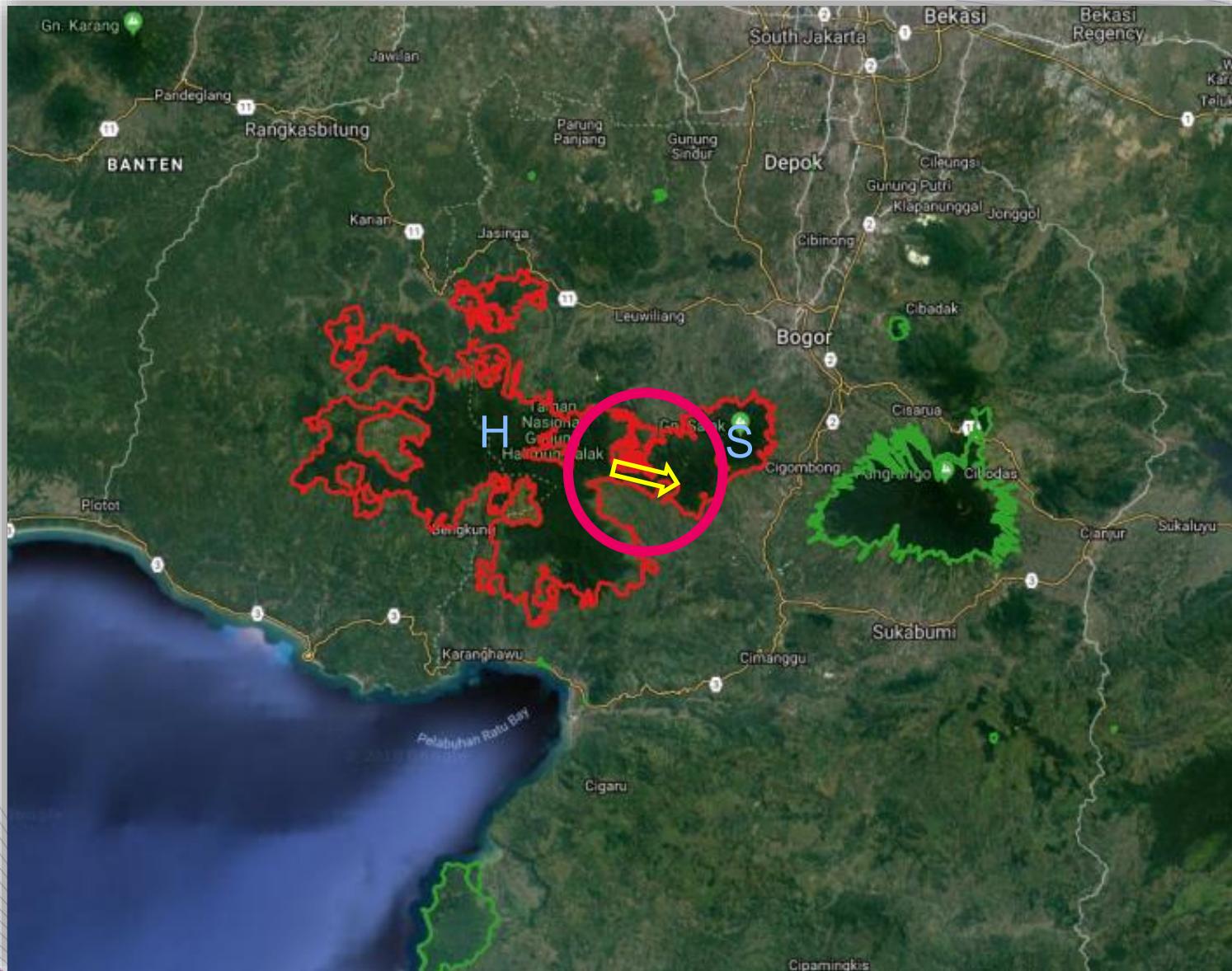
Protected Planet - <https://protectedplanet.net/country/ID>

# CASE STUDY 2 – Movement in TNGHS

*Illustrative case study*



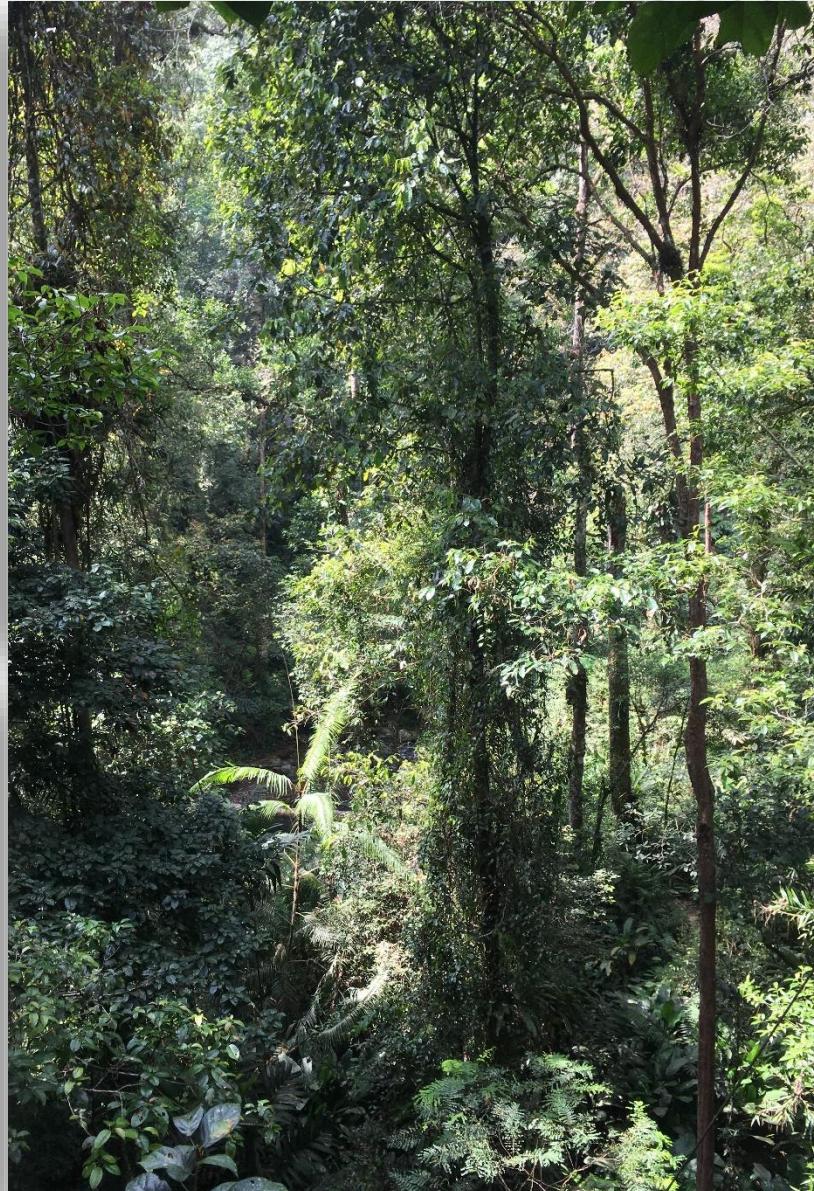
# Halimun-Salak Corridor



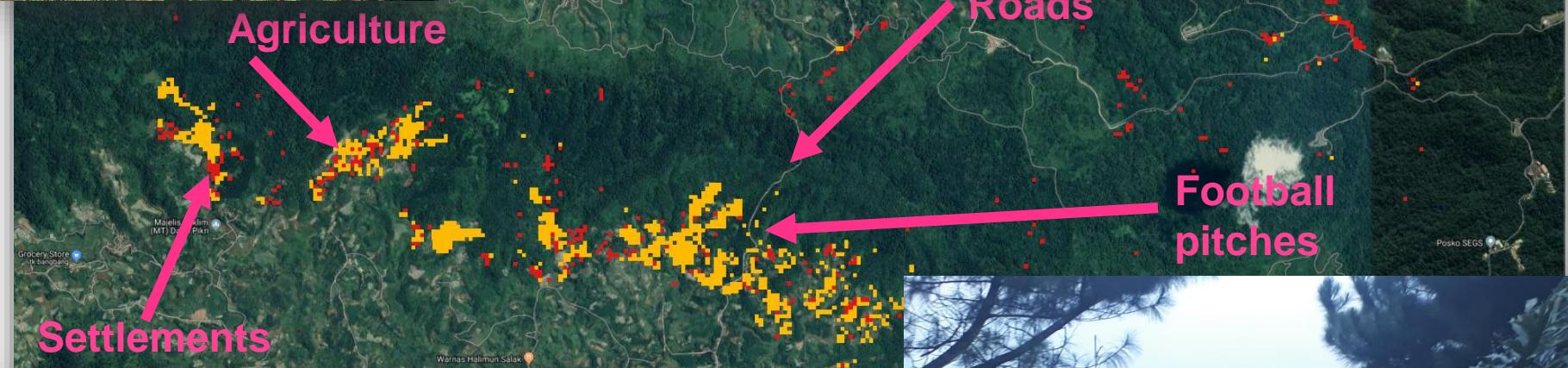
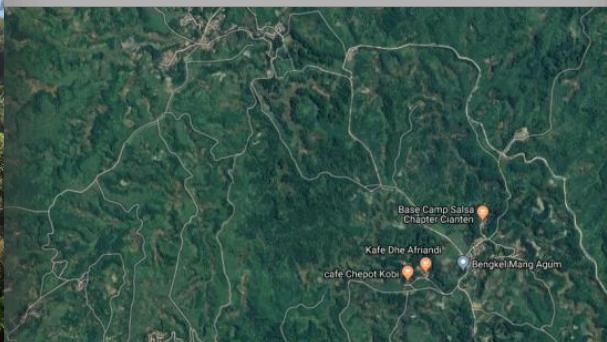
# Taman Nasional Gunung Halimun Salak



(Credit for photographs to Jenny Hodgson)



# Fragmentation within the corridor





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*bigger, better and more  
joined-up habitat networks*

[www.webapp.condatis.org.uk](http://www.webapp.condatis.org.uk)

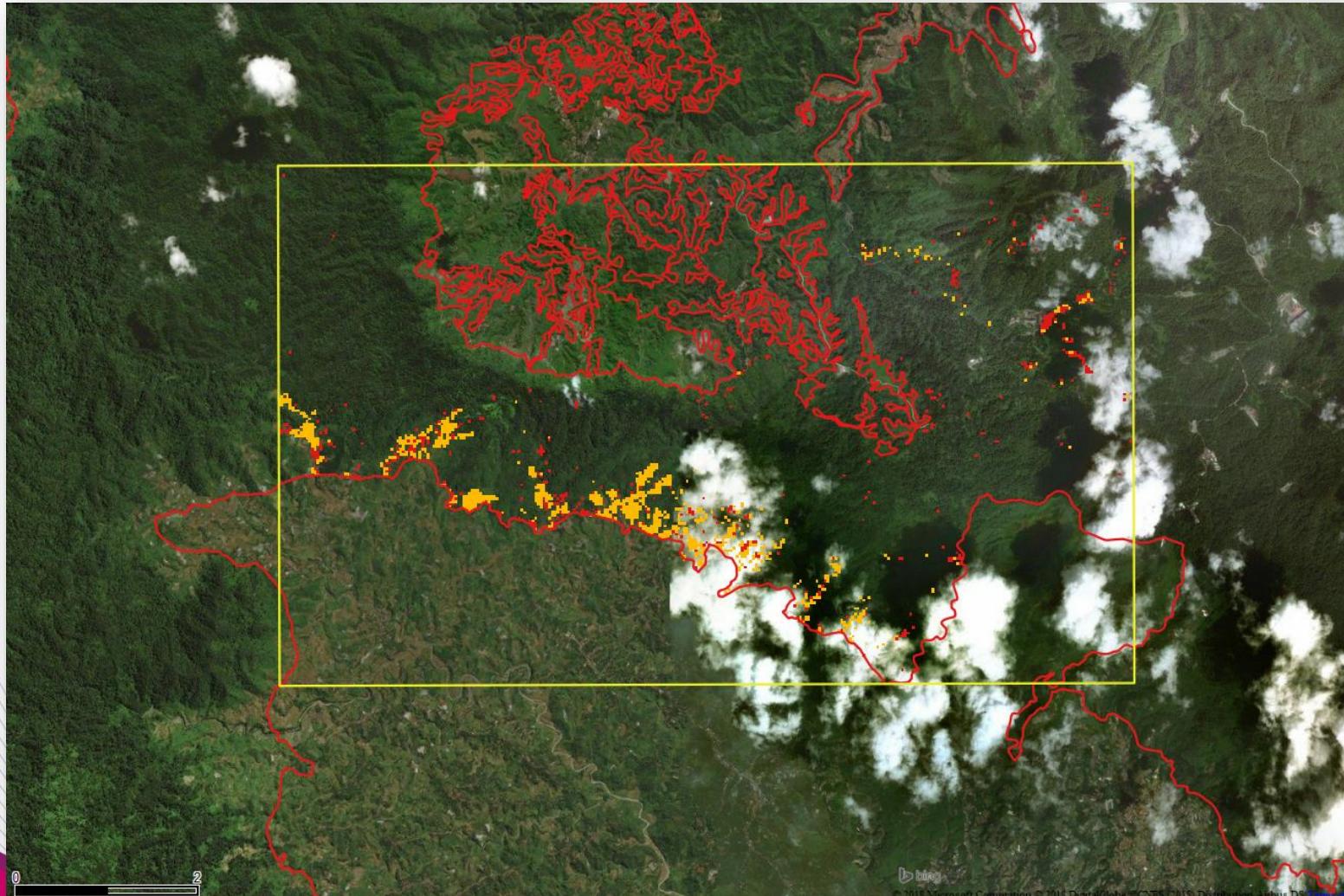
The screenshot shows a web browser window titled "Condatis Create Job". The URL in the address bar is "webapp.condatis.org.uk/index.php?page=create\_job". The page header includes the Condatis logo and navigation links for "CONDATIS PROJECT", "HELP", "YOUR ACCOUNT", and "LOG OUT". A banner at the top states "bigger, better and more joined-up habitat networks". The main content area is titled "Create Job" and contains a "Job Creation" form. The form fields are as follows:

Field	Value	Help
Username:	Lydia Cole	?
Email:	lydia.cole@liverpool.ac.uk	?
*Job Title:	Heath	?
*Reproductive Rate (R):	1000	?
*Dispersal Distance (km):	5	?
Include Prioritization:	<input type="checkbox"/>	?
*Habitat Layer:	<input type="text"/> Browse...	?
*Source and Target Layer:	<input type="text"/> Browse...	?
Email on completion?	<input type="checkbox"/>	?

A note at the bottom of the form says "\*Required Fields". At the bottom left is a "Submit" button. A horizontal line separates this from the footer, which includes links for "TERMS AND CONDITIONS" and "PRIVACY DECLARATION".

# GOALS of PROJECT:

Aid decisions on the most efficient areas for restoration within the Halimun-Salak corridor, based on the movement requirements of two threatened species.



## CASE STUDY 2 – Prioritising corridor restoration in Java

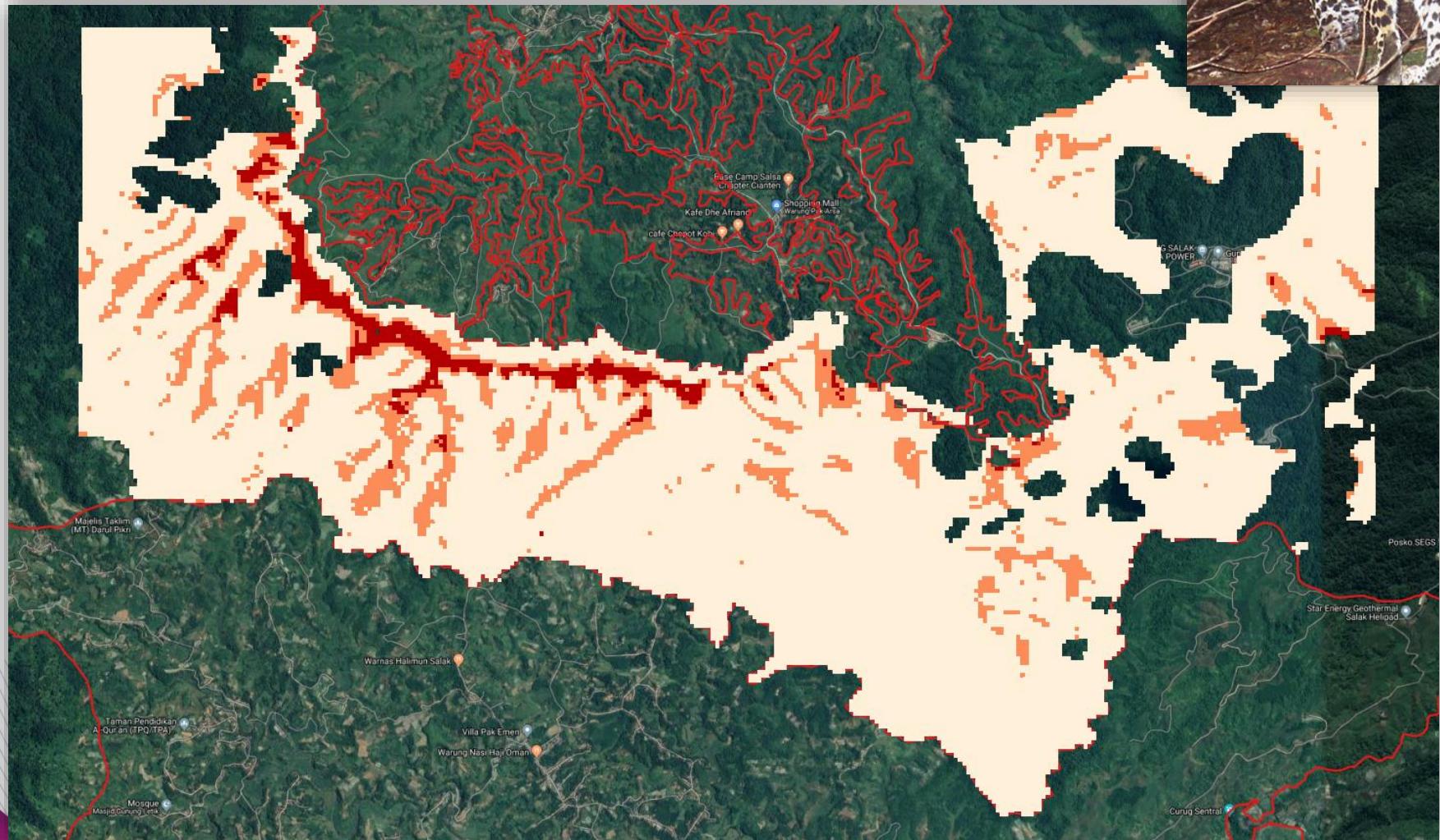
- GOAL: Aid the prioritisation of restoration of degraded tropical forest in and around a ‘corridor’ between two mountains in Java, Indonesia.
- TECHNOLOGICAL ADVANCE: inclusion of habitat quality effects

<i>What kind of species are you interested in?</i>	<b>Javan Gibbon</b> and <b>Javan Leopard</b>
<i>What is your source and target?</i>	Source is <b>Mount Halimun</b> ; target is <b>Mount Salak</b>
<i>Why do your species need to move between the focal source and target?</i>	Habitat <b>loss &amp; climate change</b> ( <i>ultimate driver = human-induced impacts</i> )
<i>What constitutes habitat?</i>	<b>Forest</b> , of varying stature & quality
<i>What kind of prioritisation are you performing?</i>	Identification of key locations for <b>restoration</b> of degraded forest habitat
<i>Who will be interested in the results?</i>	Taman Nasional Gunung Halimun Salak



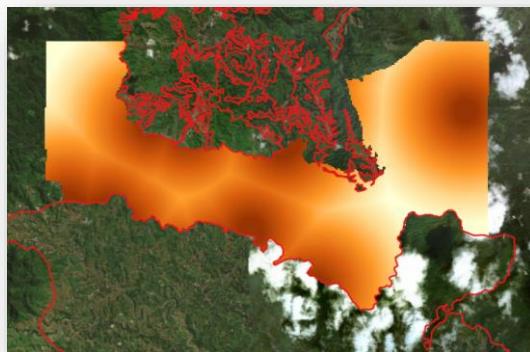
# Habitat suitability – Javan Leopard

Critically endangered (IUCN Red List)

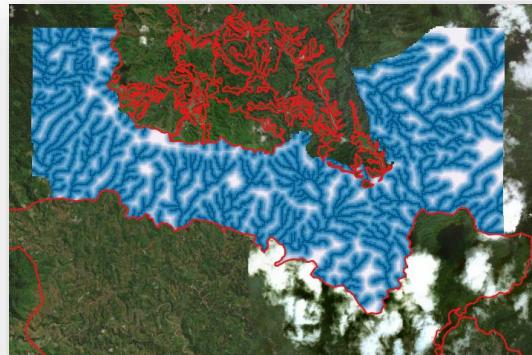


Habitat suitability for *Panthera pardus melas* (provided by Pak Lilik Budi Prasetyo)

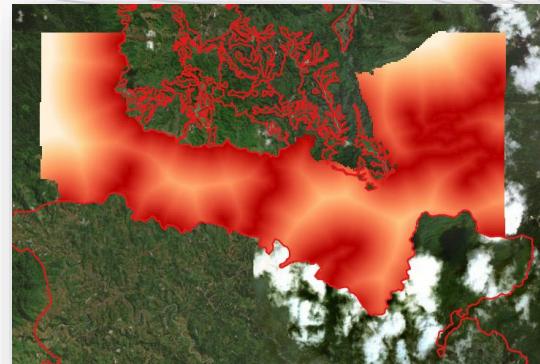
# Habitat suitability – component layers



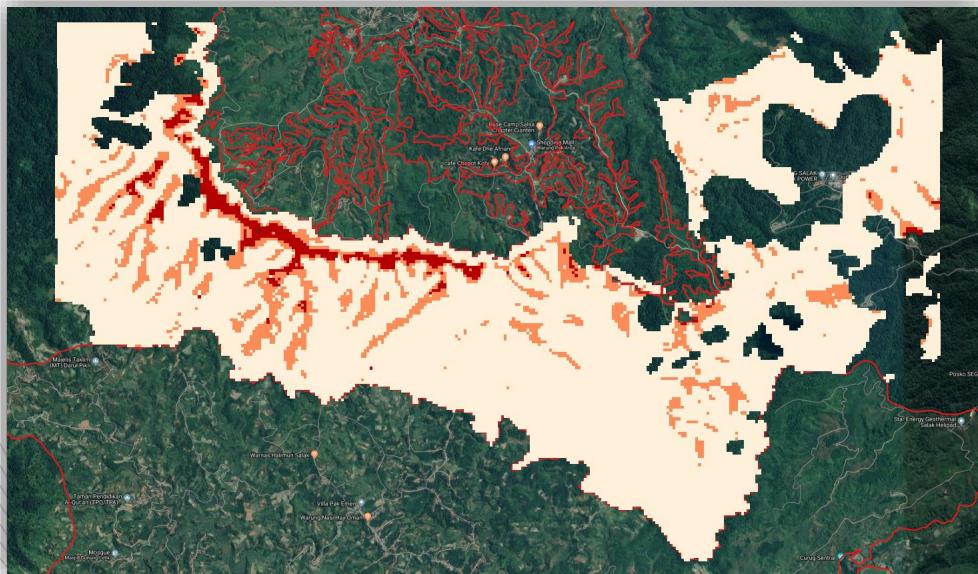
Distance to settlement



Distance to rivers



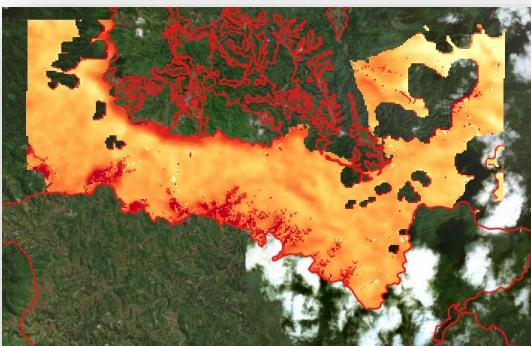
Distance to roads



Habitat suitability for *Panthera pardus melas*  
(provided by Pak Lilik Budi Prasetyo)



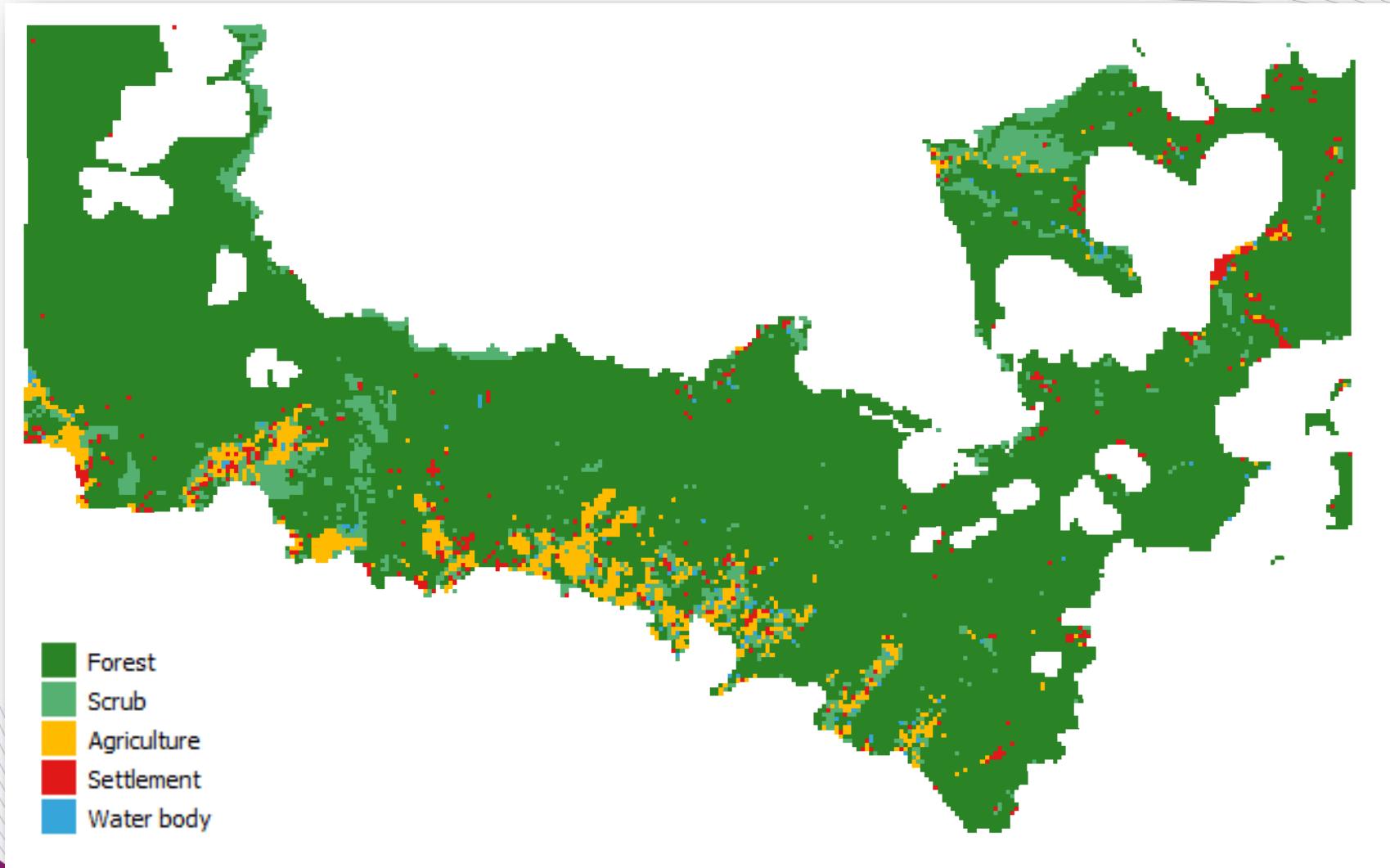
Elevation



Air temperature 2017

Inputs

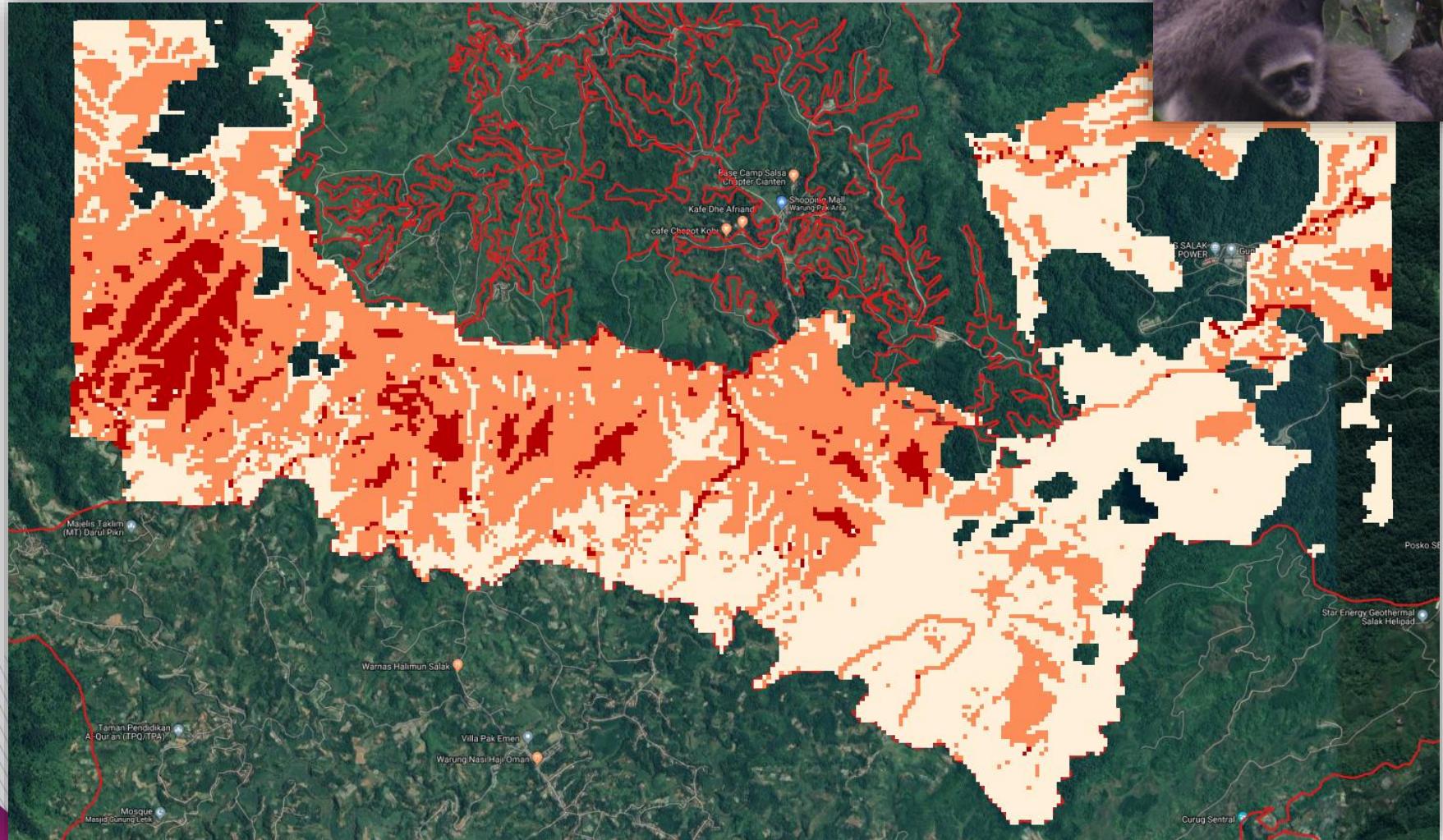
# Land use/cover in Halimun-Salak Corridor



Land cover for 2017 (provided by Pak Lilik Budi Prasetyo)

# Habitat suitability – Javan Gibbon

Endangered (IUCN Red List)

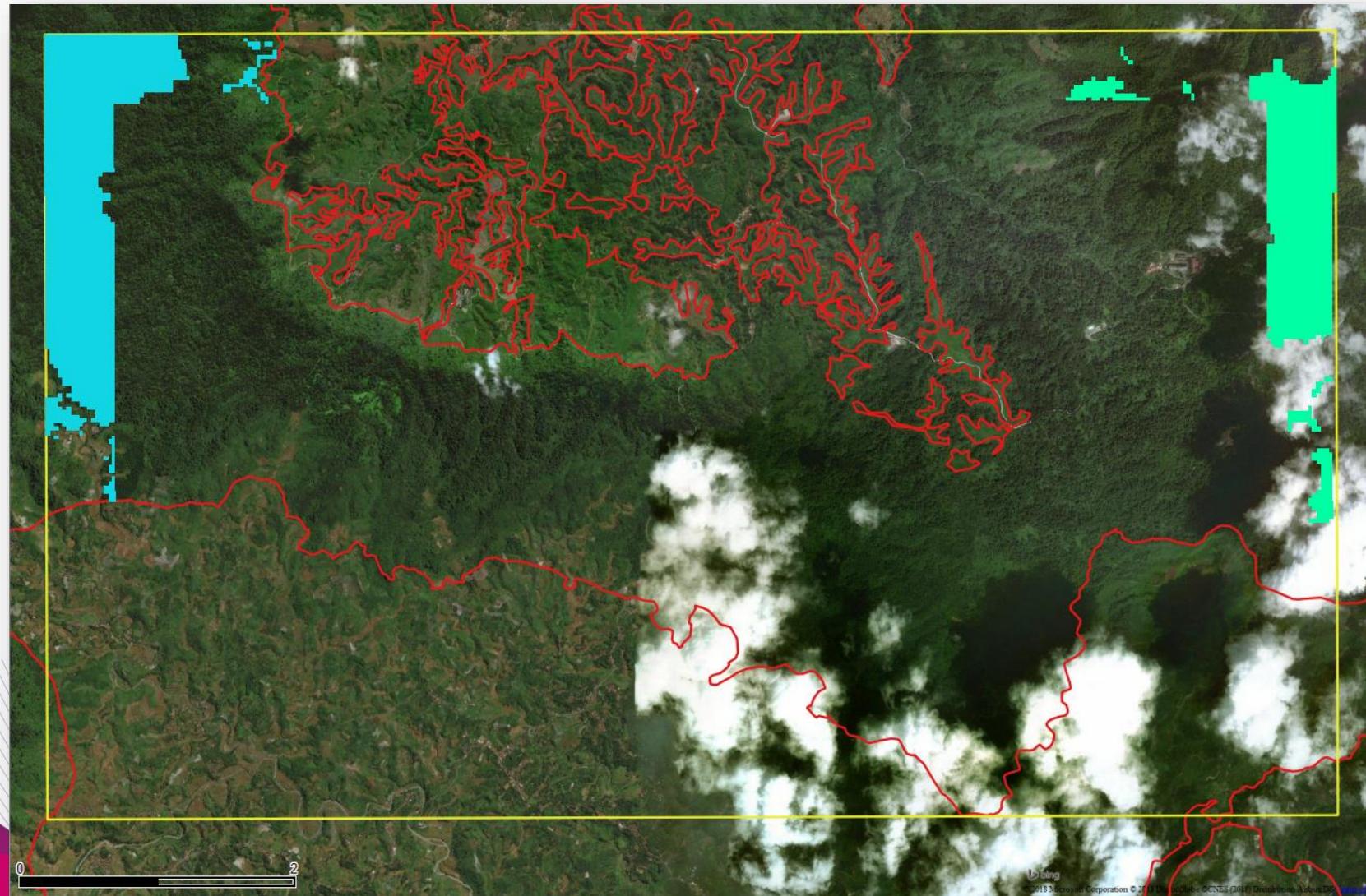


Habitat suitability for *Hylobates moloch* (provided by Pak Lilik Budi Prasetyo)

# CONDATIS INPUTS

Source

Target



Inputs

# CONDATIS INPUTS - Species characteristics

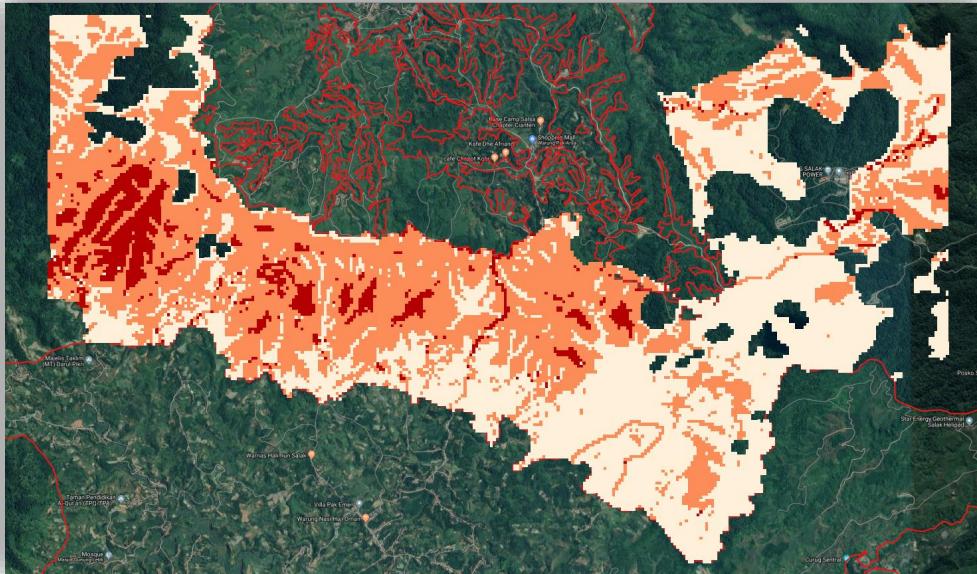


Condatis variable	Javan Gibbon ( <i>Hylobates moloch</i> )	Javan Leopard ( <i>Panthera pardus melas</i> )
Dispersal distance (DD) (km)	1	4.2
Reproductive rate (RR) (individuals/km <sup>2</sup> )	5	0.15 → 1 for Condatis
Habitat preference*	<i>Habitat suitability index</i>	<i>Habitat suitability index</i>
Source/Target*	Movement between Mount Halimun (Source) & Mount Salak (Target)	

\*raster file, in .tif format

# CONDATIS INPUTS - *Habitat (suitability) layers*

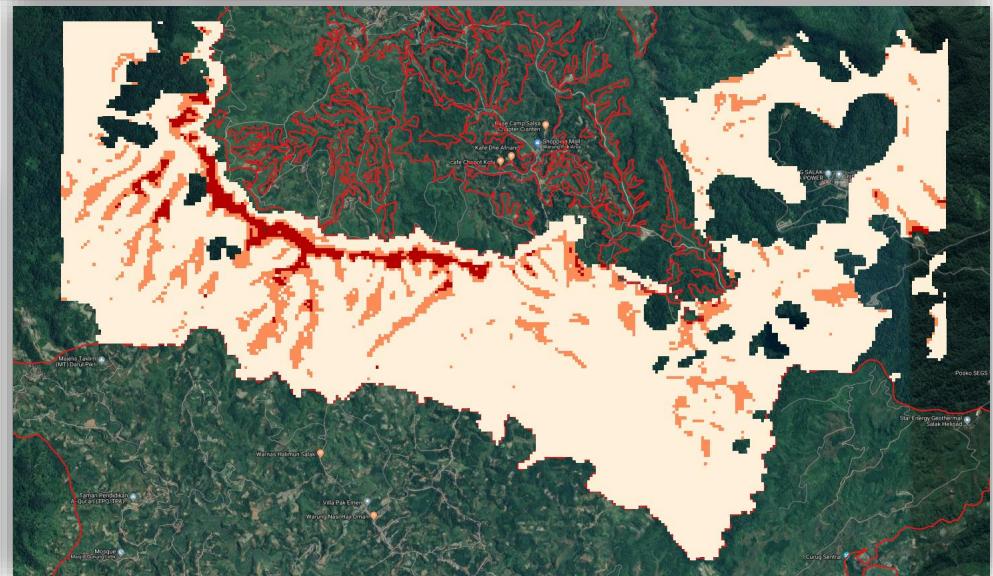
*Business as usual*



Javan Gibbon  
(*Hylobates moloch*)



Javan Leopard  
(*Panthera pardus melas*)

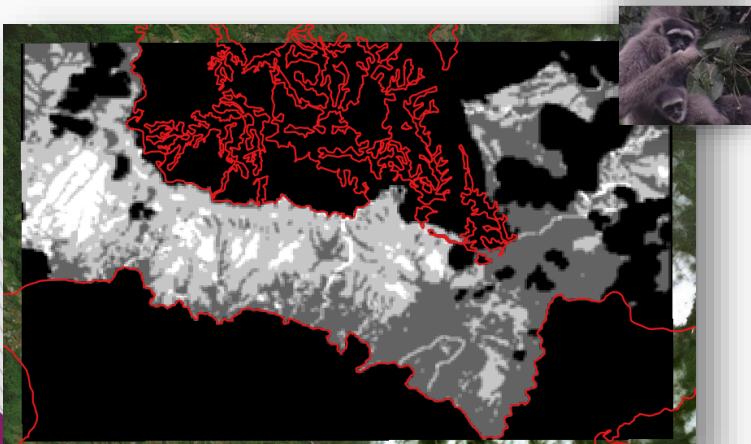


# CONDATIS INPUTS – Restoration scenarios

## Habitat - Business as usual



Habitat suitability for *Panthera pardus melas*

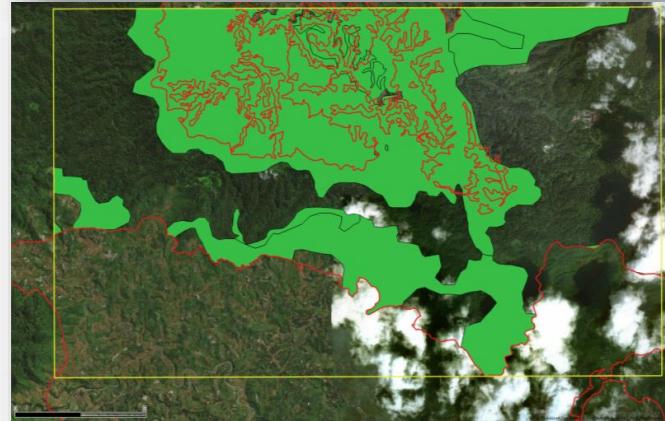


Habitat suitability for *Hylobates moloch*

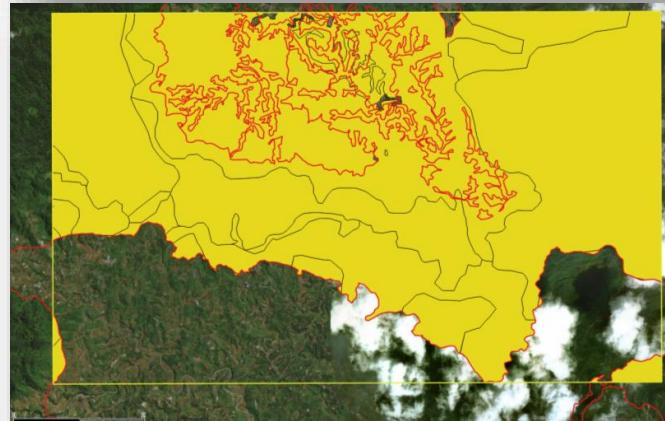
## Habitat - Best Case Scenarios



Plantation areas



All potential land covers



# Calculating connectivity through CONDATIS



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CONDATIS PROJECT

HELP

YOUR ACCOUNT

LOG OUT

bigger, better and more joined-up habitat networks



## Create Job

**Job Creation**

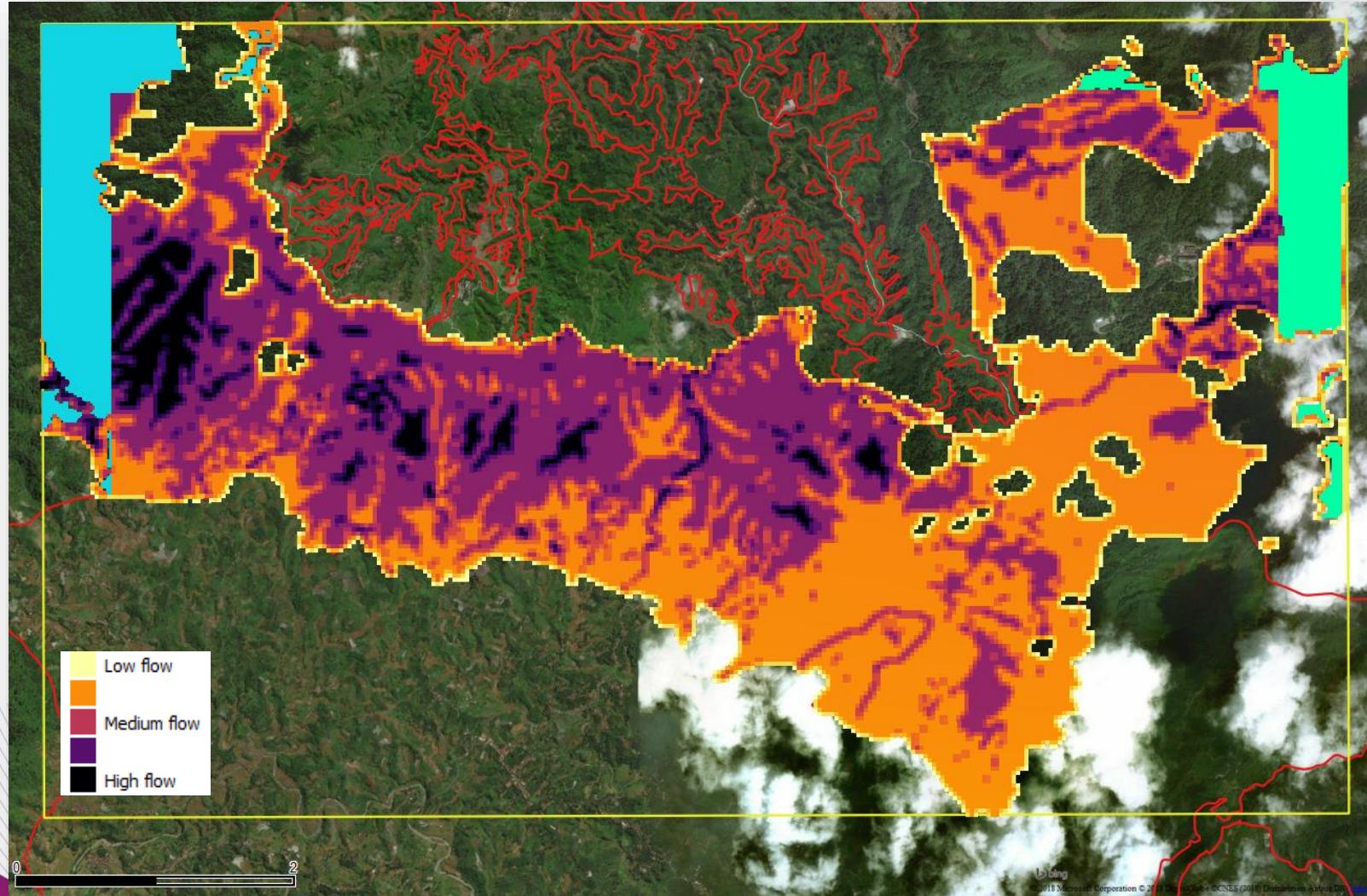
Username:	Lydia Cole	<a href="#">?</a>
Email:	lydia.cole@liverpool.ac.uk	<a href="#">?</a>
*Job Title:	HalSal_Gib_1km	<a href="#">?</a>
*Reproductive Rate (R):	1000	<a href="#">?</a>
*Dispersal Distance (km):	5	<a href="#">?</a>
Include Prioritisation:	<input type="checkbox"/>	<a href="#">?</a>
*Habitat Layer:	O:\CBFshare\Case_studies_info\ln\	<a href="#">Browse...</a> <a href="#">?</a>
*Source and Target Layer:	O:\CBFshare\Case_studies_info\ln\	<a href="#">Browse...</a> <a href="#">?</a>
Email on completion?	<input checked="" type="checkbox"/>	

\*Required Fields

# CONDATIS OUTPUTS: FLOW

DD=1km; RR=5inds./km<sup>2</sup>

Javan Gibbon (*Hylobates moloch*)



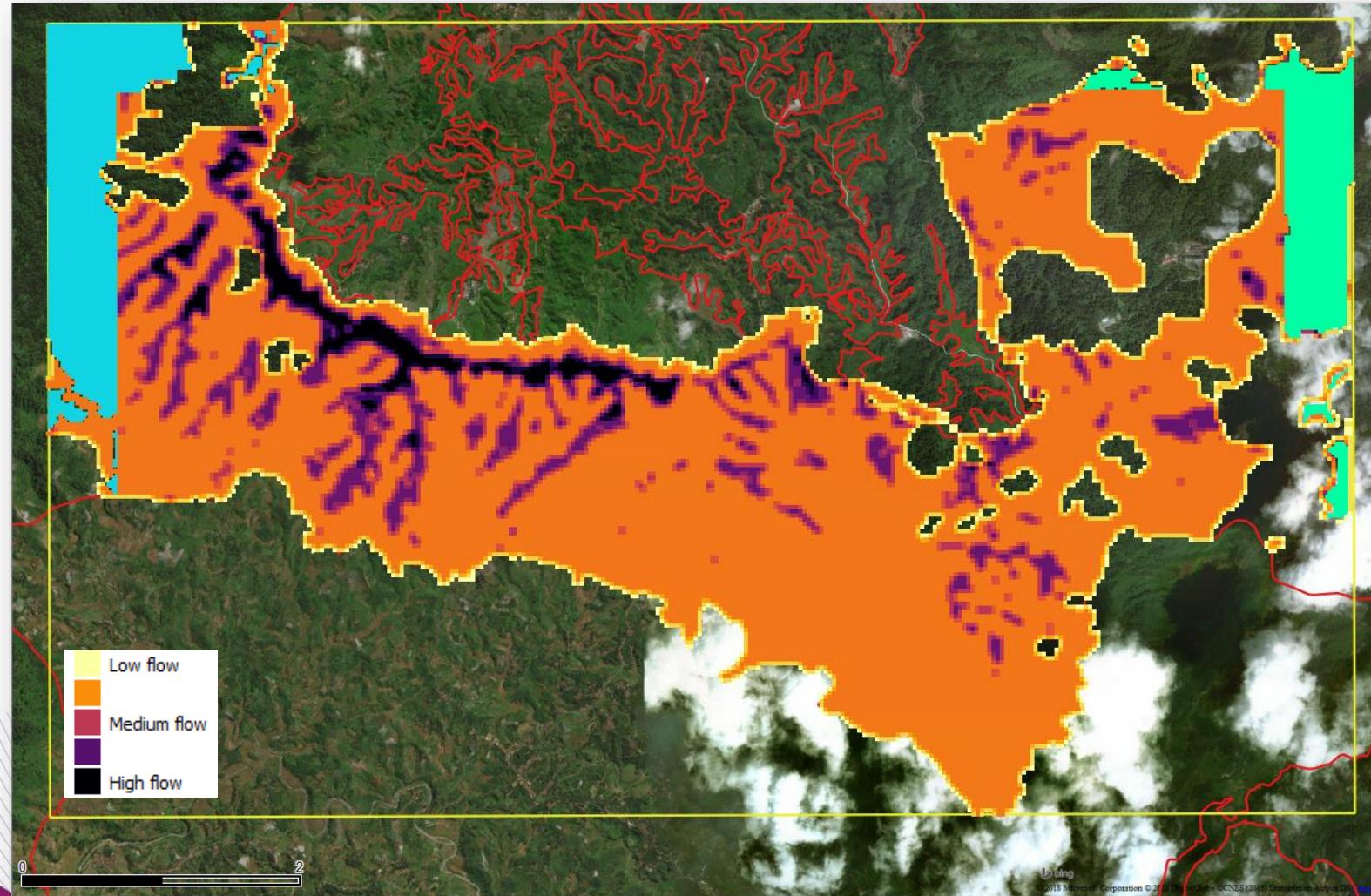
Flow speed = 14.9876

Central zone of corridor important

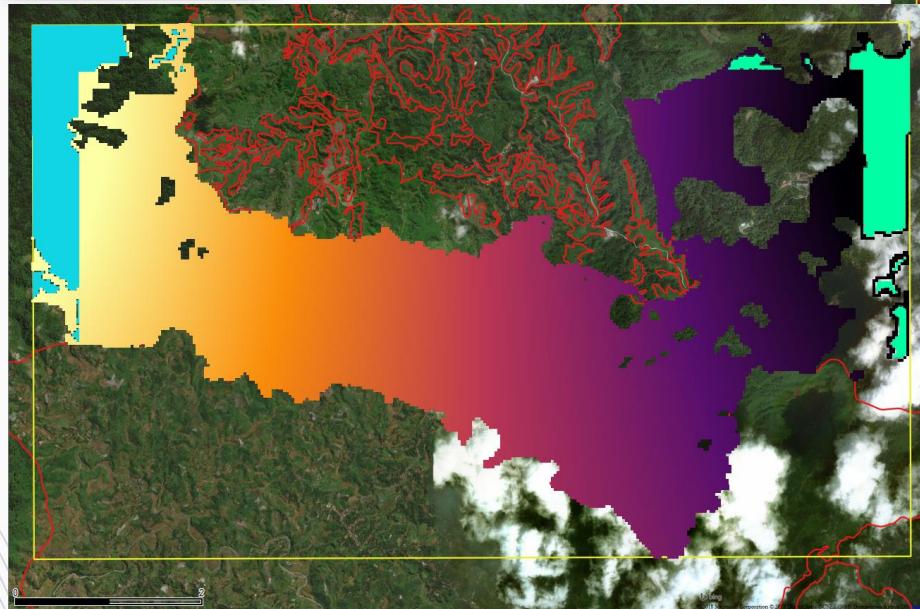
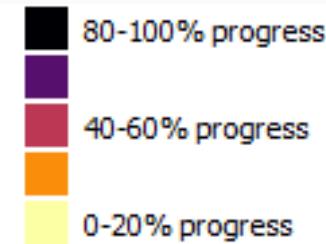
# CONDATIS OUTPUTS: FLOW

DD=4.2km; RR=1ind./km<sup>2</sup>

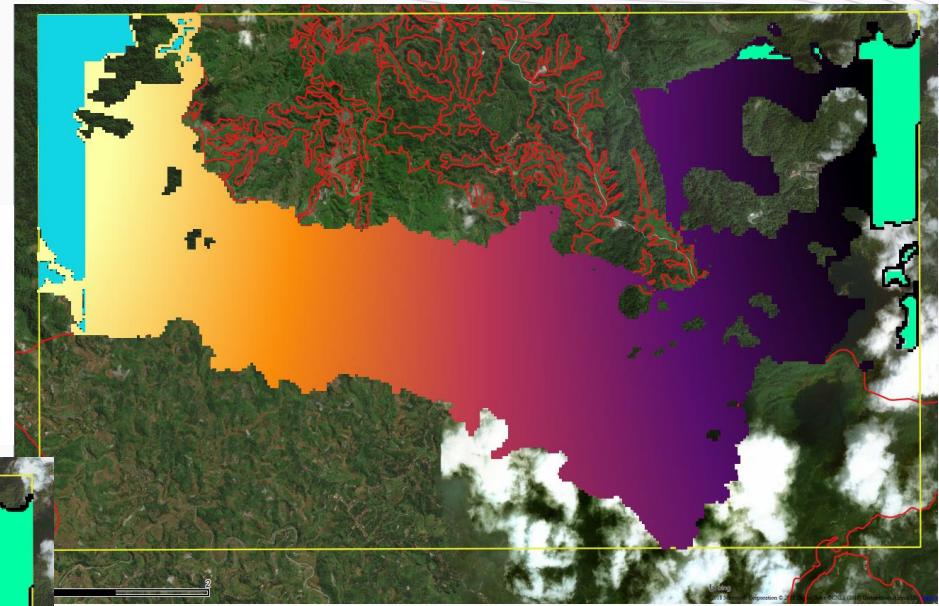
Javan Leopard (*Panthera pardus melas*)



# FLOW - Progress



**Javan gibbon**



**Javan leopard**



*No visible bottlenecks identified*

# FLOW – Overlap

Javan gibbon

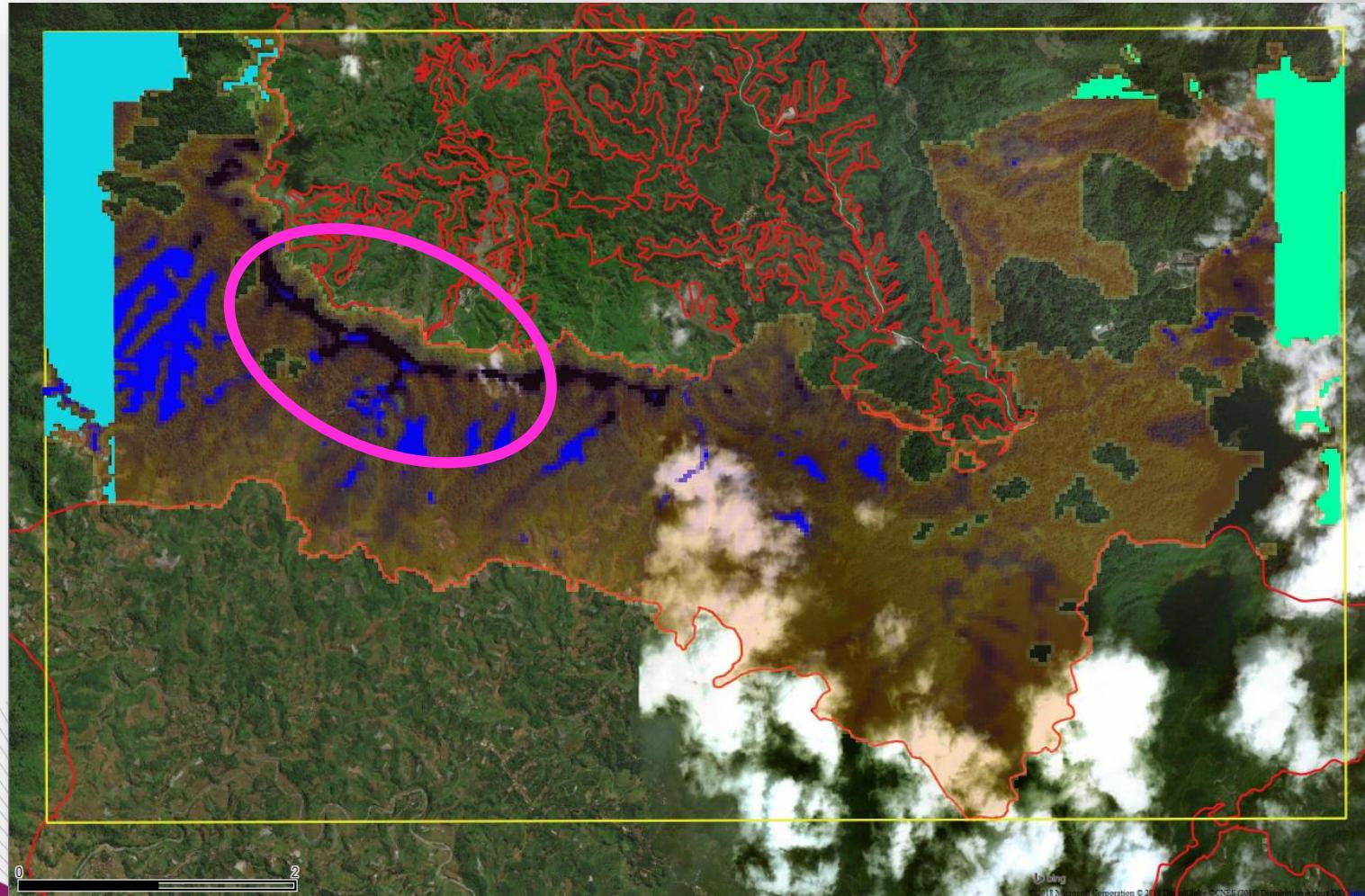


Javan leopard

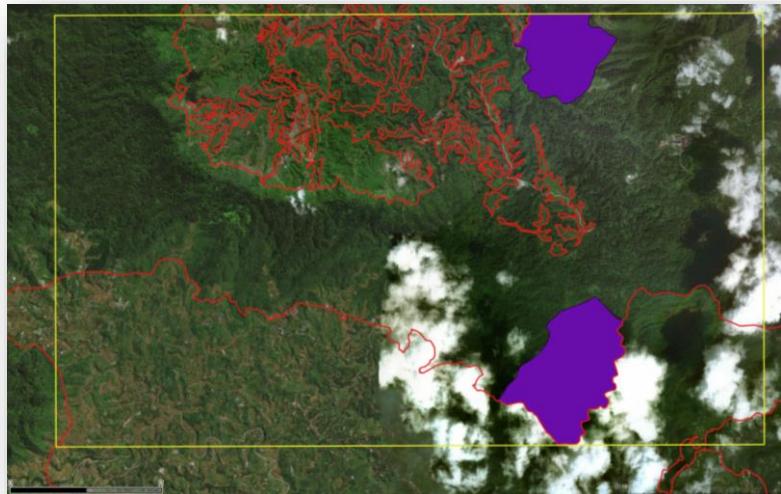


High flow

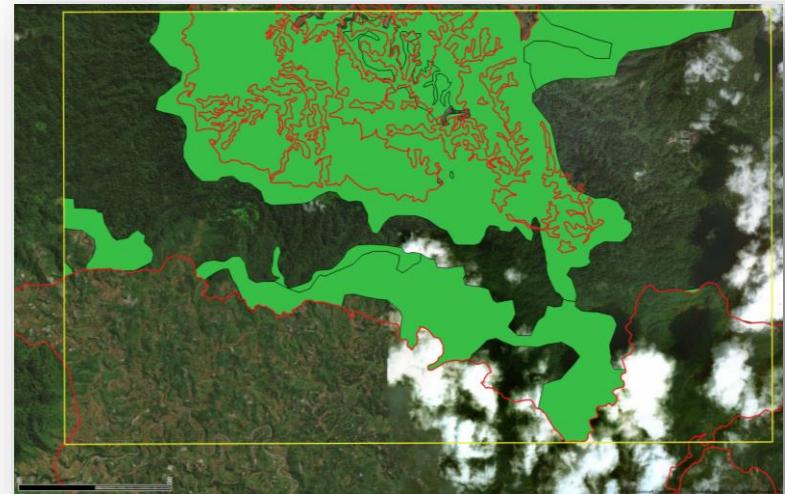
High flow



# *Comparing influence of different restoration scenarios on Flow Speed*

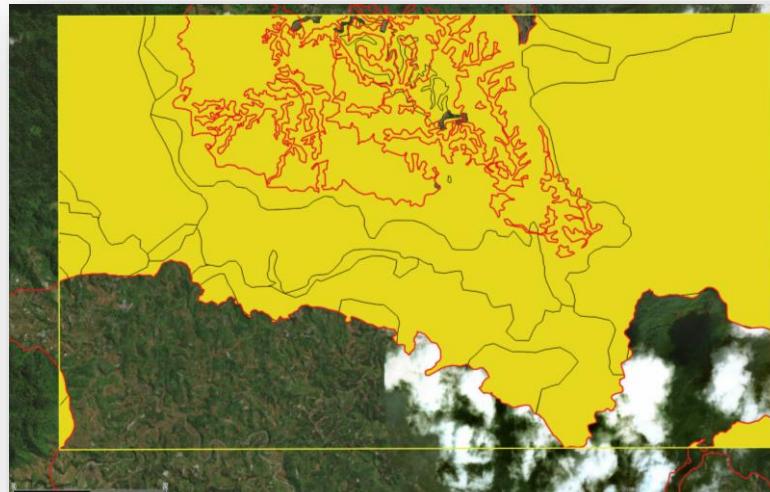


Restoration



Plantations

## *Best Case Scenarios*

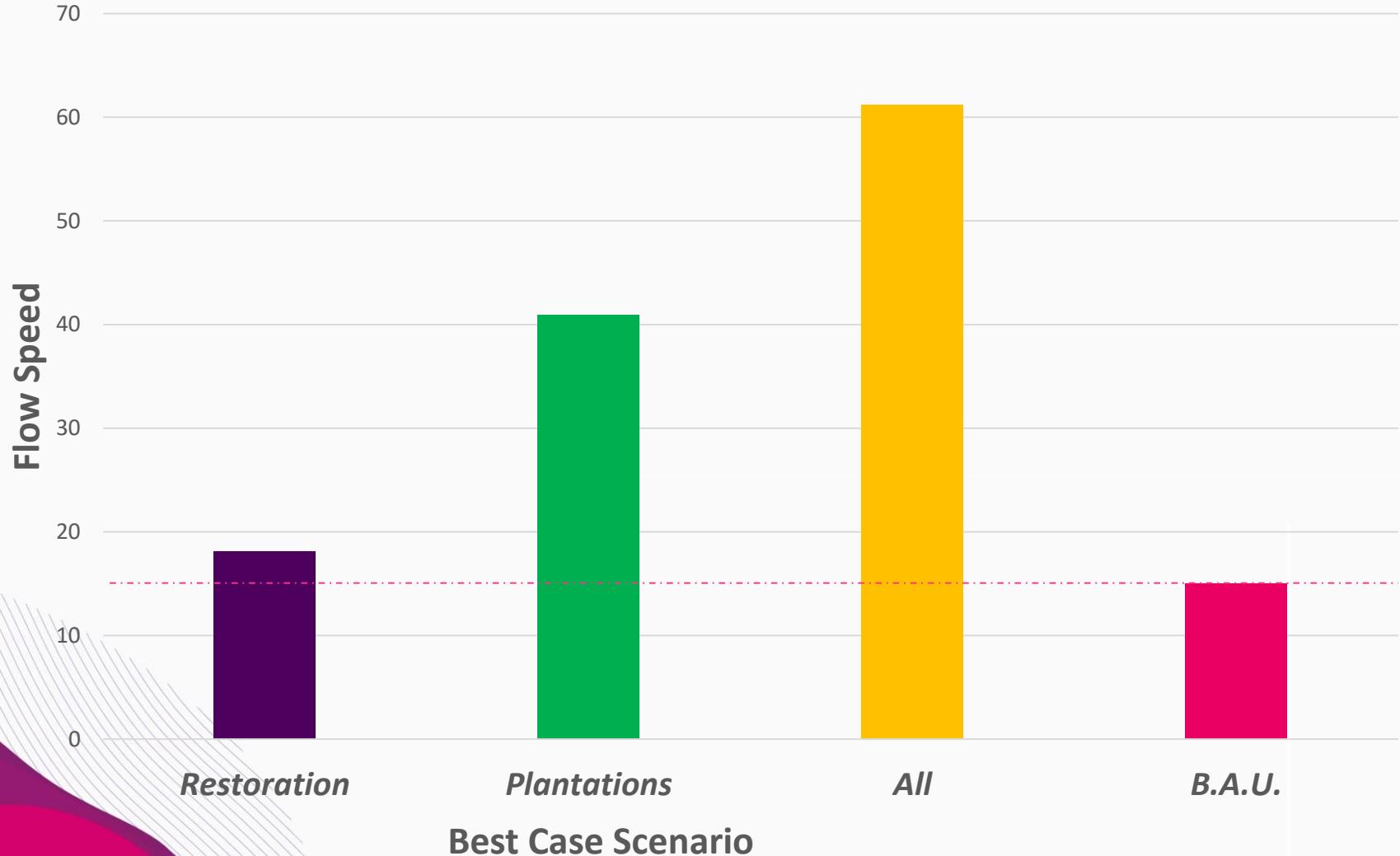


All

# *Comparing influence of different restoration scenarios on Flow Speed*



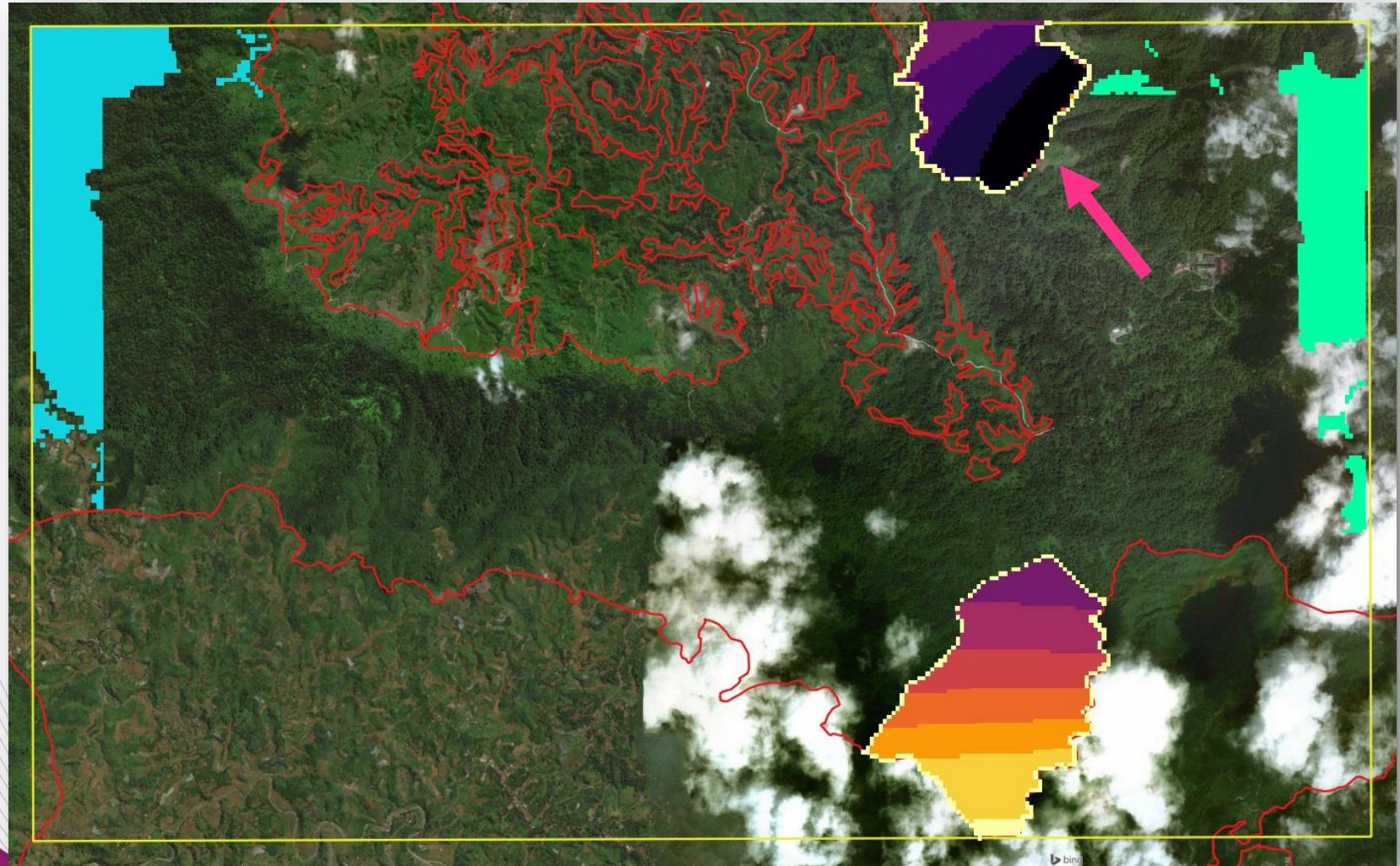
Javan gibbon





# Insights for management?

Javan gibbon



Dropping analysis – *Dropping rank output*

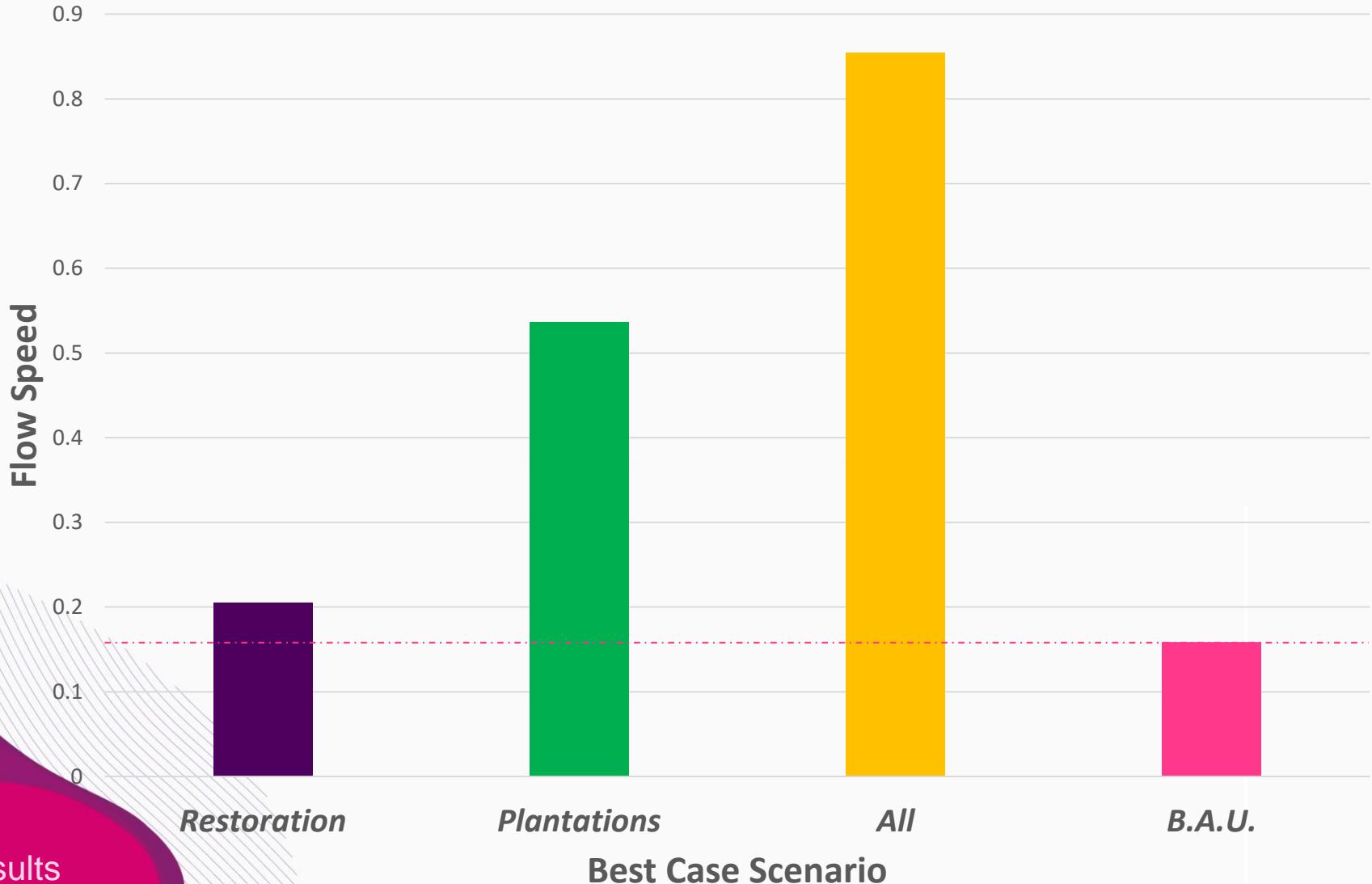
*BCS Restoration*

Results

# *Comparing influence of different restoration scenarios on Flow Speed*



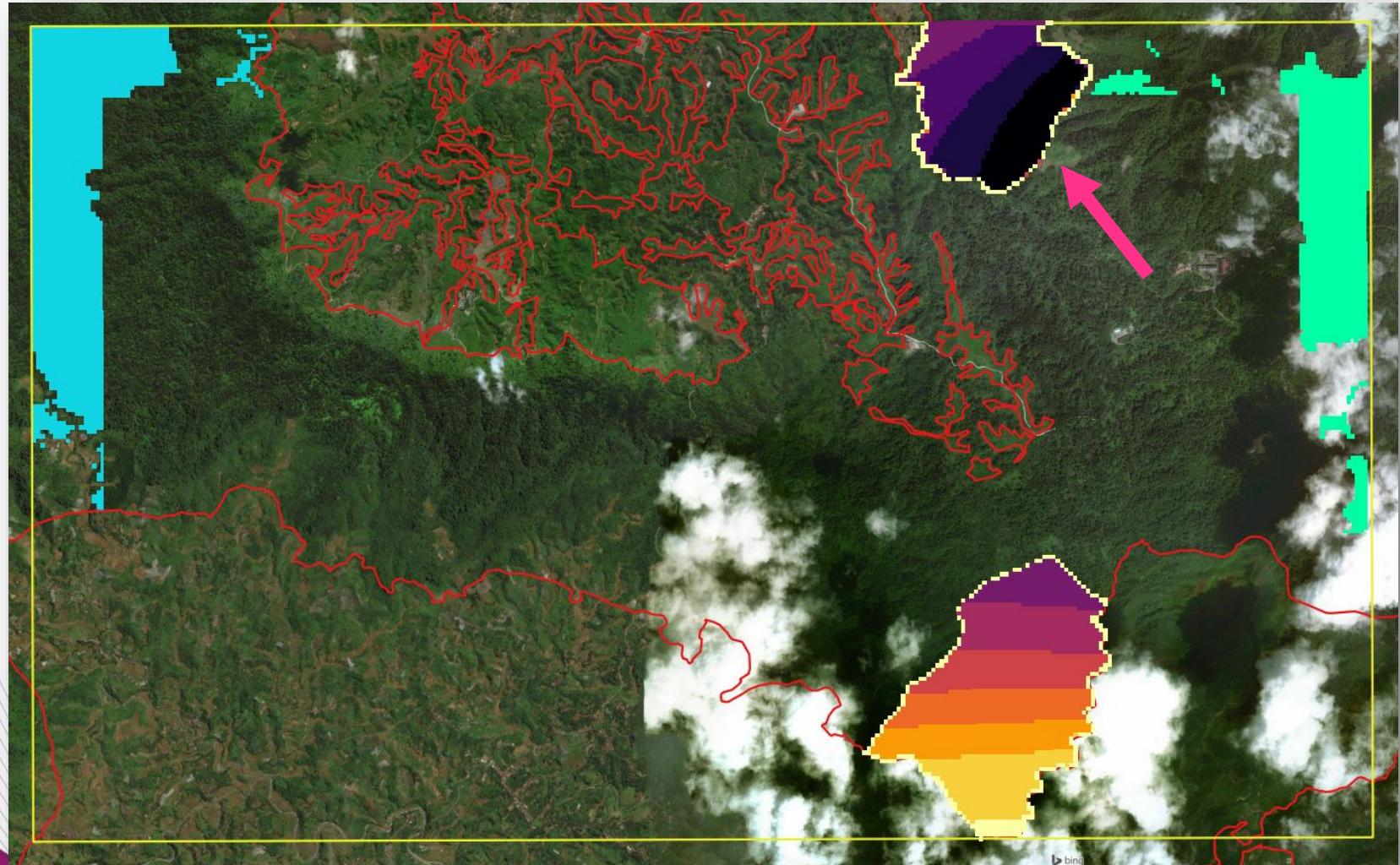
Javan leopard





# Insights for management?

Javan leopard



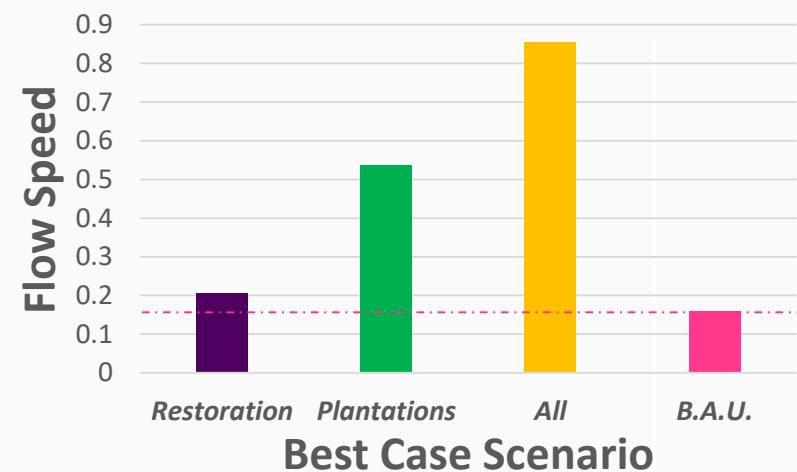
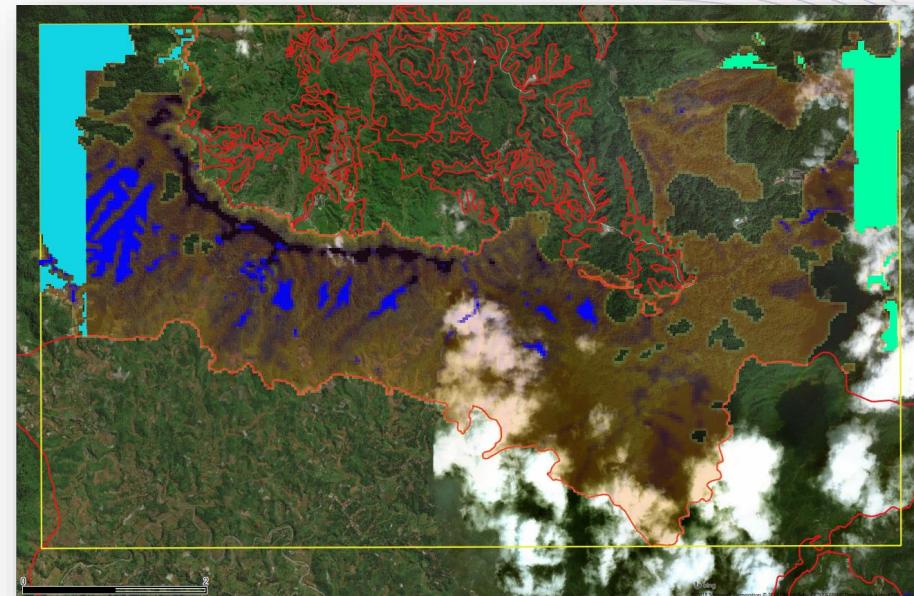
Dropping analysis – *Dropping rank output*

*BCS Restoration*

Results

# CONDATIS OUTPUTS – Summary

- Different patterns of *flow* for the Javan gibbon & Javan leopard
- *Flow speed* for Javan gibbon >> Javan leopard
- Some areas of overlap in flow pathways - could be focus of future restoration
- 2016-2019 restoration zones do ↑ *flow*, especially in north of corridor
- Restoring plantation areas could greatly ↑ *flow*
- *Limitations*, e.g. very small landscape!



# DISCUSSION

- How might the outputs of the case study address the landscape management challenges in Gunung Halimun Salak National Park?
- What new Condatis analyses would be relevant/useful for spatial landscape planning for forest restoration and wildlife conservation in Java/Indonesia?
- Do you think you'll use Condatis in your future work? If so, how will you use it?
- Are there any other people you think we should contact about Condatis?

# CONDATIS ONLINE:

[webapp.condatis.org.uk](http://webapp.condatis.org.uk)

Find out more: [www.condatis.org.uk](http://www.condatis.org.uk)

Email: [contact@condatis.org.uk](mailto:contact@condatis.org.uk)



*Terima kasih!*