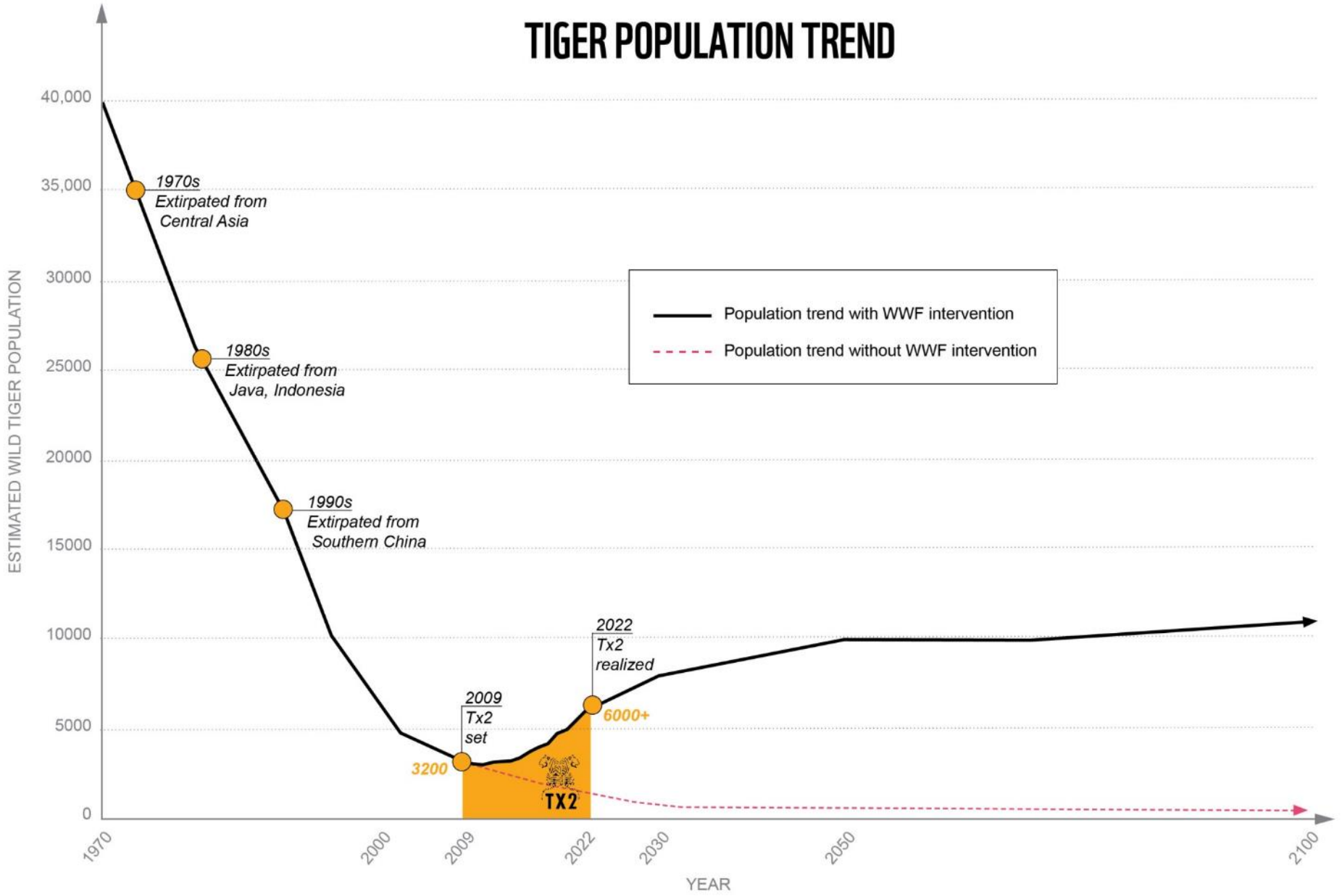
# Technology, the internet and tiger recovery

**Mike Baltzer**
**WWF Tigers Alive Initiative**

**@mikebaltzer @wwf_tigers**

**panda.org/tigers**

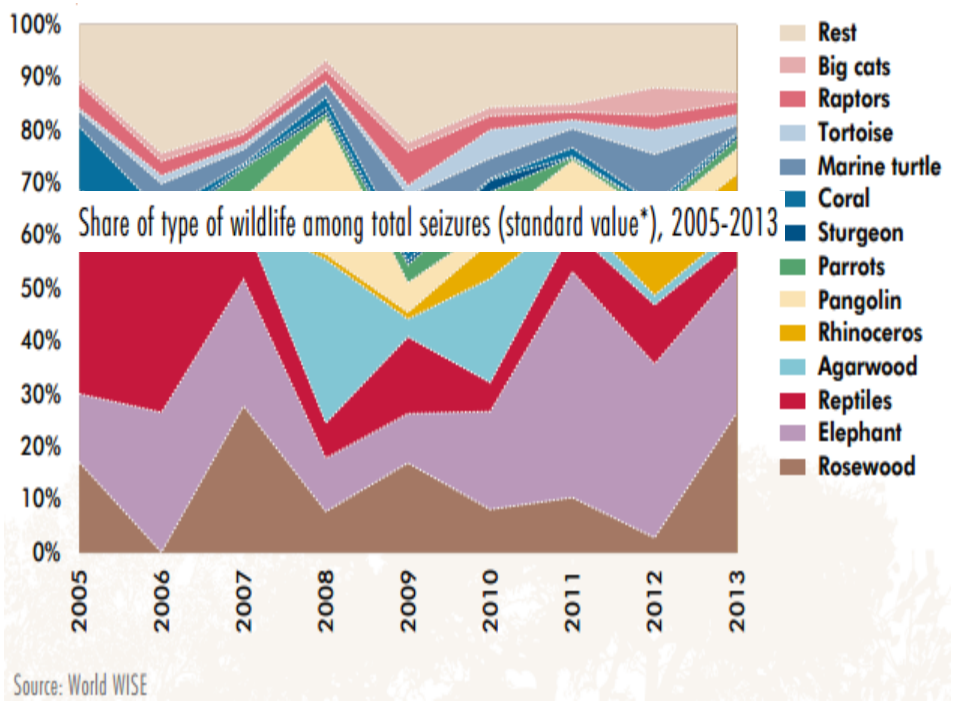
HAPPY GLOBAL TIGER DAY


TIGER POPULATION TREND
ESTIMATED WILD TIGER POPULATION
40,000
35,000
30000
25000
20000
15000
10000
5000
0
1970s
Extirpated from
Central Asia
1980s
Extirpated from
Java, Indonesia
1990s
Extirpated from
Southern China
2009
Tx2
set
3200
2022
Tx2
realized
6000+
TX2
Population trend with WWF intervention
Population trend without WWF intervention
1970
2000
2009
2022
2030
2050
2100
YEAR

TX2

Demand for tiger parts
HALONYUAN F-1
MUSK & TIGER-BONE PLASTER
NATURAL MUSK & TIGER
MUSK AND TIGER BONE PLASTER
麝香虎骨膏
ZhiTong Gao

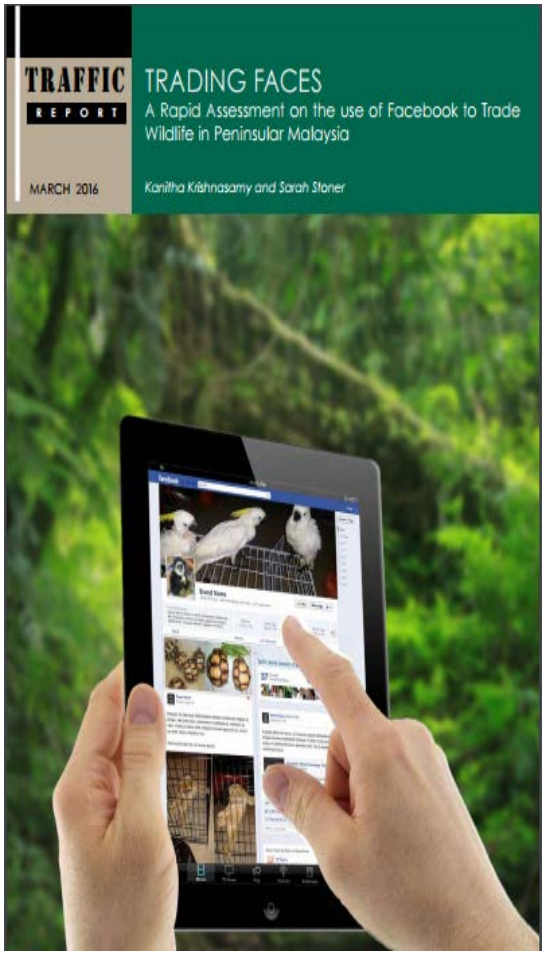
# Illegal Wildlife Trade




Scale of **internet trade**: 6 week investigation by IFAW in 2014: 33,006 endangered wildlife parts/products found on 280 online platforms.

# Responses to internet trade

- Social media monitoring (investigative purposes)
  - Individual + analysis of wider social networks
- "Whack-a-mole" effect: small groups in messaging apps are the current challenge (WhatsApp, WeChat, and in case of recent Malaysia study, closed Facebook groups)



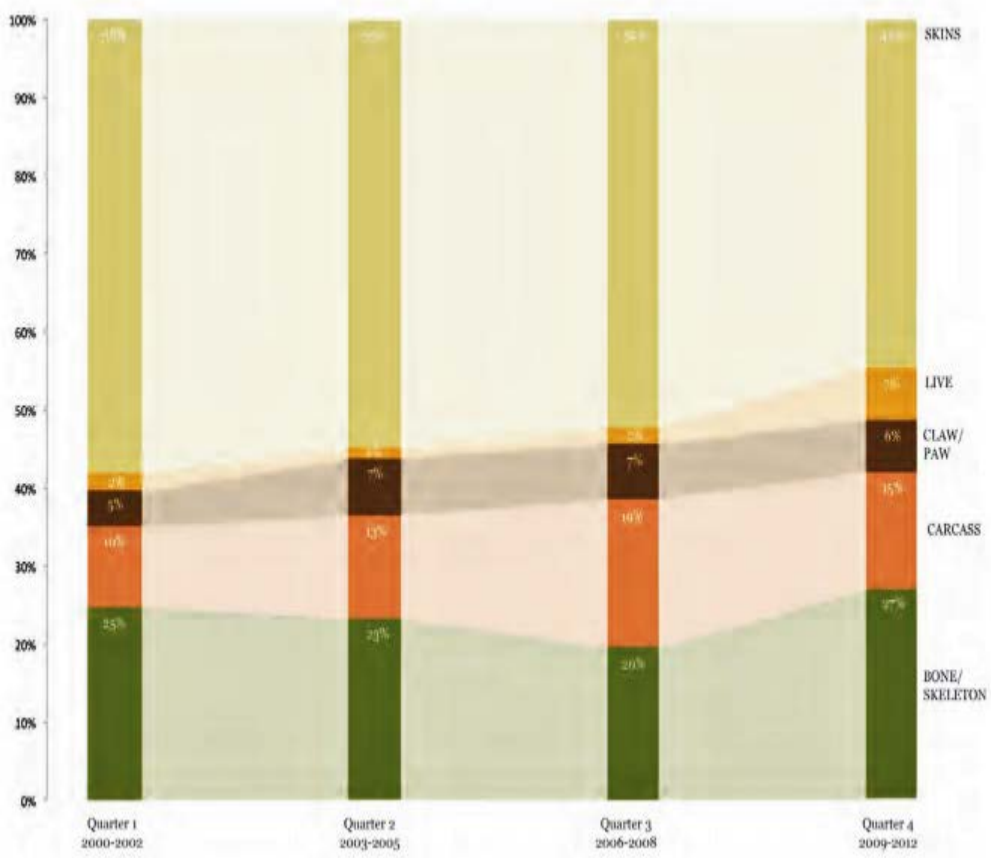

Working directly with major web platforms to prohibit sale of illegal wildlife:

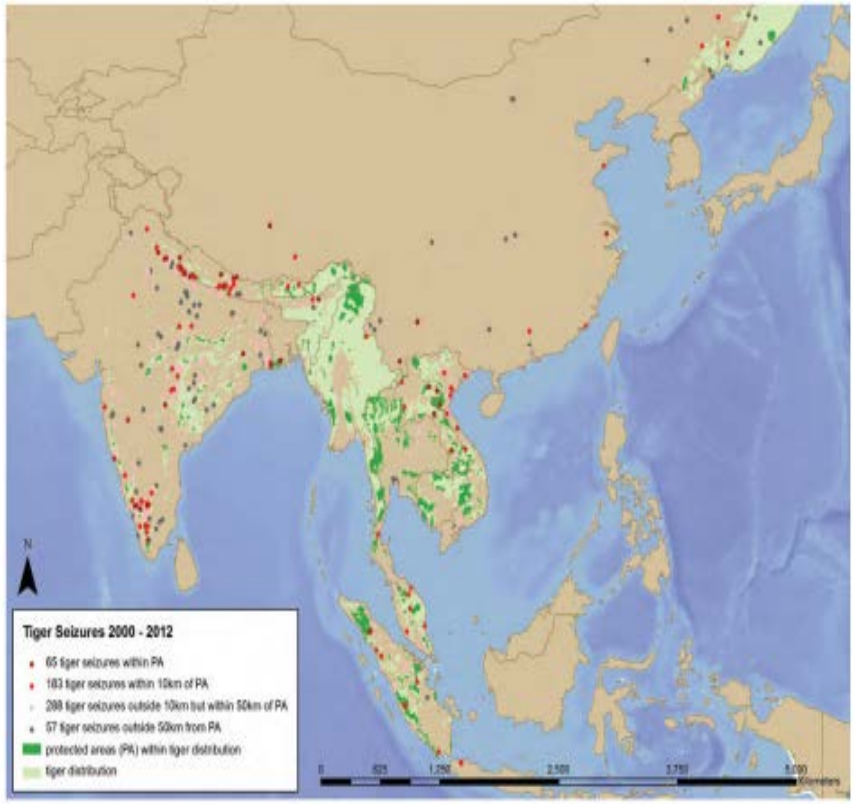
**Chinese online retailers say "No" to illegal wildlife products**

Representatives from nine major online retailers signed the declaration to prevent illegal wildlife trade © TRAFFIC

**Hangzhou, China, October 2014**—Nine of the leading online retail sites in China, including Alibaba, Tencent, Sina, Airmedia, SMG and arton.net agreed earlier this month not to provide opportunities for promotion or trade of illegal wildlife products on their platforms.

# Trade in Tiger Products – Seizure data



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Poorly equipped and prepared rangers

SMART Standard rangers

SMART

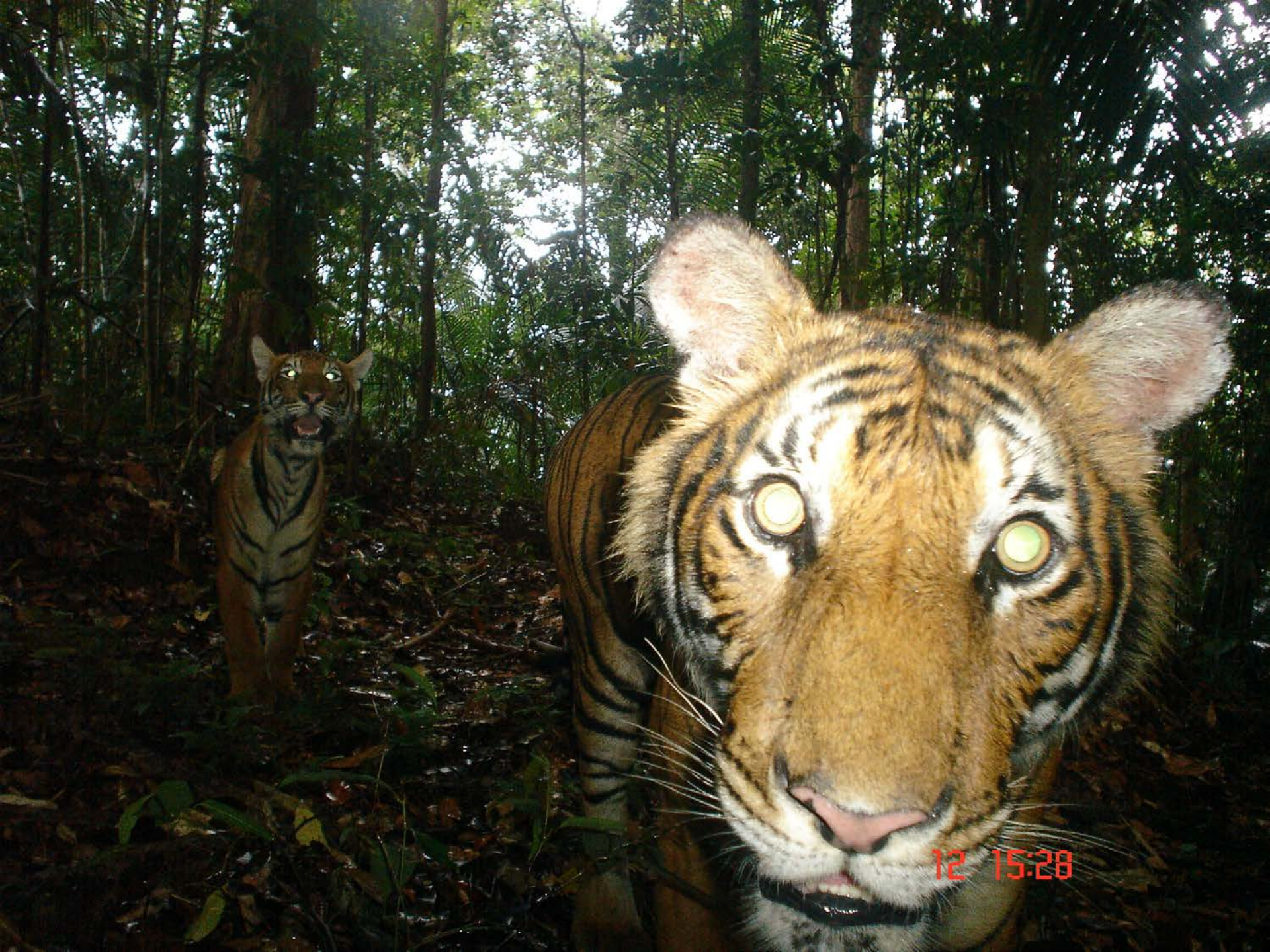
# Example of technology in combat illegal wildlife trade

- GPS and real-time data apps for patrol rangers (SMART, etc.)
- Placement of GPS trackers in wildlife products
- Large data mining projects, new computational models, and improved pattern analysis (TRAFFIC)
- DNA and stripe pattern databases for tigers (captive and wild) – TRACE, etc.
- Remote sensing or drone surveillance
- Improved crime scene forensics tools (small and fast species DNA identification tools, etc.)
- Real-time camera monitoring or camera trap networks
- Infrared and heat sensors (*stationary* at strategic locations such as PA perimeter or *mobile* – drone mounted, etc.)
- Apps to identify illegal wildlife in markets (WildScan)
- Anonymous 'whistleblowing' websites (WildLeaks, etc.)

01/01/11 12:04 PM 06B WWF

2013-06-14 12:37:29 PM M 1/2
33°C
PC800 HYPERFIRE PRO
RECONYX

©DoFPS 2015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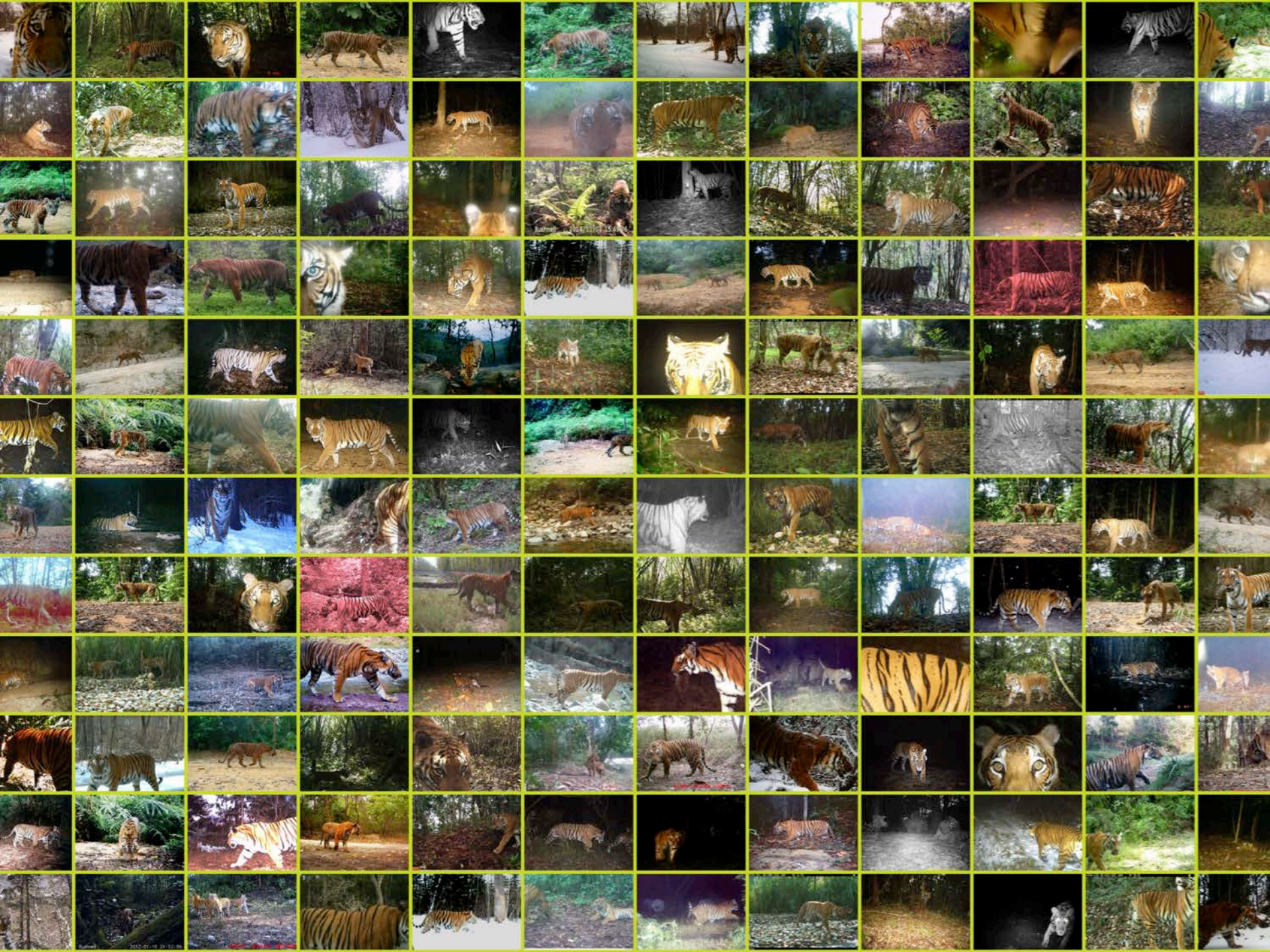
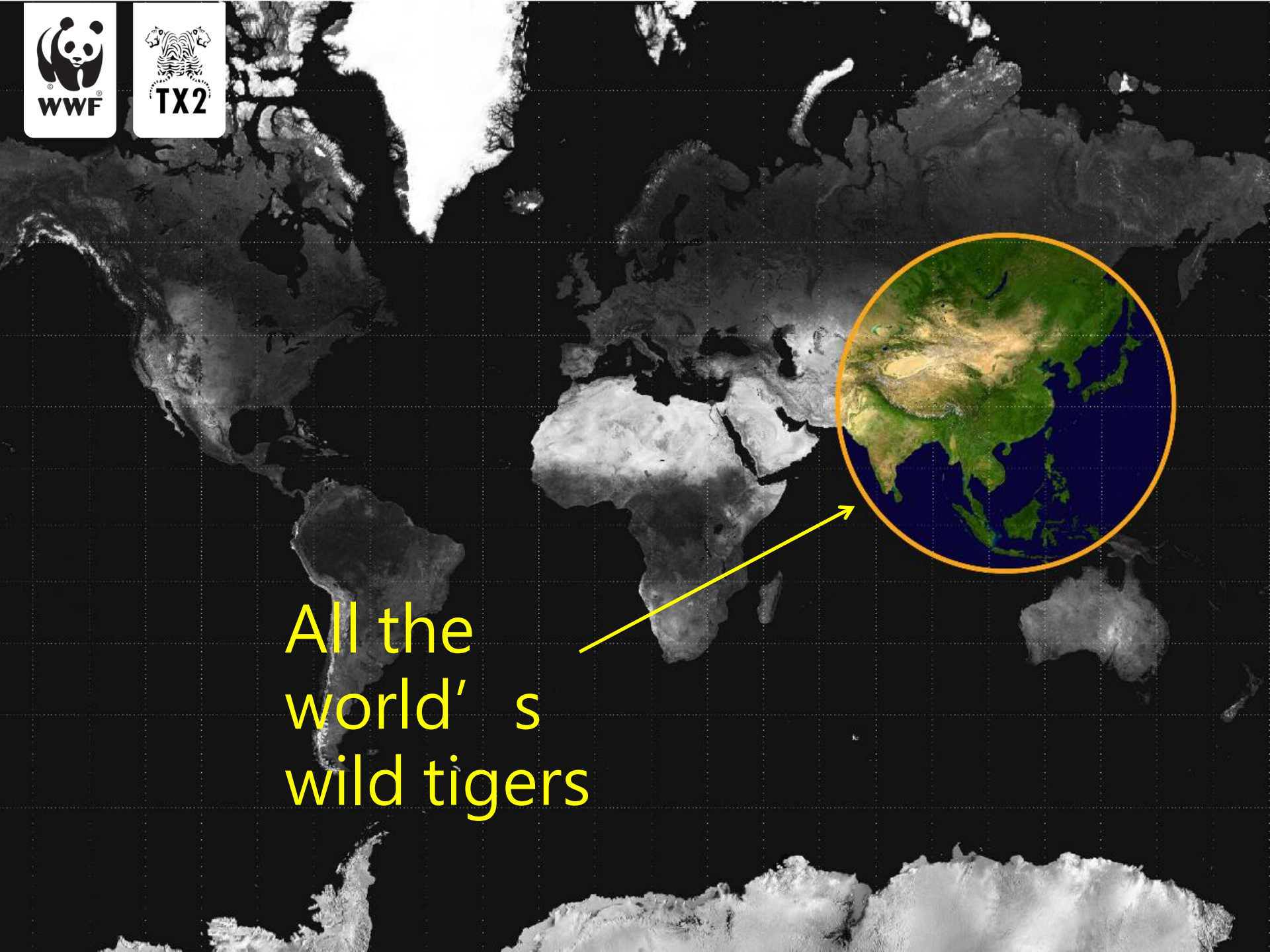
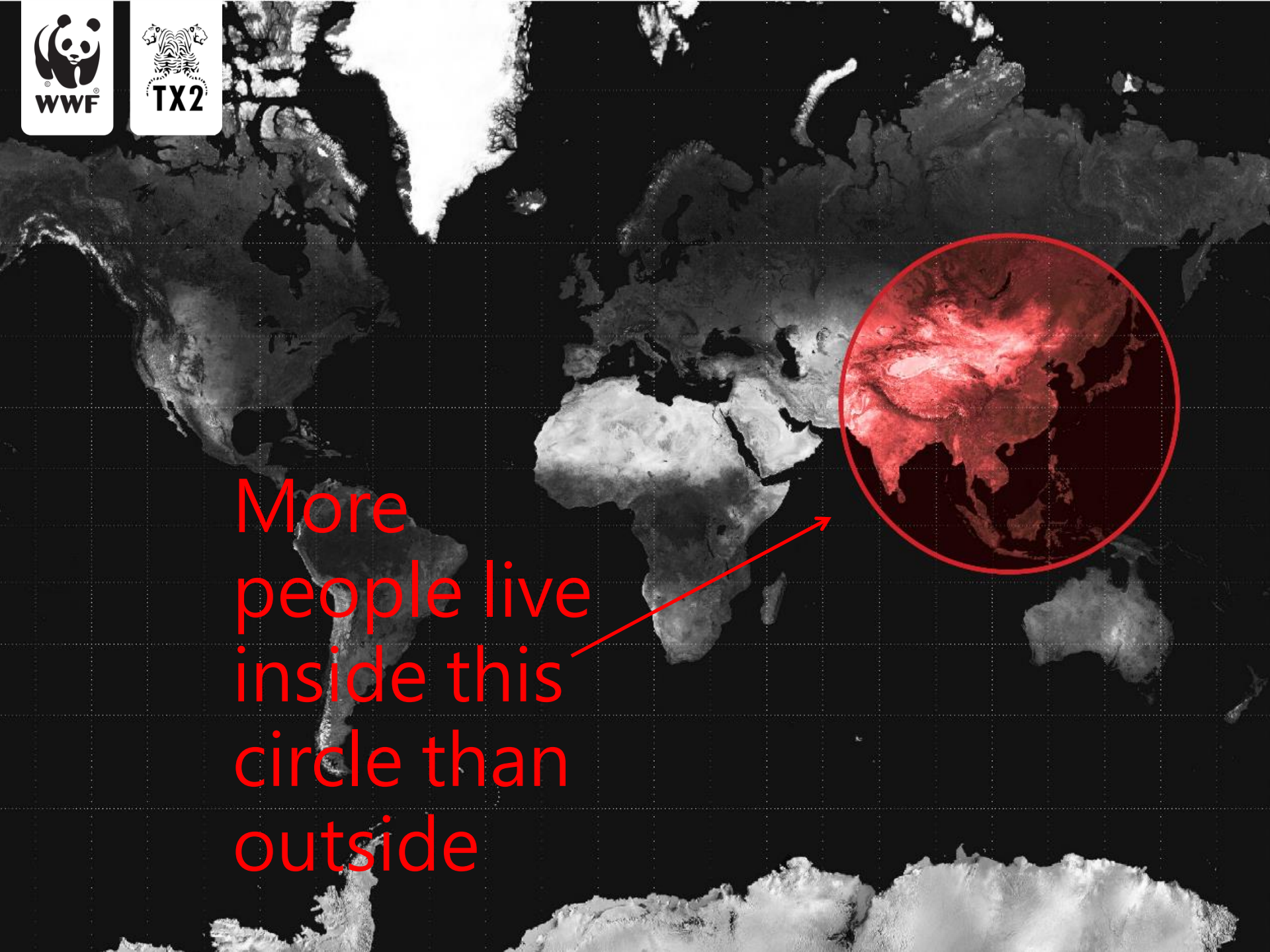
© Anyuisky National Park

20 13:01




WWF
TX2
All the world’s wild tigers


WWF
TX2
More people live inside this circle than outside

Malaysia
South China Sea
Singapore
Sumatra
100 km

## THE FOREST

## THE CITY

## PRODUCERS

## CONSUMERS

SAVE TIGERS!

PRODUCER

CONSUMER

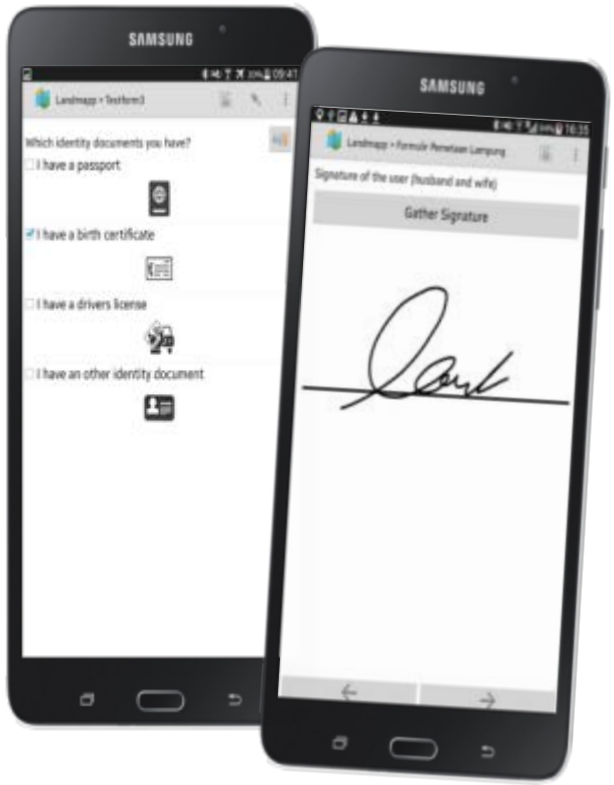
iTIGER APP

SAVE TIGERS!

- **For farmers**

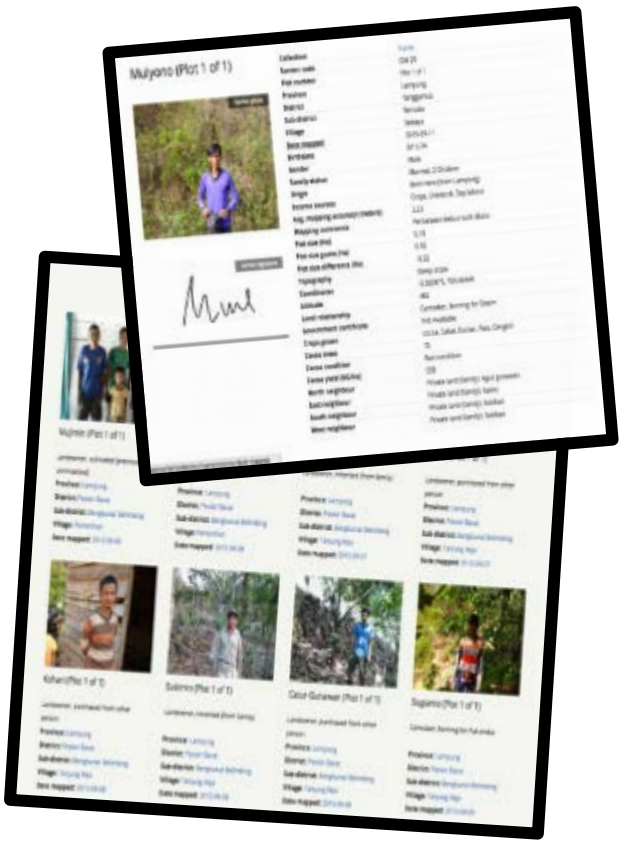
  - **Land profiles with crop metrics**

- Micro finance access
- Access to global markets
- HWC management tips
- Premium prices

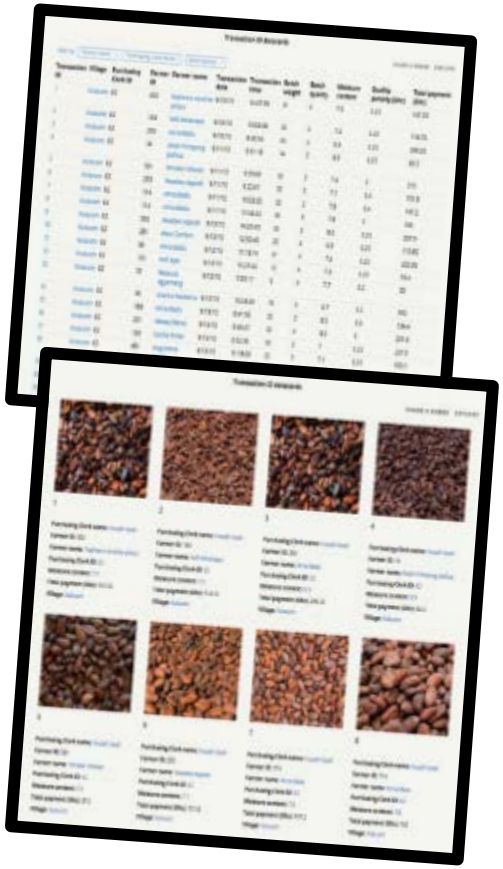


- **For buyers**

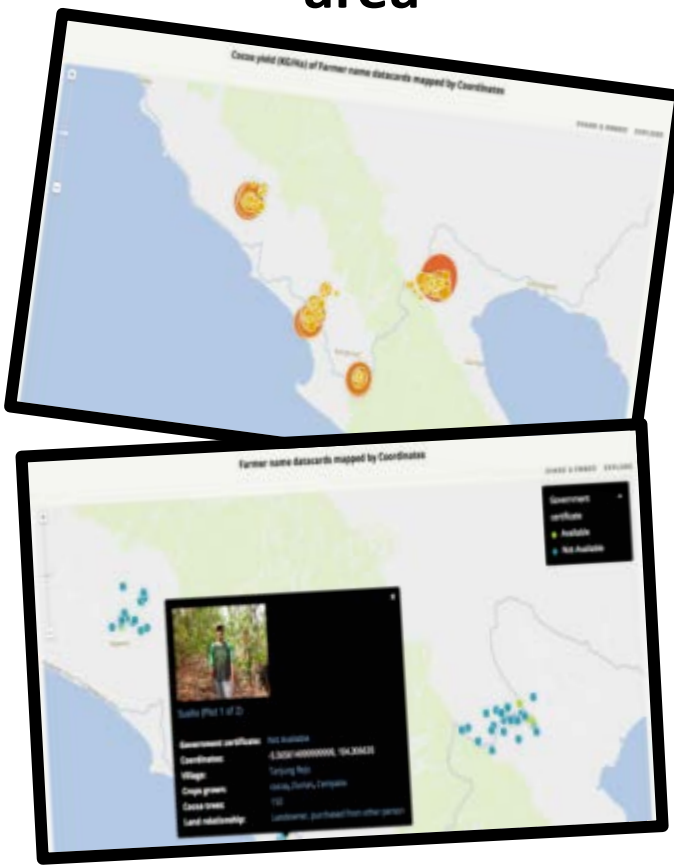
- **Farmer dashboards**




- **Product**



- **Village area**



increased benefits for coexistence
premium paid for conservation products
increased local support for conservation
save tigers via smart consumption
SAVE TIGERS!

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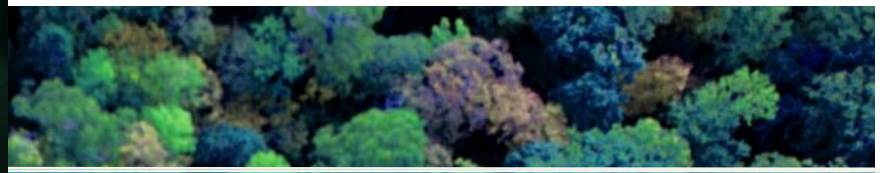
SAVE TIGERS!

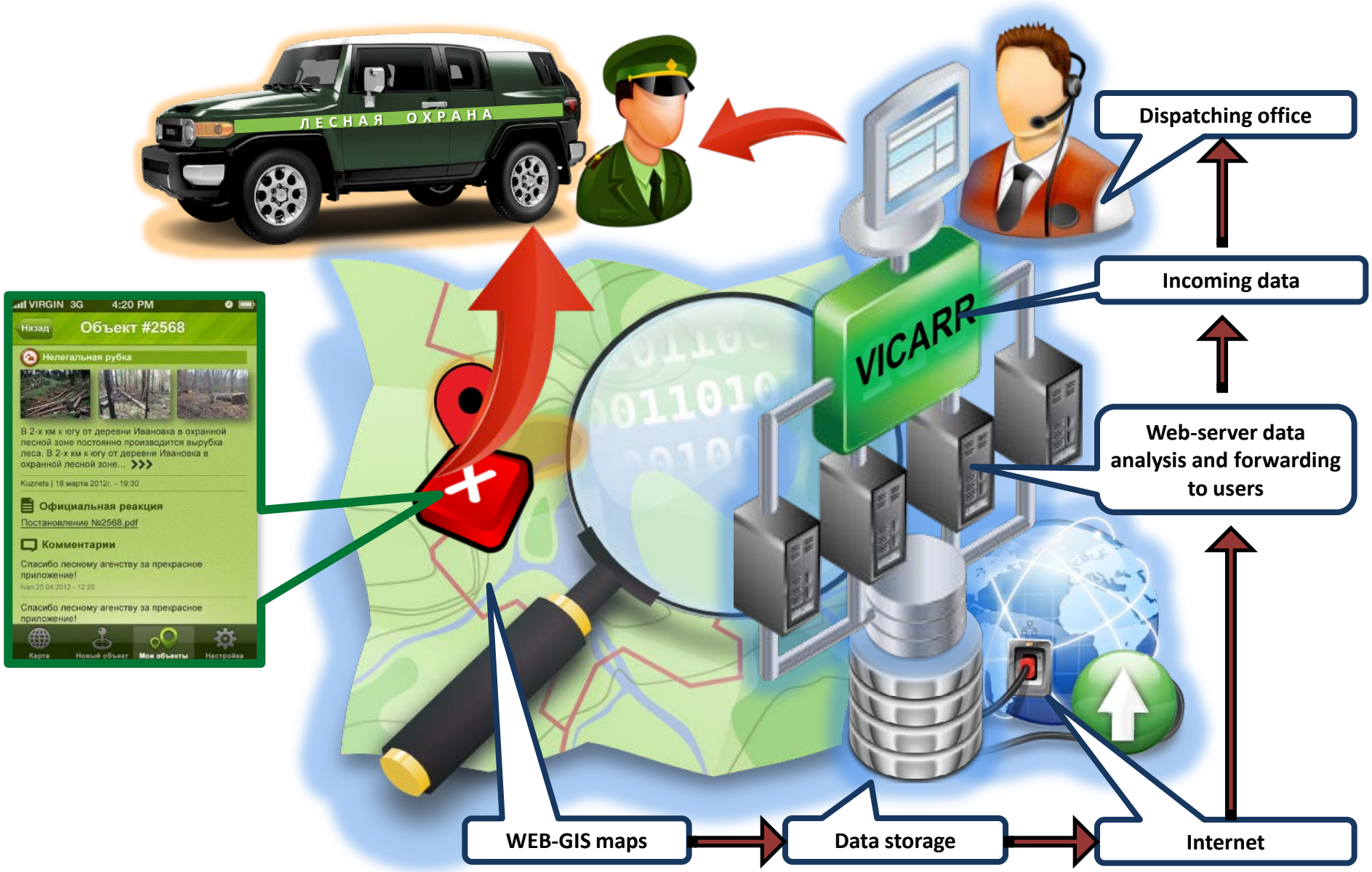


# Satellite monitoring system of forest cover change

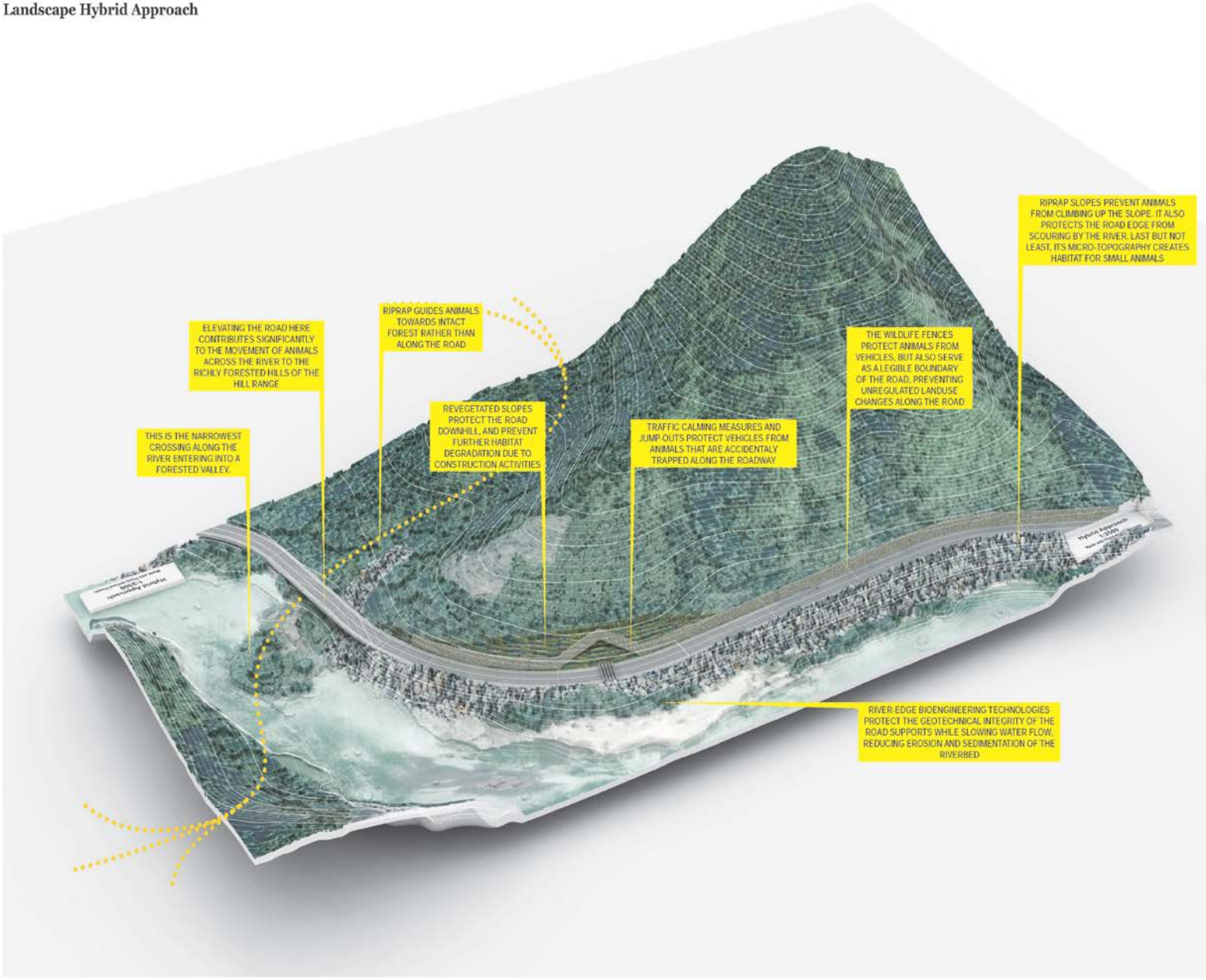
© Вадим Штрек

Detects changes in forest cover as small as 0.2Ha, based on the resolution of space image  15 m/pix

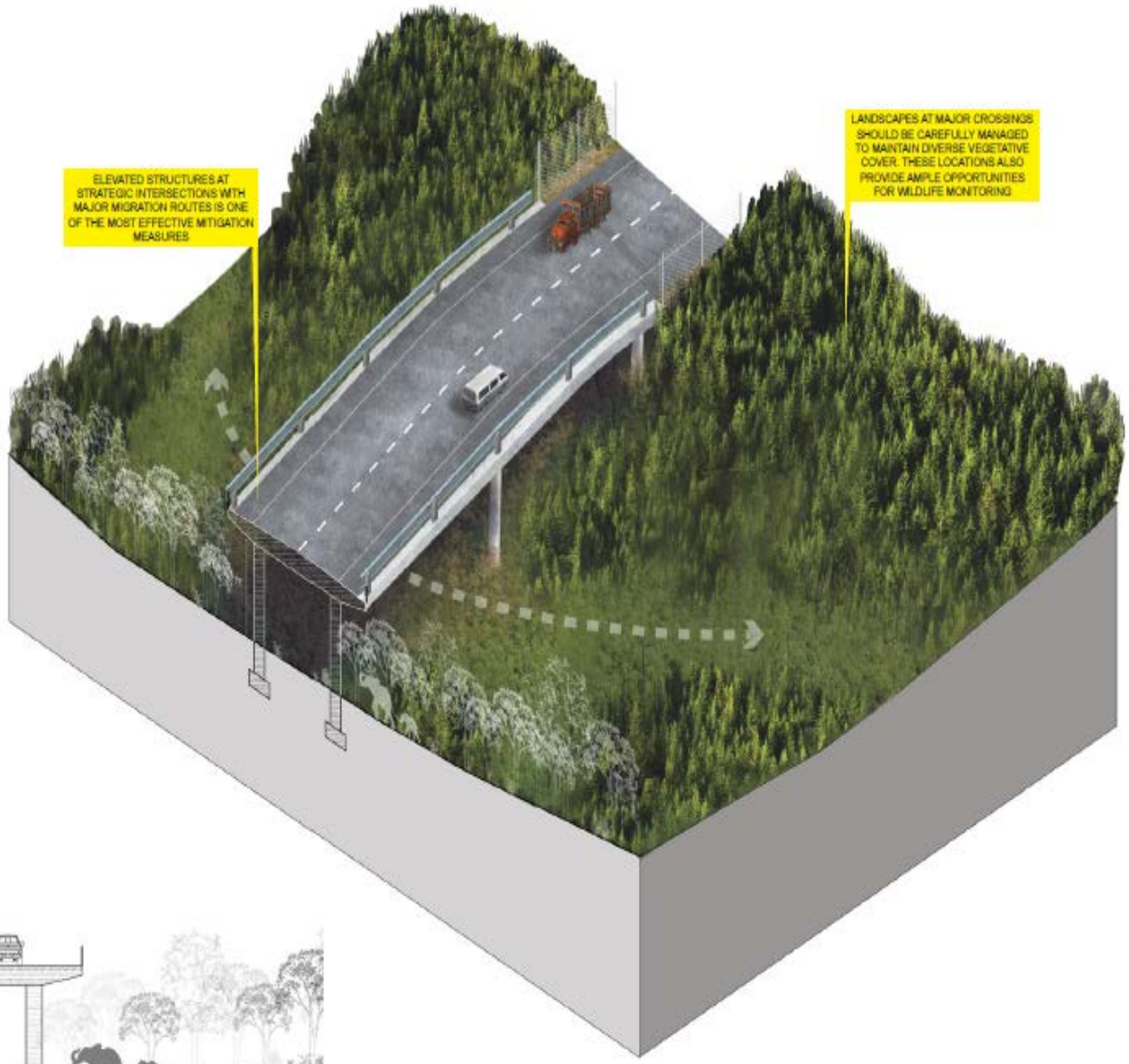
# KEDR: How It Works



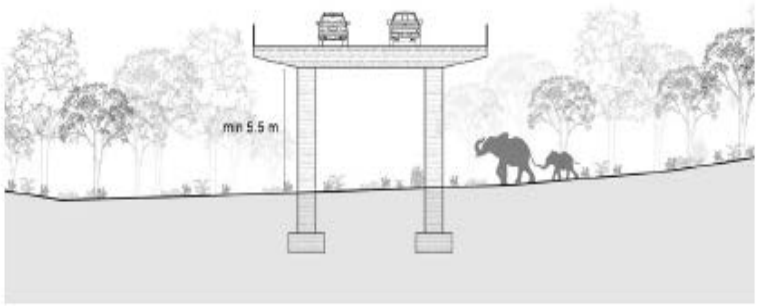
## Landscape Hybrid Approach



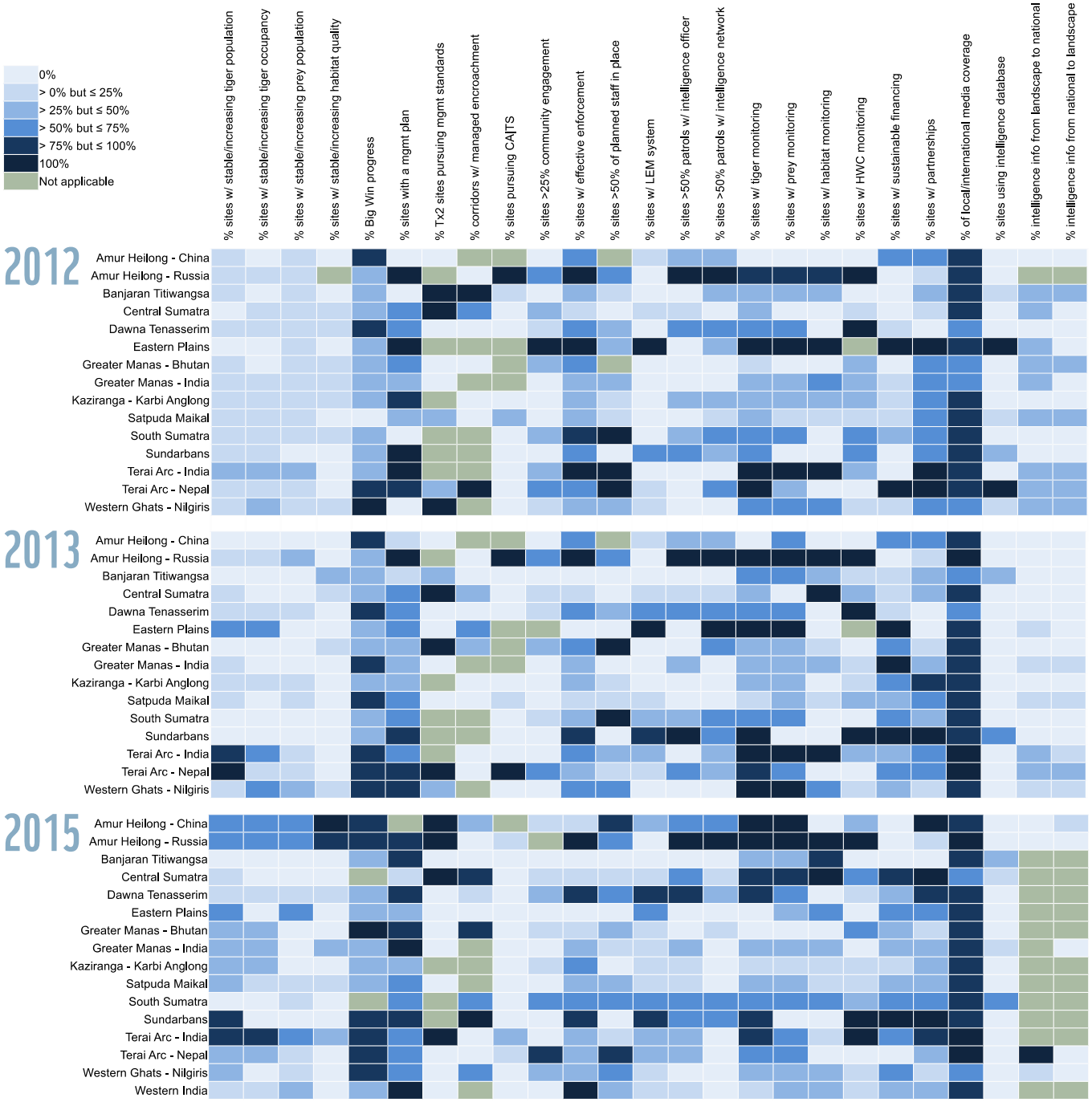
**Elevated Structures would Promote Wildlife Connectivity**




HEIGHT OF VIADUCT SHOULD ALLOW THE LARGEST TARGET SPECIES TO CROSS, BUT ALSO MAINTAIN SUFFICIENT "OPENESS" FOR SUNLIGHT IN ORDER TO MAINTAIN HEALTHY VEGETATIVE COVER AND TO ENCOURAGE ANIMALS TO PASS THROUGH

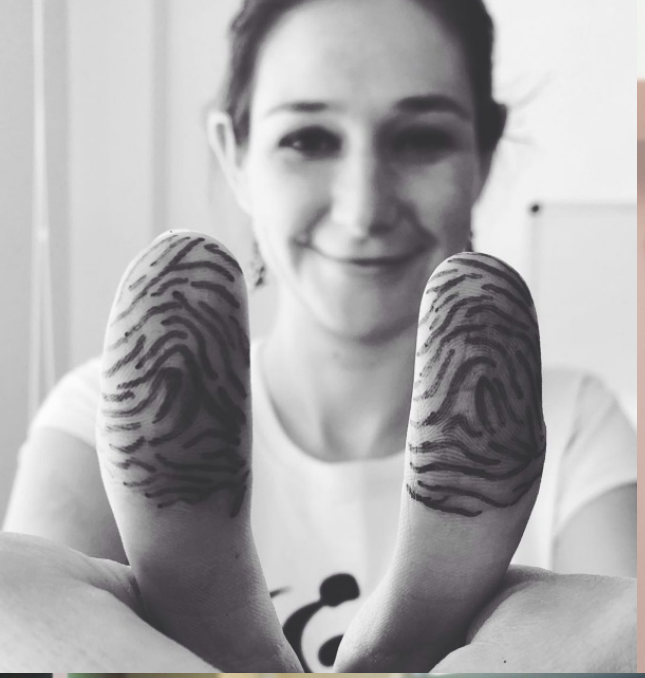


# KPI DATA


0%
> 0% but ≤ 25%
> 25% but ≤ 50%
> 50% but ≤ 75%
> 75% but ≤ 100%
100%
Not applicable
% sites w/ stable/increasing tiger population
% sites w/ stable/increasing tiger occupancy
% sites w/ stable/increasing prey population
% sites w/ stable/increasing habitat quality
% Big Win progress
% sites with a mgmt plan
% Tx2 sites pursuing mgmt standards
% corridors w/ managed encroachment
% sites pursuing CA|TS
% sites >25% community engagement
% sites w/ effective enforcement
% sites >50% of planned staff in place
% sites w/ LEM system
% sites >50% patrols w/ intelligence officer
% sites >50% patrols w/ intelligence network
% sites w/ tiger monitoring
% sites w/ prey monitoring
% sites w/ habitat monitoring
% sites w/ HWC monitoring
% sites w/ sustainable financing
% sites w/ partnerships
% of local/international media coverage
% sites using intelligence database
% intelligence info from landscape to national
% intelligence info from national to landscape
2012
Amur Heilong - China
Amur Heilong - Russia
Banjaran Titiwangsa
Central Sumatra
Dawna Tenasserim
Eastern Plains
Greater Manas - Bhutan
Greater Manas - India
Kaziranga - Karbi Anglong
Satpuda Maikal
South Sumatra
Sundarbans
Terai Arc - India
Terai Arc - Nepal
Western Ghats - Nilgiris
2013
Amur Heilong - China
Amur Heilong - Russia
Banjaran Titiwangsa
Central Sumatra
Dawna Tenasserim
Eastern Plains
Greater Manas - Bhutan
Greater Manas - India
Kaziranga - Karbi Anglong
Satpuda Maikal
South Sumatra
Sundarbans
Terai Arc - India
Terai Arc - Nepal
Western Ghats - Nilgiris
2015
Amur Heilong - China
Amur Heilong - Russia
Banjaran Titiwangsa
Central Sumatra
Dawna Tenasserim
Eastern Plains
Greater Manas - Bhutan
Greater Manas - India
Kaziranga - Karbi Anglong
Satpuda Maikal
South Sumatra
Sundarbans
Terai Arc - India
Terai Arc - Nepal
Western Ghats - Nilgiris
Western India

Сохраним тигра вместе!

ASMERJAY

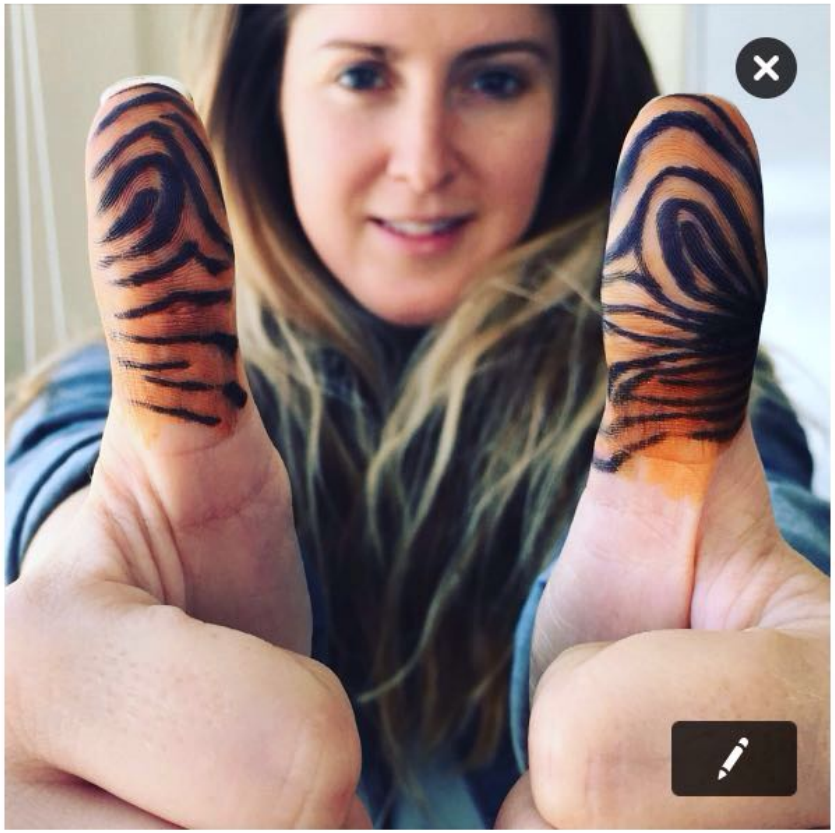


●●●●● Smart 4G 13:28 61%

61 Tweet

**WWF Tigers**
@WWF_tigers

Happy Global Tiger Day!
#thumbsup4tigers #doubletigers



Who's in this photo?

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**panda.org/tigers**