

EURASIAN
OTTER
WORKSHOP
26-28 February 2021



Challenges for the conservation of the Eurasian otter



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UNIVERSITÀ
DEGLI STUDI
DEL MOLISE



भारतीय वन्यजीव संस्थान
Wildlife Institute of India



SHELTERS

FOOD

Territorial, usually solitary and nocturnal

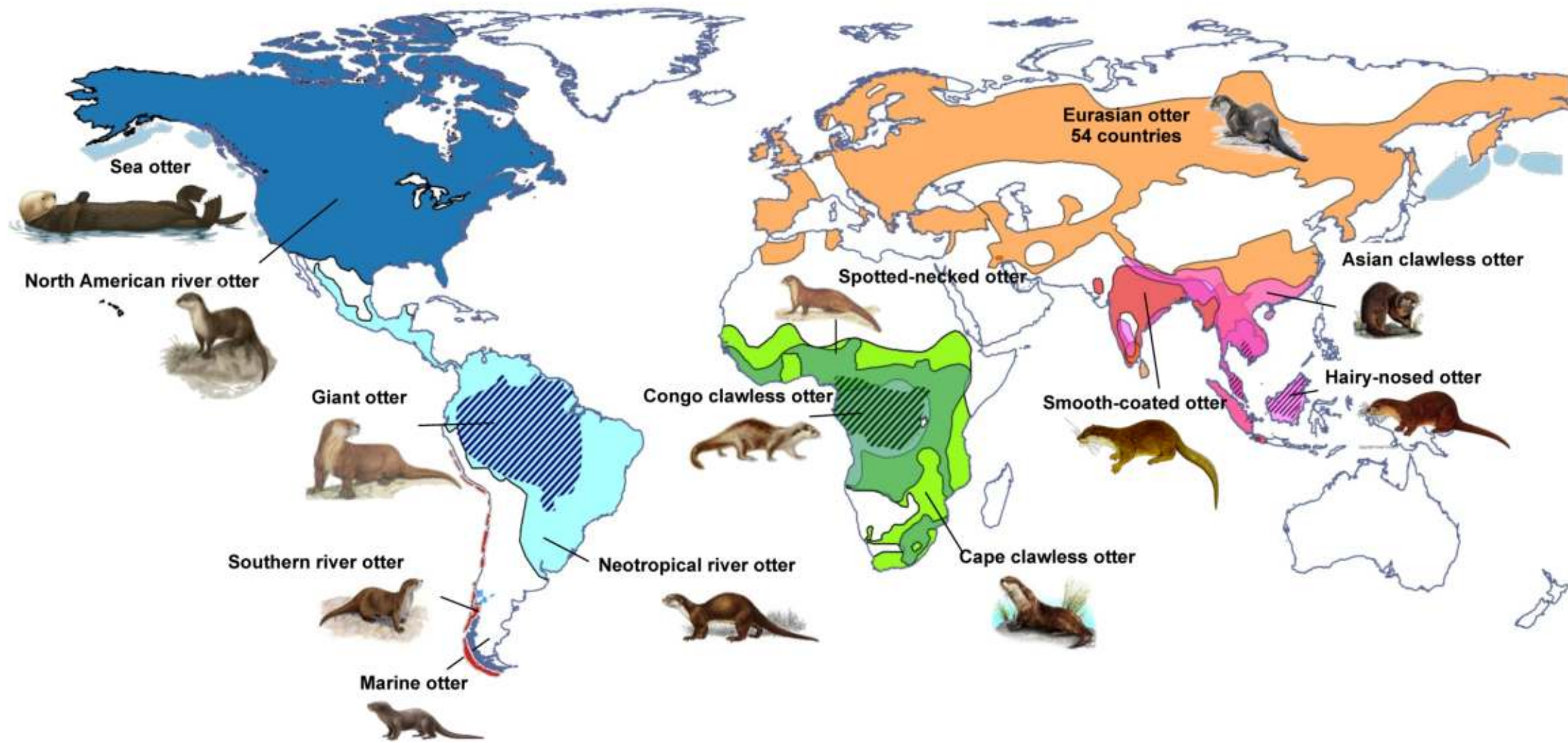


Courtesy Pushpinder Jamwal

2016 - First camera trap image of *Lutra lutra* , Indus river, 3500m asl, Trans-Himalayas
(*Jamwal et al., 2016*)

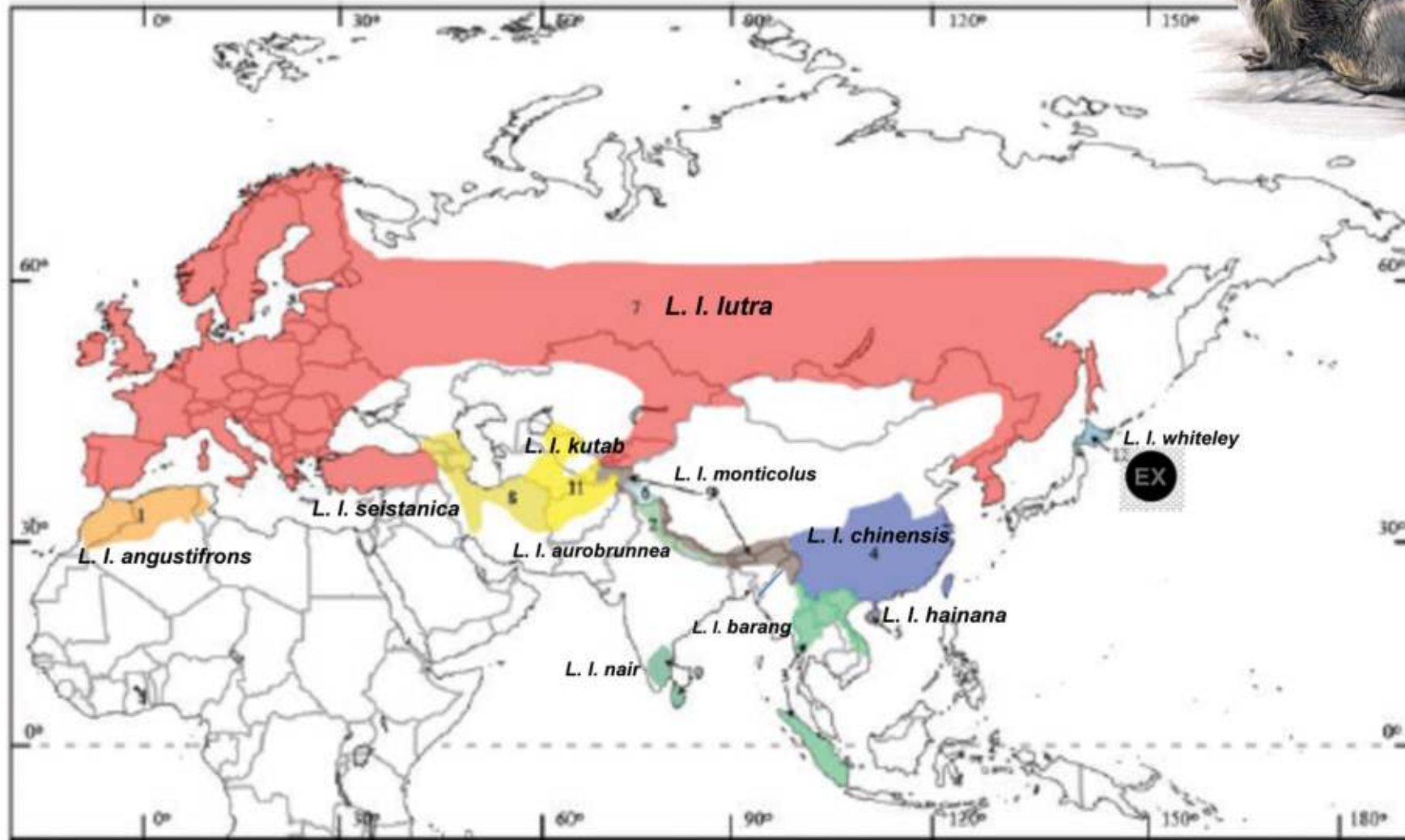


Otters in the world





11 extant subspecies - one extinct



Hung & Law 2011



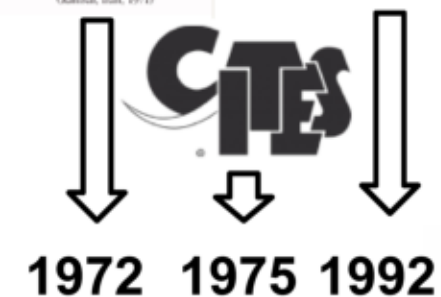
GLOBAL ASSESSEMENT



CONVENTION ON WETLANDS
(Ramsar, Iran, 1971)



Convention on
Biological Diversity



1996



LC

2000

VU

(Reuther 2000)

2004

NT

(Reuther & Hilton-Taylor 2004)

2008

NT

(Ruiz-Olmo et al., 2008)

2015

NT

(Roos et al., 2015)

2020

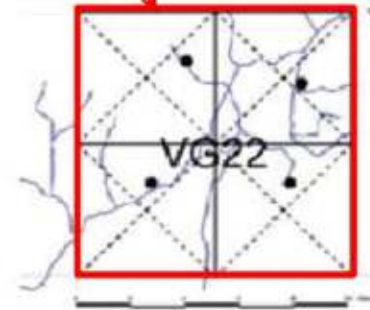
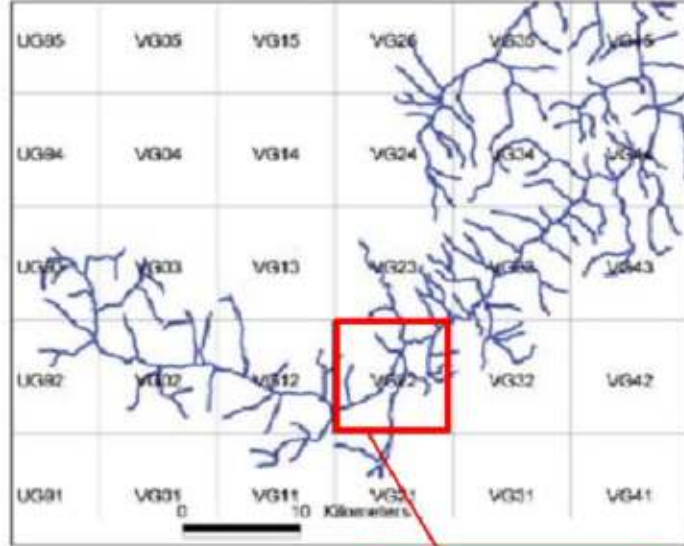
NT

(Loy et al., 2020)

Eurasian otter – IUCN-OSG standard survey

(Macdonald and Mason 1988; Reuther et al., 2000)

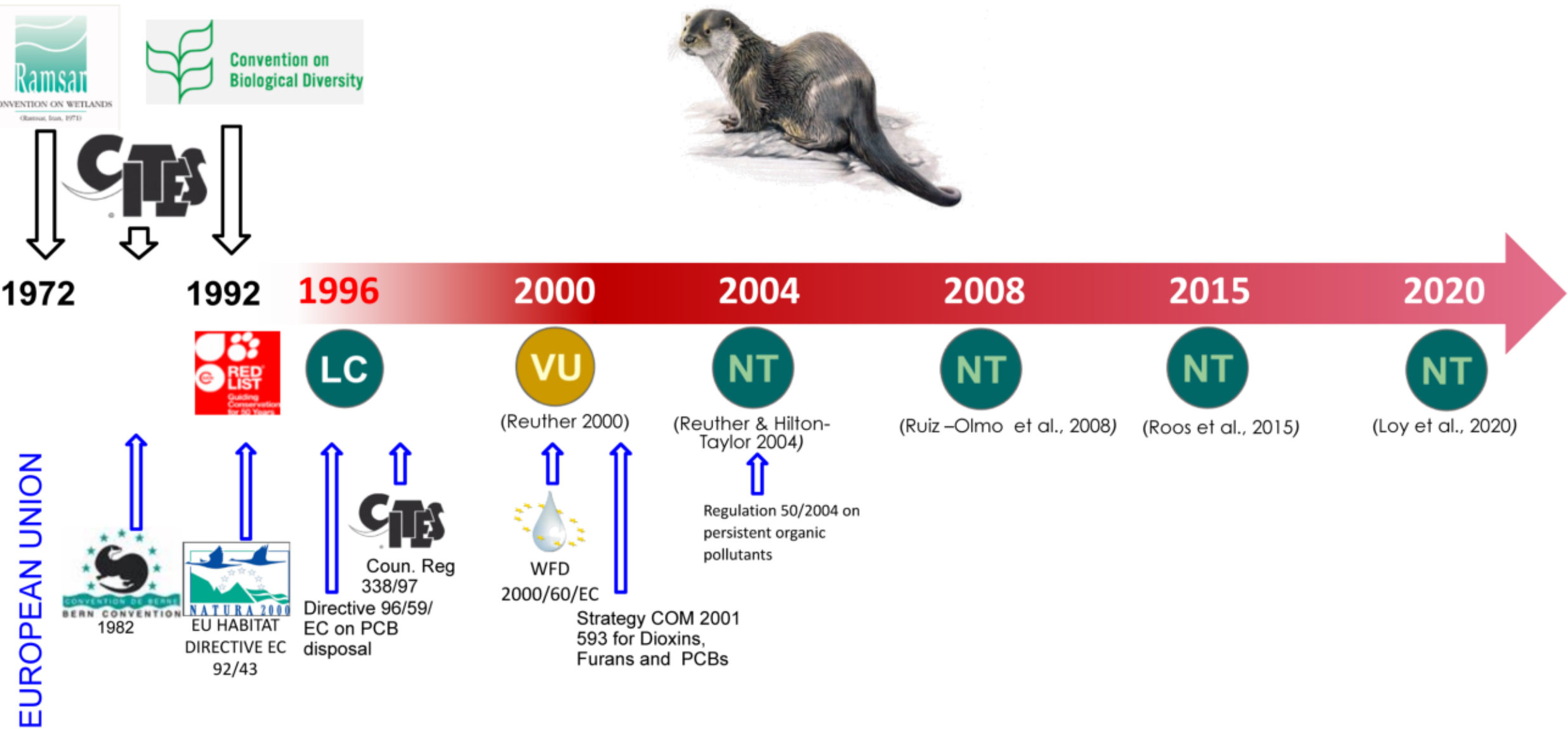
UTM GRID



- **4 RANDOM SITES** checked in each 10x10 km grid cell



A SUCCESSFUL STORY?

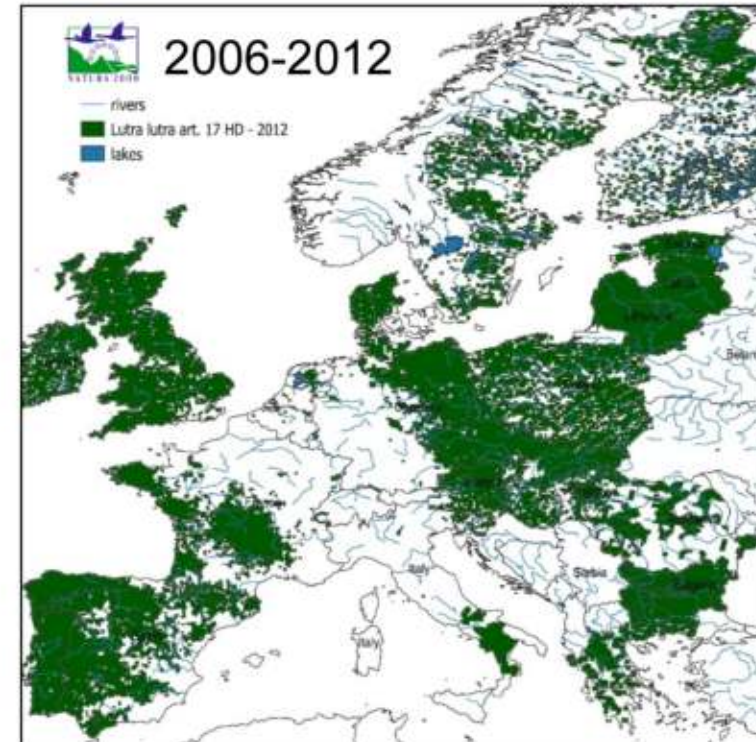
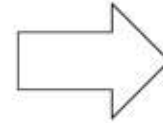
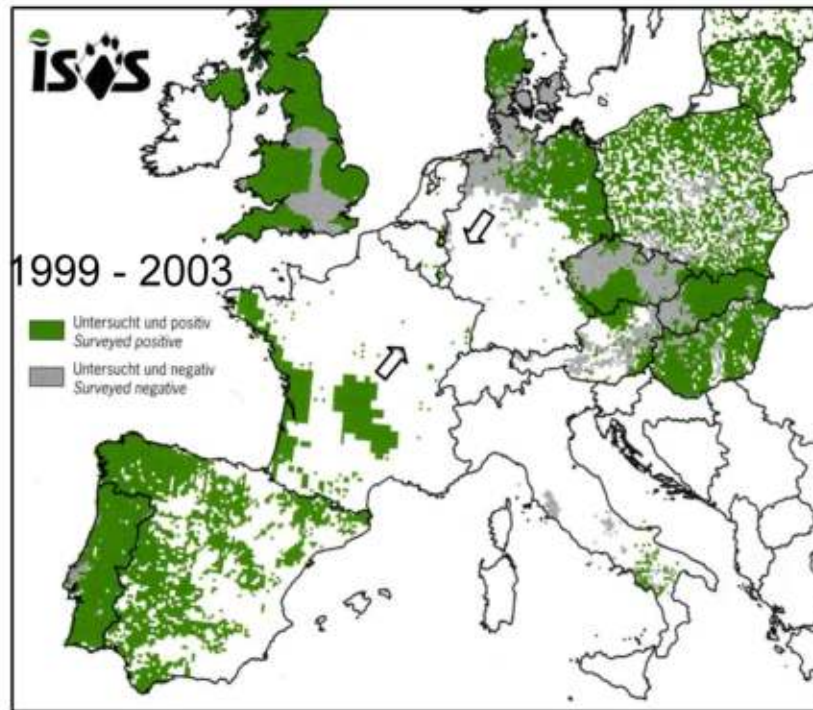


EUROPEAN UNION

SUCCEFUL STORIES AND LESSONS LEARNED

Fast recovering from past decline

EU 42/93 CE (annexes II and IV)

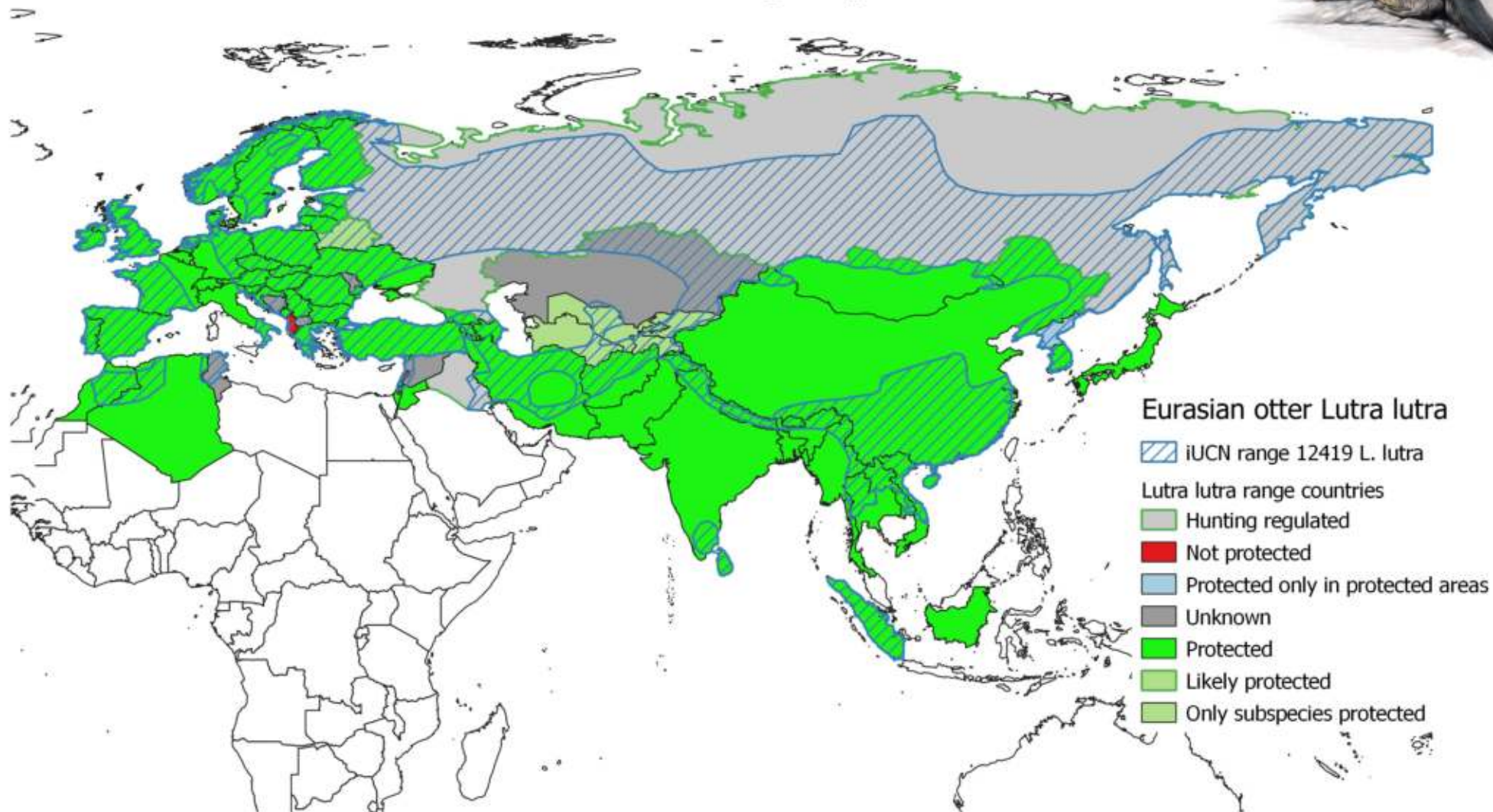


ISOS (Information System for Otter Surveys) databank system
(Reuther et al., 2004).

<https://discomap.eea.europa.eu/Index/>

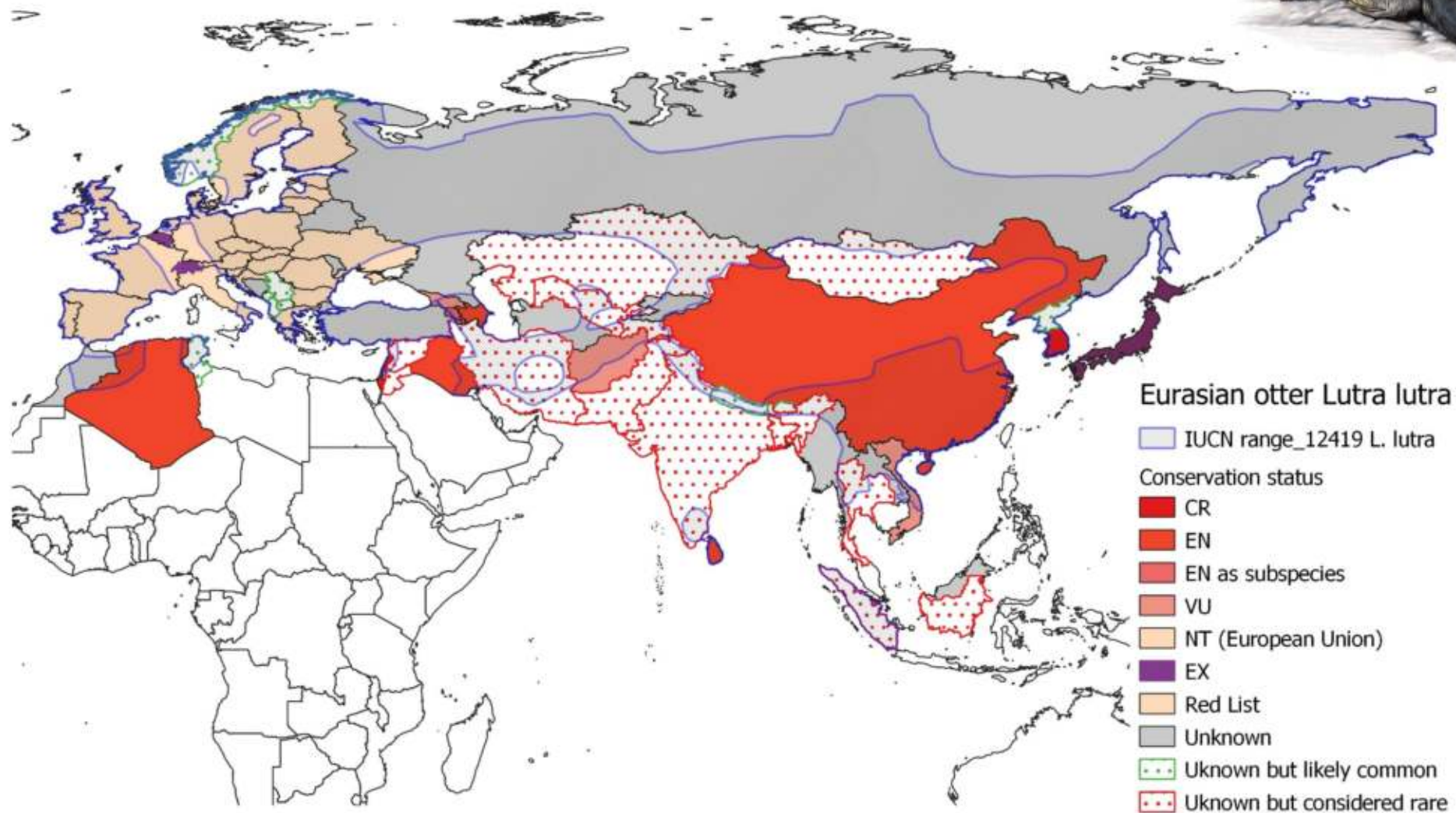


Eurasian otter – Legal protection





Current status by country (54 countries)

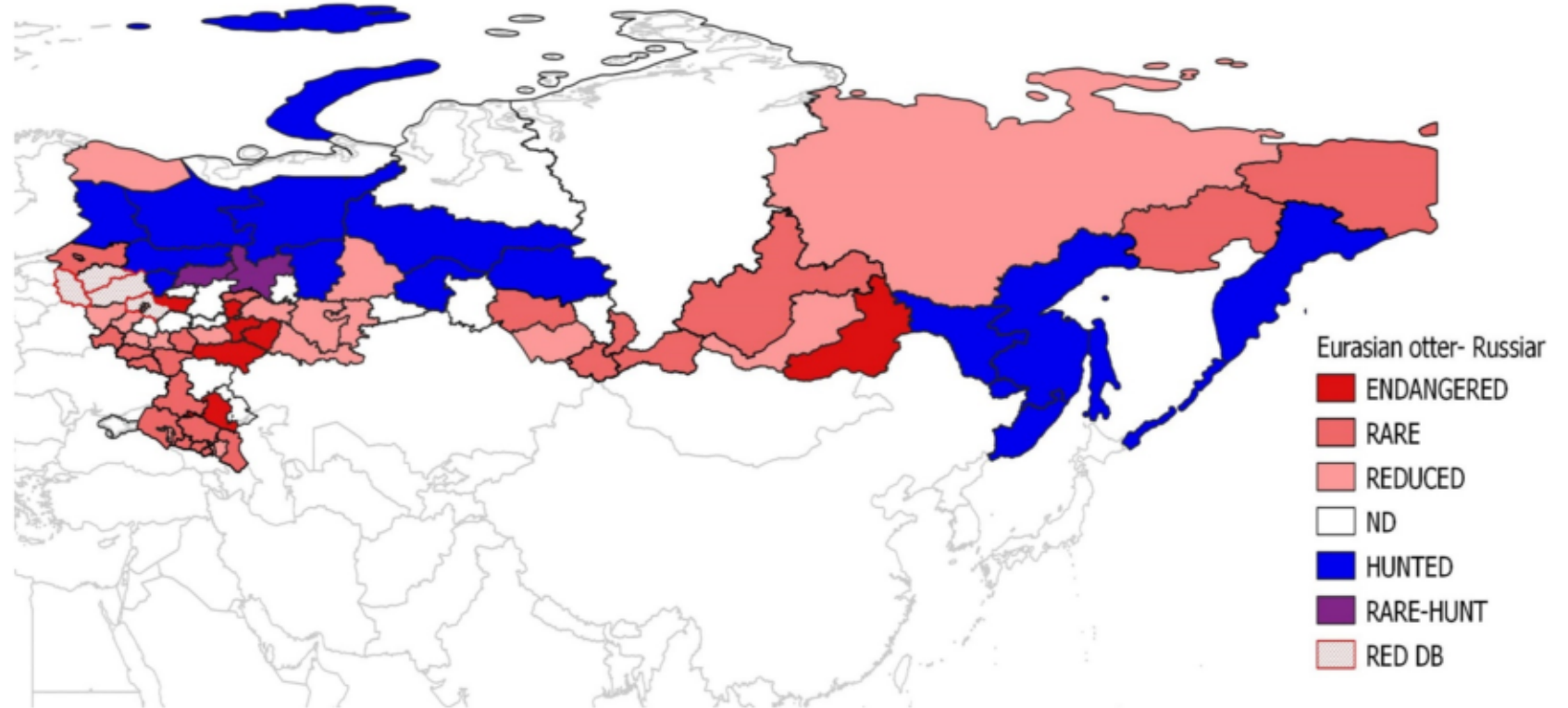




Eurasian otter



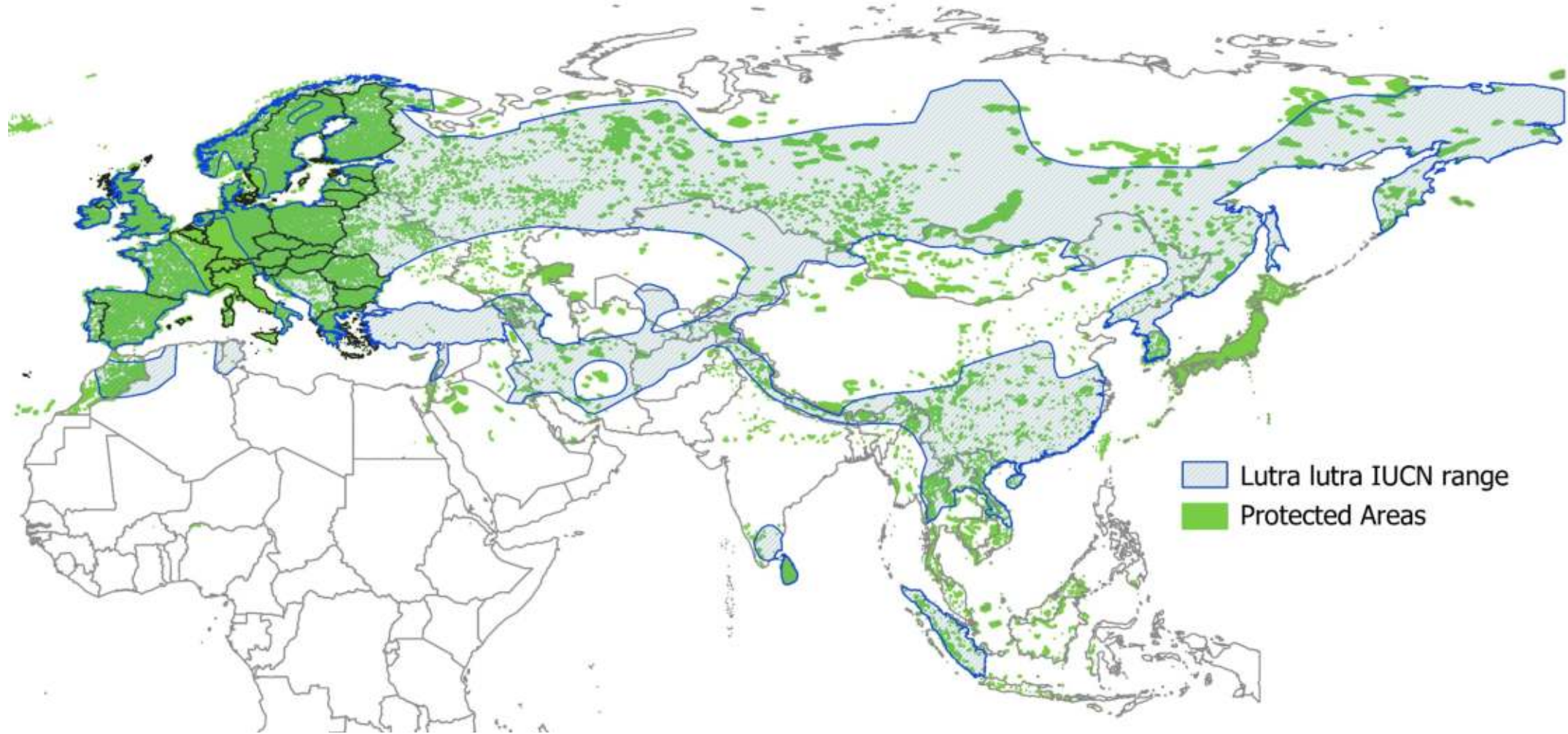
Russian Federation hosts 70% of the population
Otter not protected at country level – still legally hunted in 15 states



after *Oleynikov and Saveljev (2015)*

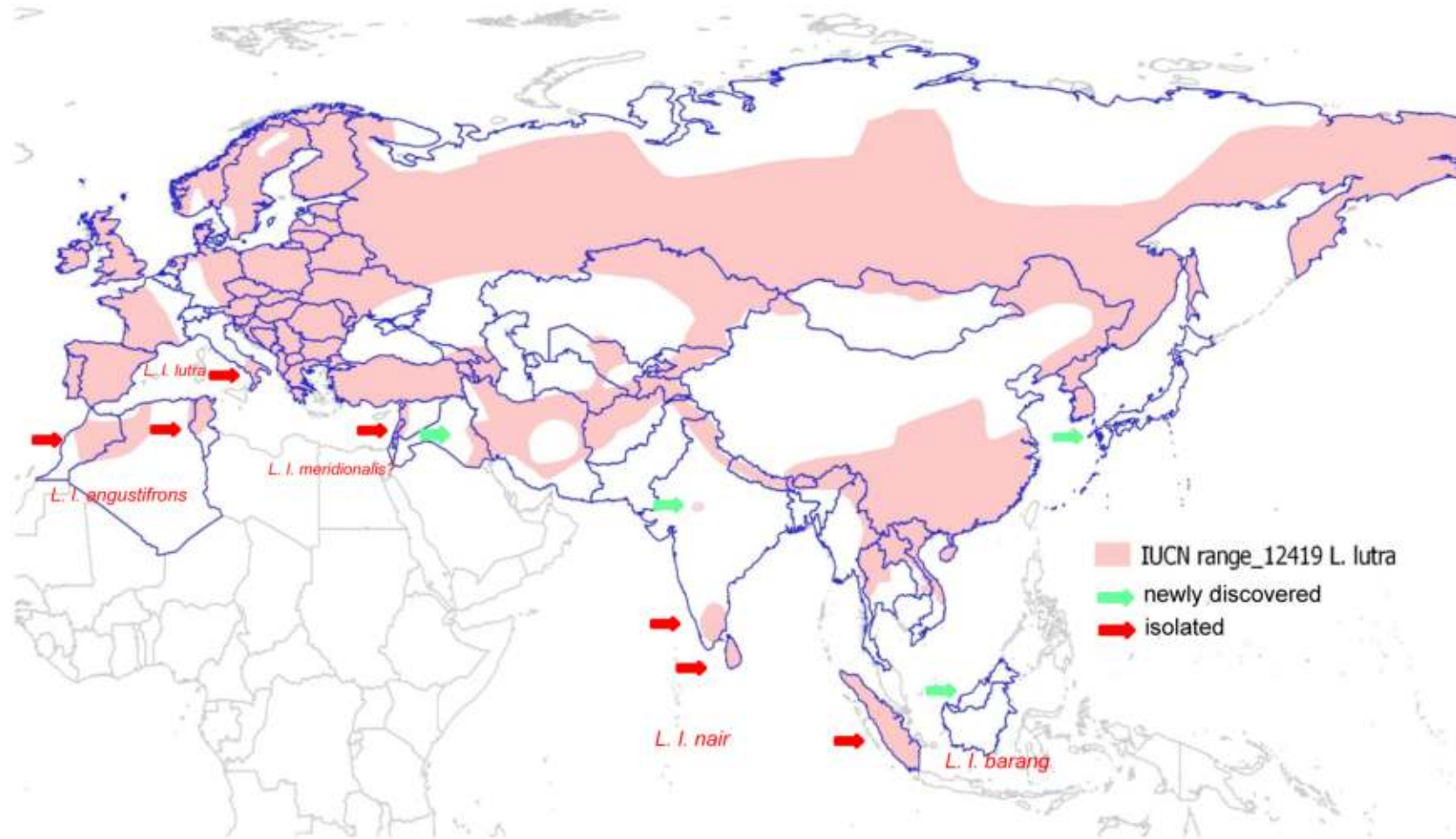


Protected areas coverage





Isolated subpopulations in the southern part of the range newly discovered populations – central, east coast of India, western Iraq



THREAT



Habitat loss
(Asia)



Road kills



Hunting
(Russia, Iraq)

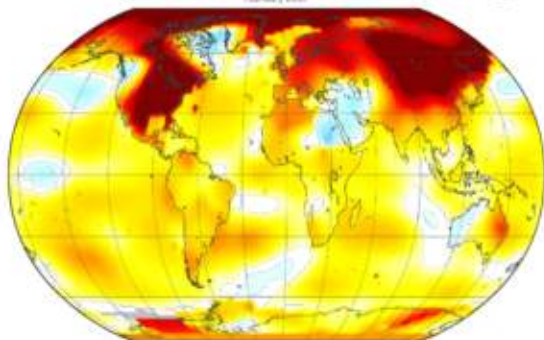


Water
pollution



Conflicts

Climate change



Water
extraction
Illegal trade
(China, Nepal, India)

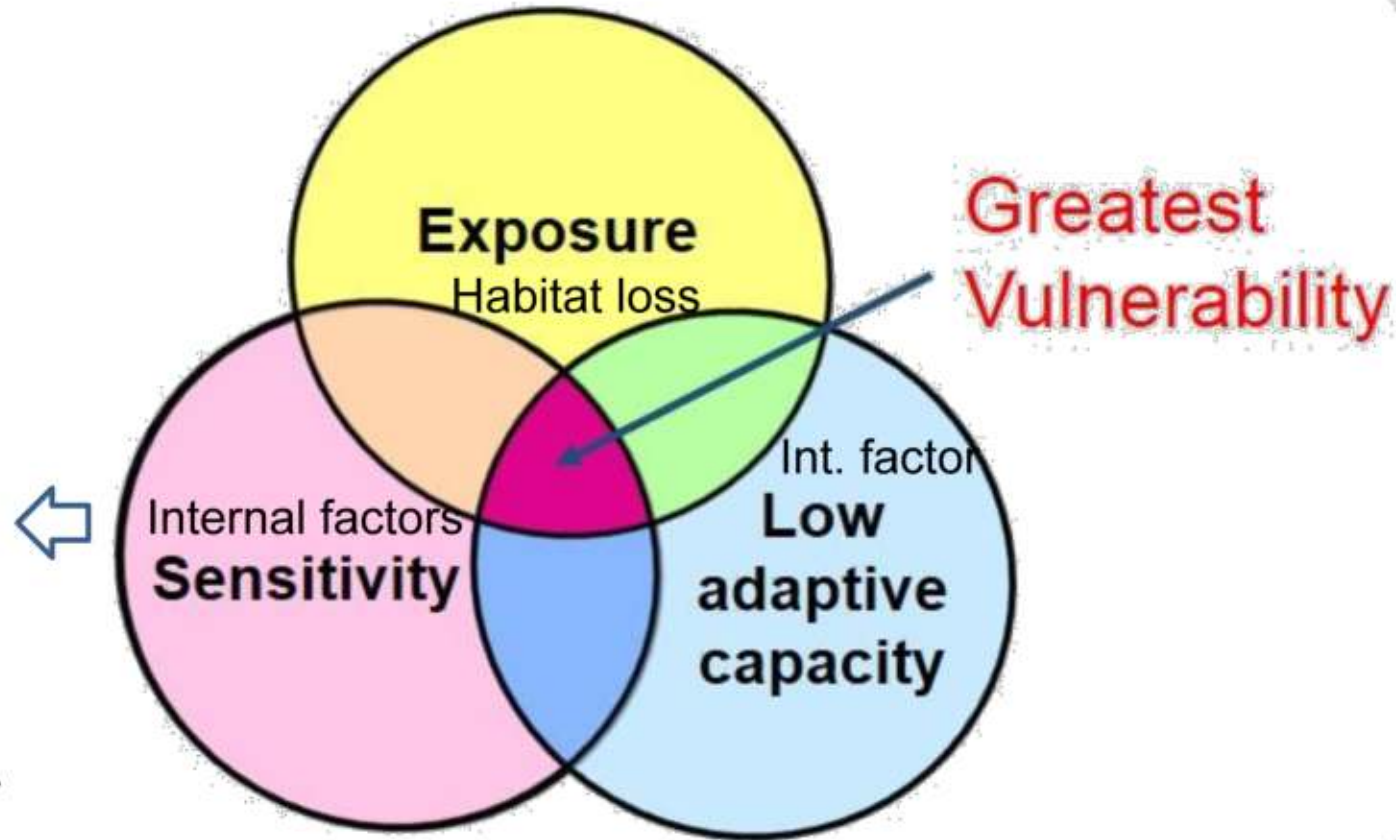


THREATS

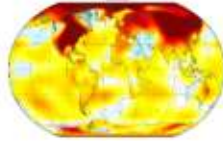
- Lack of awareness – silent extinctions!

CLIMATE CHANGE VULNERABILITY

- physiological stress
- changes in behaviour, phenology, reproduction
- disease susceptibility
- interactions with other species (prey, predators, competitors, parasites or hosts)



Foden et al., 2013



DISEASE SUSCEPTIBILITY

International Journal for Parasitology 41 (2011) T10–T17

Contents lists available at ScienceDirect

International Journal for Parasitology

Journal homepage: www.elsevier.com/locate/ijpara

ELSEVIER

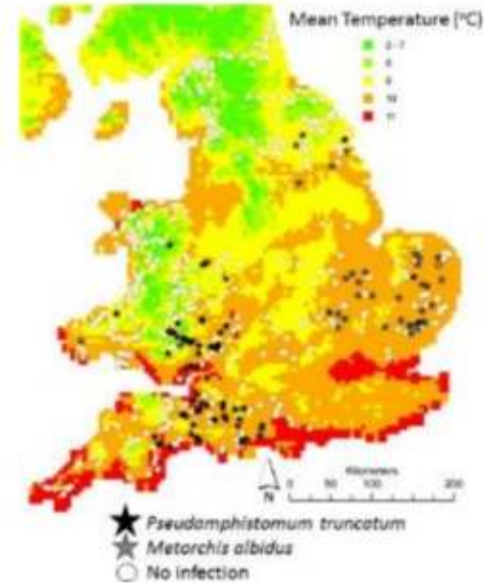
Journal logo: IIP

CrossMark

Climatic variables are associated with the prevalence of biliary trematodes in otters

Ellie Sherrard-Smith*, Elizabeth A. Chadwick, Joanne Cable

School of Biological Sciences, University of Exeter, Exeter EX4 4QF, UK

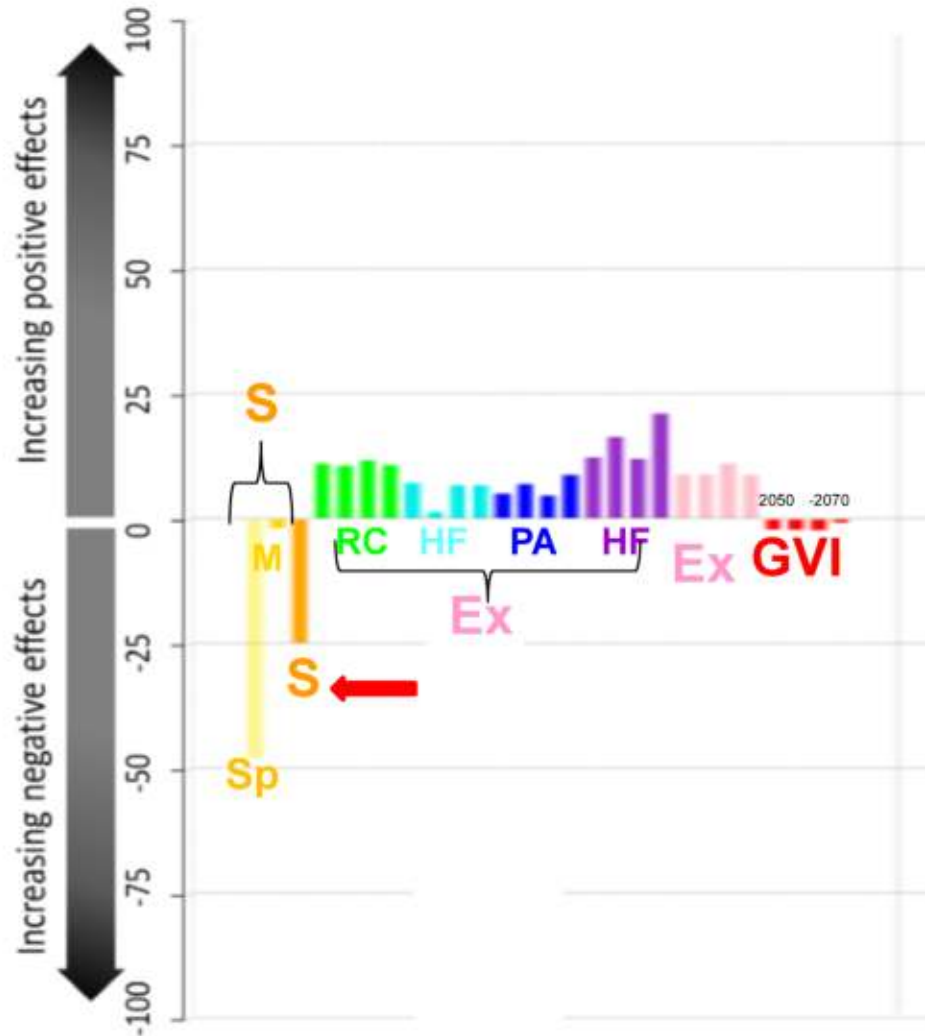


Metorchis albidus



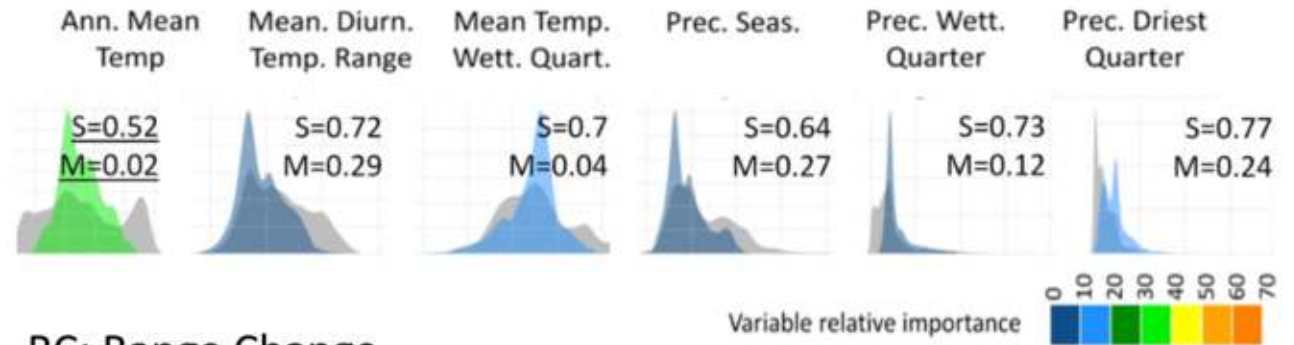
Pseudamphistomum truncatum

GVI - GLOBAL VULNERABILITY INDEX - Eurasian otter



GVI RCP2.6 2050 = - 2.33

GVI RCP8.5 2070 = - 0.89



RC: Range Change

HF = Human Footprint

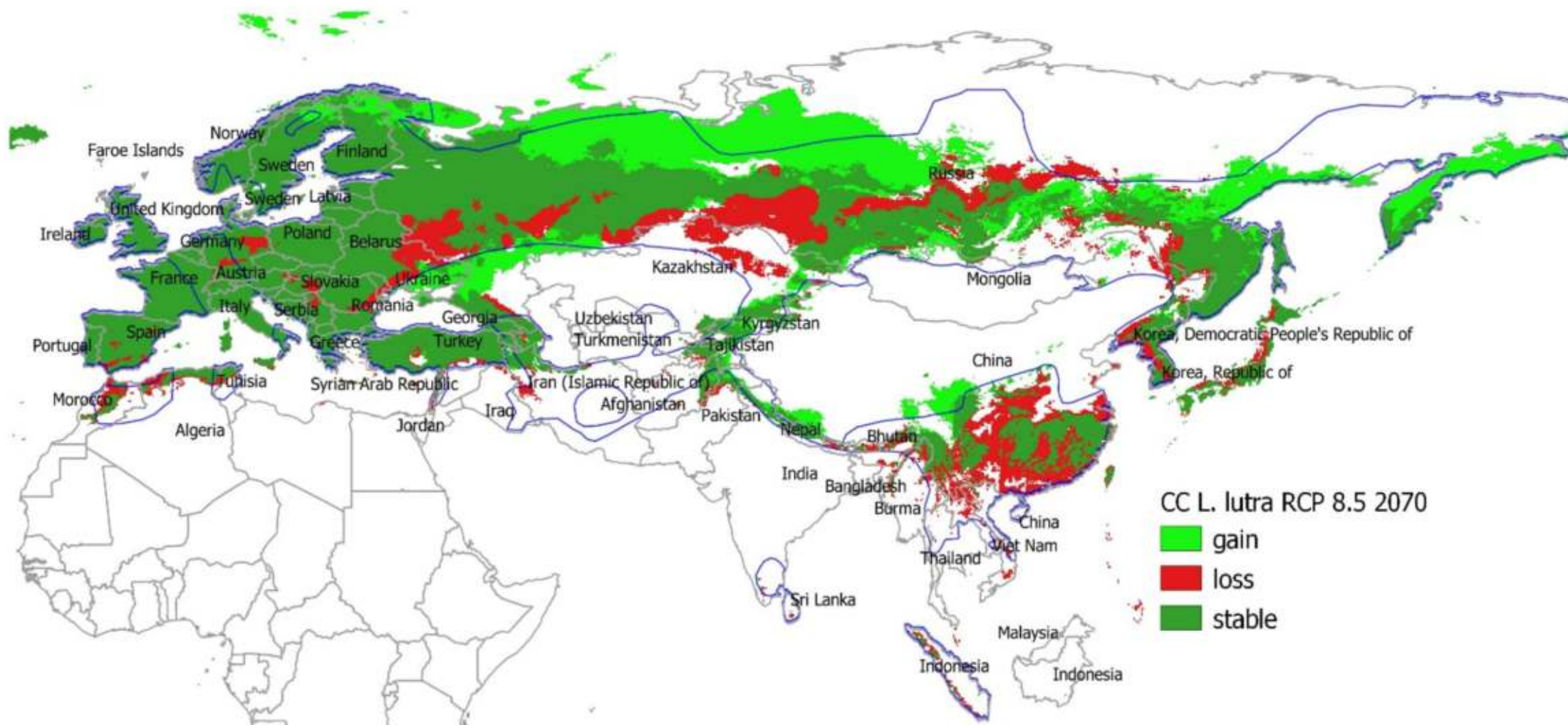
PA = Protected Areas coverage

Ex = Exposure

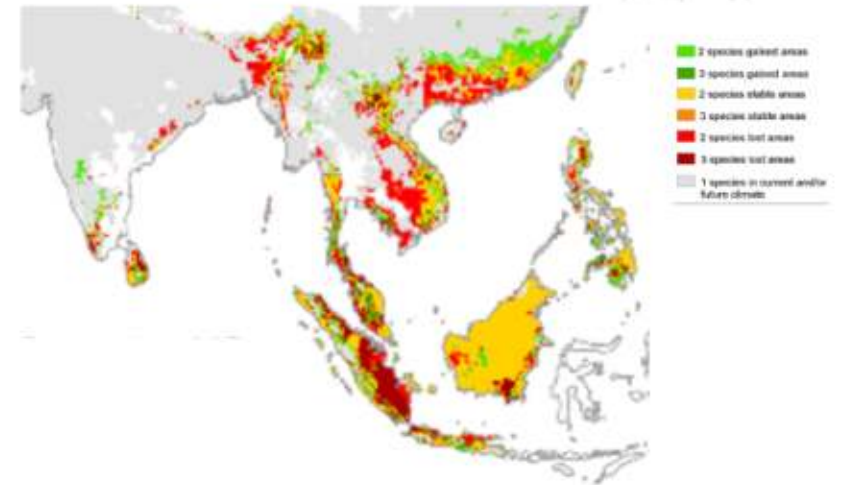
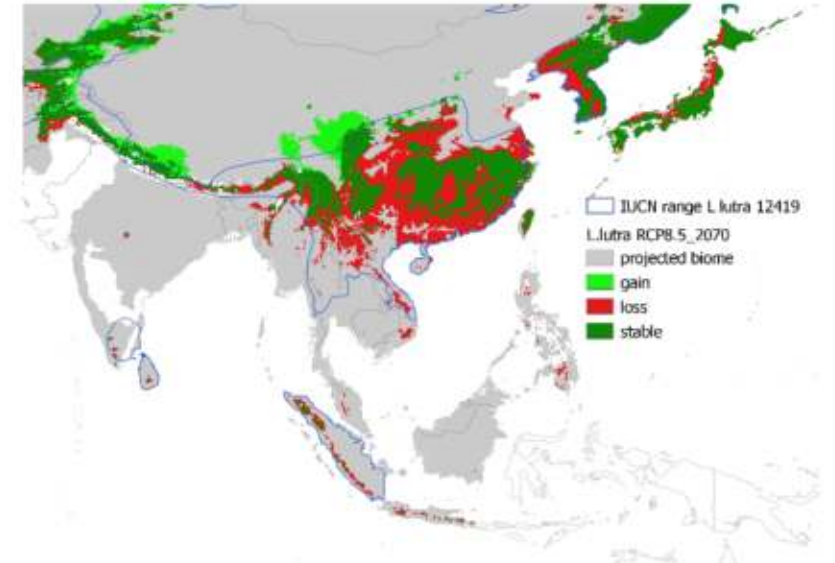
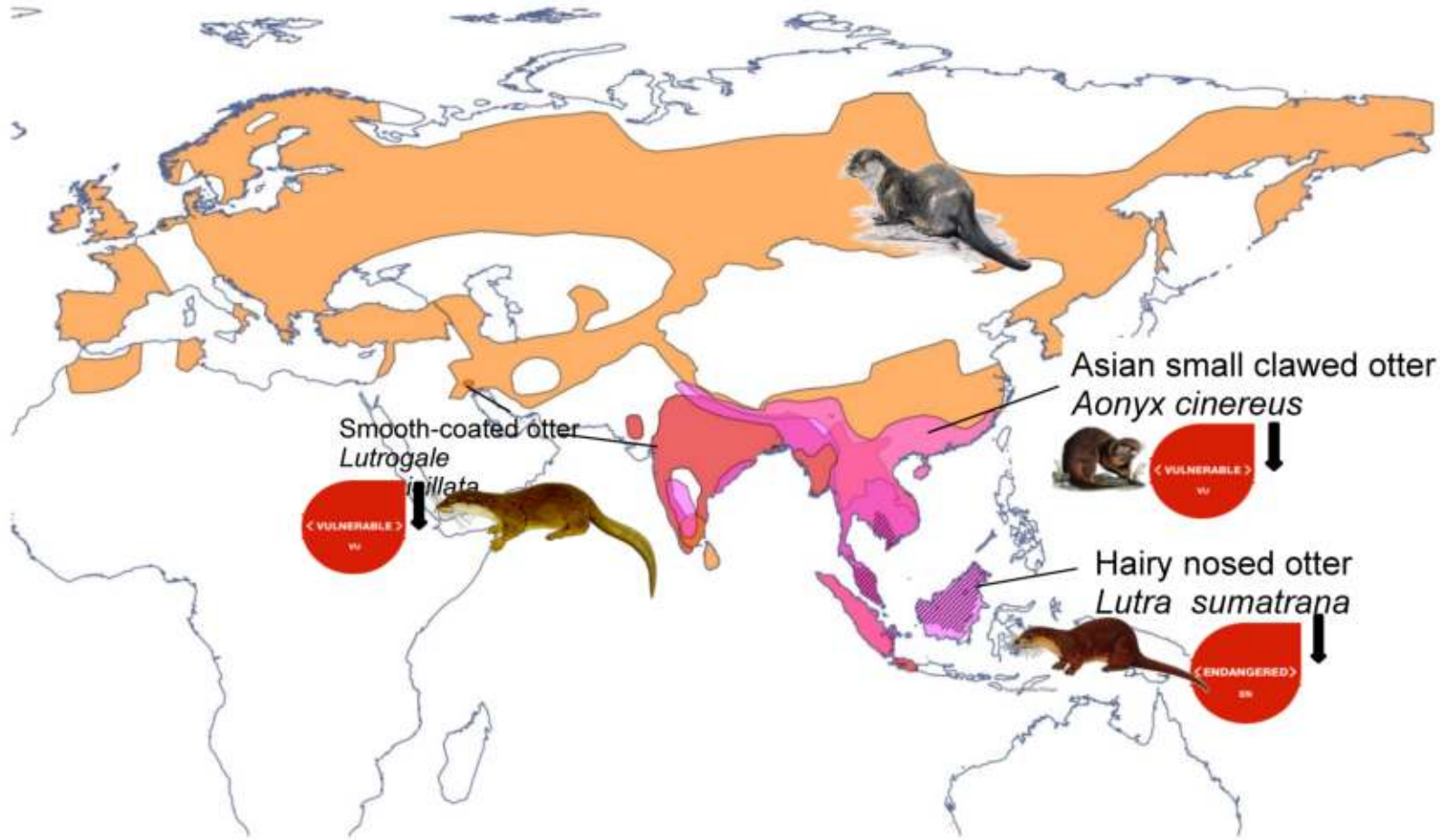
S = Sensitivity



RANGE CHANGES RCP8.5 - 2070

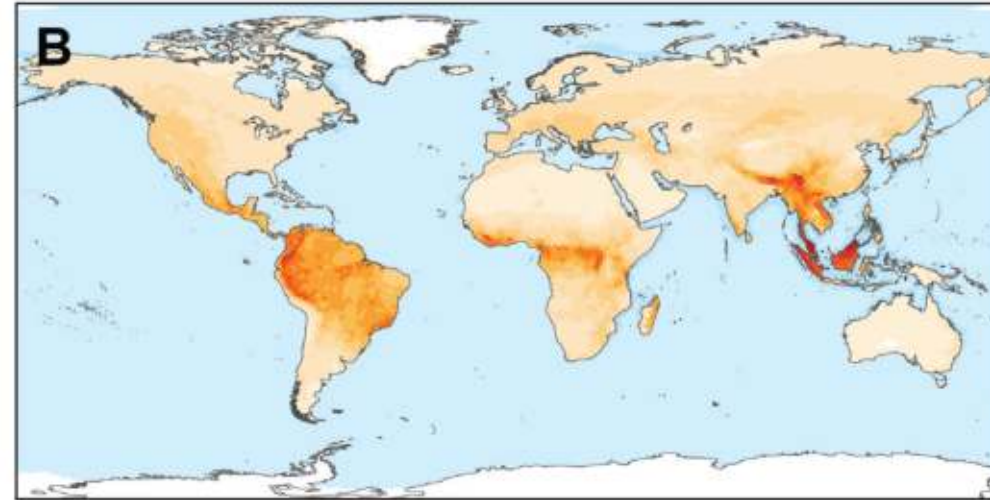


South – East Asia – CC and biotic interactions



Number of mammalian species affected by habitat loss

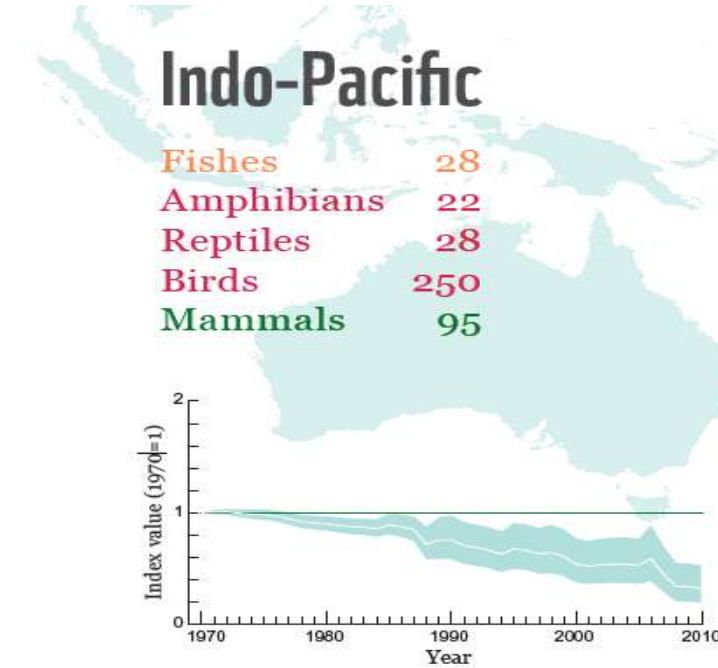
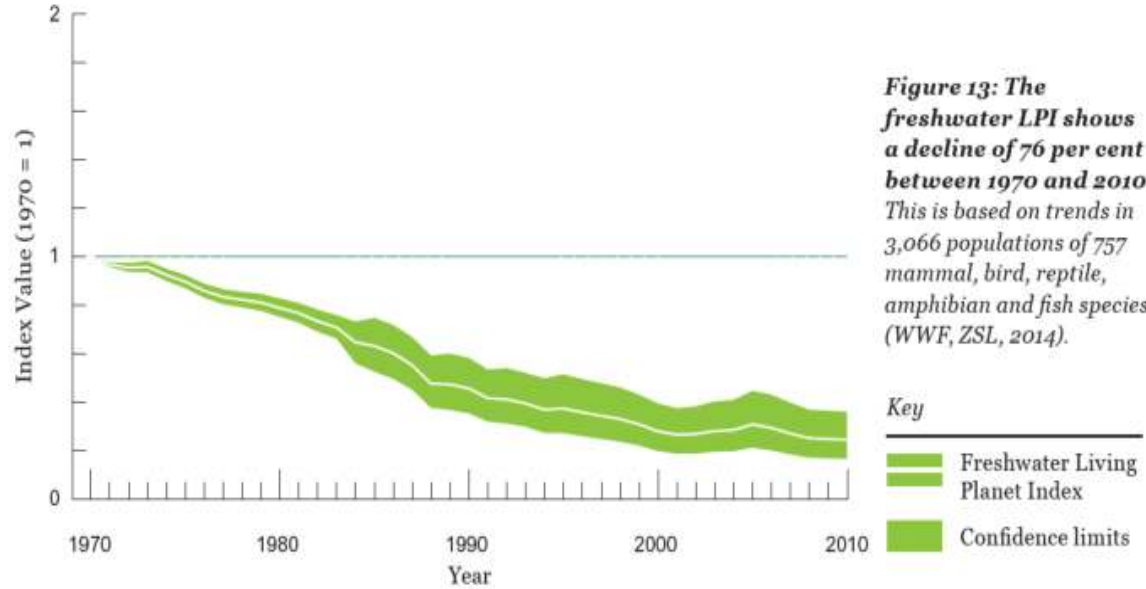
Habitat loss and
poaching of otters is
highest in Asia
particularly southeast
Asia



harvesting/hunting

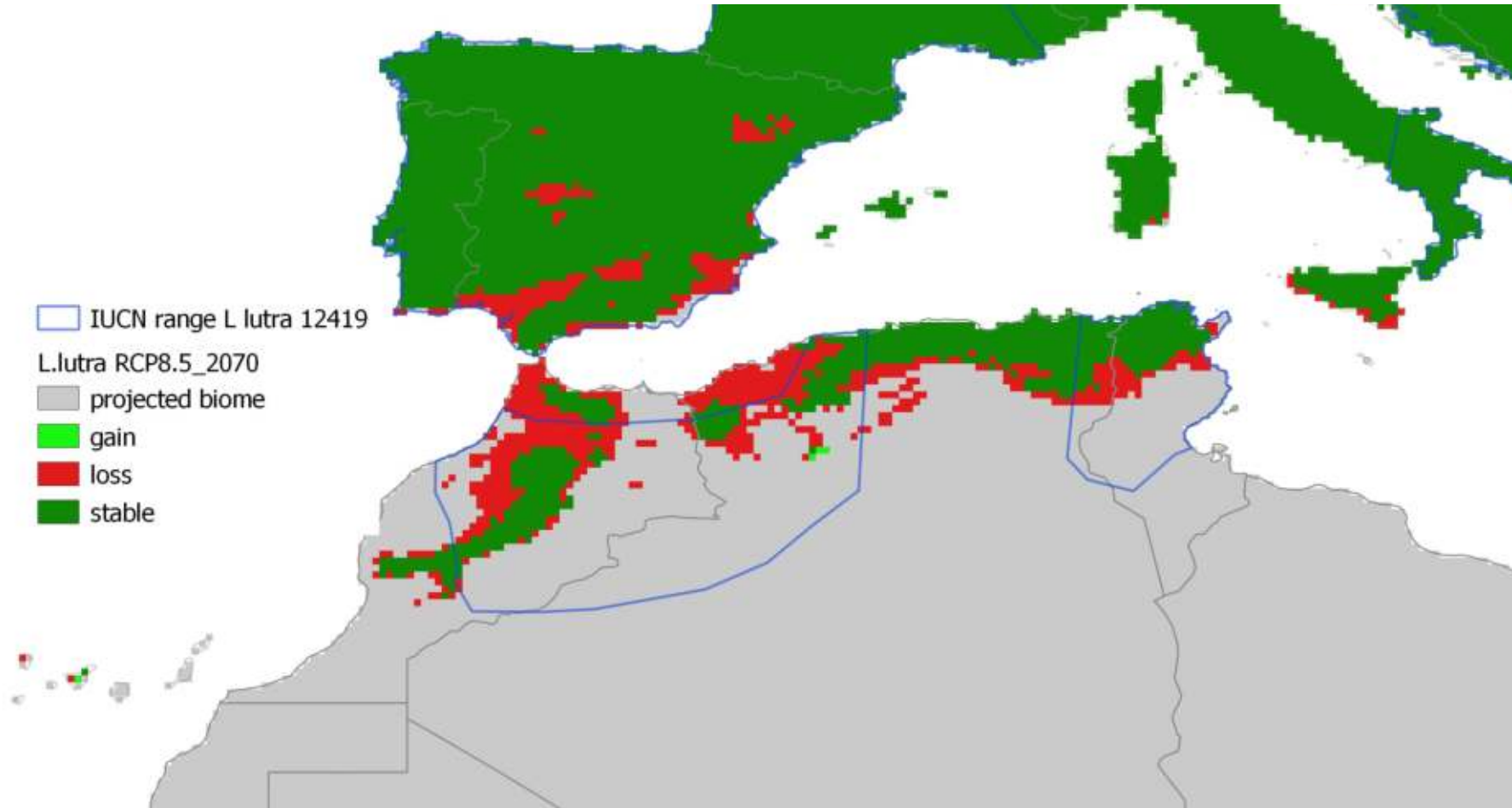


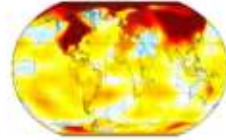
Living Planet Index



The Indo-Pacific index shows large and continuing declines in species populations. It has the second highest rate of decline (67 per cent) after the Neotropics.

North Africa – *L. l. angustifrons* expected range loss in 2070 under RCP8.5





EXTREME EVENTS

DROUGHTS

Likely decreases reproductive success by females



Ph. Eveline de Bruin (pixabay.com)

FLOODINGS

likely increases cub mortality



Ph. Gary Lewis (pixabay.com)

[Winter](#) [Water](#) [Mammal](#)

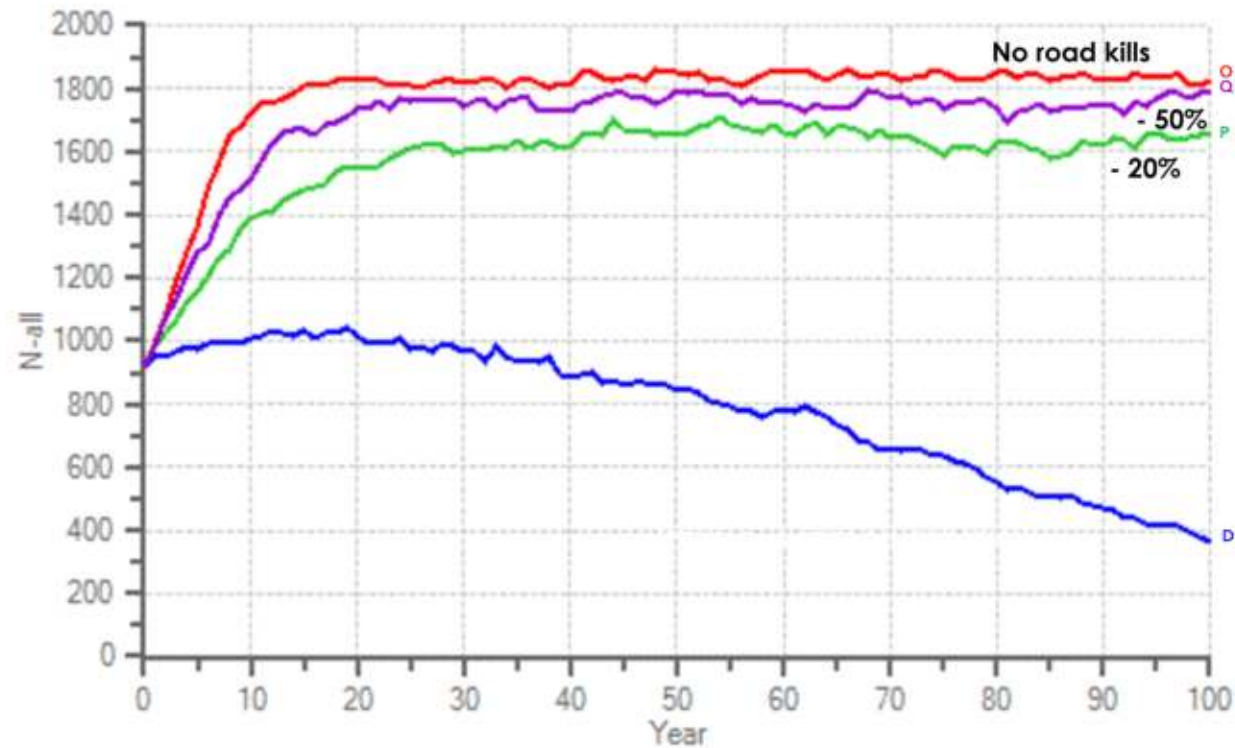
The orphaned otter cubs that need our help

How 21 otter cubs that were orphaned during Scottish floods are being rehabilitated for release back into the wild



small populations

PVA - Italian core population ($N_e = 800-1000$ inds) – 100 yrs



Diamente et al., in prep



Current road kill rate

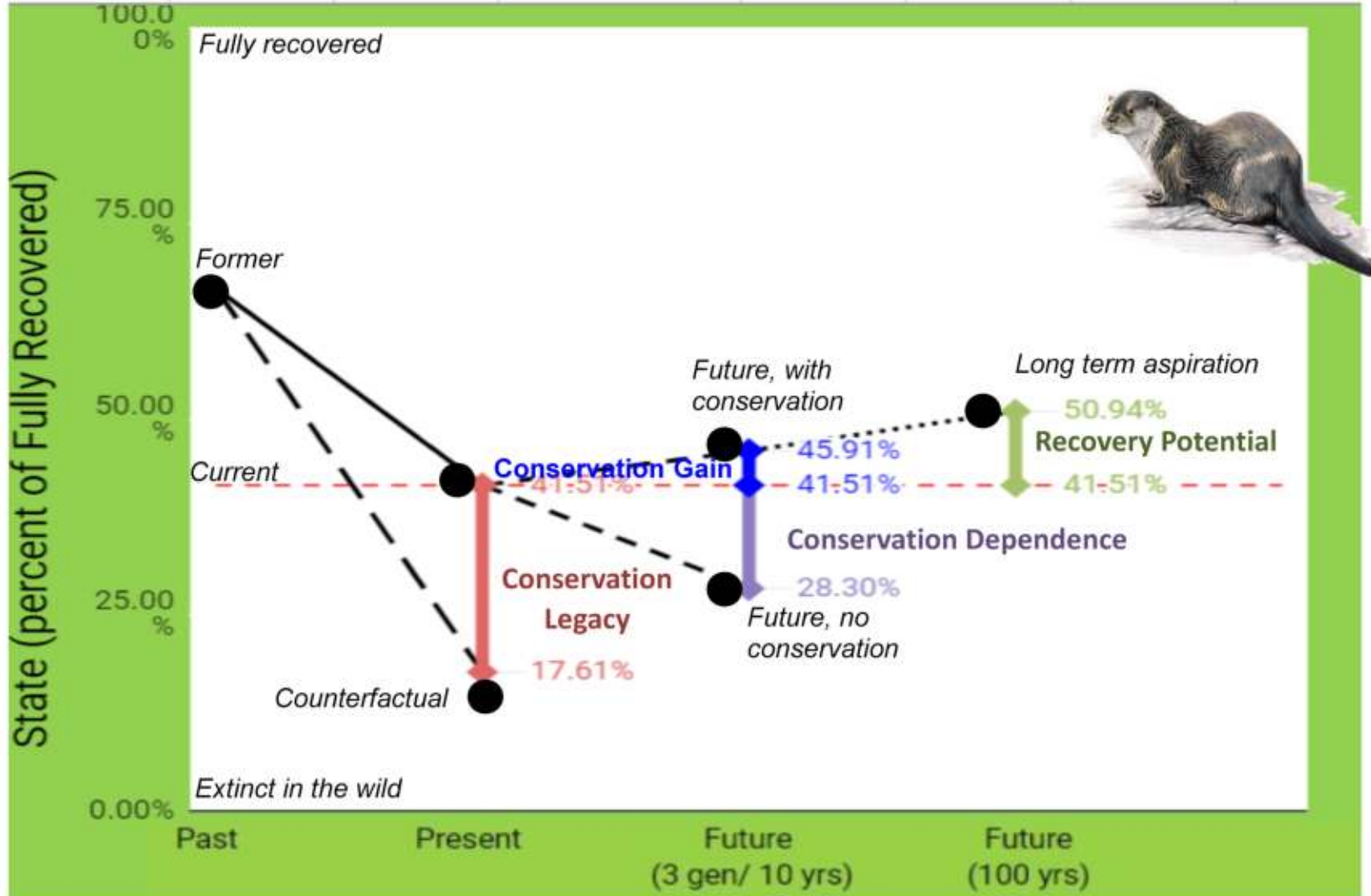


droughts



floodings

Green List – *Lutra lutra*



(Grace et al, submitted)



Eurasian otter – Green List assessment process

Spatial unit	Current state				Current without conserv. (Counterfactual)				Future with conservation				Future without conservation			
	min	best	max	Status	min	best	max	Legal protection	min	best	max	Negative impact CC	min	best	max	
Afghanistan	Absent	Present	Present	Vulnerable	Absent	Absent	Present	Protected since 2010.	Present	Viable	Viable	ba 30%lost-gain	Absent	Present	Present	
Albania	Present	Viable	Functional	Likely common	Present	Viable	Functional	Not protected	Present	Viable	Functional	no	Present	Viable	Functional	
Algeria	Absent	Present	Present	Endangered - Patchy distribution	Absent	Absent	Present	Protected	Present	Present	Viable	50%lost	Absent	Absent	Present	
Bangladesh	Absent	Present	Present	Rare	Absent	Absent	Present	Protected	Present	Present	Viable	NO	Absent	Present	Present	
China	Absent	Present	Present	Endangered - Red List of China's Vertebrates (2016).	Absent	Absent	Present	Protected	Present	Present	Viable	60%lost	Absent	Absent	Present	
European Union (EU 27 countries)	Present	Viable	Functional	Near Threatened - HD	Absent	Present	Present	Protected	Present	Viable	Functional	loss in Romania - Hungary - Austria - Germany - Spain	Present	Viable	Viable	
India	Present	Present	Present	Rare	Absent	Absent	Present	Protected	Present	Present	Viable	ba 20%lost-gain- 80% lost in south	Absent	Absent	Present	
Iraq	Absent	Present	Viable	Likely endangered	Absent	Absent	Present	Iraqi legislation regulates hunting with laws numbered 57 and 48. CITES signed on 2013	Present	Present	Viable	100%lost	Absent	Absent	Present	
Israel	Absent	Present	Present	Critically Endangered	Absent	Absent	Absent	Protected	Present	Present	Viable	100%lost	Absent	Absent	Absent	
Japan	Absent	Absent	Present	Extinct - Returned to Tsushima Island in 2017, likely from Korea	Absent	Absent	Absent	Protected	Present	Present	Present	50%lost	Absent	Absent	Absent	
Laos	Absent	Present	Functional	Unknown	Absent	Present	Functional	Protected	Present	Present	Viable	100%lost	Absent	Absent	Present	
Lebanon	Absent	Present	Present	Critically endangered, very rare	Absent	Absent	Present	Not Protected	Present	Present	Viable	30%lost	Absent	Present	Present	
Morocco	Absent	Present	Functional	Unknown	Absent	Present	Functional	Protected	Present	Present	Viable	60-70%lost	Present	Present	Viable	
Russia	Present	Viable	Functional	Listed as 1 - endangered; 2 - reduced population; 3 - rare in different regions	Present	Present	Viable	Hunting and trapping regulated on a Provincial basis, according to the gamebag regulation of the Federal Game and Hunting Management Department.	Present	Viable	Functional	ba 40%lost-gain	Present	Viable	Viable	
Sri Lanka	Absent	Present	Present	Likely endangered	Absent	Absent	Present	Protected	Present	Present	Viable	80%lost	Absent	Absent	Present	
Thailand	Absent	Present	Present	Rare	Absent	Absent	Present	Protected	Present	Present	Present	100%lost	Absent	Absent	Present	
Ukraine	Absent	Present	Present	The Red Data Book of Ukraina (II)	Absent	Absent	Present	Protected	Present	Present	Viable	ba 30%lost-gain	Absent	Present	Present	
Vietnam	Absent	Present	Present	Vulnerable - Vietnam's Red Book (2000): unsure of status in 2006 version	Absent	Absent	Present	Protected	Present	Present	Present	100% lost	Absent	Absent	Present	

KEY SPECIES RESULTS

KSR4 Assess **impact of hunting** in Russia and Iraq

KSR4 RL regional assessments (Bangladesh, Indonesia, Cambodia, Myanmar, Malaysia, Morocco, Tunisia, Lebanon, Borneo, Indonesia, Turkmenistan, Kyrgyzstan, Kazakhstan, Azerbaijan, Belarus, Moldavia, Syria, Croatia, Bosnia Hercegovina, Serbia, Mongolia, Jordan, Iran, Japan)

KSR4 Assess degree of divergence and RL status for 10 **subspecies**

KSR5 Test and improve **e-DNA monitoring**

KSR6 Promote **Citizen Science initiatives** and road kill reporting in Central and South Asia

KSR6 Questionnaire on **climate extreme events** impacts



KSR8 **Action plan** for endangered and isolated populations and subspecies (Nepal, Lebanon, Syria, China, India, Sri Lanka, Vietnam, Algeria, Jordan)

KSR9 **Transnational strategy** for the Alps (Italy, France, Germany, Switzerland, Slovenia, Austria)

KSR 11 Fill **gaps in OSG membership** (Central Asia, North Africa, and Middle East)

KSR 11 Expand existing **otter network** (HON)

KSR 11 Expand the Lighthouse project experience to other **hotspot critical areas** (Indonesia, Malaysia, Bangladesh, Myanmar)

KSR 11 Develop a **standard survey protocols** for Asian and African countries

Networking and citizen science initiatives



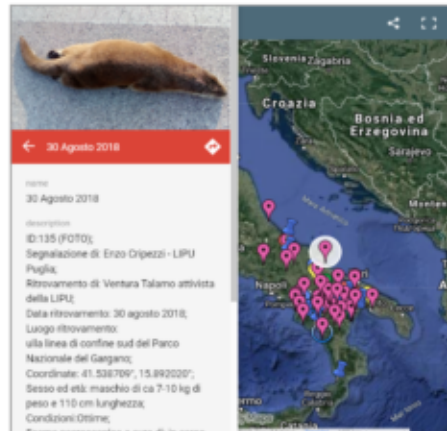
<https://wildotters.com/projectlighthouse/>



<https://www.himalayanotternetwork.org/>



Road kills



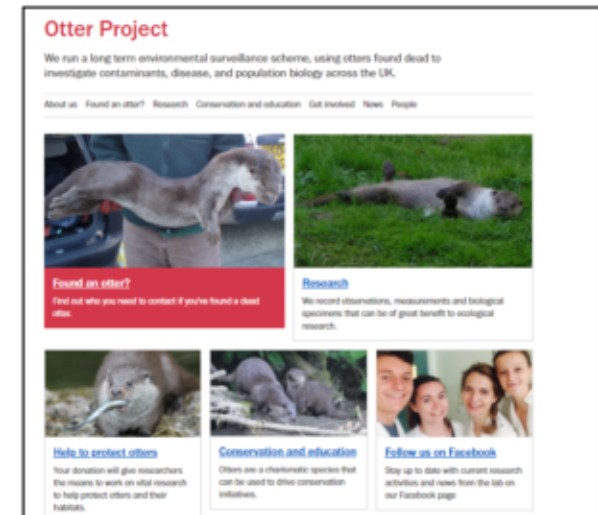
<http://therio.unimol.it:8080/lontra/segnalazioni.html>



<https://www.nrm.se/utter>



Loso and Roos, 2019



<https://www.cardiff.ac.uk/otter-project>

More info

