Internship Report:
Raptor Conservation in Bulgaria

By Natasha Peters

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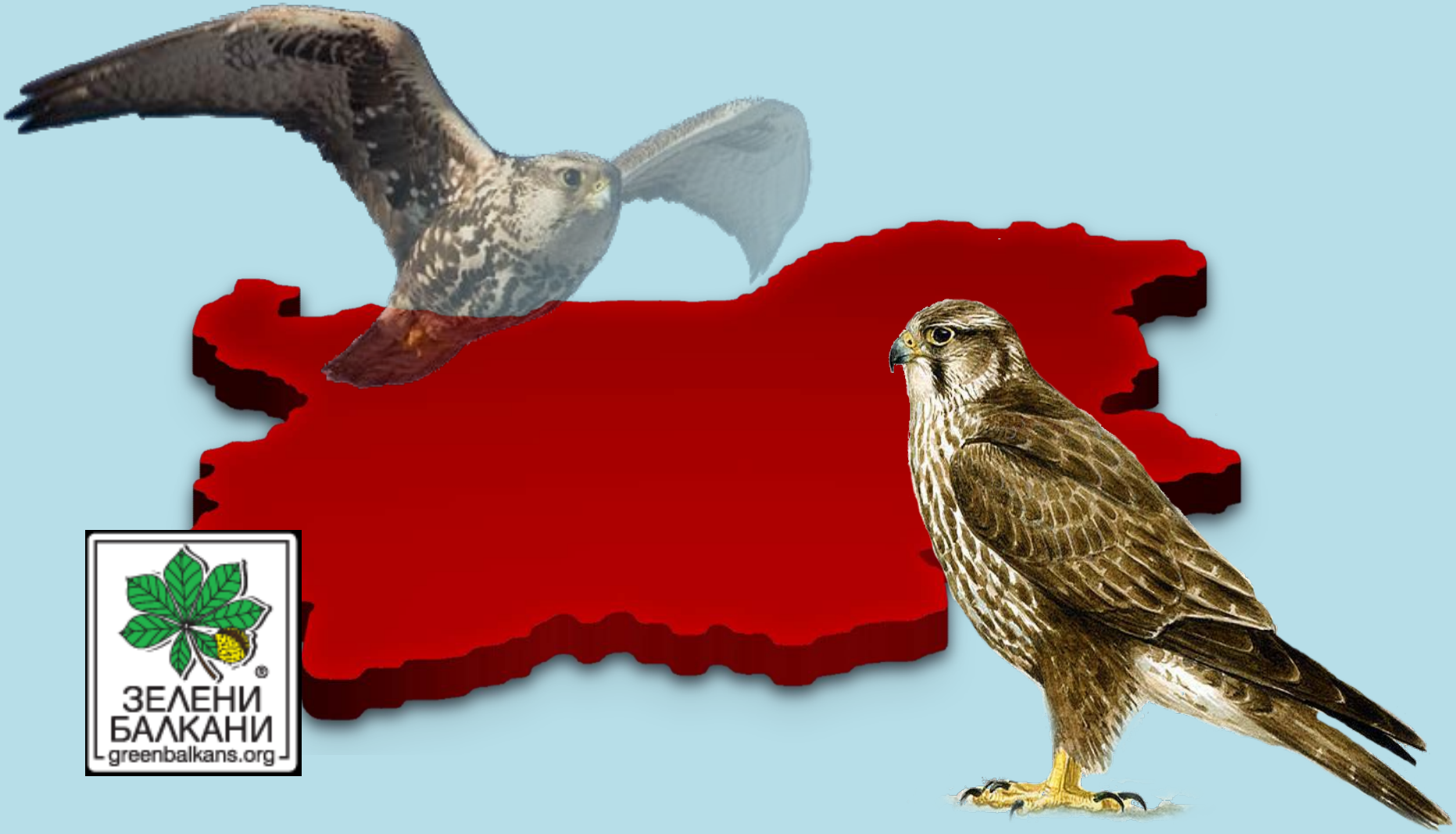


ЗЕЛЕНИ БАЛКАНИ
greenbalkans.org

Saker Falcon (*Falco cherrug*) reintroduction programme in Bulgaria

Saker Falcon (*Falco cherrug*)

Life History

Size: 47-55 cm / 105-129 cm

Diet: mammals and birds

Partially migrant, tend to stay in natal area

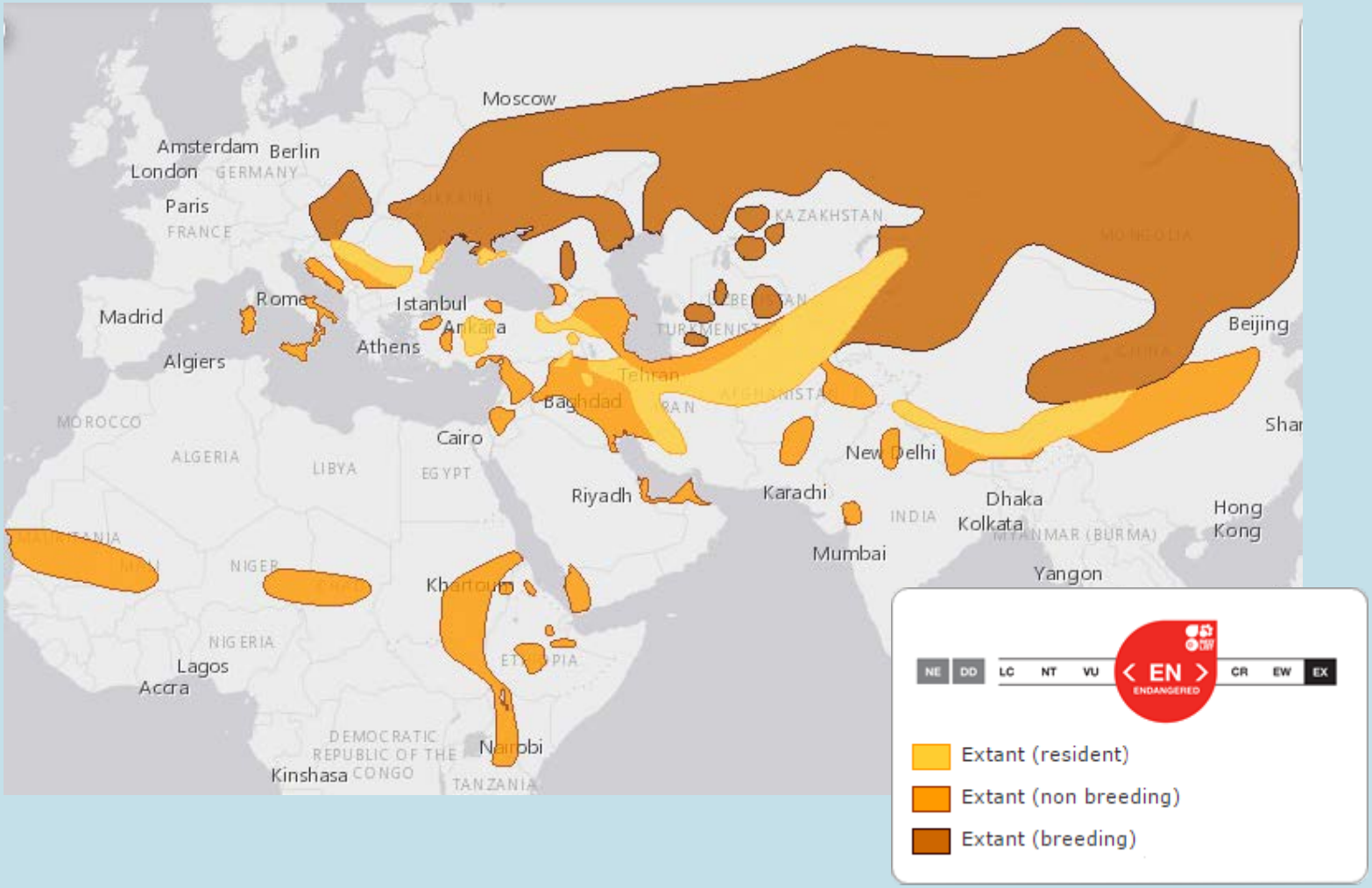
Up to 5 offspring per year

Sexual maturie at 2 years

Endangered internationally (IUCN), Critically Endangered in Bulgaria (Red Data Book of Bulgaria)

Saker Falcon (*Falco cherrug*)

Distribution



Saker Falcon (*Falco cherrug*)

Status in Bulgaria

Saker Falcon were common in the 19th century, but decreased in the 20th century due to:

- Habitat destruction/ fragmentation
- Surge in use of organochlorine pesticides (60s-90s)
- Resurgence of nest robbery (70s-90s) to use or sell birds for falconry

This led to the last confirmed breeding record in 1997 and extinction by late 1990's

Saker Falcon (*Falco cherrug*)

Status in Bulgaria

- National survey 2006-13
  - 90% of known former distribution area
  - Only 3 sakers seen in the whole period
  - No evidence of breeding
- Reintroduction Feasibility Study (2009)
- EU Life+ Project 2009-13 (BSPB) Natural re-colonization: Insulation of powerlines, education, fixing nest-boxes, etc.

Saker Falcon (*Falco cherrug*)

Reintroduction Background

After surveying historical Saker territory and finding no pairs, a Reintroduction Feasibility Study was conducted in 2009 to assess the risks, needs, and possibilities for releasing Saker back into Bulgaria.

Pilot releases (tests) were conducted in:

1. **2011: 6 chicks released**
2. **2012: 4 chicks released**
3. **2013: 4 chicks released**
4. **2014: 3 chicks released**

And after mixed results, the project was refined and set to start 2015-2019

Saker Falcon (*Falco cherrug*)

Main Threats

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Saker Falcon (*Falco cherrug*)

The reintroduction project: Captive breeding

Saker Falcon (*Falco cherrug*)

The reintroduction project: Hacking boxes

Saker Falcon (*Falco cherrug*)

The reintroduction project: Chick preparation

Saker Falcon (*Falco cherrug*)

The reintroduction project: Monitoring

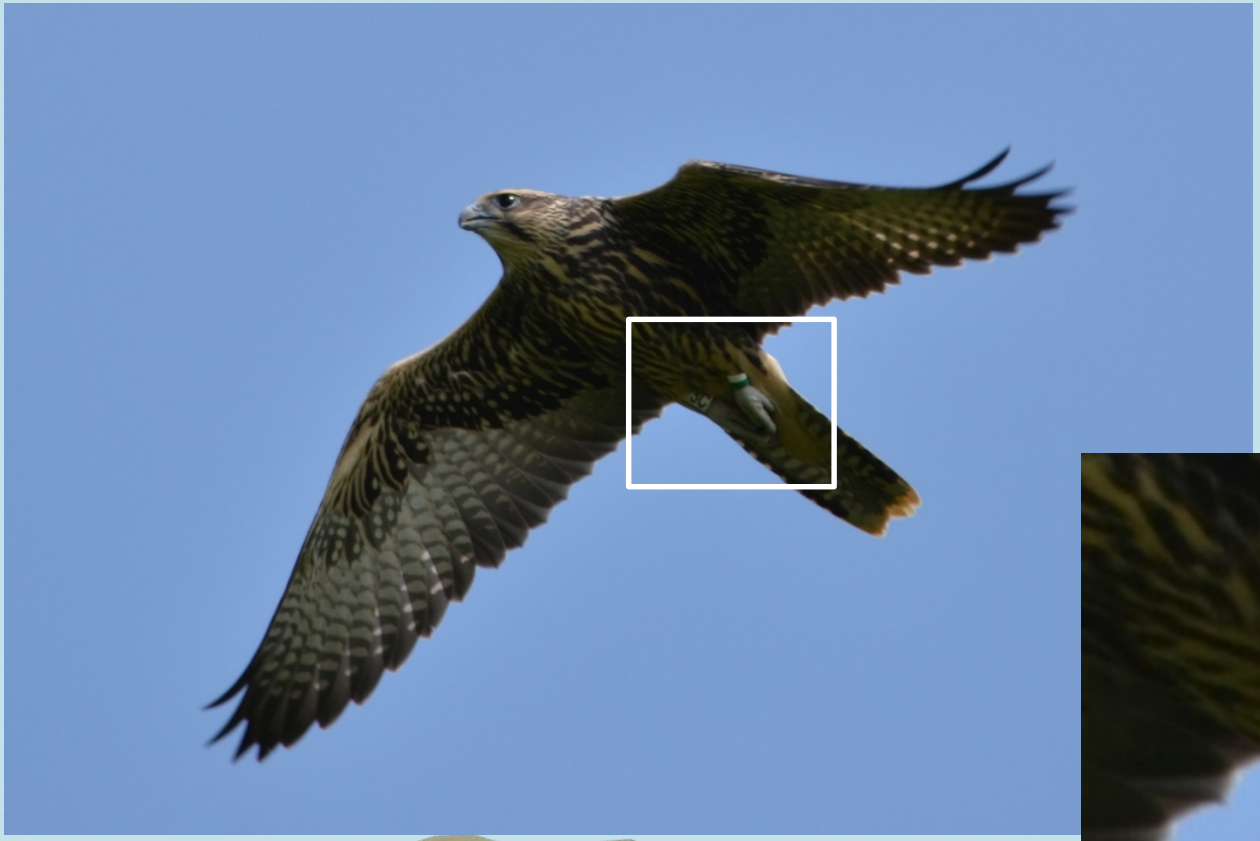
Hacks are opened 10 days after putting chicks in (at 40 days old)

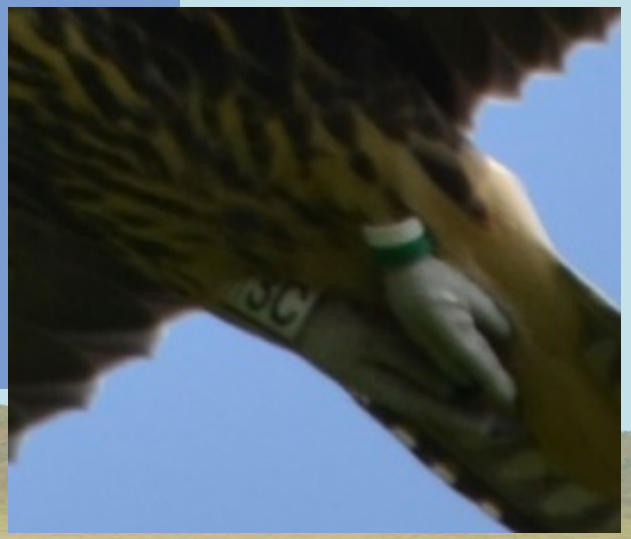
Saker Falcon (*Falco cherrug*)

The reintroduction project: Monitoring

Saker Falcon (*Falco cherrug*)

The reintroduction project: Monitoring





Saker Falcon (*Falco cherrug*)

The reintroduction project: Fledging and Feeding

Food on feeding tables is provided for 40 days after fledging, to have the birds ‘imprint’ on the area and return to breed in future years

Saker Falcon (*Falco cherrug*)

The reintroduction project: Outcome

37 birds released so far, no mortalities recorded after fledging

18/06	19/06	20/06	21/06	22/06	23/06	24/06	25/06	26/06	27/06	28/06	29/06	30/06	01/07	02/07	03/07	04/07	05/07	06/07	07/07	08/07	09/07	10/07	11/07	12/07	13/07	14/07	15/07	16/07	17/07	18/07	19/07	20/07
? (4)	? (6)	1	1	1	? (2)	1	1	1	1	1	1	0	1	? (1)	? (1)	1	1	? (1)	0	? (1)	0	0	0	0	0	0	0	? (1)	0	0	0	0
? (4)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	? (1)	1	1	? (1)	0	? (1)	0	0	0	0	0	0	0	? (1)	1	0	1	0
? (4)	? (6)	1	1	1	1	1	1	? (4)	0	? (2)	1	1	1	1	? (1)	1	1	? (1)	0	? (1)	0	0	0	0	0	0	1	1	1	0	1	0
? (4)	? (6)	1	1	1	1	? (2)	1	1	1	? (2)	1	1	1	? (1)	? (1)	1	0	? (1)	0	? (1)	0	0	0	0	1	1	1	? (1)	0	0	0	0
? (4)	? (6)	1	1	0	? (2)	1	0	1	1	1	1	0	0	? (1)	? (1)	? (3)	0	? (1)	0	? (1)	0	0	0	0	0	0	0	? (1)	0	0	0	0
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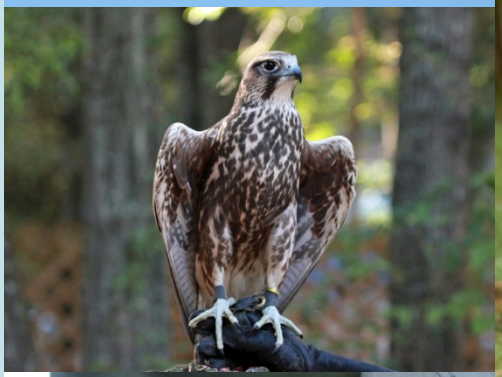
1	1	1	1	1	1	1	1	1	1	1	1	? (1)	1	1	1	1	1	1	1	0	? (2)	0	0	0	0	0	0	0	0	0	0	? (1)
1	1	1	1	1	1	1	1	1	1	1	1	1	? (1)	0	0	1	1	1	1	0	? (2)	0	0	0	0	0	0	0	0	0	0	? (1)

Saker Falcon (*Falco cherrug*)

The future of the project



Return of the Neophron:

Conservation of the Egyptian Vulture in Bulgaria and Greece

BSPB

BULGARIAN SOCIETY FOR PROTECTION OF BIRDS

Egyptian Vulture

Life History

Latin name: Neophron percnopterus

Size: 58-70 cm

Wingspan: 155-170 cm

Weight: 1.6-2.2 kg

Diet: Carrion, insects, larvae, frogs, lizards and tortoises (alive), road kill, garbage, ostrich eggs

Mating behaviour: Monogamous

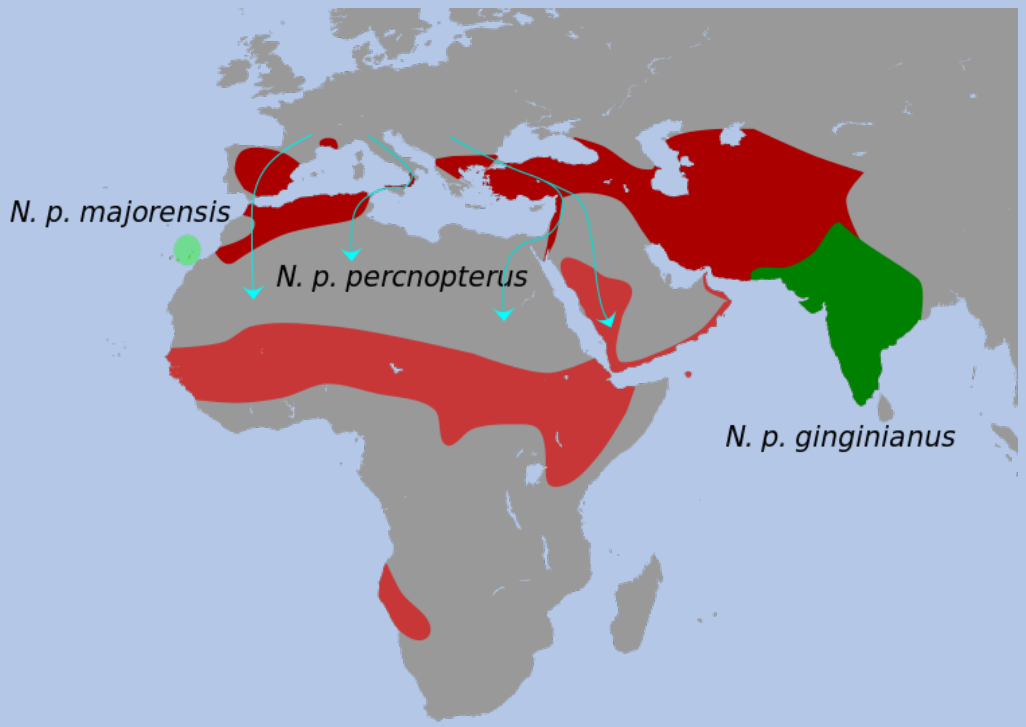
N° of offspring: 1-3 eggs with 1-2 offspring

Sexual maturity: 5-6 years

Nesting: Cliff nester, nest fidelity

Egyptian Vulture

Distribution

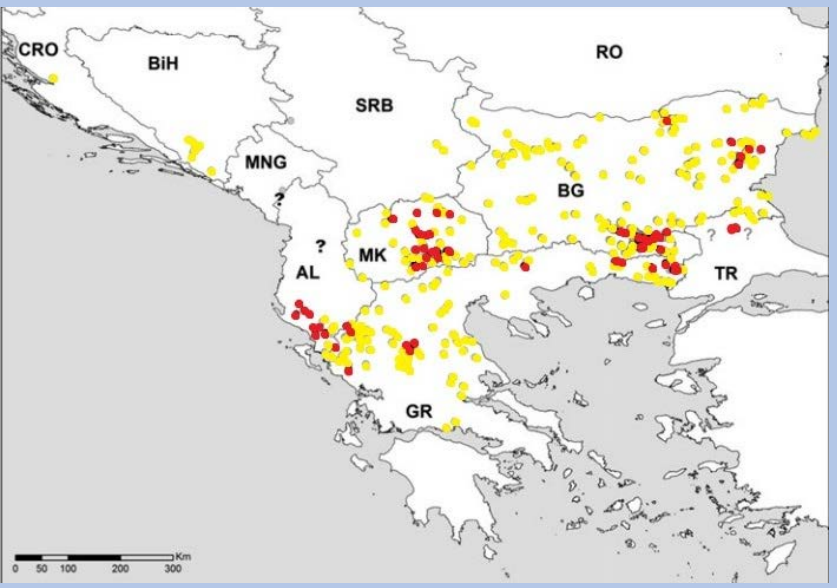


- September: south for winter in Africa
- March-April return
- April-May nesting
- 30-40 day flight
- Young birds spend their first year in Africa, come back to the nesting territories when they reach 2-3 years of age

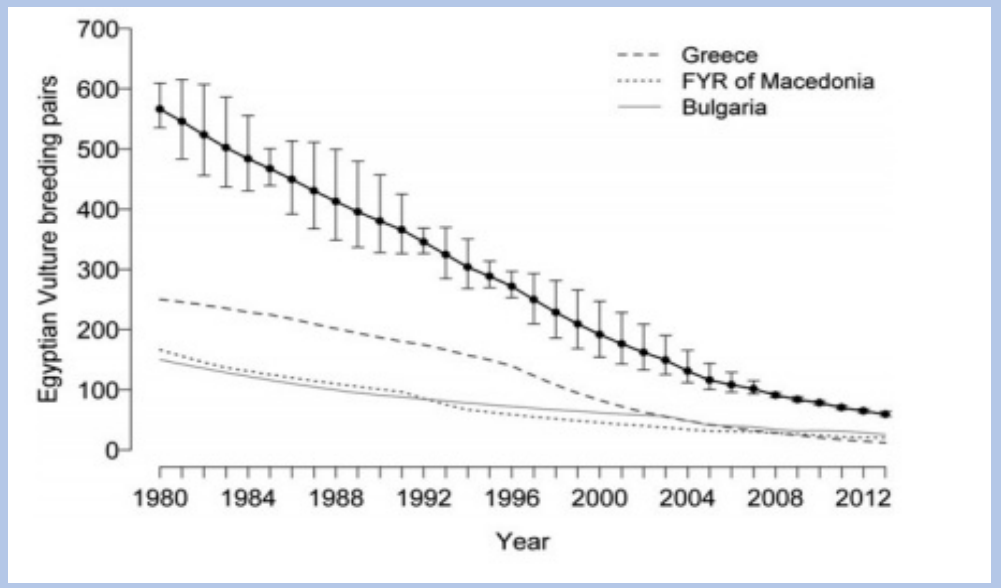
Egyptian Vulture

Status

- Past 30 years species decline of 80% in Balkans (4-8% per year)
- Balkan Peninsula: less than 90 pairs
- Extinct in 90's in: Croatia, Montenegro, Bosnia and Herzegovina, and probably in Serbia (last confirmed breeding in 1999)



Historic and recent distribution of Egyptian Vulture breeding territories in the Balkan Peninsula. Red circles – active territories in 2012–2013, yellow circles – territories occupied 1980–1990, but no longer occupied in 2012–2013 Question marks indicate data gaps for historic (grey) or current (black) distribution.



Estimated population size and trajectory of the Egyptian Vulture population summed across three countries in the Balkan Peninsula (black solid line and points), and for each country separately (dark grey lines). Points and lines are median posterior estimates from a Bayesian state-space model fitted to population counts; error bars reflect 95% credible intervals.

Velevski et al. (2014) Population decline and range contraction of the Egyptian Vulture Neophron percnopterus in the Balkan Peninsula. *Bird Conservation International*.

Egyptian Vulture

Threats

- Poisoning for predators; Greece main cause of decline
- collisions with wind farms and power lines and electrocution
- loss of suitable habitats
- Electrocution; higher risk in young birds
- Direct persecution
- Changes in food availability
- Persecution; Poisoning, Bird Crime

Egyptian Vulture

The Project: preventing extinction of Egyptian vulture in the Balkans

- **Duration:** 5 years: 2011-2016.
- **Areas:** 12 in Bulgaria and 15 in Greece
- **Knowledge and reduction of the mortality factors affecting the breeding population by:**

- Satellite telemetry; migration routes and wintering areas
- Reduce illegal poisoning
- Supplemental feeding
- Reducing disturbance, persecution, and bird crime
- Risk of collision/electrocution reduced
- Support for Egyptian vulture conservation
- Networking with stakeholders along the flyway

Egyptian Vulture

The Project Actions

TAGGING

- 2010-2014
- 22 satellite transmitters: 20 juveniles, 1 adult, 1 sub adult
- 9 Bulgaria, 9 Greece, 3 Macedonia, 1 Albania.
- 2014 only 8 alive
- 80 ringed birds, 15 confirmed returned

Egyptian Vulture

The Project Actions

Nest monitoring (my work)

- 2012: 2 photo traps and a video camera
- 2013: 3 photo traps and a HD live-camera
- 2014: 2 photo traps and 2 photo trap cameras in Greece.
- 2015: 1 photo trap and HD live-camera

These photos will be used for analyzing:

- Diet and behavior
- Feeding frequency
- Parental care differences
- Basic biology: nest construction, hatching dates, etc.
- Identification of individuals; determine whether pair is same individuals (monogamous, usually change in pair means one has died)

Egyptian Vulture

The Project: Preliminary Results

- 2014: 26 juveniles fledged (4 more than 2013, first increase seen)
- 20 nests monitored and protected from disturbance by volunteers
- 2012-2013 four young birds saved (~10 % of the annual young)
- Total number of occupied territories is 28 (higher 2013), stable number of successful pairs compared to 2013
- 2014: pairs with two chicks=8 compared to 2013=3

Egyptian Vulture

The Project: the Future

Future Threats

- Genetic diversity decreasing: reduced gene flow
- Diclofenac (deadly drug) being introduced to Europe
- Continuing decline, questions: to trap or not to?
- International cooperation along migration route, conservation in Africa

Table 2. Distribution and abundance of Egyptian Vultures in the Balkan Peninsula in 2013, separated into six spatially discrete concentrations of breeding territories ('population cluster', Figure. 2).

Population cluster	Active territories in 2013	Distance to nearest cluster
Southern Albania/ western Greece	12	150 km
Central Greece	4	85 km
The FYR of Macedonia	21	142 km
Southern Bulgaria/eastern Greece	22	95 km
North-eastern Bulgaria	6	120 km
European Turkey	2	95 km

Velevski et al. (2014) Population decline and range contraction of the Egyptian Vulture Neophron percnopterus in the Balkan Peninsula. *Bird Conservation International*.

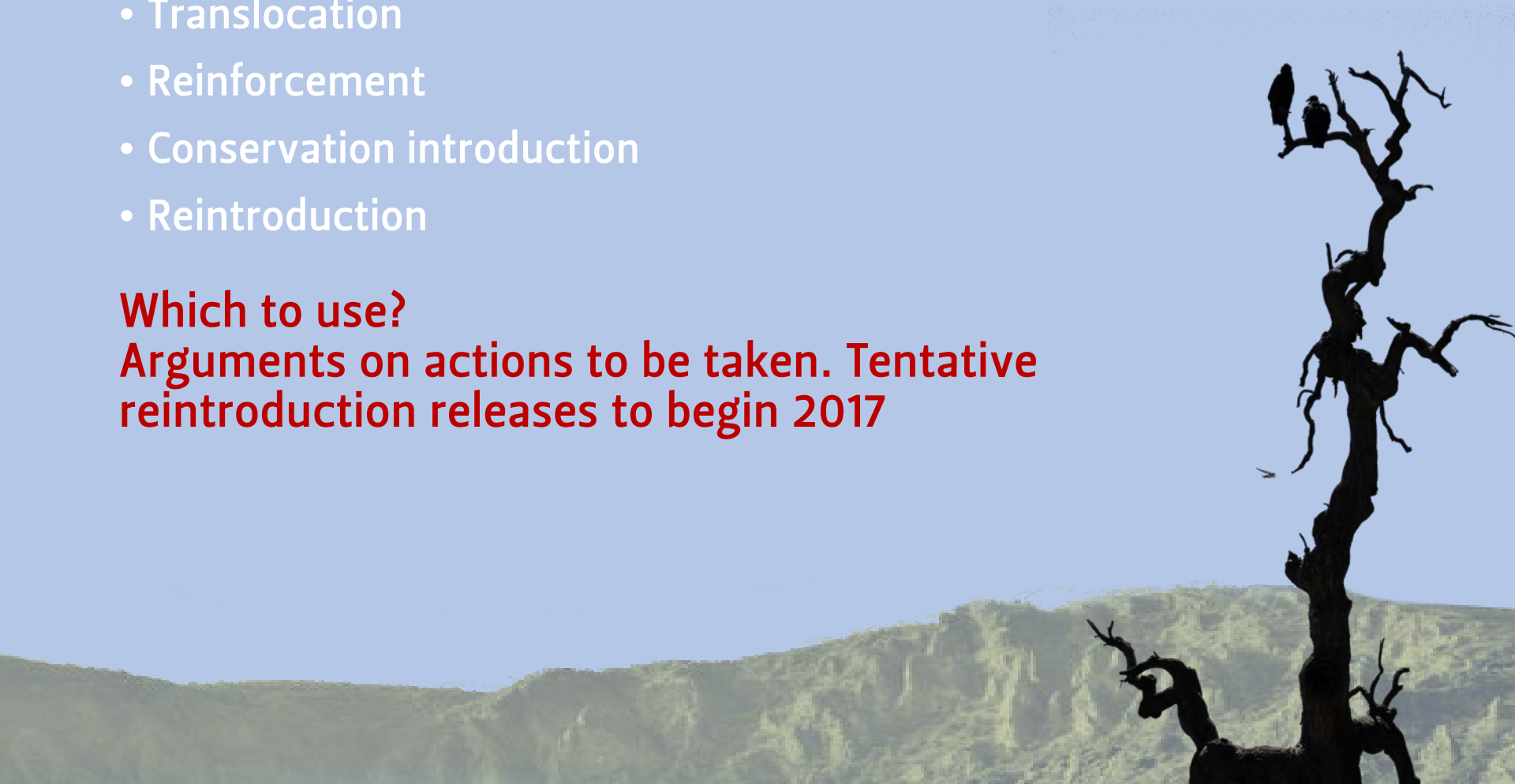
Egyptian Vulture

The Project: the Future

Possible Conservation Methods to be Taken

- Translocation
- Reinforcement
- Conservation introduction
- Reintroduction

Which to use?
Arguments on actions to be taken. Tentative reintroduction releases to begin 2017



That's It!

Thanks for your attention.