The conservation of **Eurasian Curlew** in Poland

© Jakub Nawrocki

Przemysław Obłoza

Wildlife Society „Stork”, Warsaw

Doctoral School of Siedlce University of Natural Sciences and Humanities

Dominik Krupiński

Wildlife Society „Stork”, Warsaw

Polish Society for Bird Protection, Białystok

Abundance of the breeding population:

↓ ~650-700 pairs before 2000 (Tomiałojć & Stawarczyk 2003)

↓ ~450-500 pairs (Ławicki & Racławski 2006)

↓ ~250-300 pairs (Wylegała & Rosin 2013)

The Curlew conservation project started in 2013 and is a response to a population decline of more than 50%.

In 2019, we counted 167 pairs in conservation areas (Ławicki et al. 2021), and we estimate the size of the population at 220 to 240 breeding pairs.

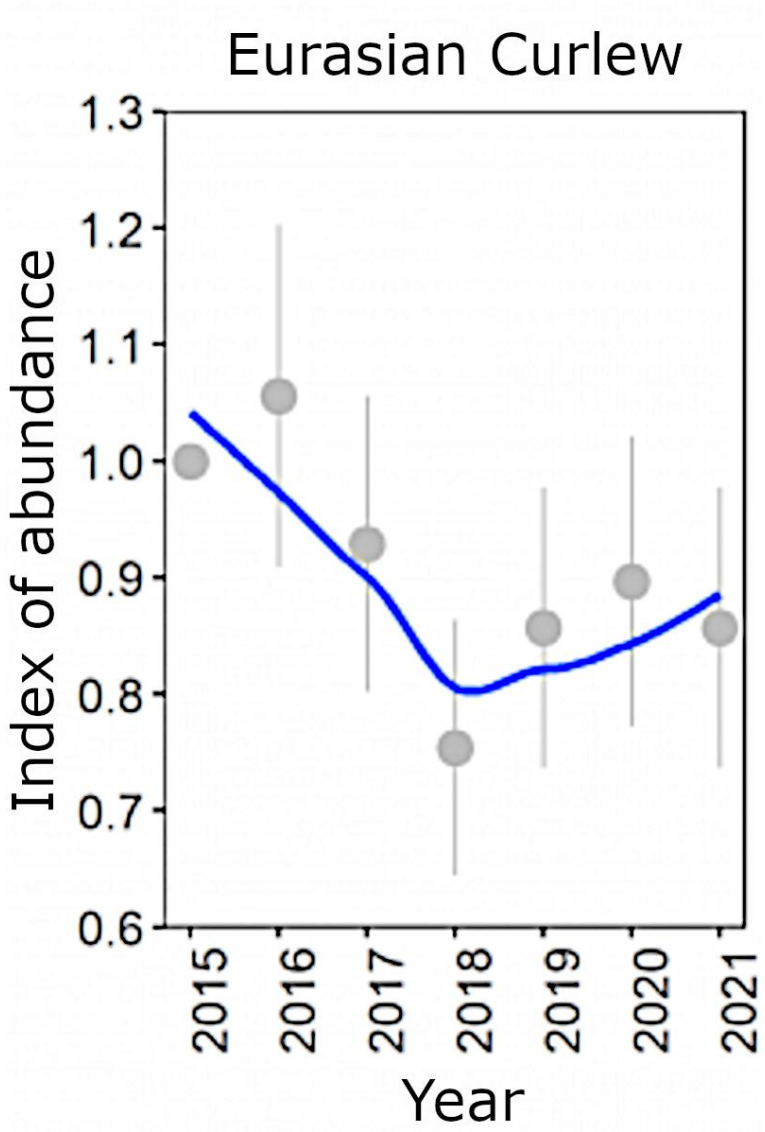
The risk category of Curlew in Poland has changed from Vulnerable in 2002 to Endangered in 2020.

2002: VU – Vulnerable (Red list of threatened animals in Poland)

2020: EN – Endangered (The red list of birds in Poland)

Monitoring of Curlew

- Monitoring of Curlew has been carried out since 2015 on 2 km long transects in 2x2 km squares.
- Until 2020, Curlew was monitored in 100 plots.
- In 2021, the program was extended to 160 plots and included: Black-tailed godwit, Redshank and Lapwing (Monitoring of meadow-breeding waders)



Natura 2000 sites where the Curlew is subject of protection

main rivers

Natura 2000 sites
Birds Directive [146]

breeding [15]

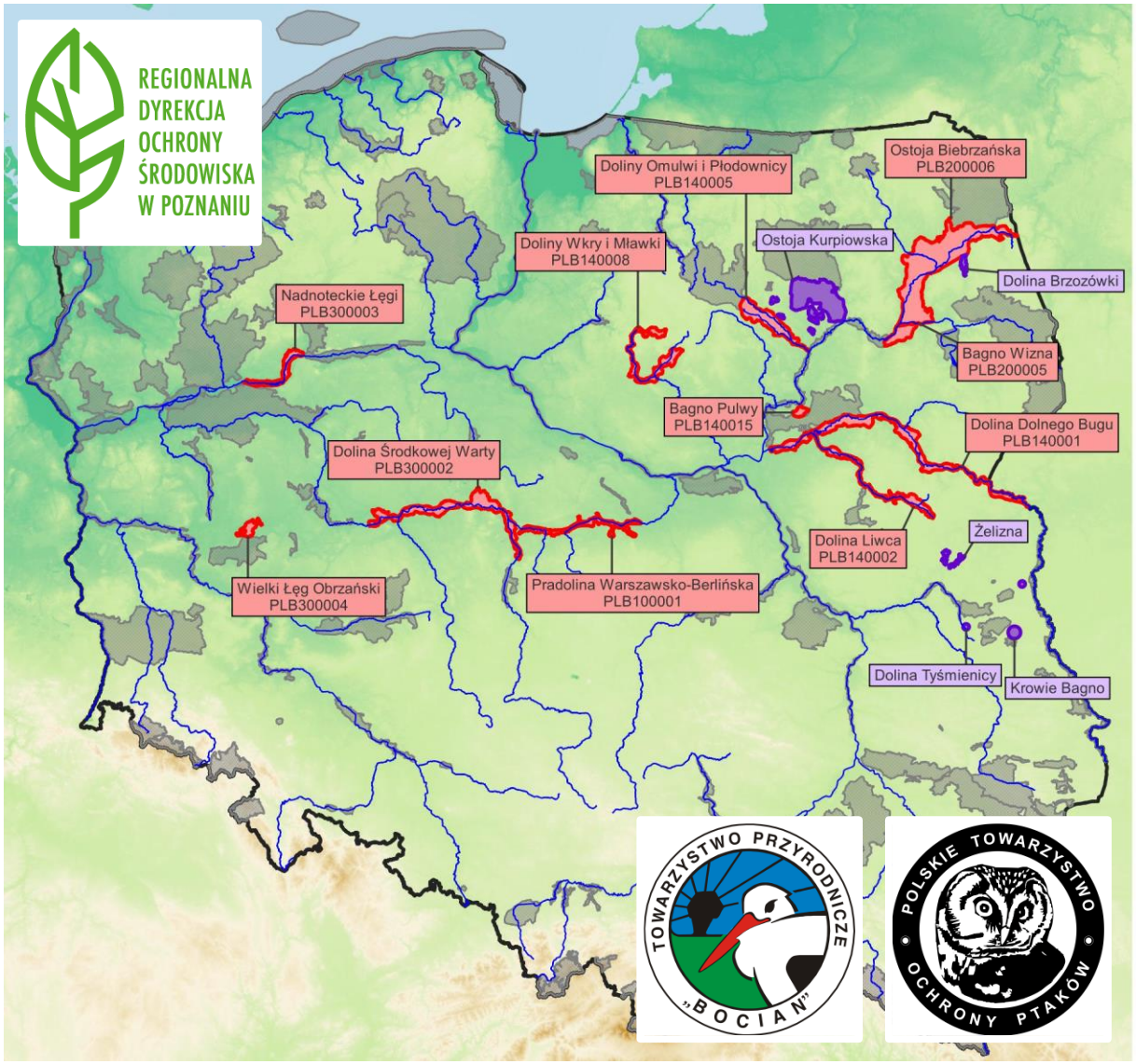
breeding
and
concentration [6]

concentration
on migration [7]

others [118]

NATURA 2000

Project locations in 2013-2022



main rivers

Natura 2000 sites Birds Directive [146]

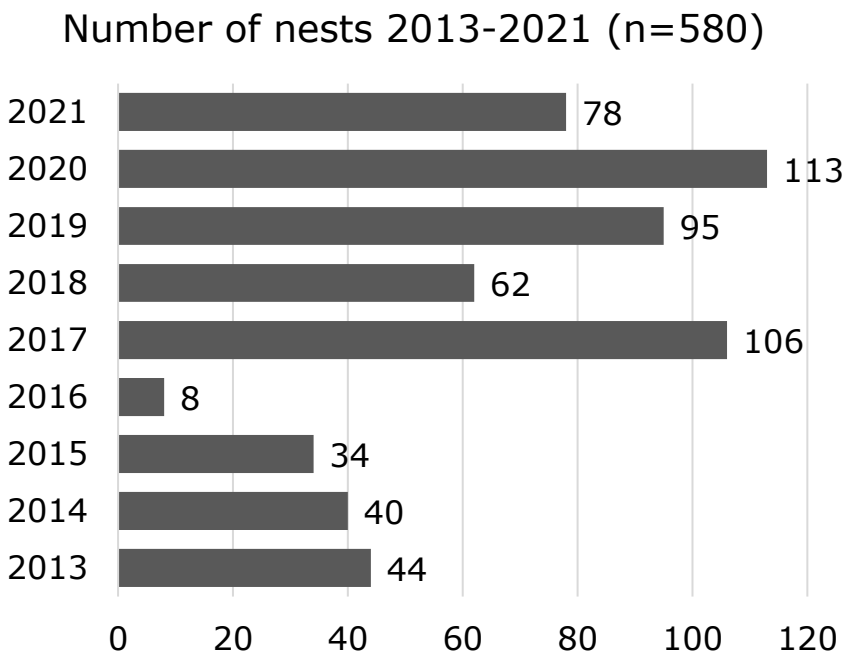
Project locations [17]

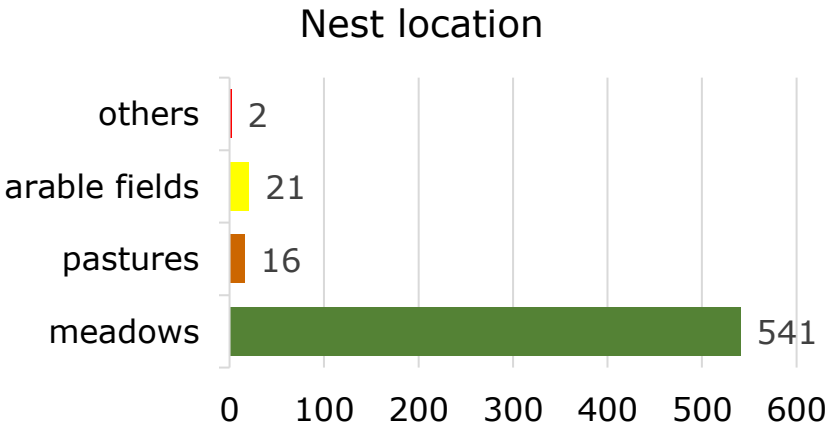
in Natura 2000 sites [11]

outside Natura 2000 sites [6]

ochronakulika.pl

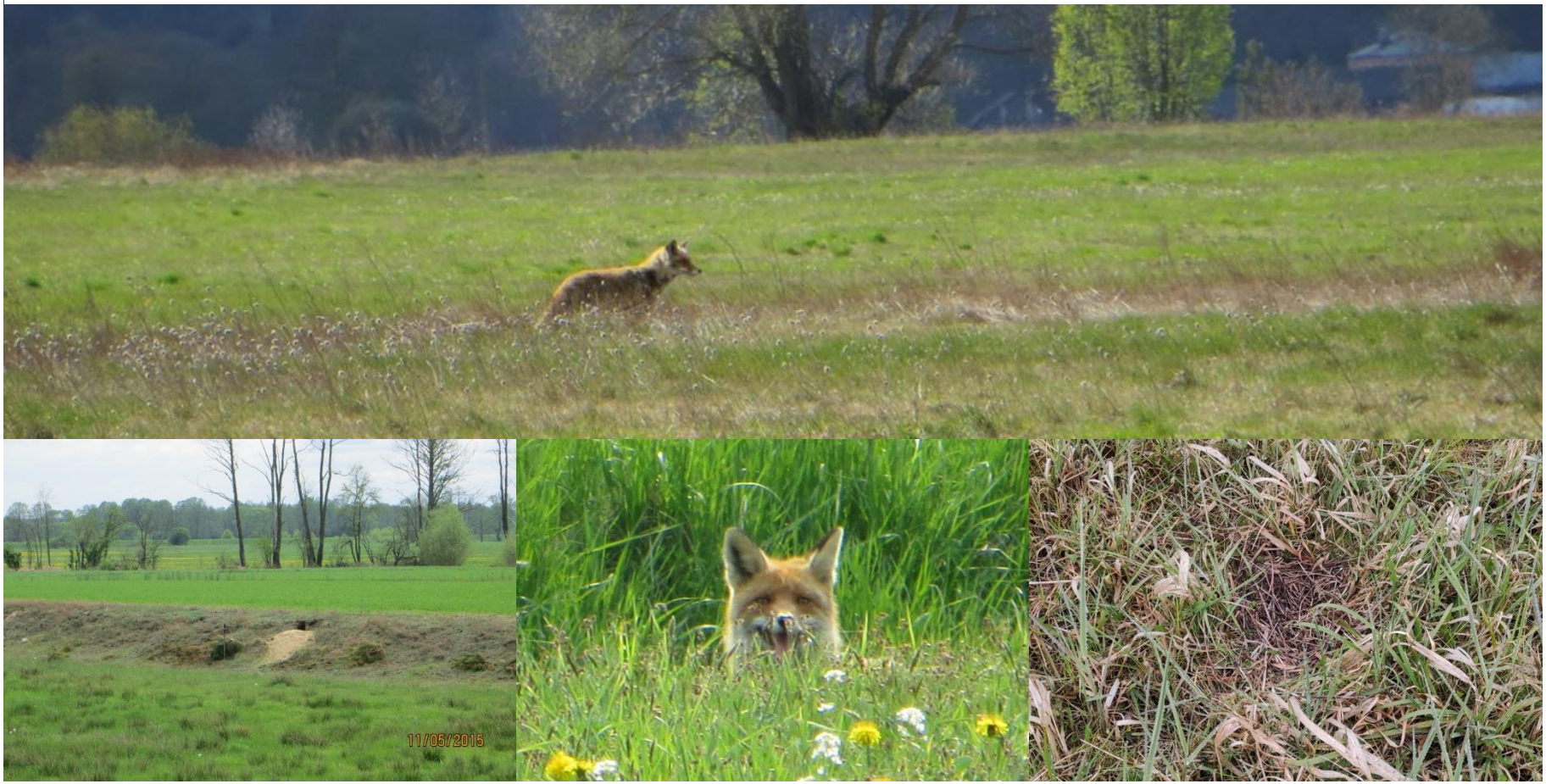
Breeding habitat





Main threats to nest and chicks - **Predators**

- Predatory mammals are the main threat to the nest and chicks. The red fox is the most common predator.
- In some places, the corvids are also a significant problem (hooded crow, raven).



Main threats to nest and chicks - **Agrotechnical works**

- Agrotechnical works such as hay mowing are the important threat to the hatchlings.
- Mowing is also a significant threat to the nests. Especially for late or repeated cluthes.
- Another threat to the nests are agrotechnical works performed before the first mowing such as rolling soil, sowing fertilizer, spreading slurry.

Threats to habitats - **meliorations**

- The ditches are frequently renewed by state-owned water management companies.
- Water gates are usually open, which causes unregulated the outflow of water from the wetlands, inlcuding Curlew habitats.
- In places most sensitive to dryness, we close the gates ourselves in early spring to keep the water.

Threats to habitats - **No longer used meadows**

Some meadows are no longer used.

Curlews do not forage and nest in such places.

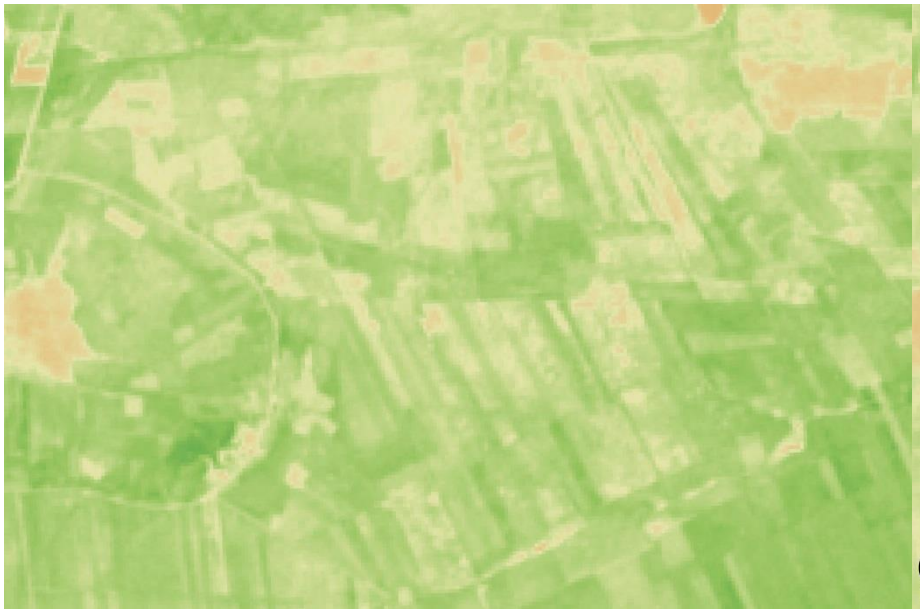
Single unused plots are not a significant problem.

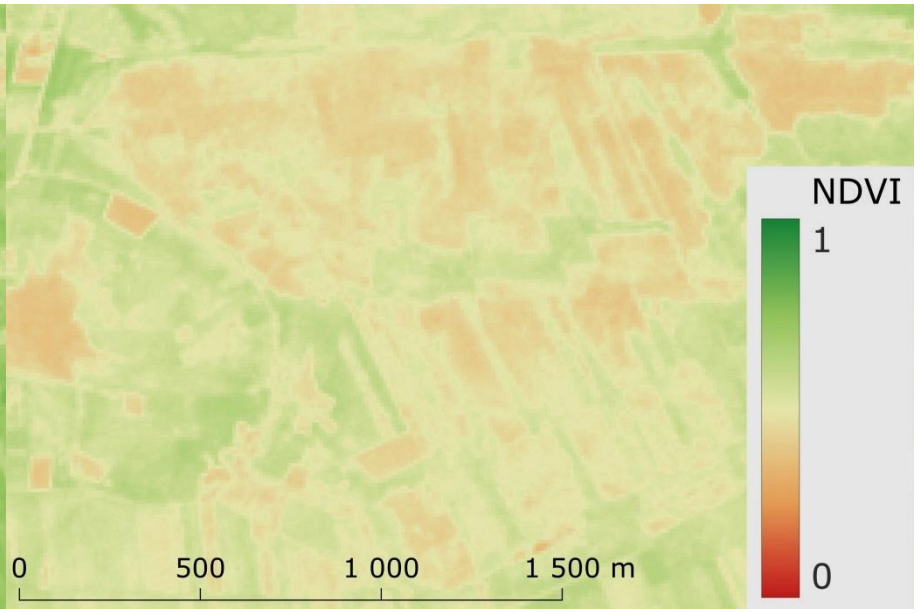
The problem occurs when the meadows are no longer used on a large scale.

Threats to habitats – **Large scale habitat loss**

2017 - 2 pairs
~30 ha not mowed in previous years

2021 - no Curlews
~150ha not mowed in previous years





Protection - nest searching

- The searching for curlew nests in Poland takes place from mid-April to mid-May.
- After finding the nest, the next step is to identify the owner of the plot on which the nest is located.
- The choice of the nest protection method is the decision of the ornithologist, who knows local conditions well.

Protection – electric fences

- Some of the nests are protected by an electric fence powered by acumulator.
- Fences can attract the attention of people and corvids.

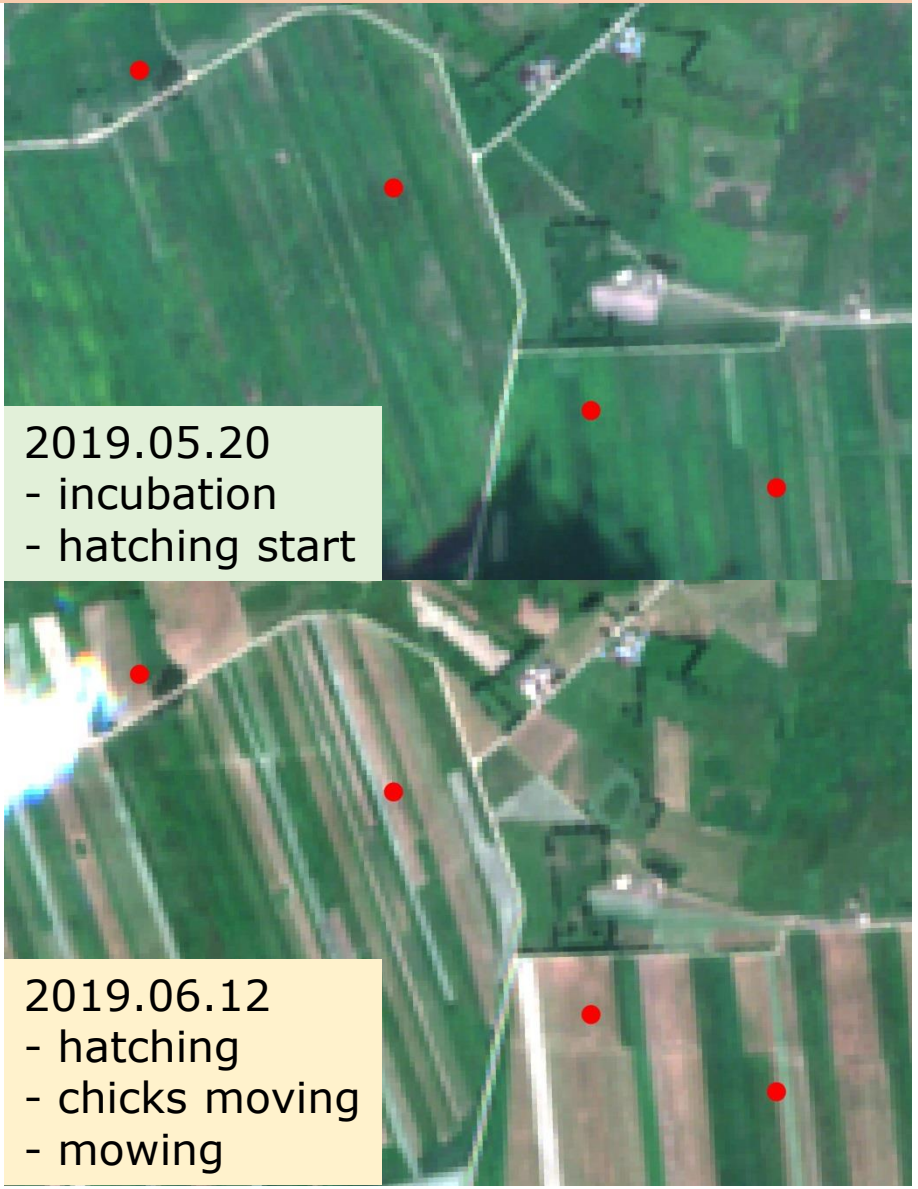
  It is not recommended to use fences if the nests are near roads, buildings and the crows and ravens territories.
- Fences are a good way to protect nests at the incubation period.

  The clutches survived until hatching in 72% of fenced nests (n=71)

  In non-fenced it was only 30% cluthes (n=509)

Fragmentation of agricultural plots - Polish protection problem

- Why we do not fence all nests?
- Narrow agricultural plots are a problem. Some plots are only a few meters wide.
- It is not possible to arrange a good mowing date near the nest with all the plot owners. Sometimes it can be several farmers.
- After hatching chicks may move to adjacent plot and quick die while mowing.
- Nests on wide plots are the best for fencing.



Fragmentation of agricultural plots

Headstarting – collecting eggs

- Eggs are collected from most nests and transferred to the incubators.
- At the beginning of the project, we took all the eggs from the nests and left the artificial wood eggs.

  We don't do that anymore because many adult birds did not accept artificial eggs. We don’t know why.
- We are currently collecting 2 eggs from the nests.

Headstarting – artificial incubation

- Collected eggs are placed in incubators, which automatically turn each egg and regulate heat and humidity.
- Newly hatched chicks spend few days under heat lamps.
- Then the chicks are transferred to the aviary.

Headstarting – aviary

- A few days old chick are placed in outdoor aviary where they grow up.
- The chicks are fed with special pellets for wading birds, worms and crickets.
- Their diet is supplemented with vitamins and trace elements.
- The chicks are under veterinary care.
- Chicks stay in aviaries for about 6 weeks. At this age, they can fly well.

Headstarting – back into the wild

- Curlew juveniles are released back into the wild in the breeding habitat in groups of few birds
- Between 2014 and 2021, 543 curlews were released.
- They were all ringed. 532 of them were also marked with a yellow flag.
- 14% individuals with yellow flag were resight at least once:
  - 15 in breeding habitas in Poland
  - 55 in winterings grounds in Western Europe
  - 5 in migration

Bird tracking

- We have equipped 11 adult birds with GPS-GSM loggers.

  We also tagged 38 juveniles with the GPS devices. Only 14 of them survived and started the autumn migration (37%).

- GPS tracks from migration were shared to researchers from Germany and France. The results of this collaboration is the article:

  Pederson R. et. al. 2022. Bird migration in space and time: chain migration by Eurasian curlew Numenius arquata along the East Atlantic Flyway. J. Avian Biol.

The National Action Plan for conservation of the Eurasian Curlew

- As part of the project, The National Action Plan for conservation of the Eurasian Curlew was prepared
- The document defines the strategy for the conservation of the Eurasian curlew in Poland
- In 2018, The Plan was approved by the General Director for Environmental Protection

Financial support

European Funds
Infrastructure and Environment

Republic of Poland

European Union
Cohesion Fund

Narodowy Fundusz Ochrony Środowiska i Gospodarki Wodnej

National Fund for Environmental Protection and Water Management

Wojewódzki Fundusz Ochrony Środowiska i Gospodarki Wodnej w Białymstoku

Regional Fund for Environmental Protection and Water Management in Białystok

WFOŚIGW
WOJEWÓDZKI FUNDUSZ OCHRONY ŚRODOWISKA I GOSPODARKI WODNEJ W LUBLINIE

Regional Fund for Environmental Protection and Water Management in Lublin

WFOŚiGW POZNAŃ

Regional Fund for Environmental Protection and Water Management in Poznań

Wojewódzki Fundusz Ochrony Środowiska i Gospodarki Wodnej w Warszawie

Regional Fund for Environmental Protection and Water Management in Warsaw