

A CRITIQUE OF A WHITE STORK FEASIBILITY REPORT

The reintroduction of White Stork (*Ciconia ciconia*) to Southern England

BACKGROUND

The White Stork Project involves private landowners and conservation organisations to restore a breeding population of at least fifty pairs in southern England by 2030. As White Storks were once regularly spotted around the south east of England, the plan to reintroduce them in Sussex aligns with historical records and sightings. Although lowland and agricultural areas below 700m are preferred they have been seen at locations more than 3500m above sea level, with grazed fields making it easier to locate and capture prey. Along with a suitable habitat, sufficient food sources are also a priority. As white stork are opportunistic feeders (small mammals, reptiles, insects, worms, eggs, carrion, seafood) it was important to recognise that there needed to be sufficient prey for the stork, while not impacting prey populations too drastically so other species will suffer.

THREATS

Threats to white storks in the UK include natural predators like large raptor species such as white-tailed eagles *Haliaeetus albicilla* (who are also being reintroduced to southern England) (Dementavičius et al., 2020). The project has introduced some flightless, rehabilitated individuals who will have additional predators such as foxes (*Vulpes vulpes*). With the storks size often deterring predators, it is more common for other animals to target the eggs. Unsuitable habitat provided as relocation areas, insufficient prey abundance, or nesting areas are other environmental threats.

REPRODUCTION

Breeding productivity is directly linked to prey availability and habitat quality, with chick survival rates dependant on weather and temperature. These requisites emphasise the importance of accurate habitat management plans being in place to improve the chances of the project's success. To avoid genetic bottleneck, it is important for the long-term survival of breeding populations in the UK to comprise of a suitable mix of donor individuals, the report discusses that a combination of captive bred and rehabilitated birds (wild birds that have been injured) will be used for the project (Gow et al., 2017).

This questions whether a formal consultation process should be compulsory to hear arguments for and against similar projects in the future. The reintroduction of white storks may be seen as important for the Knepp estate, but in a view shared with others, I feel that they maybe should not be allowed to freely determine what they do in regards to species introduction.

SUCCESS?

One of the individuals spearheading the project and key to the construction of the feasibility report, Derek Gow has said that those opposed are "a tiny minority of people who have looked at this project and got their knickers in a twist, at the end of it all, I don't care what they think." (The Debate Over Knepp's New Storks, 2020)

OTHER PROJECTS

With similar programmes occurring internationally, some issues were discovered. Due to harsh weather, it is necessary to supplement the stork's food over winter which questions whether the feasibility survey was correctly conducted. Studies also show that there is no guarantee that storks will return to their release site to breed, with French ornithologists estimating that only 5% of migratory storks will return to within 80km of their hatching location (Gow et al., 2017).



IMPACT

The feasibility report recognises that the reintroduction of white stork will initially have a negative impact on the local environment. Due to its long-term absence from the UK, other species have adapted to its absence and replaced the storks place in the food chain. The impact on regional food chains was considered in the feasibility study. While acknowledging there is no accurate method of quantifying what and how much prey will be required, it stressed the importance of collaborating with nearby landowners to establish habitat management practices to encourage prey availability year-round (Gow et al., 2017).

The location chosen for the reintroduction was supported by size and habitat type (wetlands and agricultural land encompassing more than 160,000ha). With pesticide use and wetland drainage a particular danger to habitat suitability, arable agricultural practices may have to be improved (White Stork Project, no date).

CHALLENGES

In order to conduct a thorough feasibility study, certain legislation is required to be met. The project studied followed the guidelines and scoring system detailed by AEWFA (African-Eurasian Migratory Waterbird Agreement) which compliments the IUCN guidelines adapted by JNCC in 2003 ('ts 49 _translocation_guidelines.pdf', 2012). Due to white storks being visitors to the UK, and the project being financed privately, there was no legal requirement to obtain a government license, yet it could have significant impact on the UK's biodiversity.

The report explains that any wild caught individuals imported from Poland will be transferred via Warsaw Zoo while adhering to various biosecurity measures. However, it goes on to state that these individuals will not be released, and will be retained in captivity to produce individuals for release (Gow et al, 2017). Although legally abiding, ethically there may be questions raised to the capture and farming of wild birds.

Under the IUCN Guidelines for reintroduction any translocation should improve the conservation status of a species by:

- 'Enhancing long term survival of the species in the wild'

White storks are not endangered in the wild and are within the class of 'Least Concern' on the IUCN Red List as of 2016, with a population trend on the increase (The IUCN Red List of Threatened Species, no date).

- 'Maintain or re-establish a keystone species'

White storks are not defined as a keystone species within the UK.

- 'Maintain or restore natural biodiversity'

White storks are described as a top wetland predator, which the removal of may cause negative effects on local biodiversity.

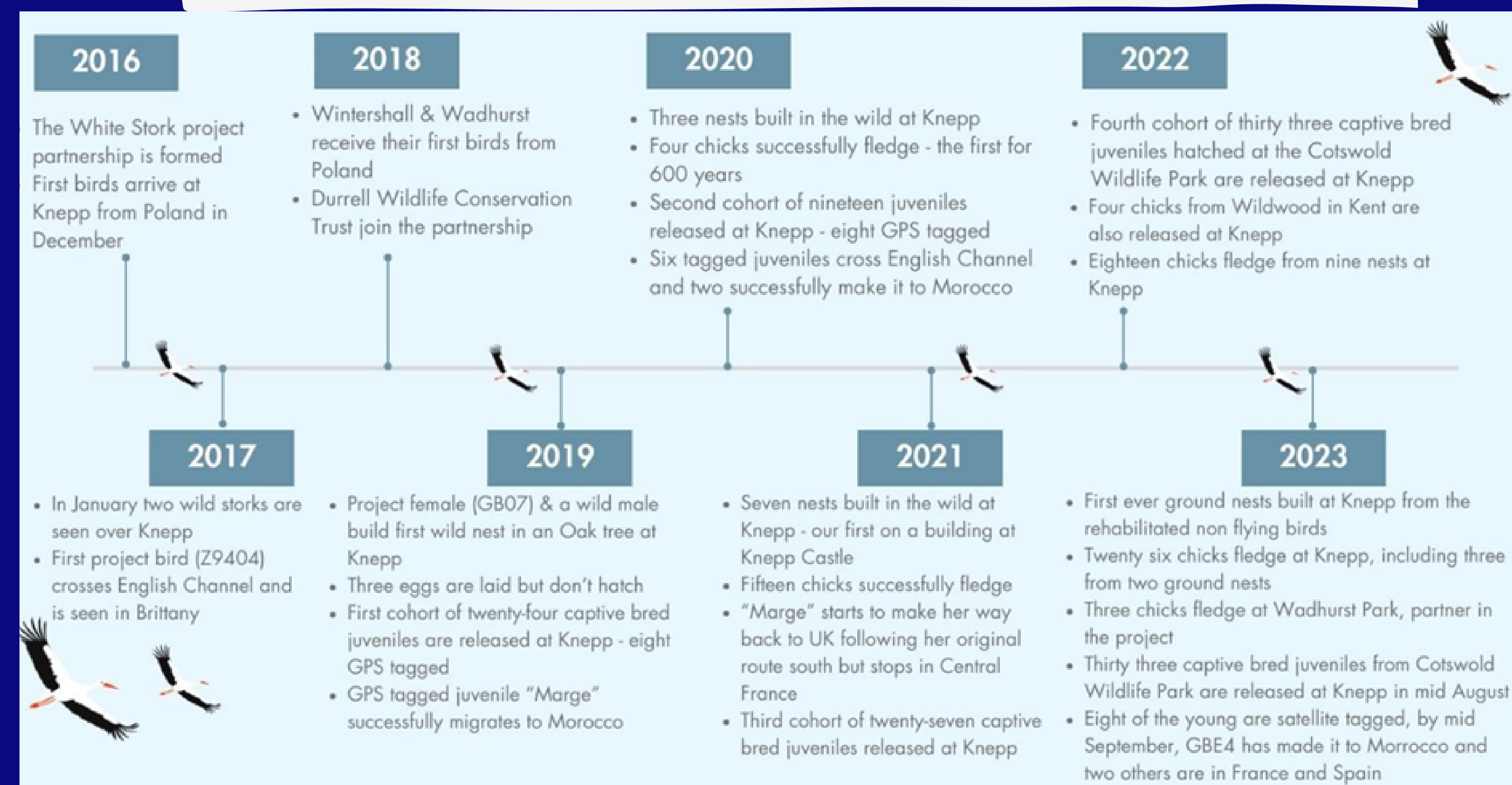
- 'Provide long-term economic benefits to local or national economy'

Potential to create avitourism based around white storks has been demonstrated in Poland, however this refers to a village that habits a breeding colony with approximately 20-40 stork nests (Czajkowski et al., 2014). This may be difficult to replicate in Sussex due to the location selected. The example in Poland was a village chosen by storks to breed, not a location chosen by humans to settle. Small birdwatching stations may be achievable to construct as demonstrated in many wildlife reserves in the UK without damaging the natural habitat too excessively, but in my opinion, this would not be a major contributor to 'long-term economic benefits to the local economy.'

- 'Promote conservation awareness'

The white stork itself does not promote conservation awareness. As they are generally charismatic, social birds known for noisy courtship displays (White Stork Project, no date), it could be said that they have built a reputation of entertainment in the way that could raise awareness of conservation to the average onlooker. In the same way a lion being the main attraction in a zoo promotes conservation awareness.

With white storks meeting only the biodiversity improvement requirement of the IUCN guidelines, how the project gained approval has to be questioned. While I appreciate the white stork contributes to biodiversity when present, keystone species, such as the beaver could be focussed upon and prioritised instead.



RISKS

White storks are susceptible to various avian diseases such as avian flu and West Nile Virus, and are carriers for other bacteria and endoparasites. These can be passed on to other species of bird/mammal via ingestion, contact with faeces, hence a general health assessment is suggested to be undertaken on any individuals planned to be used for breeding / released.

Socioeconomic risks raised include individuals attempting to nest on electricity pylons / substation infrastructure and the potential hazard caused to aircraft.

Concerns were addressed in the study with personal communication with Gatwick Airport, and overseas studies in Switzerland, Hungary and Spain were used, with pylon location and design appearing to effect mortality rate percentage. With wind farms on migration routes cited as another concern, the increase of wind turbine construction in the UK both on and offshore inevitably means that some will be located on migration routes. Although collisions are rare, the UK's net zero commitments will be prioritised and unfortunately contribute to white stork mortality rates.

The nest building attributes of the white stork involves the creation of nests 2m – 3m wide, and in populated areas are often causes of friction with humans.

Blockage of chimneys, intrusion, an average area of 10m² below the nest covered in droppings can all lead to public opposition to introduction projects (Gow et al, 2017).

DONOR POPULATION

With donor populations sought from breeding centres in the UK and Poland the migration routes to be taken by these birds are unknown. As seen in the diagram below, birds from the east follow one route while the others follow another and have been mixed during previous re introduction projects elsewhere. Holding bird's captive for three years is said to remove migratory urges which is an unnatural behaviour for the storks, and they cannot therefore be described as a natural, reintroduced population (Flack et al., 2016).

Up to 60 birds will be imported from Warsaw Zoo or French breeding centres in Alsace for a minimum of five years. While storks average a clutch of 3-5 eggs per year, survival depends heavily on climatic parameters (Gow et al., 2017). Unable to locate information on the white stork population at either facility, it is unknown whether they would be able to satisfy a commitment of 60 birds per year. More importantly, when do you stop importing birds, what is the objective population size?

Interestingly, the 'do nothing' scenario outlined in the study, mentions that it is unlikely that without active intervention, white storks will re-establish themselves in the medium-term. The report does not mention or estimate the success of a long-term 'do nothing' scenario, the results of which could make the project redundant.

CONCLUSION

The feasibility study for the white stork is clearly formatted, comprehensive, yet contains a strongly biased viewpoint in favour of the reintroduction project. While all legal requirements have been met, ethical questions still remain.



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