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VKM assessment:

Non-detriment finding for osprey

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Scientific name: *Pandion haliaetus* (Linnaeus, 1758)

Common name: Osprey

Norwegian name: Fiskeørn

Type of permit: CITES Appendix II (Norwegian CITES Regulation Annex 1, list B)

Country of Export: Norway (NO)

Country of Import: Ireland (IE)

Purpose and source: The proposal concerns the export of up to 16 live, wild caught (source code W) osprey fledglings from Norway (Norwegian Institute for Nature Research) for reintroduction (purpose-of-transaction code N) to Ireland (National Parks and Wildlife Service). The application to collect osprey nestlings from the wild pertains to year 2 of a planned 5-year reintroduction program. The specific area for collection is Trøndelag County, which has a population of c. 35 breeding pairs of osprey. This population in Trøndelag is part of a Norwegian-Swedish population that consists of about 2000 pairs in Sweden and 400-600 pairs in Norway.

For Appendix II species (Norwegian CITES Regulation Annex 1, list B) it is required to establish that exports are not detrimental to the survival of wild populations, in compliance with CITES Article IV.

VKM has adopted the definition of detriment, cf. Conf. 16.7 (Rev. CoP17) suggested by the U.S Fish and Wildlife Service Division of Scientific Authority:

1. Harvest that is not sustainable.
2. Harvest that harms the status of the species in the wild.
3. Removal from the wild that results in habitat loss or destruction, or that interferes with recovery efforts for a species.

Conclusion

This NDF concerns collection of osprey nestlings from a local population of c. 35 breeding pairs in Trøndelag where there is no indication of population decline. This population in Trøndelag is part of a Norwegian-Swedish population that consists of about 2000 pairs in Sweden and 400-600 pairs in Norway. Moreover, the continuous population in Sweden is the largest in Europe. Based on the data presented in the application and the assessment of overall data, VKM concludes that the proposed export of a maximum of 16 osprey nestlings from Norway to Ireland for reintroduction purposes **will not be detrimental** to the survival of the species in the wild.

1. Biological information

Distribution

Global

The osprey is a cosmopolitan bird species, distributed over all continents except Antarctica (Poole, 1989). Osprey habitats vary greatly, with different requirements between summer breeding habitat and winter non-breeding habitat (Bierregaard et al., 2020). Habitat requirements for breeding include i) adequate supply of accessible fish within energetically adequate commuting distance (10-20 km) of nest; ii) open nest sites free from predators (especially mammalian), for example trees, large rocks, or increasingly, artificial structures such as nest platforms, towers supporting electrical lines etc.; and iii) ice-free season of sufficient duration to allow fledging of young (Bierregaard et al., 2020).

Northern populations migrate south to overwinter in subtropical and tropical regions. They return north each spring with warmer temperature and more accessibility of fish. A migrating osprey, nesting in the northern region and overwintering in the south, can fly more than 200,000 km during its lifetime (Bierregaard et al., 2020). Birds begin migrating to lower latitudes in August, arrive at wintering grounds by October, and return in March and April (Ferguson-Lees and Christie, 2001). Ospreys are generally solitary and migrate alone but may congregate in small groups in roosting areas or where food is abundant (Ferguson-Lees and Christie, 2001).

Norway

The osprey is mainly distributed in the south-eastern parts of Norway, although small breeding populations are also found in the counties of Rogaland, Innlandet, Finnmark and in Trøndelag. The osprey distribution corresponds to a large extent with the distribution of fish species such as perch (*Perca fluviatilis*), pike (*Esox lucius*), white fish (*Coregonus lavaretus*), grayling (*Thymallus thymallus*) and burbot (*Lota lota*) (Nordbakke, 1994).

Ospreys breeding in northern Europe migrate south through Europe along three main flyways to wintering areas in tropical Africa (Østnes et al., 2019 and references therein). Norwegian birds migrate to Central and West Africa (Østnes et al., 2019). Marked birds from the Finnmark population are also considered part of the shared population with Finland, and these birds have been found further east in Africa than the birds marked in central and south Norway (Bakken et al., 2003 cited in Shimmings and Øien, 2015).

Life history

Ospreys are long-lived birds, with individuals reported to be alive and breeding at 25 years of age (Bierregaard et al., 2020). Reproduction starts at around age three (Bierregaard et al. 2020, and references therein). The species breeds annually; however, studies have found that individuals differ greatly in the production of fledglings; 22% of egg-laying females and 12% of males with egg-laying mates produced no young during their lifetime (Postupalsky, 1989b in Bierregaard et al.,

2020). Breeding pairs lay one to four eggs per nest, with three as the average, and one considered rare. There is a clear latitudinal trend with southern populations producing significantly smaller clutches than northern ones (Bierregard et al., 2020). When food is limited, older nestlings are often aggressive toward younger siblings, which often starve to death or are killed by the older ones(s) (Bierregard et al., 2020). Ospreys are philopatric, and most birds return to their natal area to breed, although males more so than females (Bierregaard et al., 2020 and references therein).

Role in the ecosystem

Ospreys are predators that feed mainly on live fish (Bierregaard et al., 2020).

2. Population trend

The global population size of ospreys is highly uncertain and has been estimated to somewhere between 100,000 and 1,200,000 individuals (BirdLife International, 2023). The species' total population trend is estimated to be increasing, as is the European population (BirdLife International, 2023).

According to the Norwegian Red List of Species (Stokke et al., 2021), the Norwegian breeding population was estimated at 150-200 breeding pairs in 1991, followed by an increase in population size until 2014. The Norwegian breeding population in 2015 was estimated at 800-1,200 individuals and assessed to be increasing (Shimmings & Øien, 2015). However, Stokke et al. (2021) describe declines in a local population in Buskerud in 2011-2015, and in parts of Telemark in recent years, compared to the 1990s.

3. Conservation status

The osprey is categorized as Least Concern (LC) in the IUCN Red List of Threatened Species due to its large geographical range and seemingly increasing population trend (BirdLife International, 2021a).

The osprey is categorized as Least Concern (LC) in the European Red List of Birds 2021 (BirdLife International, 2021b) with an estimated population size in the range of 19,200-27,100 individuals with 23,000 individuals as best estimate. The population size is assessed to be increasing.

The osprey is classified as Vulnerable VU in the 2021 Norwegian Red List for Species (Stokke et al., 2021), whereas it was classified as Near Threatened (NT^o) in 2015 and 2010. The reason for the change in category from the Red List 2015, was a revision of the downgrading rules and a documented decline in subpopulations in southern Norway. The Norwegian population is contiguous with the Swedish one, which is estimated at approx. 8,200 individuals and has been increasing over the past three generations but been stable over the past 10 years (Green et al., 2020; SLU Artdatabanken, 2020).

4. Threats

Historically, human persecution was the main threat to osprey populations (BirdLife International, 2023). Ospreys are vulnerable to acid rain (which has negative impacts on fish populations) and are also easily exposed to agricultural pesticides, fertilisers, and heavy metals in water sources (Heggøy and Øien, 2014), which may affect reproduction (Bierregaard et al., 2020).

Migrating birds are also vulnerable to shooting, for example if they stop at fish farms (Bierregaard et al., 2020; Østnes et al., 2019). Moreover, ospreys are highly vulnerable to the effects of wind energy development (Birdlife International, 2023).

Threats to ospreys in Norway include acid rain, pesticide use, illegal killing, collisions with powerlines/electrocutions, collisions with aircrafts, and drowning in fishing nets (Shimmings and Øien, 2015). In addition, disturbance at the nesting site, predation (especially by pine marten (*Martes martes*)), felling of nest trees, and competition with white-tailed sea-eagles (*Haliaeetus albicilla*) are mentioned as negative influencing factors on the Swedish population by SLU Artdatabanken (2020).

5. Conservation and Management measures:

International legislation

In 1979, *P. haliaetus* was included in CITES Appendix II, as a part of the listing of Falconiformes spp. In 1997, it was listed in Annex A of the EU Wildlife Trade Regulations.

P. haliaetus has been included in Appendix II of the Convention on the Conservation of Migratory Species of Wild Animals (CMS) since 1979.

The osprey is also included in Annex I of the EU Birds Directive and is thus considered a priority species for conservation along all of its distributional range.

National legislation

The osprey has been protected by law in Norway since 1962 by a decision made in accordance with the Nature Conservation Act of 1954 and is currently protected under the Wildlife Act (Lovdata, 1981) and the Nature Diversity Act (Lovdata, 2009).

Conservation measures

Reintroduction programmes

Historically, ospreys have been threatened by human persecution, egg collection, and pesticide use, all which led to a significant reduction in numbers and local extinctions in parts of its range (BirdLife International, 2023).

Reintroduction is a common conservation strategy for ospreys and is used to enhance local populations or reintroduce new populations to historical habitat. The reintroduction programmes generally use a technique known as "hacking", developed for peregrine falcon (*Falco peregrinus*) as well as for other raptors. Nestlings are moved from established populations to an artificial structure in the target area, and

food is provided for the young birds as they learn to fly and hunt (Poole 1989a cited in Bierregard et al., 2020).

There are several examples of successful osprey reintroduction programs from several countries: e.g., Great Britain (Leicestershire and Rutland Wildlife Trust and Anglian Water, 2008), USA (Rymon, 1989), Spain (Generalitat Valenciana, 2022), Portugal (Palma et al., 2013), Italy (Monti et al., 2014). There are also ongoing re-introduction projects in Switzerland (Strahm & Landenbergue, 2013, 2022) and France (Duncan Halley & Torgeir Nygård, in an e-mail to the Norwegian Environment Agency, 14.3.2023). These projects have resulted in recolonization of areas where the osprey was once common and abundant, but had been extirpated.

This NDF concerns the collection of up to 16 chicks from a population of c. 35 pairs of territorial ospreys in the former Nord-Trøndelag County, for the purpose of re-introduction to suitable habitats in Ireland. Collection of chicks will be distributed among nests with 2-3 nestlings, ensuring that a minimum of one live nestling will remain in each nest.

6. Trade/use

Legal

The CITES Trade Database provides the official trade records as reported by Parties to CITES in their annual reports. Focusing on wild-caught osprey specimens (source code W) from all countries, the reported trade in the period 2000-2023 amounts to 670 specimens in total.

The purpose-of-transaction categories comprise Scientific (S) with 434 specimens, Reintroduction (N) with 168 specimens, Commercial (T) with 53 specimens, Personal (P) with 13 specimens and Educational (E) with 2 specimens. The trade term categories comprise specimens (440), live (176), eggs (26), bodies (13), skins (7), feathers (5), and claws (3).

Illegal

The amount of illegal trade is not known.

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