

Vulture Conservation Foundation

Tender for: **Ecosystem Services Quantification expert**

Job Title

Ecosystem Services Quantification expert

Overall Purpose

To develop **four studies** to quantify the **contribution of Vultures to the ecosystem services** in three LIFE project study areas (i.e., Portugal-Spain border, Kvarner Islands in Croatia, and Bulgaria-Greece border) and at the European scale.

- **Coordinator:** [Vulture Conservation Foundation](#) (VCF)
- **Budget:** Max. 15 000 euros, all costs and taxes included
- **Place of work:** Remote
- **Duration:** One year from the beginning of the contract (deadlines detailed below)
- **Expected start date:** 1st August 2024

Background

Vultures such as the Bearded Vulture (*Gypaetus barbatus*), Griffon Vulture (*Gyps fulvus*), Egyptian Vulture (*Neophron percnopterus*), and the Cinereous Vulture (*Aegypius monachus*), play key roles in the regulation of ecosystems, as they are obligate scavengers adapted to locate and consume quickly large amounts of carrion derived from animal carcasses. By doing so, they provide important ecosystem services, including nutrient recycling, removal of soil and water contaminants, and regulating the spread of diseases in the environment and of populations of facultative scavengers such as foxes. Previous studies have shown that carcass consumption by vultures reduces the need of collecting and transporting livestock carcasses to incineration plants, thus contributing to reducing greenhouse gas emissions and economic costs. Additionally, vultures provide cultural and spiritual services, and recreational services in the form of ecotourism. It is therefore widely accepted that the extinction or decline of vultures could cause a suite of negative effects on ecosystem function and human well-being and entail increased financial costs.

The [Vulture Conservation Foundation](#) (VCF) is a leading international foundation committed to the conservation and re-establishment of European vultures. The VCF has extensive experience in captive breeding, reintroduction, restocking and conservation of vultures in their natural habitats. These four studies will contribute to improving the understanding of the benefits of the vulture species for the functioning of ecosystems and human well-being, from the local to the European scale. The results will help raise the profile of vultures among the public, stakeholders, and decision-makers, thus strengthening support for ongoing and future conservation actions across Europe.

Details of the study areas and target species

Study 1 - LIFE Aegyptius return (portuguese-spanish border)

Target species: Cinereous Vulture, Egyptian Vulture, Griffon Vulture

Study area: Portuguese-Spanish border (50km to each side)

Description of the LIFE project: The LIFE Aegyptius Return project aims to consolidate and expand the Cinereous Vulture population in Portugal and Western Spain. Initiated in 2022, the project focuses on improving habitat and foraging conditions, minimizing threats, and developing capacities. The actions are expected to also benefit other species, the Griffon Vulture and the Egyptian Vulture, which also occur in the area. Co-financed by the European Union's LIFE Programme, the project is led by the VCF in collaboration with various local partners, mostly in Portugal. The project takes place in 10 Natura 2000 Special Protected Areas of Portugal and Spain. The main objectives are:

- Double the breeding population in Portugal to at least 80 pairs in 5 colonies by 2027.
- Increase breeding success, enhance connectivity, and improve the conservation status of the Cinereous Vulture.
- Establish new breeding colonies and increase resilience to climate change.
- Mitigate threats, including lead exposure, poisoning, nest disturbance, forest fires and electrocution.
- Improve capacities to combat illegal wildlife poisoning and raise awareness among stakeholders.

Study 2 - LIFE SUPport (Kvarner Islands, Croatia)

Target species: Griffon Vulture

Study area: Kvarner Islands and Učka Nature Park, Croatia

Description of the LIFE project: The project LIFE SUPport aims to improve breeding and survival conditions for the last remaining population of Griffon Vultures in the Kvarner Islands, Croatia. By tackling the most important threats on their breeding grounds, the current population of 110-130 Griffon Vulture pairs will continue to survive and possibly increase in number, which is an important first step for the species to re-colonize their historical breeding ranges on the Croatian mainland and connect to other populations in the Alps and Balkans. The most important threats targeted by this project are nest disturbance, lack of food, poisoning and electrocution. The islands of Cres, Krk and Rab are the largest of the Kvarner Islands where the project takes place. The main objectives of the LIFE project are:

- Reducing nestling mortality by minimizing nest disturbance and by improving the rescue and rehabilitation operations of the Beli Rescue Center for Griffon Vultures.
- Increasing food availability for vultures by improving and expanding the existing network of managed feeding stations and by increasing natural feeding opportunities.
- Prevention of poisoning events by exploring best preventive measures to avoid the use of poisoned baits, by promoting the use of lead-free ammunition and by capacity building of relevant enforcement agencies for combating illegal wildlife poisoning.
- Reducing mortality arising from electrocution by applying appropriate mitigation measures on the most important electrocution hotspots.
- Promoting Griffon Vultures and raising awareness of their threats and needs to local stakeholders, the wider public and government bodies

Study 3 - LIFE Rhodope vulture

Target species: Griffon Vulture, Cinereous Vulture

Study area: Rhodope mountain range, along the Bulgarian-Greek border

Description of the LIFE project: The project LIFE Rhodope vulture focuses on the recovery of the Cinereous vulture along the vast cross-border Rhodope mountains area. In the Balkans, the species counts with only 32 breeding pairs in one colony in Greece, and three pairs that were recently reintroduced in Central Bulgaria. This small population is exposed to high non-natural mortality which threatens its long-term survival. The project intends to use a holistic approach in addressing the anthropogenic threats, improving the ecosystem and trophic chain and benefiting a top scavenger. The main objectives of the LIFE project are:

- Reducing mortality due to illegal poisoning by boosting the anti-poisoning work in Greece, including anti-poisoning actions in the daily work of the state forest services and creating joint dog patrols with NGOs and hunters.
- Increasing the natural food availability, through reintroduction of deer, increasing of semi-wild horses, and implementing non-fenced feeding areas managed by farmers.
- Reduce other key threats, such as lead intoxication and collision with wind farms, and mitigate the effects of the large wildfire that destroyed a large part of the Greek breeding colony in 2003.

Study 4 – European-scale study

Target species: Griffon Vulture, Cinereous Vulture, Egyptian Vulture, Bearded Vulture

Study area: all countries in Europe where these species occur

Outline

The project will use quantitative and qualitative methods to **assess the contribution of Cinereous Vultures and/or Griffon Vultures on ecosystem services** at the current, end-of-project, and target population sizes at the 'local level' in three study areas (i.e., Portugal-Spain border, Croatia, and Bulgaria-Greece border) and at the 'European level'. To ensure consistency with the national and EU frameworks, ecosystem services will be assessed in accordance with the MAES Framework (Mapping and Assessment of Ecosystems and their Services), considering the guide [Assessing ecosystems and their services in LIFE projects](#), adapting it to the local level if needed.

For each study area, the hired expert will develop a **conceptual model** demonstrating how each target Vulture populations interact with the local environment and human activities, and how these interactions could potentially contribute to local ecosystem services and human well-being, were their populations fully restored. For each study area, the following **ecosystem services** must be addressed:

1. **Quantification of carrion consumed** by target Vulture species in each study area (including carcasses of wild animals, and livestock carcasses left in fields by farmers and at supplementary feeding sites) at the corresponding current, end-of-project, and target population sizes.
2. Quantification of the **economic value** of target Vulture species at current, end-of-project, and target populations, regarding the consumption of livestock carcasses left in the fields by farmers compared with the collection and transport of carcasses to supplementary feeding sites, and to processing plants for incineration.
3. Quantification of the **carbon emissions saved** by target Vulture species current, end-of-project, and target populations, regarding the consumption of livestock carcasses left in fields by farmers compared with natural decomposition, and with the collection and transport of carcasses to supplementary feeding sites, and to processing plants for incineration.

4. Quantification of the potential **economical contribution** that restored populations of target Vulture species would have on the ecotourism industry in each study area.

Main steps and tasks

The hired expert is expected to perform the following tasks:

Data search and information collation: Review and collection of data relating to biomass, distribution, mortality patterns, and carcass disposal practices for livestock and wildlife species that are potential food for the target vulture species to enable the estimation of carrion availability in each of the four study areas. Review and collection of data relating to the ecotourism sector (e.g. visitor numbers and primary attractions/activities/motivations) for the four studies. Identification and access to relevant data from the local-level studies will be supported and facilitated by the VCF (in cooperation with the partners of each LIFE project and local authorities).

Development of Conceptual models: Existing evidence and previous studies will be used to inform the development of a conceptual model for each study, using standard guidelines to demonstrate how the different Vulture species could potentially interact with the environment and human activities in the study area and how these interactions would influence ecosystem services and human health.

Quantification of carrion consumption and the role of vultures in carcass disposal, energy transfer, and nutrient recycling: previous studies have demonstrated that vultures provide an efficient, cost-effective and environmentally beneficial carcass disposal service which is positively valued by livestock farmers. This aspect of the project will quantify how much carrion each Vulture species would consume at different population levels (i.e., current, end-of-project, and target) in each study area, and how this could provide environmental and economic benefits compared to existing livestock disposal practices. Furthermore, the effect on reducing emissions and costs due to direct feeding of vultures with livestock carcasses left in the fields by farmers, compared with removal and transport of carcasses to feeding stations and incinerators.

Estimating the potential contribution to ecotourism: Previous studies have shown that vultures can provide a major attraction to ecotourists and photographers with significant benefits for local stakeholders. Using existing data on ecotourist numbers in each study area and existing studies on tourist perceptions of vultures, an estimate will be calculated for the potential contribution (qualitative and quantitative) of restoring the populations of Cinereous Vulture and/or Griffon Vulture for ecotourism in each study area.

Writing of reports: Four reports and corresponding laypersons' summary will be written to present the main results of each study – i.e., three local level studies and the European study. A first draft of each report will be revised by the VCF team and respective project partners and subject to improvements.

Deliverable deadlines

Study 1 - LIFE Aegyptus Return (Portuguese-Spanish border)

- Deadline for delivering the first report draft: *November 30th, 2024*
- Deadline for delivering the final report: *December 16th, 2024*

Study 2 - LIFE SUPport (Kvarner Islands, Croatia)

- Deadline for delivering the first report draft: *November 30th, 2024*
- Deadline for delivering the final report: *December 27th, 2024*

Study 3 - LIFE Rhodope vulture (Bulgarian-Greek boarder)

- Deadline for delivering the first report draft: *June 27th, 2025*
- Deadline for delivering the final report: *July 31st, 2025*

Study 4 - European study

- Deadline for delivering the first report draft: *June 27th, 2025*
- Deadline for delivering the final report: *July 31st, 2025*

Guidelines for proposal submission

Interested experts should submit their detailed proposals through a Google form. The proposal should include:

- Cover letter with description of experience on the assessment of ecosystem services
- Curriculum Vitae
- Budget
- Portfolio including authored reports or papers on similar topics

Submission deadline: 21st July 2024

Contact for more information: João Guilherme - j.guilherme@4vultures.org

Submission format: please use this [Google form](#)

Terms and conditions

The candidates for Ecosystem Services expert tender are expected to agree with the following Terms and Conditions:

General

The Vulture Conservation Foundation (VCF) is the coordinating entity for the four studies. The selected expert agrees to produce four reports in line with the four projects' objectives. The reports are to be written in English.

For the duration of the Term the expert shall be an independent contractor and not a servant of the VCF, and in such capacity it shall bear exclusive responsibility for its social security liabilities in his country of origin as a self-employed person and for the discharge of any income tax or other tax liability arising out of a remuneration for the work performed.

The selected expert agrees to provide regular updates on the progress of the work to the VCF.

Authorship and rights

All data collected, processed and/ or compiled under this work shall be and remain the property of the VCF.

Due authorship to the expert will be ensured in any report or publication.

The hired expert will not use the data or results of these studies for any other purpose of the ones mentioned in this tender without a written consent from the VCF.

Termination

The VCF reserves the right to terminate the agreement with the expert if there is a breach of the terms and conditions outlined herein.

By participating in this tender, the expert acknowledges and agrees to abide by these terms and conditions.