Assignment

to select a supplier for GPS/GPRS transmitters for tracking of vultures by "Bright future for the Black Vulture" Project LIFE14 NAT/BG/649 and WFN Continuation funded grant "Saving the last vultures in Balkans introducing Vulture Safe Areas as a model for scavengers conservation in the Anthropocene".

I. Background

Fund for Wild Flora and Fauna, as Associated beneficiary (shortly called here "The Assigner"), in the project LIFE14 NAT/BG/649 "Bright future for the Black Vulture" and a coordinating beneficiary in the project "Saving the last vultures in Balkans introducing Vulture Safe Areas as a model for scavengers conservation in the Anthropocene" is assigning GPS/GPRS transmitters supply to implement tracking of vultures.

The projects aim to restore the Eurasian Black Vulture (*Aegypius monachus*) in the Balkan Mountain and the Struma Valley, as well as boosting the newly established population of the Griffon Vulture (*Gyps fulvus*) in the target areas. Improvement of nesting and foraging habitat, as well as addressing and mitigating the threats is also foreseen. To reach these goals the Project partners will work to: 1. Reestablish the locally extinct Black Vulture as breeding species in Balkan Mountain and Struma Valley, by import and release of more than 48 birds; 2. boosting the population of the Griffon Vulture through import and release of more than 60 birds; 3. improving the nesting conditions; 4. improvement of the food base through encouraging extensive livestock breeding and wild ungulates restocking; 5. decreasing the risk of poisoning and electrocution; 6. increasing the capacity on national and local level for reintroduction programs for locally extinct species; 7. experience exchange between Bulgarian and International conservation institutions and partners; 8. Use the tracked vultures data to identify vulture areas and to classify them as Vultuer Safe Areas (VSA) or Vulture Ecological Traps (VET) and to propose conservation measures; 9. Use the tracked vultures for direct monitoring of poison and poaching by intensive high-definition GPS tracking and in-time reactions in the field.

II. Justification

Due to the Kresna poisoning incident when over 30 Griffon Vultures got poisoning in the spring of 2017 and Vratsa poisoning incident in September 2019 with about 15 vultures poisoned, as well as for the successful implementation of the activities foreseen in Action C3 – "Release of Black Vultures, pre- and post- release care" in the Project "Bright future for the Black Vulture" – LIFE 14 NAT/BG/649, but also for the project "Saving the last vultures in Balkans introducing Vulture Safe Areas as a model for scavengers conservation in the Anthropocene" funded by Whitley Fund for Nature and according to the foreseen budgets, it is necessary to purchase 50 GPS/GPRS transmitters for vultures. The full quantity will be provided and delivered into several deliveries in accordance with the projects' timetables until July 2022.

Through tagging the released vultures with these transmitters, information for adaptation, whereabouts, home-range, threats- poisoning cases and migrations will be collected and specific actions dully addressed. Also identification of VSAs and VETs is planned and foreseen. The most significant benefit of the satellite tracking of vultures is the ability to quickly identify vulture threats, such as poisoning timely detection of poison / bait location and prevention of poisoning of other birds in the area.

Upon this Project's action, such 50 GPS/GPRS transmitters should be ordered and purchased.

III. Work scope

Through the GPS/GPRS transmitters it will be possible the tagged birds to be followed and track and monitor the poisoning incidents, as well as data for habitats and sites preference collected.

IV. Transmitters specifications

IV. A. Ten transmitters might be with *patagial* pin attachment (attached to the wing) or equivalent.

Therefore the following specifications are established:

Criteria	GPS–GSM tracker of type – *patagial* (wing mount) or equivalent
➢ **Housing**	transmitter body with integrated attachment flap, pin and locking hexagonal nut for patagial attachement; strong and waterproof
➢ **Antenna**	No external antennas

➢ **Way of attachment**	Patagial (wing-mount)
➢ **Size**	Not larger than 55x56x32 mm, and weight ≤ 35 g
➢ **GPS receiver**	yes
➢ **GSM transceiver**	2G or 3G
➢ **Battery**	Internal
➢ **Charger**	Solar
➢ **GPS logging intervals**	≤ 600 seconds to 48 hours
➢ **Data storage**	≥ 2 MB flash memory
➢ **Data upload**	via GSM/GPRS/3G network
➢ **GSM/GPRS network connection interval**	≤ 60 min to 48 hours
➢ **Data storage in lack of network**	Logged data are stored in memory if phone network is unavailable
➢ **Day & night sensing**	yes
➢ **Control**	user remotely controls GPS & GSM schedules, night-time GPS hibernation and settings via online control panel
➢ **Main data record**	UTC date & time, GPS position, GPS altitude, speed, direction, HDOP, battery voltage, battery charging current, instant acceleration (3 axes), temperature, magnetic field strength (3 axes)

IV.B Forty GPS/GSM transmitters should be of type with back pin attachment (attached to the back of the birds). Therefore the following minimum specifications are established:

Criteria	GPS–GSM tracker of type backpack
➢ **Housing**	Backpack design, aerodynamic, strong and waterproof
➢ **Antenna**	With or without external antennas
➢ **Way of attachment**	Backpack harness
➢ **Size**	Not larger than 76x38x24 mm, and weight ≤ 50 g

➢ **GPS receiver**	yes
➢ **GSM transceiver**	2G or 3G
➢ **Battery**	Internal
➢ **Charger**	Solar
➢ **GPS logging intervals**	≤ 600 seconds to 48 hours
➢ **Data storage**	≥ 2 MB flash memory
➢ **Data upload**	via GSM/GPRS/3G network
➢ **GSM/GPRS network connection interval**	≤ 60 min to 48 hours
➢ **Data storage in lack of network**	Logged data are stored in memory if phone network is unavailable
➢ **Day & night sensing**	yes
➢ **Control**	user remotely controls via online control panel
➢ **Main data record**	UTC date & time, GPS position, GPS altitude, speed, direction, battery voltage, battery charging current, instant acceleration (3 axes), temperature
➢ **Other**	Set of accessories to proper and secure attachment the transmitter to a bird's body

V. Requirements towards the supplier

The supplier may be Bulgarian or International physical or juridical entity.

VI. Requirements for transmitter choice

If criteria shown in pt. 4 (above) are met or similar, the selection to be done on the following criteria:
- Lowest price (70% of the final assessment).

- Highest equivalence between the requested technical specifications in pt. 4. and the offered (30% of the final assessment).

VII. Schedule and reporting

Purchase of the required 50 GPS/GPRS transmitters should be done until July 2022. Delivery should be done until 30 July 2022.

The transmitters' delivery is at the expense of the supplier.

The required quantities of GPS/GPRS transmitters should be delivered until 30 working days from the day of sending the request to the supplier. If a longer delivery period is required, the supplier shall be obligated to state this to the assigner by the end of the day following the receipt of the request, in order to make the respective changes.

The delivery's address is: 49, Ivan Mihailov, 2700 Blagoevgrad, P.O. Box 78, Bulgaria.

After being chosen FWFF will sign a contract with the supplier.

The requests for the transmitters will be distributed over time as well as the number of transmitters will be fitted on as well as other factors that cannot be predicted at this point of time.

The amount of order is based on the price per item (transmitter), according to the agreed supplier's price list and offer. The unit prices are fixed and not be increased at the whole term of the contract.

The delivery should be accompanied by a Delivery record and an Invoice for the number and the related amount.

Prepared by

Emilian Stoynov

Fund for Wild Flora and Fauna