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UNIVERSITY OF PATRAS



## Presentation of the Project LIFE–Nature (ElClimA) for the protection of Eleonora's Falcon against the impacts of climate change

### General description

The project "Conservation measures to assist the adaptation of *Falco eleonora* to climate change" (LIFE13 NAT/GR/000909) aims to facilitate *Falco eleonora* adaptation to the ongoing and future climate change by the implementation of a series of conservation actions. The Eleonora's Falcon (*Falco eleonora*) is one of the most important bird species in Greece as the country and particularly the islands of the Aegean Sea host >85% of its global breeding population. The Eleonora's Falcon appears in our country and in other breeding areas from mid-spring to mid-autumn, while it overwinters mainly in Madagascar after having covered a distance of about 10,000 kilometers across the African continent. This journey is repeated consistently each year from the reproductive mature hawks to mate again with their companion in the numerous islands of the Mediterranean and the coasts of northeastern Africa.

The study of the species in Greece started in the 1960s by the German scientist Dr Dietrich Ristow and his colleagues in colonies of the Eleonora's Falcon in Crete, while since 2000 an active role in the study and protection of the species at national level is undertaken by the Hellenic Ornithological Society. In fact, the ElClimA LIFE project is a continuation of the previous project LIFE03 NAT / GR / 000091 "Conservation Measures for *Falco eleono-*

*rae* in Greece" undertaken by Hellenic Ornithological Society, which was particularly successful and internationally recognized. One of the great achievements of the previous project was the first systematic, nationwide, population census of the species in Greece and other Mediterranean countries, which revealed the significant responsibility of our country to preserve and protect the species. This program, LIFE ElClimA, seeks to hedge current threats aiming at improving the reproductive success and the conservation status of the species.

### The threats that Eleonora's Falcon faces

Based on scientific research results concerning the biology and ecology of the Eleonora's Falcon, as well as the scenarios about the climate change impact on birds in general, the conservation status of species in the breeding areas is expected to get worse.



Artificial nest of the Eleonora's Falcon.  
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Specifically, according to the latest predictions of the impact of climate change on birds (Huntley et al. 2008. *Climatic Atlas of European breeding birds*. Lynx Edicions), the species will be affected directly because of the warming in the Mediterranean basin, which will bring increased loss of eggs and juveniles, but also indirectly through the alteration of seasonality and migration corridors the migratory birds follow, which are the main food source of the Eleonora's Falcon during the critical period of the juveniles' growth. There are already indications of a shift of the species breeding populations in Greece to more northern areas.

Meanwhile, during the breeding season the Eleonora's Falcon faces increased pressure resulting from egg predation by rats and by the vegetation destruction by rabbits, species invading the breeding colonies through human activities.

In addition, the land use change in areas where the species nourishes throughout its life cycle, such as the construction of wind farms on land and maritime areas and the excessive use of insecticides are expected to have direct impact on species mortality.

## Objectives and actions of the project LIFE ElClimA

The objectives of the project LIFE ElClimA are related to the improvement of (a) **breeding performance of the species**, and (b) **the species' conservation status**.

The above objectives will be achieved through a series of actions:

1. **Preparatory actions** aiming to update the existing knowledge in the most important colonies of the species (through population census and monitoring of breeding performance), to identify and assess the foraging areas in the breeding and wintering areas of the species, and to design an effective operational plan for the implementation of the concrete conservation actions.
2. **Concrete conservation actions** aiming to improve nesting habitat quality and species breeding success (through rat eradication operations and creation of artificial nests in selected breeding colonies), to increase nest availability (through construction of artificial nests in selected breeding colonies), and to improve body condition and availability of target species prey (through plantation of fruit trees and bushes in important passerine stopover areas).
3. **Monitoring the impact of the project actions** aiming to the scientific monitoring and assessment of the progress and effectiveness of the concrete conservation actions, as well as the socio-economic impact generated by the implementation of the program at local level and at ecosystem services.
4. **Public awareness and dissemination actions** aiming to promote issues related the protection status of Eleonora's Falcon and the impact of climate change (press releases, dissemination to the media, leaflets, posters, environmental education kit), to disseminate the project results and exchange knowledge and expertise with other members of the international scientific community (participation in international/nationwide conferences, organizing workshops), and to improve the conservation status of the species globally in relation to the impact of climate change (production and promotion of a Good Practice Guide to organizations and local actors).



*Mounting of a satellite transmitter on a juvenile Eleonora's Falcon.*  
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## Project areas



Gramvousa.  
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The program's actions will be implemented in the following areas: Antikythira Island and surrounding islets, Gramvousa Peninsula and surrounding islets, Dionysades islands, Tilos Island and surrounding islets, Mikres Cyclades, Skyros Island and surrounding islets, Islets of Lemnos. Those areas host about 30% of the total breeding population of the species in Greece.

## Project partners

The project partnership includes specialized actors with long-term experience in the species' research and conservation in Greece. Specifically, the project is being implemented by the University of Patras, the Hellenic Ornithological Society and the Nature Conservation Consultants (consultancy in environmental planning issues). The project implementation began on August 1, 2014 and will last for 4 years until September 30, 2018.

## News of the project LIFE ElClimA

During the first 9 months of the project's implementation the main activities that have taken place were related with the preliminary actions and in particular with the preparation of the operational plans for the concrete conservation actions, the update of baseline information with regards to Eleonora's Falcon population status and breeding performance in the project areas, as well as with the assessment of the refueling pattern of migratory passerines.

The operational plans for the 3 concrete conservation actions were prepared taking into consideration the experience and technical know-how of the project's team members, based on their involvement in previous bird conservation projects, as well as the recommendations of species experts from Greece and abroad. In particular, the operation plans were finalized after the successful organization of the first international workshop for the LIFE ElClimA project that took place in Athens on the 20th and 21st of March.

During the project workshop, the project's team members, together with more than 30 scientists and representatives of competent authorities, presented the project's concrete conservation and scientific actions and solved technical aspects with regards to their implementation, as well as discussed about the major global conservation issues Eleonora's Falcon currently faces throughout its life cycle according to the most recent research findings.

Furthermore, during the 2014 breeding season extensive fieldwork took place in Eleonora's Falcon breeding colonies on 91 islands and islets; these activities will be concluded in the following breeding season.

The fieldwork activities concerning the assessment of the refueling pattern of passerines on Antikythira, upon which Eleonora's Falcon feeds, will be also completed next autumn.

In continuation, the results from these preliminary actions that have taken place during the first year of the project's implementation will be evaluated together with previous data in order to investigate changes in the conservation status of Eleonora's Falcon, as well as in the refueling pattern of its main prey, in the light of current pressures and future threats.



First international workshop of the project LIFE ElClimA.  
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Last but not least, the public campaign and dissemination actions that will take place throughout the project are in full operation, such as the production and dissemination of informational material, the presentation of the project and its activities to the general public through the internet ([www.lifefalcoeleonora.gr](http://www.lifefalcoeleonora.gr)) and through social media (Facebook account: **LIFE ElClima**).

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*"The Project is implemented by the University of Patras, in collaboration with the Hellenic Ornithological Society and the NCC Ltd, with the financial support of the European Union Life Instrument and the Green Fund"*

For more information visit the website

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