

Call for bachelor thesis topic:

New Value Creation on Marginal Lands: How does it impact Biodiversity with a focus on Birds of Agricultural Landscapes (Case Studies from Sweden, Germany, and Spain)

Background:

Almost 30% of the area of the EU-28 countries is currently classified as marginal land (less favoured areas): They only allow little added value because the financial returns from growing crops are low and the production costs are high. Many marginal agricultural sites in Europe are therefore at a crossroads: either they are used in an alternative way, e.g. by growing biomass, for example as a replacement for fossil raw materials in the industrial sector, or they face the threat of cessation of agricultural use. Both developments are expected to have a massive impact on the environment and ecosystem services. The EU-funded project MarginUp! (<https://margin-up.eu/>) was launched with the aim of developing land use alternatives for marginal agricultural land in 7 countries that simultaneously take into account the high value of the sites for biodiversity and the provision of ecosystem services. As part of this project, biodiversity monitoring was installed on the project sites to increase the understanding of the potential for further promotion of biodiversity and positive effects on the environment with the alternative use.

Birds are particularly suitable as indicators for environmental changes, as many species are largely dependent on the presence of specific habitat structures (Flade 1994). They react quickly to environmental influences and can therefore also indicate short-term changes. For this reason, the Federal Republic of Germany's "Sustainability Indicator for Biodiversity" is also based on data from bird monitoring.

Objective:

The aim of the bachelor thesis is to compare the habitat characteristics (vegetation height/density, weed composition) from three case study areas recorded on site (Germany, Spain, Sweden) with the habitat requirements of selected, regionally important bird species. The aim is to investigate whether and how the MarginUp! alternatives can function as habitats for the respective bird species or lead to conflicts or require adjustment. Important factors include shelter function, nesting suitability and food supply on the areas.

Methods/tasks:

- Analysis of the habitat characteristics recorded on site in the project (vegetation height/density, weed composition) in 3 selected countries (creation of graphs and diagrams)
- (Literature) research on habitat requirements of selected bird species
- Comparison of habitat characteristics and habitat requirements
- Assessment of the suitability of the land use systems/areas as habitats for the bird species considered using simple rule-based habitat suitability models
- Interpretation of the results, derivation of recommendations for action

Requirements:

- Enrollment in a bachelor's program in (bio-) agricultural sciences, landscape use and nature conservation, ecology, biology or other related disciplines
- Interest in ornithology
- Good knowledge of common MS Office programs (especially Excel), Optional: knowledge of GIS or R
- English language skills (thesis can be written in German or English)
- Coordination, networking and teamwork skills

What we offer:

- An international, scientific working environment that encourages independence
- The opportunity to design and carry out a bachelor's thesis as part of an EU research project
- (Co-)supervision of the bachelor's thesis by the ZALF

- A collegial and open-minded working atmosphere in a dynamic research facility
- Travel expenses will be reimbursed separately
- Eventually: presentation of the research work in form of a colloquium/conference
- The possibility of organizing accommodation while working on the topic in the guest house of the ZALF (Müncheberg) (**self-financing:** <https://www.zalf.de/de/struktur/wbz/Seiten/default.aspx>)
- Comprehensive training in the project tasks is of course guaranteed

No remuneration is paid for the preparation of the bachelor thesis. Expenses incurred will be reimbursed in justified cases

ZALF can be reached by public transport within 35 minutes from Berlin Lichtenberg station.

Schedule:

Task	Month		
	1	2	3
Literature research			
Data analysis and results			
Writing phase			

Application:

Bachelor students are invited to apply. Please send your application with the following documents by email; Create a PDF document with the usual documents, a motivation letter (0.5 page), CV, proof of qualifications and certificates.

Women are expressly encouraged to apply. Please send your application with a written CV, preferably online (see the "Online application" button below). For email applications, create a PDF document, max. 5 MB; compressed PDF documents, archive files such as zip, rar etc. and Word documents cannot be processed and therefore taken into account) stating the reference number **MarginUp-01-2025** to: see the "Email application" button below.

For cost reasons, application documents can only be returned if a sufficiently stamped envelope is enclosed.

If you apply, we will collect and process your personal data in accordance with Articles 5 and 6 of the EU GDPR only to process your application and for purposes arising from possible future employment at ZALF. After six months, your data will be deleted.

If you have any questions, please do not hesitate to contact us: **Johanna.Reger@zalf.de**

Please send your application as a PDF file to Dr. Michael Glemnitz (mglemnitz@zalf.de).

We look forward to receiving your application!