OS12b - Application of the principles of bioindication in ecology and nature conservation - common species of agricultural landscape birds used as HNVf indicators in Italy and Poland - course description

General information

Course name	OS12b - Application of the principles of bioindication in ecology and nature conservation - common species of agricultural landscape birds used as HNVf indicators in Italy and Poland
Course ID	13.9-WB-OS2P-bioind-S17
Faculty	Faculty of Biological Sciences
Field of study	Environmental Protection
Education profile	academic
Level of studies	First-cycle studies leading to Bachelor's degree
Beginning semester	winter term 2021/2022

Course information

Semester	6
ECTS credits to win	2
Course type	obligatory
Teaching language	english
Author of syllabus	• dr hab. Federico Morelli, prof. UZ

Classes forms

The class form	Hours per semester (full-time)	Hours per week (full-time)	Hours per semester (part-time)	Hours per week (part-time)	Form of assignment
Lecture	15	1	-	-	Credit with grade
Laboratory	15	1	-	-	Credit with grade

Aim of the course

Applying the concept of bioindicators in Ecology and Conservation: Common farmland bird species used as indicators of HNVf in Italy and Poland

Prerequisites

Regular students. Basic knowledge of ecology, evolution, biodiversity and conservation biology is helpful.

Scope

Topics: The decline of biodiversity in the European agro ecosystems. Definition of HNVf. The concept of bioindicators: using organisms to measure environmental impacts. Types of bioindicators: umbrella species, key species, flag species, focal species. Applying the Species Distribution Models (SDMs) and hierarchical partitioning analysis to identify a set of few bird species suitable to monitoring the HNV farmlands: a case of study. UE policy and opportunities.

Teaching methods

Lectures and semester assignment (exposition of 1 selected topic in a presentation).

Learning outcomes and methods of theirs verification

Outcome description	Outcome symbols	Methods of verification	The class form
The student is able to analyse course-specific literature in Polish and English	• K1A_K25	• a project	• Lecture
The student is able to plan and conduct a project with focus on counting and observing animals as well as critically analysing the results	• K1A_W29	• a project	• Lecture
The student is able to present results of own work and other sources	• K1A_U45	• a project	• Lecture
On completion of the course the students should be able to achieve: The decline of biodiversity in the European agro ecosystems. Definition of HNVf. The concept of bioindicators: using organisms to measure environmental impacts. Types of bioindicators: umbrella species, key species, flag species, focal species. Applying the Species Distribution Models (SDMs) and hierarchical partitioning analysis to identify a set of few bird species suitable to monitoring the HNV farmlands: a case of study. UE policy and opportunities.	• K1A_W61	• a project	• Lecture

Assignment conditions

Presence all lectures of the course. Development and presentation of one topic selected during the course.

Recommended reading

Santangeli, A., Toivonen, T., Pouzols, F.M., Pogson, M., Hastings, A., Smith, P., Moilanen, A., 2016. Global change synergies and trade-offs between renewable energy and biodiversity. GCB Bioenergy 8, 941–951. doi:10.1111/gcbb.12299

Morelli, F., Møller, A.P., Nelson, E., Benedetti, Y., Liang, W., Šímová, P., Moretti, M., Tryjanowski, P., 2017. The common cuckoo is an effective indicator of high bird species richness in Asia and Europe. Sci. Rep. 7, 4376. doi:10.1038/s41598-017-04794-3

Caro, T.M., O'Doherty, G., 1999. On the Use of Surrogate Species in Conservation Biology. Conserv. Biol. 13, 805–814.

Butchart, S.H.M., Clarke, M., Smith, R.J., Sykes, R.E., Scharlemann, J.P.W., Harfoot, M., Buchanan, G.M., Angulo, A., Balmford, A., Bertzky, B., Brooks, T.M., Carpenter, K.E., Comeros-Raynal, M.T., Cornell, J., Ficetola, G.F., Fishpool, L.D.C., Fuller, R.A., Geldmann, J., Harwell, H., Hilton-Taylor, C., Hoffmann, M., Joolia, A., Joppa, L., Kingston, N., May, I., Milam, A., Polidoro, A., Ralph, A., Richman, N., Rondinini, C., Segan, D., Skolnik, B., Spalding, M., Stuart, S.N., Symes, A., Taylor, J., Visconti, P., Watson, J., Wood, L., Burgess, N.D., 2015. Shortfalls and solutions for meeting national and global conservation area targets. Conserv. Lett. 1–9. doi:10.1111/conl.12158

Further reading

Notes

Modified by dr Olaf Ciebiera (last modification: 19-05-2021 22:02)

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