

Project *brief*

Thünen Institute of Rural Studies

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Lapwing plots: A sensible measure for the conservation of the lapwing in Germany

Hannah G. S. Böhner, Christoph Buschmann, Norbert Röder

- **To stop the negative development of the lapwing population, effective measures must be implemented quickly.**
- **On arable land, the lapwing plot may ensure a breeding success high enough to sustain the population.**
- **Support and advice for farmers improve efficiency of lapwing plots and reduce land as well as financial requirements.**
- **The optimal choice of funding instruments differs by federal state and population level.**

Background

As a species of the agricultural landscape indicator, the lapwing is a symbol of the state of biodiversity in agricultural areas. The so-called flagship species represents many other animal and plant species.

The number of lapwings in Germany has declined by almost 90 % in recent decades. The main reasons are insufficient breeding success due to habitat degradation and loss in wet grassland, the switch from summer to winter grain, the decline of fallow land and the increase in corn cultivation. In the project "The lapwing as a flagship species: Implementation of a conservation project to foster lapwing populations in agricultural landscapes", the lapwing plot was identified as the only measure that ensures a breeding success high enough to sustain the population. The lapwing plot is an unused section within an arable field. It should have a size of 0.5–1 ha. Lapwings are provided with a low-disturbance, sparsely vegetated area for breeding and raising hatchlings.

Marking lapwing nests in adjacent croplands can further increase breeding success by protecting these nests from agricultural cultivation measures.

Purpose

The project works of the Thünen Institute had the target,

- to document the experiences of farmers who implemented lapwing plots,
- to analyse the acceptance of a corresponding agri-environmental scheme,
- to calculate the necessary land and financial requirements of lapwing plots so that the the population can be sustained in Germany,
- to develop proposals for the integration of the lapwing plot into funding programmes.

Lapwing and lapwing clutch in a grain field



Source: Norbert Röder

Approach

Initially we surveyed farmers who participated in the project and implemented lapwing plots, as well as other measures. Based on this initial survey we conducted a discrete choice experiment with 252 farmers. The goal was to analyse the acceptance of possible characteristics of an agri-environmental scheme „lapwing plot“.

We combined a population model with an economic analysis to project the german-wide population development and distribution at different implementation levels of the lapwing plot. With this model, we were able to determine the necessary lapwing plot area requirements and the necessary financial budgets for each population scenario.

Results

The farmers, who were involved in the project, expressed a great openness towards measures such as the lapwing plot. For them, support and advice by regional managers was particularly important. These managers should have both ornithological knowledge and expertise in agriculture.

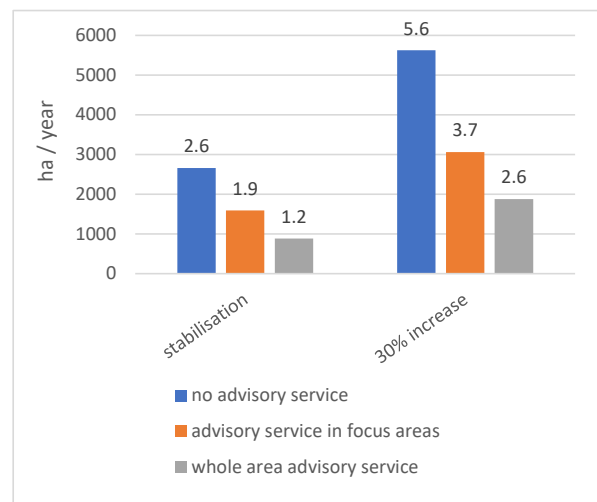
The discrete choice experiment showed that the measure characteristics necessary for EAFRD cofinancing, i. e. a five year participation period and the type of sanctioning in case of rule infringement, represent high acceptance barriers among the farmers. These acceptance barriers lead to higher remuneration expectations compared to a measure funded outside EAFRD.

The updated modelling results show that under conservative assumptions, 40 % of the lapwing population in the normal agricultural landscape needs to be protected by a measure such as the lapwing plot from 2023 onwards in order to stabilise the population. To achieve a population increase of 30 %, as proposed by the EU Commission (EU COM/2022/304), even 65 % must be protected. Depending on the conservation target and the intensity of support by regional managers, the annual area required for lapwing plots ranges from 900 ha to 5,600 ha (see figure).

Regional managers' advice for farmers should ensure that a large part of the lapwing plots are actually occupied by breeding pairs. Advice thus increases the efficiency of the measure. If regional managers support farmers in all regions, population stabilisation will amount to costs of about 1.2 mio. €/year under conservative assumptions. Without advice the costs increase to about 2.6 mio. €/year. Since many lapwings breed in regions with high gross margins (e. g. Münsterland), additional land requirements caused by the absence of advice lead to such high additional costs. If advice is given by regional managers we assumed in our calculations that 3/4 of all lapwing plots are occupied by breeding pairs, which is a very optimistic assumption especially in regions with low lapwing densities. Overall costs can be reduced if the measure is predominantly implemented in areas with low gross margins.

We consider it as very ambitious to achieve the protection of 65 % of all lapwings breeding on agricultural land by a voluntary agri-environmental scheme. In order to achieve this goal, there is an additional need for sustaining and creating habitats with particularly favourable breeding conditions and an adapted area management (e. g. in protected areas).

Area required in Germany for lapwing plots in order to stabilise the population or alternatively increase by 30 % till 2050. The calculated annual costs are shown above the columns in mio. €.



Source: Own illustration

Recommendation

In order to stop the negative development of the lapwing population in Germany, effective conservation measures such as the lapwing plot must be implemented quickly.

- In principle, if designed appropriately, the German eco-scheme 1a is nationwide suitable for the implementation of lapwing plots.
- In federal states with high lapwing populations (e. g. Lower Saxony, Schleswig-Holstein), we also recommend an implementation in an agri-environmental scheme with EAFRD cofinancing.
- In federal states with medium lapwing populations (e. g. Mecklenburg-Vorpommern, Brandenburg), we recommend implementation as an EAFRD cofinanced scheme only if similar measures are already funded, so that existing administration-/ and control systems can be used.
- In federal states with low population sizes, we recommend the implementation via regional, either communal or private, institutions.
- Advice by regional managers lowers barriers to acceptance and increases the efficiency of the measures. It should be offered in as many regions as possible.
- The lapwing plot alone will not stop the population decline. There is a need of additionally providing habitats optimal for breeding, e. g. in protected areas.

Further information

Contact

Thünen Institute of Rural Studies
hannah.boehner@thuenen.de
www.thuenen.de/lv

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Publications

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