Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Agroscope

Federal Office for the Environment FOEN

SETAC | 2024

Amphibians in the agricultural landscape

Risk reduction in plant protection and promotion of populations

Annette Aldrich (FOEN, Bern); Gregory Churko, Erich Szerencsits (Agroscope, Reckenholz); Benedikt R. Schmidt (karch, Neuchâtel)
Contact: annette.aldrich@bafu.admin.ch | Reference: Aldrich et al, Agroscope Science, 178, 2024, 1-102

Background

Amphibians use farmland. They forage, hide or cross fields on their way to spawning waters or forests. This way they can be exposed to plant protection products. Although PPP are subject to rigorous risk assessment prior to authorisation, the risk to amphibians is not explicitly assessed due to the lack of standardised test systems and guidelines, which require a long and international effort to develop. In order to make progress in the field of amphibian protection, this project aimed to localise sites and situations of increased potential risk to amphibians from PPPs in Switzerland and to evaluate options for risk reduction in line with the precautionary principle.

Project objective

- Effective to protect amphibians by compensating adverse effects or by reducing exposure to PPP
- Realistic to implement by farmers
- Not impairing agricultural production
- Pro-active approach and constructive cooperation between amphibian conservation and agriculture
- Independent of PPP product authorisation

Approach

Using a literature review and expert surveys, measures were compiled and evaluated in terms of their effectiveness in protecting or promoting amphibians, their feasibility and their controllability.

Recommended measures

Raising awareness among farmers and agricultural advisors

Site-appropriate creation of small structures as compensation measures

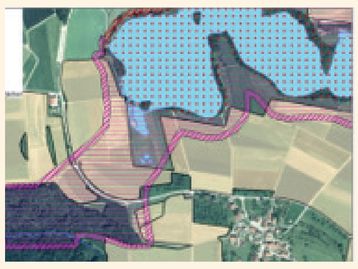
© karch

Integrated water management

© Agroscope

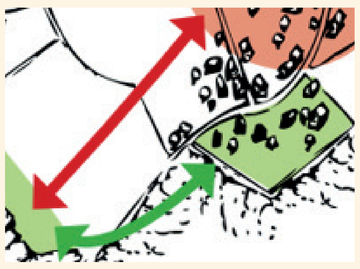
Adjusted farm management around breeding sites

© Agroscope



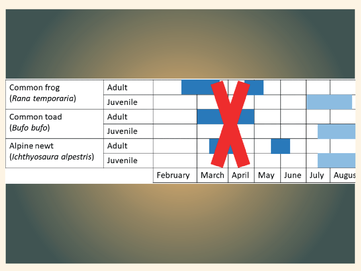
No application of PPPs next to breeding sites

© map.geo.admin.ch



Spatial arrangement of compensation areas

© Agridea



Locally no application of PPPs during the main migration season

Creation of new breeding sites

© Schmidt