# Summary

The European legislation allows considering, on a case-by-case basis, ecologically particularly sensitive areas when imposing certain measures, e. g. restrictions, on GMO cultivation. Thus, it is necessary to define what can be considered an ecologically particularly sensitive area and what criteria and indicators can be applied for their identification in order to provide a basis for the justification of measures taken by a Member State.

This study focuses on insect resistant and herbicide tolerant GM-maize applications as they are currently the most relevant ones in GMO cultivation. This report provides an overview of the legal background and delineates the maize growing area of Austria, which was defined as the project area, as it can be assumed that potential GM-maize cultivation, which could have negative effects on ecologically particularly sensitive areas, could only take place within this area.

The development of a catalogue of criteria, as a basis for the identification of those particularly sensitive areas, is described in this report. It includes a description of possible categories of areas and potential environmental effects of GM maize that need to be taken into account. The catalogue of criteria is presented and the criteria as well as indicator groups and indicators are described.

In order to identify ecologically particularly sensitive areas data need to be available for the respective indicators. Thus, an extensive data search was conducted to identify potential data sources. The data analysis is presented with a discussion of e. g. the advantages and disadvantages, as well as the usability and applicability of the data. Selected data were used in a case study (GM-maize MON89034xMON88017) to show their applicability. In this case study a map representing the respective ecologically particularly sensitive areas was developed. In addition, the respective justifications were prepared so that these areas can be nominated during the GMO authorisation procedure.

It has been possible to show that, on the basis of the available data and depending on the trait(s) of the respective GMOs, ecologically particularly sensitive areas can be defined in large parts of the maize growing areas in Austria.