

The diagram illustrates the timeline of the RKR project, divided into three main phases represented by colored chevron shapes pointing right:

- 2023 Pilotstudie Probabilistik (Mercker et al., 2023)**
 - Development of the Hybrid model for collision risk prediction
 - First application for the Red Kite
 - Telemetry analyses, resampling, module testing
 - Species-specific parameters (e.g. habitat preferences, flight altitude distribution, avoidance behaviour)
- 2024 Fortsetzungstudie Probabilistik (Mercker et al., 2024): Finalization of the RKR model for the Red Kite**
 - Publication by the BfN
 - Optimized Data basis
 - Validation with real collision and telemetry data
 - Error reduction
 - Project implementations
 - Threshold value discussion
 - Funding: BMWK
- 2025 Mikroproject RKR-PRO: Expansion to 4-6 additional bird species**
 - Duration: January to Sept. 2025
 - Project lead: Research Center Jülich
 - Target species: White-tailed Eagle, White Storck, Black Kite, Honey Buzzard, Imperial Eagle among others.

Introduction

The “Pilotstudie Probabilistik” (Mercker et al., 2023) provided proof of concept for risk prediction regarding the breeding bird species Red Kite at wind energy facilities. The “Fortsetzungsstudie Probabilistik” (Mercker et al., 2024) enables, for the first time, a robust and quantitatively transparent project-specific application based on optimized input data. Validation using real collision and telemetry data shows that the model not only provides consistent risk assessments but also realistically reflects project-specific differences (see Figure 1).

Assessment of the impacts

● 0 - 1 (low)

● To be deconstructed

● Breeding places of red kites

● Pi Numbering of planned wind turbines

Delta analysis in the context of repowering									
	Year	P1	P2	D1	D2	D3	Total (decon.)	Total (plan.)	Total (diff.)
A	2022	0,00547	0,00159	0,01562	0,00243	0,00906	0,02691	0,00705	-0,01985
B	2021	0,00199	0,00446	0,00215	0,00361	0,00193	0,00767	0,00645	-0,00122
C	2022	0,00149	0,00125	0,00204	0,00130	0,00400	0,00731	0,00274	-0,00457
Delta							-257.89 %	100.0 %	-157.89 %
x1	2022	0,00032	0,00051	0,00035	0,00038	0,00042	0,00116	0,00082	-0,00034
x2	2023	0,00034	0,00024	0,00054	0,00025	0,00065	0,00144	0,00058	-0,00086
x3	2021	0,00025	0,00033	0,00029	0,00026	0,00048	0,00102	0,00057	-0,00045
x4	2022	0,00021	0,00017	0,00033	0,00018	0,00028	0,00079	0,00038	-0,00040



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