

Supplementary Materials

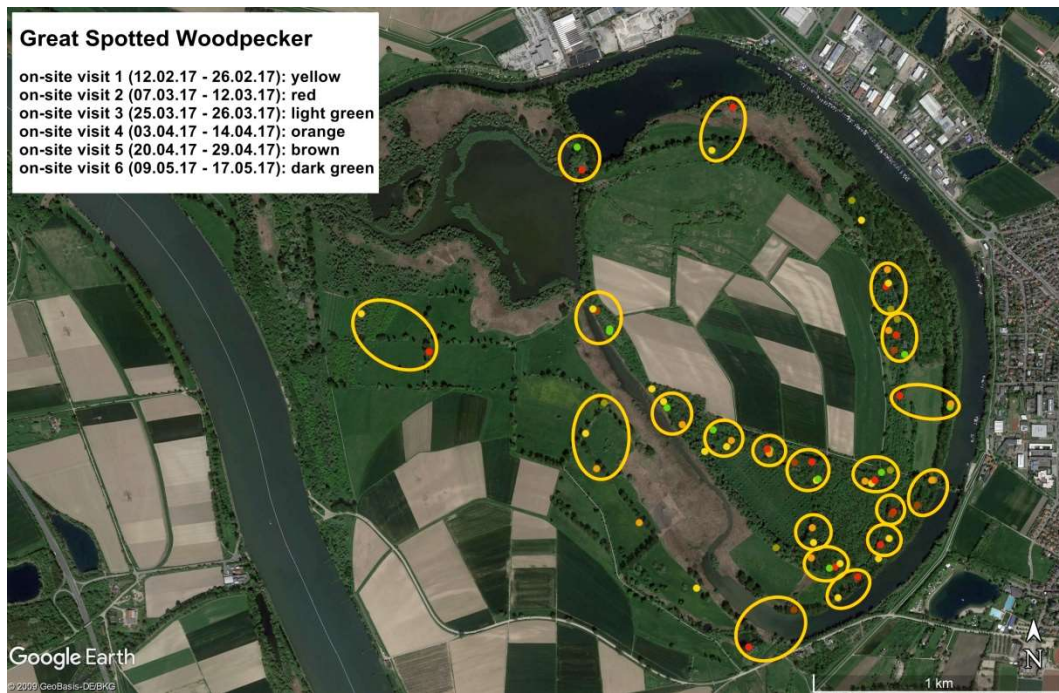


Figure S1. Species map for Great Spotted Woodpecker with single detections and defined territories.

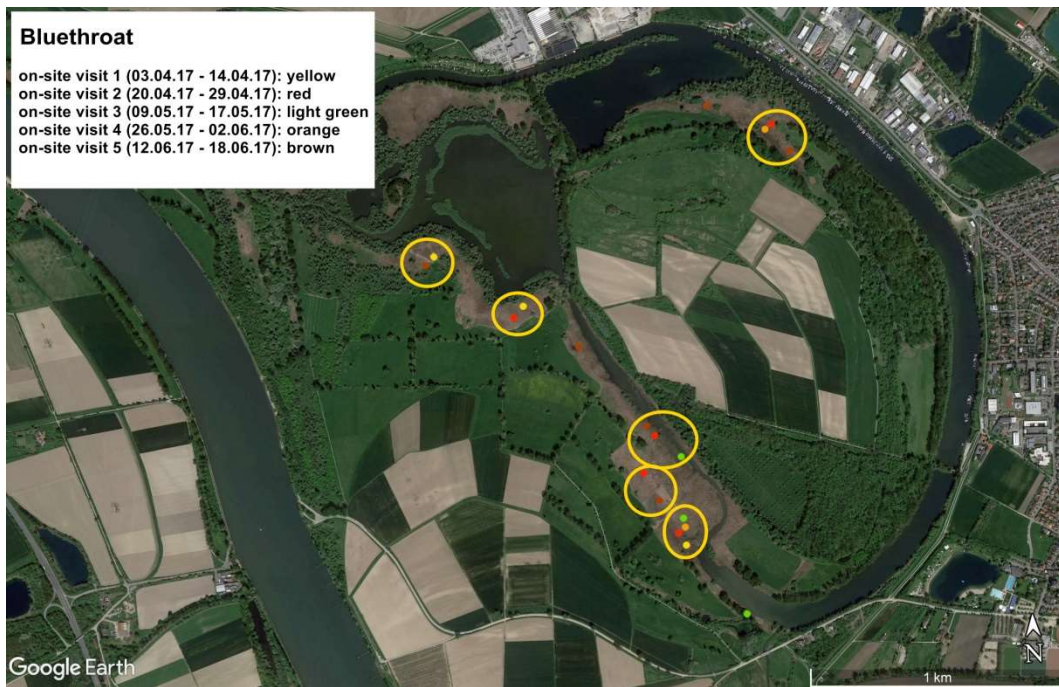


Figure S2. Species map for Bluethroat with single detections and defined territories.



Figure S3. Species map for Eurasian Skylark with single detections and defined territories.

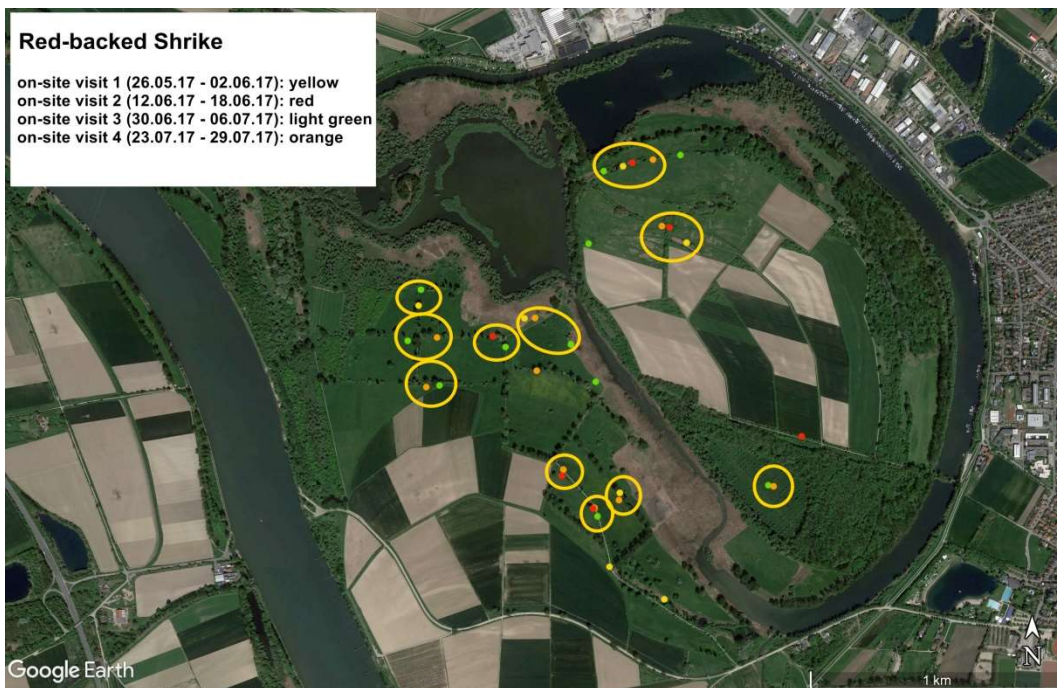


Figure S4. Species map for Red-backed Shrike with single detections and defined territories.

Table S1. Long-term (from 1974–1979 to 2017) and short-term (2003–2017) trends of breeding bird populations at "Lampertheimer Altrhein" (LA) in comparison with long-term (1985–2009) and short-term (1998–2009) trends for Germany (GER) [1] and long-term (1980–2011) and short-term (1990–2011) trends for Europe (EU) [2]. Every species is classified into categories of habitat use and food requirements. Species are sorted from negative to positive population developments in the long-term trend.

Common Name (IOC World Bird List) ¹	Habitat	Food ²				Trends					
		H	I	V	O	LA	LA	GER	GER	EU	EU
						Long	Short	Long	Short	Long	Short
						Term	Term	Term	Term	Term	Term
Marsh Warbler	OL	X				↓↓		↕		→	
Willow Warbler	WO	X				↓↓		↓		↓	
Common Moorhen	WE				X	↓↓		↗		→	
Fieldfare	WO	X				↓↓		↓		→	
Common Redstart	OL	X				↓↓	↓↓	↗	↘	↑	↑
Tree Pipit	OL	X				↓↓		↓↓		↓	
Grey Heron	WE			X		↓↓	↓↓	↑	↕	↑	↑
Willow Tit	WO	X				↓↓		↘		↓	
Little Owl	OL	X	X			↓↓	↓↓	↑	↑		
Great Reed Warbler	WE	X				↓↓		↑		→	
White Wagtail	OH	X				↓↓		↓		→	
Common Grasshopper Warbler	OL	X				↓↓	↓↓	↓	↓	→	↓

Water Rail	WE		X	X		↓↓		→	
Long-eared Owl	WO			X		↓↓	↓↓	↕	↕
Eurasian Magpie	OL				X	↓↓		↘	↓
Little Grebe	WE		X			↓↓		→	
Common Linnet	OL	X*				↓↓		↓↓	↓
Little Bittern	WE		X	X		↓↓		→	
Sedge Warbler	WE		X			↓↓		↑	→
Corn Bunting	OL	X*	X			↓↓		↑	
Eurasian Collared Dove	OH	X*				↓↓		↓	↑
Western Jackdaw	OH				X	↓↓		→	→ →
Northern Lapwing	OL	X*	X			↓↓		↓↓	↓
Black-crowned Night Heron	WE		X	X		↓↓		↑	
Purple Heron	WE		X	X		↓↓		→	
Savi's Warbler	WE		X			↓↓		→	
Lesser Whitethroat	WO		X			↓↓		↕	→
Wood Warbler	WO		X			↓↓		↓↓	↓
House Sparrow	OH	X*	X			↓↓		↘	↓
Little Crake	WE		X			↓↓		↑	

Corn Crane	WE	X			⇓			→		
Little Ringed Plover	WE	X			⇓			→		
River Warbler	WE	X			⇓		↑		↓	
Garganey	WE	X	X		⇓		↓			
Swan Goose	WE	X				⇓		⇓		
Yellow-legged Gull	WE	X	X			⇓		↑		
Common Reed Bunting	WE	X			⇓		↕		↓	
Eurasian Coot	WE			X	⇓		↕		↑	
Eurasian Tree Sparrow	OL	X*	X		⇓		↓		↓	
European Turtle Dove	OL	X*			⇓	⇓	↓	⇓	↓	↓
European Greenfinch	WO	X*	X		⇓		↘		↑	
Great Crested Grebe	WE	X	X		⇓	→	→	↑		→
European Reed Warbler	WE	X			⇓	⇓	↑	↕	→	→
Common Starling	OL	X			⇓		↓		↓	
Dunnock	WO	X			⇓		↘		↓	
Carrion Crow	OL			X	⇓		↗		↑	
Common Blackbird	WO			X	⇓		→		↑	
Eurasian Wren	WO	X			⇓		↑		↑	

Eurasian Skylark	OL		X		↓↓	↑	↘	↓↓	↓	↓
Common Nightingale	WO		X		↓		↑		↓	
Grey Partridge	OL	X*	X		↓	↓	↓↓	↘	↓↓	↓↓
Garden Warbler	WO		X		↓		↘		↓	
European Robin	WO		X		↓		↘		↑	
Mallard	WE			X	↓		↕		↑	
Bluethroat	WE		X		↓	↓↓	↑	↑		
European Goldfinch	OL	X*			↓		↓		↑	
Icterine Warbler	WO		X		↓	↓	↕	↓↓	↓	↓
Common Wood Pigeon	OL	X*			↓		→		↑	
Common Cuckoo	WO		X		↓		↕		↓	
Common Kestrel	OL		X	X	↓		→		↓	
Eurasian Golden Oriole	WO		X		↓	↓	↕	↗	→	→
Song Thrush	WO		X		↓		→		↑	
Eurasian Blackcap	WO		X		↓		↑		↑	
Eurasian Blue Tit	WO		X		↓		↕		↑	
Common Chiffchaff	WO		X		↓		↘		↑	
Lesser Spotted Woodpecker	WO		X		↓	→	↕	↕		

Short-toed Treecreeper	WO		X		↓		↕		↑	
Great Tit	WO		X		↓		→		↑	
Common Whitethroat	OL		X		→	↓	↗	↕	↑	→
Black Kite	OL			X	→	↓↓	↑	↗		
Common Chaffinch	WO		X		→		→		↑	
Common Buzzard	OL			X	→		↗		↑	
Long-tailed Tit	WO		X		→		↕		→	
Grey-headed Woodpecker	WO		X		→	↑	↘	↓↓		→
Tawny Owl	WO			X	→	↑	↘	↕		
Yellowhammer	OL	X*	X		↑		→		↓	
Spotted Flycatcher	WO		X		↑		↘		↓	
Great Spotted Woodpecker	WO		X		↑		↗		↑	
Eurasian Jay	WO			X	↑		→		↑	
European Green Woodpecker	WO		X		↑	↑	↑	↑	↑	↑
Eurasian Nuthatch	WO		X		↑		↕		↑	
Western Yellow Wagtail	OL		X		↑	↑	↗	↘	↓	→
Common Kingfisher	WE		X	X	↑	→	↑	↑		
European Pied Flycatcher	WO		X		↑		↓		↓	

Gadwall	WE	X			↑	↑	↑	↑		
Western Marsh Harrier	WE			X	↑	↑	↘	→	↑	→
Black Woodpecker	WO		X		↑	↑	↑	↕	↑	→
Middle Spotted Woodpecker	WO		X		↑	→	↗	↑		→
Mute Swan	WE	X			↑		↑		↑	
Hawfinch	WO	X*			↑		↓		↑	
Canada Goose	WE	X			↑	↓	↑	↑		
Eurasian Hobby	OL		X	X	↑	→	↗	↑		
European Serin	OL	X*			↑		↓↓			↓
Red Kite	OL			X	↑		↓			
Eurasian Treecreeper	WO		X		↑		↘			→
Greylag Goose	WE	X			↑	↑	↑	↑		
Stock Dove	WO	X*			↑	↑	↑	↗	↑	→
Egyptian Goose	WE	X			↑		↑			
Marsh Tit	WO		X		↑		↕			↓
Red-backed Shrike	OL		X	X	↑	↑	↕	↘	→	→
Great Cormorant	WE			X	↑	↓	↑	↑		

Symbols and abbreviations: ¹ Source: IOC World Bird List Version 7.3 (www.worldbirdnames.org); ² Classification according to the main diet of adults and nestlings during the breeding period; * granivorous species in the category "herbivorous species"; WE: Wetland birds; OL: Birds of open cultivated landscapes; WO: Woodland birds; OH: Other habitats; H: Herbivorous species; I: Mainly insectivorous species; V: Vertebrate consumer; O: Omnivorous species

Trends Lampertheimer Altrhein (LA)	Trends Germany (GER)	Trends Europe (EU)
<p>↓↓ strong decline (> 75% within the reference period)</p> <p>↓ moderate decline (> 25–75% within the reference period)</p> <p>→ stable (≤ 25% increase or decline within the reference period)</p> <p>↑ increase (> 25% within the reference period)</p>	<p>↓↓ strong decline (> 3% per year)</p> <p>↓ moderate decline (> 1–3% per year)</p> <p>↘ slight decline (≤ 1% per year)</p> <p>↕ fluctuating</p> <p>→ stable</p> <p>↗ slight increase (≤ 1% per year)</p> <p>↑ increase (> 1% per year)</p>	<p>↓↓ strong decline (decline significantly more than 5% per year)</p> <p>↓ moderate decline (significant decline, but not significantly more than 5% per year)</p> <p>→ stable (no significant increase or decline, and most probable trends are less than 5% per year)</p> <p>↑ moderate increase (significant increase, but not significantly more than 5% per year)</p>

References

1. Sudfeldt, C.; Dröschmeister, R.; Frederking, W.; Gedeon, K.; Gerlach, B.; Grüneberg, C.; Karthäuser, J.; Langgemach, T.; Schuster, B.; Trautmann, S.; Wahl, J. *Vögel in Deutschland-2013*; Dachverband Deutscher Avifaunisten e.V., Bundesamt für Naturschutz, Länderarbeitsgemeinschaft der Vogelschutzwarten: Münster, Germany, 2013; ISBN 978-3-9815543-1-1.
2. Pan-European Common Bird Monitoring Scheme. *Population Trends of Common European Breeding Birds 2013*; Czech Society for Ornithology: Prague, Czech Republic, 2013.