

**Table S1** Timeline of successional changes in avifauna of the artificial Hühnerwasser catchment (Lusatia, Germany).

Groups	1. pioneer species that prefer open ground			2. herbaceous plant-preferring, ground-breeding species				3. open shrub-preferring species				4. pre-forest species				
Breeding birds		<i>Charadrius dubius</i> (5 pairs) <sup>B</sup>	<i>Charadrius dubius</i> (2 pairs) <sup>B</sup>	• <i>Fulica atra</i> • <i>Motacilla flava</i> <sup>F</sup> • <i>Tachybaptus ruficollis</i> <sup>G</sup>	• <i>Anas platyrhynchos</i> • <i>Lanius collurio</i> • <i>Motacilla flava</i> <sup>I</sup> • <i>Tachybaptus ruficollis</i>	• <i>Acrocephalus scirpaceus</i> • <i>Emberiza calandra</i> • <i>Lanius collurio</i> • <i>Motacilla flava</i> • <i>Tachybaptus ruficollis</i>	• <i>Alauda arvensis</i> • <i>Lanius collurio</i> • <i>Tachybaptus ruficollis</i>	• <i>Alauda arvensis</i> • <i>Emberiza citrinella</i> • <i>Lanius collurio</i> • <i>Perdix perdix</i> • <i>Tachybaptus ruficollis</i>	<i>Alauda arvensis</i>	• <i>Alauda arvensis</i> • <i>Anthus trivialis</i> • <i>Anas platyrhynchos</i> • <i>Circus aeruginosus</i> <sup>L</sup>	<i>Lanius collurio</i>			• <i>Tachybaptus ruficollis</i> • <i>Sylvia communis</i>	• <i>Lanius collurio</i> • <i>Streptopelia turtur</i> • <i>Turdus philomelos</i> • <i>Tachybaptus ruficollis</i> • <i>Acrocephalus arundinaceus</i>	• <i>Fringilla coelebs</i> • <i>Tachybaptus ruficollis</i>
Other bird life	typically <i>Charadrius dubius</i> and <i>Oenanthe oenanthe</i>	typically <i>Oenanthe oenanthe</i>	• <i>Falco tinnunculus</i> • <i>Lanius excubitor</i> • <i>Motacilla alba</i> • <i>Numenius arquata</i> <sup>C</sup> • <i>Oenanthe oenanthe</i> <sup>D</sup>	• <i>Charadrius dubius</i> • <i>Coturnix coturnix</i> • <i>Emberiza schoeniclus</i> • <i>Anthus campestris</i> • <i>Charadrius dubius</i> • <i>Circus pygargus</i> • <i>Milvus milvus</i> • <i>Motacilla alba</i> <sup>I</sup> • <i>Corvus corax</i> • <i>Ardea cinerea</i>	• <i>Acrocephalus scirpaceus</i> • <i>Alauda arvensis</i> • <i>Anthus campestris</i> • <i>Charadrius dubius</i> • <i>Circus pygargus</i> • <i>Grus grus</i> • <i>Milvus milvus</i> • <i>Perdix perdix</i> • <i>Perdix perdix</i> <sup>K</sup> • <i>Upupa epops</i>	• <i>Anas platyrhynchos</i> • <i>Anthus campestris</i> • <i>Ciconia nigra</i> • <i>Circus aeruginosus</i> • <i>Falco tinnunculus</i> • <i>Milvus milvus</i> • <i>Perdix perdix</i> • <i>Sturnus vulgaris</i>	• <i>Anthus trivialis</i> • <i>Circus aeruginosus</i> • <i>Grus grus</i> • <i>Hirundo rustica</i>	• <i>Ciconia ciconia</i> • <i>Circus aeruginosus</i> • <i>Grus grus</i> • <i>Haliaeetus albicilla</i> • <i>Milvus milvus</i>	• <i>Grus grus</i> • <i>Jynx torquilla</i>	• <i>Buteo buteo</i> • <i>Bucephala clangula</i> • <i>Emberiza calandra</i> • <i>Milvus milvus</i> • <i>Picus vires</i> • <i>Sturnus vulgaris</i>	• <i>Cygnus olor</i> • <i>Saxicola rubetra</i> •huge flock of ducks •a bird of prey <sup>O</sup> was seen perching in branches below the tree-tops	• <i>Linaria cannabina</i> • <i>Cuculus canorus</i> • <i>Garrulus glandarius</i>	<i>Turdus pilaris</i>	• <i>Parus major</i> • <i>Emberiza calandra</i> • <i>Emberiza schoeniclus</i> • <i>Falco tinnunculus</i> • <i>Turdus philomelos</i>	• <i>Turdus merula</i> • <i>Fringilla coelebs</i>	• <i>Parus major</i> • <i>Buteo buteo</i> • <i>Sylvia curruca</i>
Vegetation (and fungi)	<i>Conyza canadensis</i> phase <sup>A,E</sup>		<i>Trifolium arvense</i> phase <sup>E</sup>		<i>Robinia pseudoacacia</i> flowered & fruited for the first time	•grass dominance builds up •rooting of a severed	<i>Pinus sylvestris</i> fruiting for the first time	first <i>Viscum album</i>	•falling groundwater table <sup>M</sup> •drought-induced early leaf fall of	•increasing woodlands (resulting in permanently	dieback of aspen, birch & even pines & willow due to darkening			•first fern <sup>Q</sup> •noticeably many <i>Prunus</i> pips	barely penetrable <i>Hippophae</i> bushes contain bird-dispersed plant species that only occur here <sup>P</sup>	

							willow branch				large bir- ches & Ro- binia pseu- doacacia •first or- chid <sup>N</sup>	shaded ar- eas) •leafmin- ing in Ro- binia •Leccinum mush- rooms	by Robinia pseudoaca- cia					
Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021		

<sup>A</sup> [36]  
<sup>B</sup> [37]  
<sup>C</sup> Encountered on the shore of the pond; over-flights still noted until 2014  
<sup>D</sup> Did not avoid *Conyza candensis* (L.) Cronquist dominated vegetation, which means densely juxtaposed vertical structures (with very low total cover); also perched on all kinds of engineered structures  
<sup>E</sup> [3]  
<sup>F</sup> One nest with 4-5 young (29.07.2009; see also Figure A1)  
<sup>G</sup> 09.09.2008 first exploration by a pair in non-breeding plumage  
<sup>H</sup> Was mobbed by subadult *Falco tinnunculus*  
<sup>I</sup> Also perched on solar panels  
<sup>J</sup> [38]  
<sup>K</sup> *Perdix perdix* possibly released by hunters in the vicinity, and amphibians by friends of the species  
<sup>L</sup> Nest in the reed-bed of the pond: 4 eggs (27 May 2015), 3 chicks fledged (see also Figure A1)  
<sup>M</sup> [39]  
<sup>N</sup> By Anne Brandenburger, Benito Schöpke and Melanie Takla: orchid *Epipactis helleborine* (L.) Crantz  
<sup>O</sup> *Accipiter nisus* or *Accipiter gentilis* - first plucking discovered a year earlier, soon became more frequent in the winter seasons  
<sup>P</sup> *Sambucus nigra* L., *Solanum dulcamara* L. One nest of *Turdus philomelos* was found in 2020 in a *Hippophae rhamnoides* L. stand  
<sup>Q</sup> *Botrychium matricariifolium* (Döll) A.Braun ex W.D.J.Koch



**Figure S1.** Breeding birds in the Hühnerwasser catchment, one example for each successional group. Clockwise from top-right: Little ringed plover (*Charadrius dubius*; photo 2008; top right), Yellow wagtail (*Motacilla flava*; photo 2009; bottom right), Western marsh harrier (*Circus aeruginosus*; photo 2015; bottom left), Common chaffinch (*Fringilla coelebs*; photo 2021; top left).