

Report on ringing of migratory birds in the Ilon Marsh 2022

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In 2022 we carried out two different ringing protocols at the Ilon Marsh site (marais de l'Ilon, Paradou, 13, FR):

- The VOIE protocol, which aims to document variations in migration routes between individuals, in space and time, for a few species with a high incidence of ringing in Europe and generating many external controls. At Ilon, the main objective is to target Barn swallows (*Hirundo rustica*), which gather and form one of the largest and most regular roosts in Europe.
- The aim of the PHENO protocol is to document the variations in migratory phenology of passerines between individuals, in space and in time. We carry out this protocol throughout the post-nuptial migration season, i.e. from the end of August to the end of December.

In 2022, we carried out 25 ringing sessions on this site (18 for the PHENO protocol, 7 for the VOIE protocol). In total, 2583 capture events happened (1103 for the PHENO protocol, 1485 for the VOIE protocol) from 40 species.

Report by protocol

VOIE protocol

For this protocol, in 2022, we captured birds of 8 species including 1462 Barn swallows and 20 Sand martins (we also captured a hybrid between Barn swallow and Sand martin and a hybrid between Barn swallow and Western house martin). We obtained 3 foreign controls, respectively from Spain, Norway and Denmark. We also controlled two swallows ringed elsewhere in France. The foreign controls carried out fully confirm the North-South migration route (Scandinavia - Rhine Valley - Rhone Valley) identified by the controls obtained in previous years (Figure 1).

The VOIE protocol has been carried out at the site since 2006. However, during the capture seasons up to 2012, the capture site sometimes varied, so we will only compare the results since 2013. (Figure 2).

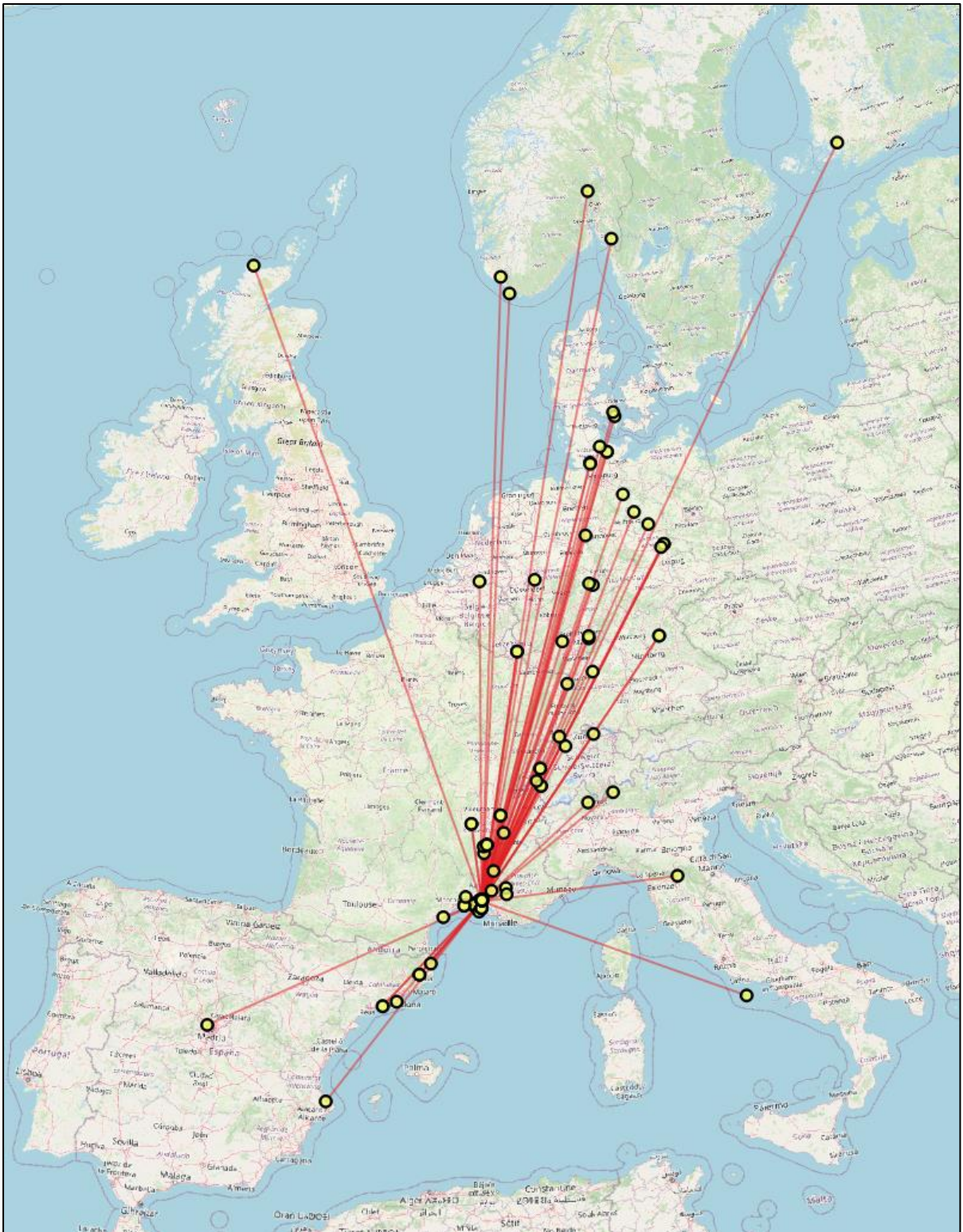


Figure 1: Map of ringing sites or controls of Barn swallows captured in the Ilon Marsh between 2009 and 2022.

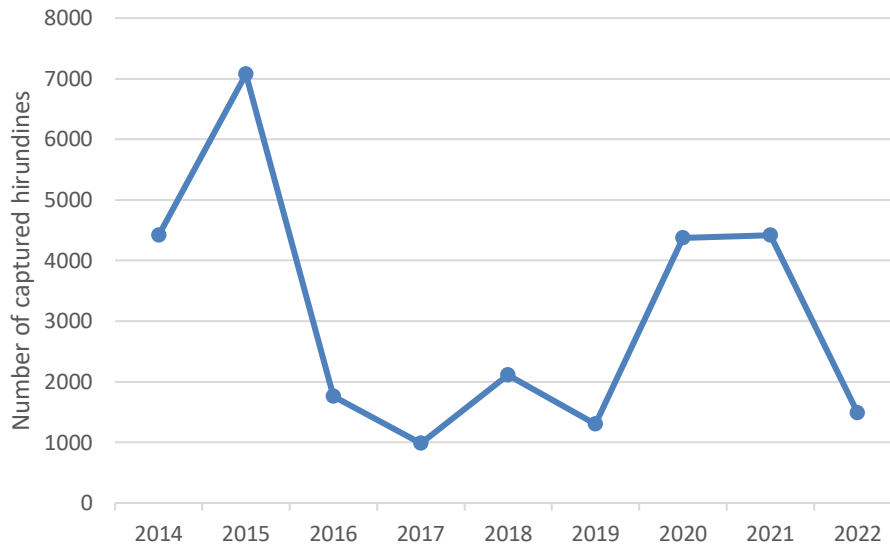


Figure 2: Evolution of the number of hirundines (Barn swallow, Sand martin, Red-rumped swallow, House martin) captured in the Ilon Marsh between 2013 and 2022.

PHENO protocol

In 2022, 1090 capture events happened from 35 different species for the PHENO protocol. The most common species was the Chiffchaff (*Phylloscopus collybita*), followed by the Eurasian Blackcap (*Sylvia atricapilla*). The next most common species were the Eurasian Reed Warbler (*Acrocephalus scirpaceus*), the Common Reed Bunting (*Emberiza schoeniclus*), and the Common Kingfisher (*Alcedo atthis*). It should be noted that 41 kingfishers were ringed or controlled on the site in 2022, which confirms its importance for this species, following the results of 2021. 14 of these birds were captured several times. In 2022, 74 different individual birds were controlled during the protocol, 13 of those were ringed or controlled on the same site in previous years, from 2019 to 2021.

While comparing this year to the previous ones it should be noted that, unlike in 2020 and 2021, in this year, very few hirundines were captured during the PHENO protocol. Also, it is only possible to compare the data from the 2022 PHENO protocol with the ones starting from 2019 as that was the first year where this protocol was conducted on the Ilon Marsh site.

In 2019 we captured 633 birds of 35 different species, in 2020, 852 birds of 38 different species and in 2021, 1355 birds from 37 different species. Excluding hirundines, the numbers are different (Table 1).

Table 1: Number of capture events and number of species by year excluding hirundines.

Year	2019	2020	2021	2022
Number of captures	633	586	577	1088
Number of Species	35	36	35	34

The most common species in 2019 was the Reed warbler followed by the Blackcap, Blue tit, Swift, Kingfisher and Reed bunting. The most common species in 2020 were, after the Barn swallow, the Blackcap, followed by the Chiffchaff. The next most common species were the Reed warbler, the Kingfisher and the Reed bunting. In 2021 the order was Barn swallow, Chiffchaff, followed Reed

warbler, Blackcap, Blue tit and the Cetti's warbler. The most common species of 2022 are like the previous ones, but this is the second year after 2021 when the most common species is the Chiffchaff, when ignoring the Barn swallow.

7 additional captures happened outside of the sessions of the 2 protocols. These captures are not included in the tables, only in the total. These additional captures consist in 3 Common snipes (*Gallinago Gallinago*), one Jack Snipe (*Lymnocyptes Minimus*), 2 Reed buntings (*Emberiza Schoeniclus*) and one Kingfisher (*Alcedo atthis*).

Table 2: Numbers of birds caught by species and by protocol at the Ilon Marsh in 2022.

Note: Recaptured ind. (C). Number of different individuals recaptured, i.e. already ringed the same year or previous years, or originally ringed in other countries. **NB: the number of recaptures of each individual is not included.** **Ringed (B).** Total number of ringed birds during the protocol period; excluding accidental releases (i.e. birds released accidentally before being ringed) and mortality events (i.e. birds dead in the net or during ringing)

Species		Recaptured ind. (C)	Ringed (B)
Chiffchaff,	<i>Phylloscopus collybita</i>	2	355
Blackcap,	<i>Sylvia atricapilla</i>	1	246
Reed warbler,	<i>Acrocephalus scirpaceus</i>	5	75
Reed bunting,	<i>Emberiza schoeniclus</i>	4	58
Kingfisher,	<i>Alcedo atthis</i>	15	37
Willow warbler,	<i>Phylloscopus trochilus</i>		23
Penduline tit,	<i>Remiz pendulinus</i>	4	21
Blue tit,	<i>Cyanistes caeruleus</i>	4	21
Cetti's warbler,	<i>Cettia cetti</i>	10	20
Garden warbler,	<i>Sylvia borin</i>		19
Song thrush,	<i>Turdus philomelos</i>		18
Tree pipit,	<i>Anthus trivialis</i>		17
Pied flycatcher,	<i>Ficedula hypoleuca</i>		15
Robin,	<i>Erithacus rubecula</i>	4	14
Moustached warbler,	<i>Acrocephalus melanopogon</i>	4	13
Pied flycatcher,	<i>Ficedula hypoleuca</i>		10
Great reed warbler,	<i>Acrocephalus arundinaceus</i>		8
Goldcrest,	<i>Regulus regulus</i>		5
Sedge warbler,	<i>Acrocephalus schoenobaenus</i>		5
Firecrest,	<i>Regulus ignicapilla</i>		4
Eurasian wren,	<i>Troglodytes troglodytes</i>		3
Wryneck,	<i>Jynx torquilla</i>		3
Short-toed treecreeper,	<i>Certhia brachydactyla</i>		2
Sardinian warbler,	<i>Sylvia melanocephala</i>		2
Barn swallow,	<i>Hirundo rustica</i>		2
Common redstart,	<i>Phoenicurus phoenicurus</i>		1
Long-tailed tit,	<i>Aegithalos caudatus</i>		1
Common grasshopper warbler,	<i>Locustella naevia</i>		1
European green woodpecker,	<i>Picus viridis</i>		1
Common starling,	<i>Sturnus vulgaris</i>		1
Rock bunting,	<i>Emberiza cia</i>		1
Cirl bunting,	<i>Emberiza cirlus</i>		1
Blackbird,	<i>Turdus merula</i>		1
Little bunting,	<i>Emberiza pusilla</i>		1
African stonechat,	<i>Saxicola torquatus</i>		1
TOTAL PHENO		74	1006

Species		Recaptured ind. (C)	Ringed (B)
Barn swallow,	<i>Hirundo rustica</i>	5	1460
Sand martin,	<i>Riparia riparia</i>		20
Hybrid,	<i>Hirundo rustica x Riparia riparia</i>		1
Hybrid,	<i>Hirundo rustica x Delichon urbicum</i>		1
Kingfisher,	<i>Alcedo atthis</i>		2
Pied flycatcher,	<i>Ficedula hypoleuca</i>		1
Little bittern,	<i>Ixobrychus minutus</i>		1
Reed warbler,	<i>Acrocephalus scirpaceus</i>		1
European goldfinch,	<i>Carduelis carduelis</i>		1
Great reed warbler,	<i>Acrocephalus arundinaceus</i>		1
TOTAL VOIE		5	1489

Table 3: Numbers of both protocols in summary.

Note: (A): Number of ringing and recapture events, excluding accidental releases (i.e. birds released accidentally before being ringed) and mortality events (i.e. birds dead in the net or during ringing)

(B): Number of all capture events. (C): Number of individual birds ringed or recaptured, excluding individuals released accidentally before being ringed and birds dead in the net or during ringing. (D): Number of all individuals captured in 2022.

Total count of releases of alive and ringed birds(A)	2576
Total count of captures(B)	2583
Total individuals released with ring(C)	2515
Total individuals captured(D)	2522

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