

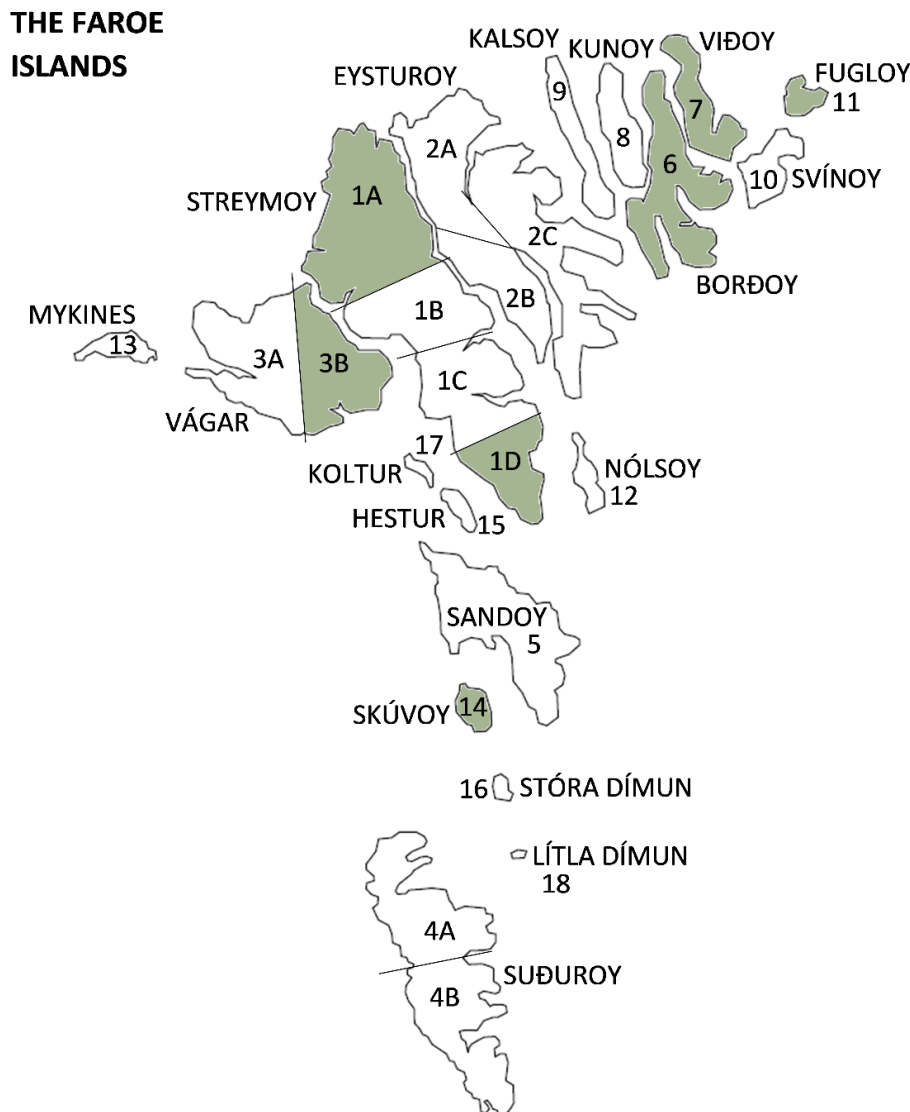
Citizen Science project - eBird

The eBird project commenced in the summer of 2022, and will run for three consecutive years. The project is managed by the Faroese Ornithological Society (Føroya Fuglafrøðifelag), and run by the project leader Diana Krossá Kongsbak. The primary aim of the project is to produce a low-resolution distribution map with the potential to detect important bird areas. The secondary aim is to test the applicability of eBird to engage citizens in recording and counting birds in the Faroe Islands.

The eBird project

We decided to divide islands into 25 big areas (Fig. 1), and the idea was to have at least one observer for each area. Via posts and film on social media, the Faroese Ornithological Society's webpage and a radio talk, citizens were invited to take part in the project, and encouraged to sign up to count a specific area three to four times from 1. May until 31. August that year. However, even with heavy marketing we did not manage to cover all the islands, but recruited seven citizens to count eight of the 25 areas this year.

Fig. 1. The 25 designated areas of the eBird project, with the areas covered by registered observers in green



These observers registered 14 checklists over the course of the summer, and recorded 24 bird species (sea birds not included) with a total of 871 specimens counted (Table 1). Note however, that only complete checklists from this period were included in the results, so some species may have been observed on the Faroe Islands this summer that are not accounted for here.

Table 1. Results from the registered observers' counts in the period 1. May until 31. August 2022

Species	Common name	Count
<i>Anser anser</i>	Graylag Goose	2
<i>Columba livia</i>	Rock Pigeon	19
<i>Haematopus ostralegus</i>	Eurasian Oystercatcher	68
<i>Pluvialis apricaria</i>	European Golden-Plover	35
<i>Charadrius hiaticula</i>	Common Ringed Plover	2
<i>Numenius phaeopus</i>	Whimbrel	65
<i>Gallinago gallinago</i>	Common Snipe	11
<i>Stercorarius skua</i>	Great Skua	15
<i>Stercorarius parasiticus</i>	Parasitic Jaeger	20
<i>Rissa tridactyla</i>	Black-legged Kittiwake	170
<i>Larus canus</i>	Common Gull	6
<i>Larus argentatus</i>	Herring Gull	10
<i>Larus fuscus</i>	Lesser Black-backed Gull	67
<i>Larus marinus</i>	Great Black-backed Gull	29
<i>Sterna paradisaea</i>	Arctic Tern	228
<i>Corvus cornix</i>	Hooded Crow	6
<i>Corvus corax</i>	Common Raven	1
<i>Troglodytes troglodytes</i>	Eurasian Wren	4
<i>Sturnus vulgaris</i>	European Starling	79
<i>Turdus merula</i>	Eurasian Blackbird	5
<i>Erithacus rubecula</i>	European Robin	7
<i>Oenanthe oenanthe</i>	Northern Wheatear	20
<i>Passer domesticus</i>	House Sparrow	1
<i>Anthus petrosus</i>	Rock Pipit	2
Total sum:		872

While any registered bird sighting is helpful for scientific purposes, focusing merely on the registered counters for the eBird project limits the possibilities. Therefore, we decided to look at other bird registrations on the Faroe Islands in the timeframe of the project as well.

The Faroe Islands

Broadening our perspective and including all observers and all checklists registered in the Faroe Islands this summer, the results are quite different. Here, 62 observers registered 351 checklists counting 57 bird species (seabirds not included), with a total of 14.537 specimens (Table 2).

Table 2. Results, when including all checklists from the Faroe Islands in the period 1. May until 31. August 2022

Species	Common name	Count
<i>Anser anser</i>	Graylag Goose	409
<i>Anser brachyrhynchus</i>	Pink-footed Goose	2
<i>Branta bernicla</i>	Brant Goose	12
<i>Branta leucopsis</i>	Barnacle Goose	356
<i>Cygnus cygnus</i>	Whooper Swan	45
<i>Tadorna tadorna</i>	Common Shelduck	3
<i>Aix galericulata</i>	Mandarin Duck	3
<i>Mareca penelope</i>	Eurasian Wigeon	14
<i>Anas platyrhynchos</i>	Mallard	535
<i>Anas crecca</i>	Green-winged Teal	7
<i>Columba livia</i>	Rock Pigeon	568
<i>Columba palumbus</i>	Common Wood-Pigeon	2
<i>Streptopelia decaocto</i>	Eurasian Collared-Dove	20
<i>Apus apus</i>	Common Swift	2
<i>Haematopus ostralegus</i>	Eurasian Oystercatcher	871
<i>Pluvialis apricaria</i>	European Golden Plover	116
<i>Charadrius hiaticula</i>	Common Ringed Plover	61
<i>Numenius phaeopus</i>	Whimbrel	265
<i>Numenius arquata</i>	Eurasian Curlew	9
<i>Limosa limosa</i>	Black-tailed Godwit	10
<i>Arenaria interpres</i>	Ruddy turnstone	132
<i>Calidris alba</i>	Sanderling	38
<i>Calidris alpina</i>	Dunlin	46
<i>Calidris maritima</i>	Purple Sandpiper	23
<i>Gallinago gallinago</i>	Common Snipe	138
<i>Phalaropus lobatus</i>	Red-necked Phalarope	40
<i>Tringa totanus</i>	Common Redshank	44
<i>Stercorarius skua</i>	Great Skua	167
<i>Stercorarius parasiticus</i>	Parasitic Jaeger	153
<i>Rissa tridactyla</i>	Black-legged Kittiwake	1324
<i>Chroicocephalus ridibundus</i>	Black-headed Gull	91
<i>Larus canus</i>	Common Gull	137
<i>Larus argentatus</i>	Herring Gull	619
<i>Larus glaucoides</i>	Iceland Gull	3
<i>Larus fuscus</i>	Lesser Black-backed Gull	999
<i>Larus hyperboreus</i>	Glaucous Gull	1
<i>Larus marinus</i>	Great Black-backed Gull	273
<i>Sterna paradisaea</i>	Arctic Tern	2565
<i>Ardea cinerea</i>	Gray Heron	1

<i>Corvus cornix</i>	Hooded Crow	312
<i>Corvus corax</i>	Common Raven	69
<i>Hirundo rustica</i>	Barn Swallow	4
<i>Phylloscopus collybita</i>	Common Chiffchaff	4
<i>Regulus regulus</i>	Goldcrest	17
<i>Troglodytes troglodytes</i>	Eurasian Wren	97
<i>Sturnus vulgaris</i>	European Starling	2704
<i>Turdus iliacus</i>	Redwing	8
<i>Turdus merula</i>	Eurasian Blackbird	105
<i>Erithacus rubecula</i>	European Robin	45
<i>Oenanthe oenanthe</i>	Northern Wheatear	215
<i>Passer domesticus</i>	House Sparrow	597
<i>Passer montanus</i>	Eurasian Tree Sparrow	3
<i>Motacilla alba</i>	White Wagtail	34
<i>Anthus pratensis</i>	Meadow Pipit	144
<i>Anthus petrosus</i>	Rock Pipit	64
<i>Acanthis flammea</i>	Common Redpoll	1
<i>Spinus spinus</i>	Eurasian Siskin	10
Total sum:		14537

Choosing to include all observers and all checklists for the period hence makes a huge difference. In fact, only 6% of the total observations stem from the registered observers (Fig. 2), and no species were specific only to these counts.

Discussion

In the remainder of this report, we use the results obtained from including all observations and registrations from the Faroe Islands in the timeframe of the project.

Not surprisingly, common species such as *S. vulgaris*, *S. paradisaea* and *H. ostralegus* were in the top five most numerous species observed (Fig. 3). Other common and numerous bird species include *L. argentatus*, *P. domesticus* and *C. livia*.

Similarly, only one specimen of rarer species such as *L. hyperboreus*, *A. cinerea* and *A. flammea* were registered, as well as two specimens of the species *A. brachyrhynchus*, *C. palumbus* and *A. apus*.

Fig. 2. The percentage and distribution of observations from the registered observers as opposed to the sum for the Faroe Islands in that period. * For the registered observers only percentage of total counts is shown

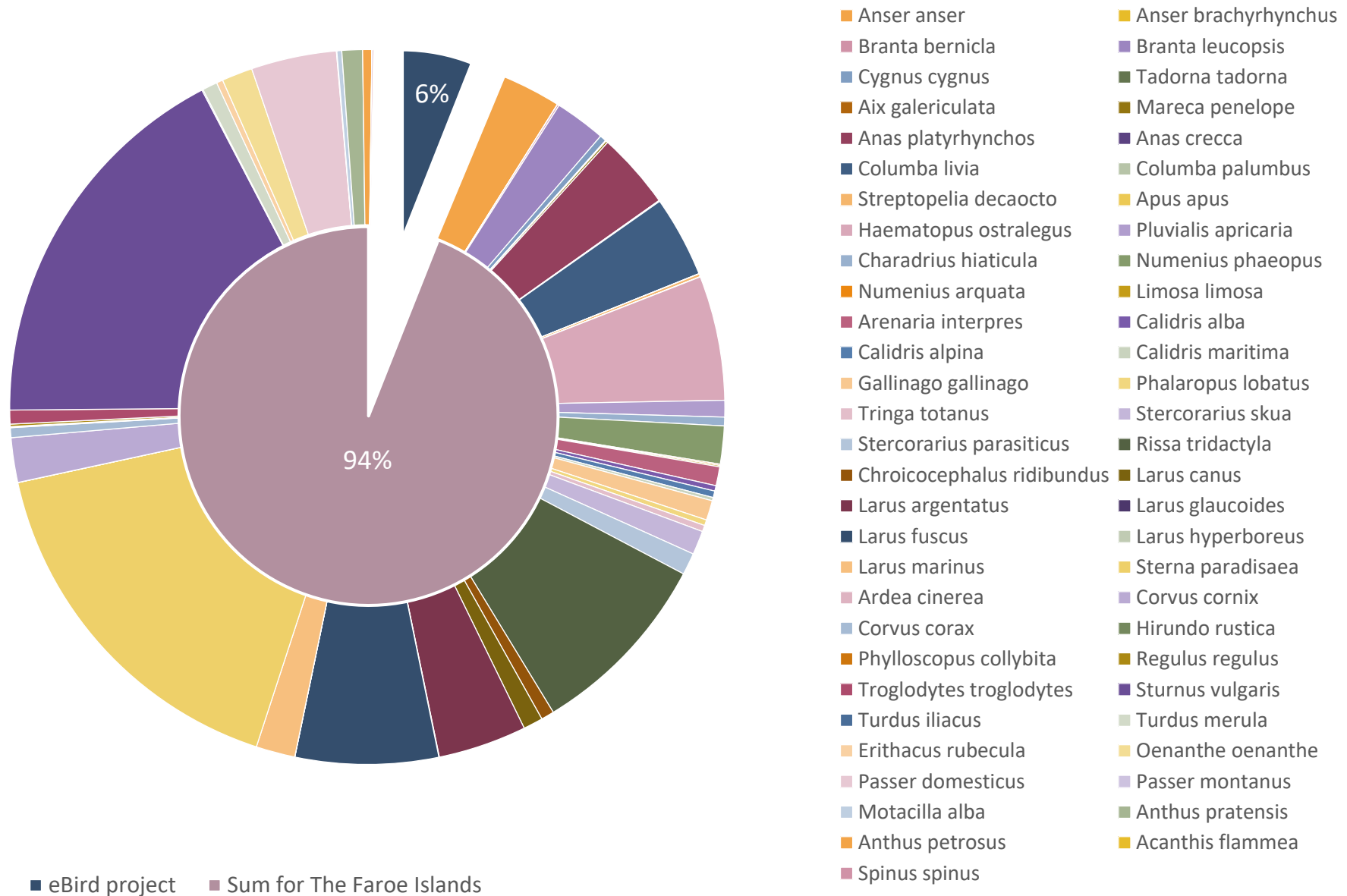


Fig. 3. Observed bird species sorted by counts

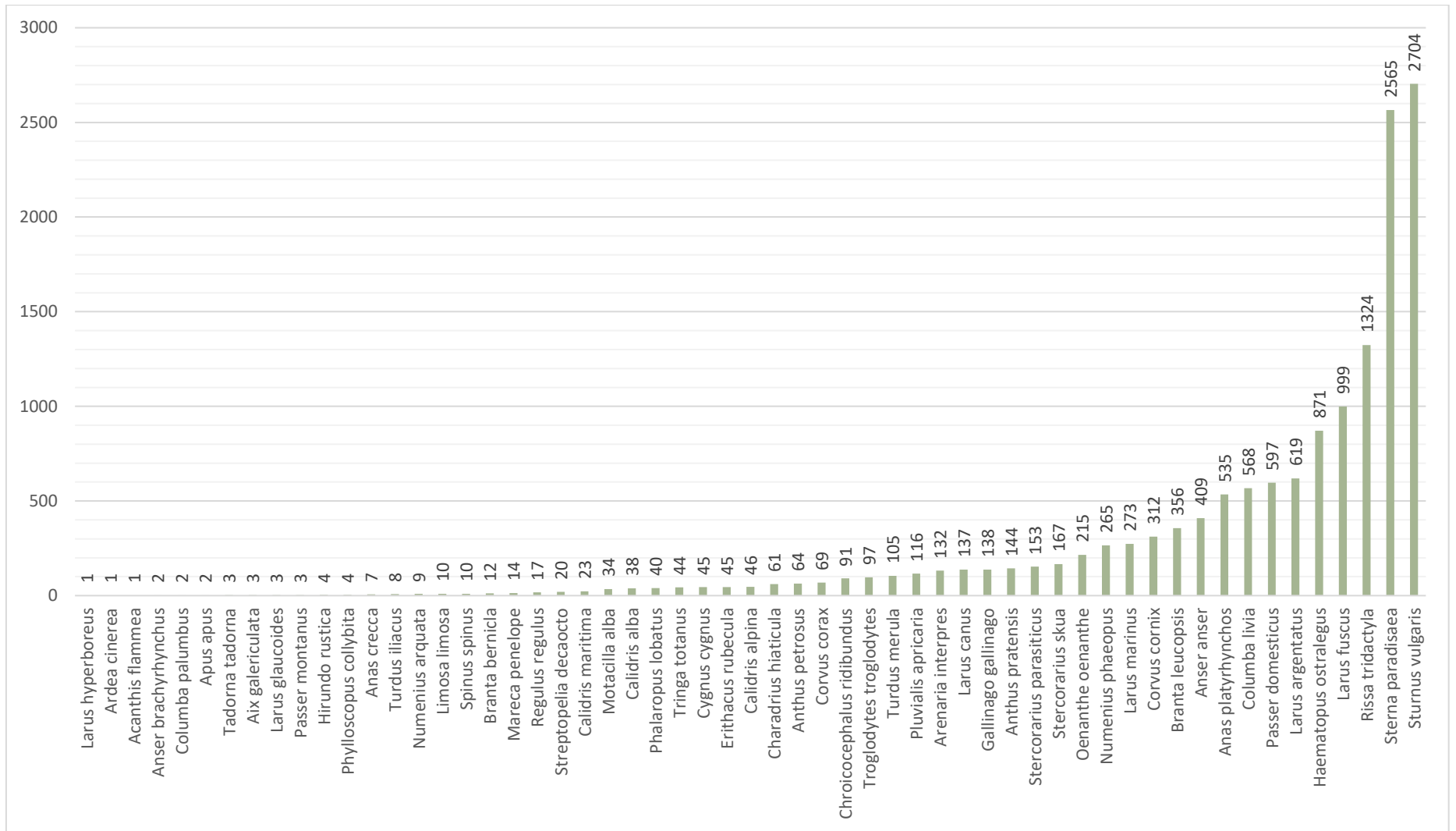
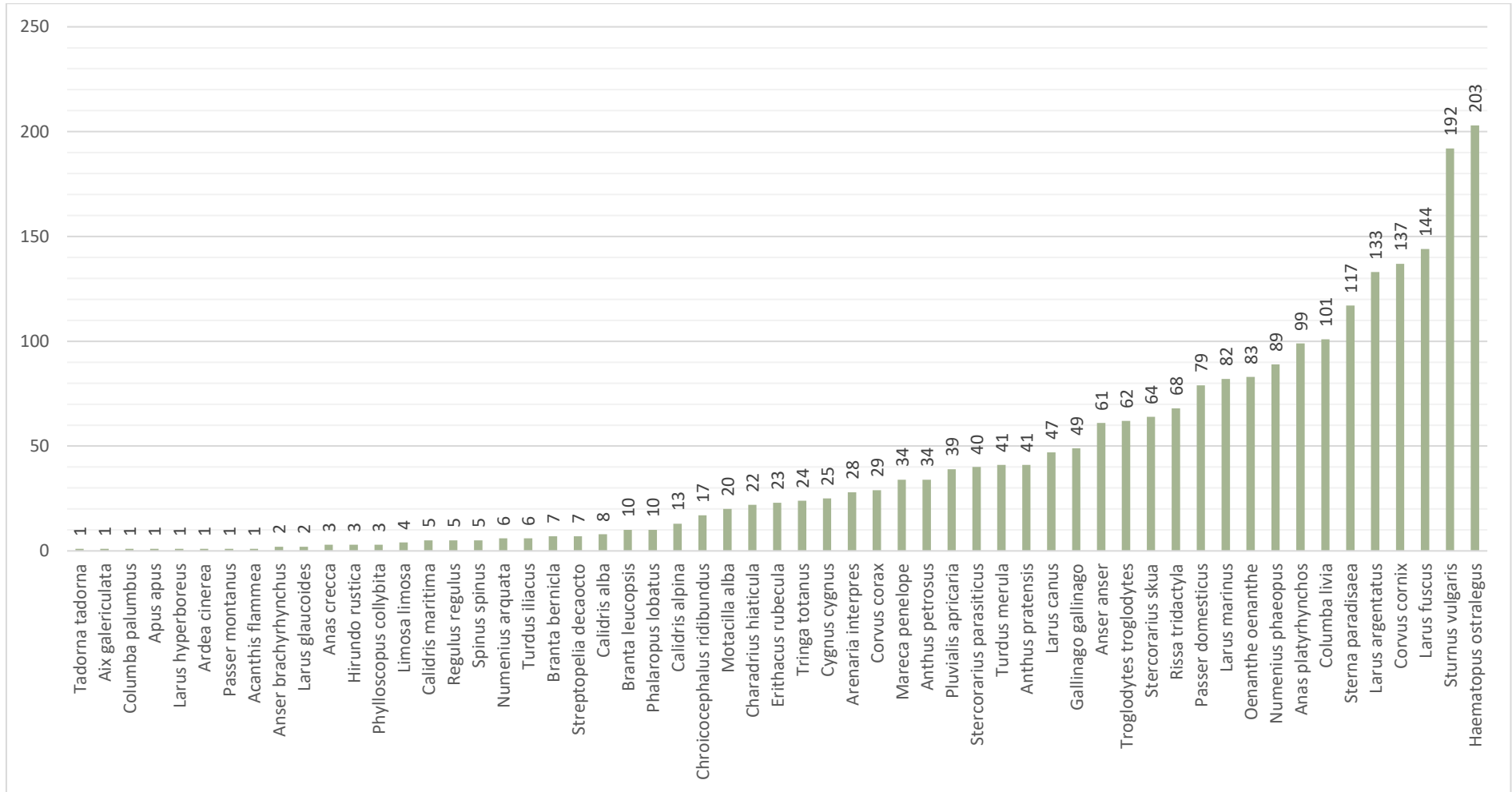


Fig. 4. Observed bird species sorted by checklists



When sorting the species by checklists as portrayed in Fig. 4, we can compare the total counts of the species with checklist appearances; this comparison is made in Fig. 5. Five of the species - *S. vulgaris*, *S. paradisaea*, *L. fuscus*, *L. argentatus* and *H. ostralegus* - are in the top six in both figures. This is not unexpected, as checklist registrations and counts would concur in many cases. Two species do however differ between Fig. 3 and Fig. 4 – the species *R. tridactyla* and *C. cornix*.

R. tridactyla is numerous in counts, but did not make it to the top six in checklist registrations. Although they are a common and abundant species, they live and nest in colonies along seacoasts, often resulting in the registered counts being higher than the checklist registrations.

The observations for *C. cornix* on the other hand, are higher on checklists than on counts. This again is coherent with our predictions, as *C. cornix* is found in varied habitats, but only in pairs or small groups.

Fig. 5. Comparing the six most numerous species with the six most registered species

Most numerous species			Most registered species		
<i>Sturnus vulgaris</i>	Common Starling	2704	<i>Haematopus ostralegus</i>	Eurasian Oystercatcher	203
<i>Sterna paradisaea</i>	Arctic Tern	2565	<i>Sturnus vulgaris</i>	Common Starling	192
<i>Rissa tridactyla</i>	Black-legged Kittiwake	1324	<i>Larus fuscus</i>	Lesser Black-backed Gull	144
<i>Larus fuscus</i>	Lesser Black-backed Gull	999	<i>Corvus cornix</i>	Hooded Crow	137
<i>Haematopus ostralegus</i>	Eurasian Oystercatcher	871	<i>Larus argentatus</i>	Herring Gull	133
<i>Larus argentatus</i>	Herring Gull	619	<i>Sterna paradisaea</i>	Arctic Tern	117

On the other hand, when comparing the least numerous species with checklist registrations, the species line up perfectly (Fig. 6). Of course, this is not surprising since observations of rarer species often entail encountering only one or two specimens of said species.

Fig. 6. Comparing the six least numerous species with the six least registered species

Least numerous species			Least registered species		
<i>Larus hyperboreus</i>	Glaucous Gull	1	<i>Larus hyperboreus</i>	Glaucous Gull	1
<i>Ardea cinerea</i>	Grey Heron	1	<i>Ardea cinerea</i>	Grey Heron	1
<i>Acanthis flammea</i>	Common Redpoll	1	<i>Acanthis flammea</i>	Common Redpoll	1
<i>Columba palumbus</i>	Common Wood-Pigeon	2	<i>Columba palumbus</i>	Common Wood-Pigeon	1
<i>Apus apus</i>	Common Swift	2	<i>Apus apus</i>	Common Swift	1

* *A. galericulata*, *T. tadorna* and *P. montanus* were also only recorded once.

Appendix: Species distribution maps





