SEAPOP Short Report 1-2026

Key-site monitoring in Norway 2025, including Svalbard and Jan Mayen

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Breeding success

In 2025, breeding success varied considerably among species and colonies (Tables 1a & 2). Among the pelagic surface-feeding seabirds, black-legged kittiwakes and northern fulmars had moderate or poor breeding success in most monitored colonies. Northern fulmars had moderate breeding success on Jan Mayen. At Sklinna, northern fulmars failed to breed for the third consecutive year. The breeding success of Northern gannets was good on Bjørnøya and Runde, and moderate on Hjelmsøya (Gjesværstappan). Black-legged kittiwakes had moderate breeding success on Runde and Anda, but did not breed on Hjelmsøya for the third consecutive year. In the five remaining colonies, breeding success was poor.

Among coastal surface-feeding seabirds, the large gulls on the mainland—great black-backed gulls, herring gulls and lesser black-backed gulls—had good to moderate breeding success. Exceptions included poor breeding success for great black-backed gulls and herring gulls on Hornøya, herring gulls in the outer Oslofjord, and lesser black-backed gulls in Sør-Helgeland and the outer Oslofjord. The pattern was somewhat more positive for great skuas and glaucous gulls. Great skuas, one of the species strongly affected by highly pathogenic avian influenza (HPAI) in 2022, had moderate to good breeding success in all monitored colonies, except on Spitsbergen, where it was poor. Glaucous gulls had moderate breeding success on Spitsbergen and Bjørnøya, and good breeding success on Jan Mayen.

Breeding success among pelagic diving species was variable in 2025. Only one of the six monitored Atlantic puffin colonies, Sklinna, had good breeding success. On Hornøya and Røst, breeding success was moderate, whereas it was poor on Hjelmsøya, Anda and Runde. Among the other species, Brünnich's guillemots on Bjørnøya, common guillemots on Hornøya and razorbills on Hjelmsøya all had poor breeding success. By contrast, common guillemots at the other monitored colonies—Jan Mayen, Røst and Sklinna—had good breeding success in 2025.

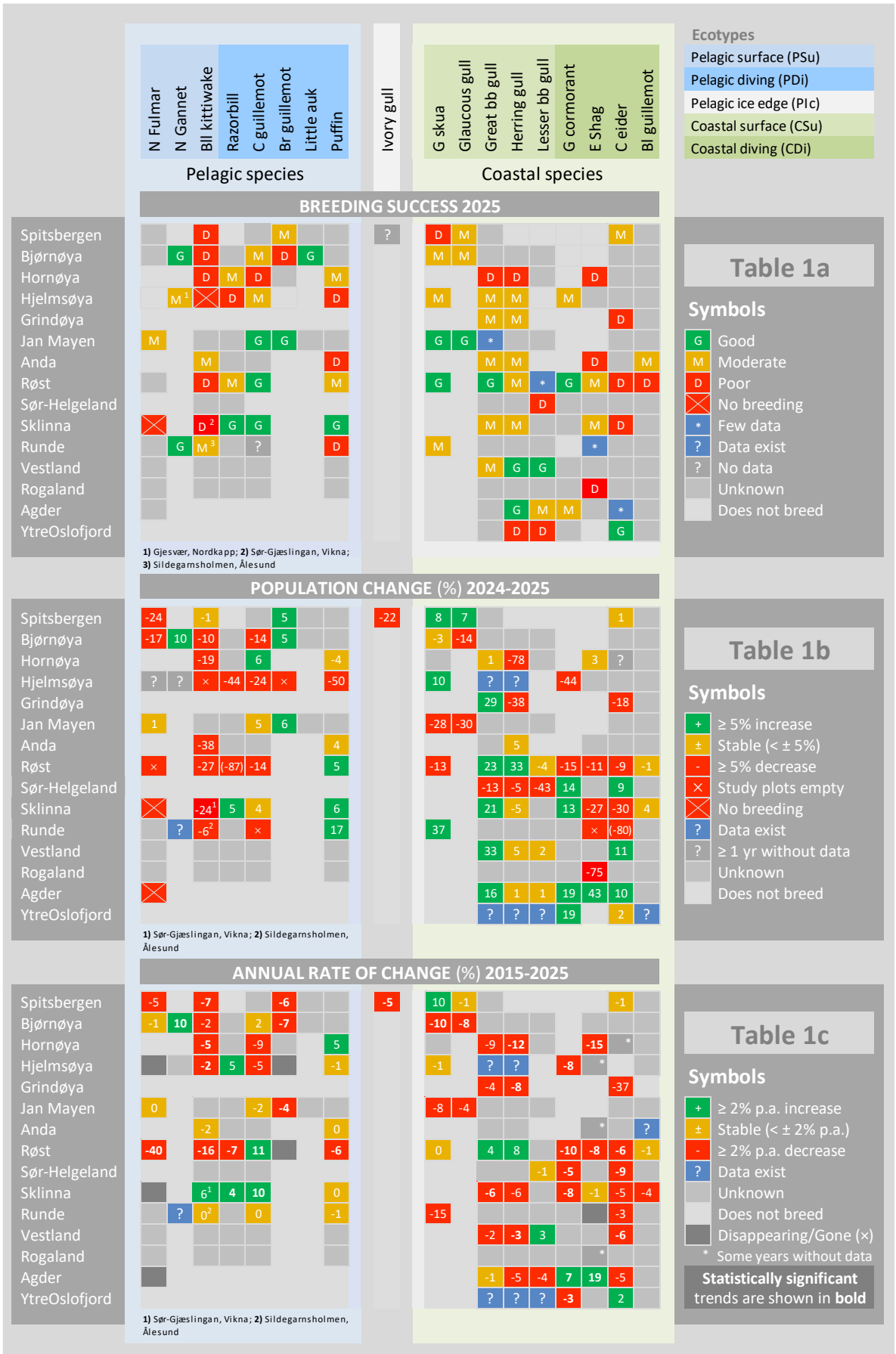
An Atlantic puffin on Røst. Puffins generally had poor breeding success in 2025. Photo: © Tycho Anker-Nilssen

Figure 1

SEAPOP key-sites, as of 2025. Symbol colours indicate which seas they represent: the northern (dark blue) and southern (pale blue) Barents Sea, the Greenland Sea (violet), the Norwegian Sea (green), the North Sea (orange) and the Skagerrak (red). Split colours indicate sites associated with two seas. Large circles indicate the main localities, with some work carried out on nearby sub-localities (small circles). Triangles indicate single-species key-sites for ivory gull (Barentsøya), common eider (Grindøya), lesser black-backed gull (Sør-Helgeland) and shag (Rogaland).

Table 1

Schematic summary of breeding success (1a) and change in breeding numbers (1b) for focal seabird species at the regular SEAPOP key-sites in 2024, and mean population trend over the last ten years (1c).



2025	PSu	PDi	CSu	CDi	All
Barents Sea	D	M	M	M	M
Norwegian Sea	M	G	M	D	M
North Sea			M	M	M
All	M	M	M	M	M

Table 2

Average breeding success in 2025 for different ecotypes of seabirds at the key-sites in the three main sea areas covered by SEAPOP. The codes indicate whether the birds mainly forage in pelagic (P) or coastal (C) areas or seek food at the surface (Su) or by diving (Di).

For the coastal diving species, the overall picture was generally poor. All species had moderate to poor breeding success, with the exception of great cormorants on Røst and common eiders in the outer Oslofjord, both of which had good breeding success in 2025.

Population changes

Of the monitored populations[1], 38.0% increased in numbers, 41.8% declined and 20.3% remained stable from 2024 to 2025 (Table 1b & 3). Pelagic diving species had the highest proportion of growing populations (50%), whereas most pelagic surface-feeding species had declining populations (72.7%).

The mean overall change from 2024 to 2025 was negative (-4.9%), but there was substantial variation among species groups and regions. The North Sea was the only region with an average increase (6.7%), with seven monitored populations increasing and five showing no change. The Barents Sea showed the largest average decline (-9.6%), followed by the Norwegian Sea (-3.0%).

On average, coastal surface-feeding species were stable (-1.5%): populations increased in the North Sea and Skagerrak, whereas declines and stability were observed in the Norwegian Sea and the Barents Sea, respectively. Among single populations, particularly large increases were recorded for herring gulls (33%) and great black-backed gulls (23%) on Røst, and great black-backed gulls on Sklinna (21%). In contrast, lesser black-backed gull, great skua and great black-backed gull in Sør-Helgeland declined. Coastal diving species declined (-3.9% on average), although this group also varied substantially among species and regions. Populations in Skagerrak increased, whereas declines were observed elsewhere: in the North Sea, European shags in Rogaland declined (-75%), while common eiders in Vestlandet increased. Pelagic surface-feeding (-14.1%) and diving species (-4.8%) also declined, again with substantial variation among populations, species, species groups and regions, with the largest declines occurring in the Barents Sea.

Population trends over the last decade (2015–2025; Tables 1c & 3) were generally negative (-3.5% annual percentage change across all species and regions), except for pelagic diving species, which remained stable (-0.6%). Across all groups, 59.7%, 19.5% and 20.8% of populations showed declines, increases and stability, respectively. Coastal diving species in the North Sea and pelagic surface-feeding species in the Norwegian Sea were the only groups showing average increases (2%). In the North Sea, this was driven by positive trends in European shags (19%) and great cormorants (7%) in Agder, although declines also occurred within this group, including great cormorants (-3%) in the Oslofjord. The largest decline was observed among coastal diving species in the Barents Sea (-11%), driven by negative trends in European shags on Hornøya (-15%) and great cormorants on Hjelmsøya (-8%). Pelagic surface-feeding species in the Barents Sea also declined over the last decade (-7%), with

[1] The numbers in this section refer to the number of active breeders within a population.

Table 3

Average rates of population change (%) in the last year (left) and annually over the last decade (right) for different ecotypes of seabirds at key-sites in the main sea areas covered by SEAPOP. The codes indicate whether the birds forage mainly in pelagic (P) or coastal (C) areas or seek food at the surface (Su) or by diving (Di).

2024-2025	PSu	PDi	CSu	CDi	All
Barents Sea	-16	-11	-2	-12	-9.6
Norwegian Sea	-10	7	-8	-3	-3.0
North Sea			10	4	6.7
All	-14.1	-4.8	-1.5	-3.9	**-4.9**

2015-2025	PSu	PDi	CSu	CDi	All
Barents Sea	-7	-2	-3	-11	-4.9
Norwegian Sea	2	1	-7	-5	-2.7
North Sea			-2	2	0.2
All	-4.9	-0.6	-3.5	-5.1	**-3.5**

particularly pronounced declines in northern fulmars and black-legged kittiwakes on Røst, where the largest sub-colonies went extinct during this period. There was also considerable variation among species and populations within this group.

The trend in population change from 2024 to 2025 was more negative than the previous year, which showed a larger number of stable or increasing populations. The long-term trends (2015–2025), however, are consistent with the patterns reported last year and show clear negative trends in three of the four species groups. Seabirds are a vulnerable group experiencing major environmental changes that negatively affect their populations, including climate change, changes in food availability and increased nest predation. This has resulted in a persistent negative trajectory and historically low seabird populations in Norway, well documented by SEAPOP and other monitoring programmes covering our marine areas. Based on this year's trends, we conclude that the status of Norwegian seabirds has deteriorated further. This has implications both within and beyond Norway's national borders, as Norway has both national and international responsibilities for seabird conservation.

Black legged kittiwake with chicks on the nest in Ålesund. Kittiwakes are pelagic surface feeders, the species group that has most severely declined over the last decade. Photo: © Signe Christensen-Dalsgaard

Adult survival

Ringing and resighting of ringed individuals are used in SEAPOP to estimate annual adult survival rates. Monitoring changes in adult survival provides a good indication of how many breeding birds survive from one year to the next. High survival with little interannual variation is the normal state for long-lived seabirds. Declines or increased variation in adult survival indicate some form of external influence, often during the winter period, that has resulted in elevated mortality. In SEAPOP, we have long time series of survival estimates for as many as 16 species and 56 breeding populations, from Agder in the south to Spitsbergen in the north (Figure 1). For analytical reasons, the estimates in this year's report are presented either as constant survival across the entire time series or for the period 2023 to 2024.

Among the pelagic surface-feeding species monitored for adult survival, black-legged kittiwakes, which have received particular attention due to the outbreak of HPAI in 2023, had substantially lower survival on Hornøya (71%) and at Ossian Sars (Spitsbergen) (70%) than the respective long-term averages of 84% for 1990–2023 and 82% for 2018–2023. All other breeding populations showed high and normal survival. Within SEAPOP, survival of northern fulmars is monitored only on Jan Mayen, where estimated survival has been substantially lower in recent years (74% in 2020–2025) than previously (98% in 2011–2020).

A great black-backed gull with a metal and colour ring on Hornøya, where adult survival rate was close to the long-term average. Photo: © Tone K. Reiertsen

Among pelagic diving species, survival was good for razorbills and common guillemots, whereas it was poorer in several colonies for Atlantic puffins, Brünnich's guillemots and little auks. For Atlantic puffins, only Anda (61%) and Hornøya (70%) stood out negatively relative to the average survival of 87% for both colonies. For razorbills, survival was high and normal on Sklinna, Hjelmsøya and Hornøya. In common guillemots, all five populations showed high and constant survival. It is worth noting that common guillemots from Jan Mayen showed a substantial improvement in survival, from 82% to 87%. Among the Arctic populations, Brünnich's guillemots from Bjørnøya and Ossian Sars (Spitsbergen) had worryingly low survival of 72% and 78%, respectively, compared with averages of 89% for 1988–2023 and 87% for 2010–2023. The same was true for little auks from Spitsbergen, which had a survival rate of 67%, compared with an average of 79% for 2007–2023.

For the coastal surface-feeding seabirds along the mainland coast—great black-backed gulls, herring gulls and lesser black-backed gulls—there were no deviations from the populations' average survival rates. On Svalbard, glaucous gulls from Kongsfjorden improved from the very low survival recorded the previous year (77%) to 95%. Great skuas in Kongsfjorden were severely affected by HPAI in 2022–2023, resulting in very low annual survival in 2022–2024, at 55%, 18% and 52%, respectively. These values are substantially lower than the average of 97% for 2007–2021.

The coastal diving seabirds, with the exception of common eiders, had good survival. For European shags, there were no deviations from the species' average survival in any of the monitored colonies. However, it is worth noting that the populations on both Røst and Sklinna have returned to normal estimates following very low values the previous year, increasing from 66% to 87% on Røst and from 63% to 83% on Sklinna. Neither of the two monitored black guillemot populations showed any deviation from the species' average survival estimate. Common eiders from Grindøya had very low survival for the third consecutive year (45%).

A female common eider on the nest in Kongsfjorden, Svalbard. Common eiders had normal adult survival in Svalbard but low survival on Grindøya, Trøms. Photo: © Sébastien Descamps

APPENDIX – Key parameters from all key-sites in 2025

Key to Tables A1-A15

Key population parameters (SE, n) of seabirds breeding on the key-sites indicated above each table, from North to South. The start year of most data series are listed on the SEAPOP web (https://seapop.no/en/distribution-status/time-series-data/). Population change (expressed as percentage) is the numeric change in size of the breeding population registered between 2024 and 2025 based on plot counts (p) or total censuses (t). For survival, in all cases the listed estimate is derived from the basic CJS model(s) that fits the dataset best (i.e., the one with the lowest AICc or QAICc value). When the model retained is one with constant survival and recapture rate, the survival can be estimated over the whole monitoring period (up until 2024, yrs >1 in the tables below). If the model retained is one with constant recapture rate but varying survival, it is possible to produce a valid estimate for the last time step (2024-2025). However, when the model retained is one with varying survival and recapture rates, it is not possible to distinguish the two variables in the last time step (2024-2025), so the survival is only reported for the previous time step (2023-2024, yrs = 1 in the tables below). In the tables, parameters that have not yet been calculated are marked as such, while blank cells or "no data" indicate a parameter is not monitored at this particular key-site.

Table A1. *Key population parameters (SE, n) of seabirds on* ***Svalbard*** *in 2025 (excl. Bjørnøya, cf. Table A2).*

		Population change	Annual adult survival			Reproductive performance		
Species	**Locality**	**Estimate %**	**Period (yrs)**	**Estimate %**	**(SE, n)**	**Sampling unit**	**Estimate**	**(SE, n)**
Fulmar	*Nøisdalen*	-24[p]						
Common eider	*Kongsfjorden*	1[t]	2007-2025 (19)	0.81	(0.01, 475)	Hatching success[1]	0.66	(0.07, 41)
Great skua	*Kongsfjorden*	-11[t]	2017-2025 (9)	0.71	(0.05, 58)	Hatching success[1]	0.14	(0.14, 7)
	Kongsfjorden					Clutch size[2]	1.88	(0.13, 8)
	Hermansenøy	8[t]				Clutch size[2]	1.82	(0.05, 56)
Ivory gull	*32 colonies*	-22[p]		*No data*				
	Barentsøya					Large chicks/nest	*No data*	
Glaucous gull	*Kongsfjorden*	-6[p]	2023-2024 (1)	0.95	(0.09, 158)	Hatching success	0.56	(0.08, 41)
Kittiwake	*Ossian Sars*	0[p]	2023-2024 (1)	0.70	(0.10, 91)	Chicks >15d/nest	*No data*	
	Fuglehuken	-2[p]						
	Alkefjellet	*No data*[p]	2015-2025 (11)	0.91	(0.02, 66)			
Brünnich's guillemot	*Ossian Sars*	-24[p]	2023-2024 (1)	0.78	(0.05, 237)	Chicks >15d/nest	0.66	(0.08, 32)
	Diabasodden	-77[t]						
	Fuglehuken	-19[p]						
	Alkefjellet	*No data*	2015-2025 (11)	0.88	(0.02, 76)			
Little auk	*Feiringfjellet*	*No data*	2023-2024 (1)	0.67	(0.10, 836)			
Atlantic puffin	*Gåsøyane*	42[p]	2018-2025 (7)	0.89	(0.02, 194)			

[p] plot count [t] total census [1] Minimum proportion of nests with at least one chick hatching, based on nests with known fate. [2] Number of eggs per active nest.

Table A2. *Key population parameters (SE, n) of seabirds on* ***Bjørnøya*** *in 2025.*

	Population change	Annual adult survival			Reproductive performance		
Species	**Estimate %**	**Period (yrs)**	**Estimate %**	**(SE, n)**	**Sampling unit**	**Estimate**	**(SE, n)**
Fulmar	-23[P]						
Gannet	30[t]				Large chicks/nets	0.63	(0.09, 32)
Great skua	7[P]	2022-2023 (1)	63.2	(6.6, 298)	Large chicks/nest	0.81	(0.05, 59)
Glaucous gull	1[P]	2009-2024 (15)	80.2	(1.5, 192)	Large chicks/nest	1.38	(0.13, 14)
Kittiwake	-2[P]	2004-2024 (20)	87.7	(0.7, 426)	Large chicks/nest	0.69	(0.07, 49)
Common guillemot	-4[P]		[1]		Fledging success[2]	0.62	(0.04, 133)
Brünnich's guillemot	-5[P]	2022-2023 (1)	76.5	(8.6, 356)	Fledging success[2]	0.35	(0.10, 23)
Little auk	*No data*[3]	2022-2023 (1)	97.8	(4.8, 1135)	Fledging success	0.88	(0.05, 50)

[P] plot count [t] Total count [1] Results not yet available. [2] Measured at the age of 20 days. [3] Pilot project data under analysis.

Table A3. *Key population parameters (SE, n) of seabirds on* ***Hornøya*** *in 2025.*

	Population change	Annual adult survival			Reproductive performance		
Species	**Estimate %**	**Period (yrs)**	**Estimate %**	**(SE, n)**	**Sampling unit**	**Estimate**	**(SE, n)**
Shag	3[P,1]	2004-2025 (21)	84.70	(1.06, 432)	Clutch size	*No data*	
					Breeding success	*No data*	
Herring gull	-22[P]	2007-2025 (18)	86.10	(1.53, 176)	Clutch size	1.79	(0.13, 34)
					Breeding success[2]	0.13	(0.08, 30)
Great black-backed gull	50[P]	2001-2025 (24)	83.00	(1.16, 245)	Clutch size	2.37	(0.17, 19)
					Breeding success[2]	0.53	(0.23, 17)
Kittiwake	-19[P]	2023-2024 (1)	71.40	(5.10, 1720)	Clutch size	*No data*[3]	
					Large chicks/nest[4]	0.00	(0.00, 150)
Common guillemot	-5	1988-2025 (37)	97.60	(0.03, 316)	Breeding success[4]	0.00[5]	(0.00, 30)
Razorbill	*No data*	1995-2025 (29)	95.00	(0.06, 455)	Breeding success[4]	0.55	(0.09, 29)
Atlantic puffin	-4[P]	2023-2024 (1)	69.80	(5.20, 1049)	Breeding success[4]	0.52	(0.10, 27)

[P] plot count [1] Most shag plots were empty, and breeding birds have moved to more sheltered areas in the cliff. [2] Chicks that survived until day 20/nest. [3] Not possible to monitor due to accessibility of birds/visibility of nest content since population had declined and study plots where this is possible are now no longer available. [4] Medium-sized chicks/egg laid. [5] Total breeding failure and zero hatching success at the colony level because of extremely high nest predation.

Table A4. *Key population parameters (SE, n) of seabirds on* ***Hjelmsøya*** *in 2025.*

		Population change	Annual adult survival			Reproductive performance		
Species	**Locality**	**Estimate %**	**Period (yrs)**	**Estimate %**	**(SE, n)**	**Sampling unit**	**Estimate**	**(SE, n)**
Great cormorant	*W Finnmark*	-44[t]						
Shag	*Lille Kamøy*	*No data*[P,1]						
Gannet	*Gjesværstapp*	*No data*[t,1]						
Common eider		*No data*[t,2]				Clutch size[3]	3.75	(0.48, 4)
Great skua		10[t]				Clutch size[3]	1.70	(0.48, 10)
Arctic skua		3.3[t]				Clutch size[3]	1.00	(-, 1)
Arctic tern		-70[t]				Clutch size[3]	1.09	(0.12, 44)
Common gull		-19.3[t]				Clutch size[3]	1.46	(0.24, 30)
Herring gull		*No data*[P,2]				Clutch size[3]	2.14	(0.89, 36)
						Breeding success[4]	0.57	(0.09, 36)
Great black-backed gull		*No data*[P,2]				Clutch size[3]	2.33	(0.66, 21)
						Breeding success[4]	0.47	(0.10, 21)
Kittiwake		-100[P,5]				Clutch size[3]	Extinct	
						Breeding success[3]	Extinct	
Common guillemot	*Open ledges (inds.)*	-50.2[P]				Breeding success[3]	0.00[6]	(-, 0)
	Crevices (total)	-24[P]	2004 - 2025 (21)	89.20	(1.10, 301)	Breeding success	*No data*[7]	
Brünnich's guillemot		Extinct[8]						
Razorbill	*Individual counts*	-88.7[P]	2023-2024 (1)	93.10	(92.10, 33)			
	Crevices (eggs)	-44[P]				Breeding success	*No data*[7]	
Atlantic puffin	*Gjesværstapp*	*No data*[P,1]						
	Hjelmsøya	-50[P,9]	2007-2025 (18)	85.20	(1.40, 417)	Hatching success	0.22	(0.03, 119)
						Breeding success[10]	0.09	(0.04, 116)

[t] total census [P] plot count [1] Not counted due to weather conditions. [2] Results not yet available. [3] Including empty nests. [4] Hatching success. Not able to collect data on big chicks (>15 days old) due to a very late season. [5] Extinct colony [6] No eggs laid due to disturbance. [7] Plots not counted in July due to field assistant leaving prematurely because of an accident. [8] Very few birds still attended the colony irregularly. [9] 25 plots [10] medium chicks/egg laid.

Table A5. *Key population parameters (SE, n) of seabirds on* ***Jan Mayen*** *in 2025*

	Population change	Annual adult survival			Reproductive performance		
Species	**Estimate %**	**Period (yrs)**	**Estimate %**	**(SE, n)**	**Sampling unit**	**Estimate**	**(SE, n)**
Fulmar	1[P]	2020-2025 (5)	74.10	(5.40, 117)	Chicks/nest[1,2]	0.48	(0.06, 65)
Common guillemot	5[P]	2023-2024 (1)	87.10	(6.30, 131)	Breeding success[3,2]	0.68	(0.10, 22)
Brünnich's guillemot	6[P]	2011-2025 (14)	90.90	(1.10, 167)	Breeding success[3,2]	0.73	(0.07, 45)
Great skua	-28[P]				Large chicks/nest[4]	1.05	(0.14, 18)
Glaucous gull	-30[P]				Large chicks/nest[4]	1.20	(0.24, 15)

[P] plot count [1] Recorded early in the chick-rearing period when most chicks were still small or medium sized. [2] Due to late start of fieldwork, the number of initially active nests is probably underestimated, hence reproductive performance is probably overestimated. [3] Number of chicks ≥15 days of age divided by number of breeding pairs (n). [4] Number of chicks large enough for ringing divided by number of active nests (n).

Table A6. *Key population parameters (SE, n) of common eider on* ***Grindøya*** *in 2025.*

	Population change	Annual adult survival			Reproductive performance		
Species	**Estimate %**	**Period (yrs)**	**Estimate %**	**(SE, n)**	**Sampling unit**	**Estimate**	**(SE, n)**
Common eider	-6.1[t]	2023-2024 (1)	45.30	(29.80, 1553)	Clutch size	4.88	(0.44, 8)

[t] total census/male counts

Table A7. *Key population parameters (SE, n) of seabirds on* ***Anda*** *in 2025.*

	Population change	Annual adult survival			Reproductive performance		
Species	**Estimate %**	**Period (yrs)**	**Estimate %**	**(SE, n)**	**Sampling unit**	**Estimate**	**(SE, n)**
Shag	*No data*[1]				Clutch size	0.00	(0.00, 3)
Herring gull	5[t]				Clutch size	1.60	(0.10, 43)
Kittiwake	-38[p]	2024-25 (1)	81.00	(4.50, 607)	Large chicks/nest	0.00[2]	(0.00, 552)
Puffin	4[p]	2024-25 (1)	60.70	(5.20, 595)	Hatching success	0.55	(0.07, 51)
					Chicks ≥ 10d/nest	0.46[3]	(0.72, 48)
Black guillemot	(250)[4]				Large chicks/nest	*No data*	

[1] not counted in 2024 , 3 individuals in 2025. [t] total census [p] plot count [2] Very late breeding season - all chicks where still small and downy at the time of census in July. [3] Very late breeding season, it was therefore only possible to estimate survival of chicks to the age of 10 days. [4] From 12 individuals in 2024 to 42 in 2025.

Table A8. *Key population parameters (SE, n) of seabirds on* ***Røst*** *in 2025.*

		Population change	Annual adult survival			Reproductive performance		
Species	**Locality**	**Estimate %**	**Period (yrs)**	**Estimate %**	**(SE, n)**	**Sampling unit**	**Estimate**	**(SE, n)**
Fulmar	*Hernyken*	Extinct in plots[P]						
	Buvær & Gjelfruvær	(34)[t]						
Great cormorant		-15[t]				Clutch size[1]	2.86	(0.20, 22)
						Large chicks/nest	2.38	(-, 21)
Shag	*Ellefsnyken*	-14[P]	2023-2024 (1)	86.80	(8.30, 602)	Clutch size	2.44	(0.08, 78)
						Clutch size	2.36	(0.08, 81)
						Large chicks/nest[3]	1.33	(0.23, 18)
Common eider		-9[P]				Clutch size[3]	4.09	(0.13, 65)
Great skua		-13[t,5]				Clutch size[3]	2.00	(0.00, 4)
						Breeding success[3]	1.50	(0.22, 6)
Common gull		-38[P]				Clutch size[3]	2.71	(0.13, 14)
						Large chicks/nest[3]	0.25	(-, 40)
Lesser black-backed gull		*No data*[P]				Clutch size[3]	2.74	(0.09, 23)
						Large chicks/nest[3]	(1,0)	(-, 1)
Herring gull		33[P]				Clutch size[3]	2.29	(0.10, 48)
						Large chicks/nest[3]	0.87	(-, 31)
Great black-backed gull		23[P]				Clutch size[3]	2.50	(0.07, 104)
						Large chicks/nest[3]	1.26	(-, 61)
Kittiwake	*Vedøy*	Extinct[P,7]						
	Gjelfruvær	(-91)[t,8]				Large chicks/nest	0.33	(0.65, 12)
	Røst harbour	-5[t,9]	2023-2024 (1)	86.10	(4.10, 570)	Large chicks/pair	0.24	(0.02, 522)
	Kårøya kittiwake hotel					Clutch size/pair	0.50	(0.07, 117)
						Large chicks/pair	0.00	(0.00, 118)
	Kårøya others					Clutch size/pair	1.36	(0.11, 66)
						Large chicks/pair	0.15	(0.04, 96)
Common tern						Clutch size[3]	2.40	(0.24, 5)
Common guillemot		-14[P,13]				Breeding success	0.94	(0.03, 40)
Razorbill		(-92)[P,13]						
Atlantic puffin		5[P]	2023-2024 (1)	93.20	(3.30, 594)	Hatching success	0.85	(0.04, 71)
						Breeding success	0.39	(0.06, 70)
Black guillemot		-1[P,15]	1997-2025 (28)	85.10	(1.20, 165)	Clutch size	1.65	(0.10, 26)
						Large chicks/nest	0.69	(0.14, 26)

[P] plot count [t] total census [1] Including empty nests. [3] Excluding nests not known to have contained eggs/chicks. [5] A total of 6 pairs bred in Røst in 2025. [7] Last breeding in 2019. No kittiwakes seen on the island since then. [8] Small cliff-breeding colony 9 km SW of Vedøy with only 12 pairs present in mid-June 2025. [9] Population of 522 pairs in 2025 breeding on/near buildings in Røst harbour. [13] Quasi-extinct colony on open ledges on Vedøy with very few birds left, especially razorbills. Birds breeding in shelter on other islands in Røst were seemingly doing OK, but their numbers are monitored less accurately. [15] Based on counts of adult birds around the colony area on Hernyken in early May (before egg laying).

Table A9. *Key population parameters (SE, n) of lesser black-backed gull on* ***Horsvær****, Sør-Helgeland****,*** *in 2025.*

	Population change	Annual adult survival			Reproductive performance		
Species	**Estimate %**	**Period (yrs)**	**Estimate %**	**(SE, n)**	**Sampling unit**	**Estimate**	**(SE, n)**
Lesser black-backed gull	-43	2005-25 (20)	88.20	(0.09, 190)	Fledged chicks/pair	0.18	(-, 19)

Table A10. *Key population parameters (SE, n) of seabirds on* ***Sklinna*** *in 2025.*

		Population change	Annual adult survival			Reproductive performance		
Species	**Locality**	**Estimate %**	**Period (yrs)**	**Estimate %**	**(SE, n)**	**Sampling unit**	**Estimate**	**(SE, n)**
Fulmar		Extinct[t]						
Great cormorant		13[t]						
Shag		-27[t]	2023-24 (1)	82.80	(3.40, 787)	Clutch size[1]	2.01	(0.06, 216)
						Hatching success/nest	0.61	(-, 30)
						Clutch size at hatching	1.27	(0.17, 49)
						Chicks/nest 10d later	0.96	(0.15, 49)
						Chicks/nest 20d later	0.92	(0.13, 49)
Common eider		-17[t]				Clutch size	4.30	(0.29, 10)
Herring gull		-5[p]				Clutch size[2]	1.68	(0.26, 19)
						Clutch size[3]	2.13	(0.21, 15)
Great black-backed gull		21[p]				Clutch size[2]	2.18	(0.25, 17)
						Clutch size[3]	2.47	(0.19, 15)
Kittiwake	*Sklinna*	Extinct[t,4]						
	Sør-Gjæslingan	-24[t,5]	2011-25 (13)	80.30	(1.30, 334)	Large chicks/nest[5]	0.38	(-, 309)
	Rørvik	-18[t,6]	2021-25 (5)	89.50	(3.90, 179)	Large chicks/nest[6]	0.50	(-, 586)
Common guillemot		5[t]	2008-25 (16)	92.80	(0.05, 418)	Large chicks/nest[7]	0.52	(-, 91)
Razorbill		9[t]	2020-25 (4)	92.80	(3.10, 37)			
Atlantic puffin		5[p]				Hatching success/nest	0.79	(0.09, 19)
						Chicks ≥ 10d/hatched	0.93	(0.06, 15)
						Chicks ≥ 20d/hatched	0.87	(0.08, 15)
Black guillemot		4[p]	2008-25 (16)	85.40	(1.80, 86)			

[t] total census [1] Counted on 2-7 June, including empty nests. [p] plot count [2] Counted on 4 June, including empty nests. [3] Counted on 4 June excluding empty nests. [4] No breeding 2019-2025. [5] Based on nest counts on 25 May and chick count on 02 July. [6] Based on nest counts on 31 May and chick count on 02 July. [7] Based on egg counts on 6 June and chick counts on 4 July in a confined part of the colony.

Table A11. *Key population parameters (SE, n) of seabirds on* ***Runde*** *in 2025.*

		Population change	Annual adult survival			Reproductive performance		
Species	**Locality**	**Estimate %**	**Period (yrs)**	**Estimate %**	**(SE, n)**	**Sampling unit**	**Estimate**	**(SE, n)**
Gannet		2[1]				Large chick/nest	0.78	(0.02, 435)
Shag		Extinct[p,2]					Extinct[2]	
Great skua		37[t]				Large chick/nest	0.59	(0.18, 22)
Kittiwake	*Runde*	Extinct[p,3]					Extinct[3,4]	
	Sildegarnsholmen	-6[t]	2023-2024 (1)	93.50	(4.20, 407)	Large chicks/nest	0.46	(0.02, 611)
Common guillemot		Extinct[p,4]					Extinct[4]	
Atlantic puffin		17[p]	2023-2024 (1)	94.50	(3.20, 537)	Hatching success/nest	0.61	(0.07, 44)
						Chicks ≥ 20d/nest	0.23	(0.06, 44)
						Chicks ≥ 30d/hatched	0.20	(0.61, 44)
						Fledged chicks/nest	0.20	(0.61, 44)

[1] Population change from 2023 to 2024 [p] plot count [2] No breeding was recorded in the study plots in 2025. [t] total census [3] Breeding success is monitored in study plots at Lisjestakken and Huldene. [4] As in the preceding year, no breeding was recorded in the study plots in 2025.

Table A12. *Key population parameters (SE, n) of shag in* ***Vestland*** *in 2025.*

	Population change	Annual adult survival			Reproductive performance		
Species	**Estimate %**	**Period (yrs)**	**Estimate %**	**(SE, n)**	**Sampling unit**	**Estimate**	**(SE, n)**
Lesser black-backed gull	2[t,d]	2009-2025 (15)	84.30	(2.16, 108)	Breeding success[1]	1.07[2]	(-, 108)
Herring gull	2[t,d]	2009-2025 (15)	80.10	(1.87, 270)	Breeding success[1]	0.84[2]	(-, 270)
Great black-backed gull	25[t,d]						

[t] total census [d] drone count [1] Large chicks/fledglings per nest. [2] Calculated as the total number of chicks counted at the end for the breeding season, divided by the numbers of breeding pairs.

Table A13. *Key population parameters (SE, n) of shag in* ***Rogaland*** *in 2025.*

		Population change	Annual adult survival			Reproductive performance		
Species	**Locality**	**Estimate %**	**Period (yrs)**	**Estimate %**	**(SE, n)**	**Sampling unit**	**Estimate**	**(SE, n)**
Shag	*Kjør*	-75[p]				Clutch size[1]	2.14	(0.12, 36)
						Breeding success[2]	0.56	(0.17, 36)
	Jarstein		2014-2025 (11)	81.30	(1.60, 318)			

[p] plot count [1] Maximum nest content on 2 visits on 19 May and 6 June, omitting nests not known to have contained eggs/chicks [2] Chicks/nest on 6 June. Breeding success overestimated compared to earlier years.

Table A14. *Key population parameters (SE, n) of seabirds on the different sites in* ***Agder*** *in 2025. Slettingene, Storøy and Klovholmene are located in Mandal, Lindesnes municipality. Rauna is in Farsund municipality.*

		Population change	Annual adult survival			Reproductive performance		
Species	**Locality**	**Estimate %**	**Period (yrs)**	**Estimate %**	**(SE, n)**	**Sampling unit**	**Estimate**	**(SE, n)**
Great cormorant	*Rauna*	-2.0[t]	2007-2025 (20)	Results not yet available[1]		Clutch size[2]	3.65	(0.03, 336)
						Large chicks/nest	1.79	(-, 336)
Common eider	*Rauna*	9.8[3]				Clutch size	3.65	(0.16, 26)
						Chicks on sea[4]	*No data*	
Lesser black-backed gull			2007-2025 (20)	76.70[5]	(0.09, 811)			
	Slettingene	1.7[t]				Clutch size[2]	2.32	(0.02, 238)
						Fledged juv./pair	0.55	(-, 238)
	Storøy	[6]				Clutch size[2]	No breeding 2025	
						Fledged juv./pair	No breeding 2025	
	Klovholmene	-100.0[t]				Clutch size[2]	1.50	(-, 2)
						Fledged juv./pair	0.00	(-, 2)
	Rauna	-25.6[t]	2007-2025 (20)	83.30	(0.05, 1432)	Clutch size[2]	*No data*	
						Fledged juv./pair	0.66	(-, 1250)
Herring gull			2007-2025 (20)	80.20[5]	(1.07, 717)			
	Slettingene					Clutch size[2]	2.19	(0.09, 120)
						Fledged juv./pair	0.67	(-, 80)
	Storøy					Clutch size[2]	*No data*	
						Fledged juv./pair	1.05	(-, 21)
	Klovholmene					Clutch size[2]	2.62	(0.13, 13)
						Fledged juv./pair	1.12	(-, 19)
	Rauna	-28.6[t]	2007-2025 (20)	83.20	(1.30, 270)	Clutch size[2]	*No data*	
						Fledged juv./pair	1.33	(-, 300)

[t] total census [1] Colour-ringing of chicks initiated in 2008. [2] Including empty nests. [3] Based on counts of adult males in Farsund municipality. [4] No estimates of production in 2025 per nest unit. Chicks are still counted at sea (long time series of count along Listastrendene), but there is no complete count of nests at Rauna to provide production per nest . [5] General estimate for birds from Slettingene, Storøy and Klovholmene. [6] No breeding in 2020, 2021, 2022, 2023, 2024 and 2025.

Table A15. *Key population parameters (SE, n) of shag in* ***Ytre Oslofjord*** *in 2025.*

		Population change	Annual adult survival			Reproductive performance		
Species	**Locality**	**Estimate %**	**Period (yrs)**	**Estimate %**	**(SE, n)**	**Sampling unit**	**Estimate**	**(SE, n)**
Herring gull	*Store og Lille Revlingen*	5[t,1]	2014-2025 (12)	75.30[2]	(8.60, 93)	Fledged juv./pair	0.28	(0.11, 18)
Lesser black-backed gull	*Store og Lille Revlingen*	-38[t,1]	2014-2025 (12)	63.90[2]	(6.50, 98)	Fledged juv./pair	0.18	(0.06, 40)

[t] total census [1] Not counted in 2024, so rate of population change is for 2023-2025. [2] No resightings 2019-2022

Cover photo: *Glaucous gulls in Spitsbergen. Photo: © Sébastien Descamps*

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