

From: [REDACTED]
To: [REDACTED]
Subject: Casework Notification - Advice Submitted
Date: 29 July 2021 14:46:25

Casework Notification - Advice Submitted

ALC163867 - Sula Sgeir - Gannets - Human Consumption - Licence 168655 to 192787 -
Renewal Request - July 2021

Your colleague has responded to your request for advice.

[REDACTED] says: *If the number of birds applied for has remained at 2,000 individuals, we have no further information on the current size or status of the Sula Sgeir northern gannet population, therefore there is no valid scientific reason why a licence should not be issued. The modelling work undertaken some time ago demonstrated the current level of harvest was, and is likely to continue to be, sustainable.*

[Select "Casework Management System" to view the case.](#)

SULA SGEIR GANNET HARVEST – POPULATION VIABILITY ANALYSIS MODELLING

May 2025.

Context

The Men of Ness have not carried out a guga hunt in 2022, 2023, or 2024 due to HPAI risks. They also did not carry out a hunt in 2020 due to covid. The marine ornithologists have been asked to assess whether we would consider the harvest limit 2000 to remain an acceptable and sustainable harvest limit, in the context of HPAI, for the 2025 breeding season.

Mark Trinder carried out detailed [population modelling](#) as a subcontract for NatureScot, with a report produced in 2016. Now that an updated population count for Sula Sgeir has taken place, there is an urgent need to replicate this population modelling work in greater detail.

For the purposes of looking at harvest limits for the 2025 season, given the timescales requested for advice (2 weeks), it has not been possible to carry out detailed modelling to the same level as the Trinder report. One specific difference is that Trinder carried out a deterministic model of the baseline to validate with model with known trends. Within the timescales available we have carried out modelling of 4 scenarios to have an initial look at how the population at Sula Sgeir may be predicted to be affected by the harvest, and used a baseline scenario based on automatic gannet demographic parameters with the NE PVA Shiny App tool.

It is recommended that we contract more detailed population modelling work well ahead of the 2026 breeding season so that NatureScot advice on harvest limits can be based on the most up to date and best available, robust scientific evidence. This is especially important in the context of ensuring the harvest remains sustainable in the long-term for the Men of Ness, without compromising the gannet population's ability to recover from the previous and potential future HPAI outbreaks.

Method for Population Viability Analysis (PVAs)

We used [guidance on seabird PVAs](#) produced by Marine Energy, as well as liaising with our marine energy ornithology colleagues on what metrics are the best to compare and present. The results we compared looked at the counterfactual (ratio) of final population size (CPS) and the counterfactual of population growth rate (CGR). We also considered the recent [gull PVA](#) that was commissioned by BTO and which also used the NE PVA tool.

From [REDACTED] 07/05/25:

If the CPS output is 0.95 - 1 it is unlikely to be AEoSI, 0.90 - 0.949 we investigate further and general advise that we are unable to reach a conclusion of no adverse effect on site integrity and if it is below 0.9 we advise AEoSI.

For CGR in general - A decrease of over 0.5% is likely to result in AEoSI, a decrease of 0.3-0.5% decrease is likely to result in cannot conclude no adverse effect on site integrity and below 0.3% we are likely to conclude no AEoSI.

Scenarios run:

Baseline - no chicks harvested
Scenario 1: 500 chicks harvested

Scenario 2: 1000 chicks harvested
 Scenario 3: 1500 chicks harvested
 Scenario 4: 2000 chicks harvested

The NE PVA model was unable to run the model using chicks in the harvest category. Using the Furness method of converting number of chicks to number of adults (which takes demographic parameters into consideration) we modelled the number of adult equivalents in the harvest option in the model.

Results

The number of adult equivalents of the chicks harvested are summarised in Table 1.

Table 1. Number of chicks harvested in relation to adult equivalents.

Scenario	No. of chicks harvested	Adult equivalents
Baseline	0	n/a
1	2000	516
2	1500	387
3	1000	258
4	500	129

The following are summaries of the results from running the PVA.

Table 2. Summary table of results of predicted population results after 25 years.:

Scenario	CGR_Median	CPS_Median
2000	0.979010706	0.576067622
1500	0.985420571	0.682593617
1000	0.990869155	0.787814625
500	0.995691252	0.893803358

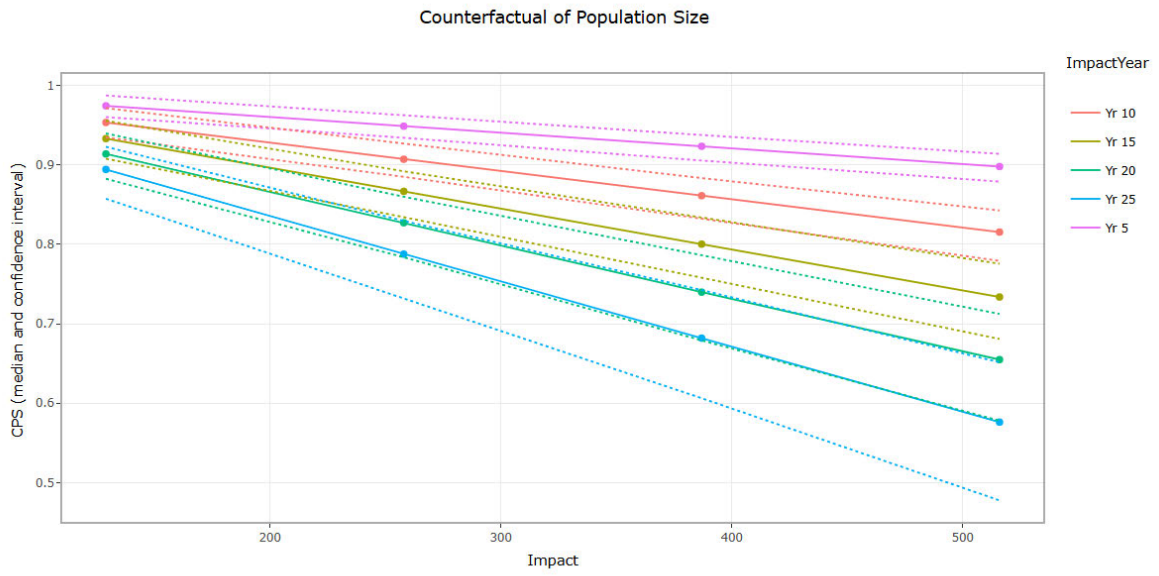


Figure 1. Counterfactual of Population Size

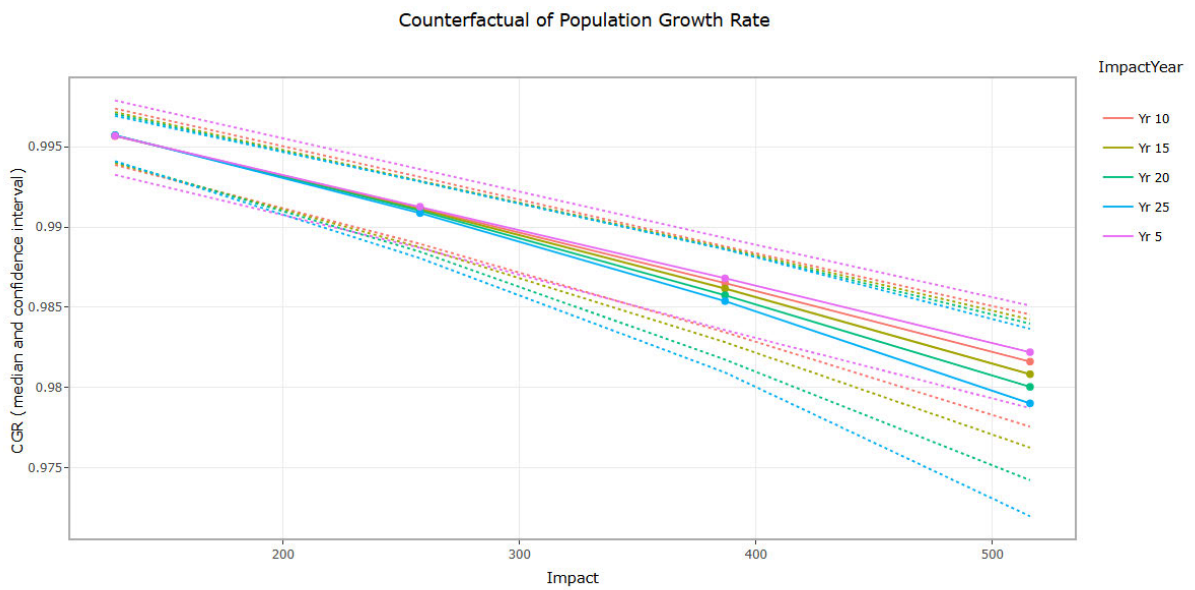


Figure 2. Counterfactual of Growth rate

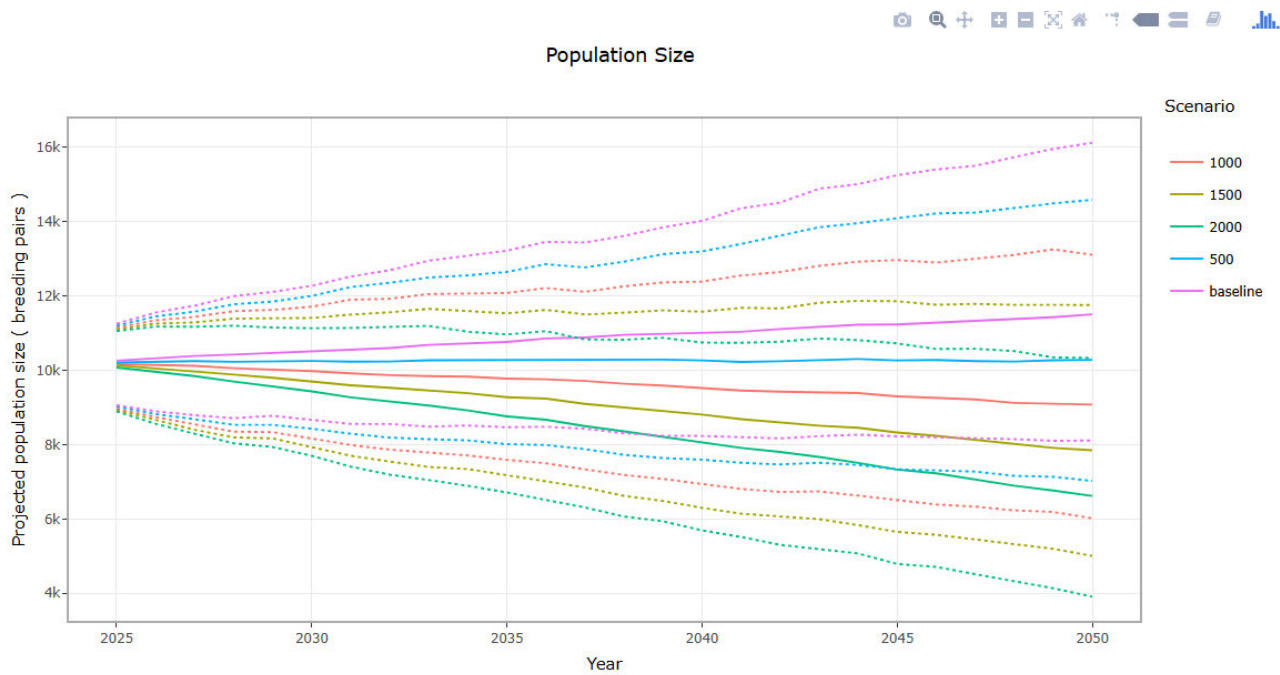


Figure 3 Population Size predictions

As mentioned, none of the scenarios include potential immigration from other colonies, the scenarios look solely at the impacts of removal of birds from Sula Sgeir and the subsequent consequences.

Based on the scenarios run, having a limit of 500 chicks would ensure the counterfactual of population size remains above 0.9 and the counterfactual of growth rate above 0.995. The predicted population results over a 25 year period would have the population remain stable, in the absence of any other HPAI outbreaks.

Having a limit of 1000 chicks, based on the models carried out, would suppress population growth at the colony over the full time period, causing a decrease, but in the short term (5 years) would still keep the population counterfactual above 0.90 and the growth rate counterfactual over 0.990.

Based on the modelling scenarios where 1500 and 2000 chicks are taken would cause population decrease over the 25 year period.

One limitation of the NE PVA model system is that it does not allow for a once-off event such as HPAI to be included. The model is therefore only modelling the potential impact of the harvest, in the absence of any other pressures (e.g. offshore wind, HPAI etc).

In all scenarios across the full 25 year period modelled, should the CPS and CGR values have been presented in a marine energy context (i.e. for a collision risk modelling impact for offshore wind), the marine ornithology colleagues from the marine energy team **would have concluded an adverse effect of site integrity for this SPA.**

It should be noted that the Trinder report also modelled over a 25 year period, so this was a consistent time period over which we modelled the scenarios. We did not consider emigration or immigration within our modelling scenarios, as this is not possible within this modelling tool. However, if we note that in 2016 Trinder noted that *'The Sula Sgeir population...is estimated to have required just over 270 breeding age recruits each year in order to have achieved the level of growth observed between [2004-2014]. Without this*

immigration the population growth rate would be less than 1%.' (Trinder, 2016). This is at a time when Sula Sgeir has a growth rate of 2.21% (between 2004-2014). More recent data has shown this is no longer the case and the colony is in decline.

Trinder's modelling showed that *'at the current harvest level of 2000, and assuming immigration remains at the level estimated over the period 2004-2014, the probability of population decline within 25 years was estimated to be between 10.2-11.3%'*. Thus, even within Trinder's modelling carried out using the 2013 count data, a population decline was still predicted as a possibility as a result of the harvest, however the probability predicted was lower than we have with the 2024 model, due to the decline in the population between the two time periods.

References

Horswill, C. & Robinson R. A. 2015. Review of seabird demographic rates and density dependence. JNCC Report No. 552. Joint Nature Conservation Committee, Peterborough.

Trinder, M. 2016. Population viability analysis of the Sula Sgier gannet population, Scottish Natural Heritage Commissioned Report no.897.

Annex 1:

Summary of how the model was run:

The online version of the PVA Shiny tool can be accessed via this link (the tool works best in a Chrome browser): http://ec2-34-243-66-127.eu-west-1.compute.amazonaws.com/shiny/seabirds/PVATool_Nov2024/R/

Model inputs:

PVA run details: Simulation

Beta/Gamma stochasticity

No density dependence

Include demographic stochasticity in model = yes (automatically chooses this)

1500 simulations (this is within the recommended values of between 1000-5000 simulations).

5 years burn in time (recommended as the normal value to use for this from Marine Energy colleagues. Note that trinder also used a 5 year burn in period)

Random seed used: 8517.

Baseline parameters:

Note that the demographic parameters from Horswill and Robinson were the same demographic parameters that Trinder ran in his 2016 modelling.

Northern gannet

Country>Scotland for breeding success data

'National' option for survival rate

Age at first breeding = 5 (automatically chooses this)

Constraint on productivity in the model = yes. (automatically chooses 1, so this has been kept the same)

Units for population size = breeding pairs

Number of subpopulations = 1

Initial population size = 10200 in year 2024

The follow values should automatically come up once you choose 'northern gannet':

Productivity = 0.679863859121335 sd: 0.0920597005668778
Adult survival rate: 0.919 sd: 0.042
Immature survival class rates – all automatically produced.

Impacts

Choose 'absolute harvest'

Number of impact scenarios -

2000 chicks equates to 516 adults

1500 chicks equates to 387 adults

1000 chicks equates to 258 adults

500 chicks equates to 129 adults

Need to put the adult numbers in under 'number of adults harvested' in the subpopulation box. Need to also type '0' into the number of chicks harvested, or the model doesn't work. Do this for each scenario box.

Years in which impacts are assumed to begin and end – slide the scale to read 2025 and 2025.

Run

Output years

First year to include = 2025

Final year to include = 2050

Units for output = breeding pairs.

PVA summary of parameters

Should then all be 100% green – click on Run model (& generate log).

Further details on how the above figures were calculated:

Horswill and Robinson figures

Juvenile survival = 0.424

Immature survival to breeding age = 0.61

Furness (MacArthur Green report) stated that based on these estimates 25.8% of chicks will reach breeding age and therefore be able to recruit into a colony.

Therefore, for every 1000 chicks taken, this could equate roughly to 258 adults.

Therefore, for 2000 chicks licenced for the guga hunt this could relate to $258 \times 2 = 516$ adults

(Calculation is $0.424 \times 0.61 \times 2000 = 516$ rounded).

Annex 2

Summary with conversations with other NatureScot staff:

Feedback from [REDACTED] when they saw the outputs:

Just wanted to send over a few thoughts we had at the MenMO meeting this morning in relation to the gannet PVA. The CPS outputs from the model for all levels of 'take' would be of concern to us if we saw these presented in marine energy casework. We noted [REDACTED] validation point but don't have a quick solution to this. We felt the logic and the process to run the model is sound [REDACTED] highlighted that she would like to check the parameters to make sure but it all seemed like it was fine), we thought that caveating the advice to the area team with that this is a provisional exploratory analysis and further work could be done to explore in more detail what long term takes could look like, given the context of the declining

population at this site at the last census (I think this is correct) and the impact of HPAI. This ties in with what was discussed yesterday about working with area and the Men of Ness about an adaptive 'take' allocation going forward.

Results table - it would be the CGR outputs in columns AH or AI (depending on if it is median or mean) and CPS outputs in columns AM and AN (depending on if it is median or mean), that we would look at during casework. The summary table presents the median.

Checking with [REDACTED] re. bag limits for geese after HPAI:

As far as I know, the only geese that we changed bag limits for were Greenland barnies after HPAI - down to almost nothing, and last year <100 because the population went too low, but we might put it up again this year to 200-300 (negotiations ongoing with Iceland). For GBG we are trying to manage on a flyway scale, so we have an IPM that is run annually that tells us the kind of offtake and associated population decline risks on which to make a decision. We had reduced shooting GBG anyway before HPAI though because we had reduced the population in Islay to the level that we wanted. I'm not aware of any licences for Svalbard barnies, so we didn't have to think about that after HPAI. Greylag are on the general licence all year anyway, so the only other one would be pink-feet. The general bags for those haven't been updated in prob 20yrs - I can't remember whether it is 5 or 10 per licence, but as HPAI didn't affect them much and the population is v robust we have no reason to amend those. So basic answer - no, we don't have a general approach. [REDACTED] 7-May-2025

Summary of discussion with [REDACTED]

Counterfactuals are effectively 'what if' scenarios. A deterministic model is without variation and considers the population with births, deaths, immigration and emigration. The beta/gamma models measures uncertainty within the model. It is likely that the beta/gamma model is pulling in residual variation, as errors themselves also have a distribution. Could look at:

- How Trinder's predicted population counts hold up against the model produced and also how it stacks against the new 2024 count data.
- Could try to take into consideration the fact that HPAI happened, if you know a % decrease due to bird flu – could add that number of adults onto the population, and use that number to compare to the Trinder model predictions, as per above.
- Validation produces a point on the graph that shows the actual population count, there is then a modelled graph. From initial looks using the NE PVA validation tool the population growth seems higher than is seen in reality. Would need to read more on how the validation aspect of the NE PVA tool works.

Annex 3

In order to test how this modelling approach would have assessed the harvest based on 2013 gannet count at Sula Sgeir, an alternative model was run with the 2013 population data. All the same parameters were used as the 2014 model, but with 2013 as baseline year and 11,200 as the population count. It ran over 25 year period 2014-2039.

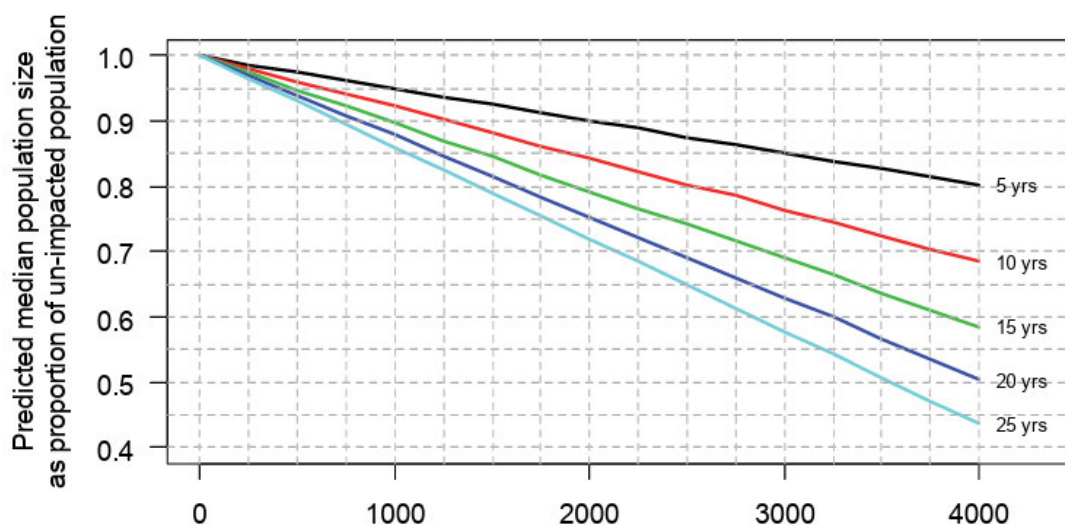
Summary of results for the 2013 baseline population, predicted change over 25 year period.

Scenario	CGR_Median	CPS_Median
2000	0.981504	0.61545
1500	0.986965	0.710957
1000	0.99177	0.80665
500	0.996098	0.903341

The modelling using the baseline population data from 2013 (that the Trinder modelling would have also used) shows slightly higher CGR and CPS values. The CPS for the 500 scenario is 0.90 which is the threshold the marine energy team use as their consideration for no AESI versus AESI (as explained above). The slightly higher rates reflects the fact that the baseline scenario has 1000 more breeding pairs in it compared to the 2024 baseline scenario (i.e. the current situation). It should be noted that (as per the Trinder report) all scenarios demonstrated a suppression of growth rates (Trinder, 2016).

From Figure 3 in Trinder report – this is the equivalent to the CPS graph in Figure 1 in the main text above. Can see that for e.g. 1000 guga harvest in Trinder graph, is roughly 0.85 after 25 years. From Figure 1 in this current modelling report – sitting just below 0.8. The predictions made between the 2024 modelling and the 2013 modelling seem to be similar overall, with the difference being that the 2024 modelling starts with a lower population size and has not increased since 2013.

Figure 3. Gannet demographic rateset 1. Change in population growth rate with increasing harvest from 0 to 4,000. Lines show the median (black) and percentage ranges around the median (red lines). Note the outer range contains 90% of the simulated output, with 5% of predictions both above and below these lines. Rate calculated between year 5 and 25 of each simulation.



- It would be useful to look at what was predicted population wise with the 2000 scenario (which we know was the one that then happened between 2016-present day), with the 10 year timeframe. Then look at what the population size would be – and compare to the 2014 figure.

Sula Sgeir – gannets – human consumption – license assessment 2025

Summary

- Since this licence was last assessed in 2021, new survey data is available and HPAI-related mortality has been recorded at gannet colonies including Sula Sgeir.
- To safeguard the long-term viability of the annual gannet chick (guga) harvest at Sula Sgeir for the Men of Ness, available data has been used to predict sustainable long-term harvest limits.
- It is recommended that the harvest limit for 2025 is set at 500. 500 individuals is considered a precautionary limit to allow the best opportunity for population recovery post-HPAI in the interim period until more robust population modelling is available.
- Data was input to a population viability analysis (PVA), which ran several scenarios (harvests of 500, 1,000, 1,500, and 2,000), and the model predicted that a harvest level of 500 guga annually would allow the breeding population to remain stable over a 25-year period (though population growth would be suppressed).
- The model predicted that at harvest levels of 1,000 and above, long-term declines would be seen in the gannet breeding population.
- It is recommended that more detailed population modelling work is contracted ahead of the 2026 breeding season that will allow NatureScot to provide advice on harvest limits based on the best available, robust scientific evidence.
- The PVA modelling presented here should be treated as an interim assessment based on the current evidence.

Background

The annual harvest of gannet chicks (guga) at Sula Sgeir last occurred in 2021, when a licence was issued for the harvest of 2,000 individuals (with 1,900 individuals harvested per the [licence return](#)). In 2022, the UK-wide outbreak of highly pathogenic avian influenza in numerous seabird species caused severe mortality events at gannet colonies, including Sula Sgeir, and no licence application was made in 2022, 2023, or 2024.

A population viability analysis (PVA) of the Sula Sgeir gannet population was published in 2016, at which time modelling indicated that while the harvest reduced the rate of population growth on Sula Sgeir (and likely affected other gannet populations linked to Sula Sgeir through immigration and emigration), it was probable that the Sula Sgeir gannet population would continue to grow with a harvest limit of 2,000 chicks per year.

At the time of the last licence issued in 2021, the 2016 PVA and 2014 census numbers remained the most recent available data, and there were no other indications of population decline in gannet populations, therefore the marine ornithology advice was:

“If the number of birds applied for has remained at 2,000 individuals, we have no further information on the current size or status of the Sula Sgeir northern gannet population, therefore there is no valid scientific reason why a licence should not be issued. The modelling work undertaken some time ago demonstrated the current level of harvest was, and is likely to continue to be, sustainable”.

In 2025, new data is available, including the [2024 gannet census](#), and the wider context of HPAI-related mortality in gannet populations, which caused a minimum loss of 11,175 individual gannets across Scotland. 2023 surveys ([HPAI surveys report](#)) assessed the impact of HPAI-related mortality on Scotland’s population of breeding gannets as a 22% decline compared to available baseline data, and this decline is largely attributable to HPAI.

Between 2013 and 2024, standardised gannet survey data recorded a 9.17% decline in Sula Sgeir’s gannet population (Table 1). The actual percentage decline caused by HPAI may be higher, as additional survey data (outside of the standardised surveys) indicated that Sula

Sgeir's gannet population may have increased to 12,271 AOS by 2017, and fallen to 9,495 AOS in 2023, a potential decrease of 22.62% (Table 2).

The recent gannet census data also demonstrated that the population change at Sula Sgeir since the SPA citation year (2001) has been a decline of 1.92% from 10,400 AOS to 10,200 AOS in 2024. Post-HPAI, 2023 surveys recorded 9,495 AOS which represents a decrease of 9% since the SPA citation year. Sula Sgeir is the only Scottish gannet SPA population to have fallen below its citation population, with all other SPA colonies showing increases, varying between 9% to 314%. Prior to HPAI, the percentage growth at Sula Sgeir from citation to Seabirds Count was 18%, which is considerably lower than the population growth recorded at all other SPA colonies, which varied from 44% to 326%. This indicates that the population growth rate has been suppressed compared to other gannet populations outwith the influence of HPAI ([Gannet data summary for RSPB \(A4411782\)](#)), as Trinder had predicted.

Table 1: Sula Sgeir gannet census data and percentage change (standardised methodology)

Year	Apparently Occupied Sites (AOS)	% change
2004	9,230	
2013	11,230	+21.67
2024	10,200	-9.17

Table 2: Sula Sgeir gannet census data and percentage change (additional surveys, non-standardised methodology)

Year	Apparently Occupied Sites (AOS)	% change
2017	12,271	
2023	9,495	-22.62%

The observed declines in gannet populations including Sula Sgeir and the availability of new survey data gives cause to reassess the potential impact of the guga harvest on Sula Sgeir's gannet population. Given the severe mortality recorded in gannet populations as a result of HPAI, the species is facing pressures that were not accounted for in the 2016 PVA, including disease-related reductions in the gannet breeding population and continuing disease risk as HPAI strains continue to circulate in seabird populations.

The 2024 data is broken down across the Sula Sgeir gannet colony into 7 subsections – some subsections recorded an increase in AOS while others decreased. It may be possible to complete additional assessment if data is available on the distribution of gannet harvest areas to assess whether there is correlation between areas of decline and areas where guga have been harvested (Annex 1).

Sula Sgeir gannet population viability analysis ([A Population Viability Analysis Modelling Tool for Seabird Species](#))

For the purposes of looking at harvest limits for the 2025 season, given the timescales requested for advice (2 weeks), it has not been possible to carry out detailed modelling to the same level as the Trinder report. One specific difference is that Trinder carried out a deterministic model of the baseline to validate with model with known trends. Within the timescales available we have carried out modelling of 4 scenarios to have an initial look at how the population at Sula Sgeir may be predicted to be affected by the harvest, and used a baseline scenario based on automatic gannet demographic parameters with the NE PVA Shiny App tool. The PVA modelling tool used here does not allow for inclusion of potential immigration from other colonies, or for one-off events such as HPAI.

We used [guidance on seabird PVAs](#) produced by Marine Energy, as well as liaising with our marine energy ornithology colleagues on what metrics are the best to compare and present. The results we compared looked at the counterfactual (ratio) of final population size (CPS) and the counterfactual of population growth rate (CGR). We also considered the recent [gull PVA](#) that was commissioned by BTO and which also used the NE PVA tool ([Gannet PVA outputs and analysis 9-May-2025](#)).

The model predicted that a limit of 500 chicks would result in the Sula Sgeir gannet breeding population remaining stable in the long-term, and was the highest potential harvest limit where long-term population stability was predicted.

Based on the modelling of adult equivalents, the PVA indicated that a limit of 2,000 or 1,500 chicks per year would be predicted to cause a population decrease over a 5 year and 25 year period. A limit of 1,000 chicks per year would be predicted to cause a population decrease over a 25 year period, while within the next 5 years the population and growth rate would be expected to remain above 0.9 (between the threshold of 0.9 – 0.949 it is not possible to conclude no adverse effect on site integrity without further investigation).

In all scenarios across the full 25 year period modelled, should the CPS and CGR values have been presented in a marine energy context (i.e. for a collision risk modelling impact for offshore wind), the marine ornithology colleagues from the marine energy team **would have concluded an adverse effect on site integrity for this SPA.**

Table 3: Summary of PVA predictions

Number of guga harvested	Adult equivalent (guga converted into an equivalent number of adults based on NatureScot Research Report 1370)	5 year predicted % mean change (± SD)	25 year predicted % mean change (± SD)
0 (baseline)	0	+3.42 (±8.76)	+12.84 (±20.41)
500	129	+0.81 (±8.67)	+0.67 (±19.26)
1000	258	-1.98 (±8.56)	-11.37 (±18.16)
1500	387	-4.60 (±8.46)	-23.01 (±17.07)
2000	516	-7.27 (±8.36)	-35.21 (±16.09)

Table showing the predicted percentage change over 5 and 25 years at different harvest level scenarios. Confidence limits associated with model outputs are recorded here: [NEPVA gannet full summary of model 2025-05-07](#).

PVA model using 2013 data

In order to test how this modelling approach would have assessed the harvest based on 2013 gannet count at Sula Sgeir, an alternative model was run with the 2013 population data, using the same parameters as used in the 2024 model. The predictions showed slightly higher CGR and CPS values which can be attributed to the higher population baseline. Trinder, 2016 found that the harvest level of 2,000 would suppress long-term population growth, which supports the need for updated modelling to account for the impact of HPAI related declines in the breeding population.

Advice

Based on the data available and the PVA model outputs, the recommended harvest limit for 2025 is 500 individual chicks.

A harvest of 500 chicks would be expected to suppress long-term population growth at Sula Sgeir, with the model predicting that the population would not recover to 2013 numbers within a 25 year period. However, the breeding population would be expected to remain stable and not to decrease over a 25 year period (noting that the model predictions are not

able to account for press or pulse perturbations resulting from other pressures e.g. disease or development).

With a harvest limit of 1,000 or above, the gannet breeding population on Sula Sgeir would be expected to decline over a 25 year period. While the population would be expected to remain over the 0.90 threshold over a 5 year period (as detailed above), it is likely that after 5 years, reassessment would be required and would be likely to conclude a further reduction in the limit. **A limit of 500 birds is considered to be the figure most likely to safeguard the long-term sustainability of the harvest for the Men of Ness, while ensuring that the Sula Sgeir gannet population does not experience further declines while recovering from HPAI.**

This advice is based on population viability analysis (PVA) guidance shared by NatureScot's marine energy team, and used here to produce predictions for the Sula Sgeir gannet population at different harvest levels. It is recommended that more detailed population modelling work be contracted ahead of the 2026 breeding season, which would provide more robust scientific evidence as a basis for future harvest limit advice. A more detailed analysis would provide additional confidence in the predicted impact of the harvest, and may allow for the limit to be raised above 500 individuals in future years if appropriate.

In the absence of additional evidence in 2025, and based on the outcomes of the PVA, 500 individuals is considered a precautionary limit to allow the best opportunity for population recovery post-HPAI in the interim period until more robust population modelling is available.

Other species assessments

Alongside the population viability analysis completed, the approach to setting bag limits in response to HPAI in other species was assessed. Pre-HPAI, bag limits for Greenland barnacle geese were set using population viability modelling by Trinder (2014a) who also authored the 2016 PVA for the Sula Sgeir gannet harvest, and more recently [Bunnefeld et al. 2020](#). The bag limit for Greenland barnacle goose in Islay was proposed to be set at 1,270 in 2019/20 ([A3033970](#)). This limit was reduced substantially in response to HPAI, with bag returns from Islay totalling 58 individuals in 2022/23, 36 in 2023/24 ([McKenzie, 2024](#)), and remaining at less than 100 individuals in 2024. Consultation with terrestrial ornithology colleagues confirmed that there was no general approach to amending bag limits for other species in light of HPAI that could be applied to the gannet harvest.

Resources

- [P15096 - NatureScot final report 3.2 \(A4838590\)](#) (most recent census with maps)
- [Sula sgeir - Gannets - Human Consumption - Licence 192787 - CMS ALC163867 - 1/2 Final Comments from \[REDACTED\] - 29 July 2021 alias \(zA223729\)](#)
- [Sula sgeir - Gannets - Human Consumption - Licence 192787 - CMS ALC163867 - 2/2 Final Comments from \[REDACTED\] - 29 July 2021 alias \(zA223730\)](#)
- [Gannet data summary for RSPB \(A4411782\)](#)
- [Seabirds: strategic ornithological compensatory measures: review](#)
- [NatureScot Research Report 1370 - Potential actions to support recovery of seabird populations in Scotland](#) ('*Horswill and Robinson (2015) provide best estimates of demographic parameters of UK gannets as juvenile survival 0.424, and immature survival to breeding age 0.61. Based on these estimates, 25.8% of chicks i.e. one in four chicks will reach breeding age and therefore are available to recruit into a colony.*')
- [Gannet PVA outputs and analysis \[REDACTED\] 9-May-2025 \(A5138801\)](#)
- [PVA gannet screen shots from model 9-May-2025 \(A5138803\)](#)
- [NEPVA gannet full summary of model 2025-05-07 \[REDACTED\] \(A5159778\)](#)

- [Sula sgeir - Gannets - Human Consumption - Licence 168655 - \[REDACTED\] 2 - 27 July 2020 \(A3277162\)](#)
- [Trinder, M. 2016. Population viability analysis of the Sula Sgeir gannet population. Scottish](#)

Annex 1

Taken from: [P15096 - NatureScot final report 3.2 \(A4838590\)](#)

Table 4 Counts of gannet AOS on the Sula Sgeir colony and differences with 2013 counts.

The counts followed the same sections from 2004 and 2013, but new sub-sections were added if needed due to colony expansion.

Section	AOS 2024 count	Number of out of view AOS included	2013	Change %	Per annum
1A	82	0	75	+9.3	+0.8
1B	218	0	222	-1.8	-0.2
1C	230	1	228	+0.9	+0.1
1D	196	0	132	+48.5	+4.4
Total Sula Sgeir 1	726	-	657	+10.5	+1.0
2A	235	6	239	-1.7	-0.2
2B	141	6	113	+24.8	+2.3
2C	5	0	0	NA	NA
Total Sula Sgeir 2	381	-	352	+8.2	+0.7
3A	353	0	402	-12.2	-1.1
3B	736	0	909	-19.0	-1.7
3C	1,463	0	1,640	-10.8	-1.0
Total Sula Sgeir 3	2,552	-	2,952*	-13.6	-1.2
4a/A	70	0	126	-44.4	-4.0
4a/B	150	2	182	-17.6	-1.6
4a/C	726	0	982	-26.1	-2.4
4a/D	995	58	1,073	-7.3	-0.7
Total Sula Sgeir 4a	1,941	-	2,363	-17.9	-1.6
4b/A	431	8	481	-10.4	-0.9
4b/B	635	9	679	-6.5	-0.6
4b/C	316	0	292	+8.2	+0.7
4b/D	91	0	89	+2.2	+0.2
Total Sula Sgeir 4b	1,473	-	1,541	-4.4	-0.4
5	0	0	0	NA	NA
6A	61	21	29	+110.3	+10.0
6B	291	8	215	+35.3	+3.2
6C	544	15	555	-2.0	-0.2
6D	720	19	638	+12.9	+1.2
Total Sula Sgeir 6	1,616	-	1,437	+12.5	+1.1
7A	702	109	1,027	-31.6	-2.9
7B	625	0	751	-16.8	-1.5
7C	183	6	147	+24.5	+2.2
Total Sula Sgeir_7	1,510	-	1,925	-21.6	-2.0
Helipad	1	0	0	NA	NA
Total to the closest 10	10,200	-	11,230	-9.2	-0.8

Section	AOS 2024 count	Number of out of view AOS included	2013	Change %	Per annum
Total real numbers	10,200	-	11,227	-9.1	-0.8

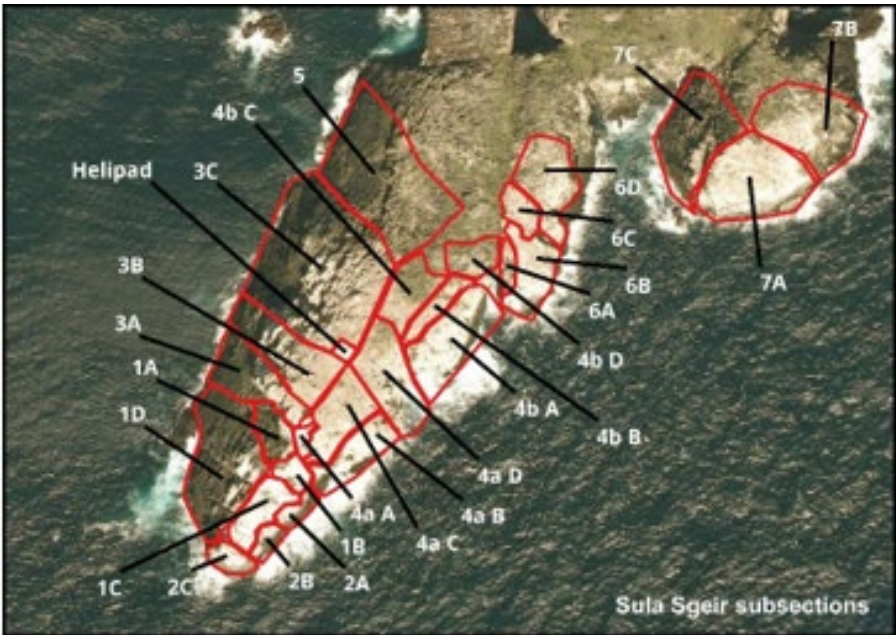


Figure 1: map of Sula Sgeir gannet census subsections

From: [REDACTED]
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: Guga harvest marine ornithology advice
Date: 26 May 2025 14:52:00

[REDACTED]

Further to our conversation just a few bullet points in relation to your questions on the differences and similarities between the 2016 modelling and our 2024 modelling, and the bag limit for this year and going forward.

1. Trinder worked out an estimated immigration rate for the colony at the time. The value he then used to input into the model was that there would be an additional 270 adults recruiting into the population each year. To the best of my knowledge in looking at the Trinder report, he carried out a step in his process called a 'deterministic model' where he effectively looked at how well the model was doing/looking at if the baseline scenario for the model matched with observed data up to that point. In his model he put an additional 270 individuals as immigrants in each year. In the 2024 modelling it was not possible for me to calculate an immigration/emigration rate - for my baseline scenario I used the demographic rates that are inbuilt into the NE PVA tool, i.e. the automatic demographic rates that are also used for offshore wind, assuming the population as 'closed'.
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3. Both the Trinder model and the NE PVA model used the same demographic rates that were based on Horswill and Robinson.
4. The 500 scenario in both our model and in Trinder's model is the only scenario that does not cause a predicted population decline in the gannet population. Note that this was the case for Trinder model even taking the fact he was assuming an additional recruitment of 270 breeding adults every year.
5. Trinder's model outputs are not entirely dissimilar to our ones, but the numbers for the population growth rate etc do show differences because of the aforementioned differences in baseline population starting point.
6. Sula Sgeir is currently the only colony that has decreased since citation population, based on the most up to date gannet census information (2023 and 2024 counts), so from this we suspect that the growth rate Mark Trinder assumed has indeed changed.
7. Re. the question on what other HPAI-affected species did in terms of bag limits - the goose limit did also change due to HPAI, with a reduction in take by 90% (around 1000 geese to under 100 geese).
8. As mentioned, there may be other pressures on this colony in future years (e.g. another HPAI outbreak, food supply issues etc) which may affect population growth in addition to the harvest affect.
9. Based on the PVA analysis carried out **the 500 chick maximum limit is the only scenario which has predicted the population would not be put into decline and**

is the most sustainable harvest option, and based on available data would be the bag limit going forward*.

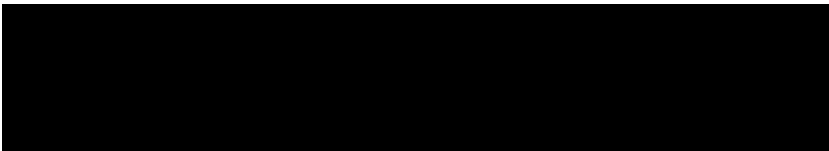
**As mentioned, if we are able to commission a detailed piece of modelling work this coming autumn (which we have spoken about with [REDACTED]), this would enable an independent assessment of our NE PVA work, and could attempt to incorporate immigration into the model too. There would therefore be an opportunity for the bag limit to be reassessed ahead of the 2026 season.*

The documents I was showing you on the screen during our chat were the following:

- [Gannet PVA outputs and analysis \[REDACTED\] analysis 9-May-2025 \(A5138801\)](#)
- [2025 Sula Sgeir gannet harvest - marine ornithology advice - 15 May 2025 \(A5159580\)](#)
- [Gannet data summary for RSPB \(A4411782\)](#)
- Trinder report -
<https://www.nature.scot/sites/default/files/Publication%202016%20-%20SNH%20Commissioned%20Report%20897%20-%20Population%20viability%20analysis%20of%20the%20Sula%20Sgeir%20gannet%20population.pdf>

I hope that's helpful and happy to chat through any other queries on it if you need.

Kind regards,



NatureScot [REDACTED] Great Glen House, Leachkin Road, Inverness, IV3 8NW

nature.scot | [@nature_scot](https://twitter.com/nature_scot) | Scotland's Nature Agency | Buidheann Nàdair na h-Alba

From: [REDACTED]@nature.scot>

Sent: 22 May 2025 09:21

To: [REDACTED]@nature.scot>; [REDACTED]

[REDACTED]@nature.scot>

Cc: [REDACTED]@nature.scot>

Subject: RE: Guga harvest marine ornithology advice

[REDACTED]

A couple of quick questions:

Are we saying that, based on this modelling, 500 is the sustainable bag limit going forward, or just for this year?

Is it possible to explain what has led to the results here being so different to what we got from Mark Trinder's modelling in 2016?

Regards

[REDACTED]

[REDACTED]

NatureScot | 32 Francis Street, Stornoway, Isle of Lewis, HS1 2ND | [REDACTED]

[REDACTED]

nature.scot | [@nature_scot](https://twitter.com/nature_scot) | Scotland's Nature Agency | Buidheann Nàdair na h-Alba

From: [REDACTED] <[\[REDACTED\]@nature.scot](mailto:[REDACTED]@nature.scot)>

Sent: 21 May 2025 16:05

To: [REDACTED] <[\[REDACTED\]@nature.scot](mailto:[REDACTED]@nature.scot)>; [REDACTED]

[REDACTED] <[\[REDACTED\]@nature.scot](mailto:[REDACTED]@nature.scot)>

Cc: [REDACTED] <[\[REDACTED\]@nature.scot](mailto:[REDACTED]@nature.scot)>

Subject: Guga harvest marine ornithology advice

[REDACTED]

Following our conversations about licensing for the guga harvest in 2025, [REDACTED] and I have collated the available data, and run a population viability analysis (PVA) using guidance from our marine energy ornithology colleagues.

Here is the marine ornithology advice, which has been put together with safeguarding the long-term sustainability of the harvest for the Men of Ness in mind:

[2025 Sula Sgeir gannet harvest - marine ornithology advice - 15 May 2025 \(A5159580\)](#)

You will find full details in the advice document, but the recommendation is that the harvest limit for 2025 is set at 500 individuals. This is based on the results of the PVA, which predicted that a limit of 1,000 or higher would result in long-term population declines, while a limit of 500 predicted that the population would remain stable over a 25-year period.

We are also recommending that more detailed population modelling work is contracted prior to the 2026 breeding season, which would provide more robust scientific evidence for assessment of the harvest limits in future years.

Very happy to discuss this next week if that's helpful – I'm available Wednesday – Friday.

[REDACTED] I know you may be out of the office on fieldwork next week – so [REDACTED] could also discuss this in person.

Best wishes,

[REDACTED]

[REDACTED]

NatureScot | Meadowbank House | 6th Floor South | 153 London Road | Edinburgh | EH8 7AU | [REDACTED]

Correspondence address: NatureScot | Battleby House | Redgorton | Perth | PH1 3EW

NàdarAlba | Taigh Bruach an Àilein | 6mh Làr a Deas | 153 Rathad Lunnainn | Dùn Èideann | EH8 7AU

Seòladh puist: NàdarAlba | Taigh Battleby | Ràth a' Ghoirtein | Peairt | PH1 3EW

[nature.scot](https://www.nature.scot) – Scotland's Nature Agency – Buidheann Nàdair na h-Alba - [@nature_scot](https://twitter.com/nature_scot)

From: [REDACTED]
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: Guga harvest marine ornithology advice
Date: 27 May 2025 11:37:36

[REDACTED]

Thanks very much for sharing this. The rationale for the proposed limit in 2025 is clearly explained, as are some of the limitations in the modelling undertaken within the restrictive timelines. I'm interested in responses from Area colleagues and the Men of Ness - can 500 meet future cultural / community aspirations? The suggestion to undertake a more comprehensive modelling exercise to inform numbers beyond 2025 sounds very sensible. Please can you let me know what level of funding might be required so that we can try and direct surrenders accordingly as we move through the year.

It would also be nice to have a discussion at some point around the weighting given to estimated numbers at the SPA citation year and stakeholders perceptions around non-standardised survey results being played into the assessments etc.

[REDACTED]

Cheers

[REDACTED]

[REDACTED]

NatureScot | Great Glen House | Leachkin Road | Inverness | IV3 8NW | [REDACTED] |

NàdarAlba | Taigh a' Ghlinne Mhòir | Rathad na Leacainn | Inbhir Nis | IV3 8NW

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NatureScot Flickr - <https://www.flickr.com/photos/naturescot/>

From: [REDACTED]@nature.scot>

Sent: 21 May 2025 17:58

To: [REDACTED]@nature.scot>

Cc: [REDACTED]@nature.scot>

Subject: FW: Guga harvest marine ornithology advice

[REDACTED]

I believe [REDACTED] has mentioned to you the pre-application advice that we are providing to the west area team in response to the Men of Ness indicating that they would like to apply for a licence to resume the guga hunt on Sula Sgeir this year.

Please see the response that I have sent back to the west area team below. We are

recommending a change in the harvest limit which was set at 2,000 pre-HPAI, and suggesting that this is reduced to 500 in 2025. This is based on the results of the population viability analysis that [REDACTED] ran with the updated data available from 2024 surveys. The advice is provided with the long-term viability of the guga hunt and sustainability of the gannet breeding population in mind, with the amended limit predicted to allow the gannet breeding population to remain stable over a 25-year period. We are also recommending that a more detailed PVA is contracted, to provide the most robust evidence for harvest limit assessments in future years.

Here is a link to the advice:

[2025 Sula Sgeir gannet harvest - marine ornithology advice - 15 May 2025 \(A5159580\)](#)

Best wishes,

NatureScot | Meadowbank House | 6th Floor South | 153 London Road | Edinburgh | EH8 7AU | t: [REDACTED]

Correspondence address: NatureScot | Battleby House | Redgorton | Perth | PH1 3EW

NàdarAlba | Taigh Bruach an Àilein | 6mh Làr a Deas | 153 Rathad Lunnainn | Dùn Èideann | EH8 7AU
Seòladh puist: NàdarAlba | Taigh Battleby | Ràth a' Ghoirtein | Peairt | PH1 3EW

[nature.scot](#) – Scotland's Nature Agency – Buidheann Nàdair na h-Alba - [@nature_scot](#)

From: [REDACTED]

Sent: 21 May 2025 16:05

To: [REDACTED] [@nature.scot](#); [REDACTED]

[REDACTED] [@nature.scot](#)

Cc: [REDACTED] [@nature.scot](#)

Subject: Guga harvest marine ornithology advice

[REDACTED],

Following our conversations about licensing for the guga harvest in 2025, [REDACTED] and I have collated the available data, and run a population viability analysis (PVA) using guidance from our marine energy ornithology colleagues.

Here is the marine ornithology advice, which has been put together with safeguarding the long-term sustainability of the harvest for the Men of Ness in mind:

[2025 Sula Sgeir gannet harvest - marine ornithology advice - 15 May 2025 \(A5159580\)](#)

You will find full details in the advice document, but the recommendation is that the

From: [REDACTED]
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: Guga harvest marine ornithology advice
Date: 27 May 2025 14:12:42

Thanks very much for that [REDACTED] – hope the weather window arrives!

[REDACTED]
NatureScot | Great Glen House | Leachkin Road | Inverness | IV3 8NW | 01463 [REDACTED]
[REDACTED]

NàdarAlba | Taigh a' Ghlinne Mhòir | Rathad na Leacainn | Inbhir Nis | IV3 8NW

nature.scot | [@nature_scot](https://twitter.com/nature_scot) | *Scotland's Nature Agency* | *Buidheann Nàdair na h-Alba*

NatureScot Flickr - <https://www.flickr.com/photos/naturescot/>

From: [REDACTED]@nature.scot>
Sent: 27 May 2025 13:45
To: [REDACTED]@nature.scot>
Cc: [REDACTED]@nature.scot>
Subject: FW: Guga harvest marine ornithology advice

[REDACTED],

Still awaiting a weather window for fieldwork so am able to stick my beak in here a bit. Just noticed you had emailed [REDACTED] about the guga advice so thought it might be useful for you to also see some points I put down on paper for Ops staff following a conversation I had in the Stornaway office directly with [REDACTED] (see below email). I'll let [REDACTED] get back to you once she's back from leave on some of your specific points but a couple of additional ones from me on your queries:

1. We'll try to come up with a more considered figure for you re. the population modelling. Based on the gull PVA work I imagine this will be in the region of [REDACTED] but we will see if we can get any indicative costings from potential suppliers on the framework.
2. [REDACTED] said he was going to try to get hold of the Men of Ness to give them a heads up that our advice will be a reduced guga take for their licence should they wish to apply. After we had a conversation yesterday he seemed content with what we have presented, and I was able to go into the modelling process in more detail to reassure him that we have indeed identified valid reasons for why there is a difference between Trinder's results and our modelling results – and indeed why there are similarities (ie Trinder's model also predicted that only the 500 bird scenario was the one where population declines were not predicted).
3. [REDACTED] still didn't know if they were even wanting to apply for a licence this year – previously he had indicated that they would be unlikely to want to apply for one if there was still HPAI circulating in the population (due to human health risk concerns with consuming potentially diseased gannets).

Will leave it with you and [REDACTED] if further discussions will take place and once we're both back from fieldwork we'll try to get a figure for you re. costings for the modelling work.

Kind regards,



NatureScot | [REDACTED] | Great Glen House, Leachkin Road, Inverness, IV3 8NW



[nature.scot](https://www.nature.scot) | [@nature_scot](https://twitter.com/nature_scot) | Scotland's Nature Agency | Buidheann Nàdair na h-Alba

From: [REDACTED] [nature.scot](mailto:[REDACTED]@nature.scot)>

Sent: 26 May 2025 14:53

To: [REDACTED] [@nature.scot](mailto:[REDACTED]@nature.scot)>; [REDACTED]

[REDACTED] [@nature.scot](mailto:[REDACTED]@nature.scot)>

Cc: [REDACTED] [@nature.scot](mailto:[REDACTED]@nature.scot)>

Subject: RE: Guga harvest marine ornithology advice



Further to our conversation just a few bullet points in relation to your questions on the differences and similarities between the 2016 modelling and our 2024 modelling, and the bag limit for this year and going forward.

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8. As mentioned, there may be other pressures on this colony in future years (e.g. another HPAI outbreak, food supply issues etc) which may affect population growth in addition to the harvest affect.
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I hope that's helpful and happy to chat through any other queries on it if you need.

Kind regards,

[REDACTED]

[REDACTED]

NatureScot | Home worker | Great Glen House, Leachkin Road, Inverness, IV3 8NW

From: [REDACTED] [@nature.scot](mailto:[REDACTED]@nature.scot)>

Sent: 22 May 2025 09:21

To: [REDACTED] [@nature.scot](mailto:[REDACTED]@nature.scot)>; [REDACTED]

[REDACTED] [@nature.scot](mailto:[REDACTED]@nature.scot)>

Cc: [REDACTED] [@nature.scot](mailto:[REDACTED]@nature.scot)>

Subject: RE: Guga harvest marine ornithology advice

[REDACTED]
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Regards

[REDACTED]
NatureScot | 32 Francis Street, Stornoway, Isle of Lewis, HS1 2ND | [REDACTED]
[REDACTED]

From: [REDACTED] [@nature.scot](mailto:[REDACTED]@nature.scot)>

Sent: 21 May 2025 16:05

To: [REDACTED] [@nature.scot](mailto:[REDACTED]@nature.scot)>; [REDACTED]

[REDACTED] [@nature.scot](mailto:[REDACTED]@nature.scot)>

Cc: [REDACTED] [@nature.scot](mailto:[REDACTED]@nature.scot)>

Subject: Guga harvest marine ornithology advice

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Very happy to discuss this next week if that's helpful – I'm available Wednesday – Friday. [REDACTED], I know you may be out of the office on fieldwork next week – [REDACTED] could also discuss this in person.

Best wishes,

[REDACTED]
[REDACTED]

NatureScot | Meadowbank House | 6th Floor South | 153 London Road | Edinburgh | EH8 7AU | t [REDACTED]

[REDACTED]

Correspondence address: NatureScot | Battleby House | Redgorton | Perth | PH1 3EW

NàdarAlba | Taigh Bruach an Àilein | 6mh Làr a Deas | 153 Rathad Lunnainn | Dùn Èideann | EH8 7AU
Seòladh puist: NàdarAlba | Taigh Battleby | Ràth a' Ghoirtein | Peairt | PH1 3EW

[nature.scot](https://www.nature.scot) – Scotland's Nature Agency – Buidheann Nàdair na h-Alba - [@nature_scot](https://twitter.com/nature_scot)

Advice Request From NatureScot LicensingPlease return all advice by email to Licensing@Nature.Scot

Licence Number:	Licence 192787 to 295851
Licence Location:	Sula Sgeir (North Rona and Sula Sgeir SPA)
Date Licence application received:	11 th June 2025
Date of advice request:	13 th June 2025
Date response is required by:	27 th June 2025
Name of licensing officer or licensing support officer seeking advice:	[REDACTED]
Name of advisor request is directed to: See "ornithology roles and responsibilities" eRDMS A3643586 , or A3192592 for up to date list of other internal advisors by species.	[REDACTED]

Case Documentation

Document Name	ERDMS Reference	Most relevant section / pages advisor should refer to
<i>e.g. Current Licence Application</i>	A111111	<i>Section E, page 6</i>
<i>Licence Application Email</i>	A5211349	Sula sgeir - Gannets - Human Consumption - Licence 192787 to 295851 - Renewal Request - 11 June 2025 (A5211349)
Marine ornithology pre-application advice	A5159580	2025 Sula Sgeir gannet harvest - marine ornithology advice - 15 May 2025 (A5159580)

Case Information

<p>Brief description of licence application:</p>	<p>Information provided by the applicant:</p> <ul style="list-style-type: none"> - Dates of Expedition: We propose to travel to Sulasgeir, on [REDACTED] weather depending, aiming to return on the same day. It would be our intention to inform NatureScot, and any other relevant authorities, prior to both the outward and return journeys respectively and at the earliest opportunity. - Vessel: The crew will travel aboard the vessel [REDACTED] a suitably equipped and seaworthy boat for this journey. - Number of Birds Sought: We are seeking a licence to harvest up to 500 young gannets (guga), in line with current annual allowances and sustainable take limits.
<p>Specific questions, to advisor:</p>	<p>Please provide any comments you may have in due course to allow us to process this request prior to the requested date [REDACTED]. You will find previous comments and background by search for the previous licence number: 192787.</p>
<p>Summary of most recent advice to applicant (if relevant):</p>	<p>2021 [REDACTED]:</p> <p>Sula sgeir - Gannets - Human Consumption - Licence 192787 - CMS ALC163867 - 1/2 Final Comments from [REDACTED] - 29 July 2021 (A3515106) - View</p> <p>Sula sgeir - Gannets - Human Consumption - Licence 192787 - CMS ALC163867 - 2/2 Final Comments from [REDACTED] - 29 July 2021 (A3515069) - View</p> <p>2021 licence:</p> <p>Sula sgeir - Gannets - Human Consumption - Licence 192787 - Licence Issued - 12 August 2021 (A3526793) - View</p>
<p>Any other relevant background information:</p>	<p><u>North Rona and Sula Sgeir SPA</u></p> <p>Qualifying features: Atlantic puffin, black-legged kittiwake, common guillemot, great black-backed gull, European storm-petrel, Leach's storm petrel, northern gannet, northern fulmar, razorbill.</p> <p>Conservation objectives:</p> <ol style="list-style-type: none"> 1. To ensure that the qualifying features of the North Rona and Sula Sgeir SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status. 2. To ensure that the integrity of North Rona and Sula Sgeir SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature: <ol style="list-style-type: none"> 2a The populations of the qualifying features are viable components of the North Rona and Sula Sgeir SPA. 2b. The distribution of the qualifying features is maintained, or where appropriate restored, throughout the site by avoiding significant disturbance of the species. 2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at North Rona and Sula Sgeir SPA.

Advice Given

Summary of MO comments:

Guga harvest limit:

- Pre-application advice was provided that used updated survey data to predict the impact of different harvest levels over the short and long term. Please refer to this document for additional detail on that analysis: [2025 Sula Sgeir gannet harvest - marine ornithology advice - 15 May 2025 \(A5159580\)](#).
- The recommended harvest limit for 2025 per the above analysis, is 500 individuals. **It is therefore recommended that a licence for a harvest of no more than 500 gugas be consented for 2025.**
- It is also recommended that:
 - More detailed population modelling work is contracted ahead of the 2026 breeding season that will allow NatureScot to provide advice on harvest limits based on the best available, robust scientific evidence.
 - That the annual license the situation be kept under review to ensure that any population changes are factored into the decision making process.

Additional advice:

- **Please see the table of suggested mitigation measures at the end of this document.**
- The applicant has offered two potential dates: [REDACTED]. The application wording implies that work will be completed in a day trip – however I'm aware this is usually a 2-week trip and assessment in this document has been made for the usual overnight trip.
- Discussion with [REDACTED] confirmed that the Men of Ness plan to complete this work as a day trip in 2025. **Marine ornithology advice is for the work to be completed as late in the season as possible, with a preference for the [REDACTED]**. This would mean that many fulmar chicks have already fledged the colony before the work takes place, and would mean that more Leach's and European storm petrel chicks have hatched and survived their particularly vulnerable first week post-hatching before the work takes place.
- This advice is provided noting that no other landings on Sula Sgeir have been permitted by operations staff for the purpose of seabird census during the breeding season due to the high disturbance risk on this island.

Summary of proposed activities in relation to the conservation objectives:

1. To ensure that the qualifying features of the North Rona and Sula Sgeir SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.

Provision to licence the annual guga hunt for the purpose of providing food for human consumption is in place through the Wildlife and Countryside Act 1981. Despite this exemption, each year the licence application and harvest limit is carefully assessed, and the assessment for 2025 can be found here: [2025 Sula Sgeir gannet harvest - marine ornithology advice - 15 May 2025 \(A5159580\)](#). The most recent assessed condition for gannet as a feature of North Rona and Sula Sgeir SPA was "favourable maintained" (most recent assessed condition being 2023).

2a The populations of the qualifying features are viable components of the North Rona and Sula Sgeir SPA:

2b. The distribution of the qualifying features is maintained, or where appropriate restored, throughout the site by avoiding significant disturbance of the species.

Conclude no LSE in regards to disturbance for great black-backed gull, kittiwake, guillemot, and razorbill which will no longer be breeding when the proposed activities begin. There may be some overlap with the end of the breeding season for Atlantic puffin and potential disturbance to fledging young, this can be mitigated for with the measures outlined at the end of this document.

Fulmar

The fulmar colony on Sula Sgeir is dense and extends across most of the island. The colony is in unfavourable condition at Sula Sgeir and conservation objectives seek to restore this condition. [REDACTED], mid-large chicks will be present on nest sites, and the proposed activities are expected to cause disturbance to breeding fulmar. Disturbance may take the form of direct disturbance through displacement of chicks from their breeding sites, (it is likely that fulmar chicks are displaced from nest sites by the proposed activities), which may affect the ability of adults to provision for those chicks.

Human presence in the colony is expected to cause disturbance to both adults and chicks through: stress and increased vigilance, additional energy expenditure if human presence causes chicks/adults to 'spit' in defence. Human presence may prevent adult birds from provisioning chicks or cause reduced feeding times, and may increase the risk of adults abandoning their nest sites. Such disturbance could result in a reduction in breeding success through reduced chick survival post-fledging (due to chicks fledging in poor condition), or chick mortality at the colony.

LSE should be concluded for fulmar. Mitigation measures should be put in place as outlined at the end of this document to minimise the impact of disturbance (but with mitigation measures in place, the activities would still be expected to cause disturbance due to the extent of the fulmar colony).

European storm petrel, Leach's petrel

Storm petrels (both ESP and LP) will be provisioning young chicks in [REDACTED] (and some may still be incubating eggs) when the proposed activities take place. Both species nest in rocky crevices and inside stone walls, and Leach's petrels may also nest in areas of dense undergrowth. The proposed activities are expected to cause disturbance to European storm petrel and Leach's petrel. Direct disturbance may be caused by the prevention of birds accessing their nest sites, for example by tarpaulin covering stone walls where birds are nesting, or equipment preventing birds accessing nest sites. Storm petrels are sensitive to human disturbance and human presence in the colony could cause stress to adults and chicks, causing adults to return to their nest sites less frequently, reducing the rate of provisioning to their chicks, or to abandon nest sites. Light disturbance could cause adult birds to become disorientated. Such disturbance could cause a reduction in breeding success through nest abandonment or chick mortality.

LSE should be concluded for Leach's petrel and European storm petrel. Mitigation measures should be put in place as outlined at the end of this document to minimise the impact of disturbance (but with mitigation measures in place, the activities would still be expected to cause disturbance due to the sensitivity and breeding distribution of these species).

Gannet

The proposed activities could cause disturbance to breeding gannets outwith the licensed activities. Human presence in the colony is expected to cause increased stress and vigilance in breeding adults and chicks, and may temporarily prevent adult birds returning to their nest sites, reducing the rate of chick provisioning or increasing the risk of nest abandonment. Additional assessment of the proposed activities for gannet has been made in the document linked above, and mitigation measures should be put in place as outlined at the end of this document.

Biosecurity

Landings on Sula Sgeir are infrequent and the island is free from invasive non-native predators such as rats and mice. The arrival of invasive predators on Sula Sgeir would pose a significant risk to breeding success for the protected features. The proposed activities involve bringing substantial amounts of equipment and food to Sula Sgeir, and there is a risk that rats or mice could be introduced through this route. Biosecurity measures should be taken prior to travelling to Sula Sgeir.

2c. The supporting habitats and processes relevant to qualifying features and their prey resources are maintained, or where appropriate restored, at North Rona and Sula Sgeir SPA.

The proposed harvest is not expected to have an impact on the supporting processes relevant to the qualifying features, however, if the hunt takes place over a prolonged period (the trip duration has traditionally been two-weeks) there is a risk that the proposed activity could have a negative impact on the supporting habitat for the protected features, particularly for fulmar where there would be a risk of damage to vegetation, and for European storm petrel and Leach's petrel, since habitation of the stone bothys and installation of tarpaulin over the bothys would restrict access to storm petrel breeding habitat.

HPAI Assessment

Is the project likely to have LSE?

Risk of transmission of highly pathogenic avian influenza (HPAI)

In 2021 and 2022, HPAI was confirmed as present on the west coast of Scotland and caused significant mortality events in some seabird species. Significant mortality was recorded in gannets in 2022 and 2023, and individual gannets continued to test positive in 2024. At the time of writing, there has been no widespread mortality recorded or suspected at gannet colonies in 2025, but there remains a risk of the virus returning in this or future breeding seasons.

HPAI virus can persist on clothes and shoes for several hours (less on skin); humans could fomite virus into wild bird habitats and breeding colonies if they have recently been exposed to the virus elsewhere. Likewise, sequential handling of birds in a colony could result in transfer of virus from an infected to a susceptible bird. **Human transmission therefore poses a risk and should be considered through the appropriate assessment of those features where LSE has been concluded.**

STAGE 4: UNDERTAKE AN APPROPRIATE ASSESSMENT OF THE IMPLICATIONS FOR THE SITE IN VIEW OF ITS CONSERVATION OBJECTIVES

All qualifying species: Assessment of HPAI impacts

The 2021, 2022, and 2023 observed pattern of large-scale mortality in UK wild birds is unprecedented. No severe HPAI mortality events were recorded in Scotland in 2024, though HPAI related mortality has continued to be recorded in various species (including gannet). Individual gannets have continued to test positive for HPAI into the 2025 breeding season (e.g. a gannet in Shetland in April 2025). We currently lack serological data to inform if HPAI has previously circulated widely at subclinical levels in UK wild bird populations or what has led to the change in epidemiology. It could be changing migratory patterns of birds, changes to the virus, enhanced environmental persistence, or simply chance.

There are no simple patterns that enable robust predictions regarding which wild bird populations will be impacted with HPAI. Care should be taken in interpreting species-specific mortality data as they do not necessarily enable clear distinctions between

tolerance to exposure and absence of exposure. Thus, just because a species escaped substantial impacts in one year does not mean it may do so again in future years.

We should anticipate that HPAI will continue to be an issue into the 2025 nesting season, and quite possibly well beyond.

Risk of human transmission:

Whole Genome Sequencing (WGS) and other epidemiological evidence indicates that wild birds spread the virus readily between sites within the UK, and between species within the same site. As such, at sites where the virus is already present and exposure to virus high, the possible introduction of additional virus passively transported through human visitation is regarded as negligible and therefore, unlikely that such transmission will make any long-term difference to the size of the outbreak (NatureScot, Scientific Advisory Committee, HPAI sub-group, 2023).

Risk of reduced resilience:

Increased stress can affect innate immunity and increase the virulence of HPAI, potentially negatively affecting productivity and/or adult survival. The degree of potential additional HPAI impact from increased stress to individuals is however unknown and likely to be species specific.

Conclusion

No widespread HPAI related mortality has been reported at gannet colonies in 2025 , however it should be expected that the virus may still affect west coast colonies in 2025. Our current understanding is that exposure resulting from human vectoring of virus is very small and the proposed activities should not create additional risk of spreading HPAI to or between the qualifying features of North Rona and Sula Sgeir SPA. **We therefore conclude no adverse effect on site integrity (NAESI) with respect to HPAI impact risks.**

However, if another severe mortality event is reported at Scottish gannet colonies in the 2025 breeding season, it may be considered appropriate to halt the proposed activities, as the 2025 harvest limit does not account for additional mortality and reassessment of the activities alongside additional mortality would be required.

This conclusion has been drawn based on the scientific evidence available, and mitigation outlined below.

Suggested mitigation measures:

Mitigation measure	Reason
Due care and attention must be taken to avoid any unnecessary disturbance or damage to the gannet colony.	
Pre-departure biosecurity checks should be made to minimise the risk of invasive predators being introduced within cargo.	To prevent the introduction of invasive predators (e.g. rats or mice) to Sula Sgeir.
The footprint of the proposed activities should be kept to a minimum, avoiding fulmar and storm petrel breeding sites where possible.	To minimise disturbance to fulmar, European storm petrel and Leach's petrels.
Minimise the use of external lighting and use red light for torches at night.	To minimise disturbance to and disorientation of storm petrels.

All equipment and waste should be removed from Sula Sgeir at the end of the licensed activities.	To minimise disturbance and displacement of protected features.
Equipment required during the visit should be stored in areas of bare rock where possible, avoiding vegetated areas.	To minimise the risk of preventing access to storm petrel burrows.
If sick or dead birds of any species are observed during the harvest (where entanglement is not the cause of death) this should be reported to NatureScot immediately.	This may be an indication that avian flu is present within the colony – which may also pose a human health risk to the guga hunters.
Response Date:	
	26/06/2025
Time taken to process request (if required for casework recording)	Request received on 13th June.