

Ceibwr Breeding Bird Survey 2024

NRW Evidence Report No. 800

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Crynodeb Gweithredol

Mae Bae Ceibwr yn rhan o SoDdGA Aber-arth - Carreg ac mae iddi 2 nodwedd adar môr, yr Wylan gefnddu leiaf a'r Wylan goesddu, y ddwy yn bridio. Mae'r poblogaethau'r ddwy nodwedd hon i'w cael mewn gwahanol rannau o'r SoDdGA hir hwn. Mae nythfa'r Wylan gefnddu leiaf ar Ynys Aberteifi ac mae'r nythfa o Wylanod coesddu ar glogwyni Ceinewydd. Nid yw gwylogod na llursod yn nodwedd o'r safle hwn.

O dan Ddeddf Bywyd Gwyllt a Chefn Gwlad mae pob aderyn wedi'i warchod rhag y canlynol:

- Lladd, anafu neu gymryd unrhyw aderyn gwyllt yn fwriadol
- Cymryd, difrodi, neu ddinistrio nyth unrhyw aderyn gwyllt yn fwriadol tra bo'n cael ei ddefnyddio neu'i adeiladu
- Cymryd neu ddinistrio wy unrhyw aderyn gwyllt yn fwriadol.
- Bod ag unrhyw aderyn gwyllt, yn fyw neu'n farw, neu unrhyw ran o aderyn gwyllt, a gymerwyd yn groes i'r Ddeddf neu Ddeddf Gwarchod Adar 1954, yn eich meddiant neu dan eich rheolaeth.
- Bod ag unrhyw wy neu ran o wy a gymerwyd yn groes i'r Ddeddf neu Ddeddf Gwarchod Adar 1954 yn eich meddiant neu dan eich rheolaeth.
- Defnyddio maglau neu eitemau tebyg i ladd, anafu neu gymryd adar gwyllt.
- Bod ag unrhyw aderyn o rywogaeth sydd wedi'i rhestru yn Atodlen 4 y Ddeddf yn eich meddiant neu dan eich rheolaeth, onid yw'r aderyn wedi'i gofrestru ac, yn y rhan fwyaf o achosion, wedi'i fodrwyo, yn unol â rheoliadau'r Ysgrifennydd Gwladol.
- Tarfu'n fwriadol neu'n ddi-hid ar unrhyw aderyn gwyllt a restrir yn Atodlen 1 tra ei fod yn adeiladu nyth neu mewn nyth sy'n cynnwys wyau neu gywion, neu darfu ar gywion dibynnol aderyn o'r fath.

Nid yw gwylogod na llursod yn rhywogaethau Atodlen 1. Y rhywogaethau Atodlen 1 sydd i'w cael yn nythu ar glogwyni arfordirol yw'r Frân goesgoch a'r Hebog tramor ac felly byddai'n drosedd "tarfu'n fwriadol neu'n ddi-hid" "tra ei fod yn adeiladu nyth neu mewn nyth sy'n cynnwys wyau neu gywion, neu darfu ar gywion dibynnol aderyn o'r fath".

Roedd trigolion lleol wedi codi pryderon ynghylch effaith gweithgareddau arforgampau ar adar môr yn bridio ar glogwyni ychydig i'r gorllewin o Geibwr, yn enwedig yn y bae ger Carreg Wylan (Ffigur 1). Comisiynwyd yr arolwg hwn gan CNC i fonitro canlyniadau bridio'r holl adar môr yn yr ardal hon yn 2024, ac i edrych ar unrhyw effeithiau yn sgil gweithgareddau arforgampau ar adar môr yn nythu yng nghyffiniau Carreg Wylan.

Mesurodd yr arolwg gyfraddau cynhyrchu bridio'r tair rhywogaeth o adar môr: llursod, gwylogod a gwylanod y penwaig. Cymharwyd y cyfraddau cynhyrchu â'r cyfartaledd hirdymor ar gyfer Sgomer. Yn achos llursod, roedd y gyfradd gynhyrchu'n is na'r cyfartaledd, roedd yn agos at y cyfartaledd yn achos gwylogod, ac yn achos gwylanod y penwaig roedd tua dwywaith y cyfartaledd (Canlyniadau 3.2). Y rheswm dros gyfraddau cynhyrchu isel llursod bron yn sicr oedd ysglyfaethu, a ddigwyddai'n bennaf yn ystod y cam wyau.

Gwelwyd grwpiau arfordira ar bedwar achlysur dros dri diwrnod yn ystod y gwaith arolwg, a gynhaliwyd dros 10 diwrnod. Ar ddau achlysur o'r fath cynhaliwyd gweithgareddau yn agos at ble mae adar yn nythu. Roedd y pellter lleiaf oddi wrth nythod/cywion nyth pob rhywogaeth fel a ganlyn: Gwylog 50m, Llurs 10m, Gwylan y penwaig 8m, Pioden fôr <1m. Ymysg y gweithgareddau roedd neidio oddi ar y creigiau i'r dŵr a beth oedd yn ymddangos i fod yn chwilota'r pyllau glan môr. Roedd y grwpiau'n amrywio o ran maint rhwng 12 a 25.

Nid oedd unrhyw dystiolaeth bod gweithgareddau arfordira wedi effeithio ar lwyddiant bridio adar môr, er y gwelwyd gweithgareddau a allai fod wedi bod yn niweidiol. Yn benodol, gwelwyd achosion o droedio'n agos iawn at gyw pioden fôr ac anwybyddu crïoedd perygl piod môr a gwylanod y penwaig llawndwf, ymddygiad a ddangosai ddiffyg ymwybyddiaeth ymhlith y grwpiau o'r effeithiau posibl ar adar yn nythu. Trafodir hyn ymhellach yn 5.2.

Gwneir argymhellion ar gyfer sicrhau bod adnoddau addysgu gwell mewn perthynas ag effeithiau negyddol posibl tarfu ar adar ar gael i grwpiau gweithgareddau arfordirol ac unigolion (5.3). *Dylid hefyd ystyried parth gwahardd dros dro yn agos iawn at nythod (bae Carreg Wylan).*

Os dilynir yr argymhellion hyn a'r canllawiau arfer da sydd eisoes yn bodoli, dylai fod yn bosibl i'r rhai sy'n defnyddio'r ardal ar gyfer gweithgareddau hamdden arfordirol barhau i wneud hynny heb unrhyw effaith negyddol ar adar yn bridio. Gallai dealltwriaeth well o fywyd adar lleol gan y rhai sy'n ymwneud â gweithgareddau arfordira hefyd arwain at werthfawrogiad ehangach o'r bywyd gwyllt arbennig sy'n rhannu'r cynefinoedd hyn ac ychwanegu at eu profiad.

Argymhellir monitro'r rhan hon o'r clogwyn yn y dyfodol bob pum mlynedd a chynnwys o leiaf dri chyfrif rhwng 1 a 21 Mehefin yn unol â'r fethodoleg safonol.

Executive summary

Ceibwr Bay is part of Aberarth - Carreg SSSI which has 2 seabird features, breeding Lesser black-backed gull and breeding Kittiwake. The colonies for these two features are found at different parts of this long SSSI. The Lesser black-backed colony is on Cardigan Island and the kittiwake colony is at New Quay cliffs. Guillemot or razorbill are not a feature of this site.

Under the Wildlife and Countryside Act all birds are protected in terms of:

- Intentionally kill, injure or take any wild bird.
- Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built.
- Intentionally take or destroy the egg of any wild bird.
- Have in one's possession or control any wild bird, dead or alive, or any part of a wild bird, which has been taken in contravention of the Act or the Protection of Birds Act 1954.
- Have in one's possession or control any egg or part of an egg which has been taken in contravention of the Act or the Protection of Birds Act 1954.
- Use traps or similar items to kill, injure or take wild birds.
- Have in one's possession or control any bird of a species occurring on Schedule 4 of the Act unless registered, and in most cases ringed, in accordance with the Secretary of State's regulations.
- Intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

Guillemot and razorbill are not schedule 1 species. The schedule 1 species that are found in coastal cliff nesting situations are Chough and Peregrine and therefore it would be an offence to “Intentionally or recklessly disturb” “while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird”

Concern was raised by local residents regarding the impact of coastering activities on breeding seabirds on cliffs just west of Ceibwr, in particular in the bay near Carreg Wylan (Figure 1). This survey was commissioned by NRW to monitor the breeding outcomes of all seabirds in this area in 2024, and to observe any effects of coastering activities on nesting seabirds in the vicinity of Carreg Wylan.

The survey measured the breeding productivity for three seabird species: razorbill, guillemot and herring gull. Productivity was compared to the long-term average from Skomer. For razorbill it was below average, for guillemot it was close to the average, and for herring gull it was about twice the average (Results 3.2). The low productivity for razorbill is almost certainly due to predation which occurred mainly at the egg stage.

Coasteering groups were seen on four occasions covering three days during the survey work, which was undertaken over 10 days. On two such occasions activities took place in the vicinity of nesting birds. The minimum distance to nests/nestlings of each species was as follows: Guillemot 50m, Razorbill, 10m, Herring gull, 8m, Oystercatcher <1m. Activities involved jumping off rocks into water and what appeared to be rock pooling. Group size varied from 12 to 25.

There was no evidence that the breeding success of seabirds was affected by coasteering group activities, though actions were observed that could have been potentially detrimental. In particular treading very close to a crouching oystercatcher chick and ignoring alarm calls of adult oystercatchers and herring gulls indicated a lack of awareness by the groups with regards potential effects on nesting birds. This is discussed further in 4.2.

Recommendations are made for better education on the potential negative effects of disturbance made freely available to all coastal activity groups and individuals (4.3). A temporary exclusion zone should also be considered in the immediate vicinity of nests (Carreg Wylan bay).

If these recommendations and existing good practice guidelines are followed it should be possible for those using the area for coastal recreational activities to continue to do so without any negative impact on breeding birds. A better understanding of the local bird life by those involved in coasteering activities may also lead to a wider appreciation of the fascinating wildlife that share these habitats and add to their experience.

Future monitoring of this section of cliff is recommended every five years and to include a minimum of three counts between 1 and 21 June in line with standard methodology.

1. Introduction

Concern was raised by local residents regarding the impact of coasteering activities on breeding seabirds on cliffs just west of Ceibwr, in particular in the bay near Carreg Wylan (Figure 1). This survey was commissioned by NRW to monitor the breeding outcomes of all seabirds in this area in 2024, and to observe any effects of coasteering activities on nesting seabirds in the vicinity of Carreg Wylan.

The cliffs at Ceibwr Bay are part of both the Cardigan Bay Special Area of Conservation (SAC) and the Aberarth - Carreg Site of Special Scientific Interest (SSSI). The SSSI extends from the Afon Arth at Aberarth in Ceredigion in the north to Carreg Wylan near Ceibwr Bay in Pembrokeshire to the south and covers an area of 988ha.

The SSSI is designated for a range of species and coastal habitats including three bird species: chough *Pyrrhocorax Pyrrhocorax*, lesser black-backed gull *Larus fuscus* and kittiwake *Rissa tridactyla*. Lesser black-backed gulls and breeding Kittiwake do not nest within this survey area and the colonies for these two features are found at different parts of this long SSSI. The Lesser black-backed colony is on Cardigan Island and the kittiwake colony is at New Quay cliffs. Chough does not nest in the survey area and recent monitoring of this species suggests recreational activities are not a significant factor to breeding outcomes in North Pembrokeshire.

What is thought to be a young and increasing population of guillemot and razorbill now regularly breed on several of the cliff ledges and in crevices within the survey area to the west of Ceibwr Bay. Other breeding seabird species within the survey area include herring gull *Larus argentatus* and fulmar *Fulmarus glacialis*, as well as oystercatcher *Haematopus ostralegus*. Within a Pembrokeshire context, the numbers of all these breeding species are extremely low, and are vastly exceeded at other colonies, especially the main islands. Guillemot, razorbill, herring gull or fulmar are not features of this SSSI.

Under the wildlife and countryside act all birds are protected in terms of:

- Intentionally kill, injure or take any wild bird.
- Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built.
- Intentionally take or destroy the egg of any wild bird.
- Have in one's possession or control any wild bird, dead or alive, or any part of a wild bird, which has been taken in contravention of the Act or the Protection of Birds Act 1954.
- Have in one's possession or control any egg or part of an egg which has been taken in contravention of the Act or the Protection of Birds Act 1954.
- Use traps or similar items to kill, injure or take wild birds.
- Have in one's possession or control any bird of a species occurring on Schedule 4 of the Act unless registered, and in most cases ringed, in accordance with the Secretary of State's regulations.

- Intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

Guillemot and razorbill are not a schedule 1 species. The schedule 1 species that are found in coastal cliff nesting situations are Chough and Peregrine and therefore it would be an offence to “Intentionally or recklessly disturb” “while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird”

The main objective of this report is to evaluate whether coasteering activities are impacting on breeding success of the local seabirds and if so, to make recommendations that address this. The survey may also form a detailed baseline against which future surveys may be compared.

2. Methods

Field Survey

Following an initial site inspection on 29 April, the survey area (Figure 1) was visited on a further nine occasions between 14 May and 9 July (Results 4.1). Visits took place in light winds and good visibility and were timed to try and coincide with coasteering activities, as well as maintaining a frequency sufficient to accurately monitor the nest outcomes of the seabirds. This meant most visits commenced between 10am and 12pm, which fitted in well with the recommended times for monitoring auk species (8am -4pm). The monitoring visits took approximately four hours, though sometimes longer if coasteering activities were taking place.

The recording methods for seabirds followed the JNCC Seabird monitoring handbook (Walsh et al 1995) and used photographs as an additional aid to follow individual breeding attempts. Auk species occupy ledges either as individuals, non-breeding pairs or breeding pairs, and it can be very difficult to confirm breeding at the egg stage because the egg is typically constantly hidden from view. Therefore, the determination of actual breeding attempts to monitor was based on protracted observations to eliminate non-breeding birds/pairs, and for many breeding attempts there was no visual confirmation of an egg.

The nest outcome was considered a success if one or more chicks reached an age that they could fledge. In the case of the two auk species, this happens before the young can fly at around 18 days old. Fledging takes place under the cover of darkness with the male accompanying the fledgling (often termed “jumpling”) out to sea away from most of their potential predators. The young are capable of diving to escape predation when out at sea.

The nests of herring gull, fulmar and oystercatcher were more easily monitored, though once gull chicks became large, they wandered about, and broods sometimes merged. The overall total of gull chicks recorded was nonetheless accurate.

The field surveys were carried out by Paddy Jenks, who has extensive experience monitoring and ringing a range of seabirds, both locally, and on Ynys Enlli and Fair Isle.

Limitations

There were no significant limitations; the weather was ideal and regular coverage was achieved. The lack of visual confirmation of egg laying in auk species may have led to an over-estimation of the number of eggs laid and therefore an underestimation of fledging success rate, though the actual figures for the number of fledged young is likely to be accurate.

Figure 1. Survey Area



Figure 2. Main Colony Areas



Figure 3. Main Colony Area MC3 on 22 June



Figure 4. Main Colony Area 4 (MC4) on 22 June



Figure 5. Main Colony Area 6 (MC6) on 22 June



Figure 6. Coasteering activities in the vicinity of the auk colony



Figure 7. Gull nest with young chicks on Carreg Wylan



3. Results

3.1 Seabird Counts

Table 1 lists the counts made of razorbill and guillemot within the recommended recording window (late May to late June) for each cliff section as shown in Figure 2. Count units are of individual birds ashore.

Razorbill					
Area	Counts				
	Visit 2	Visit 3	Visit 4	Visit 5	Visit 6
	27-May	01-Jun	07-Jun	16-Jun	22-Jun
MC1	3	3	4	6	5
MC2	3	6	3	9	8
MC3	22	15	14	20	20
MC4	12	9	10	9	12
MC5	6	5	2	3	0
MC6					
MC7	5	5	9	8	8
MC8	12	11	11	10	15
Total	63	54	53	65	68
Guillemot					
MC3	12	13	12	12	14
MC4	4	7	8	10	9
MC6	14	11	11	16	23
Total	30	31	31	38	46

Counts of razorbill were fairly consistent throughout, with the lower counts coinciding with when young chicks were present, a time when one adult is frequently away foraging. Guillemot counts were extremely consistent for the first three counts, before increasing for the last two. This is best explained by an increase in non-breeders turning up to occupy ledges. This helps protect the colony.

3.2 Nest Productivity

Table 2. Summary of Nest Productivity

Species	Nests/active sites	Chicks fledged	Nests successful	% nests successful
Guillemot	15	10	10	67%
Razorbill	29	13	13	43%
Herring Gull	22	28	15	68%
Oystercatcher	1	1	1	100%

Guillemot

Three areas of the cliff were used by breeding guillemot, MC3, MC4, and MC6 (Figure 2). A total of seven eggs were laid at MC3, two at MC4, and six at MC6 giving 15 eggs in total. A total of ten chicks reached the “jumpling” stage and were assumed to have fledged. Of the five failed attempts, one failed at the egg stage and four failed when chicks were young. The reasons for failure are not known but predation is a probable cause; an individual herring gull was seen being particularly provocative on several occasions by flying at ledges in an attempt to scatter adult guillemots. On all occasions the provocations by herring gulls occurred during periods without any coasteering activities in the vicinity, and none of the witnessed predation attempts were successful. The fledging success is very close to the average for Skomer 1993 to 2020 (0.68).

Razorbill

At least 25 eggs were laid, but there were possibly a few more than this that had already failed prior to the survey commencing, because a predated egg could be seen on 14 May, so the number of regularly occupied sites was used as the baseline for eggs laid (=29). A total of 13 chicks reached the “jumpling” stage and were assumed to have fledged. Most razorbill nest failures were at the egg stage and were probably caused by a carrion crow that picked off the eggs of isolated pairs on exposed ledges. This was witnessed on one occasion with the crow creeping up to a lone adult razorbill and goading it until it exposed the egg, whereupon it was deftly removed from under the razorbill and carry a few feet away to be eaten. Interestingly, the razorbill made no attempt to attack the crow once the egg was gone and it just seemed to observe it with curiosity. There was no coasteering

taking place at this time. Nests in crevices and among huddles of guillemot seemed to fare better. The fledging success is lower than the average for Skomer 1993 to 2020 (0.53).

Herring Gull

A total of 22 nests were built in the survey area, with 15 of these being successful and fledging at least one chick. The reasons for failures are unknown but all occurred at the egg and early chick stage. An adult herring gull was seen floating dead on the water surface on 9 July, and there is a possibility that it died of bird flu. The mean brood size was 1.27 per breeding attempt and 1.87 per successful nest. These figures are much higher than the average for Skomer of 0.67 per breeding pair (between 1962 and 2019), for reasons unknown.

Oystercatcher

A single pair of oystercatchers nested on the top of Carreg Wylan stack hatching two young and fledging a single chick.

Fulmar

Five ledges were occupied by Fulmar, but their productivity was not monitored.

3.3 Coasteering

Activity

Coasteering groups were seen on four occasions covering three days during the survey work. On two such occasions activities took place in the vicinity of nesting birds. The minimum distance to nests/nestlings of each species was as follows: Guillemot 50m, Razorbill, 10m, Herring gull, 8m, Oystercatcher <1m. Activities involved jumping off rocks into water and what appeared to be rock pooling. Group size varied from 12 to 25.

Response

The nesting razorbills and Guillemots showed no response to the disturbance, and they appeared to just carry on as if the coasteering groups were not present, flying to and from the breeding ledges as normal. Counts of birds ashore did not change. When activity groups were close to nesting gulls on Carreg Wylan the adult gulls left their nest sites and flew overhead giving frequent alarm calls. The chicks crouched and froze. Adult oystercatchers were extremely vocal as the groups came ashore around the base of Carreg Wylan, and the single chick ran to a shallow rock crevice which provided some shadow, and then crouched and froze. It did not move even when people were less than a metre away. It was not harmed in any way but clearly the activity group were all unaware of its presence and could easily have trodden on it.

4. Discussion

4.1 Main Survey Findings

Breeding Bird Survey

The survey measured the breeding productivity for three seabird species: razorbill, guillemot and herring gull. Productivity was compared to the long-term average from Skomer. For razorbill it was below average, for guillemot it was close to the average, and for herring gull it was about twice the average. The low productivity for razorbill is almost certainly due to predation which occurred mainly at the egg stage. Razorbill and guillemot are more successful on Skomer probably because there is a larger mass of individuals to protect the colonies. Razorbills nesting at low density on exposed ledges are particularly vulnerable to breeding failure compared to those in crevices and among other auks. Reasons for the higher-than-expected productivity in herring gulls are not clear, but probably relate to greater food availability compared to those nesting in the much larger colonies on Skomer.

Activity Monitoring

There was no evidence that the productivity or nesting success of breeding seabirds was affected by coasteering group activities, though actions were observed that could be potentially detrimental. In particular treading very close to a crouching oystercatcher chick and ignoring alarm calls of adult oystercatchers and herring gulls indicated a lack of awareness by the groups with regards potential effects on nesting birds. Although choosing a jump site within 10m of a small razorbill colony was observed, the colony was out of view of the coasteers and the razorbills all appeared to ignore the activity, and there was no observed effect on the colony. Disturbance issues are discussed further below.

4.2 Disturbance

Indirect Effects of Disturbance

As well as the more obvious direct effects of disturbance, such as damaging eggs/chicks, or causing adults to panic and accidentally damage their eggs, there are a number of potential indirect effects. Eggs and chicks are particularly susceptible to chilling and simply causing the incubating/brooding adult to leave the nest starts a period of time when the egg or chick is cooling down. In cool or wet weather, the chilling process is accelerated. Eggs that cool down, but nevertheless survive, will take longer to hatch which increases the chances of the chick becoming exhausted before they can peck themselves out of the egg. During a disturbance event, exposed eggs are perhaps also more vulnerable to opportunistic predation by corvids and gulls. Furthermore, the adults expend more energy

as they fly around alarming, hence putting greater pressure on them to feed and reduce the time spent brooding. The indirect effects of disturbance are often difficult to predict or measure.

Signs of Disturbance

Recognising the signs of disturbance allows action to be taken to end the disturbance event and prevent any of the potentially negative effects materialising.

Auk species are remarkably tolerant of humans, perhaps because their nest sites are generally inaccessible. However, both razorbill and guillemot will become agitated at a very close approach and will nod their heads nervously and call persistently. It is very important that cliff nesting auks are not approached, or surprised in any way because they tend to panic en masse, causing eggs and chicks that are tucked on top of their feet to scatter and fall below. For most of the auk nest ledges, such a close approach requires rope access, though the guillemot ledge labelled MC6 in this survey (Figure 2) is low enough to be disturbed via access from the sea.

Gull species and oystercatcher are a lot more wary than auks and share a different response to disturbance: they issue loud and obvious alarm calls and fly overhead at close range to the intruder. Meanwhile any chicks present will be crouching and remain silent and still, often extremely well camouflaged. When adults are behaving in this way (i.e. showing signs of agitation) a suitable response is to move away from the area and allow them to return to any nests or chicks.

4.3 Recommendations

Education

The observations made during the fieldwork in this survey conclude that there was a lack of awareness with regards recognising the signs of disturbance by at least one coastal activity group. There is probably also a similar gap in the understanding of the potential indirect effects of disturbance. It is therefore recommended that an education pack is made available to all coastal activity groups containing the information they need to avoid disturbance of nesting birds. This information pack is best made available for free both online and perhaps as paper copies sent out to the main groups. If appropriate, signage at Ceibwr parking area could include basic information, or at least a link/QR code to the online version.

The main points to cover in the education pack are:

- Recognising where nesting is taking place.
- Keeping a sensible distance to avoid disturbance when nests are detected.
- Recognising signs of agitation in nesting birds due to disturbance.
- Understanding the effects of bad weather on nests.

- Understanding the effects of increased nest predation due to disturbance.
- Understanding the timing of nesting activity within the season.

Access Restrictions

Whilst in the water, it is unlikely that kayaking and coasteering groups will cause any measurable disturbance on the breeding birds in the Carreg Wylan Bay area.

However, if leaving the water to climb to a jumping point, there are parts of this area where the potential for disturbance is high and should be avoided when nesting birds are present. In particular, the low guillemot ledge marked as area 6 in Figures 2 and 5 should be avoided when guillemots are present. If oystercatcher chicks are present, then it is also advisable not to walk around on the rocks forming the wave-cut platform at the base of Carreg Wylan. Measures to restrict access to this area such as a temporary exclusion zone should be considered.

If these recommendations and existing good practice guidelines are followed it should be possible for those using the area for coastal recreational activities to continue to do so without any negative impact on breeding birds. A better understanding of the local bird life by those involved in coasteering activities may also lead to a wider appreciation of the fascinating wildlife that share these habitats and add to their experiences.

4.4 Future Monitoring

Given the insignificance of the seabird colonies at county level in terms of size, there is perhaps no justification for annual monitoring of the site. However, there is now a solid baseline to which longer term monitoring can be compared, and perhaps periodic monitoring of this interesting area would be valuable in understanding how the populations of these species are changing locally. The most basic level is a five-yearly set of counts of birds ashore between 1 and 21 June (min 2 counts).

5. Conclusions

The survey recorded a detailed baseline of the numbers of breeding auks and herring gulls, together with productivity in the vicinity of Carreg Wylan.

No disturbance-related impacts were recorded during the survey, though areas of concern were raised relating to potential negative impacts resulting from disturbance by activity groups.

Recommendations are made for better education on the effects of disturbance made available to all coastal activity groups and individuals (5.3). Access restrictions or a temporary exclusion zone is suggested in the immediate vicinity of nests (Careg Wylan Bay). If these recommendations and existing good practice guidelines are followed it should be possible for those using the area for coastal recreational activities to continue to do so without any negative impact on breeding birds.

Future monitoring is recommended for every five years, to at least include a set of counts of birds ashore during the first five weeks of June.

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Data Archive Appendix

The data archive contains:

[A] The final report in Microsoft Word and Adobe PDF formats.

Metadata for this project is publicly accessible through Natural Resources Wales' Data Discovery Service <https://metadata.naturalresources.wales/geonetwork/srv> (English version) and <https://metadata.cyfoethnaturiol.cymru/geonetwork/cym/> (Welsh Version). The metadata is held as record no [NRW to insert this number].

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