

INSTRUCTIONS FOR COLLECTING DATA ON GUILLEMOT DIET

Background

The Common Guillemot *Uria aalge* is one of the most abundant seabird species in the UK and Ireland. In recent years, numbers at many colonies have declined and breeding failures have been recorded, particularly in Shetland. Changes in feeding conditions have been suggested as a likely cause and this has highlighted the need for up to date information on diet. Guillemots feed their chicks on fish, predominantly lesser sandeels *Ammodytes marinus* or small clupeids such as sprats *Sprattus sprattus*.

A collaborative study involving CEH, RSPB, JNCC, SNH and Aberdeen University collected information on diet of guillemot chicks at over 20 colonies around Britain between 2006 and 2011. The main findings were that 1) sandeels (probably mainly *Ammodytes marinus*) were the commonest and most widespread but their contribution to chick diet varied latitudinally and among marine regions and 2) the proportion of sandeel in chick diet at North Sea colonies appears to have decreased over the last 15-30 years (Anderson *et al.* (2014) *Ibis* **156**:23-34). Further years of data are required to investigate whether these spatial and temporal changes will continue. Thus it is important to continue collecting data from as many colonies and years as possible.

Below we give details of how to do this. Please read through the instructions carefully and if you have queries or problems contact Sarah Wanless (swanl@ceh.ac.uk). More details of CEH's work on seabird diet can be found at http://www.ceh.ac.uk/sci_programmes/isleofmaylong-termstudy.html

Diet data collection methodology

Observations can be made throughout the chick-rearing period. The precise timing of this will vary from colony to colony but is likely to be between late May and mid July. Diet data can be collected at any time of the day, but try to spread observations throughout the day if possible.

Find a safe vantage point, preferably <30m from the nearest breeding birds. Watch for birds landing in the colony, either with the naked eye or through binoculars. As soon as they land parent guillemots immediately bend over their chick, with their wings slightly spread, and the fish rapidly disappears down the chick. Thus, there is only a VERY short time available to see the fish and identify the species. So do NOT worry if your first efforts at recording diet data fail – persevere!! In a few cases the bird will stand around holding the fish rather than behaving in the way just described. This probably means it is a display fish. It is also worth recording the species and a qualitative assessment the size but please ensure that you note that it was for display not chick provisioning on the recording form. The fish typically brought in by guillemots are sandeels, clupeids (small herring or sprat) and gadoids. Photographs and descriptions of these fish are provided. If you see a fish that you can't identify and get a good look at it, make a sketch (or if possible take a photograph), note any distinctive features to maximise the chances of identifying it retrospectively.

Record your data on the recording sheet provided. Take a fresh sheet into the field for each recording session. Fill in all the general information e.g. colony, date, weather conditions etc. If you can watch for 2 hours at a time this is excellent but shorter periods are fine, just note down the start and end time of the watch. If you are able to do this twice a week throughout the chick-rearing period that would be great, but even one or two watches in the whole season are better than nothing.

GUILLEMOT DIET RECORDING FORM

Colony	
Observer	
Start time	
Form number	

Date	
Weather	
End time	

[illegible]

Notes, diagrams etc – annotate where necessary

Data recording sheets

Please use one form for each observation period. Do not combine data from consecutive visits onto a single form.

Fill in the name of the colony, the date and your name and a brief description of the weather in the first four boxes.

Start/End times: Fill in the time at which observations started and ended.

For each observation period, label the number of the form in the form number box and the total number of forms used in the of box (e.g. form number “2 of 5” would be the second form of a total of five filled in).

Fish Species: Enter the identity of the fish delivered as: Sandeel, Clupeid, Gadoid and unknown. Unknown or any codenames you select for fish not fitting the descriptions of these (provide description and sketch on separate sheet).

Record whether the fish was fed to a chick, or shown off on a ledge as a display fish in the chick/display column.

Return completed forms at the end of the year to:

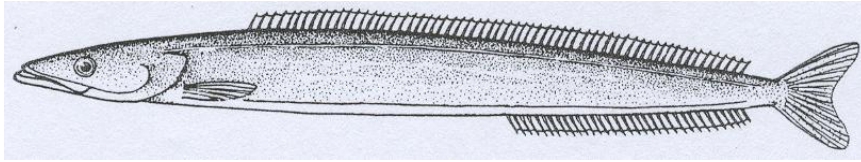
Prof Sarah Wanless, Pittenkerrie Cottage, Glassel, Banchory, AB31 4DD.

Any queries about methods can also be referred by email or phone to Sarah Wanless (Email: swanl@ceh.ac.uk Tel: 013398 82754).

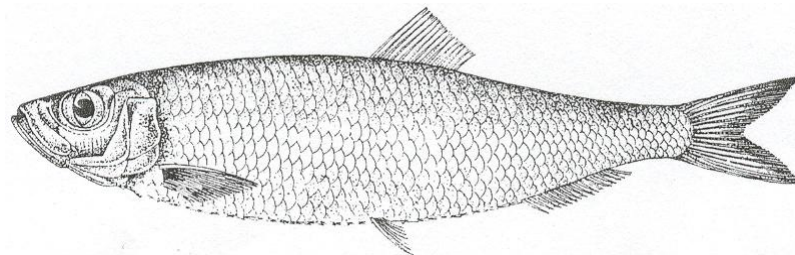
Thank you for your time and GOOD LUCK!

IDENTIFICATION GUIDE TO FISH PREY OF GUILLEMOTS

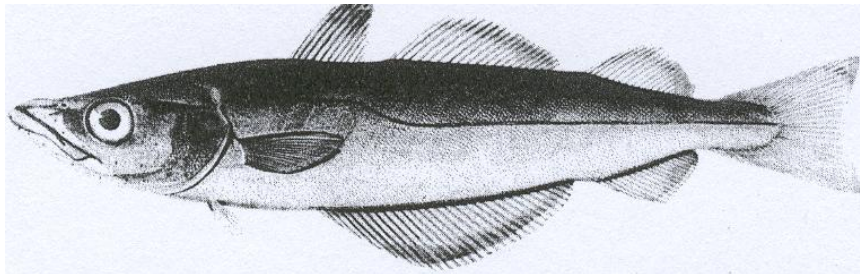
Sandeel: silvery and elongate, usually has a somewhat floppy appearance. Small rounded tail fin.



Clupeid: blue or silvery and noticeably deeper bodied and more rigid than sandeel. Tail long and noticeably forked.



Gadoid: rusty brown or greenish above, dirty white below. Chunky appearance, large square-ended (slightly forked) tail fin.



Pipefish: Mottled or barred brown and beige. Elongate appearance, but noticeably rigid despite this owing to bony plates. Some species lack the tail fin.



Guillemot colony: this would make a good group to follow. All the birds are incubating, note their 'humpback' posture



Guillemot colony: another example of an ideal group for monitoring. Again most of the birds are incubating but the fourth bird from the right is the off duty mate of the incubating bird in front of it. Note its much more upright posture.



Two guillemots with clupeids. Note the deep bodied appearance even from a ventral view and long, distinctively forked tail. These are display fish, clearly the birds do not have chicks. Looking at display fish is a good way to get identification experience.



Guillemot carrying a sandeel. Note thin “bootlace” appearance and small rounded tail fin.



Guillemot carrying a gadoid. Note pink colour, chunky body and blunt tail end. Normally guillemots carry fish length ways in the bill but small fish such as this are sometimes held crosswise.



