

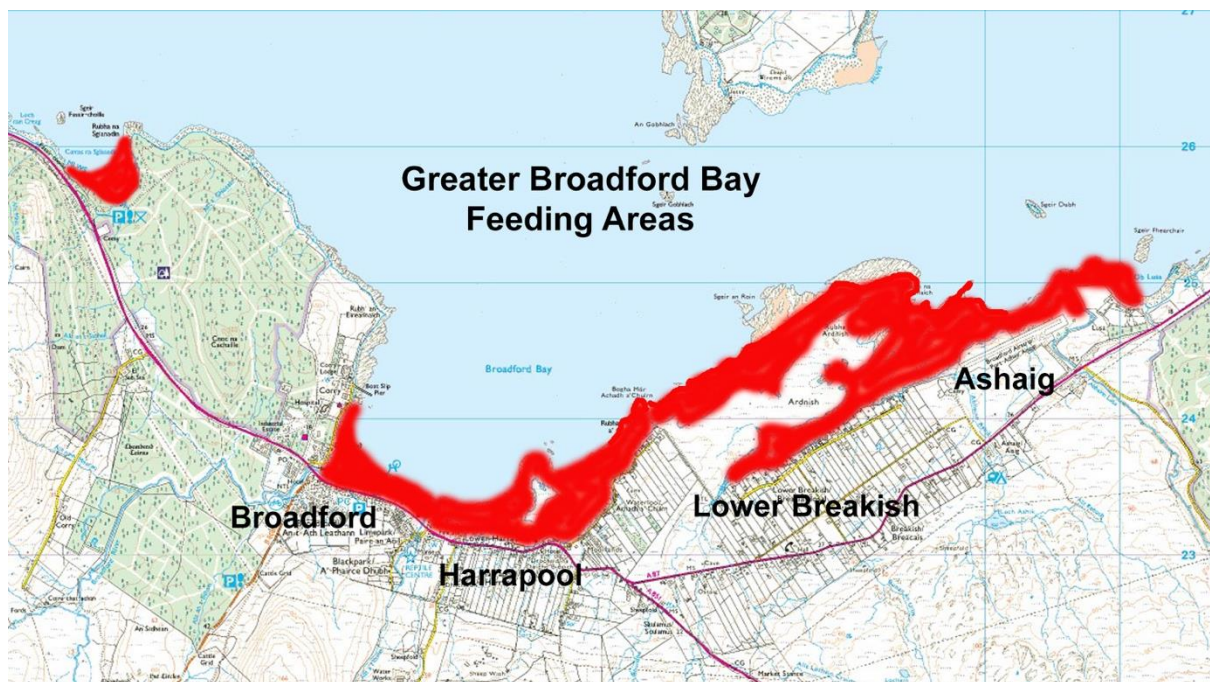
The Ornithological Importance of Broadford Bay with regard to the proposed development of Breakish Windfarm

Introduction

The ornithological importance of Broadford Bay was highlighted by McMillan (2005).

“Though the intertidal zone is not extensive, it probably provides some of the richest feeding grounds along the north-west seaboard hence is a favoured stopover point during spring and autumn migration.”

The main feeding grounds are shown below:-



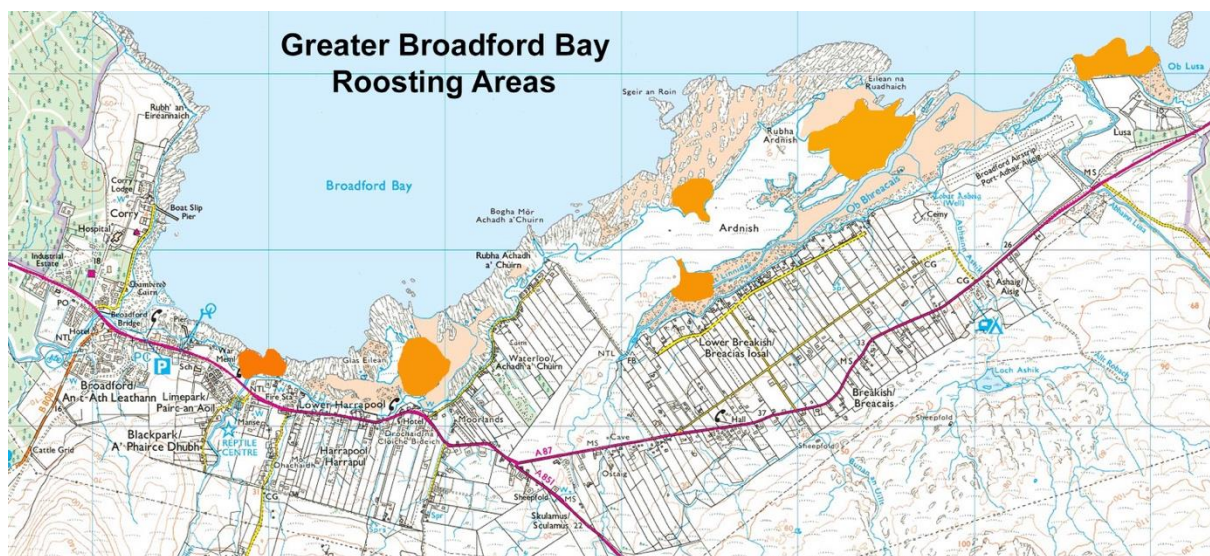
McMillan highlighted that birds are funnelled into the area, especially from the north during summer/autumn migration, with the west coast mainland and the east coast of Skye channelling birds towards Broadford Bay. The purpose of this paper is to show that many of these migrating species of waders and wildfowl, continue their southward journey along a migration corridor which goes south through the “Kinloch Gap”. Some of this migration is visible, especially in species such as Pink-footed Goose and Whooper Swans, whilst among smaller waders and wildfowl, it is more difficult to detect visibly. Given that the proposed Breakish Windfarm will be located along this migration corridor, it is important that these movements are properly understood to avoid turbine strikes and conflict with associated infrastructure. It is made more challenging as many of the species involved will migrate during the hours of darkness and in poor weather. The use of technical equipment such as radar and sound recording may assist in understanding this. Whilst it is understood that an Environmental Impact Assessment (EIA) commenced in autumn 2021 in respect of the development, as there has been little consultation, its’ emphasis has been on breeding and resident birds in the area and no cognisance has been taken of birds using the migration

corridor. This is potentially a significant oversight, exacerbated by the fact that a number of the key species involved have important conservation status.

Data Sources

The main data source is *Skye Birds* first published in 2005 with updated editions in 2009 and 2019. A website www.skye-birds.com was developed in 2007 which provides opportunities for local observers and visitors to provide records. There is a searchable archive on the website, but in addition, all records are entered on the national recording site *Birdtrack*. All records are then submitted for inclusion in the *Highland Bird Report* which is published annually by the Highland Branch of the Scottish Ornithologists' Club (SOC). Broadford Bay is included as the best birding site in the area on the SOC "Where to Watch" App. Broadford Bay has also been included in several "where to watch birds" publications. Many visitors look for birds in the area and there are several active birders who regularly contribute records. These records are available as an open source.

WeBS. The Wetland Bird Survey (WeBS) monitors non-breeding waterbirds in the UK, usually on rising tides and at roost sites. Roost sites for Greater Broadford Bay are shown below. WeBS surveyors monitor the UK's internationally important non-breeding waterbirds. Following a tradition started in 1947, wetland sites are counted once a month, providing data for population and trends in abundance and distribution. Waterbirds includes wildfowl (ducks, geese and swans), waders, rails divers, grebes, cormorants and herons. Gulls and terns are optionally included.



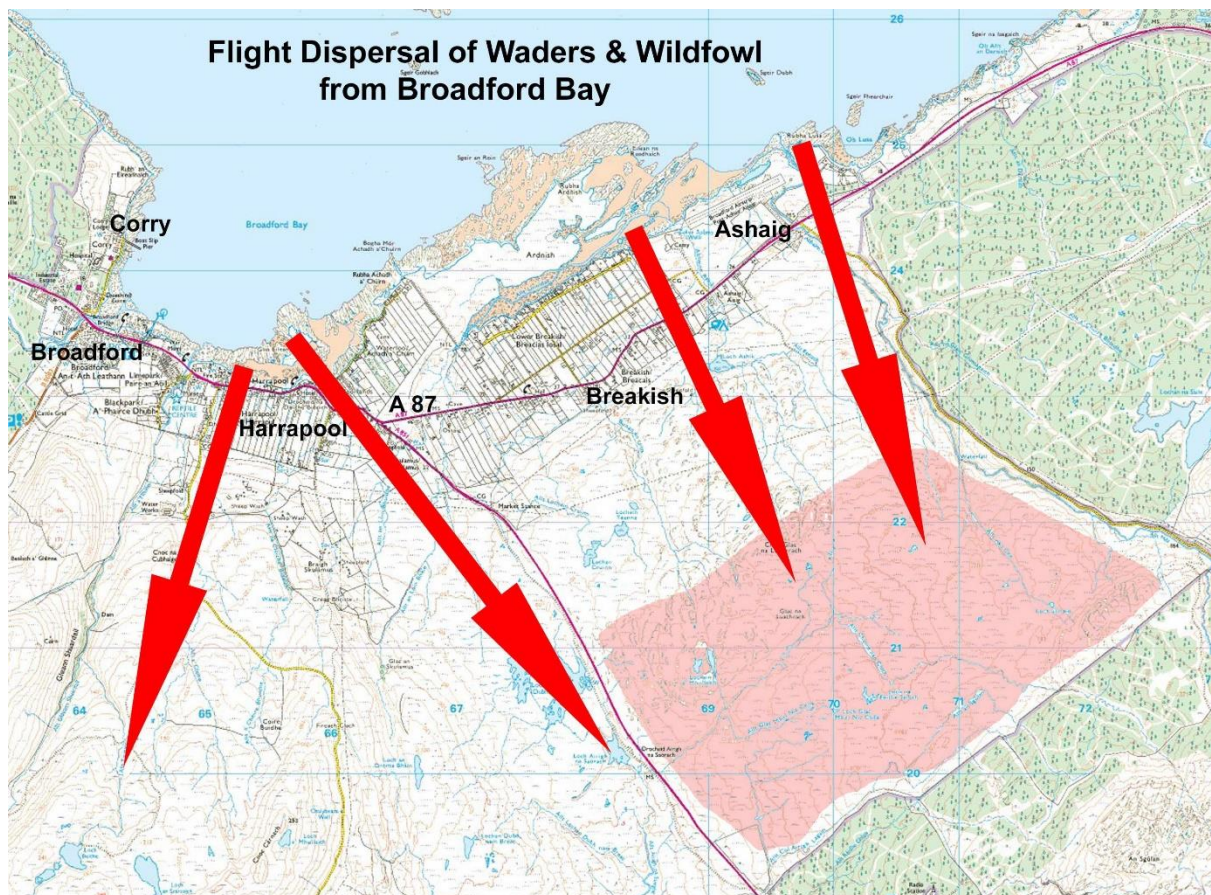
The Greater Broadford Bay area from Camas na Sgianadin to Ardnish, including Breakish Obbe, was a designated count area between the winter of 2001/02 and 2015/16. During this period a total of 78 monthly counts were made by RMcM, submitting 46,871 individual records of 73 different species. The peak counts were made during the month of September with an average count of 769 birds. The highest daily WeBS count was 1361 in September 2002. This reflects the peak of summer/autumn migration which can commence as early as June and ends in early November. The lowest counts were in May-July. A full breakdown of these counts is available from the British Trust for Ornithology (BTO) or from the author.

Birdtrack. It has already been indicated that all the records for the area are entered onto the online system. Birdtrack is co-ordinated by the BTO. Since the start of Covid lockdown in spring 2020, RMcM has developed a patch between Ashaig and Lusa Mouth. A total of 175 visits have been made to the site noting 4448 individual records of 130 species, these being a mixture of local breeding birds and migrants. Whilst some of these species are resident, many more are migratory. As an example, Dunlin was recorded on 60% of visits in 2020, which would be mainly migratory birds. Greenshank was recorded on 28% of visits in 2021.

The author's knowledge of the area is based on 20+ years of observations, all the records of which are available.

Migration Corridors from Broadford Bay

Whilst overall bird numbers may be low in comparison to many large estuaries, what needs to be understood is that Broadford Bay represents a staging post for many migrating birds, and therefore there is a constant turnover of birds some of which might linger for a few hours or days, whilst others might simply pass through without even landing. Factors such as weather and disturbance will influence this. Numbers can vary daily. However, what is apparent to observers is that feeding groups of birds will become noisy and restless, and driven by the urge to move will take to the skies and fly, invariably south, but sometimes south-west. The main species involved are Ducks, Geese and Swans as well as several wading species. The map below broadly shows these routes in relation to the proposed windfarm:-



In relation to the species listed below, NatureScot has produced guidance in respect of certain species and the development of onshore windfarms (Douse, 2018). This highlighted 'PRIORITY Species' and 'RESTRICTED Species' for consideration in any assessments – these are shown below. Also of note are birds on the **Red** and **Amber** List in Birds of Conservation Concern (Stanbury et al 2021) – this is commonly referred to as the UK Red List for Birds - although these are recorded in Skye Birds (2019), these are reviewed regularly so some are now out of date.

Whilst most birds will migrate south, with several species often together, the main species involved are shown below and presented in taxonomic order:-

Brent Goose (pale-bellied race) *Branta bernicla hrota*. Amber. This species breeds in Arctic Canada and winters in Ireland. Large numbers pass through in autumn between early September and November with peaks of 250-300 recorded. When these flocks leave Broadford Bay they tend to migrate south-west which takes them away from any potential conflict with the proposed Breakish Windfarm. Interaction with the new overhead pylon lines however, could be an issue.

Pink-footed Goose *Anser brachyrhynchus*. PRIORITY: Amber. This species migrates through Skye on a broad front in autumn, with many thousands passing south and south-east. Pink-feet normally fly well above turbine height but in inclement weather will be forced to fly low so potential conflict with turbines and overhead lines becomes a factor.

Whooper Swan *Cygnus cygnus*. PRIORITY: Amber. My previous report *The Migration of Whooper Swans through Broadford Bay* dated 8.11.22 refers.

Wigeon *Mareca penelope*. Amber. Although Wigeon winter in Broadford Bay, in relatively low numbers (50-100) flocks have been seen from Scullamus Moss on visible migration flying south towards Kinloch.

Oystercatcher *Haematopus ostralegus*. Amber. There is a small breeding population which is augmented by migrating birds in spring, summer and autumn. Many of these migrating birds are from further north in Scotland or from Iceland. The mean winter count is 100-125. Numbers peak in summer and the max count was 535 on 31.7.2004. There is a constant turnover of birds and these have been observed flying south using the migration corridor towards the Sound of Sleat.

Ringed Plover *Charadrius hiaticula*. Red. There is a local breeding population. This is a common migrant in Broadford Bay often associated with Dunlin. Peak counts of migrants occur in late summer and September and are regularly in excess of 200. There is a constant turnover of birds whose origins are north Scotland, Iceland and Greenland. Birds disperse in mixed flocks along with Dunlin and fly south on the migration corridor.

Whimbrel *Numenius phaeopus*. RESTRICTED: Red. This species breeds in Iceland and winters in south Europe and Africa. It is a regular migrant in spring between April-June when it probably flies north along the migration corridor to reach Broadford Bay. However, numbers are relatively small. Returning birds are recorded from July and usually peak in August. Large daily passages through Broadford Bay have been recorded. On 10.8.2017, 430 birds passed

south through Broadford Bay, and on the following day there was a count of 165 new birds. On 11.8.22 an estimated 250 dispersed south from Broadford Bay including 183 in a single flock. These birds flew south towards the migration corridor. RMcM has regularly observed and heard birds over Scullamus Moss flying south.



Flock of Whimbrel Broadford Bay 11.8.22

Curlew *Numenius arquata*. **PRIORITY: Red.** This is a species which breeds in small numbers in the area. It is augmented by migrating birds with regular summer-autumn counts of 70-100. Though no large flocks of migrating birds have been recorded, groups have been observed flying south on the migration corridor.

Black-tailed Godwit *Limosa limosa*. **Red.** The birds recorded in Broadford Bay are from the Icelandic breeding population which winter further south in the UK and also in Europe. It is rare in spring but recorded extensively in summer/autumn between late June and October. Most birds simply rest and re-fuel before continuing their migration south. There have been some large flocks including 150 on 4.7.2010, 140 in Broadford Bay on 11.8.2017, with 125 new birds two days later. The largest single flock was 250 on the early date of 26.6.20, probably failed and non-breeding birds. They were observed flying south from Breakish Obbe by two observers. Birds are known to use the migration corridor.

Dunlin *Calidris alpina*. **PRIORITY: Red.** Although a few pairs of Dunlin breed locally, this is the most recorded passage migrant in Broadford Bay which has been seen in every month. There are a number of Dunlin sub-species which include *schinzii* and *alpina*, so birds from Scandinavia, Iceland, Greenland and Arctic Canada are all involved. Migration commences in July and continues into late October and involves thousands of birds. Recent daily counts include 500 on 9.8.2015, 320 on 16.7.20 and 410 on 11.8.20. Dunlin use the migration corridor extensively often in mixed flocks with Ringed Plover.

Redshank *Tringa tatanus*. **Amber**. Most of the Redshank which pass through Broadford Bay are from the Icelandic race. The daily numbers rarely exceed 100 though on 15.7.2008, there was an exceptional count of 150 on Ardnish. Most birds use the area as a staging post for feeding and roosting then move south. Birds are known to use the migration corridor.

In terms of overall numbers, the above listed are the main species. Broadford Bay occasionally supports rare species and it is suspected that they will migrate along with other mixed flocks of waders. However, their numbers are not significant. Other waders which will use this migration corridor on a frequent basis each year include **Sanderling** *Calidris alba*, **Bar-tailed Godwit** *Limosa lapponica*, **Knot** *Calidris canutus* and **Greenshank** *Tringa nebularia*. It is worth noting that **Greenshank** is a **PRIORITY** species and that along with **Sanderling**, **Bar-tailed Godwit**, and **Knot**, is also **Amber** listed.

Conclusion

Other than scheduled counts during WeBS, all the records noted are the result of shared regular personal counts in the area by a number of observers including R.McMillan, M.Benson, N.Bennett and N.Hinchliff. Because of the throughput of birds at peak periods of migration in summer/autumn, counts are normally made from the shore at Harrapool and Waterloo. Breakish Obbe and Ashaig/Ardnish have been counted more frequently in recent years by RMcM and NH. However, despite vigilant recording significant numbers of birds will be missed both in terms of feeding flocks and departing birds continuing their journey southwards. Some migrating flocks will barely land before they fly off again. Other birds will linger longer depending on feeding, weather and disturbance. Others will depart overnight. It is accepted that there is a challenge in interpreting overall numbers, but clearly during the course of summer/autumn many thousands of birds of several different species use this flyway south.

It is acknowledged that visible observations in areas of potential conflict with overhead cables and turbines can be challenging, especially for smaller species such as Dunlin and Ringed Plover. However, data collection would be improved if there was at least recognition that such a migration corridor existed by the developers and NatureScot, and a commitment to resource the issue. As things stand it appears that the consultancies involved have focussed entirely on the development area in regard to resident and breeding species. To enhance this, the use of technology such as radar, and the strategic deployment of sound recording devices for overflying groups of migrating birds, might considerably enhance knowledge. Here the Precautionary Principle should be implemented (The Rio Declaration on Environment and Development (1992). Principle 15). In recent years there has been a significant expansion of tools and aids to record nocturnal migration. Environmental consultancies employed at potential windfarm sites have a duty to provide independent information and guidance to developers in respect of potential threats, in line with advice and guidance provided by NatureScot. Whilst it is known that Schedule 1 breeding species use the proposed development site and its neighbouring habitat, it is suggested that the flyway used by migrating species through the area is equally important.

Bob McMillan

21 November 2022.

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