The impact of recreational sports and activities on over-wintering birds in the North End of Strangford Lough

Summary Report

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Introduction

This report was commissioned by Sport Northern Ireland in partnership and through joint funding with the Northern Ireland Environment Agency, The National Trust, the Strangford Lough and Lecale Partnership and the Department of Environment Marine Division. A steering group comprising of representatives from the partner organisations worked together to oversee the project.

The report highlights the importance of evidence based management strategies and is consistent with the themes and actions articulated through the Outdoor Recreation Action Plan for Northern Ireland. The recommendations provide support for Action 5B within the plan to "provide clear communication on environmental responsibility for users and providers in the outdoors."

The report also highlights the importance of the ongoing work of the Strangford Lough and Lecale Partnership (SLLP) in bringing together key stakeholders to ensure effective communication and understanding between the various interests. It also shows the critical role played by SLLP in the management of the Lough and environs for the health and well-being of local communities but also for the wildlife that is so abundant in these internationally important ecosystem and habitats.

It is through the brokering work of the SLLP that the positive working relationships between the partners to this project exist resulting in this important study to develop appropriate and evidence based management. Allen and Mellon Environmental were therefore contracted to carry out this independent assessment of the impacts of recreational activities on the over-wintering birds in the North End of Strangford Lough.

Mike McClure
Outdoor Recreation Development Officer
Sport Northern Ireland
1. Background

1.1 Strangford Lough is one of the UK’s most important wildlife sites, recognised by a series of European and National designations including Special Protection Area (SPA) under the EU Birds Directive, Special Area of Conservation (SAC) under the EU Habitats Directive, Area of Special Scientific Interest (ASSI), Ramsar Site, and Marine Conservation Zone (MCZ). The Lough supports major concentrations of wintering waterfowl with the most recent peak counts exceeding 70,000 birds including approximately 90% of the world population of pale-bellied brent goose.

1.2 Alongside the wildlife interest, Strangford is important for a wide range of recreational users undertaking a variety of activities such as sailing, boating, canoeing, walking, wind surfing, angling and swimming. Kite surfing is a relatively recent sport on Strangford Lough and there have been anecdotal reports that it has caused major disturbance to birds on the lough. This resulted in a voluntary exclusion zone for kite surfing being established at the northern end of the lough.

1.3 As a result of concerns raised to the DoE and National Trust specifically about the impacts of kite surfing, this study into the potential effects of kite surfing on the Lough’s bird populations and in particular the brent geese was commissioned. Whilst kite surfing was central to the project, the project partners recognised that the activity should not be looked at in isolation and therefore sought to identify any other sources of disturbance from recreational activity.

Photo 1: Sea kayaking in Strangford Lough
2. **Project Aims**

2.1 The specific aims of the project were:

1. To obtain data on disturbance to wintering waterfowl resulting from kite surfing activity within two specified areas on Strangford Lough;

2. To identify disturbance from other recreational activities within the study areas;

3. To record and assess any physical damage caused to the eel-grass beds by recreational activities;

4. To provide recommendations on the management of recreational activities, including kite surfing, within the study areas.

![Photo 2: Wind surfing at the North end of Strangford Lough](image-url)
3. **Project Methodology**

3.1 The project involved four key elements:

i. Desk study and literature review

ii. Consultation with stakeholder organisations and individuals, including the kite surfing community

iii. Targeted study of birds and disturbance events in the agreed survey areas

iv. Assessment of impact on *Zostera* beds at Warden’s and Greyabbey Bays caused by recreational activity

3.2 The key study areas were centred on Warden’s Bay and Greyabbey Bay (Figure 1), which are the focus of organised kite surfing on the lough and which were excluded from the voluntary exclusion zone at the time of the project.

3.3 The project was initiated in late October 2014 which meant that there was limited opportunity to observe kite surfing when the peak numbers of brent geese were present in late September to mid-October. For this reason the project was extended to September/October 2015 to ensure that this important period was included in the study.

*Figure 1: Location of observation sites on Strangford Lough*
A total of 28 observation sessions were carried out for this project, lasting from a minimum of 15 minutes to 240 minutes in any one session. 22 sessions were undertaken at the four sites between 18th October 2013 and 19th March 2014. The majority of the observations were undertaken at Greyabbey Bay and Warden’s Bay on the eastern side of Strangford Lough. One visit was made to Island Hill and some observations were made from the Cunningburn Car Park, which is not normally used by kite surfers but is regularly used by wind surfers.

In autumn 2014 a further six observation sessions were conducted between 26th September and 25th October, with four at Greyabbey Bay and two at Warden’s Bay. The total observation time for the project period amounted to over 55 hours (Table 1).

<table>
<thead>
<tr>
<th>Site</th>
<th>Time spent (hours)</th>
<th>Total time spent (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Winter 2013/14</td>
<td>Autumn 2014</td>
</tr>
<tr>
<td>Greyabbey Bay</td>
<td>21.75</td>
<td>10.5</td>
</tr>
<tr>
<td>Warden’s Bay</td>
<td>14</td>
<td>3.5</td>
</tr>
<tr>
<td>Cunningburn</td>
<td>4.5</td>
<td>0</td>
</tr>
<tr>
<td>Island Hill</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>All sites</td>
<td>41.25</td>
<td>14</td>
</tr>
</tbody>
</table>
3.5 On each visit counts of all birds present were carried out and all potential disturbance events (PDEs) were recorded. These were defined as:

- any recreational activity within 300 metres of waterfowl visible from the observer’s vantage point, whether they cause disturbance or not;
- any other event (human or otherwise) which causes a reaction in waterfowl which are visible from the observer’s vantage point.

3.6 The response of birds to potential disturbance events was recorded within a number of categories as follows:

0. No response
1. Increased alertness – birds raise heads but resume activity
2. Moved away (walk or swim) and resumed previous behaviour
3. Flew short distance (<100 metres) and resumed previous behaviour
4. Birds took longer flight (>100 metres)
5. Birds left study area

Photo 3: Brent geese in flight
4. Results

4.1 A total of 31 potential disturbance events were recorded across all sites (see Table 2). 33% (n = 10) of PDEs involved dogs off-lead. In most cases these events resulted in high levels of disturbance with birds taking flight and often leaving the area entirely (Category 5). In all cases the dog(s) were off-lead and accompanied by at least one person. People walking without dogs rarely caused disturbance, possibly due to habituation, but also possibly because birds were already avoiding the area closest to the shore.

Table 2 Summary of disturbance events by site

<table>
<thead>
<tr>
<th>Disturbance event</th>
<th>Greyabbey Bay</th>
<th>Warden’s Bay</th>
<th>Cunningburn</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dogs off lead (with walker)</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Kite surfing</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Walkers</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Vehicles</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Birds (raptors and herons)</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Football match</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Aircraft (helicopter)</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Wind surfing</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>24</strong></td>
<td><strong>5</strong></td>
<td><strong>2</strong></td>
<td><strong>31</strong></td>
</tr>
</tbody>
</table>
4.2 Kite surfing was the second most frequent source of disturbance with three events recorded at both Greyabbey and Warden’s Bays (20% of PDEs). However this result is biased since the observers were actively seeking kite surfing events, both by communicating with the kite surfers and by selecting times when the tides and winds were suitable for the sport.

4.3 Figure 2 illustrates that dogs off-lead and kite surfing were the main causes of significant disturbance (Categories 4 and 5). Category 5 reactions, where some birds left the study area entirely, occurred in 60% and 20% of dog walking and kite surfing events respectively. The two instances where dogs off-lead did not elicit Category 4 or 5 responses were when birds were at least 300m from the source of disturbance.

*Figure 2   Potential Disturbance Events (PDEs) by disturbance category*
4.4 The various stages of kite surfing also tend to elicit different responses from birds, with the most severe disturbance resulting when the kites are raised, rather than the preparation and assembly of equipment which generally resulted in less significant disturbance to birds. The two cases where kite surfing did not result in Category 4 or 5 being recorded were where the kites were already on the water at the time of the visit and birds had already re-distributed.

4.5 Other sources of disturbance included noise from vehicles (3 events) and football matches (2 events) and a low-flying helicopter (1 event). Birds of prey caused disturbance to birds on three occasions. Wind surfing mostly takes place from Cunningburn car park, which was visited briefly four times during the project. Disturbance to waders on an island roost was recorded once during the survey.

4.6 Of the two main study sites, Greyabbey Bay experienced by far the greater frequency of disturbance events (one every 80 minutes), although events at Warden’s Bay were of longer duration, mainly because more kite surfing events were observed in entirety at this site. On occasions several events occurred simultaneously or in close succession at Greyabbey Bay. The observations suggest that the inner part of Greyabbey Bay can occasionally be a highly disturbed environment where the cumulative impact of a series of events can have significant effects on bird usage of the bay.

5. Zostera damage assessment

5.1 Zostera density at the recording points changed significantly between the two surveys. In 2013 the brent geese had been feeding on the Zostera for several weeks before the survey began, whilst the 2014 survey was carried out before the geese had arrived from their breeding grounds. As expected, the 2014 survey results show a significantly greater density of Zostera at all of the survey points. No signs of damage caused by kite surfers were recorded at either site.
6. Literature review

6.1 There is a significant volume of research and literature on issues relating to disturbance of birds by recreational activity. Many reviews of this literature have already been undertaken and so it was considered most relevant for this project to focus on studies where information on the effects of kite surfing was included. Since kite surfing is a relatively recent activity in many areas, the review concentrated on more recent disturbance reports. In addition, studies relevant to the ecology of birds on Strangford Lough were reviewed for information which may assist in the interpretation of the data gathered for this project. Details of the review can be found in the full version of this report which is available on request from Sport NI.

Photo 4: Brent geese at Greyabbey Bay with kite surfing in background
7. Conclusions and Recommendations

7.1 Key conclusions

The following conclusions result from this disturbance study and literature review:

- Kite surfing does cause disturbance to birds but was not a regular cause of disturbance during the study period.

- Dog walking was the most frequent and significant source of waterfowl disturbance recorded at Greyabbey Bay. This is consistent with a range of other disturbance studies carried out at coastal sites elsewhere in the UK.

- Greyabbey Bay supported important numbers of waterfowl, particularly early in the season when a peak of 4,700 brent geese were counted.

- Greyabbey Bay also experienced a range of other disturbance types and on occasions was a highly disturbed environment. The cumulative effect of a series of disturbance events can cause more significant disturbance to birds. Measures to reduce disturbance from a range of sources at Greyabbey Bay may be required.

- There was no significant disturbance at Warden’s Bay where bird numbers are generally low.

- No significant damage to *Zostera* caused by kite surfing was found at either Greyabbey Bay or Warden’s Bay.
7.2 Additional Management Measures

Based on the results of this study, under current conditions there is no clear justification for considering the regulation of kite surfing in isolation from other recreational activities. However, the volume of kite surfing described in other studies raises concerns that it could become a more significant issue if it increases in popularity and frequency on Strangford Lough. In addition, the cumulative effect of recreational activities in the Greyabbey Bay area could have significant effects on bird populations, particularly in severe weather or when food supplies are low. It is therefore recommended that a series of management measures are introduced with the aim of reducing the frequency and level of disturbance from recreational activity in this part of Strangford Lough.

7.4 Recommendations

The following recommendations are made in relation to management, awareness raising and information generation:

1. The voluntary exclusion zone for kite surfing should be discontinued, but subject to annual review with the potential for it to be reinstated.

2. Commercial water sports operators require consent to continue to operate. A condition of consent should be provision of an annual return of events which will be provided to the DoE, and the condition should be applied to both kite surfing and wind surfing operators. The data from these returns will be reviewed annually by DoE and partner organisations to assess whether there is an increased risk of significant disturbance by either activity.

3. Information will be made available to all kite and wind surfing organisations and the wider kite / wind surfing communities on appropriate conduct in the vicinity of feeding and roosting birds. In the case of wind surfers, specific information will be provided on the need to avoid sailing within 400 metres of bird roosts on any offshore
islands including the Boretree Islands group. This information should be available as a PDF format resource.

4. A community engagement meeting or series of meetings should be held with the Greyabbey community, possibly under the auspices of the Rural Community Network. The purpose of the meeting(s) would be to discuss the issues of walking dogs off-lead on the shoreline at Greyabbey Bay. Eliciting suggestions for possible solutions should be a key aspect of the discussions.

5. The National Trust should continue to investigate the potential for developing a suitable off-lead area for dogs in the Mount Stewart estate.

6. Training course(s) should be held for the water sports communities on Strangford Lough. The course(s) should include guidance on how disturbance to birds can be avoided. The course should be run under the WiSe (Wildlife Safe) scheme and could be combined with the Leave no Trace awareness initiative. The scope for developing an appropriate accreditation should be investigated.

7. A Leave no Trace awareness course should also be developed specifically for the Greyabbey community.

8. A suitable screen for the football pitch at Greyabbey should be considered. This should buffer noise as well as movement.

9. The use of voluntary wardens at weekends in the most heavily disturbed parts of Strangford Lough should be considered. The wardens should be able to provide guidance and information to lough users on how to avoid disturbance to feeding and roosting waterfowl.