

Dorota Richards

From: Licensing Staff
Sent: 14 February 2012 14:17
To: Dorota Richards
Subject: FW: New submission entered for Reg no: P0599-02. (Reference Number: P0599-02-120214125129)
Attachments: BulrushIPPCletter - final.pdf
Importance: High

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Sent: 14 February 2012 12:51
To: Licensing Staff
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Importance: High

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ENVIRONMENTAL PROTECTION
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14 FEB 2012

Submitted online via the EPA's website

Office of Climate, Licensing & Resource Use
Environmental Protection Agency
PO Box 3000, Johnstown Castle Estate
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14 February 2012

Bulrush Horticulture Limited IPPC Licence Application – P0599-02
Need for an appropriate assessment of 'in combination' effects

To Whom It May Concern:

We read with interest the documentation supplied by Bulrush Horticulture Limited as part of its IPPC licence application (P0599-02). We are writing to highlight the fact that the EPA is legally obliged to ensure, as part of this IPPC licensing procedure, that an 'appropriate assessment' is undertaken of potential impacts on the Lough Derravaragh Special Protection Area (SPA) for birds.¹

Article 6(3) of the Habitats Directive² provides:

"Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public."

The Court of Justice of the European Union (ECJ), in Case C-127/02 *Waddenzee*, has clarified the above obligations as follows (emphasis added):

"The first sentence of Article 6(3) of Directive 92/43 must be interpreted as meaning that any plan or project not directly connected with or necessary to the management of the [Natura 2000] site is to be subject to an appropriate assessment of its implications for the site in view of the site's conservation objectives if it cannot be excluded, on the basis of objective information,

¹ Under the Birds Directive: Council Directive 79/409/EEC, as codified in Directive 2009/147/EC.

² Council Directive 92/43/EEC; Article 6(3) applies to Special Protection Areas under the Birds Directive by virtue of Article 7 of the Habitats Directive.

that it will have a significant effect on that site, either individually or in combination with other plans or projects.

The competent national authorities, taking account of the appropriate assessment of the implications of [the activity] for the site concerned in the light of the site's conservation objectives, are to authorise such an activity **only if they have made certain that it will not adversely affect the integrity of that site. That is the case where no reasonable scientific doubt remains as to the absence of such effects.**"

This judgment of the ECJ is reflected in reg. 42(1), (6) and (16) of the European Communities (Birds and Natural Habitats) Regulations 2011 (the **Habitats Regulations**),³ which provide, respectively:

"(1) A screening for Appropriate Assessment of a plan or project for which an application for consent is received, or which a public authority wishes to undertake or adopt, and which is not directly connected with or necessary to the management of the site as a European Site, shall be carried out by the public authority to assess, in view of best scientific knowledge and in view of the conservation objectives of the site, **if that plan or project, individually or in combination with other plans or projects is likely to have a significant effect on the European site.**

(6) The public authority **shall determine that an Appropriate Assessment of a plan or project is required** where the plan or project is not directly connected with or necessary to the management of the site as a European Site and **if it cannot be excluded, on the basis of objective scientific information following screening under this Regulation, that the plan or project, individually or in combination with other plans or projects, will have a significant effect on a European site.**

(16).....a public authority shall give consent for a plan or project, or undertake or adopt a plan or project, **only after having determined that the plan or project shall not adversely affect the integrity of a European site.**"

The ECJ's interpretation of Article 6(3) of the Habitats Directive, which goes to the heart of the EPA's current IPPC licensing decision, must of course be reflected in the EPA's interpretation of regulation 42 of the Habitats Regulations. Thus, in deciding whether or not to ensure an 'appropriate assessment' is undertaken as part of this IPPC licence application, the question for the EPA to address is not whether Bulrush's activity, in combination with other extraction activities in the area, is likely to have a significant effect on Lough Derravaragh SPA. Rather, the question is whether such effects can be *excluded*, on the basis of objective scientific information. If such effects cannot be excluded, the EPA must ensure that an appropriate assessment is undertaken.

In the present case, we would submit that significant effects on Lough Derravaragh SPA cannot be excluded, particularly when Bulrush's activities are considered in combination with other extraction activities in the area, including those of Westland Horticulture, which are similarly the subject of an ongoing IPPC licensing process (P0914-01).

We have three points to make in this regard: First, note that the issue of 'in combination' effects extends broadly, and is not limited to considering activities at sites in excess of 50 hectares (the threshold for an IPPC application). Instead, the activities

³ S.I. No 477 of 2011.

of all extractors in the immediate area must be taken into consideration. Such extractors include those described in the following terms by a 2008 Shannon Regional Fisheries Board report on peat siltation in the river Inny (the Inny is adjacent to sites at issue here regarding 'in combination' effects, and flows directly into Lough Derravaragh SPA):⁴

"peat harvesting activities of less than 50 Hectares remain uncontrolled. The companies involved in the hacking [sic] of the boglands have no appreciation for the habitat or the surrounding watercourses, and do not work to any specified environmental work procedures."

Second, following a site inspection to some of the peat extraction areas near Lough Derravaragh SPA (which are of interest here in respect of 'in combination' effects), Triona Finnen, North Westmeath Conservation Ranger at the National Parks and Wildlife Service (NPWS), commented:⁵

"While the activities carried out by [the company in question – name blanked out in copy available to us] are not being carried out within the European Site or NHA [i.e. Lough Derravaragh SPA], I believe that they are likely to have an adverse effect on the integrity of the SPA alone and in combination with other activities."

Note that even if the company whose sites were inspected by Ms. Finnen was not Bulrush or Westland, it is the 'in combination' effects of all operators in the area which is relevant here.

Third, in additional support of our argument that significant effects cannot be excluded in the present case, we have included as Appendix 1 to this letter a copy of a report commissioned by the Site Protection Unit of the National Parks and Wildlife Service (NPWS). Note that the Site Protection Unit asked broadly the correct question for the EPA's purposes: "whether there is firm evidence that the relevant birds have not been adversely affected by the peat extraction and/or siltation." However, the Birds Unit went a bit astray in its report, answering what is, in effect, a different question: "In response to [your] request there is no firm evidence in the waterbird dataset that can directly link the adjacent peat extraction activities with waterbird declines. However significant declines have been identified for several of the species of special conservation interest for Lough Derravaragh [sic] SPA."

The relevant issue for the purposes of Article 6(3) of the Habitats Directive is of course not whether there is *firm evidence directly linking* peat extraction to waterbird declines. Rather, the correct questions are:

(1) Whether, on the basis of objective information, significant effects on Lough Derravaragh SPA can be *excluded*, taking account of the cumulative effects of Bulrush's activities and other extraction activities in the area. If such effects cannot be excluded, an appropriate assessment is required; and

(2) In light of the 'appropriate assessment', whether reasonable scientific doubt remains as to the absence of adverse effects on the integrity of Lough Derravaragh SPA. If reasonable scientific doubt remains, an IPPC licence cannot be granted unless Article

⁴ For a PDF of the report, see

http://www.friendsoftheirishenvironment.net/peat/links/peat_case_study/peat_shrfb_Internal%20Report%20on%20R%20Inny%20Peat%20Siltation%202008.pdf.

⁵ For a PDF of the report, see

http://www.friendsoftheirishenvironment.net/cms/files/files/library/peat_npws_derravaragh_ranger_report_27feb09.pdf.

6(4) of the Habitats Directive applies, which would require an absence of alternatives to be demonstrated; imperative reasons of overriding public interest for granting the IPPC licence to be demonstrated; and compensatory measures to be adopted. See regulation 43 of the Habitats Regulations.

At this stage point (1) is the relevant issue: whether or not an 'appropriate assessment' must be undertaken. The NPWS's report in Appendix 1 reveals:

"marked declines in the site estimates of all of the species of special conservation interest [at Lough Derravaragh SPA]. These declines range from 22 to 77% when compared to the baseline dataset for the five year period 1995/96 - 1999/2000. These recorded declines were cross checked with trend data at the all-Ireland scale in order to see if such declines were in agreement with national population changes. Table 3 clearly shows that the recorded [sic] declines at the site level are not in agreement with the national trends.

Restricting the analysis to the data received from regional management and compiled for the four-year period (2004/05 - 2007/08) an overall assessment would be one of unfavourable conservation status for each of the species listed as special conservation interests of Lough Derravaragh SPA.

When the scope of the data analysis was expanded it appears that the declines of Coot are not as severe as initially calculated. More targeted survey work would be needed in order to further assess the status for Whooper Swan at this site. Despite the fact that both Pochard and Tufted Duck have declined at the national scale the magnitude of the declines reported for Lough Derravaragh SPA is of notable concern.

The NPWS report therefore clearly supports the conclusion that, on the basis of objective scientific information, significant effects on Lough Derravaragh SPA cannot be excluded, taking account of the cumulative effects of Bulrush's activities and other peat extraction activities in the area. An 'appropriate assessment' is therefore legally required.

In light of the above, we assume the EPA will be ensuring that an appropriate assessment of 'in combination' effects is undertaken via regulation 42 of the Habitats Regulations as part of Bulrush's IPPC application. If this is not the case, we would be grateful for the EPA's full reasons in writing.

A note on 'in combination'/cumulative effects

We note that there appear to be several peat extraction operations in the direct vicinity of the site covered by Bulrush's IPPC application. Westland Horticulture's site is one example, but there are of course others. As the EPA knows, Westland Horticulture has applied for an IPPC licence in respect of its operations near Lough Derravaragh (P0914-01). As part of its application, Westland has submitted a report from OES Consulting, described as an "Appropriate Assessment (AA) Screening Assessment and Natura Impact Assessment" (NB. the assessment itself must of course be carried out by the EPA – all OES/Westland can do is supply evidence and their view of the situation). OES's report concludes that

"It is acknowledged there is a significant decrease in the qualifying interests of Lough Derravaragh [SPA] which is of conservation concern however based on the above assessments it can be objectively concluded that the proposed project on its own, and in combination with other plans and projects will not adversely affect the integrity and conservation status of any Natura 2000 site

or annexed species once the mitigation measures and recommendations are adopted.”

We have two comments to make here – note that these comments are relevant to the consideration of ‘in combination’ effects by Bulrush as well as by Westland:

(1) OES’s consideration of potential ‘in combination’ impacts on Lough Derravaragh SPA is markedly flawed (see section 11.2 of Westland’s Appendix L.1 for the consideration). First, the consideration is scant in the extreme. For example, OES appears to make no attempt to identify or quantify the other extraction activities at issue in this case (e.g. sites, scale, location, activities). Second, OES bases its conclusion “on the above assessments” (see section 11.2) – this appears to refer solely to issues relating to water quality, without referring to impacts on the ecological system as a whole (see paragraph 11.2).

(2) OES believes that there will be no adverse impacts on the integrity of Lough Derravaragh SPA “once the mitigation measures and recommendations are adopted”. On review, it quickly becomes clear that these measures and recommendations are cursory in nature (see section 10 of Westland’s Appendix L.1). They make no reference to ‘in combination’ effects, and one of the measures proposed clearly can have no effect on adverse impacts while the peat extraction activity is ongoing. That is, in purported support of its contention that there will be no adverse effect on the integrity of Lough Derravaragh SPA as a result of Westland’s activities (in combination with those of others), OES cites plans for a Habitat Management Plan for rehabilitation of Westland’s site post-extraction. It is very hard to see how a plan to rehabilitate Westland’s peat harvesting site post-extraction can have any impact on the likelihood of impacts on Lough Derravaragh SPA while extraction is ongoing at the site.

We trust that Bulrush will give more serious consideration to ‘in combination’ effects than Westland has done to date; and we trust that the EPA will properly consider ‘in combination’ effects as part of its appropriate assessment of the situation.

Conclusion

It is clear that an appropriate assessment is legally required in respect of Bulrush’s activities, in combination with those of other peat extractors in the area. Based on all of the above - and in light of the various reports we have cited, including the material in Appendix 1 below - it is very hard to see how it will be legally possible for the EPA to grant IPPC licences to Bulrush, Westland or any of the other peat extractors operating near Lough Derravaragh SPA. That is, it is hard to see how the EPA will be in a position to conclude, following a properly executed appropriate assessment under regulation 42 of the Habitats Regulations, that no reasonable scientific doubt remains as to the absence of adverse effects on the integrity of Lough Derravaragh SPA. In such circumstances, IPPC licences could only legally be granted under regulation 43 of the Habitats Regulations, which transposes Article 6(4) of the Habitats Directive. However, in the case of the peat extraction activities in question, it is impossible to see how Article 6(4) could be satisfied (no alternatives, imperative reasons of overriding public interest, etc.). Any decision to grant an IPPC licence or licences in breach of the Habitats Directive and Habitats Regulations will of course leave the EPA open to challenges by way of judicial review.

We look forward to hearing from you in due course.

Yours faithfully,

Friends of the Irish Environment

APPENDIX 1

To: James O'Connell
Cc: Conor O'Ragallaigh, Judit Keleman, Padraig O'Donnell
From: David Tierney
Date: 18/December/2009
Subject: **Peat extraction works and Lough Derravaragh SPA 4043**

Background:

Site Protection Unit requested that Birds Unit examine available bird data for Lough Derravaragh Special Protection Area (SPA) to verify whether there is firm evidence that the relevant birds have not been adversely affected by the peat extraction and/or siltation. The following is Birds Unit's response to the request.

Introduction:

Lough Derravaragh was designated as an SPA under the EU Wild Birds Directive (79/409/EEC) in 1995 (as per SI 284 of 1995). As part of the SPA review Birds Unit has examined suitability of the boundary of this SPA as well identifying the special conservation interests of the site. This work will inform the re-classification of this site which is due to happen in 2010.

Lough Derravaragh has been selected for SPA designation as it is one of the most suitable sites in the country for the following species: Pochard (*Aythya ferina*), Tufted Duck (*Aythya fuligula*) and Coot (*Fulica atra*). In addition to the aforementioned species Whooper Swan (*Cygnus cygnus*) is also considered to be of special conservation interest for this site as they have been recorded at this site in nationally important numbers.

In establishing their SPA network, Member States are explicitly required under Article 4 of the Birds Directive to pay attention to the protection of wetlands. To this end the wetland habitat that is contained within Lough Derravaragh SPA, and the waterbirds that utilises this resource, are therefore listed as a special conservation interest for the site.

Those birds specifically listed as special conservation interests for this site were identified using waterbird data collected during the five years of 1995/96 - 1999/2000. This is the baseline period, which is used for the majority of the wintering waterbird sites of the SPA network. The waterbird data that the baseline refers to was collected at a range of wetland sites around the country by NPWS staff and BirdWatch Ireland as part of the Irish Wetland Birds

Survey (I-WeBS) which is an ongoing programme⁶. Table 1 presents the baseline population estimates for those species that are specifically listed as special conservation interests for this site namely Whooper Swan, Pochard, Tufted Duck and Coot.

Table 1 Baseline data for species that are of special conservation interest for Lough Derravaragh SPA

Name	Amount (individuals)	Reference
Whooper Swan	102	Robinson et al ⁷ (1995/96 - 1999/2000)
Pochard	3,129	I-WeBS (1995/96 - 1999/2000)
Tufted Duck	1,073	I-WeBS (1995/96 - 1999/2000)
Coot	1,358	I-WeBS (1995/96 - 1999/2000)

Data analysis:

Data on the bird counts undertaken by the relevant Conservation Ranger (CR) for the site in question for four winter seasons were given to Birds Unit for analysis (Table 2). For the aforementioned species the data were compared against the baseline (Table 3).

Table 2 CR bird count data for Lough Derravaragh SPA

Period	Number of counts	Notes
2004/05	5	Good coverage spanning peak months (November, December, January)
2005/06	3	Coverage spanning peak months (November, December, January)
2006/07	2	Coverage spanning peak months (January, February)
2007/08	3	Coverage spanning peak months (November, December, February)

Using this data set four-year mean peak values were calculated for all species recorded. Table 3 lists the various count data for the relevant species. The percentage change of the these values from the baseline data are also

⁶ I-WeBS

(<http://www.birdwatchireland.ie/Ourwork/SurveysProjects/IrishWetlandBirdSurvey/tabid/111/Default.aspx>)

⁷ Robinson J.A., Colhoun K., McElwaine J.G. and Rees E.C. 2004. Whooper Swan *Cygnus cygnus* (Iceland population) in Britain and Ireland 1960/61 - 1999/2000. Waterbird Review Series, The Wildfowl and Wetlands Trust/Joint Nature Conservation Committee, Slimbridge.

presented alongside the all-Ireland change in the relevant population estimates during the period from 1994/95 - 1998/99 to 1999/2000-2003/04⁸. Note that these time periods do not precisely coincide with the baseline and more recent data but it does give an overall indication of population changes at the all-Ireland scale.

Table 3 Analysis of CR data

Name	4 year mean peak 2004/05 2007/08	5 year mean peak 1995/96 1999/2000	Percentage change +/- from baseline	All-Ireland population estimates percentage change 1994/95-1998/99 to 1999/2003/04
Whooper Swan	49	102	-52%	29%
Pochard	914	3,129	-71%	-23%
Tufted Duck	250	1,073	-77%	-12%
Coot	1066	1,358	-22%	17%

The above analysis show marked declines in the site estimates of all of the species of special conservation interest. These declines range from 22 to 77% when compared to the baseline dataset for the five year period 1995/96 - 1999/2000. These recorded declines were cross checked with trend data at the all-Ireland scale in order to see if such declines were in agreement with national population changes. Table 3 clearly shows that the recorded declines at the site level are not in agreement with the national trends. This indicates possible pressure from one or more source impacting the waterbirds of the site, an insufficiency of bird data to accurately quantify the waterbird populations of the site or a combination of both.

To further contextualise the four-year data set used in this analysis of Table 3 all waterbird data relevant to Lough Derravagh compiled by the I-WeBS office were downloaded. The four species were re-analysed for this site using the latest five-year mean peak values.

Examining the five-year mean peak values from the I-WeBS dataset, the recorded declines are in strong agreement except for Coot counts (Table 4). The full dataset indicate that Coot numbers have not dropped as severely as initially estimated. However the strong recorded declines in Pochard and Tufted Duck, and to a lesser degree Whooper Swan, remain.

Table 4 Analysis of I-WeBS data

⁸ Crowe et al (2008) Estimates and trends of waterbird numbers wintering in Ireland, 1994/95 to 2003/04. Bird Study 55, 66-77.

Name	5 year mean peak 2003/04 - 2007/08	5 year mean peak 1995/96 - 1999/2000	Percentage change +/- from baseline
Whooper Swan	47	102	-54%
Pochard	931	3,129	-70%
Tufted Duck	207	1,073	-81%
Coot	1277	1,358	-6%

Figure 1 shows the annual 'sum of peaks' (i.e. the sum of recorded individuals from each species annual peak count) since regular waterbird monitoring began in 1995. A steep recorded decline starting at the 2001/02 winter period is evident. This recorded decline continued until the 2003/04 season. The overall trend since then has been one of an overall increase. The decline in overall numbers coincided with a severe drop in the number of species using the site, which in parallel with the total amount of individuals using the site has increased in recent years.

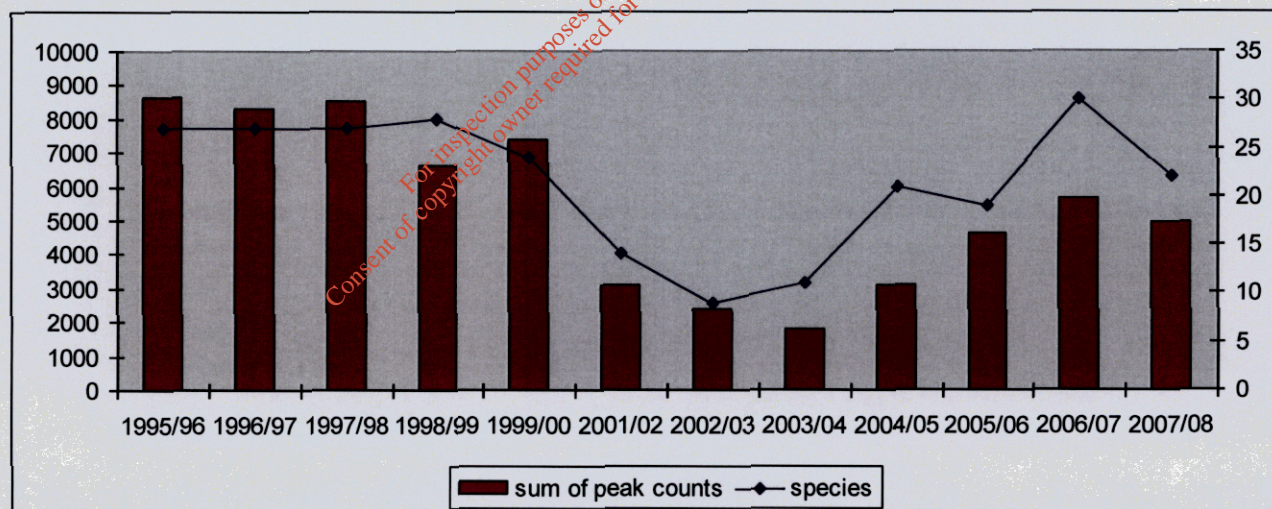


Figure 1 A comparison of the yearly sum of peak totals of waterbirds recorded and the amount of species recorded

The data set can be further analysed by categorising the waterbird species into groups and by splitting the time series into four three-year blocks. Figure 2 relates the pattern of Mute Swan (*Cygnus olor*) recorded abundances on Lough Derravagh, which mirrors that of the overall waterbird trend for the site of stable high numbers in the late 1990s then a decline followed by a recovery.

Unlike the Mute Swan pattern there has been no recorded increase in Whooper Swan numbers at this site. Whooper Swan could well use parts of

this lough for feeding purposes but it is possible the main use of this site would be as a roosting site at night with the swans departing the lough in the morning to feed on nearby agricultural land.

It is possible that the recent waterbird counts may have been conducted when the majority of the Whooper Swans are away from the site thus the reported decline may not reflect the true site use by Whooper Swan. Robinson et al (2004) noted that the northern basin is the most frequently used area and that adjacent feeding areas remain largely unknown but birds have been observed feeding at the northern end at Donore (N4065) and on grassland in the estate near Williamstown.

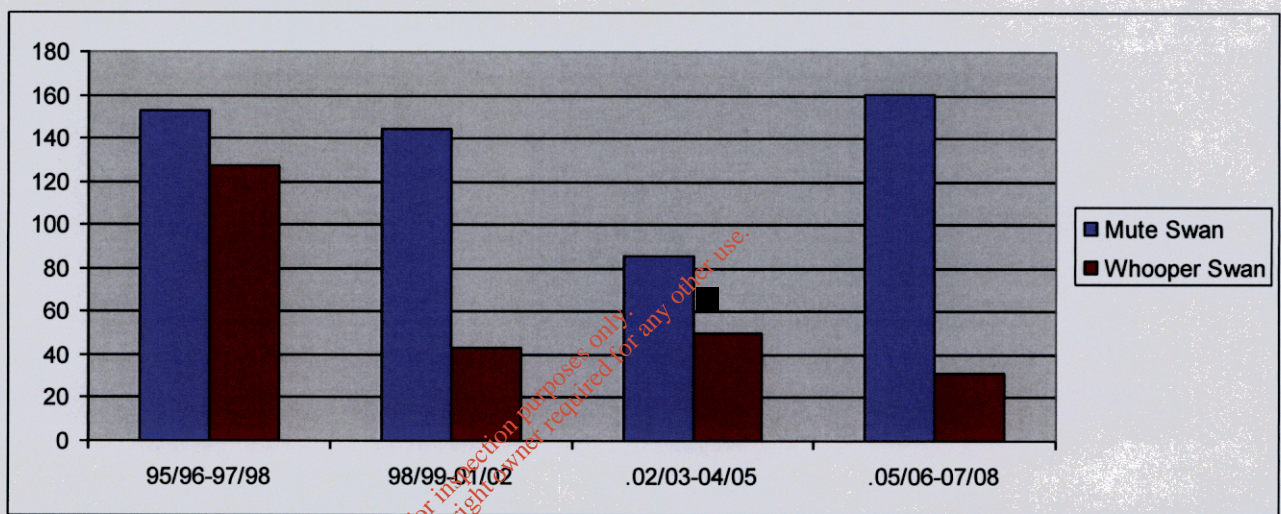


Figure 2 Whooper Swan and Mute Swan abundances on Lough Derravaragh 1995 - 2008

Figure 3 relates the changing recorded abundances of the main duck species occurring on the lough. It shows an overall trend of decreasing numbers of ducks using Lough Derravaragh. This trend is in contrast to the overall waterbird trend as shown in Figure 1. It is obvious from Figure 3 that the duck cohort is dominated by Pochard and to a lesser degree Tufted Duck. Both of these duck species are listed as being of special conservation for the SPA. Because of their numerical dominance on the total waterbird population of Lough Derravaragh the significant declines of these species strongly influenced the recorded total waterbird decline at the turn of the century. The recent increase in the total waterbird numbers at this site is not primarily driven by increasing duck abundances - ducks as a percentage of the total waterbird population has steadily declined from a starting point of 70% to 24% (1995/96 and 2007/08 respectively).

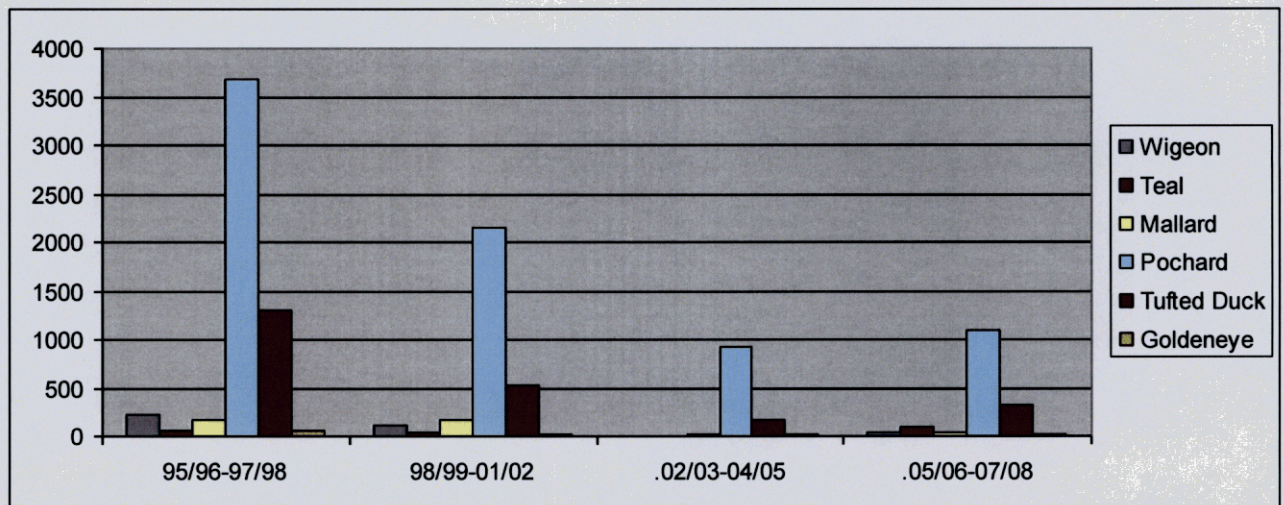


Figure 3 Selected duck species abundances on Lough Derravaragh 1995 - 2008

At Lough Derravaragh Pochard and Tufted Duck are the two main representatives of the feeding guild known as diving ducks which primarily forage in open water by diving to the lake bottom in search of their prey. Waterbird diet at any particular site is a function of prey availability and hence is site specific. However it is understood that vegetative matter (e.g. Chara, Nitella, Potamogeton) forms part of both species' diet and chironomid larvae can often be favoured by Pochard in contrast to Tufted Duck that frequently show a preference for molluscs.

With the exception of Goldeneye (*Bucephala clangula*) the other species in Figure 3 primarily feed by upending for in shallow waters or by surface feeding.

Although not as numerous as Pochard and Tufted Duck, the recorded populations of Mallard (*Anas platyrhynchos*), Teal (*Anas crecca*), Wigeon (*Anas penelope*) and Goldeneye do not follow a similar pattern of steady decline. In contrast to the diving ducks Teal, Wigeon and Mallard would occur less in the open waters areas of the lake and favour the more littoral parts. No real abundance patterns emerges for these duck species except for the recent spike in numbers of Teal (247) which constitute an overall increase of over 300% from the baseline 5-year period.

The waterbirds that are classed as allies of the wildfowl contain such species as Little Grebe (*Tachybaptus ruficollis*), Great Crested Grebe (*Podiceps cristatus*) and Coot. The latter being one of the listed special conservation interests for this SPA. The proportion of these species of the total recorded waterbird population of the lough has, in direct contrast to the ducks, steadily increased from 9% in 1995/96 to 50% in 2007/08.

Overall Coot numbers have fluctuated (Figure 4). Comparing the latest five-year mean with that of the baseline a relatively small decline of 6% is noted (see Table 4). In recent years Little Grebe numbers have reflected those of Teal by dramatically increasing from its baseline level.

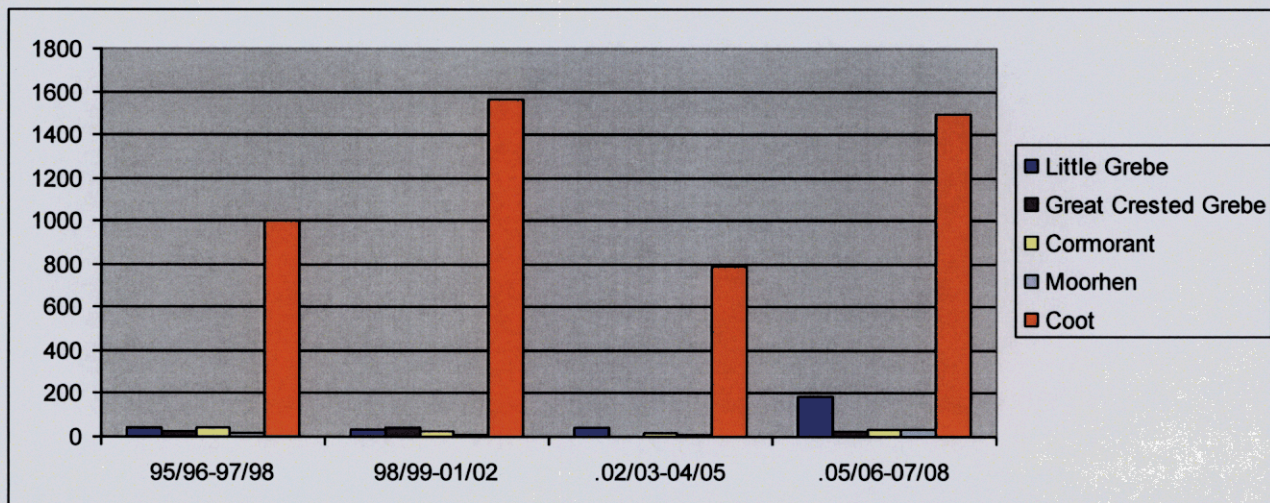


Figure 4 Selected allies of wildfowl species abundances on Lough Derravaragh 1995 - 2008

The general diet of the Coot consists of aquatic plants (and their seeds) and invertebrates. It is interesting to note that the diet and diving behaviour of Coot overlaps to some degree with those of Pochard and Tufted Duck. Cormorant (*Phalacrocorax carbo*) is a primarily a fish eating species. Fish can contribute significantly to the overall diet of the grebes but aquatic invertebrates would also be an important food resource.

The remaining waterbirds of note for this site are Black-headed Gull (*Larus ridibundus*) and three wader species (Golden Plover *Pluvialis apricaria*, Lapwing *Vanellus vanellus* and Curlew *Numenius arquata*). These waders usually feed by probing for surface or submerged invertebrates in suitable areas of wet and improved grassland within and without of the SPA. The undisturbed areas of the lakeside edge or islands may well provide a roosting resource for all of these birds.

A trend of decreasing Lapwing numbers in contrast to increasing Golden Plover is difficult to explain using available data. These species would spend a large proportion of their time feeding away from the site.

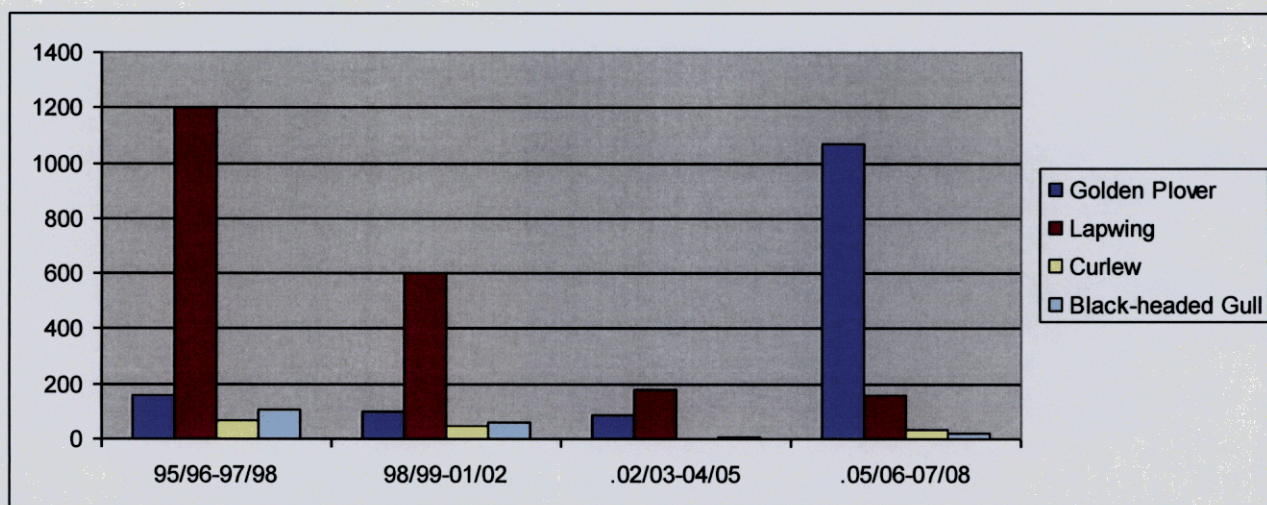


Figure 5 Selected wader and gull species abundances on Lough Derravaragh 1995 - 2008

Conclusion:

Restricting the analysis to the data received from regional management and compiled for the four-year period (2004/05 - 2007/08) an overall assessment would be one of unfavourable conservation status for each of the species listed as special conservation interests of Lough Derravaragh SPA.

When the scope of the data analysis was expanded it appears that the declines of Coot are not as severe as initially calculated. More targeted survey work would be needed in order to further assess the status for Whooper Swan at this site. Despite the fact that both Pochard and Tufted Duck have declined at the national scale the magnitude of the declines reported for Lough Derravaragh SPA is of notable concern.

Using available waterbird data alone it is impossible to reliably attribute such declines in recorded numbers to a single causal factor. The declines of the diving ducks are contrasted with significant increases in the recorded abundances of Teal and Little Grebe. It is noteworthy that even though a theoretical overlap in habitat use of Pochard and Tufted Duck with Coot exists, they display very different patterns of recorded abundance at this site.

Changes in recorded waterbird abundances can often be multifactorial. Potential factors include: a change in the overall ecology of the wetland system due to natural succession, eutrophication or other forms of pollution; recreational disturbance impacting on a broad scale or targeted to specific areas of the lake; hunting pressure on game species; or even changes in waterbird survey emphasis and/or effort.

In response to Species Protection Unit's request there is no firm evidence in the waterbird dataset that can directly link the adjacent peat extraction activities with waterbird declines. However significant declines have been identified for several of the species of special conservation interest for Lough Derravaragh SPA.

Further work on this issue is needed to better explain the population trends at this site. Such work should include initiatives (1) to increase in waterbird survey effort and targeted surveys for those birds that may only use this SPA for roosting purposes; (2) to examine the population changes at this site in relation to waterbird data collected at adjacent wetland sites; (3) to compile available data on the current ecology of wetland habitat of Lough Derravagh SPA including EPA and fisheries monitoring data; and (4) to identify the sources and intensity of disturbance that the waterbirds of this site are exposed to.

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