

SLIGO COUNTY COUNCIL

N.4 Realignment

(Doorly to Drumdoney)

SELECTED OPTION

Impact on Ecology

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N4 REALIGNMENT - SELECTED OPTION (DOORLY TO DRUMDONEY)

IMPACT ON ECOLOGY

1.0 SUMMARY

This report is the third stage in a process to select the best route for the realignment of the N.4 road between Doorly and Drumdoney in County Sligo. The previous ecological reports for the Constraints Study (August 2000) and for the five selected Route Options (April 2001) (see Cotton 2000 & 2001) are used as a basis in the compilation of this report.

The Ecological Report accompanying the Constraints Study identified and briefly described three parts of 'proposed Candidate Special Areas of Conservation' and nine areas not previously recognised for their ecological interest. The Selected Route Option considered by this study will not impact on any of the pCSAC's but will come close to several of the previously unrecognised ecological areas and will clip the site described as "Ardloy Loughs and Aghalenane Lough". It will also cross a small river that was highlighted on the Constraints Study map as the "Drumfin stream at Kingsbrook and Kilmorgan" as well as a number of other small streams.

The second ecological report considered five route options and ranked them according to their perceived impact (route options 4 & 5 having a minimal impact on ecological habitats; route options 1 & 2 having potential impacts that could be minimised with remedial measures; and route option 3 being potentially the most damaging). The Selected Option being considered in this report is a hybrid between Route Option 4 for the south-eastern one-third of the route and Route Option 2 in the north-western two-thirds of the route. The proximity of Route Option 2 to Lackagh Fen at the northern end of the realignment was a small cause of concern in the previous report, but this is diminished by the Selected Option having moved the route a little further west and away from the margins of the fen.

Like Route Option 2, the Selected Option comes very close to the bog and fen habitats associated with Aghalenane Lough, and in fact impinges on the fen at two points. This is a very sensitive area and will need to be given special attention to minimise the damage if road building commences in this area. A suggestion is made to make recompense for the loss of habitat.

It should be said that the methodology adopted in this route selection process has worked well from an ecological perspective as the Constraints Study succeeded in directing Route Options away from sensitive sites. The Selected Route will result in minimal damage to wildlife sites in an area that is rich in having a mosaic of wetland habitats that might otherwise have been difficult to avoid.

2.0 REVIEW OF PREVIOUS WORK

2.1 Introduction

The N4 is the major road linking Sligo and the north-west of Ireland with the capital city of Dublin and the section between Doorly and Drumdoney has been identified as in urgent need of upgrading (Sligo County Council 2000). The course of this 11 kilometer section of road is clearly aligned in a south-easterly to north-westerly direction which exactly parallels the geomorphology of the landscape that was shaped by the passage of ice towards the end of the last glacial phase (Midlandian stadial) of the ice-ages. Features in the area such as drumlins, lakes (including Lough Arrow), marshes, streams and rivers (including the Unshin River) all show this trend. The rich diversity of wetlands adjacent to the current route of the N4 are the legacy of the same glacial history of the landscape and are aligned along the same axis.

2.2 Constraints Study

An ecological appraisal of the entire area that might be affected by the N4 realignment was made in the spring and summer of 2000 and presented to Sligo County Council as an 'Ecological Constraints Study' (Cotton 2000). This report included a literature search, consultation with interested parties, a database search and about two weeks of field work.

Twelve ecological sites were described from within the Constraints Study area. Three of the sites were a part of 'proposed Candidate Special Areas of Conservation' (pCSAC's) but all three were on the fringes of their pCSAC's and a case was made to suggest that Dúchas might redraw the boundaries of two and possibly all three of the sites to allow road construction to proceed, if the need were to arise. Nine sites that had not previously been recognised as having any ecological value were newly described in the report and it was suggested that Dúchas should consider at least three of these locations for designation as new Natural Heritage Areas (NHA's).

The twelve sites were ranked into three categories according to their ecological value:-

- three were considered to be 'Very Important' ecological sites that should be avoided when planning the new route;
- (b) a further four sites were considered as 'Important' and it was considered that these might also be worthy of NHA status (one is already a part of a pCSAC). Special measures would have to be taken to minimise damage if the new route were to pass through or next to them;
- (c) the remaining five sites are classified as "Less Important'. Two were of the previously identified pCSAC areas that really have no habitats or species of interest but are a part of a buffer zone for important adjoining areas lying outside of the

Constraints Study area. The remaining three pieces of habitat were identified as having ecological value and it was indicated that they should be avoided if at all possible, but the main constraint might be to request that the road design goes some way to lessen the impact if the site can not be avoided.

The locations of the above twelve sites were added to Sligo County Council's Geographical Information System (GIS) database and plotted on a map at a scale of 1:10,000. Two additional minor sites were mapped without being mentioned in the report; these being a piece of willow swamp opposite the Ballymote road junction near Drumfin; and the course of a stream flowing from Kilmorgan northwards and into the Unshin River at Drumfin, hence this stream is referred to as the 'Drumfin stream' in this report.

2.3 Route Options Assessment

In April 2001 a report (Cotton 2001) considered the "Impact on Ecology" of five selected Route Options which had taken into consideration the information relayed in the Constraints Study. No significant field work was undertaken for this report as it relied upon the previous Constraints Study. This ecological report ranked the routes from the least damaging (Route Options 4 & 5), to those causing some damage (Route Options 1 & 2), and finally this report considered that Route Option 3 would most likely cause significant damage to more than one of the 12 ecological sites identified in the Constraints Study.

3.0 ECOLOGICAL IMPACT OF THE SELECTED ROUTE

3.1 The Selected Route

The route selected for comment in the current report is essentially a combination of Route Option 4 for the southern one-third of its course and Route Option 2 for the northern two-thirds of its course with a new link section between them. Due to adjustments of alignment there are small differences in the position of the new routes that have both positive and negative ecological impacts.

3.2 Ecological sites and potential impact

The sites of ecological interest near to the Selected Route were all described in the Constraints Study with no new areas being found during the small amount of field work required for this study.

Going from north-west to south-east, there are six places of ecological interest that fall within the potential influence of the route (within 100m i.e. 1cm on the map with a scale of 1:10,000) which are described in the following sub-sections.

- 3.2.1 Lackagh Fen near Drumfin (G6922) is a substantial area dominated by sedges with a slightly more acid flora at the northern end and a more alkaline flora at the southern end. This fen is considered as an 'Important' ecological site that could be worthy of NHA status (see Cotton 2001). The original course of Route Option 2 ran along the western boundary of this site, but the Selected Route is now about 80m away and there is a buffer zone of dry pasture between the proposed road and the fen. In the circumstances there should be no impact of road building on this fen as long as the road construction doesn't interfere with the natural drainage or allow mud and silt to enter watercourses to the fen.
- 3.2.2 Boathole Lough & Lough Corran, Drumfin (G6920) at the nearest point lies about 150m to the west of the proposed route. Currently these lakes are quite isolated from regular human disturbance and in the previous report it was anticipated they might hold overwintering wildfowl which could be affected by the proximity of a major road. Two surveys of the wildfowl have now been completed (8 December 2001 and 10 January 2002) and some unpublished data has been accessed (winter 1988/1989) (Goodwillie et al. 1992). These data (see Appendix 1a) show that the lakes to hold a good selection of wildfowl with particularly high numbers of little grebe considering their small surface area (counts of 12, 19 and 21 birds when data from the two lakes are combined). It was noted that Boathole Lough is the more important for little grebe and that it lies about 400m from the proposed road. A count of 5 whooper swans on one occasion during the winter of 1988/1989 is interesting because this species is listed for protection in the EU Bird's Directive (79/409/EEC). The impact of the road is likely to be small because of its distance from the water's edge and because it will be set in a shallow cutting in the area just opposite Lough Additional measures to reduce the impact could include the planting of a shelter belt of fast-growing trees such as alder or ash with a hedge of hawthorn or blackthorn to act as a buffer between the road and the lake.

The outfall stream from Lough Corran is to be crossed by the proposed road and this will need to be protected from detrimental material entering the water during road construction as the stream flows into the River Unshin SAC less than 1 kilometer downstream.

- 3.2.3 The Drumfin stream (below Kingsbrook and Kilmorgan) is also to be crossed by the proposed road, and in addition, the road will run a parallel course to this water course for about 900m. As with the stream leaving Lough Corran, the Drumfin stream feeds into the Unshin River SAC about 2 kilometers below the new road crossing. Precautions will be needed to ensure that soil or cement products don't enter the stream during road construction and that if possible, the flora of the stream bank should be disturbed as little as possible.
- 3.2.4 Cuilleencroobagh Lough (G727176) is more like a quaking bog or scraw than a lake as the open water area has almost totally become covered

in floating vegetation. The proposed road will pass about one hundred meters away from the bog along the side of a hill. The road should have no impact on this habitat.

3.2.5 Ardloy Loughs and Aghalenane Lough (G7317) were described in the Constraints Study (Cotton 2000) as being an 'Important' ecological site possibly worthy of consideration by Dúchas as a Natural Heritage Area. This site comprises two small lakes (Ardloy Loughs) and a larger lake (Aghalenane Lough) which are surrounded by a fringe of tall reeds beyond which there is a marsh which is dominated by sedges. At the northern end of the site there is an area of acid peat bog, and at the south-western side there are some calcareous flushes feeding into the sedge fen. The water quality of the lakes is a cause for concern as it is suspected there is an organic source of pollution feeding into Ardloy Lough (south).

The Selected Option for realignment of the N4 road will pass through the western edge of this site where there are calcium-rich springs feeding into the sedge fen. The site was therefore visited again in order to re-assess the value of the area to be affected by the road. Counts of the wildfowl were also made on two occasions (8 December 2001 and 10 January 2002) and some data was accessed from a study during the winter of 1988/1989 (Goodwillie et al. 1992).

The number of wildfowl utilising this site was very low with none being present on either 9 December 2000 or on 8 December 2001, and only a few duck being present on 10 January 2002 (see Appendix 1b). The data of Phil Buckley for the winter of 1988/1989 recorded peak counts of 35 wigeon, 54 teal and 19 lapwing (Goodwillie et al. 1992) indicating that wildfowl do resort to using this area on some occasions. This would not be regarded as an important site for wildfowl and the impact of the road will be minimal.

Vegetation is not easily surveyed during the winter but the observation that between 40-50% of Aghalenane Lough is surrounded by the great fen sedge (Cladium mariscus) was a surprising result. This species is quite uncommon in the Sligo-Leitrim area and is generally regarded as a good indicator of fen conditions so the extent of its occurrence is worthy of comment. The low sedge fen is reasonably extensive here and it is a part of this habitat that will be lost to the road along with a fragment of the acid bog in the north-western corner. The loss of these pieces of habitat are sustainable as long as the flow of spring water that is feeding into the fen from the western side is maintained.

When the road is completed it is noted that areas of sedge fen and acid bog will be isolated between the lake and the new road. These places do not appear to be in agricultural production at the current time and it is proposed that they should be compulsorally purchased by the County Council to be protected for their conservation value. They will be almost self-sustainable and will only require a very minimal amount of management.

3.2.6 Drumderry near Castlebaldwin (G749155) is a small bog and marsh with limited ecological interest. The proposed road will run about 30m from a corner of this marsh and should not directly affect the habitat unless the road impacts upon the natural drainage of the area.

3.3 Protected species

Conservation is largely about the protection of important habitats, but sometimes rare and uncommon species may be present outside of recognisably good pieces of habitat. It is therefore important to look for species that are afforded protection or are listed as in need of protection.

The Irish Red Data Book for Vascular Plants (Curtis & McGough 1988) and the Flora Protection Order (1987) list no species that are known from this area or were found during the field work for the Constraints Study.

The Irish Red Data Book for vertebrates (Whilde 1993) includes quite a number of species that are fairly common and widespread in Ireland and could be affected by almost any large-scale proposal such as a road. The following list of species which most likely all occur in the vicinity of the proposed realignment of the N4 are presented for the sake of making this report fully comprehensive :

| Common name |
|----------------------|
| Hedgehog |
| Daubenton's bat |
| Pipistrelle |
| Brown long-eared bat |
| Irish hare |
| Badger |
| Otter |
| Common frog |

Scientific name Erinaceus europaeus Myotis daubentonii Meles meles Lutra lutra Rana temporaria

Red Data Book category Internationally important Internationally important Pipistrellus pipistrellus Internationally important Plecotus auritus Internationally important Lepus timidus hibemicus Internationally important Internationally important Internationally important Internationally important

It would not be practical to take serious measures to protect such species as the common frog, badger, hedgehog, pipistrelle bat or Irish hare. However, some of these species should really be given careful consideration when examining the potential impact of this road realignment. (droppings) of the otter were noted at several locations along the streams in the area but no holts were found. Daubenton's bats are uncommon but have been recorded as being associated with the nearby Unshin River.

The Red List of bird species now stands at 18 with a further 77 species 'Amber' listed (Newton et al. 2000). There are no red listed bird species breeding in this area but it is always possible that barn owl could be breeding outside of the Constraints Area and feeding in the immediate vicinity.

3.4 Impacts during the construction phase

Sections 3.2 and 3.3 have discussed the likely impact of the proposed route on the ecology of this area but from previous experience it has been noted that unexpected damage to ecological sites can come about during the construction phase. The most likely cause of damage to habitat comes about through the siting of storage yards, disposal of spoil and the construction of access roads. It must be stressed that when these places are being selected an ecologist should be consulted to determine whether any damage will be done to sensitive pieces of habitat.

3.5 Summary of Ecological Impacts

Six sites with some ecological interest fall within 100m of the route of the proposed road. Although there are two Special Areas of Conservation nearby, neither will be affected by the presence of the road or by its construction, as long as deleterious materials are prevented from being washed into water courses and on into the Unshin River SAC. Of the six sites described in this report (sections 3.3.1 - 3.3.6) none have any form of statutory protection and in the Constraints Study none were identified as being 'Very Important'. Of the two classified as 'Important' only "Ardloy Loughs and Aghalenane Lough" will be adversely affected by the Selected Route. A part of the sedge fen, acid bog and spring flushes will be lost under the road and the remaining sedge fen and acid bog will become sandwiched between the road and Aghalenene Lough. These areas are currently not being farmed and it is suggested that they be purchased for the purpose of nature conservation as recompense for the areas that will be lost.

3.6 Comment on use of Constraints Study

The approach taken during this ecological assessment has been very successful. By requesting a Constraints Study it brought the ecologist in at a very early stage in the process and allowed great freedom to find the habitats and species that might be adversely impacted by the realignment project. The Constraints Study area turned out to have several very interesting pieces of habitat which were identified and surveyed for the first time. The information gained should be very helpful to Dúchas - the Heritage Service. In turn, this approach resulted in the Route Options as identified by the engineers to be largely acceptable on ecological grounds and the Selected Route has similarly proven to be ecologically friendly with only a minimal predicted impact on flora and fauna.

4.0 REFERENCES

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Appendices

Additional ecological data relevant to sites visited during this study.

- a) Boathole Lough & Lough Corran, Drumfin (G6920) (first sheet)
- b) Ardloy Loughs and Aghalenane Lough (G7317) (second sheet)

| | COMMON NAME | No. | LOCATION | Co. | MA | P REE | DATE NOTES | |
|------------------------|---------------------|-----|--|------------|-----|-----------|--|-------------------|
| CIENTIFIC NAME | COMMON HORS | | | Sligo | G | 698 209 | 06/05/2000 Common. | |
| mnaea stagnalis | | c10 | Lough Corran, Drumfin nr Soathole Lough and Lough Corran, Drumfin | | G | 698 206 | 06/05/2000 | |
| rrhosoma nymphuta | | c20 | nr Scathole Lough als Lough Contact on | Stigo | G | 698 209 | 29/07/1981 | |
| allagma cyathigerum | | c10 | Lough Corran, Drumfin | Siigo | G | 698 209 | 29/07/1981 | |
| schrura elegans | | 3 | Lough Corran. Drumfin | Siigo | G | 70 21 | 29/07/1981 Small-shoal. | |
| Perca fluviatilis | Perch | | river leaving Lough Corran | | G | 698 206 | 06/05/2000 | |
| na temporaria | Common frog | 1 | re Boathole Lough and Lough Corran, Drumfin | Sligo | G | 69 20 | Winter 1988/85 | |
| chybaptus ruficollis | Little grebe | 12 | Boathole Lough and Lough Corran, Drumfin | Sligo | G | 696-206 | 08/12/2001 Total wildfowl o | ount. |
| Tachybaptus ruficolis | Little grebe | | Boathole Lough, Drumfin | Sigo | G | 696 206 | 10/01/2002 Total wildfowl o | ount. |
| Tachybaptus ruficollis | Little grebe | 14 | Boathole Lough, Drumfin | Sligo | G | 698 209 | 08/12/2001 Total wildfowl o | ount. Heard. |
| chypaptus ruficollis | Little grebe | 2 | Lough Corran, Drumfin | Sligo | G | 698 209 | 10/01/2002 Total wildfowl o | count. |
| ichybaptus ruficoliis | Little grebe | - 5 | Lough Corran, Drumfin | Sligo | G | 698 209 | 06/05/2000 Total wildfowl of | count. |
| | Great crested grebe | 1 | Lough Corran, Drumfin | 355 | -5 | But make | 06/05/2000 Total wildfowl o | count. |
| Fodiceps cristatus | Cormorant. | 1 | Lough Corran, Drumfin | Stigo | G | | Winter 1988/8 | 9. Maximum c |
| Phalacrocorax carbo | Grey heron | 1 | Boathole Lough and Lough Corran, Drumfin | Stigo | G | | Winter 1988/8 | 9. Maximum c |
| rdea cinerea | Mute swan | 11 | | Sligo | | 696 206 | 06/05/2000 Total wildfowl o | count. Male. |
| gnus olor | Mute swan | 1 | Boathole Lough, Drumfin | Silgo | | | 08/12/2001 Total wildlowl o | count. 2 adult |
| Cygnus olor | Mute swan | 7.0 | Boathole Lough, Drumfin | Sign | 6 | 696 206 | 10/01/2002 Total wildfowl o | count. 7 adult |
| Cygnus olor | Mute swan | | Boathole Lough, Drumfin | Sligo | | | 06/05/2000 Total wildfowl | count. Male. |
| ygnus plor | Mute swan | | Lough Corran, Drumfin | Sligo | G | | 10/01/2002 Total wildfowl | count. Juveni |
| ygnus olar | | | Lough Corran, Drumfin | Sligo | G | | Winter 1988/8 | 9 Maximum c |
| Lygnus olor | Mute swan | | Soathole Lough and Lough Corran, Drumfin | Stigo | | 69 20 | Winter 1988/8 | |
| Cygnus cygnus | Whooper swan | 1 |) Boathole Lough and Lough Corran, Drumfin | Sligo | | 69 20 | 10/01/2002 Total wildfowl | |
| nas penelope | Wigeon | | Boathole Lough, Drumfin | Sliga | | 696 206 | 10/01/2002 fold wildiow | 9. Maximum c |
| was penelope | Wigeon | - 2 | 2 Boathole Lough and Lough Corran, Drumfin | Sligo | G | 69 20 | | 9. Maximum c |
| mhas crecca | Teal | | 8 Soathole Lough and Lough Corran, Drumfin | Stigo | G | | | |
| Anas platythynchos | Mallard | | 8 Boathole Lough, Drumfin | Sligo | | 696 206 | the second of the second of the second | count 7 male |
| trias platyrhyrichus | Mallard | | 7 Lough Corran, Drumfin | Stigo | 6 | 698 209 | The second secon | count / manu- |
| vnas piatyrhynches | Mallard | | 9 Lough Corran, Drumfin | Stigo | - 9 | 698 209 | 08/12/2001 Total wildfowl | count |
| inas platyrhynchos | Mailard | | 4 Lough Corran, Drumfin | Sligo | | 698 209 | 10/01/2002 Total wildfowl | COURT |
| Anas platyrhynchos | Mallard | | nr Boathole Lough and Lough Corran, Drumf | in Sligo | | 702 201 | 06/05/2000 Female with d | DO Maximum (|
| Anas platyrhynchos | Mallard | | 6 Boathole Lough and Lough Corran, Drumfin | Siigo | | 69 20 | 지어 조지를 되었다면 보다면서 보면 중앙을 하고 있다면 했다. | 89. Maximum c |
| Nythya fuligola | Tufted duck | | 1 Boathole Lough, Drumfin | Stigo | - 3 | 6 696 206 | 10/01/2002 Total wildfowl | COUNC |
| sythya fuligula | Tufted duck | | Committee Designation | Stigo | - 8 | 698209 | 10/01/2002 Total wildfowl | COUNT. |
| Aythya fuligula | Tufted duck | | 2 Boathole Lough and Lough Corran, Drumfin | Sligo | 1 | G 69 20 | | 89. Maximum c |
| Raffus aquaticus | Water rail | | Boathole Lough, Drumfin | Sigo | - 3 | 6 696 206 | 08/12/2001 Total wildfowl | count. Heard. |
| Railus aquaticus | Water rail | | 6 Boathole Lough and Lough Corran, Drumfin | Sligo | - 6 | G 69 20 | | 89. Maximum c |
| Gallinuta chloropus | Moorhen | | 16 Boatnoie Lough and Countin | Stigo | | G 696 204 | 5 08/12/2001 Total wildfow | I count. |
| Gallinula chloropus | Moorhen | | 5 Boathole Lough, Drumfin | Sligo | | G 696 20 | 5 10/01/2002 Total widfow | count. |
| Gallinula chloropus | Moothen | | 3 Boathole Lough, Drumfin | Sigo | | G 698 20 | 9 06/05/2000 Total wildfow | count. Heard. |
| Gallinula chloropus | Moorhen | | 1 Lough Corran, Drumfin | Stigo | | G 69 20 | | 89 Maximum c |
| Fulica atra | Coot | | 2 Boathole Lough and Lough Corran, Drumfin | Sligo | | G 69620 | 6 06/05/2000 Total widfow | i count. |
| Fulica atra | Coot | | 1 Boathole Lough, Drumfin | Sligo | | G 696 20 | | f count. |
| fuica atra | Coat | | Boathole Lough, Drumfin | Sligo | | G 698 20 | 9 10/01/2002 Total wildfow | / count. |
| Vanellus vanellus | Lapwing | | 23 Lough Corran, Drumfin | | | G 69 20 | ME-1 4800 | 89. Maximum t |
| Galinago galinago | Snipe | | 1 Soathole Lough and Lough Corran, Drumfin | Sign | | G 69620 | | if count. |
| | Snipe | | 1 Boathole Lough, Drumfin | Sligo | | G 698 20 | and the second s | ng survey shows |
| Galinago galinago | Snipe | | 26 Lough Corran, Drumfin | Sligo | | C COR 20 | 6 06/05/2000 Flushed from | |
| Gallinago gallinago | Snipe | | 1 or Roathole Lough and Lough Corran, Drum | nn Sago | | | A CALL THE WARR CO | ther two at other |
| Gallinago gallinago | Sedge warbler | | 4 or Boathole Lough and Lough Corran, Drun | thin Stigo | 1 | G 698 20 | 6 08/12/2001 Heard. | CARATATE AND |
| Acrocephalus | Reed bunting | | Boathole Lough, Drumfin | Singo | 1 | U 59020 | 00/12/2007 | |
| Emberiza schoeniclus | | | 1 Lough Corran, Drumfin | Sligo | | G 698.20 | 9 10/01/2002 | |
| Emberiza schoeniclus | Reed bunting | | 4 nr Boathole Lough and Lough Corran, Drun | de Stigo |) | G 698 20 | 6 06/05/2000 | |
| Emberiza schoeniclus | Reed bunting | | | | | | | |

| SCIENTIFIC NAME | COMMON NAME | No. LOCATION | 50. | MAP REE | DATE NOTES |
|-------------------------|----------------|---|---------|-----------|---|
| Ardea cinetea | Grey beron | 2 Ardioy Loughs & Aghalenane Loug | h Sligo | G 73 17 | 08/12/2001 Total wildfowl count. Flying |
| Aroea cinerea | Grey heron | 1 Ardiay Loughs & Aghalenane Loug | h Sligo | G 73 17 | 10/01/2002 Total wildfowl count. Flying |
| Cygnus olor | Mute swan | 2 Ardicy Lough (east) | Stigo | G 733 171 | 08/12/2001 Total wildfowl count. Adults |
| Anas penelope | Wigeon | 35 Androy Loughs & Aghalenane Loug | h Sigo | G 73 17 | Winter 1988/89, Maximum c |
| Anas penelope | Wigeon | 7 Aghalenane Lough | Sligo | G 73 17 | 10/01/2002 Total wildfewl count. |
| Arias crecca | Teal | 54 Ardloy Loughs & Aghalenane Loug | h Sligo | G 73 17 | Winter 1988/89. Maximum c |
| Anas platyrhynchos | Mallard | 9 Arcloy Loughs & Aghalenane Loug | h Sigo | G 73 17 | Winter 1988/89, Maximum c |
| Anas platyrhynchos | Mallard | Z. Aghalenane Lough | Sligo | G 73 17 | 10/07/2000 |
| Arias platyrhynchos | Mallard | 2 Ardioy Loughs | Siigo | G 73 17 | 10/07/2000 |
| Anas platyrhynchos | Mailand | 5 Aghalenane Lough | Stigo | G 73 17 | 10/01/2002 Total wild/owl count. |
| Arias platyrhynchos | Mailard | 2 Ardley Lough (west) | Sligo | G 732171 | 10/01/2002 Total widfowl count. |
| Aythya fenna | Pochard | 4 Andloy Loughs & Aghalenane Loug | h Sligo | G 73 17 | Winter 1988/89, Maximum c |
| Accipiter risus | Sparrowhawk | 1 Ardioy Lough (east) | Sligo | G 733 171 | 20/06/1981 |
| Accipiter misus | Sparrowhawk | Ardloy Lough (east) | Sligo | G 733171 | 31/07/1981 Breeding. |
| Galtinula chioropus | Moorhen | Ardloy Loughs & Aghalenane Loug | h Sligo | G 73 17 | Winter 1988/89. Maximum c |
| Gallinula chloropus | Moorhen | Ardioy Lough (east) | Sligo | G 733 171 | 20/06/1981 Nest photographed. |
| Gallinula chlorogus | Moorhen | Ardloy Loughs | Sligo | G 73 17 | 10/07/2000 With family. |
| | no wildfowl | Aghalenane Lough | Sligo | G 73 17 | 09/12/2000 Total wildfowl count. |
| Gallinuta chloropus | Moorhen | 2 Ardloy Lough (east) | Sligo | G 733 171 | 09/12/2000 Total wildfow count. |
| | no wildfowl | Aghalenane Lough | Sligo | G 73 17 | 08/12/2001 Total wildfowl count. |
| Vanetus vanetus | Lapwing | 19 Ardloy Loughs & Aghalenane Loug | h Sligo | G 73 17 | Winter 1988/89. Maximum c |
| Gallinago gallinago | Snipe | 6 Ardloy Loughs & Aghalenane Loug | h Sligo | G 73 17 | Winter 1968/89. Maximum c |
| Numerius arquata | Curlew | B Ardloy Loughs & Aghalenane Loug | h Sligo | G 73 17 | Winter 1988/89. Maximum c |
| Riparia riparia | Sand martin | 1 Ardloy Loughs & Aghalenane Loug | h Sligo | G 73 17 | 10/07/2000 |
| Troglodytes troglodytes | Wren | 1 Ardloy Loughs | Stigo | G 73 17 | 10/07/2000 Heard. |
| Saxicola torquata | Stonechat | 4 Ardloy Loughs | Sligo | G 73 17 | 10/07/2000 Family. |
| Acrocephalus | Sedge warbler | Ardloy Lough (east) | Sligo | G 733171 | 20/06/1981 |
| Acrocephalus | Sedge warbler | Ardioy Loughs | Sligo | G 73 17 | 10/07/2000 Singing. |
| Phylioscopus trochilus | Willow warbler | 1 Ardloy Loughs | Sligo | G 73 17 | 10/07/2000 |
| Carduelis cannabina | Linnet | 2. Ardloy Loughs | Shigo | G 73 17 | 10/07/2000 |
| Emberiza schoeniclus | Reed bunting | Ardloy Loughs | Stigo | G 73 17 | 10/07/2000 Singing. |
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SLIGO COUNTY COUNCIL

N.4 Realignment

Cloonamahon to Castlebaldwin

CONSTRAINTS STUDY

Ecological Report

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prepared for :

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N4 CONSTRAINTS STUDY

ECOLOGICAL REPORT

1.0 SUMMARY

This short report and accompanying map identifies sites of ecological interest that fall within the Constraints Study Area for the N4 Realignment (Cloonamahon to Castlebaldwin) as identified by engineering staff of Sligo County Council.

A literature search for publications of relevance to the flora and fauna of the area was undertaken which included the identification of areas designated by Duchas (the Heritage Service) as being of ecological importance (pNHA's, pCSAC's).

A privately held database of unpublished records was also accessed which holds records of some uncommon and rare species that are known from within the Constraints Study Area.

A meeting was held with an official of the wildlife section of Duchas to help identify habitats, species and issues that should be addressed by this report.

Field work was undertaken during the months of June and July 2000 to visit previously known ecological sites and identify other pieces of habitat that might hold interesting species or that are valuable in their own right. As a result, this report describes three parts of 'proposed Candidate Special Areas of Conservation' (pCSAC's) that come within the Constraints Study Area and addition identifies nine areas that have not previously been officially recognised for their ecological interest.

Two, and possibly all three of the areas within pCSAC boundaries are considered to extend beyond the ecologically sensitive area and a case could be made for their boundaries to be re-drawn. On the other hand, six of the newly recognised areas are good enough to be considered for NHA status, and twelve ecological sites have been marked on the Boundaries for all twelve ecological sites have been marked on the accompanying map which can now be entered on the County Council accompanying map which can now be entered on the County Council Geographical Information System to assist in route selection. To assist in interpretation, the sites are classified as "Very Important", "Important" and interpretation, the sites are classified on the map to reflect this provisional status.

2.0 INTRODUCTION

2.1 Aims and objectives

The primary aim of this study is to ensure that habitats of ecological interest are identified before routes are selected for the re-alignment of the N.4 are identified before routes are selected for the main outcome of this report between Cloonamahon and Castlebaldwin. The main outcome of this report is an ecological constraints map showing the boundaries of such ecological sites.

Scientific publications concerning the natural environment of Counties Sligo and Leitrim have been thoroughly researched by the author over the past 20 and Leitrim have been thoroughly researched by the author over the past 20 and Leitrim have been thoroughly researched by the author over the past 20 and Leitrim have been thoroughly researched by the author over the past 20 and Leitrim have been thoroughly researched by the author over the past 20 and Leitrim have been thoroughly researched by the author over the past 20 and Leitrim have been thoroughly researched by the author over the past 20 and Leitrim have been thoroughly researched by the author over the past 20 and Leitrim have been thoroughly researched by the author over the past 20 and Leitrim have been thoroughly researched by the author over the past 20 and Leitrim have been thoroughly researched by the author over the past 20 and Leitrim have been thoroughly researched by the author over the past 20 and Leitrim have been thoroughly researched by the author over the past 20 and Leitrim have been thoroughly researched by the author over the past 20 and Leitrim have been thoroughly researched by the author over the past 20 and Leitrim have been thoroughly researched by the author over the past 20 and Leitrim have been thoroughly researched by the author over the past 20 and 20 a

A computer data base containing almost 60,000 observations Of flora and fauna in the Sligo/Leitrim region has also been established by the author and a number of records were found to be of relevance.

Unpublished sources like the reports on Areas of Scientific Interest (An Foras Forbartha 1972, 1978 & 1981) and information on the proposed Candidate Forbartha 1972, 1978 & 1981) and information on the proposed Candidate Special Areas of Conservation and proposed Natural Heritage Areas (Heritage Special Areas of Conservation and proposed Natural Heritage Areas (Heritage Special Areas of Conservation and proposed Natural Heritage Areas (Heritage Special Areas of Conservation and proposed Natural Heritage Areas (Heritage Special Areas of Conservation and Proposed Natural Heritage Areas (Heritage Special Areas of Conservation and Proposed Natural Heritage Areas (Heritage Special Areas of Conservation and Proposed Natural Heritage Areas (Heritage Special Areas of Conservation and Proposed Natural Heritage Areas (Heritage Special Areas of Conservation and Proposed Natural Heritage Areas (Heritage Areas (Heritage Special Areas of Conservation and Proposed Natural Heritage Areas (Heritage Areas (He

Parties known to be interested in the environment were also contacted i.e. Sligo Branches of An Taisce and BirdWatch Ireland, Sligo Field Club and the Sligo County Recorder (for botany). A minuted briefing meeting was held on Sligo County Recorder (for botany). A minuted briefing meeting was held on 17 April 2000 with Mr David Duggan of The National Parks and Wildlife 17 April 2000 with Mr David Duggan of the Unshin River pCSAC Service of Duchas who provided detailed maps of the Unshin River pCSAC (dated 17/08/1999).

One can never guarantee that every potential source of information has been tapped or that the area hasn't been visited by a naturalist/ecologist and the results not published. Serious deficiencies can be overcome by field visits results not published. Serious deficiencies can be overcome by field visits and so between June and July 2000 field work was undertaken to and so between June and July 2000 field work included visits to each of the thoroughly cover this extensive area which included visits to each of the proposed pCSAC's just mentioned.

3.0 ENVIRONMENTAL SETTING

This section is intended to give a simple environmental overview for someone who is unfamiliar with the general area where the improved road will run between Cloonamahon (G6923) and Castlebaldwin (G7613) (Discovery Series 1:50,000 Sheet 25). The approximate area involved is 16.7 square kilometers (c.13 km long x c.1.3 km wide). It identifies potential ecological kilometers (c.13 km long x c.1.3 km wide). Special consideration is given through which the new road may be routed. Special consideration is given to sites and species protected by legislation.

The underlying hard rock geology of this area is very simple in that it is entirely composed of the Bricklieve Limestone Formation of Carboniferous age (Dinantian) which dates from about 300 million years ago. This rock is very nearly horizontally bedded as can be seen from a diagram showing a cross-section of the rock strata in this area (section C-D) on the map eross-section of the rock strata in this area (section C-D) are data for this accompanying Macdermot, Long & Harney (1996). The original data for this map largely come from the field work of Dixon (1965 & 1972).

The hard rock is little exposed within the constraints study area because it is overlain by a layer of glacial deposits of recent origin (c.20,000 years old) and which are of variable thickness. The most obvious glacial formations are the drumlins that are aligned from south-east to north-west reflecting are the direction of the Midlandian ice movement. At Castlebaldwin a drumlin the direction of the Midlandian ice movement. At Castlebaldwin reveals the has been excavated opposite to the petrol filling station which reveals the unconsolidated nature of these deposits.

The course of the current N4 road is largely dictated by the alignment of the drumlins and the new route will likewise be greatly influenced by this topography.

The drainage of this area is dictated by the trend of the glacial deposits with the result that there are a number of lakes, fens and bogs in the interdrumlin hollows which align in a south-east to north-west direction e.g. Cleavry Lough and bog and Loughmeenaghan. The streams all drain to the north-west and into the Unshin River which is a part of the Ballysadare north-west and into the Unshin River which is a part of the Ballysadare north-west and into the underlying limestone has resulted in a River catchment. The influence of the underlying limestone has resulted in a River wallow holes, temporary winter ponds (turloughs) and springs, few swallow holes, temporary of the constraints study area where the especially in the southern part of the study area.

Bricklieve Mountains form the border of the study area.

Water quality in the area is generally quite good but signs of eutrophication were present in many of the streams around Kingsbrook and feeding into

Boathole Lough. The two small Ardloy Loughs and Aghalenane Lough had a very bad smell when visited on 10 July and the water was seen to be black in colour. These lakes appear to be seriously organically polluted.

The Bricklieve Mountains are a highly scenic area and are listed in the inventory of outstanding landscapes (An Foras Forbartha 1977). The most recent County Development Plan also identified them as being of a high landscape character and to be protected through stringent planning criteria (Sligo County Council 2000).

During the field work, a majority of the area was dismissed as being of no especial ecological interest. This was because the area is intensively farmed especial ecological microst. This was because the many latified with most fields being improved pasture separated by hedgerows of hawthorn (Crataegus monogyna) or blackthorn (Prunus spinosa) of a young age and of a poor ecological diversity. Places that held promise were noted age and of a poor ecological diversity. These locations on the map and a closer inspection was made of them. These locations on the map and a closer inspection was marshed bogs, hedgerows, include lakes, marshes, fens, turloughs, raised bogs, hedgerows, unimproved pasture, mature trees, bridges and old buildings.

A special watch was kept for rare species that might potentially be expected in the area. Hedgerow shrubs such as spindle (Euonymus europaeus), in the area. Incugation stitude stitude spiritude (Rhamnus catharticus); guelder rose (Vibernum opulis), buckthorn (Rhamnus catharticus); gueruer rose (vinerium opinios), crayfish (Austropotamobius pallipes), invertebrates such as freshwater crayfish (Austropotamobius pallipes), niverteorates such as heshwater eraphydryas aurinia), hairy dragonfly vertigo snails, marsh fritillary butterfly (Euphydryas aurinia), hairy dragonfly Verugo snans, marsh miniary outcomes (Orthetrum cancellatum), scarce (Brachytron pratense), black-tailed skimmer (Orthetrum cancellatum), scarce blue-tailed damselfly (Ischnura pumilio); birds like whinchat, lapwing, owls; and mammals like otter, pine martin, red squirrel and signs of bats.

Especial ecological habitats are dealt with in more detail in Section 4 of this report and results of field surveys are in the Appendix.

There are no Important Bird Areas (IBA's) or Special Protection Areas (SPA's) as designated under the EU Bird's Directive (79/409/EEC) within many as uesignated under the proposed options. There are no National Nature Reserves (NNR's) anywhere in the vicinity.

In the original reports on Area of Scientific Interest (ASI's) (An Foras Forbartha 1972, 1978 & 1981), the Bricklieve Mountains and parts of Lough Arrow are listed as being of ecological interest. These areas both fall close to Arrow are usion as being of ecological interest. The arrow being replaced by the constraints study area. The original ASI's are now being replaced by 'proposed Natural Heritage Areas' (pNHA's) and if of relevance to the proposed Matural Michael Michael (92/43/EEC) they may also be listed as proposed Candidate Special Areas of Conservation' (pCSAC's).

Bricklieve Mountains are designated as pCSAC 1656 and the Unshin River is designated as pCSAC 1898. Lough Arrow is designated as pNHA 1673 but is too far away to be affected by the route selection so is considered no further

The Irish Red Data Book for Vascular Plants (Curtis & McGough 1988) and in this report. the Flora Protection Order (1987) list no species that are known from this area or were found during the recent field work.

The Irish Red Data Book for vertebrates (Whilde 1993) includes quite a number of species that are fairly common and widespread in Ireland and could be affected by almost any large-scale proposal such as a road. The Red List of bird species is currently being extended to include a further six species bringing it up to eighteen species (Newton et al. in press). The following list of species which most likely all occur in the vicinity of the proposed realignment of the N4 are presented for the sake of making this report fully comprehensive : Red Data Book category

| Common name |
|-------------------------------------|
| Hedgehog |
| Daubenton's bat |
| Pipistrelle Brown long-eared bat |
| Irish hare |
| Badger |
| Otter |
| Common frog |

Scientific name Erinaceus europaeus Myotis daubentonii Pipistrellus pipistrellus Plecotus auritus Lepus timidus hibernicus Meles meles Lutra lutra Rana temporaria

Internationally important Internationally important

Whilst there are no recent records, lapwing and barn owl are red-listed species that could be breeding in this area.

It would not be practical to take serious measures to protect such species as the common frog, badger, hedgehog, pipistrelle bat or Irish hare. However, some of these species should really be given careful consideration when examining the potential impact of this road realignment. These include the otter (and its holts) and the Daubenton's bat that are uncommon and are associated with rivers like the Unshin.

4.0 BRIEF DESCRIPTION OF ECOLOGICAL SITES WITHIN THE CONSTRAINTS STUDY AREA

This section is designed to give a simple outline of the ecological value of sites identified within the constraints study area. It is a compilation of notes and observations made during field work that have been integrated with any published information to produce short descriptive accounts. An attempt is made to indicate the degree of interest of each site by classifying it as either Very Important', 'Important' or Less Important'. In some instances the description points to locations within a site that are of particular value.

4.2 Lisconny Bridge near Collooney (Unshin River pCSAC) (G695229) At the very northern end of the constraints sudy area the boundary cuts through a triangular area of the Unshin River proposed Candidate SAC. On the ground the area is defined on one side by the passage of a high voltage electricity line, on another side by a minor county road and on the third side by a hedgerow between fields. The site was surveyed in detail and in ideal onditions on 17 July 2000. It was observed that the area comprises of two pasture fields of a very ordinary appearance within the area being considered for this constraints study. The list of species includes no interesting flora or fauna. The higher (western) area is dominated by common meadow grasses with some rushes (Juneus effusus) and ragwort (Senecio jacobaea). The lower pasture field was being grazed by horses, and in the section within the constraints study area, was dominated by yellow flag (Iris pseudacorus), meadowsweet (Filipendula ulmaria), creeping thistle (Cirsium arvense), docks (Rumex spp.) and ragworts (S.aquaticus & S.jacobaea). The lower part of the same field, which is downhill from the electricity line, was not surveyed but was observed to hold an interesting flora running down to the Unshin River and its riparian zone. It is considered that the pCSAC boundary in this area could be realigned to de-designate the area to the west of the power lines and that the location could be considered for road construction. If this becomes necessary then the County Council would have to be very aware that there would be no buffer zone between the rich and diverse flora of the remaining pCSAC and the road and special precautions would be needed during road construction. This area is considered Less Important' as an ecological site for this constraints study.

This previously unrecognised ecological site has a diverse and rich flora dominated by sedges. The most common sedge present was lesser tussock sedge (Carex diandra) which is actually quite uncommon in north-west seuge (Carex analisme) which is accusant quant and in the site, the ireland. Whilst there were no rare plants or animals found in the site, the area involved is quite large and the floral diversity is such that this habitat is a good example of a sedge fen and should be protected. It is recommended that Duchas consider this location as a Natural Heritage Area of Local

It is worth noting that the wettest part of the site is along the north-eastern Importance. boundary close to the existing N4 road and this is also the most valuable area to wildlife. It was also noted that there appears to be a clinal change from a more alkaline flora to a more acid flora as one goes from south-east to north-west. There may well be a ground water source at the south-eastern end of the site where meadow thistle (Cirsium dissectum), yellow rattle (Rhinanthus minor), early marsh orchid (Dactylorrhiza incarnata incarnata), carnation sedge (Carex panicea), congested rush (Juncus conglomeratus) and marsh lousewort (Pedicularis palustris) are found. Marsh fritillary butterfly (Euphydryas aurinia) has been noted here in the past. The site drains to the north-west.

This area is considered 'Important' as an ecological site for this constraints study and is worthy of NHA status.

4.4 Unshin River bank at Lackagh (Unshin River pCSAC) (G702221) This site runs from the herb-rich bank of the Unshin River up hill to a typical pasture field. The entire field has been included in the Unshin River pCSAC and so the part of the field within the constraints study area was surveyed in some detail at the end of July 2000. This is bounded by the high voltage electricity supply line which runs parallel to the river and only the upper part (up hill of the electricity line) of the pasture was examined. It was concluded that there are no species here that are uncommon or rare and that the vegetation is typical of many of the less intensively managed fields of the region. A spring arises in the north-eastern corner of the site that feeds through an overgrown ditch directly into the Unshin River. This marshy area holds some ecological interest and should be protected if

This area is considered Less Important' as an ecological site for this constraints study. It is reasonable to suggest that the pCSAC could have its boundaries redrawn to exclude the part of the field within the constraints study area for the N4 road.

4.5 Boathole Lough & Lough Corran, Drumfin (G6920) Most of this site is outside of the constraints study area. The part of the site that bulges into the potential area for route selection is a lake and so it is unlikely that this will be filled for road building. If the lake is avoided then the bog to the south of the lake will also be safe from development and no ecological damage will ensue. A full floral survey was not carried out as the most interesting part of the site was outside of the constraints study area. A diverse bird fauna was noted which included whinchat (Saxicola rubetra). sedge warbler (Acrocephalus schoenobaerus), whitethroat (Sylvia communis) and redpoll (Acanthis flammea). It is anticipated that these lakes will be good sites for overwintering wildfowl.

The land falling within the constraints study area is considered as Less Important' as an ecological site but the lakes, the bog and reed beds outside of the constraints study area should be examined by Duchas for consideration as an NHA.

A meandering stream with several feeder channels passes through this area. 4.6 Kingsbrook and Kilmorgan (G7117) Some parts of the stream are flanked by marshes and there is generally a good riparian zone. There are also patches of herb-rich limestone grassland. It is not possible to simply draw a line around this area and define a particular habitat type as the interest is very general. The location would not qualify as a Natural Heritage Area, but it is worthwhile flagging the area as of a higher than average biodiversity with some interesting species such as a good population of early purple orchid (Orchis mascula), mossy saxifrage (Saxifraga hypnoides) and shining crane's-bill (Geranium lucidum) on rock outcrops and birds such as grey wagtail (Motacilla cinerea) and sedge warbler near the river banks. It was observed that water in streams and ditches was crystal clear but filamentous algae were common and the stream beds are very silted. If the new road is routed through this area then a degree of sensitivity to the wildlife value of the location could be achieved with a small amount of specific ecological advice.

This area is considered Less Important' as an ecological site for the purpose of this constraints study.

This site is not shown on the 1:50,000 map but does appear on the old 25 inch sheet. The lake has now almost become overgrown with marsh vegetation which has formed a quaking bog or scraw which is very dangerous to traverse. The area is also crossed by several wide and deep herb-rich ditches that are an attempt to drain the marshy fields. No full species list was prepared for this small site but it was considered as being of ecological value and is almost an extension of the "Ardloy Loughs and Aghalenane Lough" site that is described in the next section. This site falls in the 'shaddow' of nearby Aghalenane Lough and so will not be affected if the larger lough is avoided during road planning.

This area is considered 'Important' as an ecological site and should be examined by Duchas for consideration as an NHA in conjunction with the next site.

4.8 Ardloy Loughs and Aghalenane Lough (G7317)

This site is a chain of two tiny lakes each of less than 0.5 ha. followed downstream by Aghalenane Lough which is slightly larger at about 1.5 ha. All three lakes are surrounded by reeds (Phragmites australis) with some bulrush (Schoenoplectus lacustris) and a selection of willow bushes (Sqlix spp.). Meadows adjacent to the lakes are marshy and have a diverse flora with sedges (Carex spp.) often as dominant members of the community. In most places the flora indicates that the meadows are neutral to slightly acidic, but there are some fenny places that are more lime-rich, and below (to the north of) Aghalenane Lough there is a bog with heather (Calluna vulgaris) and other acid-loving plants. There is thus a good diversity of habitats and species within this site and it includes several species that are uncommon in County Sligo including greater spearwort (Ranunculus lingua), great fen sedge (Cladium mariscus), lesser tussock sedge (Carex diandra) and both species of butterfly orchid (Platanthera chlorantha and P. bifolia).

This area is considered 'Important' as an ecological site and should be examined by Duchas for consideration as an NHA in conjunction with the previous site called Cuilleencroobagh Lough.

During the site visit it was noted that the water of the two Ardloy Loughs was organically polluted because it was of a black colour, had a very bad smell, and was clearly anaerobic. It was also noted that weedkiller had been applied along the shore of the lough next to the main N4 road and that a large pile of grass cuttings were left rotting right at the water's edge.

4.9 Swallow Hole near Riverstown (G739174) This small pond and reed bed has been studied by Sligo Branch of BirdWatch Ireland for several winters because it occasionally holds whooper swans (Cygnus cygnus) and a variety of other waterfowl. Habitat used by the whooper swan is specifically protected by the EU Bird's Directive. A botanical survey in July 2000 found a good diversity of marsh and reed bed flora including marsh yellow-cress (Rorippa palustris), lesser marshwort (Apium innundatum), cowbane (Cicuta virosa), large amounts of blue waterspeedwell (Veronica anagalis-aquatica) and nodding bur-marigold (Bidens cerrua). All of these plants are uncommon in County Sligo and are more commonly encountered further south in the Shannon catchment of south County Leitrim. Five species of dragonfly were also noted on the same date and it is believed that more would be recorded if the lake were visited at other seasons.

It is felt that this small site is ecologically valuable for its diversity across different plant and animal groups, so if possible should be protected. It may be worthy of NHA status and is to be regarded as a 'Very Important' site for the purpose of this constraints study.

Loughmeenaghan is the largest lake within the constraints study area and is surrounded by habitats including reed beds, fen, marshes and alder-willow carr. Substantial amounts of charophytes (stoneworts) grow in the waters and this lake may qualify as a "Hard oligo-mesotrophic water with benthic vegetation of Chara formations' which is a habitat listed for conservation under the EU Habitats Directive (Natura 2000 code 3140). If this is the case then it has to be designated as a Special Area of Conservation (SAC). In addition to this there is a pondweed that may be Potamogeton x fluitans which would be a first Irish record for this hybrid, and around the lake edge there are several beds of great fen sedge (Cladium mariscus).

Most of the current field work concentrated on the strip of fen and grassland that lies between the current N4 and the lake shore. Several uncommon plants were found here including five species of orchid i.e. frog orchid (Coeloglossum viride), early marsh orchid (Dactylorhiza incarnata), fragrant orchid (Gymnadaenia conopsea), twayblade (Listera ovata) and common spotted orchid (Dactylorhiza fuchsti). This is a special piece of habitat, and as it runs right next to the current N4 road it means that if this fen habitat is the survive then it would preclude the N4 being widenned at this point.

The lake was visited on several occasions from late May to late July resulting in nine species of dragonfly being observed which is more than one-third of all Irish species and included the uncommon hairy dragonfly (Brachytron pratense). Whooper swan (Cygnus cygnus) has been seen here in the winter and sedge warbler (Acrocephalus schoenobaenus) and reed bunting (Emberiza schoeniclus) are amongst the breeding species.

This area is considered 'Very Important' as an ecological site and should be a high priority for consideration as an NHA by Duchas. It is surprising that this is not already an NHA but in the report by Goodwillie et al. (1992) which was the basis for NHA's in this area, little attention was paid to Loughmeenaghan by the botanists eventhough the ornithologist made observations from this location. The site would deserve further study and the alder-willow carr habitat on the opposite side of the lake should then be looked at in some detail.

4.11 Drumderry near Castlebaldwin (G749155) A small boggy area at this location holds similar species to other sites already described (e.g. Lackagh Fen and Cuilleencroobagh Lough) but doesn't have the diversity of these other habitats or the physical size. Grasshopper warbler (Locustella neavia) which is an amber listed bird species, breeds here (Newton et al. in press). It is an ecological site but is only rated as being 'Less Important' for this constraints study.

4.12 Cleavry Bog, Lough and hedgerow (G7414)

Three distinctly different pieces of habitat are all found together at this location, namely a piece of bog, a lake with reed beds and fen, and a mature hedgerow. They are treated as one site for this report as the are more or less contiguous.

The small bog is not of great ecological interest but adds diversity to the site. It is divided into two parts separated by a shallow ditch. The northern end is acid grassland with peat cuttings. It has some very wet patches with Sphagnum mosses and herbs such as bog asphodel (Nartectum ossifragum) and round-leaved sundew (Drosera rotundifolia). There are also higher drier areas with gorse bushes (Ulex europaeus). There is almost no heather but there are bog plants such as heath rush (Juncus squarrosus) and hare's-tail cottongrass (Eriophorum vaginatum). The southern end of this bog is dominated by heather (Calluna vulgaris) which is quite deep in places. There is a good bit of Sphagnum and other mosses forming a spongy mat and some Cladonia lichens as well as deergrass (Trichophorum cespitosum), hare's-tail cottongrass (E. vaginatum) and cross-leaved heath (Erica tetralix). Around the edges more soft rush (Juneus effusus), brambles (Rubus fruticosus agg.) and gorse (U. europaeus).

The lake and associated reed bed and fen are very interesting with two rare insects breeding here viz. the Irish damselfly (Coenagrion lunulatum) and the marsh fritillary butterfly (Euphydryas aurinia) which would be red data book species if Ireland had a red data book for insects. The flora of the lake is also of interest with cowbane (Cicuta virosa), many-stalked spike rush (Eleocharis multicaulis) and lesser pond-sedge (Carex acutiformis), all rare in Sligo but quite common here. A good diversity of water birds has been recorded here over the years with 28 pochard (Aythya ferina) on one occasion.

A shady mature hedgerow with a diverse and abundant fern flora acts as a buffer zone to the lake. This hedge includes no rare species but does have several large trees and a selection of herbs that suggest the hedge is of a great age. On the negative side two introduced species; snowberry (Symphoricarpos albus) and garden hedge honeysuckle (Lonicera nitida); are invading this hedgerow.

This is a Very Important' ecological site that has not previously been officially recognised by Duchas. The marsh below the lough was recently damaged by agricultural activity (May 2000) with more than half of it being lost and at the same time a large area of limestone grassland was ploughed up. The area needs to be considered for NHA status as a matter of priority.

4.13 Cloghoge near Castlebaldwin (Bricklieve Mountains pCSAC)

This area would not have been included in this discussion of ecological sites had it not been designated as a part of the Bricklieve Mountains pCSAC, The part of the pCSAC that falls within the constraints study area are marshy pasture fields that flood in the winter time. The simple flora of this area is clearly adapted to flooding with silverweed (Potentilla anserina) and amphibious bistort (Persicaria amphibia) completely dominating the area. Two uncommon species for Sligo were also observed, namely marsh yellowcress (Rorippa palustris) and common water-crowfoot (Ranunculus aquatilis). This area could be classified as a turlough which is a habitat type listed in the EU Habitats Directive (Turloughs (Ireland) Natura 2000 code 3180). A local resident informed me that few waterfowl come to the area in the winter and there is no shooting of duck there.

The land immediately to the south-west of the turlough is steep with an interesting area of hazel scrub, limestone outcrops and limestone grassland. These are all habitats that make the Bricklieve Mountains a valuable Special Area of Conservation. It would seem impossible for this area to be considered suitable for road construction and it appears to lie just outside of the constraints study area.

This area is considered 'Important' as an ecological site because it is a turlough, but having said that, there is a low botanical diversity and no special invertebrates or birds were noted on my visit in July 2000. If the area is needed for road construction then Duchas should be requested to reassess the location with a view to re-drawing the pCSAC boundaries.

4.14 Summary of findings

Twelve ecological sites have been identified within the constraints study area. Three of the sites are a part of 'proposed Candidate Special Areas of Conservation' but all three of these locations are on the fringes of their pCSAC's and a strong case could be made to Duchas to redraw the boundaries of two and possibly all three of the sites to allow road construction to proceed if the need were to arise.

Of the nine new sites described in this report, three are considered to be 'Very Important' ecological sites that should be avoided when planning the new route. Duchas should consider these locations for designation as new Natural Heritage Areas. A further four sites are considered as 'Important' and these might also be worthy of NHA status (one is already a part of a pCSAC). The remaining five sites are classified as 'Less Important' and included here are two of the pCSAC areas that really have no habitats or species of interest. The other three are identified as having ecological value and should be avoided if at all possible, but the main constraint might be to request that the road design goes some way to lessen the impact if the site can not be avoided.

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Appendices

Ecological data relevant to sites visited during this study for the area between Cloonamahon and Castlebaldwin.

Sites are presented in the following sequence:-

Lisconny Bridge near Collooney (Unshin River pCSAC) (G695229)

Lackagh Fen near Drumfin (G6922)

Unshin River bank at Lackagh (Unshin River pCSAC) (G702221)

Boathole Lough & Lough Corran, Drumfin (G6920)

Kingsbrook and Kilmorgan (G7117)

Cuilleencroobagh Lough (G727176)

Ardloy Loughs and Aghalenane Lough (G7317)

Swallow Hole near Riverstown (G739174)

Loughmeenaghan (G743162)

Drumderry near Castlebaldwin (G749155)

Cleavry Bog, Lough and hedgerow (G7414)

Cloghoge near Castlebaldwin (Bricklieve Mountains pCSAC) (G756136)

Lisconny Bridge near Collooney Sligo G 695 229

| SCIENTIFIC NAME | COMMON NAME | No. NOTES | | OBSERVERISI | DATE |
|---|--------------------------------------|-------------------------|--|--------------------------|--------------|
| Phytitis scolopenarium | Harfs-longue fem | Uncommon. | | Don Cation | 17/07/2000 / |
| Asplenium trichomenes | Majdenhair spleenwort | Frequention walk. | | Don Cotton | 17/07/2000 |
| Asplenium ruta-mururia | Wall-rue | Frequent on wall. | | Don Catton - | 17/07/2000 |
| Ceterach officinarum | Pustyback | Frequention wall. | | Don Cotton | 17/07/2000 |
| Oryopianis attinis | Sooly male-form | Occasional. | | Don Cotton | 17/07/2000 |
| Ranunculus acris | Mesdow butteroup | Frequent. | | Don Cotton | 17/07/2000 |
| Ranunculus repens | Creeping butteroup | Frequent. | | Don Cotton | 17/07/2000 |
| Urtica diolos | Common nettle | Occasional. | | Dan Cattan | 17/07/2000 |
| Stellarle graminos | Lesser stitchwort | Occasional. | | Don Cotton | 17/07/2000 |
| Cerasifum fontanum | Common mouse-est | Frequent. | | Don Cotton | 17/07/2000 |
| Sagina procumbens | Procumbers peartwort | Uncommon. | | Don Cotton | 17/07/2000 |
| Rumen acetoss | Common sorrel | Occasional. | | Don Catton | 17/07/2000 |
| Rumex ofspus | Carled dook | Occasional. | | Don Cotton | 17/07/2000 |
| Rumex conglomeratus | Clustered dock | Frequent. | | Don Cotton | 17/07/2000 |
| Filipendula ulmaria. | Meadowswest | Common. | | Don Cotton | 17/07/2000 |
| Rubus fruticosus sign. | Common bramble | Common. | | Don Cotton Don Cotton | 17/07/2000 |
| Potentilla anserina | Silverweed | Frequent. | | Don Cotton | 17/07/2000 |
| Geum rivale | Weter evens | Occasional. | | Don Cotton | 17/07/2000 |
| Crataegus monogyns | Hawthorn | Common. | | Don Cotton | 17/07/2000 |
| Vicia sepium | Bush vetch | Frequent. | | Don Cotton | 17/07/2000 |
| Lathyrus pretensis | Missiow vetching | Frequent | | Don Cotton | 17/07/2000 |
| Tritolium repens | White dover | Frequent. | | Don Cotton | 17/07/2000 |
| Tritolium pratense | Red clover | Occasional. | | Don Cotton | 17/07/2000 |
| Epitobium montanum | Broad-leaved willownerb | Occasional. | | Don Cotton | 17/07/2000 |
| Epilobium obsourum | Short-Inuited willowherb | Uncommon. | | Don Cotton | 17/07/2000 |
| Acer pseudoplatanus | Sycamore | Uncommon. Occasional | | Don Cutton | 17/07/2000 |
| Geranium robertianum | Herb-Robert | | | Don Cotton | 17/07/2000 |
| Anthriscus sylvestris | Cow panday | Frequent. Occasional | | Don Cotton | 17/07/2000 |
| Heradeum sphandyllum | Common hogweed | Occasional | | Don Cotton | 17/07/2000 |
| Todis japonica | Upright hedge-parsley Setheal | Occasional. | | Don Cotton | 17/07/2000 |
| Prunella vulgaria | Ribwort plantain | Frequent. | | Don Cotton | 17/07/2000 |
| Plantago landeolata | Ash day | Uncommon. | | Don Cotton | 17/07/2000 |
| Fraxinus excelsion Veronica chamaedrys | Germander speedwell | Uncommon. | | Don Cotton | 17/07/2000 |
| Euchresia acc. | ayabright sp. | Frequent | | Don Cotton | 17/07/2000 |
| Odontites vernus | Red bartsia | Occasional. | | Don Cotton | 17/07/2000 |
| Galum verum | Lady's bedstraw | Frequent. | | Don Cotton | 17/07/2000 |
| Gallum aparine | Cleavers | Occasional. | | Don Cotton | 17/07/2000 |
| Cirsium paiusim | Marsh thiste | Frequent. | | Don Cotton | 17/07/2000 |
| Circium prvense | Cresping thistle | Common. | | Don Cotton | 17/07/2000 |
| Centaures niors | Common knapweed | Frequent | | Don Cotton | 17/07/2000 |
| Leosans communis | Nipplewort | Frequent. | | Don Cotton | 17/07/2000 |
| Sonchus asper | Prickly sow-thiste | Occasional | | Don Cotton | 17/07/2000 |
| Orepis capitaris | Smooth hawk's-beard | Frequent. | | Don Cotton | 17/07/2000 |
| Sellis perrenis | Daisy | Occasional. | | Don Catton | 17/07/2000 |
| Leucanthemum vulgare | Oxeye dalay | Occasional. | | Don Cotton | 17/07/2000 |
| Senecio jacobasa | Common ragword | Frequent, | | Don Cotton | 17/07/2000 |
| Sensoio aquaticus | Marsh ragwort. | Frequent. | | Don Cotton | 17/07/2000 |
| Juneus articulatus | Jointed rush | Fraquers. | | Don Cotton | 17/07/2000 |
| Juncus acutiforus | Sharp-flowered rush | Occasional. | | Don Cotton | 17/07/2000 |
| Juncus infleres | Hard rush | Occasional. | | Don Cotton | 17/07/2000 |
| Juncus effusus | Soft rush | Common. | | Don Cotton | 17/07/2000 |
| Carex ovals | Oval sedge | Frequent, | | Don Cotton | 17/07/2000 |
| Carex fiscoa | Staycous serige | Frequent. | | Don Catton | 17/07/2000 |
| Lollum perenna | Perennial tye-grass | Common. | | Don Cotton Don Cotton | 17/07/2000 |
| Cynosurus cristatus | Crested dog's-tail | Frequent. | | Don Cotton | |
| Anthenatherum elatus | False osl-grass | Common. | | Don Cotton | 17/07/2000 |
| Holous lanatus | Yarkshire-log | Common. | | Don Cotton | 17/07/2000 |
| Anthoxanthum odoratum | Sweet wemsi-grass | Common. | | Don Cation | 17/07/2000 |
| Agrostis capitaris | Common bent | Common. | | Don Catton | 17/07/2000 |
| Alopeourus geniculatus | Marsh foxfall | Frequent. | | Don Cotton | 17/07/2000 |
| Phleum pratense | Timothy | Frequent. | | Don Cotton | 17/07/2000 |
| ins pseudacorus | Yellowitis | Common. Occasional | | Don Cotton | 17/07/2000 |
| Declyloritiss tuches | Common spotted brokid | Commons | | Don Cation | 17/07/2000 |
| Succines paris | | 1 | | Dan Cation | 17/07/2000 |
| Helix aspersa. | | 1 | | Don Catton | 17/07/2003 |
| Calopteryx splenders | Comment seaso. | -5 | | Don Cotton | 17/07/2000 |
| Ornocestus wilcolus | Common press Green-verseo virsite | 4 | | Don Cotton | 17/07/2000 |
| Pierts 1180 | TOTAL MANUEL STATE | | | | |

Lisconny Bridge near Collocney Sligo G 695 229

| SCIENTIFIC NAME | COMMON NAME | No. | MOTES |
|----------------------|---------------|-----|---------------|
| Maniota jurtina | Meadow brown | 2 | |
| Aphantopus hyperamus | Ringlet | 25 | |
| Tyria jacobsese | Chinabar moth | | Caterpitians. |
| Phasianus colchicus | Pheasant | 1 | Heard. |
| Anthus prationsis | Meadow pipit | 1 | Haged. |
| Sassicola torquata | Stonechat | | Family, |
| Carduells carduells | Goldfinch | | Heard. |
| Sorex minutus | Pygmy shraw | | Hears. |

| OBSERVERIST | DATE |
|-------------|------------|
| Don Cobon | 17/07/200 |
| Don Cotton | 17/07/200 |
| Don Catton | 17/07/200 |
| Den Cotton | 17/07/2000 |
| Don Cation | 17/07/2000 |
| Don Cotton | 17/07/2000 |
| Dan Cotton | 17/07/2000 |
| Don Cotton | 17/07/2000 |
| | |

Lackagh fen near Drumfin Sligo G 699218

| | SCIENTIFIC NAME | COMMON NAME | Mg. NOTES | OBSERVERISI | DATE |
|------|--|-----------------------------------|--|------------------------|----------------------|
| | Equisetum fluvlatile | Water horsetall | Frequent. | Don Cotton | 20/06/2000 |
| | Equisetum palustre | Marsh horsetail | Frequent. | Don Cotton | 20/06/2000 |
| | Dryopter's dilates | Broad buckler-term | Uncommon. | Don Cotton | 26/06/2000 |
| | Caltha patestris Renuncidus acris | Marsh marigoid | Frequent. | Don Cotton | 20/06/2000 |
| | Ranunciaus fammus | Meadow butteroup Lesser apparwort | Frequent. | Don Cotton | 20/06/2000 |
| | Stellaris uliginosa (=alsine) | Bog stildhwort | Frequent. | Don Cotton | 20/06/2000 |
| | Stataria graminea | Lesser stitchwort | Occasional. | Don Cotton | 20/06/2000 |
| | Cerestium fontarum | Common mouse-eer | Occasional. | . Don Cotton | 20/06/2000 |
| | Lychnis fios-cuculi | Ragged-robin | Common | Don Cotton | 20/06/2000 |
| | Rumex acetosa | Common sorrel | Fraguent. | Don Cotion | 20/06/2000 |
| | Salix purpures | Purple willow | Occasional along margin of bog with main road. | Don Cotton | 20/06/2000 |
| | Salix viminalis | Osier | Occasional along margin of bog with main road. | Don Cotton | 26/06/2000 |
| | Saltx cinerea oleitolia | Rusty willow | Occasional. | Don Cotton | 26/06/2000 |
| | Salbx aurita | Eared willow | Uncommon. | Don Cotton | 20/06/2000 |
| | Rorippe miorophylta | Namow-fruited | Locally common. | Don Cotton | 20/06/2000 |
| | Cardamine pratensis | Lady's-smook | Frequent. | Don Cotton | 20/06/2000 |
| | Callune vulgaris | Ling (plant) | Local and uncommon. | Oon Cotton | 25/06/2000 |
| | Pilipendu/s ulmaria | Meadowsweet | Common. | Don Cutton | 20/06/2000 |
| | Potentilla palustris | Marsh dinqualoli | Occasional. | Don Cotton | 26/06/2000 4 |
| | Potentilla anserina | Silverweed | Frequent. | Don Cotion | 20/06/2000 |
| | Potentita erecta | Tormentil | Frequent. | Don Cotion | 20/06/2000 |
| | Grum rivate | Water evens | Uncommon. | Don Catton | 20/06/2000 |
| | Crataegus monogyna | Hawthorn | Uncommon. | Don Cotton | 20/06/2000 |
| | Vicia cracca | Turbed vetch | Frequent | Don Cotton | 20/06/2000 |
| | Vicia sepium | Bush vetch | Uncommon. | Don Cotion | 20/06/2000 |
| | Lathyrus praterists | Meadow vetching | Frequent | Don Cotton | 26/06/2000 |
| | Trifolium repens | White dover | Frequent. | Don Cotton | 20/06/2000 . |
| | Tritollum pratense Hydrocotyle vulgaris | Red dover | Frequent. | Don Cotton | 20/06/2000 |
| | Angelice sylvestris | Marsh pennywork | Common | Don Cotton | 20/06/2000 |
| | Myosotis lava | Wild sngelica | Common. | Don Cotton | 20/06/2000 |
| | Aluga reptans | Tuffed forget-me-nor Bugle | Occasional. | Don Cotton | 20/06/2000 |
| | Mentha aqualica | Water mire | Uncommon. | Don Cotton | 26/05/2000 |
| | Hippurus vulgaris | Mare's-tail | Frequent. Occasional. | Don Cotion | 20/06/2000 |
| | Plantago lanceolata | Filtworl plantain | Frequent. | Don Cotton | 20/06/2000 |
| | Friodnus excelsion | Ash | | Dan Cotton | 20/06/2000 |
| | Veronica diamaedrys | Germander speedwell | Locally stong road verges. Uncommon | Don Cotton | 26/06/2000 |
| | Veronics sculetats | Marsh speedwall | Uncommon. | Don Cotton | 20/06/2000 |
| | Veronica becastungs | Brooklime | Occasional. | Don Cotton | 20/06/2000 |
| | Rhinanthus minor | Yelow-rattle | Occasional. | Don Cotton | 26/06/2000 |
| | Pedicularis palustris | Marsh lousewort | Occasional. | Don Cotton | 20/05/2000 |
| | Gallum palustre | Common marsh-bedstow | Frequent. | Don Cotton Don Cotton | 20/06/2000 |
| | Sambucus nigra | Bider | Decasional along margin of bog with main road. | | 20/06/2000 |
| | Valeriana officinalis | Common visierian | Occasional. | Don Cotton Don Cotton | 26/06/2000 |
| | Cirsium dissectum | Mendow thickle | Locally frequent, | Don Cotton | 20/06/2000 |
| | Cirsium palustre | Marsh thistle | Frequent. | Don Cotton | 20/06/2000 |
| | Hypochoen's radicate | Cafa-ear | Uncommon. | Dan Cotton | 20/06/2000 |
| | Triglochin palustria | Marsh arrowgness | Frequere. | Don Cotton | 20/06/2000 |
| | Lemma minor | Common duckweed | in main trainage drich. | Don Cotton | 26/06/2000 |
| | Lemna trisulca | hy-leaved duckweed | In main drainage drich. | Don Cotton | 26/06/2000 |
| | Juncus infigus | Hard rush | Uncommon. | Don Cotton | 20/06/2000 |
| | Juncus etiusus | Soft rush | Frequent. | Don Catton | 20/06/2000 |
| | Autous conglomerature | Compact rush | Common. | Don Cotton | 20/06/2000 |
| - 0 | uzula multifora | Heath wood-rush | Occasional. Subspecies congresso also found. | Don Cotton | 20/06/2000 |
| | Rophorum angustitolium | Common cottongrass | Occasional. | Don Catton | 20/05/2000 |
| | Jeocharis palustris | Common spilite-rush | Locally abundant. | Don Catton | 26/06/2000 |
| | Schoenopiecus lacustris | Common dub-rush | One small patch noted right in middle of bog | Don Cotton | 26/06/2000 |
| | Serex peniculate Sarex diandra | Greater tussock-sedge | Uncommon along main drainage ditch. | Don Cotton | 26/06/2000 |
| 17.3 | arex danda. Arex datida | Lesser tussock-sedge | Locally abundans | Don Cotton | 20/06/2000 |
| | Alfex organis Alfex echinata | Stown sedge | Frequent | Dan Caton | 20/06/2000 |
| - | Asrex ochinata Asrex rosinata | Star sedge | Frequent, | Don Cotton | 20/06/2000 |
| | Anen rogram Anen fisona | Sottle sedge | Common. | Don Cotton | 20/06/2000 |
| | Parent paniona | Glascous sector | Frequent. | Son Caton | 20/06/2000 |
| | arex whicula brachymhynchia | Camation sedge | Frequent. | Don Cotton | 20/06/2000 |
| | arex should trachylmynone | Long-staked | Occasional. | Don Cotton | 50/06/2000 |
| | arex aga arex pulsase | Common sedge Filez sedge | Common. | Dom Cotton | 20/06/2000 |
| | Section of the Contract of the | The straight | Obsesione: | Dan Catton | The land of the land |
| | noture owns. | Sheep's-rescue | Entropy and | DUN GORDIN | 20/05/2000 |

Lackagh fen near Drumfin Sligo G 699218

| SCIENTIFIC NAME | COMMON NAME | No. | NOIES | OBSERVERIS1 | DATE |
|----------------------------------|-------------------------|-----|---|-------------|------------|
| Cynosurus cristatus | Crasted dog's-tait | | Uncommon. | Don Cotton | 20/06/200 |
| Dacrylis giomerata | Cock's-foot grass | | Occasional. | Dion Cotton | 20/06/200 |
| Glycerte fluitane | Floating sweet-grass | | Locally along main drainage dilch. | Don Cotton | 26/06/200 |
| Helictatrichon pubescens | Downy bat-grass | | Locally common. | Don Cotton | 20/06/2000 |
| Halaus lanetus | Yorkshire-rog | | Common. | Don Cotton | 20/06/200/ |
| Anthoxanthum odoratum | Sweet vernal-grass | | Abundant, | Don Cotton | 20/06/2000 |
| Typha latitolia | Reed-mace | | Locally frequent. | Don Cotton | 20/06/2000 |
| Iris pseudacorus | Yellow kis | | Locally frequent. | Don Cotton | 20/06/2000 |
| Platanthera trifolia | Lesser butterfly-orchid | 1 | Near middle of bog. | Don Cotton | 26/06/2000 |
| Dactylorhiza fuchsli | Common spatted orchid | | Occasional. | Don Cotion | 20/06/2006 |
| Dactylorhica incerneta incerneta | Early marsh-orchid | c20 | Occasional. | Don Cotton | 20/06/2000 |
| Physic fontinalis | | | Frequent. | Don Cotton | 26/06/2000 |
| Pyrrhosoma nymphola | | | CONTRACTOR OF THE PROPERTY OF | Don Cotton | 26/06/2000 |
| lischnura elegans | | C20 | | Don Cotton | 26/06/2000 |
| Catadysta lemnata | Small china-mark | | Marry. | Don Cotton | 25/05/2000 |
| Maniola jurtina | Mesdow brown | τ | First of 2000. | Don Cotton | 20/05/2000 |
| Mariola jurtina | Meadow brown | | | Don Cotton | 26/05/2000 |
| Coencrymphs parophius | Small heath | c19 | | Don Cotton | 20/06/2000 |
| Coenonympha pamphilus | Small heath | 1 | | Don Cotton | 26/06/2000 |
| Philudoria potatoria | The drinker | 1 | Adult. | Don Cotton | 26/06/2000 |
| Tyria jacotinese | Cinnabar moth | 1 | | Don Cotton | 25/05/2000 |
| Autographa gamma | Silver Y | 2 | | Don Cotton | 20/05/2000 |
| Autographis gamina | Stivec Y | 1 | | Don Cotton | 26/05/2000 |
| Hhyngia campeshis | | 05 | | Don Cotton | 20/06/2000 |
| Bombus pascuonim | | | | Don Cotton | 26/06/2000 |
| Rans temporaria | Common trog | c13 | | Don Cotton | 20/06/2000 |
| Rana temporaria | Common freg | | Abundant. | Don Cotton | 25/06/2000 |
| Gallinago gallinago | Snipa | 1 | | Don Cotton | 26/06/2000 |
| Hirundo rustos. | Swatow | 2 | Flying over area. | Don Cotton | 20/06/2000 |
| Anthus pratensis | Maadow pipit | | At least two displaying. | Don Cetton | 20/06/2000 |
| Anthus gratensis | Meadow pipit | c3 | or necessary statement of the company of the | Don Cotton | 26/06/2000 |
| Erithacus rubeculs | Robin | 1 | | Don Cotton | 26/06/2000 |
| Saxicola torquata | Stonechat | 3 | Juveniles. | Don Cotton | 20/06/2000 |
| Saxicola torquata | Stonechat | 200 | Male and formate. | Don Cotton | 26/06/2000 |
| Acrocephalus schoenobaenus | Sedge warbler | | Singing in hedgerow. | Don Cotton | 20/06/2000 |
| Carduells chloris | Greentinch | | Singing in hedgerow. | Don Cotton | 20/06/2000 |
| Carduells cannabina | Linnet | 1 | | Don Cotton | 26/06/2000 |
| Acanthis flammea | Redpoli | 1 | Flying over area calling. | Don Cotton | 20/06/2000 |
| Acanthis fignmes | Redpoli | | Flying overhead | Don Cotton | 26/06/2000 |
| Emberira schoeridus | Reed bunting | | At least two makes singing. | Don Coton | 20/06/2000 |
| Emberize schoenidus | Reed bunting | 2 | | Don Cotton | 26/06/2000 |

Unshin River bank at Lackagh Sligo G 702221

| SCIENTIFIC NAME | COMMON NAME | No. | NOTES |
|--|-----------------------|-----|--|
| Equippoum Suviable | Water horsetall | | Occasional |
| Equisetum paixstre | Marsh horsetall | | Frequent. |
| Cartha palustris | Marsh marigold | | Uncommon. |
| Ranunculus acris | Meadow butteroup | | Occasional. |
| Ranunculus flammula | Lesser spearwort | | Occasional. |
| Urties diolos | Common nattle | | Occasional, |
| Sheliaria graminea | Lesser stitchwort | | Occasional. |
| Cerastium fontanum | Common mouse-ear | | Occasional. |
| Rumex acetosa. | Contimon somei | | Decasional. |
| Rumex crispus | Curied dock: | | Occasional. |
| Rumex obtustalius | Broad-leaved dock | | Decesional. |
| Sally alba var. alba | Wolfe willow | | One tree. |
| Stalix purpures | Purple willow | | Occasional. |
| Saltx aurka | Eared willow | | Uncommon. |
| Rorippa resturtium-equatioum | Common water-cress | | Uncommon. |
| Cardamine pratensis | Lady's-smock | | Occasional. |
| Primula vulgaris | Primitinge | | Uncommon. |
| Samplus valerandi | Brodoweed | | Uncommon. |
| Filipendula uknaria | Meadownwood | | Frequent. |
| Rubus truticosus agg. | Common bramble | | Decasional. |
| Potentilla paketris | Marsh cinquetoli | | Occasional. |
| Potentilia erecta | Tomenti | | Uncommon. |
| - The state of the | Hawthorn | | Occasional. |
| Cratangus monogyna | Bird's-fact trafeli | | Uncommon. |
| Lotus comiculatus | | | |
| Viole craccs | Tufted vetch | | Occasional. |
| Vicia seplum | Bush veich | | Occasional. |
| Lathyrus pretensis | Meadow vetching | | Uncommon. |
| Tritolium repens | White clover | | Frequent. |
| Trifolium pratense | Red clover | | Occasional. |
| Epiloblum palustre | Marsh willowherb | | Frequent. |
| Linum catharticum | Fairy flax | | Впожнитоп. |
| Geranium robertierum | Herb-Robert | | Uncommon. |
| Hedera heltx | lvy | | Uncommon. |
| Aplum nodiforum | Fool's water-cress | | Uncommon. |
| Angelica sylvestris | Wild angelics | | Uncommon. |
| Myosotis laxa | Tuffed forget-me-not | | Sare. |
| Pruneta vulgaris | Setheal | | Occasional. |
| Plantago lanosolata | Ribwort plantain | | Occasional. |
| Ligustrum vulgare | Wild privat | | Occasional. |
| Scrophularia nodosa | Common figwort | | Uncommon. |
| Vertrice charactrys | Germander speedwell | | Occasional. |
| | Stroldine | | Uncommon. |
| Verbnics beccabungs | | | LONG TO STATE OF THE PARTY OF T |
| Gallum palustre | Common marsh-bedstraw | | Frequent. |
| Valeriana officinalis | Common valerian | | Uncommon. |
| Cirstum palustra | Mursh thistie | | Occasional. |
| Cirsium arvense | Creeping thistie | | Оссазіотаї. |
| Contauree nigra | Common knapweed | | Occasional. |
| Hypochoerts radiosts | Cafs-ear | | Uncommon. |
| Crepis paludoss. | Marsh hawk's-beard | | Occasional. |
| Ballis persois | Daily | | Lincommon. |
| Lemna minor | Common dudisweed | | Occasional. |
| Junicus articulatus | Jointed rush | | Frequent. |
| Juneus acuttionss | Sharp-flowered rush | | Common. |
| Junque Inflexue | Hand rush | | Uncommon. |
| Juneus effesus | Soft rush | | Common. |
| Aunquis conglomeratus | Compact rush | | Unconstron. |
| Carex distida | Brown sedge | | Uncommon. |
| Carex echinete | Star sedge | | Uncommon. |
| Carex faces | Glaucous sedge | | Uncommon. |
| | | | |
| Carax virious cestoarps | Common yellow-sedge | | Uncommon. |
| Carex nigra | Common sedge | | Occasional. |
| Carex pulcaris | Fina sedge | | Uncommon. |
| Lolium perenne | Perennial rye-grass | | Uncommon. |
| Dynosurus ottoalus | Crested dog's-tall | | Oppasional. |
| Dactylis glomersta | Codificion grass | | Docasional. |
| Kooleria maganilia | Crested hair-grass | | Flare. |
| Holous langus | Yorkshire-tog | | Common |
| Anthoxanthum odorerum | Sweet vertei-grass | | Common. |
| Phileum prateise | Tenutry | | Frequent. |
| The state of the s | | | |

| OBSERVERIST | DATE |
|--|------------|
| Don Cotton & Monica | 31/07/2000 |
| Don Cotton & Monica | 31/07/2000 |
| Don Cotton & Monica Don Cotton & Monica | 31/07/2000 |
| Don Cotton & Monica | 31/07/2000 |
| Don Cotton & Monkos | 31/07/2000 |
| Don Cotton & Monice | 31/07/2000 |
| Don Cotton & Monkos | 31/07/2000 |
| Don Cotton & Monics | 31/07/2000 |
| Don Cotton & Monkos | 31/07/2000 |
| Don Cotton & Monica | 31/07/2000 |
| Don Cotton & Monica Don Cotton & Monica | 31/07/2000 |
| Don Cotton & Monica | 31/07/2000 |
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| Don Cotton & Monica | 31/07/2000 |
| Don Cotton & Monica | 31/07/2000 |
| Dan Cotton & Monica | 31/07/2000 |
| Don Cotton & Monics Don Cotton & Monics | 31/07/2000 |
| Don Cotton & Monics | 31/07/2000 |
| Don Cutton & Monica | 31/07/2000 |
| Don Cotton & Monice | 31/07/2000 |
| Don Cotton & Monica | 31/07/2800 |
| Don Cotton & Monica | 31/07/2000 |
| Don Cotton & Monics | 31/07/2900 |
| Don Cotton & Monica | 31/07/2000 |
| Don Cotton & Monica Don Cotton & Monica | 31/07/2000 |
| Don Cotton & Monics | 31/07/2000 |
| Don Cotton & Monice | 31/07/2000 |
| Don Cotton & Monica | 31/07/2000 |
| Don Cotton & Monica | 31/07/2000 |
| Don Cotton & Monica. | 31/07/2000 |
| Don Cotton & Monica | 31/07/2000 |
| Don Cotton & Monica Don Cotton & Monica | 31/07/2000 |
| Don Cotton & Monica | 31/07/2000 |
| Don Cotton & Monics | 31/07/2000 |
| Don Cotton & Monice | 31/07/2000 |
| Don Cotton & Monica | 31/07/2000 |
| Don Cotton & Monice | 31/07/2000 |
| Don Cotton & Monica | 31/07/2000 |
| Don Cotton & Monica | 31/07/2000 |
| Don Cotton & Monica Don Cotton & Monica | 31/07/2000 |
| Don Cotton & Monica | 31/07/2000 |
| Dan Cotton & Monica | 31/07/2000 |
| Don Catton & Monice | 31/07/2000 |
| Don-Cotton & Monica | 31/07/2000 |
| Don Cotton & Monice | 31/07/2000 |
| Don Catton & Monica | 31/07/2000 |
| Don Cotton & Monica | 31/07/2000 |
| Don Cotton & Monica Don Cotton & Monica | 31/07/2000 |
| Don Cotton & Monica | 31/07/2000 |
| Con Cotton & Monice | 31/07/2000 |
| Don Cotton & Monica | 31/07/2000 |
| | 3 |

Unshin River bank at Lackagh Sligo G 702221

| SCIENTIFIC NAME | COMMON NAME | No. | NOTES | OBSERVERIS1 | DATE |
|-----------------------|------------------------|-----|-------------|---------------------|------------|
| Iris pseudacorus | Yellow his | | Consideral. | Don Cotion & Monica | 31/07/2000 |
| Dactylorhiza tuchsil | Common spotted crotiid | | Occasional | Don Cotton & Monica | 31/07/2000 |
| Pieris papi | Green-veined white | c10 | i i | Don Cotton & Montos | 31/07/2000 |
| Maniola jurtina | Meadow brown | 2 | Ř. | Don Cotton & Monics | 31/07/2000 |
| Aphantopus hyperantus | Ringer | 65 | | Don Cotton & Monice | 31/07/2000 |

nr Boathole Lough and Lough Corran, Drumfin Sligo G 698 206

| | | | | DATE |
|-----------------------|---|--|--|--|
| Marsh marigold | | | Don Cotton & Martin Cotton | 06/05/2000 |
| Flound-leaved sunday | | Occasional: | Don Cotton & Madin Cotton | |
| Lady's-smock | | | Don Cotton & Martin Cotton | |
| Water avens | | First of 2000 in flower. Two dumps where stream enters take. | Don Cotton & Martin Cotton | |
| Bogbean | | | Don Cotton & Martin Cotton | |
| Common dudiweed | | Common. | Don Cotion & Martin Cotion | |
| Greater tussock-sedge | | First of 2000 in flower. Two dumps near where stream enters take. | Don Cotion & Martin Cotton | |
| Bottle sedge | | Common. | Don Cotton & Martin Cotton | |
| Common reed | | Common. | Don Cotton & Martin Cotton | Company of the company |
| Fixed-maps | | Occasional. | Don Catton & Martin Cotton | |
| | c10 | Common. | Don Cotton & Martin Cotton | |
| | c20 | | Don Gotton & Martin Cotton | The second second second second second |
| | c10 | | Don Cotton | 29/07/1981 |
| | 3 | | Don Cotton | 29/07/1981 |
| Green-veined white | c20 | | Don Cotton & Martin Cotton | |
| Orange-tip | c8 | | | |
| Orange-fip | 04 | | | |
| Small toriciseshell | 2 | | | |
| Small tortolseshell | 3 | | | |
| Pescock | 5 | | Don Cotton & Martin Cotton | THE RESERVE OF THE RE |
| Peacodk | 5 | | Don Cotton & Martin Cotton | 06/05/2000 |
| Emparor moth | c30 | Mainly flying over bog. | Don Cotton & Martin Cotton | 06/05/2000 |
| | 1 | Queen. | Don Cotton & Martin Cotton | |
| | 1 | Queen, 3 yellow bands with white rear. | | |
| Perch | | Small shoel. | Don Cotton | 29/07/1961 |
| Common freq | 1 | | Don Cotton & Martin Cotton | |
| Great crested grabe | | Total wildlowl count. | | |
| Cormorant | 1 | Total wildlowi count. | | 06/05/2000 |
| Morte sweet | 1 | Total wildlowl count. Male. Swam to Lough Comen. | Part Deciment Value of the last | 08/05/2000 |
| Mute swan | | . [1] [1 [1] 기타 및 기타 및 이 이번 (1) 보다 및 인터를 보고 있다면 보고 있다면 하는데 하는데 되었다면 되었다 | | |
| Mallard | | | | 06/05/2000 |
| Malard | 8 | [2] [2] [2] [2] [2] [2] [3] [3] [3] [4] [2] [2] [4] [4] [4] [4] [4] [4] [4] [4] [4] [4 | | 06/05/2000 |
| Malard | 7 | 그 생생님이 있다면 내용을 위하면 살이 있다. 나는 사람들은 사람들이 되었다. 그 나는 사람들이 없는 사람들이 없는 것이 되었다는 것이 되었다면 하는데 얼마나 없었다. | | 06/05/2000 |
| Pheasant | 1 | | | |
| Moothen | | Total wildlowi count. Heard. | | |
| Coat | 1 | Total wildlowl count. | (그)이를 바다되었다. [PAN STANCE PERSON. | 06/05/2000 |
| Snipe | 1 | Flushed from bog. | | 06/05/2000 |
| Cudiao | | I DESCRIPTION OF THE PARTY. | | |
| Skylank | 2 | Singing. | | |
| Sand martin | | | | |
| Sand martin | | | | |
| Swelow | 2 | | | |
| Meadow pipit | ¢10 | | | |
| Wran | 1 | Singing | | |
| Wran. | 1 | 10.0% | | |
| Whinchat | 2 | First of 2000. Male and female. | | 06/05/2000 |
| Stonechat | | | | |
| | | A STATE OF THE PARTY OF THE PAR | | |
| | 2 | | | |
| | | Singing. Another two at other side of boo in G72. | | |
| | | | | |
| | | | | |
| | 4 | N. S. | | |
| Findpol | 4 | | Don Cotton & Martin Cotton (| |
| | | | THE RESERVE OF THE REST WASHINGTON | and the last last last last last last last last |
| | Pound-leaved sundaw Lady's-smock Water svens Bogbeen Common dudiweed Greater tussock-sedge Bottle sedge Costraon reed Fleed-made Green-veited white Orange-tp Small tontolseshell Pescock Pencock Emparor moth Perch Common frog Great created grade Commonant Mute swan Malland Shipe Cudido Skylank Sand martin Swallow Malland White Stonechat Stonechat Stonechat Stonechat Stonechat Stonechat Stonechat Song thrush Sedge wartier White-drivost Willow wartier Linget | Pitund-leaved sundew Lady's-snock Water svens Bogbesn Common ducliweed Greater tussook-sedge Bottle sedge Costraon need Reed-made Ctio C | Picture Pict | Potent-Newed Bundew Cocteionel. |

Kingsbrook and Kilmorgan near Riverstown Stigo G 718176

| SCIENTIFIC NAME | COMMON NAME | No. NOTES | OBSERVERIST | DATE |
|--|-----------------------------|--|--|----------------|
| Asplenium ruta-muraria | Wall-rue | | Don Cotton & Martin Cotton | 13/05/2000 |
| Nuchar kres | Yellow water-lify | | Don Cotton & Martin Cotton | 13/05/2000 |
| Caltha palustris | Marsh marigold | Common. | Don Cotton & Elaine Cotton | 10/05/2000 |
| Caltha palustris | Marsh marigold | | Don Cotton & Martin Cotton | 13/05/2000 |
| Ranunculus Icaria | Lesser celandine | | Don Cotton & Martin Cotton | 13/05/2000 |
| Urtica dioloa | Common nettle | | Don Cotton & Martin Cotton | 13/05/2000 |
| Stellaria ofiginosa (vaisino | | | Don Cotton & Martin Cotton | 13/05/2000 |
| Viola riviriana | Common dog-violet | | Don Cotton & Martin Cotton | 13/05/2000 |
| Populus tremula | Aspen | | Don Cotton & Martin Cotton | 13/05/2000 |
| Aliaria periolata | Garlic mustard | Small parch along road verge. | Don Cotton & Elsine Cotton | THE MANAGEMENT |
| Arabidopsis thallana | These cress | First of 2000 in flower. Along base of stone wall. | Don Cotton & Elaine Cotton | 10/05/2000 |
| Cardamine praterels | Lady's-smock | 721 73 | Don Cotton & Elaine Cotton | 10/05/2000 |
| Cardamine pratensis | Lady's-smook | Frequent. | Don Catton & Martin Catton | 13/05/2000 |
| Primula vulgaris | Primrose | | Don Cotton & Martin Cotton | 1010010000 |
| Saxtiraga hypnoides | Mosey saulirage | First of 2000 in flower. On rock. | Don Cotton & Baine Cotton | 10/05/2000 |
| Saxifraga hypnoides | Mossy saxfirage | | Don Gotton & Martin Cotton | 13/05/2000 |
| Filipendula ulmana | Meadowsweet | | Don Cotton & Martin Cotton | 13/05/2000 |
| Potentilla palustris | Marsh cirqualoli | | Don Cotton & Martin Cotton | 1010010000 |
| Potentilla anserina | Silverweed | | Don Cotton & Martin Cotton | 13/05/2000 |
| Potentilia erecta | Tormentil | | Don Cotton & Marsin Cotton | 13/05/2000 |
| Geum rivale | Water avens | | Don Cotton & Martin Cotton | 13/05/2000 |
| Crataegus monogyna | Hawthorn | | Don Cotton & Martin Cotton | 13/05/2000 |
| Lotus comiculatus | Bird's-foot trefoli | | Don Cotion & Martin Cotton | - and some |
| Vida sepium | Bush vetch | | Don Cotion & Martin Cotton | 13/05/2000 |
| Trillollum atmoestre | Hop trefoil | | Don Cotton & Martin Cotton | 13/05/2000 |
| Ullex europaeus | Gorse | | Don Cotton & Martin Cotton | |
| Geranum lucidum | Shiring crane's-bit | | Don Cotton & Elaine Cotton | 10/05/2000 |
| Conopodium majus | Pignut | | Don Cotton & Martin Cotton | 13/05/2000 |
| Oenanthe fluviatilis | Pilver water-dropwort | | Don Cotton & Martin Cotton | 13/05/2000 |
| Apium nodžlorum | Fool's water-cress | | Don Cotton & Martin Cotton | 13/05/2000 |
| Symphytum x upisndicum | hybrid comtray | First of 2000 in flower. At cross-roads. | Don Cotton & Elaine Cotton | 10/05/2000 |
| Ajuga reptats | Bugle | Stream bank. | Dön Cotton & Elaine Cotton | 10/05/2000 |
| Aluga reptans | Bugle | | Don Cotton & Martin Cotton | 13/05/2000 |
| Montha spicata | Spear mint. | 1998. NCR. Described as "Unstrin River streams at Klimorgan" | Roger Goodwille, Cabrona | |
| Plantago lanceolata | Ribwort plantain | | Don Cotton & Martin Cotton | 13/05/2000 |
| Veronica chamaedrys | Germander speedwell | | Don Cotton & Martin Cotton | 13/05/2000 |
| Pedicularis sylvatica | Common lousewort | | Don Cotton & Martin Cotton | 13/05/2000 |
| Bellis perenis | Daisy | | Don Cotton & Martin Cotton | 13/05/2000 |
| Achillea milelolium | Yanow | | Don Cotton & Martin Cotton | 19/05/2000 |
| Petasites hybridus | Butterbur | | Don Cotton & Martin Cotton | 13/05/2000 |
| Potamogelon dispus | Curied pandweed | | Don Cotton & Martin Cotton | 13/05/2000 |
| Juneus affusus | Soft rush | | Don Cotton & Martin Cotton | 13/05/2000 |
| Luzuta mutifiora | Heath wood-rush | | Don Cotton & Martin Cotton | 13/05/2000 |
| Eriophorum angustiolium | Common cottongrass | | Don Cotton & Martin Cotton | 13/05/2000 |
| Carex paniculata | Greater tussock-sedge | | Don Cutton & Martin Cotton | 13/05/2000 |
| Carex flacts | Glaucous sedge | | Don Cotton & Martin Cotton | 13/05/2000 |
| Carex parkcea | Camation sedge | | Don Cotton & Martin Cotton | 13/05/2000 |
| Anthoxanthum odoratum | Sweet vernal-grass | | Don Cotton & Martin Cotton | 13/05/2000 |
| Iris pseudacorus | Yollow Iris | Skram bank. | Don Cotton & Elaine Cotton | |
| iris pseudaconus | Yallow iris | | Don Cotton & Martin Cotton | |
| Orchis mascute | Early-purple ordnid | Many plants along bank beside marsh and stream. | Don Cotton & Elaine Cotton | 10/05/2000 |
| Bithynia tentaculate | | | Don Cotton & Martin Cotton | 13/05/2000 |
| Pymhosona nymphuta | | 2 | Don Cotton & Elaine Cotton | 10/05/2000 |
| Pieris napi | Green-veined writte | C30 | Don Cotton & Elaine Cotton | 10/05/2000 |
| Pieris napi | Green-veited white | c18 | Don Cotton & Martin Cotton | 13/05/2000 |
| Anthocharis cardamines | Orange-tip | C10 | Don Cotton & Elaine Cotton | 10/05/2000 |
| Arthocharis cardamines | Orange-sip | | Dan Cotton & Martin Cotton | 13/05/2000 |
| Aglais urticae | Small toriolseshell | 1 | Don Cotton & Elaine Cotton | 10/05/2000 |
| Inachis io | Peacock | 1 | Don Cotton & Elaine Cotton | 0/05/2000 |
| inachis lo | Peacock | 2 | Con Cotton & Martin Cotton | 3/05/2000 |
| Parairge aegeris | Speckles wood | 2 | Don Cotton & Elaine Cotton | 0/05/2000 |
| Pararge aegeria | Specified wood | 3 | Don Cotton & Martin Cotton 1 | 3/05/2000 |
| Altyrigia campestris | | | Don Cotton & Martin Cotton 1 | 3/05/2000 |
| Sambus pasavarum | | | Don Cotton & Elaine Cotton 1 | 0/05/2000 |
| Cocsinella 7-punctura | 7-spts adybird | * | Dion Cotton & Martin Cotton 1 | |
| Salmo butta. | Brown trout | | Don Cation & Martin Cotton 1 | |
| | There embased safetylahood: | | | |
| Gesterosteus sculestus | Three-spined stickleback | | Don Cotton & Martin Cotton 1 | 3/05/2000 |
| Gasterosteus scalestus Pária iencomia | Control Pop | I . | Don Cotton & Martin Cotton 1 Don Cotton & Martin Cotton 1 | |

Kingsbrook and Kilmorgan near Riverstown

Sligo

G 72 16

| SCIENTIFIC NAME | COMMON NAME | No. NOTE | OBSERVER | MISI DATE |
|----------------------------|----------------|------------|-------------------------------------|----------------------------|
| Hirundo rustica | Swallow | 2 | Don Cotton & | Elaine Cotton 10/05/2000 |
| Anthus pratensis | Meadow pipit | 2 | Don Cotton & | Elaine Cotton 10/05/2000 |
| Motacilla cinerea | Grey wegtalf | 1 Male | Don Cotton & | Elaine Cotton 10/05/2000 |
| Acrocephalus schoenobaenus | Sedge wartrier | 2 | Don Cotion & | Elsine Cotton 10/05/2000 , |
| Acrocephalus achoenobaenus | Sedge warbler | 1 Singing. | Dan Cation & | Martin Cotton 13/05/2000 |
| Physicscopus trochtus | Willow worbler | 04 | Don Cotion & | Elaine Cotton 10/05/2000 |
| Phytioscopus trochilus | Willow warbier | 1 Singing. | Don Cotton & | Martin Cotton 13/05/2000 |
| Regulus regulus | Goldarest | 1 Singing. | Don Cotton & | Martin Cotton 13/05/2000 |
| Panus ster | Coal fit | 2 Nesting | sie in well of bridge. Don Cotton & | Martin Cotton 13/05/2000 |
| Carduells carduels | Goldfindh | 1 | Don Cotton & | Elaine Cotton 10/05/2000 |
| Carduelis carduelis | Goldfindh | 3 - | Don Cotton & | Martin Cotton 13/05/2000 |
| Emberiza schoeridus | Reed burning | 2 | Don Cotton & | Elaine Cotton 10/05/2000 |

Cuilleencroobagh Lough near Riverstown Sligo G 727176

| SCIENTIFIC NAME | COMMON NAME | No. | NOTES | OBSERVERIST | DATE |
|------------------------------|-----------------------|-----|-------------|----------------------|------------|
| Equiserum fluviatile | Water horsetall | | Dominant. | Don Cotton & Monica | 31/07/2000 |
| Lychnis fics-cuculi | Ragged-robin | | Occasional. | Don Cotton & Monica | 31/07/2000 |
| Sallix ginerea oleifolia | Rusty willow | | Frequent. | Dion Cotton & Montos | 31/07/2000 |
| Potentilla palustris | Marsh disquelot | | Frequent. | Don Cotton & Monkos | 31/07/2000 |
| Epilobium patretre | Marsh willowherb | | Frequent. | Don Cotton & Monics | 31/07/2000 |
| Angelics sylvestris | Wild angelica | | Frequent. | Don Cotton & Monice | 31/07/2000 |
| Menyanthes tritolista | Bogbean | | Common. | Don Cotion & Monica | 31/07/2000 |
| Menths acustics | Water mint | | Occasional. | Don Cotton & Monica | 31/07/2000 |
| Gallum palustre | Common marsh-bedstaw | | Frequent. | Don Catton & Monica | 31/07/2000 |
| Valeriana officinalis | Common valerian | | Occasional. | Dan Cotton & Manica | 31/07/2000 |
| Carex paniculata | Greater tussock-sedge | | Occasional. | Don Cotton & Monics | 31/07/2000 |
| Cerex disticts | Brown sedge | | Occasional. | Don Cotton & Monice | 31/07/2000 |
| Carex rostrata | Bottle sedge | | Frequent. | Don Cotton & Monica | 31/07/2000 |
| Cerex virious brachyntryncha | Long-stalked | | Uncommon. | Don Cotion & Monica | 31/07/2000 |
| Phragmites australis | Common reed | | Abundant. | Don Cotton & Monica | 31/07/2000 |
| Anas platythyrichos | Mestard | 3 | | Don Cotton & Monice | 31/07/2000 |
| | | | | | |

Ardioy Loughs & Aghalenane Lough Sligo G 73 17

| SCIENTIFIC NAME | COMMON NAME | No. NOTES | | OBSERVER(S) | DATE |
|------------------------------------|--|---------------------------|----|----------------------|------------------------------|
| Equisetum fluviable | Water horsetall | Frequent. | | Don Cotton & Monlas | 10/07/2000 |
| Equisetum arvense | Field horserall | Uncommon | | Don Cotton & Monica | 10/07/2000 |
| Equisetum palustre | Marsh horsetall | Occasional. | | Don Cotton & Monics | 10/07/2000 |
| Nymphaes siba | White water-lify | Uncommon. | | Don Cotton & Monica | 10/07/2000 |
| Nuphar lutes | Yellow water-lify | Occasional | | Don Cotton & Manice | 10/07/2000 |
| Catha palustris | Marsh marigold | Uncommon. | | Dion Cotton & Monica | 10/07/2000 |
| Rasunculus acris | Meadow burleroup | Uncommon. | | Don Cotton & Manica | 10/07/2000 |
| Renunculus repens | Creeping butteroup | Uncommon. | | Den Cotton & Monica | 10/07/2000 |
| Renunculus lingus | Greater spearwort | Occasional. | | Don Cotton & Monics | 10/07/2000 |
| Ranunculus Rammula | Lesser apearwort | Freiguert. | | Don Cotton & Monica | 10/07/2000 |
| Unice dioice | Common nettle | Occasional. | | Don Cotton & Monica | 10/07/2000 |
| Stataria utiginosa («albine) | Bog sillatwort | Donasional. | | Don Cotton & Monica | 10/07/2000 |
| Stellario gramines | Lesser stlichwort | Occasional. | | Don Cotton & Monica | 10/07/2000 |
| Cerastium fornarum | Common mouse-ear | Occasional. | | Don Cotton & Monice | 10/07/2000 |
| Sagina nodosa | Knotted peartwort | Uncommon. | | Don Cotton & Monica | 10/07/2000 |
| Lyotnis fios-cuculi | Ragged-robin | Occasional. | | Don Cotton & Monica | 10/07/2000 |
| Rumex acetosolla | Sheep's somel | Uncommon. | | Don Cotton & Monica | 10/07/2000 |
| Rumex acetoss | Common sorrel | Occasional. | | Don Cotton & Monles | 10/07/2000 |
| Hypericum tetrapterum | Square-stalked | Uncommon. | | Don Cotton & Monice | 10/07/2000 |
| Hypericum pulchrum | Siender St. John's-worl | Occasional | | Don Cotton & Monica | 10/07/2000 |
| Populus tromula | Aspen | Uncommon. | | Don Cotton & Monica | 10/07/2000 |
| Salty viminalis | Osier | Occasional. | | Don Cotton & Monica | 10/07/2000 |
| Sally ceorea x viminates | | 2 Uncommon. | | Don Cotton & Monica | Property of the Party of the |
| Satix cinerea dielfota | Rusty willow | Occasional. | | Don Cotton & Monica | 10/07/2000 |
| Salic aurita | Eared willow | Frequent. | | Don Cotton & Monico | 10/07/2000 |
| Safix repens | Crosping willow | Frequent. | | Don Cotton & Monica | 10/07/2000 |
| Cardamine praterists | Lady's-smock | Occasional. | | Don Cotton & Monica | 10/07/2000 |
| Calluna vulgaris | Ling (plant) | | | | 10/07/2000 |
| Erics tetrals | Cross-lesved heath | Locally common. Uncommon. | | Don Cotton & Monica | 10/07/2000 |
| Filipenduls ulmaris | Moadowsweet | | | Don Cotton & Monics | 10/07/2000 |
| Rubus truticosus agg. | Common bramble | Frequent. | | Don Cotton & Monica | 10/07/2000 |
| Potentilla palustris | | Frequent. | | Don Cotton & Monica | 10/07/2000 |
| Potentilia anserina | Marsh disquetoli Sëverweed | Occasional. | | Don Cotton & Monles | 10/07/2000 |
| Potentila erecta | Tormentil | Locally frequent. | | Don Cotton & Monica | 10/07/2000 |
| | Hawthorn | Frequent. | | Don Cotton & Monica | 10/07/2000 |
| Cranaegus monogyna Vicia cracca | Tuffed verch | Uncommon. | | Don Cotton & Monica | 10/07/2000 |
| Vicie sepium | Bush vetch | Frequent. | 70 | Don Cotton & Monica | 10/07/2000 |
| | The state of the s | Occasional. | | Don Cotton & Monics | 10/07/2000 |
| Lethyrus pratensis | Meadow vetatiling White dover | Frequent. | | Don Cotton & Monica | 16/07/2000 |
| Trifolium repens | | Occasional. | | Don Cotton & Monica | 10/07/2000 |
| Tritolium pratense | Red dover | Frequent. | | Don Cotton & Monica | 10/07/2000 |
| Ulex europaeus | Gorse | Occasional. | | Don Cotion & Monica | 10/07/2008 |
| Eploblum hirsutum | Great willowherb | Occasional. | | Don Cotton & Monics | 10/07/2000 |
| Epilabum perviliorum | Hoary willowherb | Uncommon. | | Don Cotton & Monica | 10/07/2000 |
| Polygale serpylitolia. | Heath millowort | Occasional. | | Don Cotton & Monles | 10/07/2000 |
| Hydrocotyle vulgaris | Marsh pennywort | Occasional. | | Don Cotton & Monica | 10/07/2000 |
| Apium nodifiorum | Fool's water-cress | Uncommon. | | Don Cotton & Monica | 10/07/2000 |
| Angelice sylvestris | Wild angelica | Occasional. | | Don Cotton & Monica | 10/07/2000 |
| Metryanthes trifoliata | Bogbean | Frequent. | | Don Cotton & Monice | 10/07/2000 |
| Myonolis laxa | Turted forget-me-not | Occasional. | | Don Cotton & Monice | 10/07/2000 |
| Prunella vulgaris | Setheal | Unconvitor. | | Don Cotton & Monica | 10/07/2000 |
| Mentha aquatica | Water mint | Occasional. | | Don Cotton & Monics | 10/07/2000 |
| Hippurus vulgaris | Many's-tall | Uncommon. | | Don Cotton & Monica | 10/07/2000 |
| Plantago lancsolata | Ribwort plantain | Uncommon. | | Don Cotton & Monics | 10/07/2000 |
| Frankrus expalsion | Ash | Uncommon. | | Don Cation & Monica | 10/07/2000 |
| Veronica scutellata | Marsh speedwell | Uncommon. | | Don Cotton & Monica | 10/07/2000 |
| Veronica anagaifs-aquatica | Blue water-speedwell | Uncommon. | | Don Cotton & Monica | 10/07/2000 |
| Ahinanthus minor | relew-rate | Uncommon. | | Don Cotton & Monica | 10/07/2000 |
| Pedicularis palustris | Marsh lousewort | Uncommon. | | Don Cotton & Manica | 10/07/2000 |
| Padicularis sylvatica | Common lousewort | Occasional. | | Don Cotton & Monica | 10/07/2000 |
| Gallum palustre | Common marsh-bedstraw | Frequent. | | Don Cotton & Monles | 10/07/2000 |
| GeRum savatle | Heath bedstraw | Frequent. | | Doin Cotton & Monica | 10/07/2000 |
| Gallum aparine | Cleavers | Frequent. | | Don Cotton & Monica | 10/07/2000 |
| Valeriene officinals | Common valerian | Frequent, | | Don Cotton & Monica | 10/07/2000 |
| Succise presents | Devil s-bit scablous | Common | | Dem Cotton & Monice | 10/07/2000 |
| Cirsium palusve | Marsh thistie | Docasional. | | Don Cotton & Montax | 10/07/2000 |
| Cirisium arvense | Creeping thistie | Uncommon. | | Don Cotton & Monica | 10/07/2000 |
| Certaures nigns | Common knapweed | Common. | | Don Cotton & Monice | 10/07/2000 |
| Ballis perrania | Daisy | Uncommon. | | Don Cotton & Monice | 10/07/2000 |
| Seneralic aquaticus | Margin registors | Gecasional. | | Don Cotton & Monice | 10/07/2000 |
| | | | | | evenuni55 |

Ardloy Loughs & Aghalenane Lough Sligo G 73 17

| SCIENTIFIC NAME | COMMON NAME | No. | NOTES | OBSERVERISI | DATE |
|---------------------------------|--------------------------------|------|--------------------|----------------------|-------------|
| Triglochin patustris | Marsh arrowgrass | | Occasional. | Don Cotton & Monics | 10/07/2000 |
| Junous squarrosus | Heath rush | | Frequent. | Don Cotton & Monlos | 10/07/2000 |
| Junous effusus | Soft rush | | Common. | Don Cotton & Monica | 10/07/2000 |
| Juncus conglomeratus | Compact rush | | Common. | Den Cotton & Monica | 10/07/2000 |
| Luzuta mutationa congesta | Congested health | | Frequent. | Don Cotton & Monics | 10/07/2000 |
| Eriophorum angustitolium | Common actiongrass | | Occasional. | Don Cotton & Monica | 10/07/2000 |
| Schoenopiectus lacustris | Common dub-rush | | Common. | Don Cotton & Monica | 10/07/2000 |
| Cladium mariscus | Great fen-sedge | | Occasional. | Don Catton & Monlos | 10/07/2000 |
| Carex paniculate | Greater tussock-sedge | | Occasional. | Don Cotton & Monics | 10/07/2000 |
| Carex diandra | Lesser tussock-sedge | | Common. | Don Cotton & Monica | 10/07/2000 |
| Carex disticts | Brown sodge | | Occasional. | Don Cotton & Monice | 10/07/2000 |
| Carex ovals | Oval sedge | | Uncommon. | Don Cotton & Monics | 10/07/2000 |
| Carex echinata | Star sedge | | Occasional. | Don Cotton & Monica | 10/07/2000 |
| Carex rostrara | Bottle sedge | | Common. | Don Cotton & Monics | 10/07/2000 |
| Carex flacca | Glaucous sedge | | Frequent. | Don Cotton & Monics | 10/07/2000 |
| Carex paniosa | Camason sedge | | Frequent. | Don Cotton & Monles | 10/07/2000 |
| Carex virious brackyntyncha | Long-stalked | | Occasional. | Don Cotton & Monics | 10/07/2000 |
| Carex nigra | Common sadge | | Frequent. | Don Cotton & Monica | 10/07/2000 |
| Carex pulicants | Plea sedge | | Occasional. | Don Cotton & Monica | 10/07/2000 |
| Cynosurus cristatus | Crested dog's-tell | | Occasional. | Don Cotton & Monica | 10/07/2000 |
| Dactylis glomerate | Cock's-hoot greats | | Occasional. | Don Cotton & Monits | 10/07/2000 |
| Glyperia notata | Plicate sweet-grass | | Uncommon. | Don Cotton & Monica | 10/07/2000 |
| Deschempsia osspitosa | Tufted hair-grass | | Uncommon. | Don Coton & Monica | 10/07/2000 |
| Holous tanstus | Yorkstire-fog | | Frequent. | Don Cotton & Monics | 10/07/2000 |
| Anthoxanhum-odorasum | Sweet vernal-grass | | Frequent. | Dan Cotton & Monka | 10/07/2000 |
| Alopecurus pratensis | Mendow lordal | | Uncommon. | Don Cotton & Monice | 10/07/2000 |
| Phileum pratense | Timothy | | Uncommon. | Don Cotton & Monica | 10/07/2000 |
| Molinia caerules | Purple moor-grass | | Occasional. | Don Cotton & Monica | 10/07/2000 |
| Phragmites australis | Common reed | | Frequent. | Don Cotton & Morrica | 10/07/2000 |
| Typha latiota | Reed-mace | | Occasional. | Don Cotton & Monica | 10/07/2000 |
| Nartheolum cestfragum | Bog asphodel | | Occasional. | Don Cotton & Monica | 10/07/2000 |
| Platanthers chlorantha | Greater butterfly-ordfid | 3 | Uncommon. | Don Cotton & Monice | 10/07/2000 |
| Platanthera bifolia | Lesser butterfly-ordrid | CE. | Occasional. | Don Cotton & Monica | 10/07/2000 |
| Dactylorhiza tuchsii | Common spotted oronid | | Frequent. | Don Cotton & Monics | 10/07/2000 |
| Dactylorikas macutats | Heath spotted orchid | | Locally common. | Don Cotton & Monica | 10/07/2000 |
| Pyrrhosoma nymphula | | c10 | | Don Cotton | 20/06/1981 |
| Coenegrion pulchellum | | c10 | | Don Cotton | 20/06/1981 |
| Coenagrion pulchellum | | c20 | | Don Cotton & Monica | 10/07/2000 |
| Enallagma cysthigerum | | 1 | | Don Cotton | 20/06/1981 |
| Enallagma cysthigerum | | | | Don Cotton | 31/07/1981 |
| Ischnurg elegans | | c80 | | Doe Cotton | 20/06/1981 |
| Ischnurg elegans | | | | Don Cotton | 31/07/1981 |
| Isofinura elegans | | ¢10 | | Don Cotton & Monica | 10/07/2000 |
| Aeschna grands | | 1 | | Don Cotton & Monica | 10/07/2000 |
| Sympetrum stricketum / nigresce | ns | 010 | | Don Catton | 31/07/1981 |
| Omocestus vidulus | Common green | | | Don Catton | 31/07/1961 |
| Omogestus viridulus | Common-green | c5 | | Don Cotton & Monica | 10/07/2000 |
| Pieris napi | Green-veloed white | c3 | | Don Cotton & Monica | 10/07/2000 |
| Maniote jurine | Meadow brown | 015 | | Don Cotton & Monica | 10/07/2000 |
| Aphantopus hyperantus | Ringlet | 040 | | Don Cotton & Monica | 10/07/2000 |
| Hanmetopota pluvisiis | Common deg | c5 | | Don Cotton & Monica | 10/07/2000 |
| Chrysoloxum bidnotum | ATTENDED | 1 | | Don Cotton & Monics | 10/07/2000 |
| Anies planythynchos | Mataro | 2 | | Don Cotton & Monica | 10/07/2000 |
| Applipat nisus | Sparrowhavk. | 1 | | Don Cotton | 20/06/1981 |
| Accipiter nisus | Spantowhawk | 220 | Breeting. | Don Cotton | 31/07/1981 |
| Garfinute chloropus | Moorhen | | lest photographed. | Don Cotion | 20/06/1981 |
| Gallinuta discriput | Moothen | | Vith family. | Don Cotton & Monica | 10/07/2000 |
| Riperia riperia | Sand martin | 4 | | Don Cotton & Monical | |
| Troglodytes troglodytes | Wreen | - 1 | loard. | | 10/07/2000 |
| Saxicola torquata | Stonechat | | eparo. amily. | Don Cotton & Monica | 10/07/2000 |
| | | - 1 | guay. | Don Cotton & Monica | 10/07/2000 |
| ACCOCEPTATES SCHOOLOGERUS | Sedge warbler Sedge warpler | 1979 | | Dan Cotton | 20/05/1981 |
| Acrocephaius schoenobsenus | Sedge warbler | 5.5 | inging. | Dort Cotton & Monica | 10/07/2000 |
| Physioscopus vodnius | Willow worther | 2 | | Don Catton & Monice | 10/07/2000 |
| Carduate contable | Cinnel Bood Province | | Senten . | Dom Cotton E. Montos | : 0/07/2000 |
| Emberize schoericks | Reed burting | 3 | Anging. | Don Cotton & Monice | 10/07/2000 |

Swallow Hole near Riverstown

Sligo G 739174

| SCIENTIFIC NAME | COMMON NAME | Na. | NOTES | | QBSERVERIS1 | DATE |
|------------------------------|----------------------------|-----|-----------|--|------------------------------|--------------|
| Equisetum fluviable | Water horsetall | | | | Don Cotton & Martin Cotton | 25/07/2000 |
| Ranunculus acris | Meadow butteroup | | | | Don Cotton & Mertin Cotton | 20101122000 |
| Ranunculus fammula | Lesser spearword | | | | Don Cotton & Martin Cotton | ED-ST PED-SO |
| Urtical diolos | Common nettle | | | | Don Cotton & Martin Cotton | |
| Alnus glutinosa | Alder | | | | Don Cotton & Martin Cotton | |
| Stotaria graminos | Lesser stitchwort. | | | | Don Cotton & Martin Cotton | |
| Cerastium fontanum | Common mouse-lear | | | | Don Cotton & Martin Cotton | |
| Rumex acetosa. | Common some | | | | Don Cotton & Martin Cotton | |
| Rumex crispus | Curied door | | | | Don Cotton & Martin Cotton | |
| Persicarla amphibia | Amphiblous bistort | | | | Don Cotton & Martin Cotton | COLOR STREET |
| Rorippa nasturtium-equaticum | Common water-crees | | | | Don Cotton & Martin Cotton | |
| Rarippa palustris | Marsh yellow-cress | | | | Don Cotton & Martin Cotton | COLOLINGOR |
| Cardamine pratensis | Lady's-smodk | | | | Don Cotton & Martin Cotton | |
| Capselle bursa-pastoris | Shepherd's-purse | | | | Dign Cotton & Wartin Cotton | |
| Filipenduta ulmarta | Meadowsweet | | | | Dion Cotton & Martin Cotton | |
| Potentilis anserina | Silverweed | | | | Don Cotion & Martin Cotion | |
| Prunus spinoss | Stackstom | | | | Don Cotion & Martin Cotton | |
| Crataegus monogyna | Hawthorn | | | | Don Cotton & Martin Cotton | |
| Trifolium repens | White clover | | | | Don Cotton & Martin Cotton | |
| Trifolium pratense | Red diover | | | | Don Cotton & Martin Cotton | |
| Lythrum salicaria | Purple logsestrile | | | | Don Cotton & Martin Cotton | |
| Epilobium hirsulum | Great willowherb | | | | Don Cotion & Martin Cotton | |
| Epliobium perviforum | Hoary willowherb | | | | Don Cotion & Martin Cotton | |
| Geranium robertianum | Herb-Robert | | | | Don Cotton & Martin Cotton | |
| Apium nodiflorum | Fool's water-cress | | | | Don Cotton & Martin Cotton | |
| Apium inundarum | Lesser marshwort | | | | Don Coton & Martin Cotton | |
| Cloute virose | Cowbene | | | | Don Cotton & Martin Cotton | |
| Torilis japonios | Upright hedge-parsky | | | | Don Cotton & Martin Cotton | 25/07/2000 |
| Myosotis scorpioides | Water longel-me-nut | | | | Don Cotton & Martin Cotton | |
| Prunella vulgaris | Selfhool | | | | Don Cotton & Martin Cotton | |
| Mentha aquatica | Water mini | | | | Don Cotton & Martin Cotton | |
| Hippurus vulgaris | Mare's-tail | | | | | 25/07/2000 |
| Califriche agg. | water-stanyort | | | | | 25/07/2000 |
| Plantago major | Greater plantain | | | | Don Cotton & Martin Cotton | |
| Plantago lanceolata | Ribwort plantain | | | | Don Cotton & Martin Cotton | |
| Fraxinus excelsior | Ash | | | | Don Cotton & Mertin Cotton | |
| Veronica anagalis-aquatica | Blue water-speedwell | | | | Don Cotton & Martin Cotton | |
| Gallium palustre | Common marsh-bedstraw | | | | Don Cotton & Martin Cotton | |
| Gallum varum | Lady's bedstraw | | | | Don Cotton & Martin Cotton | |
| Valeriana officinalis | Common vaterian | | | | Don Cotton & Martin Cotton | |
| Cirsium palustre | Marsh thistle | | | | Don Cotton & Martin Cotton | |
| Cirsium arvense | Creeping thistie | | | | Don Cotton & Martin Cotton | |
| Bells perens | Daisy | | | | Don Cotton & Martin Cotton | |
| Senecio Jacobsea | Common regwort | | | | Don Cotton & Martin Cotton | |
| Servacio acuaticus | Marsh ragwort | | | | Don Catton & Martin Cotton | |
| Bidens camua | Nodding bur-marigold | | | | Don Cotton & Martin Cotton | |
| Alisma piantago-aquatica | Common water-plantain | | | | Dan Cotton & Martin Cotton | |
| Lemna minor | Common dudiweed | | | | Don Cotton & Martin Cotton | |
| Juneus aniculatus | Jointed rush | | | | Don Cotton & Martin Cotton | |
| Jungus inflexus | Hard rush | | | | Don Cotton & Martin Cotton | |
| Juncus effusus | Soft rush | | | | Don Cotton & Martin Cotton | |
| Eleocharis palustris | Common spike-rush | | | | Don Cotton & Martin Cotton | |
| Schoengolectus lacustris | Common dub-rush | | | | Don Cotton & Martin Cotton | |
| Cerex regrata | Bottle sedge | | | | Don Cotton & Martin Cotton | |
| Loffurb persone | Perennial pys-grass | | | | Don Cotton & Martin Cotton | |
| Cynosurus cristatus | Crested dogs-rail | | | | Don Gotton & Martin Cotton | |
| Glyceria fluitans | Figsting sweet-grass | | | | Don Cotton & Martin Cotton | |
| Anthogenthum odorsture | Sweet vernal-grass | | | | Don Cotton & Martin Cotton | |
| Phalaris arundinacea | Reed canary-grass | | | | Don Cotton & Marrin Cotton | |
| Alopecurus genicutatus | Marsh fordall | | | | Don Cotton & Martin Cotton | |
| Phieum gratense | Timothy | | | | Don Cotton & Martin Cotton | |
| Sparganium arectum | Branched bur-read | | | | Don Coton & Martin Cotton 3 | |
| Typha laffoka | Reed-maps | | | | Den Cotton & Martin Cotton (| |
| Ms disaudaconus | Yellow ins | | | | Dan Cotton & Marsin Cotton (| |
| Dectylorhiza fuchsii | Common spotted ordisid | | | | Don Cotton & Martin Cotton 2 | |
| Lymnase stagnalis | THE PERSON NAMED IN COLUMN | 1.0 | of steel. | | | |
| Calibratery: splandens | | 7 M | | | Don Cotton & Martin Cotton 2 | |
| Connection suidheltim | | =5 | | | Don Colton & Martin Cotton 2 | |
| Softrage elegans | | 620 | | | Den Cotton & Martin Cotton 2 | |
| | | - | | | Jon Cotton & Martin Cotton 2 | 3/0/12/000 |
| | | | | | | |

Swallow Hole near Riverstown

Sligo G 739174

| SCIENTIFIC NAME | COMMON NAME | Mr. | NOTES | OBSERVER(S) | DATE |
|--|---------------------|------|--|--|--|
| Aeschna grandis | | 1 | | Don Cotton & Martin Cotton | |
| Sympetrum strictatum | | 1 | | Don Cotton & Martin Cotton | |
| Pleris napi | Green-veined white | c50 | | Don Cotton & Martin Cotton | |
| Agtais urficae | Small tortolseshell | 53 | | Don Cotton & Martin Cotton | |
| Prarange aegients | Spediled wood | 2 | | Don Cotton & Martin Cotton | |
| Maniola jurina | Meadow brown | c3 | | Don Cotton & Martin Cotton | The state of the s |
| Aphantopus hyperantus | Ringlet | c5 | | Don Cotton & Martin Cotton | |
| Tyria jacobseae | Clinnabar moth | | Caterpitars. | Don Cotton & Martin Cotton | |
| Haematoposa pluvialis | Common dieg. | - 4 | | Don Cotton & Martin Cotton | |
| Pyrophaera granditarsa | | c10 | | Don Cotton & Martin Cotton | |
| Cygnus olar | Mute swan | 2 | Adults. | Don Cotton | 18/12/1994 |
| Oygnus olor | Mute swan | 2 | Adults. | Den Gotton | 13/02/1995 |
| Cygnus olor | Mute swan | 2 | Total wildlowl count. Adults. | Don Cotton | 05/01/1998 |
| Cygnus olor | Mute swan | 2 | Total wildlowl count. Adults. | Don Cotton & family | 17/01/1998 |
| Dygnus olor | Mute swan | 5 | Total wildfowl count. 2 adults and 3 juveniles. | Don Cotton, Noel Raftery & | 01/01/1999 |
| Cygnus cygnus | Whooper swan | 28 | Juveniles 3 | Don Cotton, Noel Rattery & | 03/01/1994 |
| Cygnus cygnus | Whooper swan | 4 | Adults. No rings. | Don Cotton | 18/12/1994 |
| Oygnus cygnus | Whooper swan | 4 | Total wildowi count. 2 adults and 2 juveniles. | Don Cotton & family | 17/01/1998 |
| Cygnus cygnus | Whooper swan | 5 | Total wildlowl count. 2 adults and 3 juveniles. | Don Cotton, Noel Rattery & | 01/01/1999 |
| Anas penelope | Wigeon | | 1 male and 1 famale. | Don Cotton | 18/12/1994 |
| Anas panelope | Wigeon | 55 | | Don Cotton & Noel Raftery | 18/11/1995 |
| Anas penelope | Wigeon | 12 | Total wildlowl count, | Don Cation | 10/12/1995 |
| Anas penerope | Wigeon | 2 | Total wildlowl count. | Don Cotton & family | 21/12/1996 |
| Arias panelope | Wigeon | | Total wildlowl count. | Don Cotton & Noel Raftery | 13/02/2000 |
| Anas creccs | Test | - 45 | | Don Cotion & Niali Mugan | 24/12/1994 |
| Anas crecca | Total | 2 | | Don Cotton & Noel Raftery | 18/11/1995 |
| Anas crecca | Test | | Total wildlowl count. | Don Cotion | 10/12/1995 |
| Anas creccs | Total | | Total wildlowl count. | Don Cotton & Noel Rattery | 16/12/1995 |
| Anas creccs | Total | | Total wildlowii count, | Don Coton | 05/01/1996 |
| Anas crecca | Tool | | Total wildlowl count. | Don Cotton & Noel Rattary | 08/12/1996 |
| Aries creccs | Tear | | Total wildrowi count. | Don Cotton & family | 21/12/1996 |
| Anas crecos | Total | | Total wildlowl count. | Don Cotton & Noel Rattery | 13/02/2000 |
| Anas platyrhynchos | Mallard | 11 | Total wildfowl count. Lake 50% frozen. | Don Cotton & Monica | 15/01/2000 |
| Gallinuts chloropus Gallinuts chloropus | Moorhen Moorhen | | | | 03/01/1994 |
| Gallinula chloropus | Moother | 2 | | Don Cotton | 18/12/1994 |
| Gallinula chloropus | Moother | - 0 | | | 24/12/1994 |
| Gallinula chloropus | Moomen | 2.1 | Total wildlowl count. | Zion Cotton | 13/02/1995 |
| Galinula chiorocus | Machen | | total wildlowi count. | | 10/12/1995 |
| Galfinuta chioropus | Moorhee | | Total wildfowl count. Only this species. | | 05/01/1995 |
| Gallinula diloropus | Moorhan | | Total wildowi count. | | 18/03/1996 |
| Gaffinula chicropus | Moothen | | Total wildow count. | | 08/12/1996 |
| Gallinuta chioropus | Moorhen | 200 | Catal wittown courts | | 17/01/1998 |
| Gallinula chloropus | Moorhen | | Total wildlowi count. | | 17/02/1998 |
| Galfinuts chloropus | Moother. | 2 | The state of the s | | 01/01/1999 |
| Gallinago gallinago | Snipe | 1 | | Don Cotton & Martin Cotton | |
| Gallinago gallinago | Snipe | 1.7 | otal wildlowl count. | | 18/11/1995 |
| Gallinago gallinago | Snipe | | otal wildlowi court. | | 10/12/1995 |
| Gatinago galinago | Snipe | 2 | | | 16/12/1995 |
| Numerius arquete | Curlew | 29 | | | 25/07/2000 |
| Numenius arqueta. | Curtew | - 1 | | | 8/12/1994 |
| Numenius arquata | Curren | | otal wildfowl count. | | 13/02/1995 |
| Numenius arquata | Curtew | | otal wildlowl count. | | 10/12/1995 15/01/H996 |
| Numerius arquata | Cutterw | | otal wildowi count. | THE STREET OF THE PERSON OF TH |)5/01/1995)8/12/1995 |
| Hirundo rustica | Swallow | 2 | | Don Cotton & Martin Cotton 2 | |
| Anthus pratensis | Meadow pipit | | eard. | | |
| Saxicola torquata | Stonechat | 1 | (0) | | 5/07/2000 |
| The second second second | | | | | |

Loughmeenaghan

Sligo G 743162

| SCIENTIFIC NAME | COMMON NAME N | a. MOTES | OBSERVERISI | DATE |
|--|---------------------------------------|---|--|--|
| Chara sp. | | | Don Cotton & Elaine Cotton | 30/05/2000 |
| Equisetum fuviable | Water horsetall | Frequent. | Don Cotton & Slobhan Ryan | |
| Equisetum palustre | Marsh horsetal | Frequest. | Don Cotton & Mérilos Don Cotton & Monica | 04/07/2000 |
| Nymphasa alba | White water-By | Occasional. | Don Cotton & Monice | 04/07/2000 |
| Nuphar Mea | Yellow water-lify | Occasional. | Don Cotton & Elaine Cotton | 30/05/2000 |
| Cathe pausins | Marsh markfold | Frequent. Occasional. | Don Cotton & Monica | 04/07/2000 |
| Ranunoubs acris | Meedow buttersup Alder | Occasional. | Don Cotton & Slobhan Ryan | |
| Alnus glutinosa Stellaria media | Common chickweed | Occasional. | Dian Cotton & Monica | 04/07/2000 |
| Stellaria praminea | Lesser stitchwort | Frequent. | Don Cotton, Martin Cotton & | |
| Cerastium fortanum | Common mouse-ser | Occasional. | Don-Cotton & Slobhan Ryan | 12/06/2000 |
| Lychnis flos-cuculi | Rapped-robin | Common at southern and of lake. | Don Cotton & Slothan Ryan | 12/06/2000 |
| Rumex acetosa | Common somel | Occasional | Don Cotton & Sigohan Ryan | 12/06/2000 |
| Saltx viminalis | Osier | One tree. | Don Cotton & Slobhan Ryan | 12/06/2000 |
| Saltx cinerea oleitolia | Rusty willow | Occasional | Dion Cotton & Monica | 04/07/2000 |
| Salix aurita | Eared willow | Occasional. | Don Cotton & Monice | 04/07/2000 |
| Saftx repens | Creeping willow | Fraquent. | Dion Cotton & Slobhan Ryan | |
| Rorippe resoutium-equaticum | Water-cress agg | Small amount near well below road. | Don Cotton & Slobhan Ryan | |
| Cardamine pratensis | Lady's-smock | Frequent. | Don Cotion & Elaine Cotion | THE RESIDENCE OF THE PARTY OF T |
| Spirasa saliotota | Bridawort | One bush in marsh at southern end of take. | Don Cotton, Martin Cotton & | |
| Filipendule ulmerla | Meadowsweet | Frequent. | Don Cotton & Slobhan Ryan | |
| Potentilla palusns | Marsh cinquefol | Frequent. | Don Cotton & Slobhan Ryan Don Cotton & Monica | |
| Potentile enterint | Silverwood | Frequere. | Don Cotton & Monice Don Cotton & Slobhan Rivan | 04/07/2000 |
| Potentile erecta. | Tomenti | Frequent | Don Cotton & Elaine Cotton | 211200000000000000000000000000000000000 |
| Lotus comiculatus | Bird's-foot trefoil | Docasional. | Don Cotton & Siobhan Ryan | |
| Lotus pedunculatus | Greater bird's-foot trefoil | Uncommon at southern and of lake. First or 2000 in flower. Frequent. | Don Cotton & Slothan Ryan | |
| Victa cracca | Tufled vetch | | Don Cotton & Monics | 04/07/2000 |
| Lathyrus praterisis | Meadow vetchling | Frequent. Occasional. | Don Cotton & Monica | 04/07/2000 |
| Trifolium praterise | Red dover Manin willowherb | | Don Cotton, Martin Cotton & | |
| Epilobium palustre | 1/20/11/20 | Frequent. Occasional. | Don Cotton & Monica | 04/07/2000 |
| Linum catharicum | Fairy fig: Cur-leaved crane's-bill | Growing beside well below road. | Don Cotton & Sicohan Ryan | |
| Geranium dissectum | Wid angelics | Frequent. | Don Cotton & Sjothen Ryan | |
| Arigelics sylvestris Menyanthes sitolista | Bogbean | Frequent. | Don Cotton & Elaine Cotton | THE STATE OF THE S |
| Prunella wigerls | Setheal | Occasional. | Don Cotton & Monics | 04/07/2000 |
| Veronica chamaedrys | Germander speedwall | Frequent. | Don Cotton & Slobhan Ryan | 12/06/2000 |
| Pinguicula vulgaris | Common butterwort | Frequent. | Don Cotton & Eleine Cotton | 30/05/2000 |
| Galtum palustre | Common marsh-bedstraw | Frequent | Don Catton & Monica | 04/07/2000 |
| Valeriana officinalis | Common velorien | Occasional at northern and of take. | Don Cotton & Slobhan Ryan | 12/06/2000 |
| Succise presents | Devil's-oit scapious | Frequent. | Don Cotton & Monice | 04/07/2000 |
| Circium dissectum | Meadow thistle | Three flowering plants. | Don Cotton & Monica | 34/07/2000 |
| Cirsium palusire | Marsh thiste | Frequent | Don Cotton & Slobhan Ryan | The state of the s |
| Centaures rigra | Common knapweed | Frequent. | Don Cotton & Monica | 04/07/2000 |
| Sonchus asper | Prickly sow-tristle | Small amount near well below road. | Don Cotton & Slobhan Rysh | |
| Crepis palutosa | Marsh hawk's-beard | First of 2000 in flower. Documental. About 10 plants noted. | Don Cotton & Slobhan Ryan | |
| Potamogeton lucens | Shining pondweed | 1 Occasional. | Don Cotton, Martin Cotton & | |
| Juncus inflexes | Hard rush | Uncommon. | Don Cotton & Monica | 04/07/2000 |
| Junicus conglomeratus | Compact rush | Frequent. | Don Cotton & Slobhan Rysn Don Cotton & Slobhan Cotton | |
| Luzuta mutifiors congesta | Congested heath | Uncommen. | Don Cotton & Elaine Cotton Don Cotton & Slobthan Rysn | |
| Eriophorum argustilolium | Common cottongrass | Common at southern and of alles. | Don Cotton & Stoonan Hyan Don Cotton & Elaine Cotton | |
| Cladium mariscus | Graut fen-sedge | At least three dumps each of a tev square meters. | Don Cotton & Elaine Cotton | |
| Carex parsoulats | Greater tussock-sacge | Frequent. Occasional. | Don Cotton & Monica | 04/07/2000 |
| Carex disade | Lesser tussock-sedge | Common. | Don Cotton & Elaine Cotton | |
| Cerex desicha | Brown sadge | Frequers. | Don Cotton & Etaine Cotton | |
| Carex restrata | Bottle sedge Glaucous sedge | Contribut. | Den Cotton & Monica | 04/07/2000 |
| Carex flacca | | Frequent. | Don Cotton & Sobhan Ryan | |
| Carex paniosa | Camation sadge Long-stalked | Occasional. | | 04/07/2000 |
| Carex virialis brachyntryncha Carex virialis oedocarps | Common yellow-seage | Occasional. | | 04/07/2000 |
| Carax vegue occorarya. | Common sedge | Occasional. | Don Cotton & Slothan Ryan | |
| Festuce arundracea | Tall lesque | Frequent. | | 04/07/2000 |
| Cymosurus pristatus | Drested dog's-tail | Common. | | 04/07/2000 |
| Briza media | Qualiting grass | Frequent. | Don Cotton & Elekse Cotton | |
| Dischylis glomerata | Codin-lost grass | Common. | Don Catton & Slothan Ryan | |
| Heliciorichar pubescens | Downly car-grass | Locally common. | Don Cotton & Slobnan Ryan | 12/96/2000 |
| Holous lanatus | Yorkshire-tog | Common. | | 94/07/2000 |
| Anthouanthum odorarum | Sweet vernal-press | Common. | Don Cotton & Monica | 04/07/2000 |
| Philipp progres | Timpfiv | Occasional | Don Cotton, krartin Cotton a | 14/07/2000 |
| The state of the s | | | | |

Loughmeenaghan Sligo G 743162

| SCIENTIFIC NAME | COMMON NAME | No. | NOTES | OBSERVERIS! | DATE |
|----------------------------|------------------------|-------|---|--------------------------------|---------------|
| Phragmites australis | Common reed | | Common. | Don Cotton & Slobhan Ryar | 12/05/2000 |
| Sparganium erectum | Branched bur-reed | | Rare. Just one plant seen. | Don Cotton, Martin Cotton a | 14/07/2000 |
| irts pseudacorus | Yellow Iris | | Frequent. | Don Cotton & Baine Cotton | 38/85/2000 |
| Listera ovata | Common hvayblade | | Frequent. About 30 plants noted. | Don Cotton & Siobhan Ryan | 12/05/2000 |
| Gymnadania conopsoa | Fragrant orchid | 1 | Rare. | Don Cotton, Martin Cotton 8 | 14/07/2000 |
| Costoglossum viride | Frog crohid | | First of 2000 in flower. Three, | Don Cotton & Monica | 04/07/2000 |
| Disctylorhiza fuchsii | Common spotted orchid | | Common. | Den Cotton & Monica | 04/07/2000 |
| Dectylothiza Incernate | Early marsh-orchid | 1 | Partly submerged in take. | Den Cotton & Slobhan Ryen | 12/06/2000 |
| Lymnaes stagnalis | | | | Don Cotton & Monice | 04/07/2000 |
| Lestes sponsa | | | First of 2000. Female. | Don Cotton, Martin Cotton 8 | 14/07/2000 |
| Руптювота путрнив. | | 1 | | Don Cotton | 20/05/1981 |
| Pyrithosome nymphula | | c10 | | Don Cotton & Elaine Cotton | 30/05/2000 |
| Pyrmosoma nymphula | | 1 | | Don Cotton & Slobhan Ryan | 12/06/2000 |
| Coentracion pueta | | 1 | | Don Cotton & Slobhan Ryen | 12/06/2000 |
| Coenegrion pulchellum | | D5 | | Don Cotton, Martin Cotton & | 14/07/2000 |
| Englagma cyatrigerum | | c10 | | Don Cotton | 20/06/1981 |
| Enellagma cyathigerum | | C20 | | Don Cotton & Elaine Cotton | 30/05/2000 |
| Enellagina cyetnigerum | | c10 | | Don Cotton & Slobhan Ryan | 12/05/2000 |
| ischnura elegans | | 1 | | Don Cotton | 20/06/1981 |
| ischnura elegans | | ජ | | Don Cotton & Elaine Cotton | 30/05/2000 |
| Aeschna grandis | | 2 | | Don Cotton & Monica | 04/07/2000 |
| Brachytron pratense | | 1 | | Dan Cotton & Elaine Cotton | 30/05/2000 |
| Libeliula quadrimaculata | | - 1 | | Don Cotion | 20/06/1981 |
| Libeliula quadrimaculata | | 3 | | Don Cotton & Elaine Cotton | 30/05/2000 |
| Omocestus viridutus | Common green | 2 | | Don Cotton & Monlos | 04/07/2000 |
| Pieris napi | Green-veined white | 1 | | Don Cotton & Elaine Cotton | 30/05/2000 |
| Pararge segeria | Specified wood | .1 | | Don Cotton & Monica | 04/07/2000 |
| Maniola jurtina | Meadow brown | αB | | Don Cotton & Monica | 04/07/2000 |
| Coenanympha pamphilus | Small heath | | | Don Cotton | 20/06/1981 |
| Aphaniopus hyperantus | Ringlet | 610 | | Don Cotton & Monica | 04/07/2000 |
| Xanthorhoe montangita | Säver-ground carpet | 1 | | Don Cotion & Slobhan Ryan | 12/05/2000 |
| Eustrotia uncula | Silver hook | 2 | | Don Cotton & Monics | 04/07/2000 |
| Rivuta sariosalis | Straw dot | ¢5 | | Don Cotton & Monica | 04/07/2000 |
| Sicus femigineus | | | This species assuming there are no others similar species in genus. | Don Cotton, Martin Cotton & | 14/07/2000 |
| Haematopota pluvialis | | 3 | | Don Cotton & Monice | 04/07/2000 |
| Chrysops relicts | | 1 | | Don Cotton, Martin Cotton & | |
| Tibelius martimus | 14-101050000000 | | Female. | Don Cotton, Martin Cotton & | |
| Rana temporaria | Common trog | c30 | | Don Cotton & Stochen Ryan | 12/05/2000 |
| Ardea cinerge | Grey heron | | Total wildlowi count. | Don Cotton | 10/12/1995 |
| Cygnus alar | Mute oven | | Adults. | Don Cotton & Niell Mugen | 24/12/1994 |
| Cygnus nor | Mute pwan | | Adults. | Don Cotton & Noel Rattery | 18/11/1995 |
| Cygnus olor | Multip byon | | Total wildlowl count. Adults. | Don Cotton | 10/12/1995 |
| Cygnus plor | Mute swert | | Total wildfowl court. Adults. | Don Cotton & Noel Fathery | 08/12/1996 |
| Cygnus slor | Mute swen | | Total willowl count. Adult. | Don Catton | 17/02/1998 |
| Cygnus olor | Mutte swiph | 5 | Total wildowl count. Lake 75% frozen. 3 adults and 2 juveniles. | Don Cotton & Monica | 15/01/2000 |
| Cygnus alar | Muta swan | | 6 adults and 2 juveniles. | Noel Rattery and Fergal | 15/01/2000 |
| Cygnus dygnus | Whooper swan | | Total wildlowl count. Adults. On water. No neck rings. | Don Cotton | 05/01/1996 |
| Anas platythynchos | Mallard | 4 | 2 males and 2 females. | Don Cotton & Niail Mugan | 24/12/1994 |
| Arias platyrhynchos | Maland | 2 | Total wildlewi court. | Don Cotton & Noel Rattery | 08/12/1996 |
| Anas playmynchos | Mallard | | Total willowi count. | Don Cotton | 17/02/1998 |
| Mergus serrator | Red-breasted merganger | 2 1 | Breeding pair. Watched at 100 yards from a car on the Collooney to | R.J. Ussher | 10/06/1891 |
| Acclaiter nisus | Spanowhavic | - 1 | | Don Cotton & Niall Mugan | 24/12/1994 |
| Gattinuta divoropus | Moothen | - 1 | | Don Cotton, Noel Raftery & 1 | 03/01/1994 |
| Galinago şalinego | Snipe | 010 | | Don Catton & Nist Mugan | 24/12/1994 |
| Gallinago gallinago | Snipe | 53 | Total wildowi count. Lake 75% trocen. All in one small marsh and flew up as | Don Cation & Monics | 15/01/2000 |
| Numerius arquata | Curlew | 5 | Total wildlowl count. | Don Cotton | 05/01/1996 |
| Apus apus | Swift | 1 9 | Flying over take. | Don Cotton, Martin Cotton & 1 | 4/07/2000 |
| Dalichon urbics | House martin | 1 | | Don Cotton & Slobhan Ryan 1 | |
| Acrocephalus schoenobaenus | Sadge warbier | 2 / | At least 2 males holding territory. | Don Cotton & Slobhan Ryan 1 | 2/06/2000 |
| Emberiza schoenidus | Reed burning | - 0 | Singing. | Don Cotton & Elaine Cotton S | |
| Emberiza schoenidus | Riged burning | 0.000 | At least 2 males holding territory. | Don Cotton & Stocken Ryan: 1 | COLOR CENTRAL |

Drumderry near Castlebaldwin Sligo G 749155

| SCIENTIFIC NAME | COMMON NAME | No. NOTES | OBSERVERISI | DATE |
|--|---|--|---|--|
| SCIENTIFIC NAME Athyrium libi-fernina Stellaria gramines Sallis chierea dieliplia Filipendulta ulmaria Potentilia pelustria Potentilia pelustria Potentilia erecta Vicia cracca Lathyrus pratisnala Epitobium pelustria Angelica sylvestria Triglochim patustria Triglochim patustria Luzula muttifora Carex paniculata Carex dischia Carex panicus Carex panicus Pararga aegeria Anternocus hyperamus | COMMON NAME Lady-ferr Lesser sthichwork Rusty willow Meadowsweet Marsh cinquetoll Tormentil Tutted vesch Masdow vetchling Marsh willowhert Wild angelica Marsh arrowgrass Heath wood-rush Greater tussock-sedge Lesser tussock-sedge Brown sedge Cammian sedge Specided wood Pinglet | No. NOTES Occasional. Frequent. Frequent. Common. Occasional. Common. Frequent. Frequent. Frequent. Frequent. Occasional. Occasional. Occasional. Frequent. Common. Frequent. Occasional. Frequent. Occasional. Occasional. | Dan Cation | 17/07/2000 |
| Locustelle naivis | Grasshopper warbler | Singing. | Don Cotton | 17/07/2000 |

Cleavry bog, Castlebaldwin Sligo G 746148

| Precidium aquilinum Athyrium fibr-femine Dryoptens fibr-mas Male-fem Dryoptens fibr-mas Male-fem Lacommon in bog. Occasional in boggy pasture Debuts subsecome Downy bird: Carastian inginose (-alsine) Desure some Ramex acetoselia Sheep's some Dresser protection Consistent in boggy pasture Downy bird: Consistent in boggy pasture Downy bird: Consistent in boggy pasture Consistent in boggy pasture Consistent in boggy pasture Dosestian in boggy pasture Rumex acetoselia Sheep's somet Dresser mtundifolia Round-issaved sundew Frequent in boggy pasture Dresser mtundifolia Round-issaved sundew Deserrer in boggy pasture Uncommon in boggy pasture Dresser mtundifolia Round-issaved sundew Dresser mtundifolia Round-issaved sundew Uncommon in boggy pasture Uncommon in boggy pasture Uncommon in boggy pasture Uncommon in boggy pasture Dresser mtundifolia Round-issaved sundew Uncommon in boggy pasture Uncommon in boggy pasture Uncommon in boggy pasture Dresser pasture | Den Cotton | 02/07/2000 02/07/2000 02/07/2000 02/07/2000 02/07/2000 02/07/2000 |
|--|--|--|
| Athyrium Rix-Remne Lady-fern Fraquent around margins. Dryoptens Blavmas Male-fern Uncommon in bog. Planunoulus acris Meaclor buttercup Occasional in boggy pasture. Planunoulus flammula Lesser speanwort Uncommon in boggy pasture. Betula pubercere Downy birch Occasional in bog. Stefania uliginota (exisine) Bog stitchwort Uncommon in boggy pasture. Densettini fontanum Common mouse-ear Occasional in boggy pasture. Plumex abstosella Sheep's sorrel Occasional in boggy pasture. Drosera rotundifolia Round-lessed sundew Frequent in boggy pasture. | Dan Cotton | 02/07/2000 02/07/2000 02/07/2000 02/07/2000 |
| Dryoptents Blormas Male-fem Uncommon in bog. Ranunculus acris Meaclor buttercup Occasional in boggy pasture. Ranunculus flammula Lesser speanwort Uncommon in boggy pasture. Betula pubescere Downy birch Occasional in bog. Stefania uliginota (resisine) Bog stitchwort Uncommon in boggy pasture. Densetium fontanum Common mouse-ser Occasional in boggy pasture. Rumex abstosella Sheep's sorrei Occasional in boggy pasture. Drosera rotundifolia Round-lessed sundew Frequent in boggy pasture. | Den Cotton Den Cotton Den Cotton Den Cotton Den Cotton Den Cotton | 02/07/2000 02/07/2000 02/07/2000 |
| Ranunculus acris Meacine buttercup Occasional in boggy pasture. Ranunculus flammula Lesser speanwort Uncommon in boggy pasture. Betula pubescene Downly binds Occasional in bogg. Studiaria uliginosa (raisine) Bog stitchwort Uncommon in boggy pasture. Caractium tontanum Common mouse-ear Occasional in boggy pasture. Rumex abstosella Sheeds sorrel Occasional in boggy pasture. Drosens rotundifolia Round-leaved sundew Frequent in boggy pasture. | Don Cotton Don Cotton Don Cotton Don Cotton | 02/07/2000 02/07/2000 |
| Panunculus fammula Lesser speanwort Uncommon in boggy pesture. Betula pubescere Downy bind: Occasional in bog. Stafania uliginosa (rezisine) Bog stitchwort Uncommon in boggy pasture. Carsatium tontanum Common mouse-ear Occasional in boggy pasture. Rumey abstoselle Sheep's sorrel Occasional in boggy pasture. Dresens rotundifolie Round-lesved sundew Frequent in boggy pasture. | Den Cotton Den Cotton Den Cotton | 02/07/2000 |
| Betala pubescere Downy birch Occasional in bog. Staffaria aliginosa (waisine) Bog stitchwort Uncommon in boggy pasture. Carsatium tontanum Common mouse-ear Occasional in boggy pasture. Rumey acetoselle Sheed's sorrel Occasional in boggy pasture. Dresers rotundifolie Round-leaved sundew Frequent in boggy pasture. | Dan Catan Dan Catan | 112000000000000000000000000000000000000 |
| Staffarie uliginota (maisine) Bog stitchwort Unconsnon in boggy pasture. Cerestium fontanum Common mouse-ear Occasional in boggy pasture. Pusmex abstosella Sheep's sorrel Occasional in boggy pasture. Dresers rotundifolia Round-leaved sundew Frequent in boggy pasture. | Don Cotton | 100000000000000000000000000000000000000 |
| Caraction tontarum Common mouse-ear Occasional in boggy pasture. Rumex abstosella Sheep's sorrel Occasional in boggy pasture. Dresens rotundifolia Round-leaved sundew Frequent in boggy pasture. | | 02/07/2000 |
| Plames abstosells Sheep's sorrel Occasional in boggy pasture. Drosers rotundifolia Round-leaved sundew Frequent in boggy pasture. | Don Cotton | 02/07/2000 |
| Drosens rotundifolis Round-leaved sundaw Frequent in boggy pasture. | DON SCHOOL | 02/07/2000 |
| | Den Cotton | 02/07/2000 |
| See on the contract of the con | Don Gotton | 02/07/2000 |
| Saltir surfax Sered willow Frequent in bog. | Dion Gotton | 02/07/2000 |
| Rhadadandran contaum Rhadadandran Uhapman in bag. | Dan Catan | 02/07/2000 |
| The state of the s | Don Cotton | 02/07/2000 |
| Constant Control | Don Guton | 02/07/2000 |
| Title messy | Don Cotton | 02/07/2000 |
| THE PARTY OF THE P | Dan Cotton | 02/07/2000 |
| Thinks in the control was a second of the control o | Dan Cotton | 02/07/2000 |
| Potentilis erects Tomentil Frequent in bog and boggy pasture. | Don Cotton | 02/07/2000 |
| Tribitum reperts White clover Frequent in boggy pasture. | Don Cotton | 02/07/2000 |
| Tribitum pratense Red dower Uncommon in boggy pesture | Dan Cotton | 92/07/2000 |
| Lilex europeaus Gorse Frequent around mergins. | Dan Catton | 02/07/2000 |
| Polygala serpylitola. Heath millwort Uncommon in bog. | Don Cotton | 02/07/2000 |
| Digitalie purpures Fougitive Occasional in boggy peature. | Dan Cotton | 02/07/2000 |
| Veranica serpyliticita Thyme-leaved spectiveli Uncommon in boggy pasture. | Dign Cotton | 02/07/2000 |
| Pedicularis sylvatios Common lousewort Lincommon in boggy pasture. | Dan Cotton | 02/07/2000 |
| Galium spoalitie Heath bedstraw Occasional in boggy parature. | Dan Cotton | 02/07/2000 |
| Succlear preferrets Devil's-bit sosoious Frequent in bog. | Dan Cotton | 02/07/2000 |
| Senedio aquations Marsh regreat Uncommon in boggy pasture. | Den Cotton | 02/07/2000 |
| Junious equamosus Health rush Frequent in bog and boggy pasture. | | TO STATE OF STREET |
| Juneus effusus Soft rush Frequent in boggy pasture. | Dan Cotton | 02/07/2000 |
| Luzula mutations congests Congested health Frequent in bog and boggy pasture. | Don Cotton | 02/07/2000 |
| Eriophorum vaginatum Hare's-tail cottongrass Frequent in bog and boggy pasture. | Don Cation | 02/07/2000 |
| Trighophorum despitosum Deergrass Common in bog and frequent in boggy pesture | | 02/07/2000 |
| Carex echinate Star sedge Frequent in boggy pesture | Don Cotton | 02/07/2000 |
| Carreir panicies Carrierton sedge Frequent in boggy pasture. | Don Cotton | 02/07/2000 |
| Carek nigra Common sedge Occasional in boggy pasture. | Dan Cotton | 02/07/2000 |
| Lotium perenna Perannal nye-grass Uncommon in boggy pasture. | Don Cotton | 02/07/2000 |
| Cyriosurus crietatus Crested dog*s-tall Occasional in boggy pasture. | Don Cotton | 02/07/2000 |
| Holous landus Yorkshire-fog Common in boggy pesture. | Don Cotton | 02/07/2000 |
| Anthoxenhum odorstim Sweet vernel-grass Frequent | Don Cotton | 02/07/2000 |
| Molinia cuerules Purple moor-grass Common in bog and frequent in boggy pesture | | 72/07/2000 |
| Nerthecism ossiftagum Bog asphodel Frequent in boggy peasure. | Don Cotton | 02/07/2000 |
| Decisionize mediate Heath epotted provid Frequent in boggy perture | Don Catton | 02/07/2000 |
| Pyrihpsons nymphula d6 | Don Cotton | 02/07/2000 |
| Enallegns cystrigerum 500 | - Don Cetton | 02/07/2000 |
| Sympetrum sanguneum 1 First of 2000, Teneral male | Don Cotton | 02/07/2000 |
| Pararge asparta Specified wood 1 | Don Cotton | 22/07/2000 |
| Marriola jurina Mascios brown 2 | Don Cotton | 02/07/2900 |
| Lesicosmos duercus celluries Northern eggler c6 | Don Cotton | 02/07/2000 |
| Emisturge stomerie Common health moth o10 | Dien Catton | 02/07/2000 |
| Hearmatopota pruvielis Common deg 6 | Den Cetton | 02/07/2000 |
| Pytophaera grandiana 1 | Dan Catton | 02/07/2000 |
| Vescula rufa Rad wasp. | Don Cotton | 02/07/2000 |
| Nicrophonus vescilloides Seeton or burrying deate 1 Callected. | Ción Cotton | 02/07/2000 |
| The state of the s | Don Cotton | 02/07/2000 |
| a Martin | Sen Cotton | 02/07/2000 |
| | Den Cotton | 02/07/2000 |
| | Dian Cotton | 02/07/2000 |
| Torque merue | | 02/07/2000 |
| | Dan Cotton | 02/07/2000 |
| Phylosopus trochlus Willow werder 2 Singing | Dan Cation | 02/07/2000 |
| Aperthic famous Redpoil Flying overhead | Don Oction | 02/07/2000 |
| Emberiza schoenidus Reed bunding 1 Singing | Distribution | 140033745000 |

Cleavry Lough, Castlebaldwin Sligo G 747145

| SCIENTI | FIC NAME | COMMON NAME | No. NOTES | OBSERVER(S) | DATE |
|--|---|--|--|---|---|
| Equipment f | | Water horsetall | Frequent | Don Cotton | 27/06/2000 |
| Celtha catus | | Warsh marigoid | Frequent. | Don Cotton | 27/06/2000 |
| Planumoulus | | Leasur spearwort | Occasional | Don Cotton "Y | 27/06/2000 |
| | pinosa (valeina) | Bog stitchwort | Occasional | Don Cotton | 27/06/2000 |
| Lychnis fice | | Rapped-itibin | Fraguest | Don Cotton | 27/06/2000 |
| Salix vininal | | Osier | Occasional | Don Cotton | 27/06/2000 |
| Salix dhere | | Pusty willow | Occasional | Don Cotton | 27/06/2000 |
| | durtum-sousfourn | Water-orees ago | Frequent. | Don Catton | 27/06/2000 |
| Cardanire o | | Lady's-attock | Frequent. | Don Cotton | 27/06/2900 |
| | TOTAL CONTRACT | Meadownwood | Frequent. | Don Critish | 27/06/2000 |
| Filipendule u | | Common bramble | Occasional | Don Cotton | 27/06/2000 |
| Rubus truto | | | GCSS O'AL | Martin Cawley and Don | 12/06/1992 |
| Potentile pe | | Marsh cinquelok | Occasional | Don Cotton | 27/06/2000 |
| Potentilia pa | | Mersh cinquefoli | Occasional. | Dan Cotton | 27/06/2000 |
| Potentila an | | Silverwood | | Dan Cotton | 27/06/2000 |
| Potentilla en | | Tomenti | Frequent. | Dan Cotton | 27/06/2000 |
| Crataigus n | 11111 | Hawthom | Occasional. | Dan Cotton | ALC: STATE OF THE PARTY OF THE |
| Viola cracca | | Tuffed vetch | Frequent | Dan Cotton | 27/96/2000 |
| Vicia septim | | Bush verch | Occasional. | | 27/06/2000 |
| Trifolium rep | pens | White piover | Occasional. | Don Cotton | 27/06/2000 |
| Trifolium pro | obense | Red diover | Occasional. | Don Cotton | 27/06/2000 |
| Lilex europe | 19US | Gorse | Occasional. | Don Cotton | 27/06/2000 |
| Epilobium po | alustre | Marsh will owner: | Frequest | Don Cotton | 27/06/2000 |
| Hydroostyle | vulgaris: | Marsh pennywort | Common. | Don Cotton | 27/05/2000 |
| Clouts viros | a a | Cowbane | Common | Dan Catton | 27/98/2000 |
| Angelios syl | tvestris | Wild angelios | Frequent. | Don Cotton | 27/06/2000 |
| Menyanthee | s brifelieta | Bopbeen | Carriman | Don Coton | 27/06/2000 |
| Myosotis lax | 100 | Tuffed forget-me-not | Occasional | Don Cotton | 27/06/2000 |
| Menths sour | afice | Weder mint | Frequent, | Don Cotton | 27/06/2000 |
| Califfrighe to | 00 | Wester-stareoff | Occasional. | Don Cotton | 27/06/2000 |
| Veronice so | | Marsh speedwell | Frequent. | Don Cotton | 27/06/2000 |
| Vercnica be | | Brooklime | Uncommon. | Don Cotton | 27/06/2000 |
| Phinantus r | | Yellow-rattle | Frequent. | Don Cotton | 27/06/2000 |
| Pedicularis : | | Marsh lousewort | Occasional. | Dan Cotton | 27/06/2000 |
| Gallum palut | | Common marsh-beddraw | Common | Dan Cotton | 27/06/2000 |
| Oirstum palu | | March Disto | Decesional . | Don Cotton | 27/06/2000 |
| | | Marsh arroworses | 03/05/1906 Present | Don Cotton | 27/06/2000 |
| Triglochin pr | | Broad-leaved pondwood | Occasional | Don Cotton | 27/06/2000 |
| Polamagela | | | | Don Cotton | 27/06/2000 |
| Lemns minor | | Common ducloweed | Frequent. | Don Cotton | 27/06/2000 |
| Lamna trisuk | | My-leaved dudowood | Frequent. | Don Cuton | 27/06/2000 |
| Juneus effut | 0.00 | Soft rush | Frequent. | Don Cotton | 27/05/2000 |
| Luzule multi | | Heath wood-rush | Occasional: | Don Cotton | 03/06/1999 |
| | angustforum | Common cottongrass | | | |
| Eleocharis p | | Common spike-tush | Frequent | Don Cotton | 27/06/2000 |
| Eleocharis m | nuticaulis | Many-stalked spike-rush | Locally frequent. | Dan Catan | 27/06/2000 |
| Carex dians | TR. | Lesser tussook-sedge | Dammar. | Don Catton | 27/06/2000 |
| Carex echina | ziz | Star sedge | Occasional: | Dan Cotton | 27/06/2000 |
| Carex south | formis | Lesser pond-estige | Locally abundant, Substantial stand near where stream enters lake at | Dan Cotton | 27/06/2000 |
| Carex rosts | sta | Bottle sedge | Frequent. | Dan Cation | 27/06/2000 |
| Carex nigra | | Common seage | Occasional. | Dan Cotton | 27/06/2000 |
| Cynosurus o | orietatus: | Crested dog's-tail | Frequent | Dan Ootan | 27/05/2000 |
| Destylis glar | menta | Cook's-foot grees | Frequent. | Don Cotton | 27/06/2000 |
| Glycerie dec | dineta | Small ewest-grass | Occasional. | Don Catton | 27/05/2000 |
| Holous land | tus | Yorkshire-fog | Comman | Don Cotton | 27/06/2000 |
| Anthoxentiu | um odoratum | Sweet vernal-grass | Common | Don Cotton | 27/06/2000 |
| Alopecurus o | nerin fetus | Marsh fortall | Occasional. | Don Cotton | 27/06/2000 |
| Ptyragmites : | | | | Dan Cotton | 27/06/2000 |
| Sparganium | 7.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1 | Converon read | Common. | Don Color | Transference |
| Typha letitoli | australis | Conventors read Branched but-read | Common: Cocasional | Dan Cotton | 27/06/2000 |
| ins pesudan | australia ensctum | Branched bur-reed | Cocasional | | |
| Datitylorhize | australia ensctum | Branched bur-reed Read-made | Occasional Cocasional | Dan Cotton | 27/06/2000 |
| | australia erectum fia corus | Branched but-reed Read-made Yellow Hs | Cocasional Cocasional Frequent | Dan Cotton Dan Cotton | 27/06/2000 27/06/2000 |
| | australia eractum fia corus i fuohali | Branched but-reed Reed-made Yellow Ints Common spotted sichid | Cocasional Cocasional Frequent Cocasional | Dan Cotton Dan Cotton Dan Cotton | 27/06/2000 27/06/2000 27/06/2000 27/06/2000 |
| | australia erectum fia corus i fuchali i macusata | Branched but-reed Read-made Yellow Hs | Cocasional Cocasional Frequent | Dan Cotton Dan Cotton Dan Cotton Dan Cotton Dan Cotton | 27/06/2000 27/06/2000 27/06/2000 27/06/2000 27/06/2000 |
| Pyrrhosona | australia erectum fia corus a fuchali a macusata nymphula | Branched but-reed Reed-made Yellow Ints Common spotted sichid | Cocasional Cocasional Frequent Occasional Uncommon | Don Cotton Don Cotton Don Cotton Don Cotton Com Cotton Mertin Cewley and Don | 27/06/2000 27/06/2000 27/06/2000 27/06/2000 27/06/2000 12/06/1992 |
| Pyrithosonal Coeragnonia | australia erectum fia conus a fuchali a manusata nymphula iunulatum | Branched but-reed Reed-made Yellow Ints Common spotted sichid | Cocasional Cocasional Frequent Cocasional | Don Cotton Don Cotton Don Cotton Don Cotton Don Cotton Don Cotton Mertin Cowley and Don Martin Cowley and Don | 27/06/2000 27/06/2000 27/06/2000 27/06/2000 27/06/2000 12/06/1992 12/06/1992 |
| Pyrrhosona Coenegrior i Coenegrior ; | australia erectum fia corus a fuchali a manusata nymphula iunusatam puela | Branched but-reed Reed-made Yellow Ints Common spotted sichid | Cocasional Cocasional Frequent Occasional Uncommon | Don Cotton Don Cotton Don Cotton Don Cotton Don Cotton Son Cotton Martin Cawley and Don Martin Cawley and Don Martin Cawley and Don Martin Cawley and Don | 27/06/2000 27/06/2000 27/06/2000 27/06/2000 27/06/2000 12/06/1992 12/06/1992 |
| Pyrrhosona Coenegrion (Coenegrion (Coenegrion (| australia erectum fia corus a huchsii a macusata nymphula iumaatam puela puela | Branched but-reed Reed-made Yellow Ints Common spotted sichid | Cocasional Cocasional Frequent Cocasional Uncommon | Don Cotton Don Cotton Don Cotton Don Cotton Don Cotton Martin Cowley and Don Martin Cowley and Don Martin Cowley and Don Martin Cowley and Don Don Cotton | 27/06/2000 27/06/2000 27/06/2000 27/06/2000 27/06/2000 12/06/1992 12/06/1992 03/06/1999 |
| Pyrithosonal Coenegrion (Coenegrion ; Coenegrion ; Coenegrion ; | australia erectum fia corus a tuohali a macusata nymphula lumastum quella puella quella | Branched but-reed Reed-made Yellow Ints Common spotted sichid | Cocasional Cocasional Frequent Occasional Uncommon | Don Cotton Don Cotton Don Cotton Don Cotton Don Cotton Martin Cawley and Don Martin Cawley and Don Martin Cawley and Don Don Cotton Don Cotton Don Cotton | 27/06/2000 27/06/2000 27/06/2000 27/06/2000 27/06/2000 12/06/1982 12/06/1992 12/06/1999 27/06/2000 |
| Pyrithosoma Coemegrion (Coemegrion ; Coemegrion ; Coemegrion ; | australia sescutin fia corus s tuchsil s macuseta nymphula lumastum puela puela puela | Branched but-reed Reed-made Yellow Ints Common spotted sichid | Cocasional Cocasional Frequent Cocasional Uncommon | Don Cotton Don Cotton Don Cotton Don Cotton Don Cotton Martin Cawley and Don Martin Cawley and Don Martin Cawley and Don Don Cotton Don Cotton Don Cotton Don Cotton Don Cotton | 27/06/2000 27/06/2000 27/06/2000 27/06/2000 27/06/2000 12/06/1982 12/06/1992 12/06/1999 27/06/2000 03/06/1999 |
| Pyrithosonal Coenegrion (Coenegrion ; Coenegrion ; Coenegrion ; | australia sescutin fia corus s fuchsil i macusata nymphula lumiatum puela puela puela | Branched but-reed Reed-made Yellow Ints Common spotted sichid | Cocasional Cocasional Frequent Cocasional Uncommon | Don Cotton Don Cotton Don Cotton Don Cotton Don Cotton Martin Cawley and Don Martin Cawley and Don Martin Cawley and Don Don Cotton Don Cotton Don Cotton | 27/06/2000 27/06/2000 27/06/2000 27/06/2000 27/06/2000 12/06/1982 12/06/1992 12/06/1999 27/06/2000 |

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| SCIENTIFIC NAME | COMMON NAME | No. | NOTES | OBSERVERIS! | DATE |
|---|------------------------------|------|--|----------------------------|--|
| lechrura elegane | | | | Martin Cawley and Don | 12/06/1593 |
| ischnurs elegans | | | | Don Cotton | 27/06/2000 |
| Brachytron pratamas | | | | Martin Cawley and Don | 12/05/1992 |
| Libellule quedrimeculate | | | | Martin Cawley and Don | 12/06/1997 |
| Libelule quadrimeculate | | 1 | | Don Cotton | 03/06/1999 |
| Libelule quadrimeculate | | 65 | Drain leading into lake. | Don Cotton | 27/06/2000 |
| Heematopote crasecomis | Black deg | 1 | Collected | Dan Cotton | 27/06/2000 |
| Catadysts lemnata | Small chine-mark | c5 | | Dan Cotton | 27/06/2000 |
| Laptides enapis | Wood white | | | Martin Cewley and Don | 12/06/1992 |
| Pleria nepi | Green-versed winte- | 3 | | Don Cotton | 27/06/2000 |
| Anthocharis cardamines | Orange-tip | t | Egg on Cardamine prateriols | Don Catton | 03/06/1999 |
| Lycaena phiasas | Small copper | | | Martin Cawley and Don | 12/06/1992 |
| Vanesse stalanta | Pled admiral | 1 | | Don Cotton | 27/06/2000 |
| Eurodryes autinia | Marsh Hillary | 010 | | Martin Cawley and Don | 12/06/1992 |
| Aphaniopus hyperantus | Ringlet | 2 | | Don Cotton | 02/07/2000 |
| Tyris jacobeees | Chnabar moth | | | Martin Cawley and Don | 12/06/1992 |
| Sustrolla uncula | Silver hook | | | Martin Cawley and Don | 12/06/1992 |
| Autographia gamma | Shrer Y | 26 | | Dan Cotton | 27/06/2000 |
| Heliophilius pendulus | | | | Martin Cawley and Don | 12/06/1992 |
| Pyrophaena granditarsa | | | | Dan Catan | 27/06/2000 |
| Bombus pescuorum | | 1 | | Dian Cotton | 27/06/2000 |
| Percs fluirettis | Parch | | | Local information pers | 27/05/2000 |
| Esox lugius | Pike | | | Local information pers | 27/08/2000 |
| Ardise cinerea | Grey heron | 1 | | Martin Cawley and Don | 12/06/1992 |
| Cygnus dior | Mutte ewan | - 1 | | Don Cotton, Noel Rattery & | 03/01/1994 |
| Cygnus rior | Mute sews | | Total wildfowl count. | Dan Cotton | 28/01/1994 |
| Cygnus dor | Mudo ewen | 2 | Total wildlows count. Adults. | Dan Cotton & family | 17/01/1998 |
| Cygnus dar | Mute ewan | 4 | Total wildfowl count: 2 adults and 2 juveniles. | Don Cotton & Noel Rattery | 20/12/1998 |
| Cygnus plor | Muter sweet | 4 | Total wildfowl count. 2 adults and 2 juveniles. | Don Cotton, Noel Raftery & | 01/01/1999 |
| Cygnus dor | Mutte-swier. | 2 | | Don Cotton | 03/06/1999 |
| Cygnus dor | Mute owen | 2 | Total wildfowl count. Adults. | Don Cotton & Nosi Raftery | 17/10/1999 |
| Cygnus olor | Muze-seven | 2 | Tidal wildfowl count. | Martin Enright | 17/01/2000 |
| Oygnue dor | Mute swer | 2 | 2 adults and 2 cygnets. | Dian Cotton | 27/05/2000 |
| Cygnus cygnus | Whooper swan | 1 | Adult | Don Cotton | 04/01/1987 |
| Anas crecca | Test | | | Don Cotton | 04/01/1987 |
| Ansa platyttynchos | Malard | 2 | | Dan Catton | 01/01/1993 |
| Anse platymynchos | Malard | 3 | Total wildlowl count. | Don Cotton | 28/01/1994 |
| Anse pistyttynolos | Matero | 2 | Total wildtowl count. | Don Cotton & Noel Rattery | 20/12/1998 |
| Anas pistyrhynchos | Malard | 1 | Total wildflows count. | Don Cotton, Noel Raffery & | 01/01/1999 |
| Anas platymynonos | Matero | 7 | | Dan Cotton | 25/05/2000 |
| Aythya ferina | Poohard | 26 | | Don Cotton | 12/01/1986 |
| Aythys ferins | Poohard | 2 | | Don Cotton, Novi Rattery & | 03/01/1994 |
| Aythya ferina | Pochard | 1 | Total wildlowl count. Make | Don Cotton | 28/01/1994 |
| Aythya tulgula | Tuffed duck | 1.1 | | Dan Cotton | 12/01/1986 |
| Aythya haligalia | Tuffed duck | 1 | | Don Cotton | 04/01/1987 |
| Aythya julgula | Tuffed duck | 3 | | Don Cation | 01/01/1993 |
| Aythys fulgula | Tuffed duck | 2 | Total wildfowl count. Both mailes | Don Cotton | 28/01/1994 |
| Aythya fuliquia | Tuffed duck | 2 | Total wildfowl count. Male and female. | Don Cotton & family | 17/01/1998 |
| Reflus equations | Water reil | | Heard | Martin Cawley and Don | 12/06/1992 |
| Relus equations | Weterrali | 11 | Heard at very close quarters. | Don Cotton | 27/06/2000 |
| Gallinuta chloropus | Moorhen | 4 | | Don Cotton | 04/01/1987 |
| Gallinula chloropus | Moorhen | | Heard | Martin Cawley and Don | 12/06/1992 |
| Gallinuis phloropus | Moomen | 2 | Total widfowl count. | Don Cotton | 05/01/1996 |
| Galfinula chloropus | Moomen | | Total wildfowl count | Dan Cotton & Noel Raftery | 20/12/1998 |
| Gallinuia chioropus | Moomen | | Total wildfowl count. | | 01/01/1999 |
| Gallinuia chloropus | Maomen | | Total wildfowl count, | | 17/10/1999 |
| Gallinule chloropus | Maorhen | 2 | p=0.000.400.000.000 | Don Cotton | 27/06/2000 |
| Galfinula chicropus | Moothen | 3 | 1 adult and 2 juveniles in small willow at water's edge. | Dan Cotton | 02/07/2000 |
| Fulice atra | Cost | 4 | | Jon Cotton | 12/01/1986 |
| Fulica stru | Cont | | Total wildflowl count. | Don Cotton & family | 17/01/1998 |
| Fulida atra | Cook | 2 | | Dan Cotton | 27/05/2000 |
| Gwlinago palinago | Shipe | 4 | | Dan Cotton | 27/06/2000 |
| Rigarda ricente | Sand murin | =20 | Feeding over water | Dan Cetter | 02/07/2000 |
| Hinando nastos | Seafor | 955 | | Dran Cotton | 27/06/2800 |
| minundo suestos | Sesion | | Feeding over water | Don Cotton | 02/07/2000 |
| | Ficuse marks | | | | 27/06/2080 |
| | | 0.70 | | | The Party of the P |
| | Mastew ninit | | | Don Cotton | 27/06/2000 |
| Anthus praterials Anthus praterials Anthus praterials | Meadow pipt Sergia wartes | 9.0 | Snare. | Don Cotton | 27/06/2000 |

Cleavry, Castlebaldwin Sligo G 747146

| SCIENTIFIC NAME | COMMON NAME | No. NOTES |
|-------------------------|-------------------------|--|
| Equissium arvense | Field horsetall | Locally abundant. |
| Phylins scolopendrum | Hart's-tongue fem | Frequent. |
| Athydum fills-femine | Lady-fem | Occasional |
| Polystchum settlerum | Soft shield-fem | Frequent. |
| Dryopters filty-mas | Wale-fem | Common. |
| Dryopteris affinis | Scaly male-fem. | Camman. |
| Dryopteds distate | Broad buoker-fem | Common. |
| Ranunculus soris | Meadow butteroup | Occasional. |
| Urijos dioice | Common nettle | Occasional. |
| Stellarie holostee | Greecer estchwort | Occasional, |
| Hypericum endrossemum | Tutsen | Occasional. |
| Wole riviniene | Cammon dag-violet | Frequent. |
| Safix cinema cicifclia | Rusty willow | Frequent. |
| Primula vulgaris | Primrose | Frequent. |
| Lysimachis nemorum | Yellow pimpensal | Uncommon. |
| Hilpendule ulmarie | Меасоминий | Frequent. |
| Rubus fruticosus agg | Common bramble | Frequent. |
| Potentile anglice | Traing torners | Occasional. |
| Fragaria vesos | Wild etnewberry | Frequent. |
| Geum urbenum | Wood avens | Occasional. |
| Ross agg. | 7089 10. | Clocasional. |
| Cratsegus monogyne | Hewthorn | Common |
| Viola explum | Sush vetch | Fraguent. |
| Lathyrus pratences | Meadow vetching | Occasional. |
| Ulex europeaus | Garse | Frequent. |
| Epilobium pervitiorum | Hoery will owner by | Frequent. |
| Fax aquifolium | Holy | Occasional, |
| Aper pseudopletanus | Sypamore | Occasional. |
| Geranium robertierum | Herb-Robert | Frequent. |
| Hoders helix | Twy | Frequent. |
| Concoodum majus | Pignut | Frequent. |
| Aegopodium podegrarie | Ground-elder / Goutwend | Occesoral |
| Haradeum sphondyllum | Common hagweed | Occasional. |
| Torfile japonica | Upright hedge-paraley | Copesional. |
| Fraxinus expelsion | Ash | Common. |
| Scrophularia nodosa | Common Sgwort | One part. |
| Digitale purpuree | Faiglove | Frequent |
| Varonics chameedrys | Germander speedwell | Frequent. |
| Sambuous nigre | Elder | Frequent |
| Symphotoarpos albus | Snowberry | Frequent. |
| Lonicere nitide | garden hedge | Frequent |
| Ornium palustre | Marsh thistie | Uncommon. |
| Lapsana communis | Nipplewort | Occasional. |
| Sondhus esper | Prickly sow-thiste | Occasional. |
| Bullis panonis | Daley | Occasional |
| Achilies milelofum | Yarrow | Occasional |
| Dactylis giorversta | Cook's-foot grass- | frequent. |
| Anthonathorum elation | False cat-grass | Common. |
| Anthoxantium oddratum | Sweet vemal-grass | Camman. |
| Allopeourus pratensis | Meadow fortall | Frequent |
| Pleris brassicas | Large white | 2 |
| Pararge aegenia | Specified Wood | 615 |
| Xanthorhoe montanata | Silver-ground carpet | 1 |
| Haemstopota pluvialis | Common deg | 4 |
| Coccinella 7-punctela | 7-spct ladybird | A service of the serv |
| Falco finnunculus | Kestral | Believed to be needing in conifers near house. |
| Columba palumbus | Wood pigeon | * |
| Tragladytes tragladytes | Wireco | t Singing. |
| Ettheque rubecule | Robin | 1 Singing |
| Turdus philomelos | Stong thrush | ₹amily. |
| Phyllosopus trachius | Milow wester | 1 Singing |
| Regulus regulus | Goldcrest | 1 Singing |
| | | |

| OBSERVERIS) | DATE |
|--|-------------------|
| Don Cotton, Baine Cotton & | |
| Don Cotton, Same Cotton & | |
| Don Cotton, Elaine Catton & | |
| Don Cotton, Baine Cotton & | |
| Don Cotton, Elaine Cotton & | |
| Don Cotton, Eleine Cotton & | |
| Don Cotton, Elaine Cotton & | |
| Don Cotton, Elaine Cotton & Don Cotton, Elaine Cotton & | |
| Don Cotton, Elaine Cotton & | |
| Dan Cotton | 02/07/2000 |
| Don Cotton, Baine Cotton & | |
| Don Cotion, Baine Cotion & | |
| Don Cotton, Baine Cotton & | |
| Don Cotton, Beine Cotton & | 29/06/2000 |
| Don Cotton, Elaine Cotton & | |
| Don Cotton, Baine Cotton & | 29/06/2000 |
| Dan Cotton, Elaine Cotton & | |
| Don Cotton, Elaine Cotton & | 29/06/2000 |
| Dan Cotton, Elaine Cotton & | |
| Don Cotton, Swine Cotton & | |
| Don Cotton, Eleine Cotton & | |
| Don Cotton, Baine Cotton & | |
| Don Cotton, Eaine Cotton & | |
| Don Cotton, Baine Cotton & | |
| Don Cotton, Baine Cotton & | |
| Don Cotton, Elaine Cotton & | |
| Don Cotton, Elaine Cotton & Don Cotton, Elaine Cotton & | |
| Don Cotton, Elaine Cotton & | |
| Don Cotton, Saine Cotton & | |
| Don Cotton, Elaine Cotton & | |
| Don Cotton, Baine Cotton & | |
| Don Cotton, Elaine Cotton & | |
| Don Cotton, Baine Cotton & | 29/06/2000 |
| Don Cotton | 02/07/2000 |
| Don Cotton, Baine Cotton & | 29/06/2000 |
| Don Cotton, Baine Cotton & | |
| Don Cotton, Elaine Cotton & | |
| Don Cotton, Barne Cotton & | |
| Don Cotton, Swine Cotton & | |
| Dan Cotton, Baine Cotton & | |
| Dan Cotton, Swine Cotton & | |
| Don Cotton, Baine Cotton & | |
| Don Cotton, Eleine Cotton & Don Cotton, Beine Cotton & | |
| Don Cotton, Baine Cotton & | |
| Don Cotton, Baine Cotton & | |
| Don Coton, Barre Coton & | TO SHOW THE STATE |
| Don Cotton, Elaine Cotton & | |
| Don Cotton, Baine Cotton & | |
| Dan Cotton, Elaine Cotton & | |
| Don Cotton, Saine Cotton & : | |
| | 02/07/2000 |
| Dan Cotton | 02/07/2000 |
| Don Cotton | 27/06/2000 |
| Don Catton, Elaine Catton 8 (| 29/05/2000 |
| Don Cotton, Elaine Cotton & 1 | 29/05/2000 |
| Don Cotton, Baine Cotton & 2 | |
| Don Cotton, Ewne Cotton & 1 | |
| Don Cotton, Baine Cotton & 1 | |
| Don Cotton, Baine Cotton & 2 | 29/06/2000 |

Cioghoge near Castlebaldwin Sligo G 756136

SCIENTIFIC NAME
Ranunculus aqualifis
Persicada amphibis
Rorippa pakismis
Posensilis anserina
Isolopis setacea

COMMON NAME
Common water-crowloot
Amphibious bissort
Marsh yellow-cress
Shorweed
Bristle club-rush

No. NOTES
Frequent.
Common.
Occasional.
Common.
Occasional.

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 DATE

 Den Cetton & Martin Cotton
 25/07/2000

 Den Cotton & Martin Cotton
 25/07/2000

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