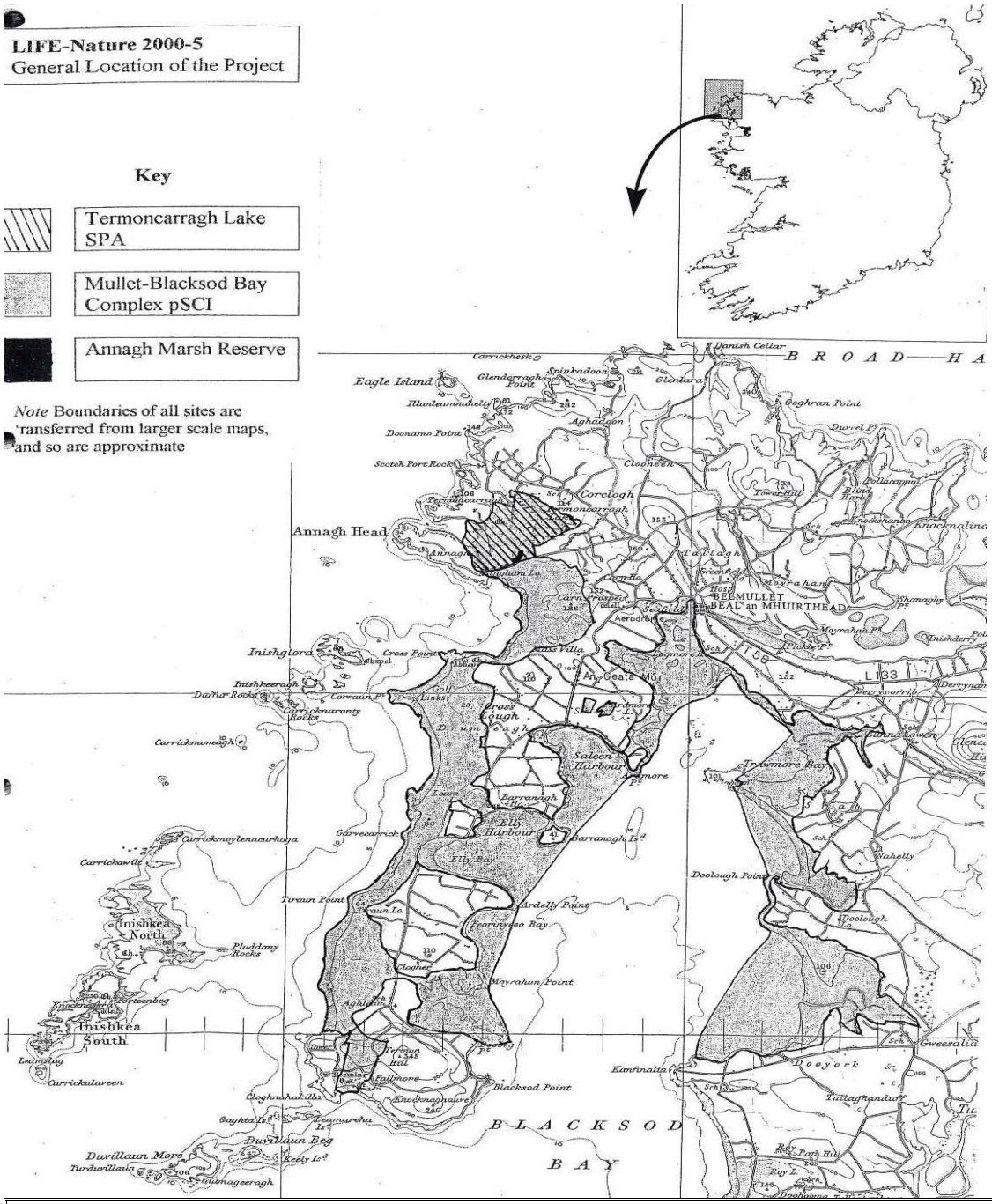
GENERAL DESCRIPTION OF THE NATURA 2000 SITES ON THE MULLET CO. MAYO, IRELAND

Mullet / Blacksod Bay Complex pSCI

Location Map



Total site surface area (ha) 6,744 ha **NUTS region code**: IE 008

Scientific description of site:

This large coastal site, located in north-west Mayo, comprises much of the Mullet Peninsula, the sheltered waters of Blacksod Bay and the low-lying sandy coastline from Belmullet to Kinrovar. The character of the site is strongly influenced by the Atlantic Ocean and the exposed location of much of the site results in a terrestrial landscape dominated by blown sand and largely devoid of trees. The underlying bedrock is principally metamorphic schist and gneiss. The site displays an excellent range of coastal and marine habitats, including several listed on Annex I of the EU Habitats Directive.

The site is a candidate SAC selected for fixed dune, machair and decalcified dune heath all priority habitats on Annex I of the E.U. Habitats Directive. The site is also selected as a candidate SAC for other habitats listed on Annex I of the directive – alkaline fen, eutrophic lake, reefs, Marram dunes, large shallow inlet and bay, tidal mudflats and *Salicornia* mudflats. In addition, the site is also selected as a candidate SAC for the liverwort, Petalwort and the Otter, a plant and animal species listed on Annex II of the E.U. Habitats Directive.

Large areas of machair, a priority habitat on Annex I of the EU Habitats Directive, are found within this extensive coastal site. On the Mullet peninsula the habitat is best developed to the west of Termoncarragh Lake, Tonamace/Macecrump and to the west of Cross Lough. On the eastern shores of Blacksod Bay, extensive areas of machair occur at Doolough, Srah and Dooyork. The vegetation of the habitat is dominated by plant species of dry dune grassland, which include Red Fescue (*Festuca rubra),* Wild Thyme *(Thymus praecox),* Daisy *(Bellis perennis),* Ribwort Plantain *(Plantago lanceolata),* Selfheal *(Prunella vulgaris),* Sand Sedge *(Carex arenaria)* and Lady's Bedstraw (*Galium verum)*. The main moss species are *Brachythecium albicans, Calliergon cuspidatum* and *Bryum* species. In damper areas of machair the vegetation is transitional to fen and contains, in addition to the typical dry machair species, such species as Fairy Flax (*Linum catharticum),* Cuckoo-flower *(Cardamine pratensis)* and Grass-of-parnassus *(Parnassia palustris).*

Fixed dunes with herbaceous vegetation, another Annex I priority habitat, have an extensive distribution throughout the site and are particularly well developed in the middle and south of the Mullet peninsula, e.g. Emlybeg, Newtown, Agleam. Areas of fixed dunes are typically at their highest c. 500 metres back from the sea and at Emlybeg and Newtown they attain a height of approximately 33 metres. The fixed dunes areas present within the site often form a complex mosaic with other dune habitats such as shifting dunes and machair. Frequent plant species recorded in the habitat include Marram Grass (*Ammophila arenaria),* Smooth Meadow-grass *(Poa pratensis*), Wild Carrot *(Daucus carota),* Common Bird's-foot-trefoil *(Lotus corniculatus),* Harebell *(Campanula rotundifolia)* and Kidney Vetch (*Anthyllis vulneraria).* The moss cover is well developed and includes *Rhytidiadelphus squarrosus, Hypnum cupressiforme, Tortula ruralis* and *Homalothecium lutescens.* The conspicuous lichen *Peltigera canina* is also occasionally encountered in the vegetation.

Smaller areas of shifting dunes with Marram (*Ammophila arenaria*) are found in most of the dune areas within the site and typically occur along the most exposed ridges of sand dune systems. The vegetation is species-poor and generally sparse. Along with Marram, typical plant species include Mayweed (*Matricaria maritima),* Sea Holly *(Eryngium maritimum), Colt's*-foot *(Tussilago farfara)* and the locally rare Sea Bindweed (*Calystegia soldanella)*.

Salt marshes occur in a number of places, notably at Elly Bay, Salleen Harbour, Bunnahowen, Doolough and Gweesalia. Typical species include Thrift (*Armeria maritima*), Salt-marsh Grass (*Puccinellia maritima*), Sea Aster (*Aster trifolium*), Sea Milkwort (*Glaux maritima*), Sea Rush(*Juncus maritimus*) and Saltmarsh Rush (*Juncus gerardi*). At the lower levels of the

marshes, and in places extending onto the open sand flats, there occurs Glasswort (*Salicornia europaea* agg.) and Seablite (*Suaeda maritima*).

The site also includes shallow freshwater lakes, Termoncarragh Lough (a Special Protection Area), Cross Lough and Leam Lough, the latter two having a brackish influence at times. Marsh and swamp vegetation is well developed around Termoncarragh Lough.

The Annex II liverwort species *Petalophyllum ralfsii* has been recently recorded from damp areas of machair at Doolough and Dooyork. The Red Data Book plant species Narrow-leaved Marsh Orchid (*Dactylorhiza traunsteineri*) also occurs.

This site has high ornithological importance, with seven Annex I Bird Directive species occurring regularly in winter and a further two as rare breeders. Blacksod Bay provides ideal habitat for divers (all given counts are average maxima over the three winters 1994/95 to 1996/97), with great northern diver *Gavia immer* (64) occurring in numbers of international importance and red-throated divers *Gavia stellata* (45) in significant numbers. The site is an important wintering area for an internationally important population of *Branta leucopsis* (400-500), and also populations of *Anser albifrons flavirostris* (56) and *Cygnus cygnus* (95). *Pluvialis apricaria* are regular in small numbers (c.700), while a nationally important population of *Limosa laponica* (552) occur. *Sterna albifrons* has bred in small numbers in the past, while the site is well known for one of Ireland's rarest breeding birds, *Phalaropus lobatus*.

A wide range of other wintering birds occurs. Of particular note are *Branta bernicla* (212) and *Charadrius hiaticula* (524), both of which have internationally important populations. A further six species have populations of national importance: *Melanitta nigra* (642), *Mergus serrator* (50), *Pluvialis squatarola* (60), *Calidris canutus* (342), *Calidris alba* (58) and *Calidris alpina* (2,601). The site is also notable for its breeding waders, with very important concentrations of *Calidris alpina schinzii*, which BirdWatch Ireland understands is being considered for inclusion under Annex I of the Birds Directive (26 pairs in 1996) and *Vanellus vanellus* (43 pairs in 1996), and significant numbers of *Gallinago gallinago* (12 pairs) and *Charadrius hiaticula* (5 pairs).

As part of Irelands monitoring obligations under the EU Habitats Directive The National Parks and Wildlife Service of the Department of Environment have been monitoring all sandy sites around Ireland over the past number of years. In 2006 counties Clare, Galway, Mayo, Sligo and Donegal will be visited. This nationwide survey will provide baseline data for every dune/machair site in Ireland.

The main aims of this nationwide survey is
1. To assess the current conservation status of all Irish dune habitats
2. To establish the area of the total national resource of each habitat
3. To develop a monitoring programme for Irish sand dune habitats (including machair). A modified version of the common standards monitoring guidance developed by the JNCC (Joint Nature Conservancy Council) is being used.
4. Establish a database for monitoring purposes.
The teams of surveyors carrying out this survey are currently working in the Mayo region and are assessing the conservation status of the sand dune/machair habitats on the Mullet.
The initial findings of this survey will be presented to all stakeholders at a seminar in Belmullet the end of June 2006.

Farming Systems on the Mullet

Whereas farming comprises an important activity for a significant section of the population on the Mullet, the number of people involved in farming is steadily declining and this now amounts to 22% of the population.

The total forage area of the Mullet is 4775 ha and there are 479 active farmers in this region at present.

Small farm size is a striking feature, with 40% of farm holdings having 10 ha or less

There are now only 70 active dairy farmers in the area (a decline from over 300 since its peak in the early 1980's) and these are generally the most intensive.

There are 240 in beef production, predominately Suckler Cows producing weanling cattle, 60 farmers are engaged in mainly hill sheep systems and 70 farmers have mixed cattle and sheep grazing systems. Tillage is no longer a feature of farming in this area.

Because of the extent of the Mullet/Blacksod Bay Natura site which is land based, largely comprising the Machair land on the Mullet and because most farms now have subdivides of these Machair areas (formerly common grazing areas which were subdivided in the 1970's and 1980's) a large proportion of farmers are managing areas of Natura designated land.

As a consequence of this subdivision of the common grazing machair areas, a major change of use occurred. The subdivision allowed the application of nutrients not a feature of the common grazing system. This in turn facilitated an increase in livestock numbers and the annual stocking rate at which the machair areas are farmed. The outcome of this change was that the optimal management of these traditional extensive grassland systems was no longer practiced and serious threats to the conservation of the habitat arose.

These farmers interact with the Natura interest in one or more of the following

(i) Compliance with legislation giving effect to the **EU Habitats and Birds directives**
(ii) Cross compliance under the **EU Single Payment Scheme(SPS)**
(iii) Participation in the **REPS agri-environmental scheme**
(iv) Participation in the **NPWS Farm Plan Scheme**
(v) Participation in the **EU Life project** for the Termoncarragh SPA
(vi) Participation in the **Corncrake grant scheme**

Whereas all farmers are governed by **National** and **EU legislation** and the **Cross Compliance** requirements of the **EU Single Payment Scheme (SPS**), there is as yet only a 40%participation rate among farmers on the Mullet in the **REPS agri-environmental Scheme**, accounting for 60% of the land area.
Therefore 60% of farmers owning 40% of the land are **not** in REPS for various reasons, primarily because farmers on smallholdings have little incentive to participate in an area based scheme.

The **NPWS Farm Plan Scheme** was introduced in 2006 and it is too early to predict what the likely uptake of this scheme will be on the Mullet

Both of these schemes require participants with designated Natura land to have an environmental report prepared and the management prescriptions indicated incorporated into their REPS agri-environmental or NPWS farm plan.

Identical farming conditions for the conservation of Sand Dune and Machair apply to both schemes and these are outlined in Appendix 1.

These schemes differ fundamentally in that REPS agri-environment scheme is a whole farm scheme with fixed area based payment(the area based payment for designated land is approximately 20% greater than the rate applicable to non designated land) whereas payments under the NPWS scheme are based directly upon cost incurred or income forgone as a consequence of implementing the conditions imposed on management of the designated Natura area.

The REPS Scheme also requires participants to attend a 20 hour Agri-environmental Training Course

Both the REPS and NPWS farm scheme are operated at national level and involvement of stakeholders, funding, delivery, monitoring and evaluation are arranged centrally.

The other two project are more localized in nature

The **Termoncarragh Life Project** was a pilot scheme operated in the Termoncarragh/Annagh Marsh SPA area of the site from 2002 to 2005. It was a collaborative effort involving Birdwatch Ireland, Teagasc, Leader and local farmers.
In response to specific threats to Annex 1 bird species and their habitat (Appendix 2) the scheme sought to create awareness among landholders of the Natura 2000 designations, produce information leaflets and educate farmers and advisers of appropriate management practice for specific habitats and species. It also provided payments to individual farmers who undertook to implement appropriate management arrangements on various habitats of particular relevance to targeted bird species.
Management of the Project was by a locally based steering group comprising the promoters Birdwatch Ireland, Teagasc, Local farmer representatives and the National Parks and Wildlife Service of the Department of Environment. Over 20 farmers with lands within the Project Area participated in this Scheme.

The **Corncrake Grant Scheme** which focuses solely on the conservation of Corncrake, similarly provides payment for specific management practices in areas where corncrake are identified and raises awareness. This scheme is delivered by Birdwatch Ireland with funding derived from the National Parks and Wildlife section of the Department of Environment.

All these schemes while having similar priorities, have differing objectives and methods of involvement of stakeholders, monitoring and evaluation.

In the past number of years definite trends in the farming of this area of County Mayo is evident.

There has been a 10% decline in the number of suckler herds since the year 2000, Cattle numbers declined from 3,000 (in the year 2000) to 2,500 (last year),
(the average herd size has declined from 12 to 7 head of cattle)

Between 1997 and 2004 the number of hill ewes has declined from 11,000 to 8,500, (the average flock size declining from 72 to 60).

Recent developments most notably the reform of the EU Agriculture Regime with the introduction of total decoupling is predicted to accelerate many of these changes

The Single Payment Scheme (SPS) was introduced in 2005 and this broke the traditional link that existed between direct payments to farmers and livestock numbers maintained on their holding.
The total annual SPS payment to farmers on the Mullet is €1,256,299, distributed over 479 farms this gives an average payment per farm of €2,623.
Average value of entitlement is €129/ha.

A further €95/ha area based compensatory payment yields an average, excluding REPS payment, of €200/ha (average farm is 20 ha).

Including REPS, the average total payment per farm is €4,000.

In County Mayo, Family Farm Income from cattle and sheep production, (net of production costs), is actually less than the income received in EU Direct Payments.
If this situation were to continue, even in the short term, it is difficult to foresee anything other than a serious reduction in farming activity and a cessation of the active management of large areas of Natura sites and other High Nature Value farmland.

Despite the economic progress of the last decade unemployment remains a major feature and at 37% of the workforce An Geata Mhor Theas (Mullet south) has the third highest proportion of people unemployed nationally

Viable alternatives to farming are difficult to identify for many currently engaged in farming.

APPENDIX 1:

AGREED FARMING CONDITIONS FOR THE CONSERVATION OF SAND DUNE AND MACHAIR AREAS UNDER REPS AND THE NPWS FARM PLAN SCHEME

GENERAL PROVISIONS

The primary recommendation is to avoid farming practices that cause environmental damage and all the following recommendations are designed to meet that objective. If a practice is environmentally damaging it must be stopped or modified, but the following are general guidelines and may be superseded by specific recommendations for individual farms.

DETAILED CONDITIONS, SAND DUNES AND MACHAIRS

DESCRIPTION

Sand Dunes and Machairs are coastal habitats consisting of hills and hollows in which unique communities of plants and animals are found in response to the very demanding nature of the dry, windy and salty environment. Machairs are flat, level plains over lime-rich sands which have evolved in response to a unique interaction between wind, high rainfall and historical land use. They are found only in western Ireland and Scotland.

GRAZING REGIME

It should be noted that on sand dunes and machairs, the objective is to maintain extensive agricultural practices, and to prevent a further increase in stock numbers. Cattle stock must be kept at the level the land can support - see also the section on Supplementary Feeding. Cattle grazing should continue in line with traditional practices. The land should normally be grazed only in winter. However, in areas where Summer grazing has traditionally (i.e. over the previous 10 years) been practised, this can continue, provided, of course, that stock levels at all times do not exceed what the land can bear on a sustainable basis. Grazing on young and fore-dune areas should be avoided. Where conditions warrant, grazing levels must not exceed 1 Livestock Unit (LU) per hectare on a year round average and must never exceed 2 LU at any one time. This change would enable 2 LUs to be overwintered on the sand dune/machair provided it is deemed to be sustainable by the planner. The introduction of sheep into areas where they have not been traditionally grazed should be avoided, but areas which have kept sheep traditionally can retain them, though perhaps at a lower level.

SUSTAINABLE STOCKING LEVELS

Stocking levels for each farm should be set by the planner in the farm plan. The levels should be set below the level which causes eutrophication, overgrazing, or erosion, but still high enough to control the encroachment of coarse vegetation and scrub. Where the stock level set by the planner requires a reduction, this must be achieved within 12 months of the start of the plan. Where the stock level is to increase, this can be spread over the period of the plan, as specified by the planner. Where a conservation plan has been prepared for the SAC in question, this should be used to assist in determining where damage has occurred or is occurring, where damage is moderate, and where damage has not occurred. Official conservation plans, when available, can be obtained from the local office of the NPWS.

SUPPLEMENTARY FEEDING

The introduction of supplementary feeding can bring additional nutrients into sand dune and machair areas, and thus bring about a very fundamental change in the vegetation of these areas. The use of silage and other feed can facilitate excessive stocking levels and may lead to pollution of groundwater. Consequently, the use of any supplementary feeds in areas where it has not been

customary over the last ten years may be allowed only in consultation with NPWS. Round-baled silage can be stored in these areas. Loose silage can only be stored where an approved effluent collection system is in place and the effluent is removed from the machair/sand dune. No supplementary feeding can take place on young and fore-dune areas. In machair and grey dune areas where supplementary feed has been used over the last 10 years it may be continued, provided that:

- The number of LUs fed does not increase
- The species of stock fed does not change
- The total amount of feed equivalent does not increase
- The amount of feed does not exceed 3.5 tonnes of silage or 0.75 tonnes of hay per LU
- No meals and concentrates are fed.

However, in exceptional circumstances, such as in unusually severe weather conditions (i.e., when there are heavy snowfalls or floods), and with the agreement of NPWS, feeding will be permitted. Weanling cattle may be fed small quantities of concentrates.

CULTIVATION, RESEEDING AND PESTICIDES

Ploughing, harrowing or any other form of cultivation must be avoided since this will destabilise the dune structure. Small traditional tillage plots on machairs may be retained. The bringing in of any seeds to these areas will disturb the vegetative balance on which the dune depends and must be avoided. The feeding of hay should only be from round feeders. The fixed dune parts of sand dunes are essentially areas with low levels of plant nutrients in the soil and this has contributed to the development of their distinctive flora. These are also areas most used for grazing. However, the spreading of organic (slurry, FYM), or inorganic fertilisers must not take place as the flora in these areas would be damaged. On machairs, where fertiliser has not been applied in the past, none can be applied now. However, where low levels of phosphorus have traditionally been applied on machairs, this may continue, provided that the soil Phosphorus levels do not increase above their present levels or in any event do not exceed Soil Index 2.

PESTICIDES AND HERBICIDES

All spraying or broadcast application of herbicides must be avoided, but spot application and wipe on treatment to eradicate docks, thistles and similar noxious weeds can be used.

ANIMAL TREATMENTS

Worm doses may be used normally, but animals which have been given pesticides the residues of which persist in the dung must be kept off the dune for at least a week after treatment.

DUMPING AND INFILLING

The dumping of domestic or industrial refuse, farm wastes, rubble, rock, or any similar materials which could disturb the natural environment by bringing in unsuitable nutrients or unsuitable soils and seeds must be avoided.

APPENDIX 2:

LIFE- Nature III Project
Restoration Management for Annex I Birds at Termoncarragh Lake SPA

MAIN THREATS TO THE HABITATS/SPECIES TARGETED WITHIN THE Natura 2000 SITES

Threat 1: Intensification in Farming Practices

Description: As a result of changes in National and EU agriculture policies, there has been a gradual intensification in farming throughout Ireland, including the Mullet Peninsula in recent decades. Within the Termoncarragh SPA, this has led to a lack of adequate management for Annex I bird species (*Crex crex*, *Phalaropus lobatus*, *Branta leucopsis* and *Anser albifrons flavirostris*) within the Termoncarragh Lake Special Protection Area, and to a loss of suitable habitat for some species, especially *Crex crex* and *Phalaropus lobatus*.

At EU or National level, BirdWatch Ireland recognises that the most scope for conservation action through influencing farmers financially, at least in the short term, is through payments for sympathetic management under policies such as those adopted in the EU under the Agri-environment Regulation 2078/92 and related measures. This proposed project therefore has a dual aim – to address specific issues relating to habitat management for priority species at Termoncarragh (Threat 1 and related Actions), and also to use the site and management of it as a demonstration of how such management could be carried out in the future under the Rural Environment Protection Scheme or its successor (Threat 2, and related Actions)

Location: Throughout the Mullet Peninsula, including Termoncarragh Lake SPA, Mullet/Blacksod Bay Complex pSCI and adjacent areas. It is intended that the results of the demonstration elements of the project will eventually have a national impact.

Impact on habitat/species: The general intensification in farming practice, seen throughout the area, has impacted negatively on a wide range of habitats, including sand dune and machair areas, and on Annex I species, particularly breeding *Crex crex* and *Phalaropus lobatus*, and wintering wildfowl, particularly *Anser albifrons flavirostris* and *Branta leucopsis*. Detailed threats and their impacts on the particular species targeted in this project are given below (threats 1.1 to 1.4)

Threat 1.1 **Loss of Habitat for *Crex crex***

Description: Intensification in farming has led to a reduction in *Crex crex* breeding success in the whole of the Mullet area, including the Termoncarragh Lake SPA, through earlier mowing dates (compounded by re-seeding of traditional hay meadows), a shortened mowing season and conversion of meadows to pasture, with a consequent reduction in the area of hay meadow available for *Crex crex*. There is also a lack of early season vegetative cover for *Crex crex*, which is compounded by intensification and excessive grazing in combination with harsh climate in the area

Location: Meadow areas throughout the Termoncarragh Lake SPA

Impact on habitat/species: Reduction in numbers of breeding *Crex crex*. *Crex crex* numbers throughout Ireland have declined dramatically in recent decades (see form LIFE-Nature 2000-13-a). Following conservation measures aimed at *Crex crex* introduced by BirdWatch Ireland and Dúchas, National Parks and Wildlife from 1994, *Crex crex* numbers on the Mullet Peninsula as a whole have been relatively stable in recent years. However, numbers within the SPA have remained low, as a result of lack of suitable habitat and lack of adequate management. Much of the grassland within the SPA which is currently managed too intensively to support *Crex crex* has great potential for restoration to more traditionally farmed meadow, to benefit *Crex crex* and other ground-nesting birds.

Threat 1.2 **Loss of breeding *Phalaropus lobatus***

Description: In the past, Annagh Marsh, adjacent to Termoncarragh Lough, was the most regular breeding site for *Phalaropus lobatus* in Ireland. It is thought that the species was lost from the site due to a combination of lack of appropriate management and lack of control over adjacent lands.

Threats to breeding *Phalaropus lobatus* include the effects of drainage and loss of a suitable mosaic of habitats. Human disturbance and trampling by grazing animals are also potential problems. At Annagh Marsh, the mosaic of habitat types required has been largely lost as a result of inadequate management of vegetation and lack of control of water levels at the Marsh itself, with the resultant loss of open water pool areas and loss of suitable sparse structure of emergent vegetation, as the marsh edges became overgrown.

Management issues for *Phalaropus lobatus* at Annagh include:

1. Loss of the complex of habitats (open pool areas, emergent vegetation and wet and dry mires), which are required to sustain breeding *Phalaropus lobatus,* as a result of

    a) Inappropriate grazing regime: This has resulted in drier parts of the site becoming over-grazed and parts of the Marsh becoming rank, with resultant loss of open pool areas and emergent vegetation, which are essential for feeding and mating *Phalaropus lobatus*

    b) Lack of water level management: Drainage of part of the surrounding area and lack of control over water levels at the BirdWatch Ireland reserve have impacted negatively on the site in recent years.

2. Disturbance: The BirdWatch Ireland Reserve and surrounding areas have not been adequately wardened during the *Phalaropus lobatus* breeding season in recent years, with the result that disturbance from birdwatchers and the general public may have contributed to lack of breeding success at the site. This lack of wardening has also contributed to the continuation of the inappropriate grazing regime at the site.

Location: Primarily Annagh Marsh and the surrounding area, which were the traditional breeding areas for *Phalaropus lobatus*.

Impact on habitat/species: Loss of *Phalaropus* lobatus as a breeding species at the site. *Phalaropus lobatus* was last recorded at Annagh in the early 1990s, but breeding has not been proven since the mid 1980s. However, given the long history of usage, it is believed that if the right habitat conditions are restored, there is a high chance of re-establishing *Phalaropus lobatus* as a breeding species at this site, thus helping to maintain the species' Global range.

Threat 1.3 **Lack of suitable management for *Anser albifrons flavirostris***

Description: Habitats used by *Anser albifrons flavirostris* flock using Erris Bog include blanket bog (primarily in Owenduff), marsh, callows, wet and intensively managed grassland, according to availability. Threats to each sub-flock in the complex include bogland habitat losses to forestry and peat extraction, which have been severe in the past and are continuing. Good grazing in the area is scarce so agricultural disturbance and overgrazing are also problems identified by Fox *et al* (1994).

A lack of arable land on the Mullet Peninsula reduces its value as a feeding area for wintering geese. Studies have shown (Mayes, 1991) that stubble grain and sugar beet will be taken by *Anser albifrons flavirostris* where available, and that these provide a rich food source, particularly later in the winter when grass becomes fibrous and less digestible.

Location: Rough pasture and marshy areas around the site

Impact on habitat/species: Although recent surveys have shown that the *Anser albifrons* flavirostris flock using the Termoncarragh Lake SPA is stable or increasing in recent years, small flocks such as this one are particularly sensitive to changes in habitat, which may lead to rapid declines or even local extinction. Adequate targeted habitat management for wintering wildfowl is essential if the populations at this site are to be maintained.

Threat 1.4 **Lack of suitable management for *Branta leucopsis***

Description: A lack of suitably managed grazing areas and of winter stubble reduces the amount of time spent on the site by *Branta leucopsis,* as food supply is not large enough to support many birds for long periods.

Although conflict between grazing geese and farmers is not seen to be a serious problem in this area, some disturbance of geese, both intentional (scaring by farmers) and unintentional (walkers etc) does take place.

Location: Pasture areas throughout the site

Impact on habitat/species: Reduction in time spent on this site by Branta leucopsis. Increase in distance travelled between feeding and roosting sites. Disturbance forces the geese to move around more frequently, interrupting their feeding and reducing the amount of time spent on this site.

Threat 2: Lack of targeted habitat measures in existing agri-environment scheme

Description: The Rural Environment Protection Scheme (REPS) has as one of its main objectives "to protect wildlife habitats and endangered species of flora and fauna". To date, however, this objective has been expressed only through general-purpose agri-environmental conservation measures, with few specific options for habitat creation, restoration or enhancement measures focused on the precise requirements of threatened farmland bird species. BirdWatch Ireland considers such targeted measures essential for the species cited in this application (*Crex crex*, *Phalaropus lobatus*, *Branta leucopsis*, *Anser albifrons flavirostris*) and plans to work in collaboration with Dúchas and the Department of Agriculture, Food and Rural Development (DAFRD) to develop suitable measures for subsequent adoption as supplementary REPS measures. In the interim, REPS cannot be depended upon to meet the habitat conservation requirements of these bird species. BirdWatch Ireland's concerns in this regard are echoed by several other Irish conservation NGOs, and by a recent report of the Irish Heritage Council (Hickie et al 1999), which is an independent body set up to advise the Minister for Arts, Heritage, Gaeltacht and the Islands on issues relating to Ireland's heritage.
Location: Termoncarragh Lake SPA and adjacent areas.
Impact on habitat/species: Continuing pressure on bird species and their habitats from intensification of farming practices (as detailed in Threat 1 above), in the absence of targeted conservation measures.

Threat 2.1 *Lack of awareness of habitats and their conservation requirements*
Description: The more traditional pattern of farming in this area (and throughout Ireland) up to the mid-twentieth century, was much more closely attuned to nature conservation than the greatly intensified farming systems which have developed under the combined influences of agronomic guidelines and socio-economic pressures. Modern production-orientated agriculture and the impact of the Common Agricultural Policy have led to diminished awareness of conservation-friendly farming practices, which were an integral part of the more traditional regime.
Location: Throughout the Mullet Peninsula, including Termoncarragh Lake SPA and adjacent areas.
Impact on habitat/species: Continuing pressure on bird species and their habitats from intensification in farming (as detailed in Threat 1 above), in the absence of targeted conservation measures.

Threat 2.2 *Negative attitudes to environmental designations (NHAs, SPAs and pSCIs).*
Description: Feedback from farmer meetings and agri-media reportage on the Irish Government's published proposals for SAC and NHA designations, clearly convey a very negative attitude towards those proposals. This major barrier to the implementation of conservation action plans needs to be addressed by:

a. Practical demonstration of how farming and conservation requirements can be better harmonised.

b. Adequate resources allocated by Dúchas and DAFRD towards a positive information process

c. Involving farmers in that process, through their representative organisation structure, and through targeted involvement in local communities by conservation organisations.

Location: Throughout the Mullet Peninsula, including Termoncarragh Lake SPA and adjacent areas.

Impact on habitat/species: Delay and obstruction of progress towards agreement and eventual implementation of habitat and species action plans in Natura 2000 sites, pending better understanding and acceptance of the potential for positive interaction between farming and conservation.

Threat 2.3 *Inadequate linkage between farming and conservation*
Description: In a situation where the income of farming families is increasingly dependant on sources other than the market return on agricultural commodities, the potential of eco/agri tourism activities should be more fully exploited. There is insufficient appreciation of the positive contribution which sensitive management of natural heritage resources can make towards sustainable rural development and income generation.
Location: Throughout the Mullet Peninsula, including Termoncarragh Lake SPA and adjacent areas.
Impact on habitat/species: Lack of progress towards agreement and eventual implementation of habitat and species action plans, as a result of lack of understanding of the potentially positive interaction between farming and conservation.

Threat 2.4 *Lack of suitable demonstration farms focused on habitat conservation*
Description: Several farms have been identified country-wide as demonstration areas for various aspects of REPS. However, any REPS demonstration farms which have been established to date are concerned with aspects such as farmyards and buildings, water pollution control, nutrient management etc. This project will aim to provide the first of a series of strategically located demonstration farms specifically dealing with habitat management, restoration and creation for priority farmland bird species.
Location: For the purposes of this project, the threat will be addressed in the Termoncarragh SPA. However, the potential for transferability to a national scale will be investigated.
Impact on habitat/species: Lack of progress towards agreement and eventual implementation of habitat and species action plans, as a result of lack of understanding of the potentially positive interaction between farming and conservation.

Threat 2.5 *Lack of advisory information literature and audio-visual material based directly on Irish experience of wildlife conservation*
Description: Apart from some conservation manuals and leaflets produced by BirdWatch Ireland, in collaboration with RSPB, there is a serious lack of print material and audio-visual material for use in farmer advisory and agricultural planner educational work in support of habitat and wildlife conservation.
Location: Termoncarragh Lake SPA and potentially nationwide.
Impact on habitat/species: Non-implementation of conservation measures due to lack of awareness, in the absence of material covering this topic for REPS training courses for both planners and participating farmers. Lack of guidance material for REPS Planners and farmers has led to a lack of awareness of wildlife conservation and how it may be addressed through REPS plans. This has impacted negatively on Natura 2000 sites, where a detailed knowledge of the ecological requirements of a range of species and habitats is required and appears to be lacking in many cases.