
FOREWORD

Bird conservation has experienced a couple of challenging decades, where the pressures on bird habitats and sites have become increasingly apparent. The areas available to birds to breed and feed in relative safety are becoming fewer, and often are deteriorating in quality. Against this trend has been the introduction of a range of international conventions, directives and agreements which strive to protect bird populations and the sites that they need for their survival.

Underpinning all efforts for bird conservation is the provision of objective information and systematic data on bird numbers and the relative importance of sites on which they occur. In this context, the Important Bird Areas project is of enormous importance, as it identifies the key sites for bird conservation on objective criteria, and makes a cogent case for their strict protection.

The data upon which these assessments can be made, is provided by a large and highly motivated band of people who spend hours counting birds in their regular haunts. For the most part, these are band of volunteers who give of their time and energy freely to do their bit for nature conservation. In return, there is an expectation that, armed with this high quality data, the policy makers will respond by putting in place the measures necessary to ensure the full protection of these sites.

BirdWatch Ireland is to be commended for working with its European BirdLife International partners to ensure that information on important bird areas is collected and presented in a manner that allows Ireland's importance for bird conservation to be viewed in a pan-European context. It is hoped that by publication of this very important work, efforts at the international and national level will result in the favourable conservation status of more of our bird species in future years.

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1. BACKGROUND

1.1 What is the BirdLife IBA Programme?

Box 1. The Important Bird Area Programme of BirdLife International.

- The function of the Important Bird Area (IBA) Programme is to identify, protect and manage a network of sites that are important for the long-term viability of naturally occurring bird populations, across the geographical range of those bird species for which a site-based approach is appropriate.
- The continued ecological integrity of these sites will be decisive in maintaining and conserving such birds. Legal protection, management and monitoring of these crucial sites will all be important targets for action, and many (but not all) bird species may be effectively conserved by these means. Patterns of bird distribution are such that, in most cases, it is possible to select sites that support many species.
- The IBA Programme is global in scale, and it is anticipated that up to 20,000 IBAs will be identified world-wide, using standard, internationally recognized criteria for selection.
- The sites are identified on the basis of the bird numbers and species' complements that they hold, and are selected such that, taken together, they form a network throughout the species' biogeographic distributions.
- This network may be considered as a minimum essential to ensure the survival of these species across their ranges, should there occur a net loss of remaining habitat elsewhere through human, or other, modification. Therefore the consequences of the loss of any one of these sites may be disproportionately large.
- The programme aims to guide the implementation of national conservation strategies, through the promotion and development of national protected-area programmes. It is also intended to assist the conservation activities of international organisations and to promote the implementation of global agreements and regional measures.

The Important Bird Areas (IBA) Programme of BirdLife International is a worldwide initiative aimed at identifying and protecting a network of critical sites for the conservation of the world's birds (Box 1). BirdLife International is a Partnership of non-governmental conservation organisations with a special focus on birds (Box 2).

Box 2. BirdLife International.

BirdLife International consists, in Europe, of 32 Partner organisations with a combined membership of over 2 million people and staff of more than 1,700. In addition, 22 other national organizations in Europe are affiliated to the Partnership, as Representatives or Associates. BirdLife International, through seeking to conserve all bird species and their habitats on earth, works for the world's biodiversity and for the sustainability of human use of natural resources. Why birds? Birds play a special and unique role in connecting humanity to biodiversity and the environment. They occupy almost all habitats on the earth's surface, and are widely dispersed in all countries and regions. They are the best known and documented major taxonomic group of organisms in the world. To find out more about how you could support this work please contact the BirdLife International Secretariat, Wellbrook Court, Girton Road, Cambridge, CB3 0NA, United Kingdom. Tel: +44 1223 277318 Fax: +44 1223 277200 Email: birdlife@birdlife.org.uk Internet: www.birdlife.net

The BirdLife Partnership works together on shared priorities, policies and programmes of conservation action, exchanging skills, achievements and information, and so growing in ability, authority and influence. Each Partner represents a unique geographic area or territory (most often a country). The BirdLife International Partnership strives to conserve birds, their habitats and global biodiversity, working with people towards sustainability in the use of natural resources. The global work of the BirdLife Partnership is funded entirely by voluntary donations.

The European IBA Programme is the longest running of a number of regional IBA programmes and for the last decade has addressed site-oriented research and action, encompassing habitat management, monitoring, education, advocacy, and national and international legal protection. In 2000, *Important Bird Areas in Europe* was published (Heath and Evans 2000). It presents essential information on all known Important Bird Areas in Europe; 3,619 IBAs are listed and described, a net increase of 50% since the first pan-European IBA inventory, published in 1989. This book, and the computer database from which it was produced, are two products of five years' work by the BirdLife International Partnership in Europe, together with thousands of other ornithologists and birdwatchers, in 51 countries or autonomous regions.

An internationally important network of sites

Through the rigorous application of standard and quantitative ornithological criteria, the international importance of the network of sites identified is assured. The criteria applied justify the importance of each site, and their global standardization facilitates comparisons between sites at local, national, regional and global levels. These criteria are compatible with those used to designate wetlands of international importance under the Ramsar Convention and Special Protection Areas under the EC Birds Directive.

Data collection and analysis play a highly influential role in underpinning the conservation and management of IBAs. Useful for conservationists, ornithologists, governmental and non-governmental agencies, policymakers, researchers, consultants and planners, the data presented here are intended to guide practical management and actions at IBAs and to target political and legal mechanisms to achieve the adequate protection of IBAs.

Thousands contribute – the largest network in Europe

Contributions have been made by a vast network of ornithologists, birdwatchers and conservation experts across Europe. Many hundreds of individuals have been directly involved in the collation of data and many thousands more have laid the foundations for the project, through carrying out field surveys of bird numbers and distributions during the last three decades. In most countries the relevant BirdLife International Partner has coordinated the work nationally, and this has generally involved substantial collaboration with governmental and non-governmental organisations. A comprehensive network of IBAs has been identified across Europe; 3,619 IBAs have been identified, covering 7% of Europe. The effective protection and management of these sites, equivalent to a relatively low percentage of each country's area, is a realistic goal that would make a significant contribution to conserving many bird species in Europe.

A large amount of new data has been gathered as part of this inventory, resulting in improved coverage across the region compared to the previous pan-European IBA inventory in 1989. Since then, no fewer than 1,175 new IBAs have been identified, representing a 48%

increase in the number of sites, and a 130% increase in the total surface area covered, with improved coverage particularly in the east of the region.

Sites identified for 378 species (73% of Europe's birds)

IBAs are particularly important for species that congregate in large numbers such as wintering and passage waterbirds and breeding seabirds (51% of IBAs in Europe are identified for these species). Many sites have also been identified for species of global conservation concern (27% of IBAs are important for one or more of the 35 such species in Europe), for species of European conservation concern (66% of all IBAs) and for species of concern within the European Union (63% of all IBAs).

All major habitat-types covered

IBAs encompass all major habitat-types in Europe, with wetlands, forests, grasslands and cultivated/grazed habitats being the most frequent. Each of these habitat-types holds a distinctive but diminishing avifauna which urgently needs recognition and protection against ill-conceived development.

Threats

Land-use practices have been recorded within 95% of IBAs and often cover the entire IBA area, reflecting the high human use of Europe's habitats in general. As a result, the conservation of habitats and birds within IBAs is very much dependent on the land-use practices, policies and programmes affecting these sites and their surroundings. Of particular importance is agriculture, the dominant land-use in Europe, and this is reflected within IBAs, with agricultural activities taking place in 65% of IBAs.

A total of 93% of IBAs considered threatened. Nearly all IBAs are threatened to some degree by at least one factor, and 42% of IBAs are affected by one or more high-impact threats (actual or potential). Agricultural intensification and/or expansion is the most serious threat affecting IBAs, being cited at more than 1,300 sites and with a high impact at nearly 400 of these. Recreation and tourism, unsustainable exploitation, infrastructure, industrialization and urbanization, drainage, abandonment and reduction of land management, intensification of forestry practices, aquaculture and fisheries, the construction of dams, dykes or barrages and the extraction industry each threaten more (and in many cases significantly more) than 300 IBAs (c.10% of European IBAs).

Changes in land-use have had a highly detrimental impact on Europe's biodiversity (EEA 1998). About 12% of vertebrate species in Europe are threatened with global extinction (WCMC 1997) and, at least for birds (the only group for which there is adequate data), a much larger proportion of the total (38% of regularly occurring bird species) have an unfavourable conservation status on the continent, most of these species having undergone significant reductions in abundance or range since 1970 (Box 3). Man's activities are implicated as the driving factor in most of these declines. The intensifying use of the environment has also had damaging effects on society within and beyond Europe, e.g. through massive loss of rural livelihoods, over-dependence on subsidies, and the socioeconomic impacts of food surpluses and food-safety issues (EEA 1998).

Future directions and policies for land-use in Europe are still decided by the orthodox application of economic theory. As yet, mainstream economics do not take into account the full benefits of biodiversity, nor the long-term costs to society of intensification, in terms of biodiversity loss (UNEP 1995). As a result, decisions relevant to future land-use still ignore many of the projected impacts on biodiversity and society, and the phenomenon of biodiversity loss still receives insufficient attention from most sectors of the economy and society. Although biodiversity is not yet valued in strict economic terms, it is now widely recognized that these negative environmental trends cannot be allowed to continue indefinitely, since the direct and indirect costs to society will be too great (UNEP 1995). The challenge is to find more sustainable ways of using the environment, so-called 'sustainable development'.

At the governmental level, the world community has responded with initiatives such as *Agenda 21* and the Convention on Biological Diversity (Biodiversity Convention), both products of the 'Earth Summit'—the United Nations Conference on Environment and Development—at Rio de Janeiro in 1992. At the European level, the Pan-European Biological and Landscape Diversity Strategy has received unanimous endorsement from Europe's environment ministers (McCloskey 1997), and the European Community has responded with *Towards Sustainability*, the fifth environmental action programme of the European Commission (CEC 1993), followed more recently by the *EC Biodiversity Strategy* (CEC 1998). These international initiatives, whether master-plans, conventions or policy documents, all share similar objectives, that is to promote, within and between nations, the conservation of biodiversity and the sustainable use of natural resources, through the integration of environmental issues and concerns into all sectors of society (including the economy), encouraging closer cooperation between sectors, and advocating a more participatory form of environmental policy-making.

At the local level, one of the ways that individual citizens can participate in policy-making, and help to solve problems in society, is through creating or supporting non-governmental organizations (NGOs). The number and size of NGOs that address environmental problems have increased enormously in recent years, in Europe and elsewhere, indicating the rising level of concern in society worldwide. The combined membership of such NGOs in Europe alone runs into many millions, and gives these bodies authority and democratic basis when seeking to influence governments, businesses and other powerful sectors of society. Indeed, through their research, publicity and action, these groups of like-minded people are a crucial partner to governments in the search for more sustainable forms of development.

Box 3. The status of birds in Europe (Tucker and Heath 1994).

A total of 515 bird species occur regularly in Europe, comprising thousands of millions of individuals which depend on the continent as a breeding, staging or wintering ground. On a world scale, Europe is particularly important for 136 species, supporting the majority of their global population at some stage of their annual cycle.

Nearly 40% of the continent's bird species have an unfavourable conservation status in Europe, based on their rarity or their rate of population decline since 1970. Of these 195 species, 20 are globally threatened with extinction (Collar et al. 1994) and a further 15 are also of global conservation concern.

Most bird species in Europe occur widely across the continent, with populations in many different countries. Additionally, the great majority of bird species in Europe are migratory in at least part of their range, crossing many national frontiers, with some species regularly reaching not only southern Africa but also as far as Canada, east Siberia, India and the sub-Antarctic. An international perspective is therefore all-important for most bird-conservation initiatives in Europe.

Prioritisation of conservation action

BirdLife International approaches the conservation of birds, in Europe as elsewhere, in three different ways (Box 4). Each approach is essential for the effective conservation of a large number of species and, while different, each is complementary and interdependent. BirdLife attaches great importance to the identification of priorities, to set targets and guide conservation action on species, sites and habitats. The BirdLife International Partnership has therefore conducted baseline studies across Europe to identify the conservation priorities for species, sites and habitats (Box 3). This publication defines the priority sites for bird conservation in Europe.

Box 4. Three ways of conserving biodiversity.

1. Conservation of species

This is the protection of species through conservation action, which may take many forms, such as legislation, monitoring, research, prioritization, management of populations, and the acquisition and management of land. Such an approach is often taken for species of economic or cultural importance, and increasingly for species that are threatened with extinction at a local, national or global level.

BirdLife International has identified those species that are threatened with global extinction (Collar et al. 1994) or that are otherwise of conservation concern in Europe (Tucker and Heath 1994), and has recently coordinated the production of up-to-date, international action plans for the conservation of the most threatened species in Europe (Heredia et al. 1996, CoE in prep.).

2. Conservation of sites

This is the protection of sites to conserve species and habitats and to maintain the integrity of ecosystem processes, by designating areas for the conservation of natural resources, and regulating and managing them according to the needs of the biodiversity which they contain. Apart from the long-term benefits gained by conserving biodiversity, sites also have other important functions for society, including education and research, and have non-material and non-monetary values as well as providing the focus for local or national pride. In moving towards a more sustainable society, all these functions will be increasingly highly valued. The protection and conservation of sites is an integral part of any attempt to achieve sustainability.

The BirdLife International Important Bird Area (IBA) Programme (see Box 4), a world-wide initiative aimed at identifying and protecting a network of critical sites for the world's birds, aims to facilitate the conservation of birds via this approach. This book, which builds upon the first pan-European IBA inventory (Grimmett and Jones 1989), is intended to guide practical on-the-ground conservation management and also to target political and legal mechanisms to achieve adequate protection of Europe's IBAs.

3. Conservation of habitats

A great threat to birds in Europe, and to biodiversity in general, lies in the continuing erosion of the quality and extent of habitats across the entire landscape ('the wider environment'). The loss and degradation is driven by the increasing intensity of human uses of the environment. The conservation of habitat extent and quality across the landscape cannot be achieved solely by the protection of representative areas: a wider approach is needed.

National governments and regional or local authorities can favour and encourage the conservation of the wider environment in the way that they formulate and use their laws, policies, plans, programmes, initiatives, subsidies, taxes, funds, inter-governmental relations and other broad measures. Ideally, these should be fully integrated into land-use policies, regulations and plans, across all sectors of the economy and at all scales. BirdLife International has recently outlined a strategy for conserving birds and their habitats in the wider European environment over the next 20 years (Tucker and Evans 1997).

1.2 IBAs in the context of the wider environment

Increasingly, many environmental problems and potential threats to IBAs are regional or global in scope or origin, and cannot be solely addressed by good protection and management of IBAs themselves. Furthermore, many species breed in a dispersed, non-congregatory fashion, and therefore cannot be conserved successfully by the IBA programme alone. Therefore, it is vital that conservation of the wider environment and the integration of environmental objectives into all policy sectors are also pursued in addition to, and in the context of, IBA conservation.

All European countries have legal and institutional frameworks for the designation and management of protected areas. IBAs should be designated as protected areas under national law where appropriate, but this target has not yet been reached, with 40% of IBAs still unprotected. Additionally, only 21% of European IBAs have more than 90% of their entire area protected at the national level. A higher proportion of IBAs are protected in some countries than others.

Substantial international recognition of IBAs has been achieved in the last decade but many IBAs remain inadequately protected or recognized under relevant international agreements, and further designations are required. Only 40% of IBAs have some form of international protection, and in only 22% of IBAs in Europe is more than 90% of the individual IBA area protected at the international level.

- Many IBAs are wetlands of international importance yet only 30% of these have been designated under the Ramsar Convention. Given the compatibility of IBA criteria with Ramsar criteria, it is possible to estimate that a further 1,000 IBAs in Europe should be considered for designation as Ramsar Sites because of the internationally important numbers of waterbirds that they hold.
- Many IBAs in the European Union are internationally important for migratory and threatened birds but only 54% have been designated as Special Protection Areas (SPAs) under the EC Birds Directive. A further 1,000 IBAs in the European Union should therefore be designated as SPAs. Additionally, only one quarter of IBAs in the EU have more than 75% of their individual area designated as SPAs.

What actions need to be taken?

Immense pressure continues to be placed on the European environment through developments in agriculture, forestry, fisheries, transport, energy, industry, tourism/recreation and urbanization. This publication shows such pressures are severely impacting the most important sites for birds in Europe. Much still needs to be done to conserve IBAs adequately.

1.3 Rationale for the publication of the Republic of Ireland chapter

A large degree of interest was expressed by the Irish public in the Heath and Evans (2000) production. However, much interest was focussed on information solely from the Republic of Ireland. As such, it was considered that publication of the chapter on the Republic of Ireland as a standalone would be beneficial in promoting awareness of IBAs in Ireland. Most of the material used in this publication has been extracted from Heath and Evans (2000). It presents essential information on all known sites of international importance for the conservation of birds in Ireland, and is targeted at a number of audiences, including:

- decision-makers and policy-makers
- land-use planners and regulators
- funders
- land managers
- conservationists
- birdwatchers and ornithologists
- environmental consultants
- academic and research bodies.

This publication is divided into two main sections. The introductory chapters contain information on data collection, site selection and data presentation, while the main section presents a national overview of the IBAs in Ireland, and provides a detailed site-account for each IBA.

2. IDENTIFYING IMPORTANT BIRD AREAS

2.1 Why apply IBA criteria?

The selection of Important Bird Areas (IBAs) is achieved through the application of quantitative ornithological criteria, grounded in up-to-date knowledge of the sizes and trends of bird populations in Europe. The criteria ensure that the sites selected as IBAs have true significance for the international conservation of bird populations, and provide a common currency that all IBAs adhere to, thus creating consistency among, and enabling comparability between, sites at national, continental and global levels. It is crucial to understand why a site is important, and to do this it is necessary to examine its international significance in terms of the presence and abundance of species that occur there in different seasons. The status and nature of these species also need to be taken into account: threat status, breeding/non-breeding status, vulnerability through congregation, and the proportion of the total population of each species that occurs at a site, are all important factors in determining a site's importance.

A main aim of the IBA Programme of BirdLife International is to attain protection for IBAs, and the provision of convincing bird data is an essential part of any argument for statutory protection. Importantly, the application of criteria to significant species, together with future data-gathering and the development of monitoring programmes, permit not only the assessment of changes in species' numbers but also an examination of how these changes impact on the overall importance of the site, thus helping to guide the management and conservation of the area. The more specific, quantitative and comprehensive is the information available on IBAs, with links showing the fulfilment of obligations laid out in various EC directives and international conventions, the stronger is the case for protection. To this end, the criteria build upon existing international legal instruments such as the EC Birds Directive which obliges the designation of Special Protection Areas in the European Community, and the Ramsar Convention under which contracting parties must designate at least one Ramsar Site.

2.2 The categories of IBA criteria

Twenty IBA criteria have been developed for the selection of IBAs in Europe. These allow the identification of IBAs, based on a site's international importance for:

- Threatened bird species
- Assemblages of restricted-range bird species
- Congregatory bird species
- Assemblages of biome-restricted bird species

Criteria have been developed such that, by applying different ('staggered') numerical thresholds, the international importance of a site for a species may be categorized at three distinct geographical levels:

- Global ('A' criteria)
- European ('B' criteria)
- European Union ('C' criteria)

A summary of each of the 20 criteria is given in Table 1. These 20 criteria are based on the criteria used in the first pan-European IBA inventory (Grimmett and Jones 1989), which in turn took account of several previous studies of IBA criteria at the level of the European Community (Osieck and Mörzer Bruyns 1981, Grimmett and Gammell 1989). Adaptation of the 1989 criteria has been driven particularly by the globalization of the IBA programme, with IBAs being identified in the Middle East (Evans 1994), Africa (Fishpool in prep.), Asia and the Americas. This has resulted in:

- The inclusion of criteria to identify sites within areas of high avian endemism, termed Endemic Bird Areas (criterion A2) and listed in Stattersfield *et al.* (1998), and sites within certain biomes (criterion A3).
- The creation of staggered numerical thresholds (A, B and C levels) to allow meaningful comparison between sites across regions of the world. This is particularly significant in that many countries outside Europe, which are just beginning their IBA programmes, may not have completed an assessment of the threat status of species at the continental or sub-regional level, yet can still proceed in identifying IBAs (of global importance, i.e. using 'A' criteria) at this stage.
- The identification of sites for species of European conservation concern (Figure 1), under the B2/B3 criteria.
- The strengthening of links to the EC Birds Directive, through the creation of criteria categories C1–C7 with associated numerical thresholds.

The IBA criteria have been developed by BirdLife International, involving all BirdLife European Partners in several stages of consultation and in workshops held between 1993 and 1996 (BirdLife International 1995, Heath 1995, 1996). The 'Birds and Habitats Directives' Task Force of BirdLife International played a leading role in developing the EU-specific categories and thresholds (C1–C7), to maximize their utility in guiding the selection of Special Protection Areas in EU countries (Osieck 1998).

A total of 515 bird species occur regularly in Europe. IBAs have been identified on the basis of the occurrence of many of these species, provided that they occur in sufficient numbers to meet numerical population thresholds.

2.3 The application of IBA criteria

For most categories of criteria, application of a criterion involved comparing the data provided for each relevant bird species at the site, usually in the form of an estimate of the number of individuals or pairs of the species using the site, against a numerical threshold for the species concerned (normally representing 1% of the species' population in question, e.g. its global population if applying 'A1' or 'C1' criteria). For only two criteria, A2 and A3, was the application process more qualitative, requiring only that particular assemblages of bird species be present.

Each criterion is associated with a list of relevant species, with each species being accompanied, where necessary, by a numerical population threshold which must be matched or exceeded in order to allow the site to qualify under that criterion. These population thresholds were derived, wherever possible, from internationally recognised sources of bird population data.

Table 1. Summary of the 20 criteria used in Europe to identify Important Bird Areas.

Category	Criterion
A1. Species of global conservation concern	The site regularly holds significant numbers of a globally threatened species, or other species of global conservation concern.
A2. Restricted-range species	The site is known or thought to hold a significant component of the restricted-range species whose breeding distributions define an Endemic Bird Area (EBA) or Secondary Area (SA).
A3. Biome-restricted species	The site is known or thought to hold a significant assemblage of the species whose breeding distributions are largely or wholly confined to one biome.
A4. Congregations	<p>(i) The site is known or thought to hold, on a regular basis, at least 1% of a biogeographic population of a congregatory waterbird species.</p> <p>(ii) The site is known or thought to hold, on a regular basis, at least 1% of the global population of a congregatory seabird or terrestrial species.</p> <p>(iii) The site is known or thought to hold, on a regular basis, at least 20,000 waterbirds or at least 10,000 pairs of seabird of one or more species.</p> <p>(iv) The site is known or thought to be a ‘bottleneck’ site where at least 20,000 storks (Ciconiidae), raptors (Accipitriformes and Falconiformes) or cranes (Gruidae) regularly pass during spring or autumn migration.</p>
B1. Congregations	<p>(i) The site is known or thought to hold at least 1% of a flyway or other distinct population of a waterbird species.</p> <p>(ii) The site is known or thought to hold at least 1% of a distinct population of a seabird species.</p> <p>(iii) The site is known or thought to hold at least 1% of a flyway or other distinct population of other congregatory species.</p> <p>(iv) The site is a ‘bottleneck’ site where over 5,000 storks, or over 3,000 raptors or cranes regularly pass on spring or autumn migration.</p>
B2. Species with an unfavourable conservation status in Europe	The site is one of the ‘n’ most important in the country for a species with an unfavourable conservation status in Europe (SPEC 2, 3) and for which the site-protection approach is thought to be appropriate.
B3. Species with a favourable conservation status in Europe	The site is one of the ‘n’ most important in the country for a species with a favourable conservation status in Europe but concentrated in Europe (SPEC 4) and for which the site-protection approach is thought to be appropriate.
C1. Species of global conservation concern	The site regularly holds significant numbers of a globally threatened species, or other species of global conservation concern.
C2. Concentrations of a species threatened at the European Union level	The site is known to regularly hold at least 1% of a flyway population or of the EU population of a species threatened at the EU level (listed on Annex I and referred to in Article 4.1 of the EC Birds Directive).
C3. Congregations of migratory species not threatened at the EU level	The site is known to regularly hold at least 1% of a flyway population of a migratory species not considered threatened at the EU level
C4. Congregatory – large congregations	The site is known to regularly hold at least 20,000 migratory waterbirds and/or 10,000 pairs of migratory seabirds of one or more species.
C5. Congregatory – bottleneck sites	The site is a ‘bottleneck’ site where at least 5,000 storks (Ciconiidae) and/or at least 3,000 raptors (Accipitriformes and Falconiformes) and/or 3,000 cranes (Gruidae) regularly pass on spring or autumn migration.
C6. Species threatened at the European Union level	The site is one of the five most important in the European region (NUTS region) in question for a species or subspecies considered threatened in the European Union (i.e. listed in Annex I of the EC Birds Directive).
C7. Other ornithological criteria	The site has been designated as a Special Protection Area (SPA) or selected as a candidate SPA based on ornithological criteria (similar to but not equal to C1–C6) in recognized use for identifying SPAs.

In some countries it has not been possible to apply the criteria fully to all relevant species, due to a lack of data on some species. This is known to be the case for a number of bird taxa that are considered threatened at the scale of the European Union, being listed in Annex I of the EC Birds Directive. Therefore, the identification of sites for some of these species, or the data presented on qualifying species at these sites, may be incomplete. The definitions of the criteria given in this chapter are guidelines for the identification of IBAs. They have been followed as far as possible but, since definitions of this sort cannot cover all possibilities, they are not inflexible rules. The need for scientific objectivity and standardization has had to be balanced by common sense and the practical objectives of the exercise.

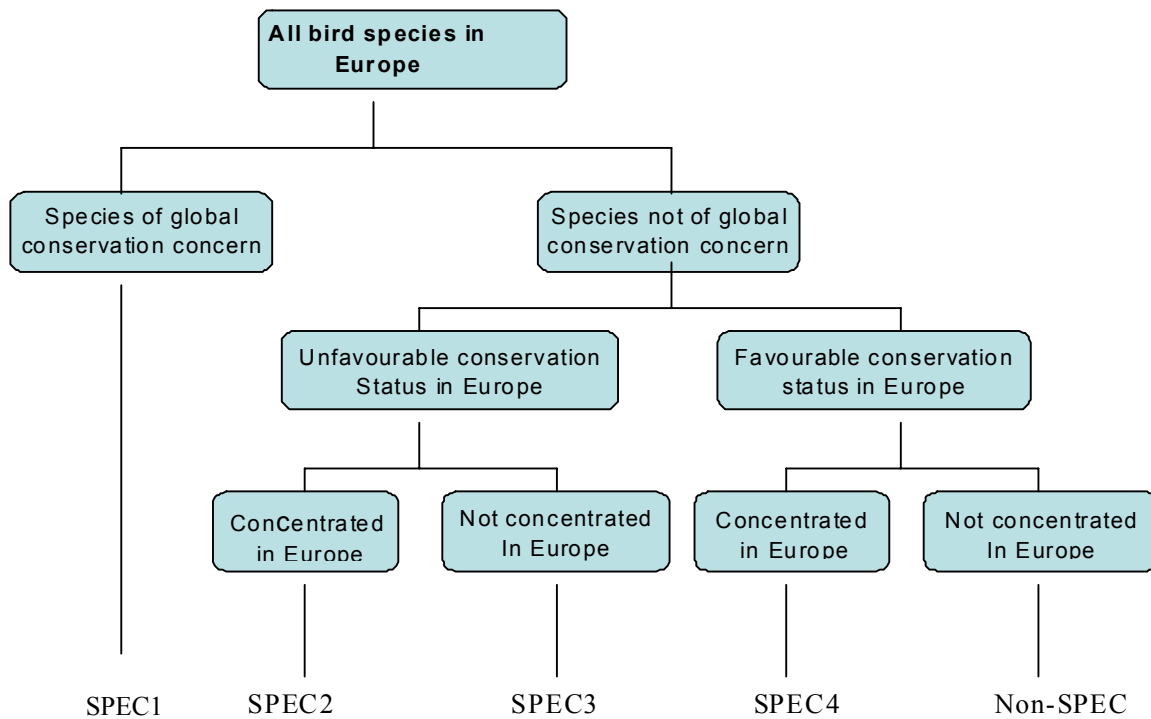


Figure 1. Definitions of Species of Conservation Concern (SPEC) on a European scale (Tucker and Heath 1994).

2.4 Defining the boundaries of an IBA

• A site is defined so that, as far as possible, it:

- i) is different in character or habitat or ornithological importance from the surrounding area;
- ii) exists as an actual or potential protected area, with or without buffer zones, or is an area which can be managed in some way for nature conservation;
- iii) is, alone or with other sites, a self-sufficient area which provides all the requirements of the birds (that it is important for) which use it during the time that they are present.

• Where extensive tracts of continuous habitat occur which are important for birds, only characteristics ii) and iii) apply. This definition is not applicable to migratory bottleneck sites.

• Practical considerations of how best the site may be conserved are the foremost consideration.

• Simple, conspicuous boundaries such as roads or rivers can often be used to delimit site margins, while features such as watersheds, ridge-lines and hilltops can help in places where there are no obvious discontinuities in habitat (transitions of vegetation or substrate). Boundaries of ownership are also relevant.

• There is no fixed maximum or minimum size for IBAs—the biologically sensible should be tempered with the practical. Neither is there a definitive answer on how to treat cases where a number of small sites lie near each other. Whether these are best considered as a series of separate IBAs, or as one larger site containing areas lacking ornithological significance, depends upon the local situation with regard to conservation and management.

3. DATA COLLECTION

3.1 Sources of data

A vast network of ornithologists, birdwatchers and conservation experts have contributed to this inventory. In Ireland, many have laid the foundation for the inventory, through carrying out surveys of bird numbers and distributions during the last three decades. The previous pan-European IBA inventory (Grimmett and Jones 1989) stimulated, during the past decade, the production of a national IBA inventory (Magee and Coveney 1995), which was a primary source of information for this new pan-European inventory.

As well as publications focusing on IBAs, a large number of other relevant studies have been published over the last 10 years that have stimulated or facilitated data-collection for IBAs:

- *Birds in Europe: their conservation status* (Tucker and Heath 1994): this BirdLife publication was a comprehensive assessment of the conservation status of all bird species in Europe, based on population sizes and trends, and range trends. Through identifying which species are of European conservation concern, and determining their national population numbers, the results have been central to the identification of IBAs for these species, based on numerical criteria.

Box 5. Classification of habitats at Important Bird Areas in Europe.

Primary	Secondary
Forest/woodland	broadleaved deciduous forest native coniferous forest mixed forest alluvial/very wet forest broadleaved evergreen forest wooded steppe wooded tundra treeline ecotone wooded desert/semi-desert
Scrub	scrub heathland sclerophyllous scrub/garrigue/maquis
Grassland	steppe/dry calcareous grassland dry siliceous grassland alpine/subalpine/boreal grassland humid grassland mesophile grassland tundra machair Desert desert semi-desert
Wetland tidal river/enclosed	tidal water mudflat/sandflat saltmarsh sand-dunes/sand beach shingle/stony beach coastal lagoon standing fresh water standing brackish and salt water river/stream raised bog blanket bog water-fringe vegetation fen/transition mire/spring
Marine areas	open sea sea inlet/coastal features
Rocky areas	sea cliff/rocky shore rock stacks/islets scree/boulders inland sand-dunes caves
Artificial landscape	highly improved reseeded grassland arable land perennial crops/orchards/groves forestry plantation urban parks/gardens other urban/industrial areas ruderal land
Introduced/exotic vegetation	
Unknown	

Based on: *A classification of Palaearctic habitats* (Devillers and ... 1996)

are listed in Boxes 5, 6, and 7.

- *Birds to Watch 2* (Collar *et al.* 1994): on behalf of IUCN–The World Conservation Union, the universally recognized authority on globally threatened species, BirdLife identified in this publication those species of bird that are of global conservation concern, in Europe and elsewhere. This update of previous such publications, together with data in *Birds in Europe*, has allowed more authoritative identification of IBAs for globally threatened species, based on standard, numerical criteria.

- Wetlands International has published new and more accurate information on the sizes and geographical ranges of waterbird populations in Europe (Rose and Scott 1994, 1997)—analysed and mapped in more detail for swans, geese and ducks (Scott and Rose 1996)—and has also stimulated the production of national wetland inventories in Europe, which contain much new information on wetland sites. Together, these data-sources have allowed more reliable and comprehensive identification of IBAs for waterbird species.

- The process of drawing up the most recent international action plans for bird species of global conservation concern in Europe, which was coordinated by BirdLife International, and the subsequent publication of the plans (Heredia *et al.* 1996), have together stimulated many national-scale field surveys of these species. Again, this has led to the discovery of a large number of new IBAs for these key species, and has improved or updated information on known IBAs.

- United Nations List of Protected Areas (WCMC/WCPA 1998): this publication has provided much useful information on the location and extent of statutory protected areas in each country, making it much easier to categorize and analyse the legal protection status of IBAs.

3.2 Types of data collected

For each IBA across Europe, key data have been collected on:

- Location
- Habitats and land-uses
- Reasons for importance
- Conservation action
- Bird species
- Threats
- Protection status

Table 2 presents a fuller explanation of the types of data collected. For many countries in Europe, especially in the centre and east, this is the first time that such detailed data on sites have been collated. In other countries, such information already existed, at least in part, but was spread across a broad range of sources.

Compared to the previous pan-European IBA inventory (Grimmett and Jones 1989), the data collected for this inventory have been more quantitative, which has allowed a more rigorous analysis. The methods used for compiling and classifying this information have been standardized as much as possible. Standard lists were developed for several of the data-types, to simplify datacollection, and to facilitate any subsequent comparison and analysis of data between sites at local, national, continental and global levels. Thus, for habitats, land-uses and threats, a standard classification was drawn up for each, covering all the possible options that can be encountered at IBAs in Europe, and these

Table 2. The different types of data collected on Important Bird Areas, and available in the IBA database.

GEOGRAPHICAL DATA	
Compiler	Person responsible for the IBA data provided.
Date	Date of completion of data compilation.
IBA codes	Current site-code; national IBA code; previous pan-European inventory (1989) code.
Site names	International name in English; national name in national language.
Country	Country in which IBA is located.
Administrative regions	Administrative region(s) in which IBA is located (at primary and secondary levels).
Area of IBA	Area of IBA in hectares (ha); 100 hectares = 1 km ² .
Area accuracy ¹	Accuracy to which area of IBA is known.
Central coordinates	Central coordinates of IBA, in degrees and minutes (latitude/longitude; Greenwich).
Altitude	Altitudinal range spanned by IBA (in metres above/below sea level).
Map	Whether a map showing IBA boundaries (in paper or digitized form) is available.
General description	A general description of the IBA, its location and general appearance.
Ownership ²	An indication of the dominant type of ownership of the land within the IBA (should cover >50% of the IBA area).
Management plan	An indication of whether the IBA is covered (partly or wholly) by any existing management plan(s).
CRITERIA	
Endemic Bird Areas	Name of Endemic Bird Area, if A2 criterion is met; see the following chapter for further explanation.
Biomes	Name of biome(s), if A3 criterion is met; see the following chapter for further explanation.
Criteria	The reasons why the site is considered ornithologically important (summary list of IBA criteria fulfilled at the site). See the following chapter for an explanation of the criteria.
ORNITHOLOGICAL DATA	
Species name	Taxonomy and nomenclature follow Cramp et al. (1977–1994).
Season ³	The season in which the species occurs in the IBA.
Year	The year of the latest data on which the population estimate is based.
Population size	An estimate of minimum and maximum population size of the species at (minimum and maximum) the IBA.
Population size accuracy ⁴	Accuracy of population-size estimate.
Population abundance ⁵	Qualitative estimate of population size. Only completed if minimum and maximum values not available.
Trend ⁶	An indication of the population-size trend at the site over the last 10 years.
Trend accuracy ⁴	Accuracy of indicated trend.
Criteria	IBA criteria fulfilled by species's population at site (see the following chapter for an explanation of the criteria).
HABITAT DATA	
Habitat type	Habitat types covering >5% of the IBA area. Two levels of habitat data can be provided (see Box 3 for classification).
Percentage cover	The percentage of the IBA covered by the habitat type.
LAND-USE DATA	
Land-use type	Land-uses covering >5% of the IBA area. (See Box 4 for classification.)
Percentage cover	The percentage of the IBA covered by the land-use.
THREAT DATA	
Threat type	Key threats impacting on the IBA. (See Box 5 for classification.)
Impact of threat ⁷	The seriousness of the threat.
PROTECTION STATUS	
Name	The name of the protected area.
Designation	The national or international designation-type (e.g. National Park).
Year	The year of initial designation.
IUCN category	The IUCN protected-area management category (I–VI) (IUCN 1994).
Area	The area, in hectares (ha; 100 ha = 1 km ²), of the protected area.
Central coordinates	The central coordinates of the protected area (in degrees/minutes of latitude/longitude; Greenwich).
Relationship to IBA ⁸	The spatial relationship between the IBA and the protected area.
Overlap	The extent of overlap in hectares (ha) between the IBA and protected area.
OTHER DATA	
General ornithological description	A general description of the ornithological importance of the IBA.
Other flora/fauna	Other significant flora and fauna present in the IBA.
Habitats/Land-uses/Threats	Additional text on habitats, land-uses or threats.
Research/conservation projects	Information on research, conservation or management activities at the IBA. Further details on protection, including any proposed protection measures.

¹ **Area accuracy:** reliable accurate to within 10% (A), incomplete accurate to within 50% (B), poor definitely not accurate to within 50% (C), unknown (U)

² **Land ownership:** private, state, communal, religious group, international waters, mixed, other, unknown

³ **Season types:** breeding resident, species breeds in IBA and remains throughout the year (R); breeding visitor, species breeds in IBA but is not present for parts of the year (B); winter visitor, species spends a substantial part of the winter in IBA (W); passage visitor, species stages in IBA during migration (P); non-breeding visitor, species occurs in IBA but does not breed, usually over-summering immature birds or post-breeding moulting-gatherings (N); unknown/uncertain breeding or seasonal status of species in IBA is unknown (U).

⁴ **Accuracy of Population size/Trend:** reliable, accurate to within 10% (A); incomplete, accurate to within 50% (B); poor, definitely not accurate to within 50% (C); unknown (U)

⁵ **Population abundance:** *Abundant*, encountered in large numbers in preferred habitat; *Common*, encountered singly or in small numbers in preferred habitat; *Frequent*, often but not always met with in preferred habitat; *Uncommon*, encountered sporadically in preferred habitat; *Rare*, rarely seen, often implying less than 10 or so records; *Unknown*, not possible to assess abundance on available information.

⁶ **Estimate of trend (1985–1995):** +2 Large increase, +1 Small increase, 0 Stable, -1 Small decrease, -2 Large decrease, F Fluctuating, N New breeder, X Extinct, U Unknown

⁷ **Impact of threat:** High, Medium, Low, Unknown

⁸ **Relationship of protected area/IBA:** Protected area is contained by IBA, Protected area contains IBA, Protected area overlaps with IBA, Protected area is adjacent to IBA, Relationship unknown

The importance of an individual site for bird conservation was also categorized in a standard way, such that a site may qualify as an IBA on the basis of one or more of 20 ornithological criteria (see the following chapter). The ornithological data provided for each site were analysed systematically against these 20 numerical criteria (BirdLife International 1995), to ensure that all sites accepted as IBAs were truly of international importance and that the reasons for qualification were clearly documented. These standard, numerical criteria are fundamental to the IBA concept, and are fully explained in the following chapter.

Two main tools were developed to gather, store and manipulate the data on IBAs:

- Data-form (paper questionnaire)
- Computer database

Important qualities that were required of these tools were compatibility, uniformity and flexibility.

3.3 Compatibility

The tools were developed as part of the regional IBA programmes of Europe and other continents (particularly Africa), so as to ensure that all user-requirements were fully considered. In addition, elements of the data-collection mechanisms and classifications used by other international organizations, or by directly relevant pan- European initiatives, which were collecting information on sites in

Box 6. Classification of land-uses at Important Bird Areas in Europe.

Agriculture
Fisheries/aquaculture
Forestry
Hunting
Military
Nature conservation/research
Tourism/recreation
Urban/industrial/transport
Water management
Not utilised
Other
Unknown

Europe—e.g. the Protected Areas Database of the World Conservation Monitoring Centre, the Ramsar Sites Database of the Ramsar Convention Bureau, the Natura 2000 network of the European Commission, and the CORINE Biotopes database of the European Environmental Agency—were taken into account in designing the tools, so as to maximize compatibility (European Commission 1995, WCMC 1996).

3.4 Uniformity

Both tools have a very similar structure, the IBA Database being a computerized version of the paper data-form, although it must be stressed that the IBA Database forms part of a larger World Bird Database and has many other valuable functions apart from datacollection, explained more fully in Box 6. Since the tools were designed to collect standardized data, it is possible to compare directly any attribute of an IBA, such as location, ornithological importance or habitats, with that at any other IBA or IBAs, within and between countries or even continents, without encountering methodological problems.

3.5 Flexibility

The creation of two tools, one paper-based and one computer based, allowed for the breadth in user-requirements when collecting data. In general, local experts found it most convenient to compile the original IBA data onto paper data-forms (often translated into the local language by the national coordinator), and then sent these in to the national coordinator, who organized the transfer of data onto the IBA computer database. Nearly all national (and subnational) IBA coordinators used the database in this way. The tools were also designed so as to allow different quantities and detail of data to be collected per site, depending on the level of knowledge, and also for more data to be added at a later date without difficulty.

3.6 Data-collection procedure

In 1995, 1996 and 1998, international workshops were held involving national IBA coordinators from across the region, in order to share and pass on useful skills and experiences in planning, training and communication. Similarly, many countries held national workshops involving many local coordinators, contributors and experts, to publicize this project and to involve, train and enthuse participants. Most countries translated the dataform into their local language, so as to enable the widest possible dissemination and use of this data-gathering tool. However, the exact mechanism for collecting data within a country varied according to the resources available (in terms of time, people-power, expertise, money, and so on) and according to the existing methods for the collection of national bird data.

3.7 Data checking/validation

Once the national network had submitted a suite of sites as potential IBAs, the data provided were then checked for errors and inconsistencies by national IBA coordinators and the BirdLife Secretariat, before the importance of each site was evaluated against the

20 ornithological criteria mentioned earlier. The use of pre-defined selection lists and standardized terms during the data-collection phase helped to reduce the amount of checking needed, and the computer database also allowed the checking and validation of huge quantities of data to be partially automated, at both international and national levels (see Box 8).

Box 7. Classification of threats at Important Bird Areas in Europe. Abandonment/reduction of land management

Afforestation
Agricultural intensification/expansion
Aquaculture/fisheries
Burning of vegetation
Consequences of animal/plant introductions
Construction/impact of dyke/dam/barrage
Deforestation (commercial)
Disturbance to birds
Drainage
Dredging/canalization
Extraction industry
Filling-in of wetlands
Firewood collection
Forest grazing
Groundwater abstraction
Industrialization/urbanization
Infrastructure
Intensified forest management
Natural events
Recreation/tourism
Selective logging/cutting
Shifting agriculture
Unsustainable exploitation
Other
Unknown

Box 8. The Important Bird Area Database—a part of the World Bird Database

The IBA Database forms the basis of this book, and contains much additional information that could not be published here due to space constraints. Currently used in more than 35 countries across Europe, the IBA Database is a key part of the larger World Bird Database, which is a tool used by BirdLife International for managing, analysing and reporting on the full spectrum of its data on sites and species, for the purpose of conserving birds and their habitats. The World Bird Database is a distribution network, enabling data to flow between the people who collect the data or update it, those who collate and verify it, and those who make the analyses to turn data into information and targets, in order to influence policy and decision-making—moving from science to conservation action.

Key benefits of the World Bird Database are the ability to:

- Manage and validate a large volume of information on IBAs and globally threatened species
- Analyse trends in data and monitor changes
- Link site (IBA) data with species data, e.g. for international conventions, directives and other initiatives or programmes
- Determine the conservation status of sites or species internationally, regionally and nationally, with background information about the birds
 - Produce focused, targeted reports for specific purposes
- Improve the sharing of information and expertise between Partners
- Improve electronic links to non-BirdLife data and information, such as socio-economic and non-bird species data, for use in analyses
- Link to geographic information systems (GIS) for presentation purposes

An overall principle of BirdLife International is to maximize the availability and use of its data for conservation purposes. Information on IBAs in Europe will therefore be made available beyond the BirdLife International Partnership, following the guidelines on use and dissemination of data that are stipulated in the IBA Data Access Policy (BirdLife International 1996). This agreement was drawn up by the European Partnership in February 1996 and applies to the IBA Database as it currently stands, plus subsequent updates. The World Bird Database runs in single-user and multi-user environments and can be made available over the Internet. The development tools are industrial-strength products (Microsoft Visual Basic and Microsoft Access), which offer suitable upgrade paths when new technologies become available. The World Bird Database is simple to use and intuitive in operation, adopting the same look and feel as other widely used Windows products.

4. IRELAND

4.1 Introduction

The island of Ireland is located on the western edge of Europe, extending from about 51°N to 55°N and from 5°W to 10°W. It has a total area of 84,421 km², of which 70,282 km² form the Republic of Ireland (hereafter referred to as 'Ireland'). A total of 140 Important Bird Areas (IBAs) are identified in this inventory (Table 3, Map 1), covering an area of about 4,309 km², equivalent to c.6% of the land area of the country. These 140 sites include 48 newly identified IBAs. In the previous pan-European inventory (Grimmett and Jones 1989), 110 IBAs were identified. During the current review, 91 of these original sites were found to still qualify under the current (revised) IBA criteria. One of these sites (former site IE110) has been split into two IBAs for this inventory, and a number of the others have been expanded in size. Seven out of the 110 original sites did not meet criteria and do not feature in this inventory (they are listed in Table 3). The remaining 12 of the 110 original sites have been amalgamated with six of the 91 qualifying sites to form enlarged IBAs.

The long coastline of Ireland extends over 7,100 km (EPA 1996) and has a wide variety of habitats. About 60% of the IBAs are coastal, with islands and cliffs being important for breeding seabirds and estuaries for wintering wildfowl. The interior of Ireland is dominated by a low-lying limestone plain, surrounded by mountains (up to 1,000 m above sea-level). Lakes and inland loughs are plentiful, covering c.6% of the land area and predominating at c.20% of the IBAs. There are numerous peatlands in the country, with raised bogs in the midlands and blanket bogs in the uplands, especially in the west, and c.10% of the IBAs are predominantly bogland.

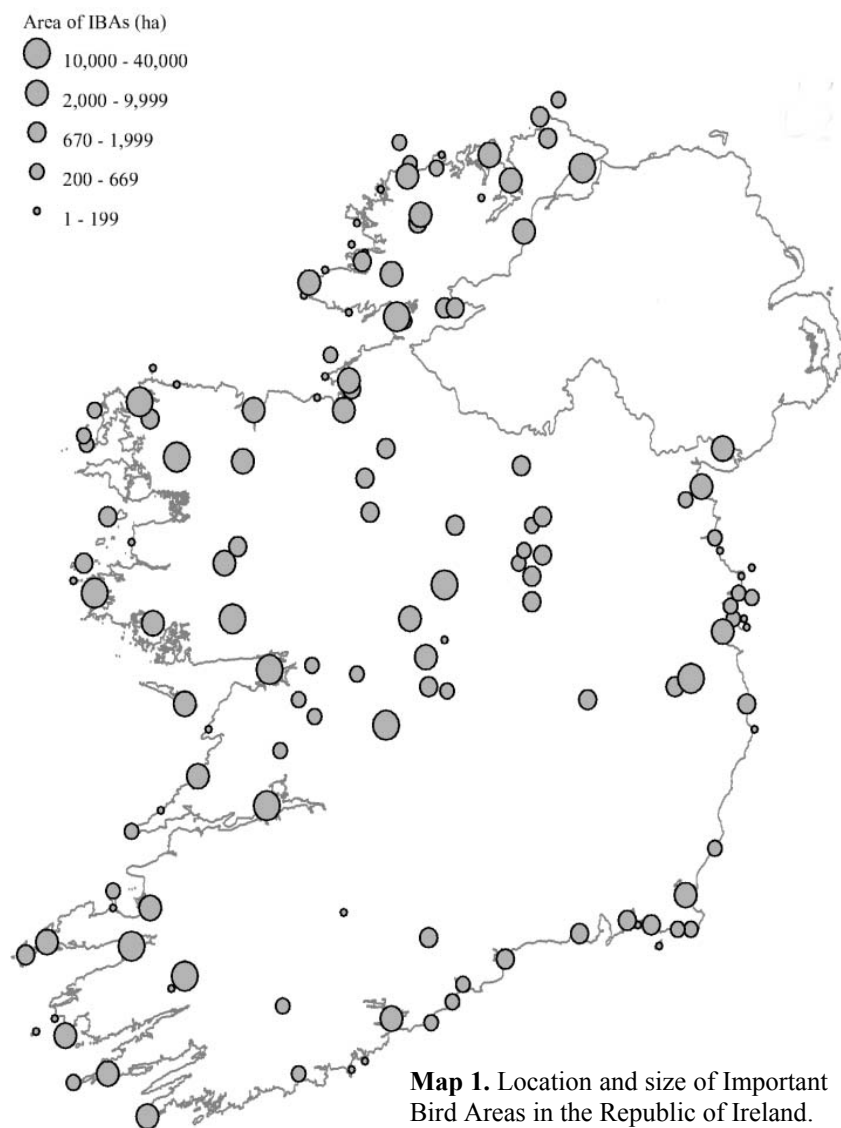
Table 3. Summary of Important Bird Areas in the Republic of Ireland.

IBA code	IBA name	IBA area (ha)	Criteria
001	Inishtrahull	315	B2, B3, C7
002	Malin Head	750	C2, C6
003	Trawbreaga Bay	1,100	B1i, B2, C2, C3
004	Lough Foyle	21,803	A4i, A4iii, B1i, B2, B3, C2, C3, C4
005	Lough Swilly including Blanket Nook and Inch Lake	9,000	A4i, A4iii, B1i, B2, B3, C2, C3, C4, C6
006	River Foyle: Carrigans and Swilly Burn valleys	2,300	B1i, B3, C2, C3
007	Fanad Head peninsula	8,600	C6
008	Greer's Island (Massmount), Mulroy Bay	19	C7
009	Lough Fern	185	C7
010	Horn Head cliffs	176	A4iii, B3, C3, C4
011	Dunfanaghy New Lake	626	C7
012	Tory Island	607	A1, C1, C6
013	Inishbofin, Inisdooney and Inisbeg	604	A1, B1i, C1, C2, C6
014	Falcarragh to Min an Chladaigh	4,700	A1, C1, C6
015	Inishsirr and Inishmeane	140	B1i, B2, C2
016	Glenveagh National Park	9,593	C7
017	Lough Barra bog	739	C7
018	Inishkeeragh and Illancrone	25	B2, C2, C6
019	Roaninish	144	B2, C7
020	Sheskinmore Lough	944	B1i, C7
021	Inishkeel	126	B1i, C2
022	Lough Nillan bog	4,168	C7
023	Tormore Island	30	C7
024	West Donegal coast	4,050	B2, C6
025	Rathlin O'Birne	154	B1i, B2, C2
026	Inishduff	47	B3
027	Moors west & north-west of Lough Derg, Brownhall bogs around Loughs Golagh & Dunragh (includes Pettigo Plateau)	691	C7
028	Lough Derg	888	A4iii, B1i, C3, C4
029	Durnesh Lough	365	B1i, B2, B3, C2
030	Donegal Bay	40,000	A4i, B1i, C2
031	Inishmurray	260	B1i, B2, B3, C2
032	Ardboline Island and Horse Island	25	B1i, C2
033	Drumcliff Bay and Ballintemple	3,000	B1i, B2, C2
034	Cummeen Strand (Sligo Harbour)	1,865	B1i, B2, C3
035	Ballysadare Bay	2,146	B1i, B2, C3, C6
036	Lough Gara	1,788	B1i, B3, C3
037	Aughris Head	18	C7
038	Killala Bay	4,294	B1i, B2, C3
039	Illaunmaistir (Oilean Maistir)	165	A4ii, A4iii, B1ii, B2, C2, C4, C6
040	Stags of Broadhaven	136	C6
041	Broadhaven, Blacksod & Tullaghan Bays & parts of the Mullet peninsula	10,852	A4i, B1i, B2, B3, C2, C3, C6
042	Inishglora and Inishkeeragh	337	A4ii, A4iii, B1ii, B2, B3, C2, C4, C6
043	Inishkea Islands	592	A4i, B1i, B2, C2
044	Duvillaun Islands	446	B1i, B2, B3, C2
045	Carrowmore Lake	967	B2, C7
046	Owenduff river catchment and Nephin Beg	25,622	C7
047	Lough Conn and Lough Cullin (including Moy valley)	7,227	B3, C7

048	Clare Island cliffs	800	B2
049	Lough Carra	1,595	C7
050	Cross Lough (Killadoon)	1	C6
051	Lough Mask	8,529	C7
052	Inishbofin and Inishshark (including Davillaun)	1,015	B1i, B2, C2
053	High Island	169	B2, B3, C7
054	Connemara Islands	20,000	B1i, B2, C2, C6
055	Roundstone bog	7,000	A4iii, C4, C6
056	Lough Corrib	18,240	A4iii, B1i, C3, C4
057	Inner Galway Bay	11,905	B1i, B2, C3, C6
058	Rahasane turlough	257	B1i, B2, B3, C2, C3
059	Lough Rea	200	B1i, C3
060	Coole Park and Garryland complex	389	C7
061	Aran Island (parts)	4,300	C6
062	Lough Cutra	390	C7
063	Cliffs of Moher	140	A4iii, B2, B3, C4
064	Ballyallia lake	308	B1i, C3
065	Mid Clare coast including Mutton and Mattle Islands	7,000	A4i, B1i, C2, C3
066	Illaunonearaun	46	C2
067	Loop Head	401	A4iii, C4
068	Shannon and Fergus estuary	16,718	A4i, A4iii, B1i, B2, B3, C2, C3, C4
069	Tralee Bay and Barrow Harbour	3,290	B1i, B2, C3, C6
070	Magharee Islands, Mucklaghmore and Illaunbarnagh	370	B2, B3, C6
071	Lough Gill	157	B2, B3, C7
072	Dingle peninsula	3,500	A4iii, B2, C4, C6
073	Blasket Islands	750	A4ii, A4iii, B1ii, B2, B3, C2, C3, C4, C6
074	Castlemaine Harbour	11,374	A4i, A4iii, B1i, B2, C2, C3, C4
075	Puffin Island	53	A4ii, A4iii, B1ii, B2, C2, C3, C4, C6
076	The Skelligs: Great Skellig and Little Skellig	31	A4ii, A4iii, B1ii, B2, C2, C3, C4, C6
077	Iveragh peninsula	4,000	B2, C6
078	Eirk bog	13	C7
079	Killarney National Park	10,329	C7
080	Bull and Cow Rocks	336	A4ii, B1ii, B2, B3, C2, C6
081	Beara peninsula	3,250	B2, C6
082	Sheeps Head and Mizen Head peninsulas	5,500	B2, C6
083	Inner Clonakilty Bay	588	B1i, B2, C3
084	The Gearagh and the Iniscarra reservoir	323	C7
085	Kilcolman bog	63	C7
086	Old Head of Kinsale	15	C7
087	Sovereign Islands	2	A4iii, C4
088	Cork Harbour	5,950	A4iii, B1i, B2, C3, C4, C6
089	Ballycotton, Ballynamona and Shanagarry	200	B2, C7
090	Ballymacoda	602	B1i, B2, C3
091	Blackwater estuary	500	B1i, B2, C3
092	River Blackwater callows	1,053	B1i, B2, B3, C2, C3
093	Helvick Head	78	C7
094	Dungarvan Harbour	1,300	A4i, B1i, B2, C2, C3
095	Tramore Backstrand	1,557	B1i, B2, C3, C6
096	Bannow Bay	958	B1i, B2, C3
097	Keeragh Islands	22	C7
098	The Cull/Killag	896	A4i, B1i, B2, C2, C3
099	Saltee Islands	126	B2, B3, C7
100	Tacumshin lake	528	B1i, B2, C7
101	Lady's Island Lake	466	A4i, A4iii, B1i, B2, C2, C4, C6
102	Wexford Harbour and Slobes	5,000	A4i, A4iii, B1i, B2, B3, C2, C3, C4
103	Cahore marshes	450	B1i, B2, C2, C3
104	Wicklow Head	134	C7
105	North Wicklow coastal marshes	670	B1i, B2, C3, C6
106	Wicklow Mountains	30,000	B2, C6
107	Poulaphouca reservoir	1,949	C7
108	Upper Barrow flood-plain	1,000	A4i, A4iii, B1i, B2, B3, C2, C4
109	Dublin Bay	3,000	A4i, A4iii, B1i, B2, C2, C3, C4, C6
110	Howth Head	102	B2, C7
111	Ireland's Eye	90	C7
112	Baldoyle Bay	203	B1i, B2, C3
113	Malahide/Broadmeadow estuary	606	A4iii, B1i, B2, C3, C4
114	Lambay Island	612	A4i, A4iii, B1i, B1ii, B3, C2, C3, C4
115	Rogerstown estuary	368	B1i, B2, C3
116	Skerries Islands	62	B1i, B3, C3
117	Rockabill	1	A4i, B1i, B2, C2, C6
118	Nanny estuary and shoreline	150	B2

119	Boyne estuary	404	B1i, B2, C3, C6
120	Stabannan–Braganstown	491	A4iii, B1i, B2, B3, C3, C4
121	Dundalk Bay	4,920	A4i, A4iii, B1i, B2, C2, C3, C4
122	Carlingford Lough	4,660	B1i, B2, C3
123	Lough Oughter	1,464	B1i, B3, C2
124	Lough Kinale and Lough Derragh	281	B1i, C7
125	Loughs Kilglass and Forbes, and Ballykenney/Fishertown bogs	1,352	C7
126	Lough Arrow	1,266	C7
127	Bellanagare bog	1,243	C7
128	Lough Ree	10,788	C7
129	River Suck callows: Shannon Bridge–Castlecoote	4,000	A4i, B1i, B2, B3, C2, C3
130	Lough Derg	11,989	C7
131	River Shannon callows: Portumna–Athlone	5,788	A1, A4i, A4iii, B1i, B2, B3, C1, C2, C3, C4, C6
132	River Little Brosna callows: New Bridge–River Shannon	1,154	A4i, A4iii, B1i, B2, B3, C2, C3, C4
133	All Saint's Bog	326	B1i, C3
134	Mongan Bog	129	C7
135	Lough Iron - Glen Lough	263	B1i, B2, B3, C2, C3
136	Garriskil Bog	324	B1i, C3
137	Lough Sheelin	1,885	C7
138	Lough Derravarragh	1,120	B1i, B3, C3
139	Lough Owel	1,032	B1i, C3
140	Lough Ennell	1,404	B1i, C3
	OVERALL	430,892	

4.2 Ornithological Importance



Map 1. Location and size of Important Bird Areas in the Republic of Ireland.

Map 1 shows that 40 of the 140 IBAs are of global importance (qualifying under 'A' criteria) and 63 are of European importance ('B' criteria being the highest met). The remaining 37 IBAs qualify under EU criteria ('C') only.

The 48 newly identified IBAs comprise upland areas (seven are mainly blanket bog, four raised bog), coastal sites (six are mainly coastal islands, ten cliffs), wetlands identified by the Irish Wetland Bird Survey (four estuaries, 11 lakes, one coastal lake, two wetgrassland sites) and sites important for species of global conservation concern (three agricultural grasslands). Of these new sites, 24 meet IBA criteria for particular bird species (three for *Crex crex*, five for *Pyrrhocorax pyrrhocorax*, four for *Anser albifrons flavirostris*, three for *Branta bernicla hrota*, four for *Branta leucopsis* and the remainder for other waterfowl). The other 24 new sites are designated or soon-to-be-designated as Special Protection Areas (SPAs) under the EC Birds Directive (thus meeting C7 criteria).

There are 67 species of European conservation concern (SPEC) which breed regularly in Ireland (Tucker and Heath 1994). Of these, the only species of global conservation concern is *Crex crex*. A further 33 of these 67 breeding species have an unfavourable conservation status in Europe, including a number of seabirds for which Ireland holds important breeding congregations.

Eight IBAs have been selected to cover the most important breeding sites for *Crex crex*. Four of the sites are globally important, meeting the A1 criterion (Table 4), of which River Shannon callows (site 131) holds the largest number of breeding birds in the country, while the other four sites are important in the EU context (meeting C criteria).

On a European and global level, Ireland is particularly important for breeding seabirds and has 13 such SPECs, nine of which have an unfavourable conservation status in Europe (Tucker and Heath 1994). Of Ireland's 84 coastal IBAs, 34 are of international importance for breeding seabirds. Nine IBAs hold (individually) at least 1% of the global breeding population of a seabird species (meeting the A4/i criteria), for the following five species: *Puffinus puffinus*, *Hydrobates pelagicus*, *Morus bassana*, *Phalacrocorax aristotelis* and *Sterna dougallii* (Table 5). A further three IBAs support 1% or more of a distinct breeding population of a seabird species (thus meeting the B1/i criteria), for four species: *Puffinus puffinus*, *Sterna sandvicensis*, *Uria aalge* and *Fratercula arctica* (Table 3). The Basket Islands (site 073) and The Skelligs (site 076) are of particular note, supporting a wide diversity of breeding seabirds in numbers of international importance.

A total of 71 IBAs support particular species of wintering wildfowl or waders in numbers that are important at the global or European level—in total, 24 such species meet such criteria (A4i, B1i, B2, B3). Of these species and sites, Table 5 lists those species that meet the A4i/B1i criteria (at 66 out of the 71 sites). Regarding those species/sites meeting B2/B3 criteria outside the breeding season, eight SPECs overwinter at Irish IBAs in numbers of international importance (out of the total of 14 'winter SPECs' identified in Europe by Tucker and Heath [1994]): *Cygnus columbianus*, *Cygnus cygnus*, *Branta leucopsis*, *Aythya marila*, *Calidris canutus*, *Calidris alpina*, *Limosa lapponica* and *Numenius arquata*. Thirty-six coastal IBAs are important for wintering waterfowl (31 estuaries, four coastal lakes and one coastal shore), along with peatlands, river wetlands and lakes.

Table 4. Important Bird Areas in the Republic of Ireland that are important for species of global conservation concern (meeting criterion A1).

Species	IBA code
<i>Crex crex</i> Corncrake	012, 013, 014, 131

Table 5. Important Bird Areas in the Republic of Ireland that support important numbers of one or more congregatory species (i.e. meeting criteria A4 and/ or B1). IBAs meeting both criteria A4 and B1 for the species are shown in **bold**. IBAs meeting only criterion B1 for the species concerned, and not A4, are shown in normal type. For key to 'Season', see footnote 3 in Table 2.

Species	Season	IBA code
Great Northern Diver <i>Gavia immer</i>	W	030, 041
Manx shearwater <i>Puffinus puffinus</i>	B	073, 075, 076, 114
Storm Petrel <i>Hydrobates pelagicus</i>	B	039, 042, 073, 075, 076, 080
Gannet <i>Morus bassana</i>	B	076
Shag <i>Phalacrocorax aristotelis</i>	B	114
Mute Swan <i>Cygnus olor</i>	R	113, 124
	W	029, 101, 140
	N	100, 101
Bewick's Swan <i>Cygnus columbianus</i>	W	004, 098, 108, 129, 132
Whooper Swan <i>Cygnus cygnus</i>	W	004, 005, 006, 029, 058, 068, 092, 123, 131, 132, 135
	P	005
White-fronted Goose <i>Anser albifrons</i>	W	004, 005, 006, 036, 102, 103, 129, 132, 133, 135, 136, 138, 139, 140
Greylag goose <i>Anser anser</i>	W	005, 120, 121
Barnacle Goose <i>Branta leucopsis</i>	W	003, 013, 015, 021, 025, 031, 032, 033, 041, 043 , 044, 052, 054, 065
Brent Goose <i>Branta bernicla</i>	W	003, 004 , 034, 035, 038, 041, 057, 068, 069, 074, 094, 095, 096, 098, 102, 105, 109, 112
Wigeon <i>Anas penelope</i>	W	004, 132
Teal <i>Anas crecca</i>	W	064, 132
Shoveler <i>Anas clypeata</i>	W	059, 064
Pochard <i>Aythya ferina</i>	W	056, 138
Red-breasted Merganser <i>Mergus serrator</i>	W	57
Coot <i>Fulica atra</i>	P	056
Golden Plover <i>Pluvialis apricaria</i>	W	068, 103, 131
Grey Plover <i>Pluvialis squatarola</i>	W	102
Knot <i>Calidris canutus</i>	W	109, 115, 121
Dunlin <i>Calidris alpina</i>	W	068, 088
Black-tailed Godwit <i>Limosa limosa</i>	W	058, 068, 083, 088, 090, 091, 092, 094, 098, 102, 130, 131, 132
Bar-tailed Godwit <i>Limosa lapponica</i>	W	004, 074, 094 , 102, 109, 121
Whimbrel <i>Numenius phaeopus</i>	P	131
Redshank <i>Tringa totanus</i>	W	005, 068 , 088, 109, 121
Turnstone <i>Arenaria interpres</i>	W	065
Sandwich tern <i>Sterna sandvicensis</i>	B	101
Roseate Tern <i>Sterna dougallii</i>	B	101, 117
	P	109
Guillemot <i>Uria aalge</i>	B	114
Puffin <i>Fratercula arctica</i>	B	075

'Wetlands of international importance' in the sense of the Ramsar Convention, i.e. those regularly holding 20,000 or more wintering waterfowl, include Lough Swilly (site 005), Cork Harbour (site 088), Wexford Harbour and Slobbs (site 102), Dublin Bay (site 109) and Dundalk Bay (site 121). The River Shannon catchment, when taken as a whole (including sites 068, 129, 131 and 132), is the most important site for wintering waterfowl in Ireland, with particularly high numbers of *Cygnus cygnus*, *Anser albifrons flavirostris*, *Pluvialis apricaria* and *Limosa limosa*. Although *Anser albifrons* is not a species of European conservation concern, the subspecies *A. a. flavirostris* (which breeds in Greenland) is listed on Annex I of the EC Birds Directive and there are especially important sites for the subspecies at sites 102 (where over a third of the Irish population winter), 005 and 132. The traditional habitat for this species is bog and this is still used by some flocks in Ireland. Ireland also supports, almost exclusively, the wintering population of *Branta bernicla hrota*, which breeds in the central Canadian Arctic.

A total of 50 IBAs are important for breeding SPECs, meeting B2/B3 criteria (Table 4). The IBA network does not adequately cover a number of dispersed, scarce and data-deficient breeding species, in particular *Pluvialis apricaria* and several species of raptor (Table 6), as well as *Gavia stellata* and *Melanitta nigra*.

Table 6. Species of European conservation concern and species listed on Annex 1 of the EC Birds Directive with significant breeding populations at IBAs in the Republic of Ireland (meeting IBA criteria).

Species		Minimum national breeding population	Proportion (%) of national population breeding at all IBAs
Manx shearwater	<i>Puffinus puffinus</i>	30000	58
Storm Petrel	<i>Hydrobates pelagicus</i>	50000	100
Leach's Petrel	<i>Oceanodroma leucorhoa</i>	200	100
Gannet	<i>Morus bassana</i>	25000	100
Shag	<i>Phalacrocorax aristotelis</i>	8300	36
Merlin	<i>Falco columbarius</i>	200	12
Peregrine	<i>Falco peregrinus</i>	350	7
Corncrake	<i>Crex crex</i>	183	80
Golden Plover	<i>Pluvialis apricaria</i>	300	7
Redshank	<i>Tringa totanus</i>	4000	10
Red-necked Phalarope	<i>Phalaropus lobatus</i>	3	67
Common Gull	<i>Larus canus</i>	3000	14
Lesser Black-backed Gull	<i>Larus fuscus</i>	3200	36
Greater Black-backed Gull	<i>Larus marinus</i>	3100	36
Sandwich tern	<i>Sterna sandvicensis</i>	1800	100
Roseate Tern	<i>Sterna dougallii</i>		100
Common Tern	<i>Sterna hirundo</i>	1700	83
Arctic Tern	<i>Sterna paradisaea</i>	2100	91
Little Tern	<i>Sterna albifrons</i>	174	86
Razorbill	<i>Alca torda</i>	11000	100
Black Guillemot	<i>Cephus grylle</i>	1200	12
Puffin	<i>Fratercula arctica</i>	8000	100
Chough	<i>Pyrrhocorax pyrrhocorax</i>	219	100

4.3 Habitats

Ireland is dominated by agricultural habitat, which comprises 68% of the land area, and this is predominantly pasture with arable crops in the more productive areas of the south and east. Peatlands are widespread, as both blanket and raised bogs, although their area has been substantially reduced by peat extraction and afforestation. The area of wooded land is small, with plantations (mainly of nonnative conifers) occupying 5% of the country and native deciduous woodland less than 1% (EPA 1996).

Wetlands occupy 14% of Ireland and open water 3% (EPA 1996). Wetlands are the dominant habitat-type (by area) at 75 of the 140 IBAs and cover a significant area at a further 14 IBAs. This includes estuaries, coastal lagoons, rivers, lakes and bogs and reflects the importance of Ireland for wintering waterbirds. Twentyseven IBAs include inland lakes, while nine peatland IBAs contain large tracts of blanket bog and five are mainly raised bogs. Together, the peatland IBAs cover c.20% of the total IBA area. They are important for breeding waders such as *Pluvialis apricaria* and for wintering *Anser albifrons flavirostris*.

Islands and coastal cliffs account for most of the 'rocky areas' found at 49 of the 140 IBAs. Marine habitats are often associated with these sites and dominate (by area) at 28 IBAs, while covering a significant proportion at a further ten. These coastal and marine IBAs reflect Ireland's importance for breeding seabirds.

Grassland is the dominant habitat at 16 of the IBAs. Two major types of grassland can be identified, wet grassland and agricultural grassland. Extensive wet grasslands occur at Wexford Slobs (site 102) and the callows of the rivers Shannon and Little Brosna (sites 129, 131 and 132). As well as their significance for wintering wildfowl, some of these grasslands are important for breeding *Crex crex*, *Vanellus vanellus* and *Tringa totanus*. Agricultural grasslands are important for *Crex crex* and *Pyrrhocorax pyrrhocorax*.

Native deciduous woodland covers less than 1% of the country and is correspondingly scarce at IBAs, being mostly confined to National Parks (e.g. sites 079 and 106). Other forested habitat is dominated by non-native conifer plantations.

4.4 Impacts on IBAS – Land-Use And Threats

The most widespread land-use at IBAs is agriculture, predominantly livestock farming, which occurs at 78 of the 140 IBAs and is the dominant land-use (by area) at 26 sites. Correspondingly, the most widespread threat to IBAs is agricultural intensification. This threat is considered to have a high impact at 11 IBAs, primarily sites where the maintenance of non-intensive farming practices are crucial for the persistence of breeding *Crex crex* (sites 002, 007, 012–014, 041 and 131), sites which have suffered severe overgrazing such as at Owenduff–Nephin Beg (site 046) and water-bodies threatened by nutrient pollution as a result of agricultural run-off (e.g. sites 123 and 138). At a further 57 IBAs, the threat is considered to have a low to medium impact and mainly relates to nutrient pollution of estuarine and lake sites, overgrazing of bogs, and drainage of wetlands.

Fisheries and/or aquaculture are the second most frequent economic activity at IBAs, recorded at 66 IBAs and the main activity at 51 IBAs. Fishery activities, including intertidal shellfish cultivation, are considered to be a potential economic use for marine and estuarine habitats, but may not yet occur at all suitable sites. Intertidal shellfish cultivation is a serious threat at a number of IBAs, including Trawbreaga Bay (site 003), Drumcliff Bay (site 033) and Dungarvan Harbour (site 094). It potentially causes a loss of mudflat habitat and also disturbance to wintering waterbirds.

Recreation/tourism activities and developments pose a threat at 63 IBAs, although they usually have a medium or low impact. In coastal IBAs, such developments include caravan sites (site 069), marinas (site 131) and golf courses (sites 038 and 086), while at inland lakes, problems are posed at some sites by boating, angling and holiday-home developments (e.g. site 130).

The other main land-uses within IBAs are tourism/recreation and nature conservation/research, which occur at 39 and 32 IBAs respectively and dominate by area at 22 and 18 IBAs. Hunting is allowed for certain bird species during the open season and occurs within at least 27 IBAs—at 21 IBAs, the majority of the site is open to this activity. Industrial activities occur within 15 sites, though cover most of the area at only one IBA (site 109). Forestry and water management are marginal land-uses within Ireland's IBAs.

Significant disturbance to birds' essential activities, e.g. nesting and feeding, occurs at a minimum of 44 IBAs, mainly due to visitor pressure and hunting activities. Visitor pressure is particularly threatening to sites which are important for ground-nesting seabirds or nesting waders. Hunting can lead to widespread disturbance within IBAs, particularly of wintering waterfowl, and it is generally considered to be of medium impact.

Drainage and industrialization/urbanization both threaten over 15% of IBAs. Within Ireland, large-scale drainage programmes were carried out in the 1960s and 1970s, causing significant destruction to bog and wetland habitats (EPA 1996). While such drainage programmes are not as extensive at present, local drainage schemes, often linked to agricultural intensification, still threaten IBAs, such as at sites 058, 089 and 102. Bogs, such as sites 085 and 127, are also threatened. Industrialization and urbanization have a particularly high impact at Cork Harbour (site 088), due to recent, extensive road development and land-claim projects. A number of other, mainly estuarine, sites are also threatened by this activity, with a medium or low impact.

Infrastructure is one of the least frequent threats at IBAs. However, individual projects can have a marked effect on specific IBAs, such as road developments within Cork Harbour (site 088), Malahide/Swords (site 113) and planned road development within Dublin Bay (site 109), while port development threatens the Boyne estuary (site 119). The filling-in of wetlands is another serious threat, often linked to infrastructural or urban development, which is causing irreversible damage to wetlands such as Rogerstown estuary (site 115).

The alteration of habitat structure at IBAs by introduced (nonnative) plant species, e.g. cord-grass *Spartina* on mudflats in estuaries and Rhododendron shrubs in native woodlands, poses a threat at 11 IBAs. Other important threats, which affect an approximately similar number of sites, are extraction industries and the abandonment of land. Land abandonment is an important threat at IBAs where breeding *Crex crex* are present (e.g. site 013), since suitable habitat may be lost if agricultural land is not managed appropriately. This threat is also linked to agricultural intensification, since specifically non-intensive farming practices are required to maintain suitable habitat.

4.5 Protection Status

The National Parks and Wildlife section of Dúchas, The Heritage Service, is the principal state agency involved in nature conservation. It is responsible for the implementation of the Wildlife Act (1976), the Conservation of Wild Birds Regulations (S.I. 291 of 1985) which implements the EC Birds Directive and the European Communities (Natural Habitats) Regulations (S.I. 94 of 1997) which implements the EC Habitats Directive.

National protection

The national protected-area system for nature conservation is as follows.

1. Statutory Nature Reserve

Nature Reserves are designated and protected from damaging activities under the 1976 Wildlife Act. They are regarded as the most rigorous system in Ireland for the protection of ecosystems and species of flora and fauna. State ownership is not necessary.

2. National Park

These sites are owned and managed by Dúchas, The Heritage Service for nature conservation, public use and appreciation. Except for Killarney National Park, they have no legal protection. However, damaging activities are prevented as a result of state ownership and through management agreements where turbary or grazing rights exist.

3. Refuge for Fauna

These are designated under the 1976 Wildlife Act for the protection of one or more species, where they require special measures to protect their habitat. This designation has, so far, only been used to protect inaccessible sites where development threats are unlikely. State ownership is not necessary.

4. Wildfowl Sanctuary

These are designated under the 1976 Wildlife Act to protect certain ducks, geese and waders from hunting. Land within them can only be protected by other measures. State ownership is not necessary.

Natural Heritage Areas are a proposed designation for sites of national importance for nature conservation. There are no legal powers to prevent damaging activities within these sites, but the 1999 Wildlife (Amendment) Bill has now been published and, with its enactment, this situation should change. At present, the proposal of a site for designation may already affect grant aid and planning permissions. Natural Heritage Areas will provide a national framework for the protection of natural habitats within Ireland.

Out of the 140 IBAs identified, 20 are protected by national three overlap with National Parks, 31 with Wildfowl Sanctuaries and six with Refuges for Fauna (Table 5). The National Parks cover 39,722 ha of the total IBA area (9%). About 25% of the IBAs overlap to a high degree with protected areas, but about 60% do not overlap at all (Figure 2a).

International protection

The Irish Government has ratified all of the international conventions and initiatives relevant to site-based conservation of nature, including Global Conventions (Biodiversity, Ramsar, Bonn, World Heritage and MAB Programme), Pan-European Convention (Bern) and Regional Conventions (EC Birds and Habitats Directives). Thirty-six IBAs overlap with Ramsar Sites, of which all are Special Protection Areas (SPAs) and of which 10 are also Nature Reserves (Table 7). Out of the 140 IBAs identified, 97 are protected by overlap

with SPAs. A further 20 IBAs are protected by proposed SPAs. The remaining 23 IBAs do not overlap with proposed or designated SPAs and are mainly new sites identified during the current IBA review.

Of the 97 IBAs which overlap with SPAs, about two-thirds overlap to a high degree, and these latter sites include 16 offshore island IBAs, 15 IBAs which meet the C7 criterion as SPAs and two IBAs which are National Parks. Designation of the whole IBA area as an SPA has not been problematic for the island sites since they are mainly uninhabited and state-owned. The National Parks are also state-owned, and the C7 sites qualify as IBAs primarily because of their SPA status and so match the SPA area.

The remaining one-third of the 97 IBAs do not overlap to such a high extent with SPAs (see Fig. 2b). At a number of these IBAs, a significant and integral part of the IBA lies outside the designated boundary of the SPA, e.g. at Dublin Bay (site 109) and Cork Harbour (site 088). Within other IBAs, only the state-owned foreshore has been designated as an SPA, leaving important parts unprotected (Magee and Coveney 1995). Where this has happened, the SPA boundary needs to be increased to include all parts of the IBA. Proposed SPAs should be designated at the 20 IBAs with which they overlap, and the remaining 23 IBAs without any SPA protection should be considered for SPA designation. Proposed candidate Special Areas for Conservation overlap with 52 IBAs. The exact areas and boundaries of these sites are unknown as they have yet to be designated.

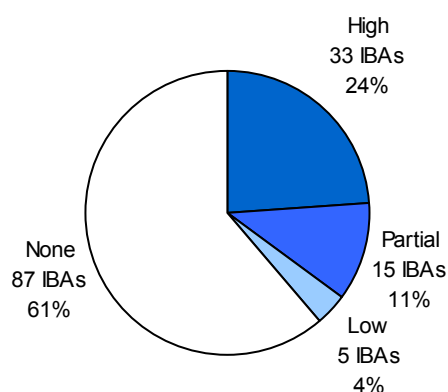
Table 7. Protection status of Important Bird Areas in the Republic of Ireland. A tick (✓) indicates that an IBA overlaps with a protected area.

IBA code	IBA name	National				International			
		Statutory Nature Reserve	National Park	Refuge for Fauna	Wildfowl Sanctuary	Ramsar site	Biosphere Reserve	SPA	Biogenetic Reserve
001	Inishtrahull							✓	
002	Malin Head								
003	Trawbreaga Bay				✓	✓		✓	
004	Lough Foyle							✓	
005	Lough Swilly including Blanket Nook and Inch Lake				✓	✓		✓	
006	River Foyle: Carrigans and Swilly Burn valleys								
007	Fanad Head peninsula								
008	Greer's Island (Massmount), Mulroy Bay							✓	
009	Lough Fern				✓			✓	
010	Horn Head cliffs			✓				✓	
011	Dunfanaghy New Lake							✓	
012	Tory Island							✓	
013	Inishbofin, Inisdooney and Inisbeg							✓	
014	Falcarragh to Min an Chladaigh								
015	Inishsirr and Inishmeane								
016	Glenveagh National Park		✓					✓	
017	Lough Barra bog	✓				✓		✓	
018	Inishkeeragh and Illancrone								
019	Roaninish								
020	Sheskinmore Lough				✓			✓	
021	Inishkeel								
022	Lough Nillan bog							✓	
023	Tormore Island								
024	West Donegal coast								
025	Rathlin O' Birne								
026	Inishduff								
027	Moors west & north-west of Lough Derg, Brownhall bogs around Loughs Golagh & Dunragh (includes Pettigo Plateau)	✓				✓		✓	
028	Lough Derg				✓			✓	
029	Durnesh Lough								
030	Donegal Bay								
031	Inishmurray							✓	
032	Ardboline Island and Horse Island								
033	Drumcliff Bay and Ballintemple	✓						✓	
034	Cummeen Strand (Sligo Harbour)					✓		✓	
035	Ballysadare Bay								
036	Lough Gara				✓	✓		✓	
037	Aughris Head								
038	Killala Bay					✓		✓	
039	Illaunmaistir (Oilean Maistir)							✓	
040	Stags of Broadhaven							✓	
041	Broadhaven, Blacksod and Tullaghan Bays and parts of the Mullet peninsula					✓		✓	
042	Inishglora and Inishkeeragh							✓	

043	Inishkea Islands					✓
044	Duvillaun Islands					
045	Carrowmore Lake			✓		✓
046	Owenduff river catchment and Nephin Beg				✓	✓
047	Lough Conn & Lough Cullin (including Moy valley)			✓		✓
048	Clare Island cliffs					
049	Lough Carra			✓		✓
050	Cross Lough (Killadoon)					
051	Lough Mask			✓		✓
052	Inishbofin and Inishshark (including Davillaun)					
053	High Island					✓
054	Connemara Islands					
055	Roundstone bog					✓
056	Lough Corrib				✓	✓
057	Inner Galway Bay				✓	✓
058	Rahasane turlough					✓
059	Lough Rea					
060	Coole Park and Garryland complex	✓		✓	✓	✓ ✓
061	Aran Island (parts)					
062	Lough Cutra					✓
063	Cliffs of Moher		✓			✓
064	Ballyallia lake			✓	✓	✓
065	Mid Clare coast including Mutton and Mattle Islands			✓		✓
066	Illaunonearaun					
067	Loop Head					
068	Shannon and Fergus estuary					✓
069	Tralee Bay and Barrow Harbour	✓			✓	✓
070	Magharee Islands, Mucklaghmore and Illaunbarnagh					
071	Lough Gill			✓		✓
072	Dingle peninsula					
073	Blasket Islands	✓				✓
074	Castlemaine Harbour	✓		✓	✓	✓
075	Puffin Island	✓				✓
076	The Skelligs: Great Skellig and Little Skellig	✓				✓
077	Iveragh peninsula					
078	Eirk bog	✓				✓
079	Killarney National Park		✓		✓	✓
080	Bull and Cow Rocks	✓		✓		✓
081	Beara peninsula					
082	Sheeps Head and Mizen Head peninsulas					
083	Inner Clonakilty Bay					
084	The Gearagh and the Iniscarra reservoir	✓		✓	✓	✓ ✓
085	Kilcolman bog	✓		✓		✓
086	Old Head of Kinsale		✓			✓
087	Sovereign Islands					
088	Cork Harbour			✓	✓	✓
089	Ballycotton, Ballynamona and Shanagarry			✓	✓	✓
090	Ballymacoda				✓	✓
091	Blackwater estuary				✓	✓
092	River Blackwater callows			✓		✓
093	Helvick Head					
094	Dungarvan Harbour				✓	✓
095	Tramore Backstrand				✓	✓
096	Bannow Bay			✓	✓	✓
097	Keeragh Islands					
098	The Cull/Killag	✓				✓
099	Saltee Islands	✓				✓
100	Tacumshin lake			✓		✓
101	Lady's Island Lake			✓		✓
102	Wexford Harbour and Slobs	✓			✓	✓ ✓
103	Cahore marshes					
104	Wicklow Head					
105	North Wicklow coastal marshes			✓		✓
106	Wicklow Mountains	✓	✓			✓
107	Poulaphouca reservoir					✓
108	Upper Barrow flood-plain					
109	Dublin Bay	✓		✓	✓	✓ ✓
110	Howth Head					✓
111	Ireland's Eye					

112	Baldoyle Bay	✓			✓	✓		
113	Malahide/Broadmeadow estuary				✓		✓	
114	Lambay Island						✓	
115	Rogerstown estuary	✓		✓	✓		✓	
116	Skerries Islands							
117	Rockabill		✓				✓	
118	Nanny estuary and shoreline							
119	Boyne estuary			✓			✓	
120	Stabannan–Braganstown						✓	
121	Dundalk Bay			✓	✓		✓	
122	Carlingford Lough						✓	
123	Lough Oughter			✓	✓		✓	
124	Lough Kinale and Lough Derragh						✓	
125	Loughs Kilglass & Forbes, & Ballykenney/ Fishertown bogs						✓	
126	Lough Arrow						✓	
127	Bellanagare bog						✓	
128	Lough Ree						✓	
129	River Suck callows: Shannon Bridge–Castlecoote	✓					✓	
130	Lough Derg						✓	
131	River Shannon callows: Portumna–Athlone						✓	
132	River Little Brosna callows: New Bridge–River Shannon						✓	
133	All Saint's Bog						✓	
134	Mongan Bog				✓		✓	✓
135	Lough Iron - Glen Lough			✓	✓		✓	
136	Garriskil Bog				✓		✓	
137	Lough Sheelin						✓	
138	Lough Derravarraugh				✓		✓	
139	Lough Owel				✓		✓	
140	Lough Ennell				✓		✓	
OVERALL		21	3	6	32	38	3	108

(a)



(b)

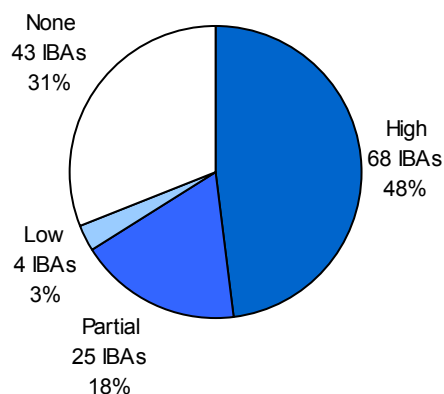


Figure 2. The national (a) and international (b) protection status of Important Bird Areas in the Republic of Ireland

4.6 Conservation

- BirdWatch Ireland has 14 reserves, which are contained within IBAs (Kilcolman Bog, Cuskinny Marsh, Lough Beg, Sheskinmore Lough, Rogerstown Estuary, Little Skellig, Puffin Island, Termoncarragh Lake, Annagh Marsh, Illaunmaistir, Bullock Island, Bishops Island, Wexford Wildfowl Reserve and Kilcoole Reserve). BirdWatch Ireland is preparing management plans for a number of its reserves which lie within IBAs. These reserves have been acquired for the protection of habitats important for birds and cover a total area of 409 ha, c.1% of the total IBA area.

- Research and conservation projects for *Crex crex* and *Sterna* terns are ongoing. The Corncrake Conservation Project operates in the Shannon callows (site 131), north Donegal and north-west Mayo. It promotes non-intensive farming practices for the conservation of breeding habitat for *Crex crex*, and an annual census of population numbers and distribution is undertaken. Tern conservation projects operate on Rockabill island (site 117), Lady's Island Lake (site 101) and at Kilcoole marshes (site 105). These projects aim to protect breeding sites through habitat management and to continue research on population demography. Annual data on population numbers is collected. The INTERREG Programme of the EU funds research and monitoring of the colonies of *Sterna dougallii* at Rockabill island and Lady's Island Lake.

- The Irish Wetland Bird Survey (I-WeBS) monitors the numbers and distribution of waterfowl in the Republic of Ireland during the non-breeding season. All wintering sites are monitored for *Anser albifrons flavirostris*, *Anser anser*, *Branta bernicla hrota* and *Branta leucopsis*. The Countryside Bird Survey (CBS) monitors the numbers and distribution of common countryside birds during the breeding season. The former survey has been in operation since 1994 and the latter since 1998. These surveys aim to provide an indication of species' population trends at wintering sites and in the wider countryside.

- Annual monitoring of seabird colonies is carried out at key breeding colonies (e.g. sites 076 and 099). The last seabird population census for the Republic of Ireland occurred in 1987. Seabird 2000, a joint project between the Republic and the United Kingdom, will census Ireland's coastal areas, including islands and inland breeding sites, to provide data on breeding seabird numbers and distribution. This project will start in 1999 and continue until 2001. A census of *Cephus grylle*, on the east coast of Ireland, was completed in 1998.
- Conservation plans for SPAs and SACs are being prepared by Dúchas, The Heritage Service. These areas overlap with IBAs and the plans should provide specific objectives to maintain the conservation importance of each site. The Rural Environment Protection Scheme—Ireland's implementation of the EU's agrienvironment regulations—should ensure that environmentally sensitive farming takes place within IBAs with agricultural land-uses.

4.7 Analytical Methods

- This IBA review was completed in 1997 using available literature and through consultation with Dúchas, The Heritage Service.
- Breeding numbers of *Sterna* terns were obtained from the All-Ireland Tern Survey completed in 1995 and from more recent counts at specific sites (e.g. sites 101 and 117). Waterfowl counts were obtained from the 1995/96 I-WeBS Report and from special surveys of particular species (e.g. *Branta bernicla* and *Branta leucopsis*). The 1992 survey of *Pyrhacorax pyrrhacorax* was used to identify sites important for this species. Data on *Crex crex* from 1995 and 1996 were used to identify important sites for the species. No new breeding seabird data were available, so population figures from the previous pan-European IBA inventory (Grimmett and Jones 1989) were used.
- To obtain habitat information, site synopses for Natural Heritage Areas were used (NPW 1996) and, where available, more detailed site reports (e.g. for sites 101, 114, and 117). However, neither the site synopses nor specific site reports provided detailed information on habitat cover, so for most IBAs the percentage cover has been estimated.
- The lack of specific site information was also a problem for assessing land-use cover and threat status at IBAs. Wherever possible, local knowledge was used to gain this information, together with Natural Heritage Area site synopses (NPW 1996). The SPA and SAC management plans, when completed, should provide more accurate information.
- Three cross-border sites were identified: Lough Foyle (site 004), Pettigo Plateau (site 027) and Carlingford Lough (site 122). Data presented is for the Republic-side only, except that the areas quoted for sites 004 and 122 refer to the whole of each cross-border site, i.e. the figures include UK territory. A similar approach has been followed for these sites in the chapter for the United Kingdom.
- The primary administrative regions listed in the site accounts (and Table 1) are the eight EU NUTS regions for the Republic of Ireland. The secondary administrative regions (not listed) are the 26 counties of the Republic. Neither of these is satisfactory for use as an 'EU region' for the application of the C6 criterion, due to the small total area of the country. Thus, for applying the C6 criterion, the relevant EU region was considered to be the whole country.

4.8 Glossary

callows flood-meadows traditionally used for producing hay. **drumlin** a mound of glacial deposits (sand and gravel). **esker** a ridge of glacial deposits (sand and gravel).

INTERREG a source of funding, partly financed by the European Regional Development Fund of the EU, aimed at encouraging cross-border development, in this case maritime and general economic developments between eastern Ireland and western Wales.

I-WeBS Irish Wetland Bird Survey.

karst a limestone region with underground drainage and many cavities and passages caused by the dissolution of the rock. **lough** a lake or narrow sea inlet.

NUTS Nomenclature des Unités Territoriales Statistiques—the administrative regions of the European Union are called NUTS regions, and are designated by the EC Statistical Office.

NPW National Parks and Wildlife (formerly National Parks and Wildlife Service), part of Dúchas, The Heritage Service, which is part of the Department of Arts, Heritage, Gaeltacht and the Islands.

polder a flat area of land, often below sea-level, with an artificially regulated water-regime, having been claimed from the sea or from a lake or river.

SAC Special Area for Conservation (to be designated under the EC Habitats Directive).

SPA Special Protection Area (designated under Article 4 of the EC Birds Directive). **turlough** a deep, grassy depression on limestone, which fills with water in wet weather, especially in winter.

4.9 Acknowledgements

We would like to thank the following for their help and advice in compiling the IBA database and this chapter: BirdLife International Secretariat; Dúchas, The Heritage Service, especially Oscar Merne; Simon Delany and Kendrew Colhoun (I-WeBS coordinators), Ann Marie McDevitt (Corncrake Project Officer), Catherine Casey (Habitat Management Officer), Oran O'Sullivan (General Manager, BirdWatch Ireland); Shelley Hackett and Mark Kavanagh, both of whom contributed directly to the preparation of the IBA Review, and numerous members of BirdWatch Ireland, to whom we are very grateful.

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5. Ireland - Site Accounts

Inishtrahull IE001

Area: 315 **Latitude:** 55.4333 **Longitude:** -7.2333

State(s): Donegal

Site criteria: (proposed) B2, B3, C7 (confirmed)

Description: A formerly inhabited marine island with an automated lighthouse located 5 km north of Malin Head, in County Donegal. The site also includes Tor rocks, C.1 km to the north, and the intervening sea area. The island is predominantly grassland, which until recently was grazed by red deer *Cervus elaphus*. Low-intensity fishing takes place between the main island and Tor rocks.

Habitat	Cover
grassland	12
sea/marine area	88
Land use	Cover
agriculture	-
fisheries/aquaculture	60
not utilised	40

Birds: The cliffs and rocks support important colonies of breeding seabirds. Other breeding species present in nationally important numbers (1991–1992) include *Fulmarus glacialis* (250 pairs), *Larus argentatus* (500 pairs), *Larus canus* (30 pairs) and *Larus marinus* (50 pairs). Additionally Inishtrahull is a nationally important winter feeding site for *Branta leucopsis* (153 birds, 1987) and is a breeding site for *Somateria mollissima* (over 200 pairs, 1992).

Species	Year	Season	Min	Max	Units	Confirmed
<i>Phalacrocorax aristotelis</i> (European Shag)	1987	breeding	300	300	breeding pairs	B3
<i>Larus fuscus</i> (Lesser Black-backed Gull)	1991	breeding	100	0	breeding pairs	B3
<i>Cepphus grylle</i> (Black Guillemot)	1991	breeding	20	0	breeding pairs	B2

Protection: National None International High. 315 ha of IBA covered by Special Protection Area (Inishtrahull, 315 ha).

Threat	Importance
aquaculture/fisheries	low
disturbance to birds	low
recreation/tourism	low

Conservation issues: Until their recent removal, overgrazing by deer was a potential threat to the site. There may be some disturbance to birds due to rock-angling and scuba-diving activities.

Malin Head IE002

Area: 750 **Latitude:** 55.3667 **Longitude:** -7.35 **State(s):** Donegal

Site criteria: (proposed) C2, C6 (confirmed)

Description: A long stretch of unspoilt coastline in northern County Donegal, extending from just north of Ballygorman village around Malin Head to White Strand Bay on its southern side. Mixed farmland is the main habitat, with meadow and grazing pasture.

Birds: *Pyrhacorax pyrrhacorax* and *Somateria mollissima* also breed.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Branta leucopsis</i> (Barnacle Goose)	1996	winter	80	80	individuals	C2
<i>Crex crex</i> (Corncrake)	1996	breeding	8	8	breeding pairs	C6

Protection: National None International None

Conservation issues: *Crex crex* is highly sensitive to changes in agricultural practice and the late cutting of hay-meadows is essential to its survival at this site. However, the site is threatened by agricultural intensification, including an increase in silage production which leads to earlier cutting, and loss of hay-meadows due to conversion to pasture. BirdWatch Ireland, supported by NPW and RSPB, operates a grant scheme in this area, to try to ensure continued farming practices that favour *Crex crex*.

Threat	Importance
agricultural intensification/expansion	high

Trawbreaga Bay IE003

Area: 1100

Latitude: 55.2833 **Longitude:** -7.3

State(s): Donegal

Site criteria: (proposed) B1i, B2, C2, C3 (confirmed)

Description: An almost land-locked bay, situated next to Malin Head on the north County Donegal coast. At its mouth Doagh Isle on the western shore encloses most of the bay, which at low tide is largely exposed mud- and sandflats, with some rocky substrate. The Isle consists of machair and sand-dunes, the latter also being present on the eastern shore of the bay, again at its mouth. Feeding fields for geese *Branta*, adjacent to the bay, are included. Land-uses include intertidal shellfish cultivation, and recreation.

Habitat	Cover
grassland	20
wetland	80
Land use	Cover
agriculture	20
fisheries/aquaculture	50
not utilised	30

Birds: Trawbreaga Bay is the most northerly wetland in Ireland and is important for a diversity of wintering waders and wildfowl.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Branta leucopsis</i> (Barnacle Goose)	1996	winter	740	740	individuals	B1i, B2, C2
<i>Branta bernicla hrota</i> (Light-bellied Brent Goose)	1995	winter	319	319	individuals	B1i, C3

Protection: National High International High. IBA overlaps with Wildfowl Sanctuary (Trawbreaga Bay; area not known). 1,003 ha of IBA covered by Ramsar Site (Trawbreaga Bay, 1,003 ha). 1,003 ha of IBA covered by Special Protection Area (Trawbreaga Bay, 1,003 ha).

Conservation issues: There may be some disturbance to wintering birds due to wildfowling and water-sports, while intertidal shellfish cultivation may negatively affect habitat quality. The level of sand and gravel extraction which took place in the past is now much reduced.

Threat	Importance
aquaculture/fisheries	medium
disturbance to birds	medium
extraction industry	low

Lough Foyle IE004

Area: 21803

Latitude: 55.1667

Longitude: -7.0833

State(s): Donegal

Site criteria: (proposed) A4i, A4iii, B1i, B2, B3, C2, C3, C4 (confirmed)

Description: A large, shallow sea inlet and estuary of the River Foyle, with extensive mudflat, especially along its eastern shore. This site lies immediately north of Derry city, on the north County Donegal/Derry coast. It is a cross-border IBA, with most of the site falling within County Derry in Northern Ireland (UK site 278)—the stated area of 21,803 ha refers to the whole site (on both sides of the border) but other data given here (on habitats, land-uses, threats and birds) are specific to the Republic of Ireland side.

Habitat	Cover
artificial landscapes	-
grassland	-
sea/marine area	-
wetland	-
Land use	Cover
agriculture	-
fisheries/aquaculture	-
not utilised	-

Birds: This site is of international importance for wintering waterfowl. Most of the birds use the Northern Ireland section of the site, but notable concentrations of *Anas crecca*, *Calidris canutus* and, increasingly, *Branta bernicla hrota* use the Donegal section.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Cygnus cygnus</i> (Whooper Swan)	1989	winter	1072	1607	individuals	A4i, B1i, B3, C2
<i>Cygnus columbianus</i> (Bewick's Swan)	1989	winter	163	181	individuals	A4i, B1i, B2, C2
<i>Anser albifrons flavirostris</i> (Greenland White-fronted Goose)	1994	winter	510	510	individuals	B1i, C3
<i>Branta bernicla hrota</i> (Light-bellied Brent Goose)	1996	winter	4500	4500	individuals	A4i, B1i, C3
<i>Anas penelope</i> (Wigeon)	1989	winter	16959	17704	individuals	B1i, C3
<i>Limosa lapponica</i> (Bar-tailed Godwit)	1989	winter	1987	2833	individuals	A4i, B1i, B2, C2
<i>Numenius arquata</i> (Curlew)	1989	winter	2360	2832	individuals	B2

Protection: National None International Low. 347 ha of IBA covered by Special Protection Area (Lough Foyle, 347 ha).

Conservation issues: For many years, expansion of rubbish-dumping activities has threatened mudflats in County Donegal. There is currently a proposal to extend Derry city airport which would result in a significant adverse impact on the site (loss of mudflat).

Threat	Importance
agricultural intensification/expansion	low
industrialization/urbanization	low

Lough Swilly including Blanket Nook and Inch Lake IE005

Area: 9000

Latitude: 55.1167

Longitude: -7.5333

State(s): Donegal

Site criteria: (proposed) A4i, A4iii, B1i, B2, B3, C2, C3, C4, C6 (confirmed)

Description: This site encompasses a large part of Lough Swilly between Letterkenny and Buncrana, in County Donegal. It is a long, narrow sea inlet with extensive banks of mud and shingle between Letterkenny and Inch, including Inch Island. There is some empoldered land at Big Isle and Blanket Nook and an embanked sea channel between Inch Island and the mainland. The boundaries of the IBA have been redrawn to cover a smaller area compared to that in the previous European inventory (Grimmett and Jones 1989).

Birds: This is a key wetland for birds in Ireland, important for the richness and abundance of its wintering and breeding species. Wintering waterbirds regularly occur in total numbers of international importance (22,750–26,600 birds in 1995 and 1996). Up to 14 other wintering species also occur in numbers of national importance, including *Tadorna tadorna* (793 birds, 1996), *Anas penelope* (1,861 birds, 1995), *Anas crecca* (1,669 birds, 1996) and *Charadrius hiaticula* (167 birds, 1996).

Habitat	Cover
artificial landscapes	10
grassland	10
wetland	80
Land use	Cover
agriculture	20
fisheries/aquaculture	80
hunting	95

Species	Year	Season	Min	Max	Units	Confirmed
<i>Cygnus cygnus</i> (Whooper Swan)	1996	winter	653	653	individuals	B1i, B3, C2
<i>Cygnus cygnus</i> (Whooper Swan)	1996	passage	2000	0	individuals	A4i, B1i, C2
<i>Cygnus columbianus</i> (Bewick's Swan)	1996	winter	48	48	individuals	B2
<i>Anser albifrons flavirostris</i> (Greenland White-fronted Goose)	1996	winter	500	500	individuals	B1i, C3
<i>Anser anser</i> (Greylag Goose)	1996	winter	1203	1203	individuals	B1i, C3
<i>Numenius arquata</i> (Curlew)	1995	winter	2350	2350	individuals	B2
<i>Tringa totanus</i> (Redshank)	1996	winter	1472	1472	individuals	B1i, C3
<i>Calidris alpina</i> (Dunlin)	1995	winter	9151	9151	individuals	B2
<i>Sterna sandvicensis</i> (Sandwich Tern)	1995	breeding	222	222	breeding pairs	B2, C6

Protection: National Low International Partial. Part of IBA covered by Wildfowl Sanctuary (Blanket Nook, 48 ha). IBA overlaps with Ramsar Site (Lough Swilly; area not known). 3,107 ha of IBA covered by Special Protection Area (Lough Swilly, 3,107 ha). 278 ha of IBA covered by Special Protection Area (Inch Lough, 278 ha).

Conservation issues: Parts of the site are threatened by nutrient pollution due to agricultural run-off. Changes in agricultural practice could threaten the feeding fields of swans *Cygnus* and geese *Anser* at Inch Lough and Blanket Nook. Use of the site for water-sports and aquaculture (intertidal and subtidal shellfish cultivation) is increasing and may threaten habitat quality. In 1998 land-claim, apparently unauthorized, for the construction of a marina at Fahan on the site's east shore, damaged intertidal sandflat. Inch Island, where *Sterna sandvicensis* breeds, lies within the Lough Swilly SPA.

Threat	Importance
agricultural intensification/expansion	medium
disturbance to birds	medium
filling-in of wetlands	medium

River Foyle: Carrigans and Swilly Burn valleys IE006

Area: 2300

Latitude: 54.9167 **Longitude:** -7.45

State(s): Donegal

Site criteria: (proposed) B1i, B3, C2, C3 (confirmed)

Description: This site encompasses an 8-km estuarine stretch of the River Foyle, with mudflat and saltmarsh habitat and two contiguous river valleys, with wet meadow, arable fields and improved pasture. It is located south of Derry city in Northern Ireland, while its eastern boundary is the County Donegal/Tyrone border. Nearby Lough Foyle, located north of Derry city, is a separate site (site 004).

Habitat	Cover
artificial landscapes	50
shrubland	10
wetland	50
Land use	Cover
agriculture	50
hunting	70
not utilised	10

Birds: This is an important site for wintering wildfowl. Species occurring in nationally important numbers include *Anas crecca* (657 birds, 1995), *Bucephala clangula* (115 birds, 1996) and *Mergus serrator* (42 birds, 1996).

Species	Year	Season	Min	Max	Units	Confirmed
<i>Cygnus cygnus</i> (Whooper Swan)	1995	winter	452	452	individuals	B1i, B3, C2
<i>Anser albifrons flavirostris</i> (Greenland White-fronted Goose)	1987	winter	236	254	individuals	B1i, C3

Protection: National None International None

Conservation issues: Wildfowling causes disturbance to birds, and the proximity of Derry city may also adversely affect the site.

Threat	Importance
disturbance to birds	medium
industrialization/urbanization	low

Fanad Head peninsula IE007

Area: 8600

Latitude: 55.2167 **Longitude:** -7.6667

State(s): Donegal

Site criteria: (proposed) C6 (confirmed)

Description: A peninsula west of Malin Head, of mainly mixed farmland habitat. The site boundary extends from Saldanha Head, south of Portsalon on the east side of the peninsula, around to Marks Point at Broad Water in Mulroy Bay, on the west side. The major water-bodies are excluded from the IBA.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Crex crex</i> (Corncrake)	1996	breeding	7	7	breeding pairs	C6

Birds: The Fanad coast, adjacent to but outside the IBA, is also notable for wintering seaduck, with *Somateria mollissima* (420 birds, 1995) and *Clangula hyemalis* (38 birds, 1995) occurring in numbers of national importance.

Protection: National None International None

Conservation issues: *Crex crex* is highly sensitive to changes in agricultural practice and the late cutting of hay-meadows is essential to its survival at this site. However, the site is threatened by agricultural intensification, including the expansion of silage production which leads to earlier cutting, and loss of hay-meadows for conversion to pasture. BirdWatch Ireland, with support from NPW and RSPB, operates a grant scheme in this area, to try to ensure the continuation of farming practices that favour *Crex crex*.

Threat	Importance
agricultural intensification/expansion	high

Greer's Island (Massmount), Mulroy Bay IE008

Area: 19

Latitude: 55.2167 **Longitude:** -7.7

State(s): Donegal

Site criteria: (proposed) C7 (confirmed)

Description: A small island and surrounding waters in Mulroy Bay, County Donegal. The site has been extended since the previous pan-European inventory (Grimmett and Jones 1989) to include 18 ha of surrounding waters.

Birds: This site was formerly of importance for *Sterna sandvicensis*, holding the second-largest breeding colony in Ireland (180 pairs) in 1984, although more recently numbers have declined (with none breeding in 1995). The species may yet recolonize—the birds that used to nest at the site are now believed to breed at Inch Lake (site 005). There are also breeding *Sterna paradisaea* (20 pairs, 1984) and a nationally important colony of *Larus ridibundus* (180 birds, 1984).

Protection: National Nature International High. 19 ha of IBA covered by Special Protection Area (Greer's Island, 19 ha).

Conservation issues: Recreation may cause some disturbance to nesting terns *Sterna*, and fisheries may deplete their prey stock, with implications for their breeding success. The site retains its conservation status as an IBA.

Habitat	Cover
grassland	5
wetland	95
Land use	Cover
fisheries/aquaculture	95
not utilised	5

Threat	Importance
aquaculture/fisheries	low
disturbance to birds	low
recreation/tourism	low

Lough Fern IE009

Area: 185

Latitude: 55.05 **Longitude:** -7.7167

State(s): Donegal

Site criteria: (proposed) C7 (confirmed)

Description: Lough Fern is situated south of Mulroy Bay in County Donegal. There are wetlands at its south and north ends, with marsh, reedbed and wet woodland. The lake is used by anglers.

Birds: Lough Fern was designated as a Special Protection Area on the basis of migratory waterfowl populations. It is one of the most important wintering sites in Ireland for *Aythya ferina*, (1,208 birds, 1996).

Protection: National High International High. IBA overlaps with Wildfowl Sanctuary (Lough Fern; area not known). 185 ha of IBA covered by Special Protection Area (Lough Fern, 185 ha).

Conservation issues: There is little information available in relation to threats. However, use of the site by anglers, together with wildfowling, is likely to cause disturbance to wintering birds.

Habitat	Cover
wetland	100
Land use	Cover
hunting	-
not utilised	100
tourism/recreation	-

Threat	Importance
disturbance to birds	unknown
recreation/tourism	low

Horn Head cliffs IE010

Area: 176

Latitude: 55.2167 **Longitude:** -7.9667

State(s): Donegal

Site criteria: (proposed) A4iii, B3, C3, C4 (confirmed)

Description: High, rocky quartzite cliffs on a well-defined peninsula to the north of Dunfanaghy, on the County Donegal coast.

Birds: This site contains an internationally important colony of breeding seabirds. Other species breeding in numbers of national importance include *Fulmarus glacialis* (1,000 pairs), *Rissa tridactyla* (4,500 pairs), *Uria aalge* (5,000 birds) and *Cephus grylle* (25 birds).

Habitat	Cover
coastline/rocky areas	100
Land use	Cover
not utilised	100

Species	Year	Season	Min	Max	Units	Confirmed
<i>Phalacrocorax aristotelis</i> (European Shag)	1987	breeding	75	200	breeding pairs	B3
<i>Alca torda</i> (Razorbill)	1987	breeding	4000	6000	breeding pairs	B3, C3

Protection: National High International High. 176 ha of IBA covered by Refuge for Fauna (Horn Head; area not known). 176 ha of IBA covered by Special Protection Area (Horn Head cliffs, 176 ha).

Conservation issues: Disturbance to breeding seabirds is limited by the inaccessibility of the cliffs. However, an increase in tourist activity could pose a threat. Offshore fishing may deplete the prey stock of seabirds, with implications for their breeding success. The site lies within a proposed candidate Special Area for Conservation (Horn Head and Ringcleavan; area not known).

Threat	Importance
aquaculture/fisheries	low
recreation/tourism	unknown

Dunfanaghy New Lake IE011

Area: 626

Latitude: 55.1667

Longitude: -8

State(s): Donegal

Site criteria: (proposed) C7 (confirmed)

Description: A coastal lagoon, with large sand-dunes and surrounding grassland, south of Dunfanaghy in County Donegal.

Habitat	Cover
artificial landscapes	10
grassland	10
wetland	80
Land use	Cover
agriculture	40
forestry	10
not utilised	50

Birds: This site has been designated as a Special Protection Area on the basis of its migratory birds, especially wintering *Anser albifrons flavirostris* (174 birds, 1996) and *Branta leucopsis* (232 birds, 1995), which occur here in nationally important numbers.

Protection: National None International High. 626 ha of IBA covered by Special Protection Area (Dunfanaghy New Lake, 626 ha).

Conservation issues: Part of the site has been damaged by afforestation and there has been some modification of the dunes through agricultural usage. The site lies within a proposed candidate Special Area for Conservation (Horn Head and Ringcleavan; area not known).

Threat	Importance
afforestation	low
agricultural intensification/expansion	low

Tory Island IE012

Area: 607

Latitude: 55.2667

Longitude: -8.2333

State(s): Donegal

Site criteria: (proposed) A1, C1, C6 (confirmed)

Description: A large, inhabited marine island and surrounding waters, situated 11 km north of Bloody Foreland in County Donegal. The island is mainly low-lying but high cliffs occur along the northern side, and at the east end rise to 90 m. Back from the cliffs maritime heath dominates. Farming is largely low intensity with hay meadows and grazing by cattle and sheep. However, there has been some improvement of land for arable crops. There is an unmanned lighthouse at the west end.

Habitat	Cover
artificial landscapes	15
coastline/rocky areas	25
grassland	20
sea/marine area	35
wetland	5
Land use	Cover
agriculture	20
fisheries/aquaculture	40
nature conservation and research	100
urban/industrial/transport	10
water management	10

Species	Year	Season	Min	Max	Units	Confirmed
<i>Crex crex</i> (Corncrake)	1996	breeding	21	21	breeding pairs	A1, C1, C6

Birds: This is an internationally important site for the globally threatened *Crex crex*. It is also of national importance for a diversity of breeding seabirds, including *Fulmarus glacialis* (260 pairs, 1987), *Rissa tridactyla* (530 pairs, 1987), *Uria aalge* (650 birds, 1987), *Alca torda* (630 birds, 1987) and *Fratercula arctica* (>1,000 birds, 1994).

Protection: National None International High. 607 ha of IBA covered by Special Protection Area (Tory Island, 607 ha).

Conservation issues: *Crex crex* is highly sensitive to changes in agricultural practices and the late cutting of hay-meadows is essential to its survival at this site. However, the site is threatened by the intensification of farming, mainly the extension of winter grazing into the summer, preventing meadow growth. BirdWatch Ireland, with support from NPW and RSPB, operates a grant scheme on the island to encourage farming practices that favour *Crex crex*. Predation may also threaten *Crex crex* on this island. Other threats include erosion of maritime heath due to its extreme exposure together with grazing by domestic stock and rabbits, and localized peat-cutting. The site overlaps with a proposed candidate Special Area for Conservation (Tory Island; area not known).

Threat	Importance
abandonment/reduction of land management	high
agricultural intensification/expansion	medium
recreation/tourism	medium

Inishbofin, Inishdooney and Inishbeg IE013

Area: 604

Latitude: 55.1833

Longitude: -8.1667

State(s): Donegal

Site criteria: (proposed) A1, B1i, C1, C2, C6 (confirmed)

Description: The site comprises three islands, Inishbofin, Inishdooney and Inishbeg and is located 2 km off the Donegal coast, 5 km north-west of Falcarragh. The largest island, Inishbofin, comprises mainly dry grassland which, although farmed in the past, is now largely abandoned. In the previous European inventory (Grimmett and Jones 1989) the site included just one island, but the nearby islands of Inishdooney and Inishbeg, together with the surrounding waters, have now been added. Inishbofin is inhabited during the summer months.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Branta leucopsis</i> (Barnacle Goose)	1996	winter	400	400	individuals	B1i, C2
<i>Crex crex</i> (Corncrake)	1996	breeding	15	27	breeding pairs	A1, C1, C6

Birds: Together with Tory Island (site 012), these islands held 20% of the national population of *Crex crex* in 1996 (numbers are calling males, 1995–1996). The site was also nationally important for breeding terns *Sterna*. Recently only *Sterna paradisaea* has bred (72 pairs, 1995).

Protection: National None International High. 604 ha of IBA covered by Special Protection Area (Inishbofin, Inishdooney and Inishbeg, 604 ha).

Conservation issues: This site is threatened mainly by agricultural abandonment. *Crex crex* is highly sensitive to changes in agricultural practice, and the late cutting of hay-meadows is essential to its survival at the site. However, most of the land is managed for conservation by BirdWatch Ireland, with support from NPW and RSPB, to maintain hay-meadows, the late cutting of hay and early cover.

Threat	Importance
abandonment/reduction of land management	high
agricultural intensification/expansion	medium
disturbance to birds	low

Falcarragh to Min an Chladaigh IE014

Area: 4700

Latitude: 55.1333

Longitude: -8.1833

State(s): Donegal

Site criteria: (proposed) A1, C1, C6 (confirmed)

Description: This large site follows the coastline from Falcarragh to Min an Chladaigh in north County Donegal. It encompasses a large area inland, much of which is small, extensively managed farms, and it excludes the estuary at Ballyness Bay.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Crex crex</i> (Corncrake)	1996	breeding	26	26	breeding pairs	A1, C1, C6

Birds: This site is an important breeding area for *Crex crex* and is the closest mainland site to Inishbofin (site 013) and, further out to sea, Tory Island (site 012), two islands which together held 20% of the national population of this species in 1996.

Protection: National None International None

Conservation issues: The late cutting of hay-meadows is essential to the survival of *Crex crex* at this site. However, the site is threatened by agricultural intensification, including an increase in silage production which leads to earlier cutting, and loss of hay-meadows for conversion to pasture. BirdWatch Ireland, with support from NPW and RSPB, operates a grant scheme in this area, to try to ensure farming practices that continue to favour *Crex crex*.

Threat	Importance
agricultural intensification/expansion	high

Inishsirr and Inishmeane IE015

Area: 140

Latitude: 55.0833

Longitude: -8.35

State(s): Donegal

Site criteria: (proposed) B1i, B2, C2 (confirmed)

Description: Two formerly inhabited islands, lying 1–2 km offshore and 6 km north of Bunbeg in County

Habitat	Cover
grassland	100
Land use	Cover
unknown	100

Donegal. Information on land-use and threats is incomplete. The site does not include surrounding waters, and lies adjacent to Gola Island (site 024).

Birds:

Species	Year	Season	Min	Max	Units	Confirmed
<i>Branta leucopsis</i> (Barnacle Goose)	1995	winter	300	400	individuals	B1i, B2, C2

Protection: National None International None

Conservation issues: The site lies within a proposed candidate Special Area for Conservation (Gweedore Bay and Islands; area not known).

Threat	Importance
unknown	unknown

Glenveagh National Park IE016

Area: 9593

Latitude: 54.9833 **Longitude:** -8.1

State(s): Donegal

Site criteria: (proposed) C7 (confirmed)

Description: Glenveagh National Park is situated 15 km west of Letterkenny in north-west County Donegal. This is a mountainous area, dominated by Atlantic blanket bog, with lakes, rivers, woodland and heath. Grazing and peat-cutting ('Other' land-use) take place within the site. The National Park Visitor Centre and Glenveagh Castle attract visitors.

Habitat	Cover
coastline/rocky areas	20
wetland	80
Land use	Cover
agriculture	50
nature conservation and research	100
not utilised	20
other	50
tourism/recreation	100

Birds: The site was designated as a Special Protection Area on the basis of breeding *Gavia stellata*, *Pluvialis apricaria*, *Falco peregrinus* and *F. columbarius*, and wintering *Anser albifrons flavirostris* (all species listed on Annex I of the EC Birds Directive).

Protection: National High International High. 9,593 ha of IBA covered by National Park (Glenveagh, 9,737 ha). 9,593 ha of IBA covered by Special Protection Area (Glenveagh National Park, 9,593 ha).

Conservation issues: Trampling and overgrazing by sheep and deer have caused damage to some areas of bog, while other areas are threatened by peat-cutting, erosion and burning. Introduced (non-native) Rhododendron scrub has invaded and choked some areas of woodland and covered adjacent hillsides, but a removal programme is now nearing completion. The site lies within a proposed candidate Special Area for Conservation (Glenveagh National Park; area not known).

Threat	Importance
afforestation	medium
agricultural intensification/expansion	low
consequences of animal/plant introductions	medium
extraction industry	medium

Lough Barra bog IE017

Area: 739

Latitude: 54.95 **Longitude:** -8.1167

State(s): Donegal

Site criteria: (proposed) C7 (confirmed)

Description: Lough Barra bog is a lowland blanket bog situated in the upper part of the Gweebarra river valley. It lies adjacent to the southern boundary of Glenveagh National Park (site 016) in County Donegal.

Habitat	Cover
wetland	100
Land use	Cover
agriculture	25
nature conservation and research	50
other	25

Birds: This site provides valuable feeding habitat for a small flock of wintering *Anser albifrons flavirostris* (10 birds, 1994). The IBA was designated as a Special Protection Area for this species and for its breeding numbers of four other species that are also listed on Annex I of the EC Birds Directive: *Gavia stellata*, *Falco columbarius*, *Falco peregrinus* and *Pluvialis apricaria*.

Protection: National Partial International High. 176 ha of IBA covered by Nature Reserve (Lough Barra bog, 176 ha). 176 ha of IBA covered by Ramsar Site (Lough Barra bog, 176 ha). 739 ha of IBA covered by Special Protection Area (Lough Barra bog, 739 ha).

Conservation issues: Major threats to the site are peat-cutting, overgrazing and trampling by sheep and deer. There are annual deer culls to control numbers and the main herd is kept within the National Park. The IBA overlaps with a proposed candidate Special Area for Conservation (Lough Barra Bog; area not known).

Threat	Importance
agricultural intensification/expansion	low
extraction industry	low

Inishkeeragh and Illancrone IE018

Area: 25

Latitude: 54.95 **Longitude:** -8.5

State(s): Donegal

Site criteria: (proposed) B2, C2, C6 (confirmed)

Description: The site comprises two uninhabited marine islands: Inishkeeragh, located 2.5 km from the mainland and comprising unimproved dry grassland, and Illancrone (former site IE010), a small island on a stony reef, 1.5 km from the mainland. The only land-use is sheep-grazing (intensity not known).

Species	Year	Season	Min	Max	Units	Confirmed
<i>Branta leucopsis</i> (Barnacle Goose)	1994	winter	235	235	individuals	B2, C2
<i>Larus canus</i> (Common Gull)	1984	breeding	50	50	breeding pairs	B2
<i>Sterna paradisaea</i> (Arctic Tern)	1995	breeding	224	224	breeding pairs	C6
<i>Sterna albifrons</i> (Little Tern)	1995	breeding	13	13	breeding pairs	B2, C6

Birds: This is an important site for wintering *Branta leucopsis* and breeding seabirds, particularly terns *Sterna*. Historically, five tern species bred on these islands, but in recent years (1994–1995) *Sterna dougallii* has not bred, and the number of *Sterna sandvicensis* has been small (1 pair, 1995). *Sterna hirundo* continues to breed, and the islands are one of the top five breeding sites in the Republic of Ireland for *Sterna paradisaea* and *Sterna albifrons*.

Protection: National None International None

Conservation issues: The site is under consideration by NPW for designation as a Special Protection Area. Nesting terns are disturbed by sheep grazing.

Threat	Importance
agricultural intensification/expansion	low

Roaninish IE019

Area: 144

Latitude: 54.8667 **Longitude:** -8.5333

State(s): Donegal

Site criteria: (proposed) B2, C7 (confirmed)

Description: A tight group of small, flat, uninhabited islets, located 3.5 km off Dawros Head in County Donegal. Much of the site is sparsely vegetated with the exception of the main island Roaninish, which is covered in lush maritime grassland, and has two small ponds.

Birds: This is an important site for breeding seabirds; species present in numbers of national importance are *Larus marinus* (60 birds, 1984) and *Larus argentatus* (200 birds, 1984). In the past the site has been important for wintering *Branta leucopsis* (250 birds, pre-1987) but not in recent years.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Hydrobates pelagicus</i> (Storm Petrel)	1987	breeding	1000	1000	breeding pairs	B2

Protection: National None International None

Conservation issues: There is no precise information on threats, although fishing in surrounding waters may deplete the prey stock of seabirds, with implications for their breeding success. The site is a proposed (by NPW) Special Protection Area (Roaninish, 144 ha).

Threat	Importance
aquaculture/fisheries	unknown

Sheskinmore Lough IE020

Area: 944

Latitude: 54.8 **Longitude:** -8.4667

State(s): Donegal

Site criteria: (proposed) B1i, C7 (confirmed)

Description: Sheskinmore Lough is situated approximately 6 km north-west of Ardara in County Donegal. The site comprises intertidal mud- and sandflats, together with sand-dunes, machair and extensive marshes. Of particular ecological interest is Sheskinmore Lough itself, which is a partially sand-filled lagoon. The site is grazed, although a large part of it is managed for nature conservation. A caravan site lies within a relatively small section of the dunes.

Habitat	Cover
grassland	10
wetland	90
Land use	Cover
agriculture	20
nature conservation and research	75
tourism/recreation	5

Birds: This site supports a diversity of wintering and breeding bird species. The number of wintering *Branta leucopsis* has fallen just below the B1i criterion threshold in recent years, but in view of high numbers during the 1980s (1,123 birds in 1981, and an average of 556 birds in the mid-1980s) the site has been retained as an IBA.

Protection: National High International High. IBA overlaps with Wildfowl Sanctuary (Sheskinmore Lough; area not known). 944 ha of IBA covered by Special Protection Area (Sheskinmore Lough, 944 ha).

Conservation issues: Past attempts at drainage of the lake and marsh have caused damage. NPW now own 365 ha of the site and there are plans to reverse the drainage. Parts of the site are threatened by overgrazing (mainly by rabbits), agricultural improvement and recreational use. 15.8 ha of the site is owned by BirdWatch Ireland as a reserve. The IBA lies within a proposed candidate Special Area for Conservation (Sheskinmore Lough; area not known).

Threat	Importance
agricultural intensification/expansion	low
drainage	low

Inishkeel IE021

Area: 126

Latitude: 54.8333 **Longitude:** -8.45

State(s): Donegal

Site criteria: (proposed) B1i, C2 (confirmed)

Description: A small island and surrounding waters in Gweebarra Bay, 0.5 km offshore from Portnoo in west County Donegal. There is an old church on the island and it can be accessed by foot at low tide. It is mainly grass covered with a rocky shoreline.

Habitat	Cover
coastline/rocky areas	10
grassland	10
sea/marine area	80
Land use	Cover
fisheries/aquaculture	80
not utilised	20

Species	Year	Season	Min	Max	Units	Confirmed
<i>Branta leucopsis</i> (Barnacle Goose)	1994	winter	337	337	individuals	B1i, C2

Birds: In the winter this site provides feeding habitat for internationally important numbers of *Branta leucopsis*, which also use Sheskinmore Lough (site 020). A nationally important flock of *Somateria mollissima* (500 birds, 1987/88) winter around the island.

Protection: National None International None

Conservation issues: This site has been proposed as a Special Protection Area (Inishkeel, 126 ha) by NPW and should be designated in the near future.

Threat	Importance
aquaculture/fisheries	low

Lough Nillan bog IE022

Area: 4168

Latitude: 54.75 **Longitude:** -8.2833

State(s): Donegal

Site criteria: (proposed) C7 (confirmed)

Description: A large blanket bog complex in the range of hills immediately south of Glenties, County Donegal. Upland areas support drier heathland vegetation, while in the lower parts of the site there are pools and on some of the slopes, flushes. There are numerous lakes and rivers. Three areas of conifer plantations are excluded from the IBA. Land-use includes peat-cutting ('Other' land-use).

Birds: The site was designated as a Special Protection Area on the basis of its wintering *Anser albifrons flavirostris* (72 birds, 1992), and breeding *Pluvialis apricaria* (13–15 pairs) and *Falco columbarius*, all species listed on Annex I of the EC Birds Directive.

Protection: National None International High. 4,168 ha of IBA covered by Special Protection Area (Lough Nillan Bog, 4,168 ha).

Conservation issues: Overgrazing combined with peat-cutting is causing erosion in some parts of the site. Afforestation within the bog complex has resulted in habitat fragmentation, degrading the value of the site for conservation. The IBA lies within a proposed candidate Special Area for Conservation (Lough Nillan Bog; area not known).

Threat	Importance
afforestation	medium
agricultural intensification/expansion	medium
extraction industry	medium

Tormore Island IE023

Area: 30

Latitude: 54.7667 **Longitude:** -8.7

State(s): Donegal

Site criteria: (proposed) C7 (confirmed)

Description: A small island just offshore of the Slieve Tooley area, a wild and remote part of County Donegal, 15 km west of Ardara. The site includes the surrounding waters and the mainland cliffs 1 km to either side of the island.

Birds: On the island and the mainland cliffs 1 km on either side there are nationally important numbers of breeding seabirds, including *Rissa tridactyla* (600 pairs, 1987), *Fratercula arctica* (3,000 birds, 1970) and *Alca torda* (362 birds, 1987). Smaller numbers of *Fulmarus glacialis* (155 pairs, 1987), *Phalacrocorax aristotelis* (11 pairs, 1987) and *Uria aalge* (50 birds, 1987) also breed at this site.

Protection: National None International None

Conservation issues: On the basis of its breeding seabirds (especially *Fratercula arctica*), this site has been proposed as a Special Protection Area (Tormore Island, 30 ha) by NPW and should be designated in the near future. The site lies within a proposed candidate Special Area for Conservation (Slieve Tooley/Tormore Island/Loughros Beg Bay; area not known).

Habitat	Cover
coastline/rocky areas	10
grassland	10
sea/marine area	80
Land use	Cover
fisheries/aquaculture	80
not utilised	20

West Donegal coast IE024

Area: 4050

Latitude: 54.7167 **Longitude:** -8.8

State(s): Donegal

Site criteria: (proposed) B2, C6 (confirmed)

Description: An extended coastal site in County Donegal, which covers the mainland coastline from Dunmore Head in the north to Muckcross Head in the south, and also includes Aranmore Island and Gola Island, lying 15 and 25 km north of this coastal stretch respectively. A number of other IBAs occur within this area but are treated separately. Information on land-use and threats is incomplete.

Birds: This area is important for *Pyrhcorax pyrrhcorax*, and good numbers of breeding seabirds and wintering geese also occur.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Pyrhcorax pyrrhcorax</i> (Chough)	1992	resident	53	53	breeding pairs	B2, C6

Protection: National None International None

Conservation issues: For the survival of *Pyrhcorax pyrrhcorax* at this site, it is vital that low-intensity farming along the cliff-tops is maintained. The site overlaps with three proposed candidate Special Areas for Conservation (Slieve League; Slieve Tooley/Tormore Island/Loughros Beg Bay; West of Ardara/Maas road; areas not known).

Threat	Importance
agricultural intensification/expansion	low
disturbance to birds	unknown

Rathlin O'Birne IE025

Area: 154

Latitude: 54.6667 **Longitude:** -8.8333

State(s): Donegal

Site criteria: (proposed) B1i, B2, C2 (confirmed)

Description: A medium-sized, rocky, marine island with an automated lighthouse, located 2 km off the west coast of County Donegal, and 9 km south-west of Glencolumbkille.

Birds: This is an important site for wintering wildfowl and breeding seabirds. Seabirds breeding in nationally important numbers include *Larus argentatus* (460–550 pairs, 1987) and *Larus marinus* (45–60 pairs, 1987).

Species	Year	Season	Min	Max	Units	Confirmed
<i>Hydrobates pelagicus</i> (Storm Petrel)	1987	breeding	1000	1000	breeding pairs	B2
<i>Branta leucopsis</i> (Barnacle Goose)	1993	winter	345	345	individuals	B1i, B2, C2

Protection: National None International None

Habitat	Cover
coastline/rocky areas	10
grassland	20
sea/marine	70
Land use	Cover
fisheries/aquaculture	70
not utilised	30

Conservation issues: Fishing in surrounding waters may deplete the prey stock of seabirds, with implications for their breeding success. The site is a proposed (by NPW) Special Protection Area (Rathlin O'Birne, 154 ha).

Threat	Importance
aquaculture/fisheries	low

Inishduff IE026

Area: 47

Latitude: 54.6 **Longitude:** -8.55

State(s): Donegal

Site criteria: (proposed) B3 (confirmed)

Description: A small, uninhabited, rocky, marine island and surrounding sea, situated 8 km south-west of Killybegs and 2 km off the County Donegal coast. The island is low-lying and flat-topped with short grassland vegetation.

Birds: The island is important for breeding seabirds.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Phalacrocorax aristotelis</i> (European Shag)	1987	breeding	116	116	breeding pairs	B3
<i>Larus marinus</i> (Great Black-backed Gull)	1987	breeding	150	150	breeding pairs	B3

Protection: National None International None

Conservation issues: Fishing in surrounding waters may deplete the prey stock of seabirds, with implications for their breeding success. The site is a proposed (by NPW) Special Protection Area (Inishduff, 47 ha).

Threat	Importance
aquaculture/fisheries	low

Moors west and north-west of Lough Derg, Brownhall bogs around Loughs Golagh and Dunragh (includes Pettigo Plateau) IE027

Area: 691

Latitude: 54.6167 **Longitude:** -7.95

State(s): Donegal

Site criteria: (proposed) C7 (confirmed)

Description: Located in County Donegal 10 km east-south-east of Donegal town, this is an extensive complex of blanket bog, wet heath, lakes and pools covering an area of low hills and broad basins. There is grassland within the Brownhall estate, which lies adjacent to the bog and forms part of the site. This complex is also known as the Pettigo Plateau and extends across the border into Northern Ireland (County Fermanagh) where it is covered by an immediately adjacent IBA (UK site 282; 'Pettigoe Plateau'). Land-uses include peat-cutting ('Other' land-use).

Birds: This site has been designated as a Special Protection Area due to the presence of breeding *Pluvialis apricaria* and *Gavia stellata* and of wintering *Anser albifrons flavirostris* (average 113 during 1992–1996), all of which are listed under Annex I of the EC Birds Directive. This is also a notable breeding site for the nationally scarce *Lagopus lagopus*.

Protection: National High International High. 691 ha of IBA covered by Nature Reserve (Pettigo Plateau, 900 ha). 691 ha of IBA covered by Ramsar Site (Pettigo Plateau, 900 ha). 691 ha of IBA covered by Special Protection Area (Pettigo Plateau, 691 ha).

Conservation issues: Restricted access to Brownhall estate limits disturbance to this goose-feeding site. However, a deterioration since 1989 in the suitability of Brownhall grasslands for *Anser albifrons flavirostris* (following agricultural improvement) may be the reason for a decline in numbers of this species. Alternative feeding sites, such as Durnesh Lough, are limited and more disturbed. In the past, afforestation caused serious degradation of blanket bog and is now the subject of an action against Ireland in the European Court. The site overlaps with a proposed candidate Special Area for Conservation (Pettigo Plateau; area not known).

Habitat	Cover
grassland	10
shrubland	10
wetland	80
Land use	Cover
agriculture	60
hunting	100
nature conservation and research	25
other	20

Threat	Importance
afforestation	medium
agricultural intensification/expansion	medium
burning of vegetation	medium
disturbance to birds	low

Lough Derg IE028

Area: 888

Latitude: 54.6167

Longitude: -7.8833

State(s): Donegal

Site criteria: (proposed) C7 (confirmed)

Description: Lough Derg is a large lake, situated approximately 6 km north of Pettigo in County Donegal. The lake is naturally nutrient-poor (oligotrophic). It is surrounded by extensive conifer plantations; good examples of wetland scrub occur on the lakeshore and islands.

Birds: The site was designated as a Special Protection Area on the basis of migratory waterfowl populations. An island within the lough is regularly used as a winter feeding site by small numbers of *Anser albifrons flavirostris*. The main flock uses site 027, immediately east of Lough Derg and separated by conifer plantations. There is also a nationally important breeding colony of *Larus fuscus* (800 birds, 1990).

Protection: National High International High. IBA overlaps with Wildfowl Sanctuary (Lough Derg (Donegal); area not known). 888 ha of IBA covered by Special Protection Area (Lough Derg (Donegal), 888 ha).

Conservation issues: Felling of the surrounding conifer plantation may lead to pollution of the lake, which is already acidified.

Habitat	Cover
shrubland	5
wetland	95
Land use	Cover
not utilised	100

Threat	Importance
deforestation (commercial)	low

Durnesh Lough IE029

Area: 365

Latitude: 54.5667

Longitude: -8.2

State(s): Donegal

Site criteria: (proposed) B1i, B2, B3, C2 (confirmed)

Description: A large freshwater lake adjacent to Donegal Bay and situated 10 km north of Ballyshannon in County Donegal. The lake is separated from the sea by sand-dunes, is fringed by extensive reedbeds and large areas of wet grassland, and is surrounded by drumlins.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Cygnus olor</i> (Mute Swan)	1995	winter	109	109	individuals	B1i
<i>Cygnus cygnus</i> (Whooper Swan)	1997	winter	226	226	individuals	B1i, B3, C2
<i>Cygnus columbianus</i> (Bewick's Swan)	0	winter	0	40	individuals	B2

Birds: This is an important wintering site for waterfowl, particularly swans *Cygnus*. Formerly, *Aythya marila* was also recorded in internationally important numbers. The fields around Durnesh Lough are an alternative feeding site for *Anser albifrons flavirostris* from Pettigo plateau (site 027).

Protection: National None International None

Conservation issues: Wildfowling causes disturbance to birds, and agricultural intensification of surrounding farmland may threaten water quality due to nutrient pollution.

Threat	Importance
agricultural intensification/expansion	low
disturbance to birds	low
drainage	low

Donegal Bay IE030

Area: 40000

Latitude: 54.5833

Longitude: -8.25

State(s): Donegal

Site criteria: (proposed) A4i, B1i, C2 (confirmed)

Description: A large sea bay, extending from Doorin Point in the north to Kildoney Point in the south, directly west of Donegal town, County Donegal. The innermost part of the bay, a tidal area behind sand-dune systems, is not included as it is surprisingly poor for waterfowl.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Gavia immer</i> (Great Northern Diver)	1996	winter	79	316	individuals	A4i, B1i, C2

Birds: This is one of the most important wintering sites in Ireland for *Melanitta nigra* (1,150 birds, 1996), which occur in nationally important numbers, together with *Cygnus olor* (109 birds, 1995), *Clangula hyemalis* (32 birds, 1996) and *Mergus serrator* (50 birds, 1996). The shores of Donegal Bay support nationally important numbers of *Calidris alba* (100 birds, 1996).

Habitat	Cover
sea/marine	100
Land use	Cover
fisheries/aquaculture	100

Protection: National None International None

Conservation issues: The sand shores which border this site are under considerable recreational pressure. Use of the bay for water-sports may cause some disturbance to birds. There is intertidal shellfish cultivation within the inner bay.

Threat	Importance
aquaculture/fisheries	unknown
recreation/tourism	unknown

Inishmurray IE031

Area: 260

Latitude: 54.4333 **Longitude:** -8.6667

State(s): North West

Site criteria: (proposed) B1i, B2, B3, C2 (confirmed)

Description: A low, flat marine island, with rocky coastline and several small lakes, situated 6 km north-west of Streedagh Point in County Sligo. The main habitat is wet acidic grassland. The island has been uninhabited since the 1950s and is an important archaeological site. The IBA has been expanded since the previous European inventory (Grimmett and Jones 1989) to include the surrounding sea area.

Birds: An important site for breeding seabirds and for wintering wildfowl, as well as a nationally important breeding site for *Somateria mollissima*.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Hydrobates pelagicus</i> (Storm Petrel)	1987	breeding	100	1000	breeding pairs	B2
<i>Phalacrocorax aristotelis</i> (European Shag)	1987	breeding	237	237	breeding pairs	B3
<i>Branta leucopsis</i> (Barnacle Goose)	1994	winter	473	473	individuals	B1i, B2, C2

Protection: National None International High. 260 ha of IBA covered by Special Protection Area (Inishmurray, 260 ha).

Conservation issues: The main threat to birds is disturbance from visitors to the island; access and visitor numbers should be controlled during the breeding season.

Threat	Importance
aquaculture/fisheries	low
disturbance to birds	low
recreation/tourism	low

Ardboline Island and Horse Island IE032

Area: 25

Latitude: 54.35 **Longitude:** -8.7

State(s): North West

Site criteria: (proposed) B1i, C2 (confirmed)

Description: Ardboline and Horse Island lie 1 km apart and 15 km north-west of Sligo town in County Sligo. Both islands are uninhabited and grass-covered with a rocky shoreline. The surrounding waters are not included within the site.

Species	Year	Season	Min	Max	Units	Proposed	Confirmed
<i>Branta leucopsis</i> (Barnacle Goose)	1996	winter	0	500	individuals		B1i, C2

Birds: This is an alternative feeding site for *Branta leucopsis* from Drumcliff Bay and Ballintemple (site 033). Breeding seabirds also occur on both islands, with Ardboline Island supporting nationally important numbers of *Phalacrocorax carbo* (205 pairs, 1985).

Protection: National None International None

Conservation issues: Little information is available on this site.

Threat	Importance
aquaculture/fisheries	low

Drumcliff Bay and Ballintemple IE033

Area: 3000

Latitude: 54.3333 **Longitude:** -8.55

State(s): North West

Site criteria: (proposed) B1i, B2, C2 (confirmed)

Description: Drumcliff Bay is the most northern section of Sligo Bay's three estuaries. The main habitats are extensive mud- and sandflats together with goose-feeding fields at Ballintemple, Lissadell and Balgilgan. The site previously included goose-feeding fields at Lissadell and has been considerably enlarged since the previous pan-European inventory (Grimmett and Jones 1989)

Habitat	Cover
artificial landscapes	20
sea/marine area	40
wetland	40
Land use	Cover
agriculture	20
fisheries/aquaculture	20
nature conservation and research	5
not utilised	60

to include Drumcliff Bay itself. There is intertidal shellfish cultivation (aquaculture).

Species	Year	Season	Min	Max	Units	Confirmed
<i>Branta leucopsis</i> (Barnacle Goose)	1994	winter	1774	1774	individuals	B1i, B2, C2

Birds: The site supports large numbers of wintering wildfowl and waders. In particular, the improved grassland at Ballintemple and Lissadell provides feeding habitat for internationally important numbers of *Branta leucopsis*, as well as *Anser albifrons flavirostris* and *Cygnus cygnus*. Wintering waders include nationally important numbers of *Tringa totanus* (593 birds, 1995).

Protection: National Low International Partial. 29 ha of IBA covered by Nature Reserve (Balgilgan/Lissadell, 29 ha). 1,575 ha of IBA covered by Special Protection Area (Drumcliff Bay, 1,575 ha).

Threat	Importance
aquaculture/fisheries	medium

Conservation issues: NPW manage Balgilgan/Lissadell Nature Reserve for the geese (*Anser/Branta*). Intertidal shellfish cultivation may threaten habitat quality. Feeding fields for geese at Ballintemple are not protected. The site overlaps with a proposed candidate Special Area for Conservation (Lissadell and Drumcliff Bay; area not known).

Cummeen Strand (Sligo Harbour) IE034

Area: 1865

Latitude: 54.3 **Longitude:** -8.5333

State(s): North West

Site criteria: (proposed) B1i, B2, C3 (confirmed)

Description: Cummeen Strand is the middle of Sligo Bay's three discrete estuarine areas. It lies at the mouth of the River Garavogue and stretches west from Sligo town. Intertidal mud- and sandflats are the dominant habitat, with sand-dunes at Killaspug and Coney Island, and a shingle spit at Standalone Point. The estuary has been modified with the construction of a training wall. There is intertidal shellfish cultivation.

Birds: An important wintering and passage site for wildfowl and waders.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Branta bernicla hrota</i> (Light-bellied Brent Goose)	1996	winter	608	608	individuals	B1i, C3
<i>Limosa lapponica</i> (Bar-tailed Godwit)	1996	winter	333	333	individuals	B2

Protection: National None International Partial. 1,491 ha of IBA covered by Ramsar Site (Cummeen Strand, 1,491 ha). 1,491 ha of IBA covered by Special Protection Area (Cummeen Strand, 1,491 ha).

Conservation issues: The proximity of Sligo town may negatively affect the site. The feasibility of completing Capital Dredging Works is currently being considered, including the disposal of dredge spoil on mudflat. Habitat quality may be reduced by intertidal shellfish cultivation and increasing recreational use.

Threat	Importance
aquaculture/fisheries	medium
industrialization/urbanization	low

Ballysadare Bay IE035

Area: 2146

Latitude: 54.2167 **Longitude:** -8.5833

State(s): North West

Site criteria: (proposed) B1i, B2, C3, C6 (confirmed)

Description: Ballysadare Bay, located 7 km south of Sligo town, is the most southern of the three estuarine areas which comprise Sligo Bay. The site encompasses extensive areas of mudflat, with well-developed saltmarsh in places. It extends as far as the spit at Strandhill dunes, where it opens out to the sea. Shooting is permitted in the marshes at the upper reaches of the bay.

Birds: This site supports a range of waterfowl species in winter.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Branta bernicla hrota</i> (Light-bellied Brent Goose)	1996	winter	200	0	individuals	B1i, C3
<i>Limosa lapponica</i> (Bar-tailed Godwit)	1996	winter	333	333	individuals	B2, C6

Protection: National None International None

Conservation issues: Adjacent to the site there is pressure from industrial development; however, a proposed asphalt factory was recently refused consent. This site has been proposed as a Special Protection Area (Ballysadare Bay, 2,146 ha) by NPW and should be designated in the near future. It also lies within a

Threat	Importance
disturbance to birds	low
extraction industry	medium
recreation/tourism	low

proposed candidate Special Area for Conservation (Ballysadare Bay; area not known).

Lough Gara IE036

Area: 1788

Latitude: 53.95 **Longitude:** -8.45

State(s): North West

Site criteria: (proposed) B1i, B3, C3 (confirmed)

Description: Lough Gara, in Counties Sligo and Roscommon, is situated 7 km west of Boyle at its northern end and 7 km north-east of Ballaghaderreen at its southern margin. It is a shallow limestone lake, with a maximum depth of 16 m. To the south it is fed by the Lunge and Breedoge rivers, while in the north it drains into the River Shannon via the River Boyle. The lakeshore comprises reedbed and marsh, which extend along the River Boyle and within the lake are low-lying islands. Adjoining the lake is raised bog. Land-uses include peat-cutting ('Other' land-use).

Birds: This is an important site for wintering wildfowl.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Cygnus cygnus</i> (Whooper Swan)	1996	winter	110	110	individuals	B3
<i>Anser albifrons flavirostris</i> (Greenland White-fronted Goose)	1994	winter	503	503	individuals	B1i, C3

Protection: National Partial International High. 800 ha of IBA covered by Wildfowl Sanctuary (Lough Gara, 800 ha). 1,742 ha of IBA covered by Ramsar Site (Lough Gara, 1,742 ha). 1,742 ha of IBA covered by Special Protection Area (Lough Gara, 1,742 ha).

Conservation issues: The lake has been subject to various drainage schemes since the mid-nineteenth century and water-levels are now permanently lowered. Threats include siltation due to peat-cutting and further drainage, while wildfowling causes some disturbance to geese.

Threat	Importance
agricultural intensification/expansion	low
disturbance to birds	medium
extraction industry	low

Aughris Head IE037

Area: 18

Latitude: 54.2667 **Longitude:** -8.75

State(s): North West

Site criteria: (proposed) C7 (confirmed)

Description: A stretch of mainland cliff, C.1.5 km long, situated on the north-facing County Sligo coastline, approximately 20 km west of Ballysadare. The cliffs, reaching 30 m in height, are near-vertical and horizontally stratified.

Birds: This is a notable site for breeding sea birds. There are nationally important numbers of *Rissa tridactyla* (742 pairs, 1997) and *Uria aalge* (1,211 pairs, 1997). Other species include *Alca torda* (at least 87 birds, 1997), *Fulmarus glacialis* (94 pairs, 1997) and *Phalacrocorax aristotelis* (9 pairs, 1997).

Protection: National None International None

Conservation issues: Although the numbers of breeding seabirds have fallen below the thresholds of international IBA criteria, the site is retained as an IBA since it was included in the previous pan-European inventory (Grimmett and Jones 1989) and is now being considered for designation as a Special Protection Area by NPW (on the basis of its breeding seabirds).

Threat	Importance
aquaculture/fisheries	low

Killala Bay IE038

Area: 4294

Latitude: 54.2167 **Longitude:** -9.15

State(s): West/ North West

Site criteria: (proposed) B1i, B2, C3 (confirmed)

Description: A north-facing triangular bay, on the county borders of Mayo and Sligo and at the mouth of the Moy river. A long, sand island, Bartragh Island, separates the south-west side of the bay from open water. Most of the inner

Habitat	Level	Cover
wetland	C	100
Land use	Level	Cover
fisheries/aquaculture	C	80
hunting	C	100
tourism/recreation	C	50

region is intertidal, with extensive sand- and mudflats. The main land-uses are for amenity, and the Moy estuary is renowned for salmon fishing.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Branta bernicla hrota</i> (Light-bellied Brent Goose)	1996	winter	229	229	individuals	B1i, C3
<i>Limosa lapponica</i> (Bar-tailed Godwit)	1996	winter	413	413	individuals	B2
<i>Calidris canutus</i> (Red Knot)	1996	winter	802	802	individuals	B2

Birds: Other wintering species occurring in numbers of national importance include *Mergus serrator* (31 birds, 1996), *Charadrius hiaticula* (140 birds, 1995), *Pluvialis squatarola* (237 birds, 1996), *Calidris alba* (57 birds, 1996) and *Calidris alpina* (2,131 birds, 1996).

Protection: National None International Partial. 1,061 ha of IBA covered by Ramsar Site (Killala Bay, 1,061 ha). 1,061 ha of IBA covered by Special Protection Area (Killala Bay, 1,061 ha).

Conservation issues: The main threats to the site are uncontrolled or accidental emissions into the estuary and bay from Ballina sewage plant and, until recently, from the chemical plant (Asahi) at Killala (now closed). Other threats include intensive holiday-village developments adjacent to the bay, and golf-course expansion and development on the dunes at Inishrone and Bartragh Island. There is damage to saltmarsh due to grazing and tractors. The site lies within a proposed candidate Special Area for Conservation (Killala Bay; area not known).

Threat	Importance
aquaculture/fisheries	low
industrialization/urbanization	low
recreation/tourism	medium

Illaunmaistir (Oilean Maistir) IE039

Area: 165

Latitude: 54.3167 **Longitude:** -9.6333

State(s): West

Site criteria: (proposed) A4ii, A4iii, B1ii, B2, C2, C4, C6 (confirmed)

Description: A small, steep-sided, inaccessible rocky island (rising to 100 m) and surrounding waters, located just off the cliff-dominated north coast of County Mayo, 19 km west of Ballycastle.

Birds: This is an important site for breeding seabirds; additional species include *Fulmarus glacialis* (10 pairs), *Puffinus puffinus* (10–100 pairs), *Phalacrocorax aristotelis* (>10 pairs) and *Cephus grylle* (5 pairs).

Species	Year	Season	Min	Max	Units	Confirmed
<i>Hydrobates pelagicus</i> (Storm Petrel)	1987	breeding	7500	10000	breeding pairs	A4ii, B1ii, B2, C2, C6
<i>Fratercula arctica</i> (Atlantic Puffin)	1989	breeding	2000	0	breeding pairs	B2

Protection: National None International High. 165 ha of IBA covered by Special Protection Area (Illaunmaistir, 165 ha).

Conservation issues: The island (5 ha) is a reserve owned by BirdWatch Ireland. Fishing in surrounding waters may deplete the prey stock of seabirds, with implications for their breeding success.

Threat	Importance
aquaculture/fisheries	low

Stags of Broadhaven IE040

Area: 136

Latitude: 54.3833 **Longitude:** -9.7833

State(s): West

Site criteria: (proposed) C6 (confirmed)

Description: A group of four precipitous rocky islets (totalling 4 ha and rising to 100 m) and the surrounding sea area, located off the cliff-dominated north coast of County Mayo and 2 km north of Benwee Head.

Birds: An important site for breeding seabirds; additional species include *Hydrobates pelagicus* (no recent data; <100 pairs, 1966), *Fulmarus glacialis* (100 pairs, 1982), *Larus argentatus* (C.25 pairs, 1971), *Rissa tridactyla* (C.25 pairs, 1969), *Alca torda* (9 pairs, 1971) and *Fratercula arctica* (no recent data; one of the most densely populated colonies in 1966).

Species	Year	Season	Min	Max	Units	Confirmed
<i>Oceanodroma leucorhoa</i> (Leach's Storm Petrel)	1982	breeding	200	200	breeding pairs	C6

Protection: National None International High. 136 ha of IBA covered by Special Protection Area (Stags of Broadhaven, 136 ha).

Conservation issues: Fishing in surrounding waters may deplete the prey stock of seabirds, with implications for their breeding success.

Threat	Importance
aquaculture/fisheries	low

Broadhaven, Blacksod and Tullaghan Bays and parts of the Mullet peninsula IE041

Area: 10852

Latitude: 54.25 **Longitude:** -9.8667

State(s): West

Site criteria: (proposed) A4i, B1i, B2, B3, C2, C3, C6 (confirmed)

Description: A very large coastal complex, next to Belmullet in County Mayo. This site includes the intertidal mudflats, sandflats and saltmarsh of several bays as well as parts of the Mullet peninsula and mainland, with machair, lake, marsh and non-intensive farmland. This site is an amalgamation of three sites which were listed as separate IBAs in the previous European inventory (Grimmett and Jones 1989): Broadhaven Bay (formerly IE028), Termoncarragh Lake (formerly IE029) and Blacksod Bay (formerly IE033).

Birds: The bays and other coastal, lake and intertidal habitats support a wide diversity of wintering and breeding birds. In winter, there are internationally important numbers of several waterbirds. In addition, there are nationally important numbers of *Anser albifrons flavirostris*, *Mergus serrator* (43 birds, 1996), *Pluvialis squatarola* (61 birds, 1995), *Charadrius hiaticula*, *Calidris alba* (65 birds, 1995), *Calidris alpina* (2,465 birds, 1996) and *Limosa limosa* (136 birds, 1996).

Species	Year	Season	Min	Max	Units	Confirmed
<i>Gavia immer</i> (Great Northern Diver)	1996	winter	37	65	individuals	A4i, B1i, C2
<i>Cygnus cygnus</i> (Whooper Swan)	1996	winter	107	124	individuals	B3
<i>Branta leucopsis</i> (Barnacle Goose)	1996	winter	230	780	individuals	B1i, B2, C2
<i>Branta bernicla hrota</i> (Light-bellied Brent Goose)	1996	winter	194	277	individuals	B1i, C3
<i>Crex crex</i> (Corncrake)	1996	breeding	10	10	breeding pairs	C6
<i>Limosa lapponica</i> (Bar-tailed Godwit)	1996	winter	241	563	individuals	B2
<i>Phalaropus lobatus</i> (Red-necked Phalarope)	1966	breeding	0	2	breeding pairs	C6
<i>Sterna sandvicensis</i> (Sandwich Tern)	1995	breeding	81	81	breeding pairs	B2, C6

Protection: National None International Partial. 683 ha of IBA covered by Ramsar Site (Blacksod/Broadhaven Bay, 683 ha). 7,493 ha of IBA covered by Special Protection Area (Blacksod and Broadhaven Bays, 7,493 ha). 109 ha of IBA covered by Special Protection Area (Cross Lough (The Mullet), 109 ha). 377 ha of IBA covered by Special Protection Area (Termoncarragh Lake, 377 ha).

Conservation issues: Onshore, the site is threatened by overgrazing, increased fencing and increased use of fertilizer, while pressure to develop intertidal shellfish cultivation is increasing within the bays. The breeding habitat of *Crex crex*, in particular, is threatened by changes in agricultural practice, with earlier cutting of hay and silage, and the replacement of meadow with sheep-grazing pasture. Farming practices that favour *Crex crex* are being encouraged within the area through a grant scheme. There are plans to attract *Phalaropus lobatus* back to Annagh marsh on the Mullet peninsula, through habitat-restoration measures. A 24 ha reserve owned by BirdWatch Ireland lies within the site. The IBA overlaps with a proposed candidate Special Area for Conservation (Blacksod/Mullet; area not known).

Threat	Importance
agricultural intensification/expansion	medium
aquaculture/fisheries	unknown

Inishglora and Inishkeeragh IE042

Area: 337

Latitude: 54.2167 **Longitude:** -10.15

State(s): West

Site criteria: (proposed) A4ii, A4iii, B1ii, B2, B3, C2, C4, C6 (confirmed)

Description: Two low-lying offshore islands, 1 km west of Corraun Point on the Mullet peninsula, County Mayo. This site includes Carricknaronty Rocks, Duffar Rocks and the surrounding sea area.

Birds: These islands are important for their breeding colonies of seabirds, and are also notable for wintering *Branta leucopsis* (265 birds, 1994; birds also use sites 043 and 044), and for breeding *Sterna paradisaea* (105 pairs, 1995). There are also small numbers of *Sterna albifrons*. Other breeding seabirds in numbers of national importance are *Phalacrocorax carbo* (57 pairs), *Larus marinus* (75 pairs) and *Larus fuscus* (min. 20 pairs).

Species	Year	Season	Min	Max	Units	Confirmed
<i>Hydrobates pelagicus</i> (Storm Petrel)	1987	breeding	10000	20000	breeding pairs	A4ii, A4iii, B1ii, B2, C2, C6
<i>Phalacrocorax aristotelis</i> (European Shag)	1987	breeding	175	175	breeding pairs	B3
<i>Larus canus</i> (Common Gull)	1989	breeding	55	65	breeding pairs	B2

Protection: National None International High. 337 ha of IBA covered by Special Protection Area (Inishglora and Inishkeeragh, 337 ha).

Habitat	Cover
coastline/rocky areas	5
grassland	10
sea/marine	85
Land use	Cover
fisheries/aquaculture	85
not utilised	15

Threat	Importance
aquaculture/fisheries	unknown

Conservation issues: Fishing may deplete the prey stock of seabirds, with implications for their breeding success.

Inishkea Islands IE043

Area: 592

Latitude: 54.1167

Longitude: -10.2167

State(s): West

Site criteria: (proposed) A4i, B1i, B2, C2 (confirmed)

Description: Two large islands and surrounding rocks, 4 km west of the Mullet peninsula in County Mayo. The northern island is dominated by machair and has a small lake. The southern island is machair-covered in the northern part, with a heath-covered hill and ridge dominating to the south. The islands have been uninhabited since 1932, but there is still grazing of cattle and sheep.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Branta leucopsis</i> (Barnacle Goose)	1993	winter	2681	2681	individuals	A4i, B1i, B2, C2

Birds: This is the most important wintering site for *Branta leucopsis* in Ireland (birds also use sites 042 and 044). Other wintering birds of national importance (no more recent data) include *Pluvialis apricaria* (1,500, 1987), *Calidris alba* (200, 1987), *Calidris maritima* (175, 1987) and *Arenaria interpres* (400, 1987). After an absence from the islands since the 1960s, *Crex crex* have returned to breed (2 birds, 1998). The islands comprise one of the top sites in Ireland for shorebirds breeding on machair, e.g. *Haematopus ostralegus*, *Vanellus vanellus* and *Calidris alpina*.

Protection: National Partial International Partial. IBA overlaps with Wildfowl Sanctuary (Inishkea Islands; area not known). 272 ha of IBA covered by Special Protection Area (Inishkea Islands, 272 ha).

Threat	Importance
agricultural intensification/expansion	low

Conservation issues: Day-trippers may cause disturbance to nesting birds. The site overlaps with a proposed candidate Special Area for Conservation by 272 ha (Inishkea Islands; area not known).

Duvillaun Islands IE044

Area: 446

Latitude: 54.0833

Longitude: -10.2

State(s): West

Site criteria: (proposed) B1i, B2, B3, C2 (confirmed)

Description: This is a group of five offshore islands with outlying rocks and reefs, 3 km south-west of the Mullet peninsula in County Mayo.

Birds: These islands support important numbers of wintering geese and breeding seabirds. Seabirds breeding in numbers of national importance are *Phalacrocorax carbo* (185 pairs, 1981), *Fulmarus glacialis* (500 pairs, 1981), *Larus canus* (20–50 pairs, 1981) and *Larus argentatus* (300–400 pairs, 1981).

Species	Year	Season	Min	Max	Units	Confirmed
<i>Branta leucopsis</i> (Barnacle Goose)	1994	winter	200	500	individuals	B1i, B2, C2
<i>Larus marinus</i> (Great Black-backed Gull)	1987	breeding	210	210	breeding pairs	B3
<i>Cephus grylle</i> (Black Guillemot)	1981	breeding	25	30	breeding pairs	B2

Protection: National None International None

Conservation issues: The site is a proposed (by NPW) Special Protection Area (Duvillaun Island, 446 ha), and should be designated in the near future.

Threat	Importance
aquaculture/fisheries	unknown

Carrowmore Lake IE045

Area: 967

Latitude: 54.1833

Longitude: -9.8

State(s): West

Site criteria: (proposed) B2, C7 (confirmed)

Description: Carrowmore lake is situated 2.5 km north-west of Bangor, in north-west County Mayo. It is a medium-sized, fairly shallow lake, originally with low to moderate nutrient-levels (oligotrophic–mesotrophic), and is surrounded by blanket bog and some new forestry plantations. The IBA is considerably larger than in the previous European inventory (Grimmett and Jones 1989), when it comprised solely Darreen's Island, a low-lying grassy island in the north-western part of the lake. The lake is used for angling.

Species	Year	Season	Min	Max	Units	Confirmed
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Habitat	Cover
wetland	100
Land use	Cover
fisheries/aquaculture	100

<i>Larus canus</i> (Common Gull)	1993	breeding	300	0	breeding pairs	B2
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Birds: At Darreen's Island, in Carrowmore lake, there is a long-established colony of gulls *Larus*. Formerly the site was also important for breeding terns *Sterna*, particularly *Sterna sandvicensis* (164 pairs, 1984) and *Sterna paradisaea* (18 pairs, 1984). However, in recent years neither of these species, nor *Larus ridibundus* (1,500 pairs, 1987), have bred here. It is believed that the terns switched to Inishderry Island in Broadhaven Bay (site 041) and that they may interchange between the two sites. *Anser albifrons flavirostris* winters in numbers of national importance (146, 1994); this flock also uses sites 046 and 041.

Protection: National High International High. IBA overlaps with Wildfowl Sanctuary (Carrowmore Lough; area not known). 967 ha of IBA covered by Special Protection Area (Carrowmore Lake, 967 ha).

Threat	Importance
agricultural intensification/expansion	low
aquaculture/fisheries	low
recreation/tourism	low

Conservation issues: Water quality is threatened by the intensification of agriculture and the effects of nutrient pollution. It is not known why terns stopped breeding on Darreen's Island, which was designated as a Special Protection Area on account of them, but they may return to breed in

Owenduff River catchment and Nephin Beg IE046

Area: 25622

Latitude: 54.0333 **Longitude:** -9.6333

State(s): West

Site criteria: (proposed) C7 (confirmed)

Description: A large area of relatively intact blanket bog in north-west County Mayo, bounded by Bangor to the north, Mullranny in the south-west and Lough Feeagh to the east. The site is one of the best examples of an Atlantic blanket-bog system in Europe and supports a diversity of other habitats, including upland grassland, mountainous terrain, lakes and rivers. Sheep graze the area.

Habitat	Cover
coastline/rocky areas	10
grassland	20
wetland	70
Land use	Cover
agriculture	80
fisheries/aquaculture	10
hunting	20
nature conservation and research	5
tourism/recreation	50

Birds: This site was designated as a Special Protection Area based on its high number of wintering *Anser albifrons flavirostris* (146 birds, 1994), together with breeding *Pluvialis apricaria*, both of which are Annex I species under the EC Birds Directive.

Protection: National None International High. 1,382 ha of IBA covered by Ramsar Site (Owenduff catchment, 1,382 ha). 25,622 ha of IBA covered by Special Protection Area (Owenduff/Nephin Complex, 25,622 ha).

Threat	Importance
agricultural intensification/expansion	high
disturbance to birds	medium
extraction industry	medium

Conservation issues: The severity of overgrazing by sheep within this site is the subject of a legal action against Ireland by the European Commission. It is believed to have contributed to a decline in wintering *Anser albifrons flavirostris* and breeding *Pluvialis apricaria*. Other pressures on this site are wildfowling (causing disturbance to geese) and peat extraction. The IBA lies within a proposed candidate Special Area for Conservation (Owenduff/Nephin Complex; area not known).

Lough Conn and Lough Cullin (including Moy valley) IE047

Area: 7227

Latitude: 54.0167 **Longitude:** -9.2167

State(s): West

Site criteria: (proposed) B3, C7 (confirmed)

Description: A wetland complex, 2 km east of Foxford in County Mayo and comprising two large lakes, with islands, and a diversity of shoreline habitats including fens, marshes, wet grasslands, rocky shorelines and deciduous woodland. The lakes are drained by the Moy river and the site also includes grasslands which surround this river to the east and north-east of Lough Cullin (Moy valley). The site has been extended since the previous European inventory (Grimmett and Jones 1989) to include the Moy valley. The Moy river was drained in the 1960s and its adjacent grasslands no longer flood. The lakes are popular for angling.

Habitat	Cover
artificial landscapes	10
grassland	10
wetland	80
Land use	Cover
agriculture	30
fisheries/aquaculture	70
nature conservation and research	5
tourism/recreation	5

Species	Year	Season	Min	Max	Units	Confirmed
<i>Cygnus cygnus</i> (Whooper Swan)	1987	winter	132	132	individuals	B3

Birds: Loughs Conn and Cullin are important for their waterfowl populations, and the Moy valley is notable for breeding *Crex crex* (5 pairs, 1996). Wintering species of national importance are *Anser albifrons flavirostris* (146 birds, 1994), *Aythya ferina* (431 birds, 1995), *Fulica atra* (1,500 birds, 1996), *Cygnus olor* (284 birds, 1996), *Aythya fuligula* (694 birds, 1996) and *Bucephala clangula* (102 birds, 1996). This is also one of three regular breeding sites for *Melanitta nigra* in Ireland.

Protection: National Partial International Partial. 2,600 ha of IBA covered by Wildfowl Sanctuary (Lough Conn, 2,600 ha). 1,135 ha of IBA covered by Wildfowl Sanctuary (Lough Cullin, 1,135 ha). 5,291 ha of IBA covered by Special Protection Area (Lough Conn, 5,291 ha). 1,136 ha of IBA covered by Special Protection Area (Lough Cullin, 1,136 ha).

Conservation issues: Previously the herb-rich grasslands alongside the Moy river provided breeding habitat for large concentrations of *Crex crex*. However, drainage of the river in the 1960s dried out the land, allowing more intensive farming with earlier cutting of meadow and increased use of fertilizer. This is likely to have caused the reduction in numbers of *Crex crex*. BirdWatch Ireland, with support from NPW and RSPB, operate a grant scheme in the area to encourage farming practices that favour *Crex crex*. The main threat to the lake is nutrient pollution, due partly to agricultural intensification within the catchment and partly to increased siltation (probably a consequence of large-scale mechanical peat extraction taking place upstream). There is also increasing pressure from lake shore developments (holiday homes/marinas) which cause habitat loss, and increase the problem of nutrient pollution due to inputs of domestic waste.

Threat	Importance
agricultural intensification/expansion	high
aquaculture/fisheries	low
extraction industry	unknown
recreation/tourism	low

Clare Island Cliffs IE048

Area: 800

Latitude: 53.8 **Longitude:** -10.0667

State(s): West

Site criteria: (proposed) B2 (confirmed)

Description: Clare Island is situated at the entrance of Clew Bay, 5 km from the mainland in County Mayo. The sea cliffs extend for 8 km along the north-western side of the island; the site boundary runs parallel to, and 100 m inland from, the cliff-edge.

Birds: The cliffs hold notable seabird colonies, including one of the largest colonies of *Fulmarus glacialis* (1,898 pairs, 1990) in Ireland, and nationally important numbers of *Larus argentatus* (min. 550 pairs, 1987) and *Rissa tridactyla* (1,712 pairs, 1990). This is also a notable breeding site for *Pyrhacorax pyrrhacorax*.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Cepphus grylle</i> (Black Guillemot)	1987	breeding	15	15	breeding pairs	B2

Protection: National None International None

Conservation issues: This site is being considered by NPW for designation as a Special Protection Area, and it overlaps with a proposed candidate Special Area for Conservation (Clare Island Cliffs; area not known). The cliffs are listed as an area of international scientific importance, on account of their rare Arctic-alpine plant communities and seabird colonies.

Threat	Importance
agricultural intensification/expansion	low
aquaculture/fisheries	low

Lough Carra IE049

Area: 1595

Latitude: 53.6833 **Longitude:** -9.25

State(s): West

Site criteria: (proposed) C7 (confirmed)

Description: Lough Carra is situated south of Castlebar, in County Mayo. It is a large, clear, calcareous lake with many bays, and islands, and is predominantly spring-fed. There are areas of wet woodland, marsh and reedbed on the lakeshore. The lake is linked hydrologically to Lough Mask (site 051), immediately to its south.

Birds: The site was designated as a Special Protection Area on the basis of migratory waterfowl populations, including nationally important numbers of *Aythya fuligula* (438 birds, 1995).

Protection: National High International High. IBA overlaps with Wildfowl Sanctuary (Lough Carra; area not known). 1,595 ha of IBA covered by Special Protection Area (Lough Carra, 1,595 ha).

Threat	Importance
drainage	medium

Conservation issues: Reduced water-levels may have led to a decline in diving duck populations. The site lies within a proposed candidate Special Area for Conservation (Lough Carra/Mask complex; area not known).

Cross Lough (Killadoon) IE050

Area: 1

Latitude: 53.7 **Longitude:** -9.9167

State(s): West

Site criteria: (proposed) C6 (confirmed)

Description: Cross Lough is situated near Killadoon village, south-west of Louisburgh in County Mayo. The lough is a coastal lagoon separated from the sea by a shingle ridge, within which there is a small islet.

Birds: The islet is the site of a long-established breeding colony of *Sterna sandvicensis*.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Sterna sandvicensis</i> (Sandwich Tern)	1995	breeding	70	70	breeding pairs	C6

Protection: National None International None

Conservation issues: The breaching of the shingle bar may lead to erosion of the islet. The colony of terns *Sterna* has declined in recent years, possibly due to predation by American Mink *Mustela vison*.

Threat	Importance
natural events	medium

Lough Mask IE051

Area: 8529

Latitude: 53.6167 **Longitude:** -9.3333

State(s): West

Site criteria: (proposed) C7 (confirmed)

Description: Located in County Mayo, Lough Mask is situated south of Lough Carra (site 049), which drains into it, and north of Lough Corrib (site 056), into which it drains. It is one of the deepest lakes in the country and is calcareous. It is fed by the Owenbrin river which deposits large amounts of sandy sediment at its entrance forming an extensive delta.

Birds: The site was designated as a Special Protection Area on the basis of its migratory waterfowl populations, with *Aythya fuligula* occurring in numbers of national importance (684 birds, 1996). There are also nationally important colonies of breeding gulls, with *Larus fuscus* (722 birds, 1993), *L. canus* (742 birds, 1993) and *L. ridibundus* (2,650 birds, 1993). It is also a probable breeding site for the nationally scarce *Melanitta nigra*.

Protection: National High International High. IBA overlaps with Wildfowl Sanctuary (Lough Mask; area not known). 8,529 ha of IBA covered by Special Protection Area (Lough Mask, 8,529 ha).

Threat	Importance
agricultural intensification/expansion	medium

Conservation issues: Nutrient pollution may threaten the lake, due to intensification of agriculture on surrounding farmland. The site lies within a proposed candidate Special Area for Conservation (Lough Carra/Mask complex; area not known).

Inishbofin and Inishshark (including Davillaun) IE052

Area: 1015

Latitude: 53.6167 **Longitude:** -10.2167

State(s):
West

Site criteria: (proposed) B1i, B2, C2 (confirmed)

Description: A group of marine islands situated approximately 5.5 km off the west County Galway coast. Inishbofin, the largest island, is inhabited year-round by approximately 250 people. Two-thirds of this island is commonage and the main habitat-type is heathland, the other third is used for agriculture, mainly sheep-grazing, with small areas of meadow. Sheer cliffs and two very large stacks are present at its western end. Inishshark is situated less than 1 km south-west of Inishbofin, and has been uninhabited since 1960. Its main habitat-types are heathland with rough pasture. The much smaller Davillaun Island lies 2 km east of Inishbofin, it is uninhabited. The IBA has been expanded to encompass Inishshark and Davillaun, which were not included within this site in the previous pan-European inventory (Grimmett and Jones 1989).

Species	Year	Season	Min	Max	Units	Confirmed
<i>Puffinus puffinus</i> (Manx Shearwater)	1987	breeding	200	300	breeding pairs	B2
<i>Branta leucopsis</i> (Barnacle Goose)	1993	winter	400	400	individuals	B1i, B2, C2

Habitat	Cover
coastline/rocky areas	10
grassland	30
shrubland	50
wetland	10
Land use	Cover
agriculture	50
not utilised	45
urban/industrial/transport	5

Birds: Breeding *Puffinus puffinus* and wintering *Branta leucopsis* occur on both Inishark and Inishbofin, the latter species occurring also on Davillaun. Other seabirds breeding in numbers of national importance are *Fulmarus glacialis* (824 pairs, 1990) and *Hydrobates pelagicus* (>30 pairs, 1965). Inishbofin was formerly a stronghold of the globally threatened *Crex crex*, but breeding numbers are now small (3 calling males, 1998), though still of national importance. *Pyrhacorax pyrrhacorax* breed in low numbers on the two main islands.

Protection: National None International None

Conservation issues: With changes in farm practice on both islands, mainly the replacement of meadow with sheep-grazing pasture, there has been a stark decline in breeding numbers of *Crex crex* and a total disappearance of breeding *Miliaria calandra*. To try to reverse this trend, farming practices that favour *Crex crex* are being encouraged through a grant scheme. Other threats to Inishbofin in particular include peat-cutting and drainage.

Threat	Importance
abandonment/reduction of land management	medium
agricultural intensification/expansion	medium
extraction industry	low

High Island IE053

Area: 169

Latitude: 53.55 **Longitude:** -10.2833

State(s): West

Site criteria: (proposed) B2, B3, C7 (confirmed)

Description: A small, uninhabited marine island lying 3 km west of Aughris Point, off the west coast of County Galway. The island, with a largely sheer cliff coastline, rises to 60 m in height. It is of archaeological interest for its ancient monastic settlements.

Habitat	Cover
coastline/rocky areas	10
grassland	10
sea/marine area	80
Land use	Cover
fisheries/aquaculture	80
not utilised	20

Birds: The cliffs and undisturbed coastal grasslands of High Island provide an important site for breeding seabirds. *Fulmarus glacialis* also breeds in nationally important numbers (350 pairs, 1987).

Species	Year	Season	Min	Max	Units	Confirmed
<i>Hydrobates pelagicus</i> (Storm Petrel)	1996	breeding	1000	1000	breeding pairs	B2
<i>Larus marinus</i> (Great Black-backed Gull)	1987	breeding	200	200	breeding pairs	B3

Protection: National None International High. 169 ha of IBA covered by Special Protection Area (High Island, 169 ha).

Conservation issues: The isolation and difficulty of landing on this island have so far secured it from serious human disturbance. Fishing in surrounding waters may deplete the prey stock of seabirds, with implications for their breeding success.

Threat	Importance
aquaculture/fisheries	low

Connemara Islands IE054

Area: 20000

Latitude: 53.5 **Longitude:** -10.15

State(s): West

Site criteria: (proposed) B1i, B2, C2, C6 (confirmed)

Description: This very large site encompasses many small islands and islets stretching from Slyne Head (Illaunamid Island) south-eastwards via Ballyconneely, Bertraghboy and Kilkieran Bay as far as Greatman's Bay. Several IBAs which were treated separately in the previous pan-European inventory (Grimmett and Jones 1989) have been combined to form this site, including Eeshal Island (formerly IE041), Horse Island (formerly IE042), Hen Island (formerly IE043), Oilean Geabhrog (formerly IE045), Oilean nan Geabhrog (formerly IE046), Duck Island (formerly IE047) and Geabhrog Island (formerly IE048). The site also includes surrounding waters, covering a sea area up to 5 km off the mainland, along a coast of 40 km in length.

Habitat	Cover
coastline/rocky areas	5
grassland	10
wetland	5
sea/marine area	80
Land use	Cover
agriculture	10
fisheries/aquaculture	80
not utilised	10

Species	Year	Season	Min	Max	Units	Confirmed
<i>Branta leucopsis</i> (Barnacle Goose)	1994	winter	225	370	individuals	B1i, C2
<i>Sterna sandvicensis</i> (Sandwich Tern)	1995	breeding	223	223	breeding pairs	B2, C6
<i>Sterna hirundo</i> (Common Tern)	1995	breeding	139	139	breeding pairs	C6
<i>Sterna paradisaea</i> (Arctic Tern)	1995	breeding	666	666	breeding pairs	C6
<i>Sterna albifrons</i> (Little Tern)	1995	breeding	41	41	breeding pairs	B2, C6

Birds: This group of islands supports some of the most important colonies of breeding terns *Sterna*, especially *Sterna paradisaea*, in Ireland and is also an important winter feeding site for *Branta leucopsis*, particularly on St Macdara's Island and more recently in Inishmuskerry. A detailed review of tern usage from surveys in 1969–1970, 1984 and 1995 is required to clarify which are the most important islands. In the absence of such a review, a single such IBA is considered a better approach as terns appear to be very mobile within this area.

Protection: National None International None

Conservation issues: Fishing in surrounding waters may deplete the prey stock of seabirds, with implications for their breeding success, while increasing tourism (trips to the islands) may lead to disturbance of nesting terns. The site overlaps with a proposed Special Protection Area (Slyne Head, 1,514 ha).

Threat	Importance
aquaculture/fisheries	unknown
recreation/tourism	medium

Roundstone bog IE055

Area: 7000

Latitude: 53.3833

Longitude: -9.7833

State(s): West

Site criteria: (proposed) A4iii, C4, C6 (confirmed)

Description: Roundstone bog is a complex of lakes, rocky outcrops and lowland Atlantic blanket bog. Rocky outcrops and variations in topography have resulted in a complexity of peatland plant communities, making the site of particular conservation interest. The site includes Lough Scannive (83 ha) which was treated as an IBA (formerly IE044) in the previous pan-European inventory (Grimmett and Jones 1989).

Habitat	Cover
coastline/rocky areas	20
wetland	80
Land use	Cover
agriculture	60
not utilised	30
other	10

Species	Year	Season	Min	Max	Units	Confirmed
<i>Falco columbarius</i> (Merlin)	0	breeding	4	0	breeding pairs	C6
<i>Pluvialis apricaria</i> (Eurasian Golden-plover)	0	breeding	20	0	breeding pairs	C6
<i>Sterna sandvicensis</i> (Sandwich Tern)	0	breeding	31	0	breeding pairs	C6

Birds: An important site for breeding *Pluvialis apricaria*, *Falco columbarius* and *Sterna sandvicensis*. Lough Scannive, within this site, was designated as a Special Protection Area on account of its nationally important numbers of breeding *Phalacrocorax carbo* (218 pairs, 1986). In winter the site also supports nationally important numbers of *Anser albifrons flavirostris* (30 birds) which are particularly significant since they utilize the natural bog habitat.

Protection: National Nature International Low. 49 ha of IBA covered by Special Protection Area (Lough Scannive, 49 ha).

Conservation issues: A development proposal for an airstrip within the western margin of the bog is a significant threat. Other hazards to the site include large-scale mechanical peat-cutting and, in the surrounding area, afforestation and overgrazing by sheep and cattle, resulting in peat erosion. Part of the site overlaps with a proposed candidate Special Area for Conservation (Connemara Bog Complex; 6,000 ha).

Threat	Importance
afforestation	low
agricultural intensification/expansion	low
drainage	low
extraction industry	medium
industrialization/urbanization	high

Lough Corrib IE056

Area: 18240

Latitude: 53.4

Longitude: -9.2833

State(s): West

Site criteria: (proposed) A4iii, B1i, C3, C4 (confirmed)

Description: Lough Corrib is situated north of Galway city, and is the second-largest lake in Ireland. It consists of two parts: a smaller, shallower basin to the south and a large, deeper basin to the north, connected by a relatively narrow channel. It supports one of the largest areas of wetland vegetation in the country, with extensive submerged beds of stonewort *Chara*, as well as reed-swamp, marsh, fen and wet grassland. The lakeshore includes woodland, raised bog, callow, and limestone pavement. Apart from raised bog these habitats are also present on the many lake islands. The lake is used for trout fishing.

Habitat	Cover
forest	5
grassland	10
wetland	85
Land use	Cover
agriculture	20
fisheries/aquaculture	80
hunting	100

Species	Year	Season	Min	Max	Units	Confirmed
<i>Aythya ferina</i> (Common Pochard)	1996	winter	8050	8050	individuals	B1i, C3
<i>Fulica atra</i> (Common Coot)	1996	passage	25100	25100	individuals	A4iii, B1i, C3

Birds: This is an important site for wintering waterfowl. Several additional species occur in numbers of national importance, including *Anser albifrons flavirostris* (140 birds, 1996), *Anas penelope* (1,000 birds, 1995), *Anas strepera* (35 birds, 1996), *Anas clypeata* (84 birds, 1996), *Aythya fuligula* (2,676 birds, 1996), *Bucephala clangula* (145 birds, 1996), *Vanellus vanellus* (4,050 birds, 1995) and *Pluvialis apricaria* (7,000 birds, 1995). Lough Corrib is one of only three regular breeding sites known for *Melanitta nigra* in Ireland, and numbers are of national importance (30 pairs, 1995).

Protection: National None International High. 17,728 ha of IBA covered by Ramsar Site (Lough Corrib, 17,728 ha). 17,728 ha of IBA covered by Special Protection Area (Lough Corrib, 17,728 ha).

Conservation issues: The uncontrolled discharge of sewage, particularly into the southern part of the lake, is causing nutrient pollution. Other threats to habitat quality are wildfowling (causing disturbance to birds) and increasing pressure from fishing and from lakeshore developments such as hotels, holiday homes and marinas.

Threat	Importance
agricultural intensification/expansion	medium
aquaculture/fisheries	low
disturbance to birds	medium
industrialization/urbanization	medium

Inner Galway Bay IE057

Area: 11905

Latitude: 53.2 **Longitude:** -9.05

State(s): West

Site criteria: (proposed) B1i, B2, C3, C6 (confirmed)

Description: Situated on the west County Clare/Galway coast, this is the shallow, more sheltered part of a large sea bay, which is partly protected from the open sea by the Aran Islands. On the eastern and southern sides of the site there are numerous shallow tidal inlets including the smaller bays of Kinvara, Aughinish, Corranroo and Ballyvaughan. The southern side is fringed with limestone pavement while a number of small, low islands composed of glacial deposits are located along the eastern side. Intertidal shellfish cultivation takes place mainly on the southern and eastern shores of the site, while the northern shore, where Galway city is located, is subject to greater human pressure, due to amenity and recreation use.

Birds: This is an important site for wintering waterfowl and breeding seabirds. Several other species occur at this site in numbers of national importance, including wintering *Anas penelope* (1,413 birds, 1995), *Clangula hyemalis* (71 birds, 1996), *Charadrius hiaticula* (449 birds, 1996), *Pluvialis squatarola* (86 birds, 1996), *Pluvialis apricaria* (2,275 birds, 1996) and *Calidris alpina* (1,835 birds, 1996), as well as breeding *Phalacrocorax carbo* (min. 220 pairs, 1987) and *Sterna hirundo* (98 pairs, 1995).

Species	Year	Season	Min	Max	Units	Confirmed
<i>Gavia arctica</i> (Great Northern Diver)	1996	winter	39	49	individuals	C6
<i>Branta bernicla hrota</i> (Light-bellied Brent Goose)	1996	winter	525	525	individuals	B1i, C3
<i>Mergus serrator</i> (Red-breasted Merganser)	1996	winter	244	244	individuals	B1i, C3
<i>Limosa lapponica</i> (Bar-tailed Godwit)	1996	winter	277	277	individuals	B2
<i>Sterna sandvicensis</i> (Sandwich Tern)	0	breeding	81	81	breeding pairs	B2, C6

Protection: National None International High. 11,905 ha of IBA covered by Ramsar Site (Inner Galway Bay, 11,905 ha). 11,905 ha of IBA covered by Special Protection Area (Inner Galway Bay, 11,905 ha).

Conservation issues: An ongoing problem is the discharge of untreated sewage from Galway city into the sea bay ('Other' threat). A proposal for the construction of a causeway across intertidal mudflats, to carry a pipeline to a sewage-treatment plant on Mutton Island, has met with controversy. However, this solution is now being implemented despite opposition and lack of favour from the European Commission. Effects on the inner bay in terms of changes to sediment patterns are unknown. Other threats to habitat quality include intertidal shellfish cultivation and development of the recreational and amenity potential of the site. The IBA overlaps with a proposed candidate Special Area for Conservation (Inner Galway Bay; area not known).

Threat	Importance
aquaculture/fisheries	low
industrialization/urbanization	medium
other	low
recreation/tourism	low

Rahasane turlough IE058

Area: 257

Latitude: 53.2167 **Longitude:** -8.7833

State(s): West

Site criteria: (proposed) B1i, B2, B3, C2, C3 (confirmed)

Description: Situated on the Dunkellin river, west of Craughwell in south-west Galway, this is the last large turlough (karst lake) remaining in Ireland. The site comprises marshes, seasonally flooded wet meadows, with limestone outcrops and scrub at its margins. In the summer the site is grazed by cattle and sheep.

Birds: This is an important site for wintering waterfowl. Species wintering in nationally important numbers include *Anser albifrons flavirostris* (139 birds, 1995) and *Anas penelope* (5,570 birds, 1996).

Species	Year	Season	Min	Max	Units	Confirmed
<i>Cygnus cygnus</i> (Whooper Swan)	1996	winter	248	248	individuals	B1i, B3, C2
<i>Cygnus columbianus</i> (Bewick's Swan)	1996	winter	24	24	individuals	B2
<i>Limosa limosa</i> (Black-tailed Godwit)	1989	winter	100	1100	individuals	B1i, C3

Protection: National None International Partial. 221 ha of IBA covered by Special Protection Area (Rahasane Turlough, 221 ha).

Habitat	Cover
grassland	75
shrubland	5
wetland	20
Land use	Cover
agriculture	75
hunting	100

Conservation issues: Drainage of the site has been a long-standing threat. However, its designation as a Special Protection Area and its status as a proposed candidate Special Area for Conservation (Rahasane Turlough; area not known) should reduce this threat. Disturbance to wintering birds is caused by wildfowling. There has been some clearance of limestone pavement next to the lake, with implications for water quality and disturbance to birds.

Threat	Importance
agricultural intensification/expansion	medium
disturbance to birds	medium
drainage	medium

Lough Rea IE059

Area: 200

Latitude: 53.1833

Longitude: -8.5

State(s): West

Site criteria: (proposed) B1i, C3 (confirmed)

Description: A small lake with islands and some reed-swamp, situated just south of the town of Loughrea in County Galway. There is improved farmland around the lake, and it is used by anglers.

Birds: This is one of the most important wintering sites in Ireland for *Fulica atra* (1,700 birds, 1980s). *Aythya fuligula* (452 birds, 1986), and *Pluvialis apricaria* (1,000 birds, 1995) also occur in numbers of national importance.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Anas chyeata</i> (Northern Shoveler)	1996	winter	467	681	individuals	B1i, C3

Protection: National None International None

Conservation issues: The main threat to the lake is nutrient pollution from agricultural run-off, as many of the surrounding fields have been fertilized.

Threat	Importance
recreation/tourism	low

Coole Park and Garryland complex IE060

Area: 389

Latitude: 53.0833

Longitude: -8.8667

State(s): West

Site criteria: (proposed) C7 (confirmed)

Description: A site comprising a range of habitats including turloughs, of which Coole Lough is the largest and has a permanent water body, grassland and mixed deciduous woodland, situated north-west of Gort in County Galway. It is a popular public amenity area.

Birds: The site was designated a Special Protection Area on the basis of its migratory waterfowl, particularly *Cygnus cygnus* which is an Annex I species under the EC Birds Directive.

Protection: National High International High. 363 ha of IBA covered by Nature Reserve (Coole–Garryland, 363 ha). Part of IBA covered by Wildfowl Sanctuary (Coole Lough, 363 ha). 364 ha of IBA covered by Ramsar Site (Coole Lough and Garryland Complex, 364 ha). 389 ha of IBA covered by Special Protection Area (Coole Park and Garryland Complex, 389 ha). 363 ha of IBA covered by Biogenetic Reserve (Coole Park and Garryland Complex, 363 ha).

Conservation issues: Shooting on adjacent lands causes disturbance to birds. A large part of the site is owned by NPW. A proposed candidate Special Area for Conservation (Coole Park and Garryland Complex; 363 ha) lies within the IBA.

Habitat	Level	Cover
forest	C	60
grassland	C	15
wetland	C	25
Land use	Level	Cover
agriculture	C	15
tourism/recreation	C	85

Threat	Importance
disturbance to birds	low

Aran Islands (parts) IE061

Area: 4300

Latitude: 53.0667

Longitude: -9.5833

State(s): West

Site criteria: (proposed) C6 (confirmed)

Description: Inishmaan is the middle of the three Aran Islands situated approximately 15 km off the west coast of County Clare. The island is an extension of the karstic Carboniferous limestone region of the Burren. It consists of dry calcareous grassland, coastal dune and machair habitats. Inishmore, and a group of small islands (Brannock Islands, including Rock Island) lying to its west, have been added to this site since its listing in the previous pan-European inventory (Grimmett and Jones 1989). Low-intensity farming methods have maintained the species-richness and diversity of the flora.

Habitat	Cover
coastline/rocky areas	40
grassland	45
wetland	15
Land use	Cover
agriculture	45
not utilised	55

Birds: This area supports the largest discrete breeding colony of *Sterna paradisaea* in Ireland, most of which occur on Rock Island. Low numbers of *Sterna albifrons* (3 pairs, 1995) breed on Inishmaan. Other breeding seabirds at this site include *Phalacrocorax carbo*, *Phalacrocorax aristotelis*, *Fulmarus glacialis* and *Cephus grylle* (140 birds on Inishmore, 1999).

Species	Year	Season	Min	Max	Units	Confirmed
<i>Sterna paradisaea</i> (Arctic Tern)	1995	breeding	345	345	breeding pairs	C6

Protection: National None International None

Conservation issues: Agricultural intensification would have a significant negative effect upon this site. Tourism is an important industry on the Aran Islands, especially Inishmore, and needs to be controlled to minimize the impact to the environment. Terns *Sterna* on Inishmaan are vulnerable to disturbance. Two proposed candidate Special Areas for Conservation (Inishmaan, 928 ha; Inishmore, 20 ha) lie within the IBA.

Threat	Importance
agricultural intensification/expansion	low
recreation/tourism	low

Lough Cutra IE062

Area: 390

Latitude: 53.0167

Longitude: -8.7667

State(s): West

Site criteria: (proposed) C7 (confirmed)

Description: A freshwater lake, with low to moderate nutrient levels, lying on limestone 4 km south-east of Gort in County Galway. The lake supports aquatic vegetation, with reedbeds in sheltered bays.

Birds: Lough Cutra was designated as a Special Protection Area on the basis of important numbers of breeding *Phalacrocorax carbo* (166 pairs, 1985; up to 300 birds in winter). However, by 1996, the breeding population had declined to just 34 pairs, and the site no longer supports high numbers in winter. However, the lake does support locally important numbers of waterfowl in winter, including Whooper Swans.

Protection: National None International High. 390 ha of IBA covered by Special Protection Area (Lough Cutra, 390 ha).

Conservation issues: Agricultural intensification, including excessive use of fertilizer and slurry-spreading, is leading to nutrient pollution of the lake.

Habitat	Cover
wetland	100
Land use	Cover
tourism/recreation	100

Threat	Importance
agricultural intensification/expansion	low
recreation/tourism	low

Cliffs of Moher IE063

Area: 140

Latitude: 52.9667

Longitude: -9.4333

State(s): Mid West

Site criteria: (proposed) A4iii, B2, B3, C4 (confirmed)

Description: Vertical sea cliffs up to 230 m in height, stretching 7 km along the County Clare coast, 10 km west of Ennistymon. The cliffs are mainly horizontally layered and unvegetated, with some wide vegetated slopes. The cliffs are a major tourist attraction with visitor centre and car park.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Alca torda</i> (Razorbill)	1987	breeding	2300	2300	breeding pairs	B3
<i>Fratercula arctica</i> (Atlantic Puffin)	1987	breeding	700	1000	breeding pairs	B2

Birds: This is the largest colony of breeding seabirds in County Clare. Additional species that breed in numbers of national importance are *Fulmarus glacialis* (min. 3,000 birds, 1987), *Rissa tridactyla* (4,300 birds, 1987) and *Uria aalge* (12,800 birds, 1987).

Protection: National High International High. 140 ha of IBA covered by Refuge for Fauna (Cliffs of Moher; area not known). 140 ha of IBA covered by Special Protection Area (Cliffs of Moher, 140 ha).

Conservation issues: The high visitor numbers to this site do not seem to have an undue effect on nesting seabirds.

Threat	Importance
recreation/tourism	low

Ballyallia lake IE064

Area: 308

Latitude: 52.8833

Longitude: -8.9833

State(s): Mid West

Site criteria: (proposed) B1i, C3 (confirmed)

Description: This is a small, shallow lake situated on the River Fergus, approximately 4 km north of Ennis town, in County Clare. The lake is fringed by reedbeds and surrounded by farmland to the north and south, with a low-lying flood-plain of wet grassland and rough grazing to the west. The lake is used for fishing and tourism. The site boundaries have been extended since the previous pan-European inventory (Grimmett and Jones 1989).

Species	Year	Season	Min	Max	Units	Confirmed
<i>Anas clypeata</i> (Northern Shoveler)	1996	winter	120	496	individuals	B1i, C3
<i>Anas crecca</i> (Teal)	0	winter	0	4000	individuals	B1i, C3

Birds: An important wintering site for waterfowl. Additional species which occur in numbers of national importance are *Tachybaptus ruficollis* (38 birds, 1996), *Anas penelope* (1,200 birds, 1995), *A. platyrhynchos* (600 birds, 1996), *A. strepera* (76 birds, 1996), *A. acuta* (35 birds, 1995), *Aythya marila* (64 birds, 1996) and *Fulica atra* (300 birds, 1996).

Protection: National High International High. 308 ha of IBA covered by Wildfowl Sanctuary (Ballyallia lake, 308 ha). 308 ha of IBA covered by Ramsar Site (Ballyallia lake, 308 ha). 308 ha of IBA covered by Special Protection Area (Ballyallia lake, 308 ha).

Threat	Importance
agricultural intensification/expansion	medium
recreation/tourism	low

Conservation issues: Intensification of farming adjacent to the lake threatens its water quality, due to increased fertilizer run-off. The site has been managed as a Wildfowl Sanctuary for the last twenty years.

Mid Clare Coast including Mutton and Mattle Islands IE065

Area: 7000

Latitude: 52.7833

Longitude: -9.5

State(s): Mid West

Site criteria: (proposed) A4i, B1i, C2, C3 (confirmed)

Description: The site encompasses Mutton and Mattle Islands, lying approximately 3.5 km west of Quilty, County Clare. The site boundaries have been extended since the previous pan-European inventory (Grimmett and Jones 1989) to include the mainland coastline between Rinnamyrall Point (on the western edge of Doonbeg Bay) and Spanish Point to the north, as well as the sea area between the coast and the islands. Mattle Island, previously treated as a separate IBA (former site IE057), is now also included within this site. Mutton Island is a small, rocky, uninhabited island, covered by maritime grass and grazed by goats year-round; Mattle Island is also small and rocky, but is not grazed.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Branta leucopsis</i> (Barnacle Goose)	1994	winter	350	350	individuals	B1i, C2
<i>Arenaria interpres</i> (Turnstone)	1996	winter	400	700	individuals	A4i, B1i, C3

Birds: This site is important for wintering shorebirds and wildfowl. Also along the coast are nationally important numbers of wintering *Charadrius hiaticula* (180 birds, 1996), *Calidris maritima* (134 birds, 1995), *C. alpina* (2,200 birds, 1996) and *C. alba* (170 birds, 1996), as well as breeding *Hydrobates pelagicus*, *Phalacrocorax carbo* (60 pairs, 1987) and *Larus marinus* (50 pairs, 1987).

Protection: National Low International Low. IBA overlaps with Wildfowl Sanctuary (Mutton Island; area not known). 54 ha of IBA covered by Special Protection Area (Mattle Island, 54 ha). 516 ha of IBA covered by Special Protection Area (Mutton Island, 516 ha).

Conservation issues: Overgrazing by goats, made worse by the presence of rabbits, is a problem on Mutton Island. Additionally, the area is visited by large numbers of tourists, which need to be regulated. The site overlaps with two proposed candidate Special Areas for Conservation (White Strand/Carrowmore marsh; Carrowmore Point to Spanish Point and Islands; areas not known).

Threat	Importance
agricultural intensification/expansion	low
aquaculture/fisheries	unknown
recreation/tourism	low

Illaunonearaun IE066

Area: 46

Latitude: 52.65 **Longitude:** -9.7333

State(s): Mid West

Site criteria: (proposed) C2 (confirmed)

Description: A small island and surrounding sea, situated 500 m off the County Clare coast, and about 7 km south-west of Kilkee.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Branta leucopsis</i> (Barnacle Goose)	1997	winter	108	108	individuals	C2

Birds: *Branta leucopsis* winter here in notable numbers—probably the same flock as use Mutton Island on the Mid Clare coast (site 065). Breeding seabirds include *Phalacrocorax carbo* (60 birds, 1995) and *Larus marinus*.

Protection: National None International None

Conservation issues: Fishing in surrounding waters may deplete the prey stock of seabirds, with implications for their breeding success. On the basis of wintering *Branta leucopsis*, this site has been proposed as a Special Protection Area (Illaunonearaun, 46 ha) by NPW and should be designated in the near future.

Habitat	Cover
coastline/rocky areas	5
grassland	15
sea/marine area	80
Land use	Cover
fisheries/aquaculture	80
not utilised	20

Threat	Importance
aquaculture/fisheries	low

Loop Head IE067

Area: 401

Latitude: 52.5667 **Longitude:** -9.9167

State(s): Mid West

Site criteria: (proposed) A4iii, C4 (confirmed)

Description: Loop Head is the most westerly point in County Clare, approximately 20 km south-west of Kilkee. The site comprises horizontally stratified vertical sea cliffs with stacks, rising up to 60 m, and the surrounding sea area. There is a lighthouse on the headland.

Birds: Breeding seabirds include nationally important numbers of *Rissa tridactyla* (690 pairs, 1987) and *Uria aalge* (4,010 birds, 1987). This is a good site for sea-watching, with a large passage of skuas *Stercorarius* and shearwaters *Puffinus* in late summer and autumn.

Protection: National None International None

Conservation issues: Above the cliffs, grazing and trampling pressure has severely degraded the heathland, causing erosion. Parts of the cliffs used by nesting birds are vulnerable to human disturbance. On the basis of its breeding seabirds, the site has been proposed as a Special Protection Area (Loop Head, 401 ha) by NPW and should be designated in the near future.

Habitat	Cover
coastline/rocky areas	5
sea/marine area	75
shrubland	20
Land use	Cover
agriculture	15
fisheries/aquaculture	75
not utilised	10

Threat	Importance
agricultural intensification/expansion	medium
aquaculture/fisheries	low
recreation/tourism	low

Shannon and Fergus Estuary IE068

Area: 16718

Latitude: 52.6667 **Longitude:** -9.0667

State(s): Mid West

Site criteria: (proposed) A4i, A4iii, B1i, B2, B3, C2, C3, C4 (confirmed)

Description: A large estuarine complex with islands, saltmarshes, mudflats, raised saltmarsh and wet meadows. The site encompasses the Fergus river estuary from Clarecastle (where it becomes tidal) to the junction with the Shannon estuary, and includes the estuary inland as far as Limerick city. The estuary lies within Counties Clare, Limerick and Kerry, and contains the largest port and most extensive areas of industrial development in mid-west Ireland.

Birds: This is one of the most important sites in Ireland for wintering and migrating waterfowl, supporting 10 species in numbers of international importance. A further 13 species occur in numbers of national importance, including *Anser anser* (216 birds, 1996), *Tadorna tadorna* (1,060 birds, 1996), *Anas penelope* (6,935 birds, 1996), *Anas crecca* (2,590 birds, 1995), *Anas acuta* (48 birds, 1995), *Anas clypeata* (84 birds, 1996), *Vanellus vanellus* (28,194 birds, 1995), *Numenius arquata* (2,896 birds, 1995) and *Tringa nebularia* (36 birds, 1996).

Habitat	Cover
grassland	20
wetland	80
Land use	Cover
agriculture	20
fisheries/aquaculture	50
hunting	50
tourism/recreation	50
urban/industrial/transport	20

Species	Year	Season	Min	Max	Units	Confirmed
<i>Cygnus cygnus</i> (Whooper Swan)	1996	winter	256	256	individuals	B1i, B3, C2
<i>Branta bernicla hrota</i> (Light-bellied Brent Goose)	1995	winter	318	318	individuals	B1i, C3
<i>Aythya marila</i> (Greater Scaup)	1996	winter	201	201	individuals	B2
<i>Pluvialis apricaria</i> (Eurasian Golden-plover)	1995	winter	11067	11067	individuals	B1i, C2
<i>Vanellus vanellus</i> (Northern Lapwing)	1995	winter	28194	28194	individuals	A4iii
<i>Limosa limosa</i> (Black-tailed Godwit)	1996	winter	1987	1987	individuals	B1i, C3
<i>Limosa lapponica</i> (Bar-tailed Godwit)	1996	winter	511	511	individuals	B2
<i>Numenius arquata</i> (Curlew)	1995	winter	2896	2896	individuals	B2
<i>Tringa totanus</i> (Redshank)	1995	winter	3494	3494	individuals	A4i, B1i, C3
<i>Calidris canutus</i> (Red Knot)	1996	winter	800	800	individuals	B2
<i>Calidris alpina</i> (Dunlin)	1996	winter	19335	19335	individuals	B1i, B2, C3

Protection: National None International High. 16,718 ha of IBA covered by Special Protection Area (Shannon and Fergus Estuary, 16,718 ha).

Conservation issues: Threats to the site include industrial and urban development, the spread of non-native cord-grass *Spartina* over intertidal mudflats, marina developments and increased boating activities, pollution from industry, and increasing intertidal shellfish cultivation. The effects of these pressures on the site include habitat loss and disturbance and lead to a general degradation of habitat quality.

Threat	Importance
aquaculture/fisheries	low
consequences of animal/plant introductions	medium
disturbance to birds	medium
filling-in of wetlands	medium
industrialization/urbanization	medium
recreation/tourism	unknown

Tralee Bay and Barrow Harbour IE069

Area: 3290

Latitude: 52.2667

Longitude: -9.8

State(s): South West

Site criteria: (proposed) B1i, B2, C3, C6 (confirmed)

Description: A large, shallow sea bay on the north coast of County Kerry, including intertidal areas at the mouth of the River Lee (where the town of Tralee is located) and at Barrow Harbour. Some protection is given to the River Lee estuary by Derrymore Island, a spit formed of shingle ridges, while Barrow Harbour is protected by land with only a small inlet open to the sea. North of Barrow Harbour the site encompasses a large, sandy intertidal inlet, sand-dunes and beach which extend as far as Akeragh Lough. The site has been extended since the previous pan-European inventory (Grimmett and Jones 1989) to include Akeragh Lough and intervening coastal habitats (former site IE059).

Habitat	Cover
coastline/rocky areas	10
grassland	10
wetland	80
Land use	Cover
agriculture	10
fisheries/aquaculture	50
hunting	80
nature conservation and research	20

Species	Year	Season	Min	Max	Units	Confirmed
<i>Gavia immer</i> (Great Northern Diver)	1995	winter	43	43	individuals	C6
<i>Branta bernicla hrota</i> (Light-bellied Brent Goose)	1995	winter	535	535	individuals	B1i, C3
<i>Aythya marila</i> (Greater Scaup)	1995	winter	1560	1560	individuals	B2
<i>Limosa lapponica</i> (Bar-tailed Godwit)	1996	winter	903	903	individuals	B2
<i>Calidris alpina</i> (Dunlin)	1996	winter	4112	4112	individuals	B2

Birds: This is an important wetland, with internationally important numbers of wintering waterfowl. Several other species occur in numbers of national importance including *Anas crecca* (860 birds, 1995), *Melanitta nigra* (620 birds, 1995), *Pluvialis apricaria* (3,053 birds, 1995) and *Vanellus vanellus* (5,700 birds, 1995).

Protection: National Partial International Partial. 106 ha of IBA covered by Nature Reserve (Derrymore Island, 106 ha). 755 ha of IBA covered by Nature Reserve (Tralee Bay, 755 ha). 861 ha of IBA covered by Ramsar Site (Tralee Bay, 861 ha). 1,199 ha of IBA covered by Special Protection Area (Akeragh, Lough Banna and Barrow Harbour, 1,199 ha). 754 ha of IBA covered by Special Protection Area (Tralee Bay, 754 ha).

Conservation issues: Akeragh Lough has been seriously degraded by siltation, drainage and nutrient pollution, the latter as a result of effluent discharge from the adjacent caravan site. Habitat quality within the intertidal zone is threatened by the spread of non-native cord-grass *Spartina* with further possible adverse effects due to the proximity of Tralee town. The IBA overlaps with a proposed candidate Special Area for Conservation (Tralee Bay and Magherees peninsula, West to Cloghan; area not known).

Threat	Importance
consequences of animal/plant introductions	medium
industrialization/urbanization	low
recreation/tourism	low

Magharee Islands, Mucklaghmore and Illaunbarnagh IE070

Area: 370

Latitude: 52.3333

Longitude: -10.0333

State(s):

South West

Site criteria: (proposed) B2, B3, C6 (confirmed)

Description: The Magharee Islands, comprising a group of six islands and several additional islets and shallow reefs, are situated 2 km off the northern end of the Castlegregory peninsula in County Kerry. They are uninhabited, except for holiday visitors. The largest islands, Illauntannig and Illaunimmil, were inhabited in the past and are still grazed by sheep and cattle. The site has been extended since the previous European inventory (Grimmett and Jones 1989) to encompass the surrounding waters.

Birds: The Magharee Islands are of international importance for their breeding seabird colonies. Other species occurring in numbers of national importance are breeding *Phalacrocorax carbo* (100 pairs, 1987) and *Larus marinus* (100 pairs, 1987), and on Illauntannig wintering *Branta leucopsis* (267 birds, 1993).

Species	Year	Season	Min	Max	Units	Confirmed
<i>Phalacrocorax aristotelis</i> (European Shag)	1987	breeding	135	135	breeding pairs	B3
<i>Larus fuscus</i> (Lesser Black-backed Gull)	1987	breeding	32	47	breeding pairs	B3
<i>Sterna paradisaea</i> (Arctic Tern)	1995	breeding	232	232	breeding pairs	C6
<i>Sterna albifrons</i> (Little Tern)	1995	breeding	36	36	breeding pairs	B2, C6

Protection: National None International None

Conservation issues: Disturbance is a possible threat to the site. However, visitor pressure so far seems to be controlled. Overgrazing by livestock on Illauntannig and Illaunamil may affect *Branta leucopsis*. The IBA overlaps with a proposed Special Protection Area (Magheree Islands, 288 ha).

Threat	Importance
aquaculture/fisheries	low
disturbance to birds	medium
recreation/tourism	low

Lough Gill IE071

Area: 157

Latitude: 52.2667

Longitude: -10.0333

State(s): South West

Site criteria: (proposed) B2, B3, C7 (confirmed)

Description: Lough Gill is situated on the Magharees peninsula in Tralee Bay, on the north coast of County Kerry. It is a very shallow coastal lagoon, with a modified inlet and sluice gate, draining into Tralee Bay. The lagoon is fringed by extensive reedbeds and bordered by dunes, dune grassland and machair on its northern side, while intensive farmland borders most of its southern side. The dune system has been modified by golf-course development. The lagoon is used for fishing and boating.

Birds: This is an important wintering site for swans *Cygnus*.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Cygnus cygnus</i> (Whooper Swan)	1995	winter	52	104	individuals	B3
<i>Cygnus columbianus</i> (Bewick's Swan)	0	winter	0	100	individuals	B2

Protection: National High International High. IBA overlaps with Wildfowl Sanctuary (Lough Gill; area not known). 157 ha of IBA covered by Special Protection Area (Lough Gill, 157 ha).

Conservation issues: Nutrient pollution of Lough Gill, due to run-off from agriculture and probably forestry, is a serious threat to water and habitat quality. There is increasing pressure on the site from fishing and amenity interests. Recent extraction of sand from the lake has been stopped, for the present. The site lies within a proposed candidate Special Area for Conservation (Tralee Bay and Magherees peninsula, West to Cloghane; area not known).

Threat	Importance
agricultural intensification/expansion	low
disturbance to birds	low
drainage	low
recreation/tourism	low

Dingle peninsula IE072

Area: 3500

Latitude: 52.1333

Longitude: -10.45

State(s): Mid West

Site criteria: (proposed) A4iii, B2, C4, C6 (confirmed)

Description: The most northerly of five peninsulas in south-west County Kerry. This linear coastal site stretches from Brandon Point in the north around the coast as far as Annascaul in the south. Information on land-use and threats is incomplete.

Birds: This is an important site for breeding *Pyrhacorax pyrrhacorax*.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Pyrhacorax pyrrhacorax</i> (Chough)	1992	resident	73	73	breeding pairs	B2, C6

Protection: National None International None

Conservation issues: For the survival of *Pyrhacorax pyrrhacorax* at this site, it is vital that low-intensity farming on the cliff-tops is maintained. The site overlaps with a proposed candidate Special Area for Conservation (Mount Brandon; area not known).

Threat	Importance
agricultural intensification/expansion	low
disturbance to birds	low

Blasket Islands IE073

Area: 750

Latitude: 52.0833

Longitude: -10.5833

State(s): South West

Site criteria: (proposed) A4ii, A4iii, B1ii, B2, B3, C2, C3, C4, C6 (confirmed)

Description: This is the largest group of islands on the south-west coast, lying a few kilometres off the Dingle peninsula in County Kerry. The group includes Great Blasket Island, with steep cliffs on its northern side, and the five smaller, exposed rocky islands of Inistooskert, Inisvickillaun, Inisnabro, Tearaght and Beginish. Great Blasket Island was once inhabited and now has a visitor centre at its northern end. A small herd of feral red deer *Cervus elaphus* are present on Inishvickillaun. The islands are visited by tourists.

Birds: This site is of particular importance for its seabird colonies. Additional species occurring in numbers of national importance are *Fulmarus glacialis* (2,200 pairs, 1988), *Rissa tridactyla* (750 pairs, 1988) and *Alca torda* (450 birds, 1988).

Species	Year	Season	Min	Max	Units	Confirmed
<i>Puffinus puffinus</i> (Manx Shearwater)	1988	breeding	2000	5000	breeding pairs	A4ii, B1ii, B2, C3
<i>Hydrobates pelagicus</i> (Storm Petrel)	1988	breeding	40000	100000	breeding pairs	A4ii, A4iii, B1ii, B2, C2, C6
<i>Phalacrocorax aristotelis</i> (European Shag)	1988	breeding	350	350	breeding pairs	B3
<i>Larus marinus</i> (Great Black-backed Gull)	1988	breeding	375	425	breeding pairs	B3
<i>Larus fuscus</i> (Lesser Black-backed Gull)	1988	breeding	425	425	breeding pairs	B3
<i>Cephus grylle</i> (Black Guillemot)	1988	breeding	22	22	breeding pairs	B2
<i>Fratercula arctica</i> (Atlantic Puffin)	1988	breeding	4472	5321	breeding pairs	B2

Protection: National Low International Partial. 27 ha of IBA covered by Nature Reserve (Tearaght Island, 27 ha). 19 ha of IBA covered by [Marine] Nature Reserve (Tearaght Island, 19 ha). 287 ha of IBA covered by Special Protection Area (Blasket Islands, 287 ha).

Threat	Importance
recreation/tourism	low

Conservation issues: Human disturbance from visitors to Great Blasket is a possible threat. However, isolation protects the islands from most threats.

Castlemaine Harbour IE074

Area: 11374

Latitude: 52.1167

Longitude: -9.9167

State(s): South West

Site criteria: (proposed) A4i, A4iii, B1i, B2, C2, C3, C4 (confirmed)

Description: A large, shallow, tidal estuary at the head of Dingle Bay in County Kerry. Sheltered from the open sea by sand- and shingle-spits on the north and south sides, the estuary supports extensive intertidal

Habitat	Cover
grassland	20
wetland	80
Land use	Cover
agriculture	20
fisheries/aquaculture	60
not utilised	20

mudflats with beds of eelgrass *Zostera* and fringes of saltmarsh. Inch spit on the north side supports the most extensive and intact dunes in the region, while on the south side, a smaller spit with a dune system occurs. Since the previous IBA inventory (Grimmett and Jones 1989), the site has been extended to include the feeding areas of *Melanitta nigra* in the open part of the Bay immediately to the west of the sand-spits.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Branta bernicla hrota</i> (Light-bellied Brent Goose)	1996	winter	1062	1062	individuals	B1i, C3
<i>Limosa lapponica</i> (Bar-tailed Godwit)	1996	winter	967	1007	individuals	A4i, B1i, B2, C2
<i>Calidris canutus</i> (Red Knot)	1989	winter	0	3000	individuals	B2

Birds: An important wetland for wintering birds, with numbers exceeding 20,000 individuals in most years. It is also the most important wintering site in Ireland for *Gavia stellata* (230 birds, 1996) and *Melanitta nigra* (5,000 birds, 1996). Many other species occur in numbers of national importance, including *Anas penelope* (4,093 birds, 1996), *Haematopus ostralegus* (1,173 birds, 1995), *Pluvialis apricaria* (2,300 birds, 1995), *Calidris alpina* (1,350 birds, 1995) and *Tringa totanus* (270 birds, 1995).

Protection: National Partial International Partial 927 ha of IBA covered by Nature Reserve (Castlemaine Harbour, 927 ha). IBA overlaps with Wildfowl Sanctuary (Castlemaine Harbour; area not known). 923 ha of IBA covered by Ramsar Site (Castlemaine Harbour, 923 ha). 2,973 ha of IBA covered by Special Protection Area (Castlemaine Harbour, 2,973 ha).

Threat	Importance
agricultural intensification/expansion	low
aquaculture/fisheries	low
natural events	low

Conservation issues: Potential threats to the site are pollution of the wetland due to agricultural run-off, degradation of the dunes by a possible golf-course development, and erosion of the dunes by natural processes. The site overlaps with a proposed candidate Special Area for Conservation (Castlemaine Harbour; area not known).

Puffin Island IE075

Area: 53

Latitude: 51.8333 **Longitude:** -10.4

State(s): South West

Site criteria: (proposed) A4ii, A4iii, B1ii, B2, C2, C3, C4, C6 (confirmed)

Description: A long, narrow and grassy, uninhabited island, lying 0.5 km off the northern side of St Finan's Bay in south-west County Kerry. It is steep-sided with a long narrow twin-peaked ridge rising to 145 m. The island is owned by BirdWatch Ireland and permission is required for access.

Birds: An important site for breeding seabirds. Additional species occurring in numbers of national importance include *Fulmarus glacialis* (700 pairs, 1987), *Larus marinus* (150 pairs, 1987) and *Alca torda* (800 birds, 1987).

Species	Year	Season	Min	Max	Units	Confirmed
<i>Puffinus puffinus</i> (Manx Shearwater)	1987	breeding	10000	20000	breeding pairs	A4ii, A4iii, B1ii, B2, C3
<i>Hydrobates pelagicus</i> (Storm Petrel)	1987	breeding	4000	4000	breeding pairs	A4ii, B1ii, B2, C2, C6
<i>Fratercula arctica</i> (Atlantic Puffin)	1987	breeding	8000	10000	breeding pairs	B1ii, B2, C3

Protection: National High International High. 53 ha of IBA covered by Nature Reserve (Puffin Island, 53 ha). 53 ha of IBA covered by Special Protection Area (Puffin Island, 53 ha).

Threat	Importance
agricultural intensification/expansion	medium

Conservation issues: Unauthorized grazing which may cause erosion, occurs on the site.

The Skelligs: Great Skellig and Little Skellig IE076

Area: 31

Latitude: 51.7833 **Longitude:** -10.5167

State(s):
South West

Site criteria: (proposed) A4ii, A4iii, B1ii, B2, C2, C3, C4, C6 (confirmed)

Description: Two precipitous, rocky, uninhabited islands, situated 16 km west of Bolus Head on the Iveragh peninsula in County Kerry. Great Skellig reaches a height of 240 m and is the site of an old Celtic monastery. Little Skellig lies 1 km to its north-east and reaches 134 m in height. Great Skellig is popular with day-trippers. Landing on Little Skellig is prohibited.

Birds: The Skellig Islands are of international importance for breeding seabirds. In particular, the colony of *Morus bassana* on Little Skellig is the largest in Ireland. Other species breeding in numbers of national importance are *Fulmarus glacialis* (>800 pairs, 1993), *Rissa tridactyla* (>2,000 pairs, 1993), *Alca torda* (>300 birds, 1993) and *Uria aalge* (1,500 birds, 1993).

Habitat	Cover
coastline/rocky areas	80
sea/marine area	20
Land use	Cover
not utilised	40
tourism/recreation	60

Species	Year	Season	Min	Max	Units	Confirmed
<i>Puffinus puffinus</i> (Manx Shearwater)	1987	breeding	5000	5000	breeding pairs	A4ii, B1ii, B2, C3
<i>Hydrobates pelagicus</i> (Storm Petrel)	1987	breeding	10000	10000	breeding pairs	A4ii, A4iii, B1ii, B2, C2, C6
<i>Morus bassanus</i> (Northern Gannet)	1993	breeding	22500	22500	breeding pairs	A4ii, A4iii, B1ii, B2, C3
<i>Fratercula arctica</i> (Atlantic Puffin)	1993	breeding	1000	1000	breeding pairs	B2

Protection: National High International Partial. 23 ha of IBA covered by Nature Reserve (Great Skellig, 23 ha). 8 ha of IBA covered by Nature Reserve (Little Skellig, 8 ha). 25 ha of IBA covered by Special Protection Area (The Skelligs: Great Skellig and Little Skellig, 25 ha).

Threat	Importance
disturbance to birds	low
recreation/tourism	low

Conservation issues: It is important to ensure that visitors to Great Skellig use the paths, to prevent erosion of the fragile soils where many of the birds have their nest-burrows. BirdWatch Ireland has a long-term lease on Little Skellig.

Iveragh peninsula IE077

Area: 4000

Latitude: 51.7667 **Longitude:** -10.3333

State(s): South West

Site criteria: (proposed) B2, C6 (confirmed)

Description: The Iveragh peninsula is situated in south-west Kerry, south of the Dingle peninsula. The site extends from 5 km west of Glenbeigh on the northern side of the peninsula around the coast to Lamb's Head on the southern side, and includes Valentia Island. This linear site comprises sea cliff, grassland and heath habitats. Information on land-use and threats is incomplete.

Habitat	Cover
coastline/rocky areas	50
grassland	40
shrubland	10
Land use	Cover
agriculture	50
not utilised	50

Birds: This is an important site for breeding *Pyrhacorax pyrrhacorax*.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Pyrhacorax pyrrhacorax</i> (Chough)	1992	resident	111	111	breeding pairs	B2, C6

Protection: National None International None

Conservation issues: For the survival of *Pyrhacorax pyrrhacorax* at this site, it is vital that low-intensity farming on the cliff-tops is maintained.

Threat	Importance
agricultural intensification/expansion	low
disturbance to birds	low

Eirk bog IE078

Area: 13

Latitude: 51.95 **Longitude:** -9.6667

State(s): South West

Site criteria: (proposed) C7 (confirmed)

Description: Eirk bog is situated in the Owenreagh valley, 1 km north of Moll's Gap and 3 km south-west of Killarney National Park (site 079) in County Kerry. It is a classical example of an intermediate bog, between blanket and raised bog.

Birds: Eirk bog provides wintering habitat for a small flock of *Anser albifrons flavirostris* flavirostris, which is now the only regular flock of this species in the south-west of the country, and that is the basis for the designation of the site as a Special Protection Area.

Protection: National High International High. 13 ha of IBA covered by Nature Reserve (Eirk Bog, 16 ha). 13 ha of IBA covered by Special Protection Area (Eirk Bog, 13 ha).

Threat	Importance
agricultural intensification/expansion	low
burning of vegetation	low

Conservation issues: Overgrazing by sheep and deer pose a potential threat to the site. The IBA lies within a proposed candidate Special Area for Conservation (Eirk Bog; area not known).

Killarney National Park IE079

Area: 10329

Latitude: 52 **Longitude:** -9.5833

State(s): South West

Site criteria: (proposed) C7 (confirmed)

Description: Killarney National Park extends south-west from Killarney town in County Kerry. It supports a diversity of habitats, from blanket bog and heath, to lakes which include the extensive Lough Leane and smaller Muckross lake. Parts of the lake shores are bordered by conifer plantations, and deciduous woodland occurs on the southern shore of Muckross lake; both are popular for angling and recreational boating.

Birds: Killarney National Park was designated as a Special Protection Area on the basis of breeding *Falco peregrinus*, *F. columbarius* and *Pyrhacorax pyrrhacorax*, and wintering *Anser albifrons flavirostris* (43 birds, 1994), all listed on Annex I of the EC Birds Directive.

Protection: National High International High. 10,129 ha of IBA covered by National Park (Killarney National Park, 10,129 ha). 8,308 ha of IBA covered by Biosphere Reserve (Killarney National Park, 8,308 ha). 10,329 ha of IBA covered by Special Protection Area (Killarney National Park, 10,329 ha).

Conservation issues: The main threats to the site include overgrazing by sheep and deer, turf-cutting and peat extraction. The spread of non-native Rhododendron scrub is causing major damage to woodland habitat quality. However coniferous forestry is gradually being replaced by native tree species. Nutrient pollution of Lough Leane, due to agricultural intensification, is a serious problem. The site lies within a proposed candidate Special Area for Conservation (Killarney National Park; area not known).

Habitat	Cover
artificial landscapes	5
coastline/rocky areas	10
forest	5
grassland	10
wetland	70
Land use	Cover
agriculture	25
forestry	10
nature conservation and research	100
tourism/recreation	100

Threat	Importance
afforestation	low
agricultural intensification/expansion	medium
consequences of animal/plant introductions	low
extraction industry	low

Bull and Cow Rocks IE080

Area: 336

Latitude: 51.5833 **Longitude:** -10.2833

State(s):
South West

Site criteria: (proposed) A4ii, B1ii, B2, B3, C2, C6 (confirmed)

Description: Two uninhabited rocky islets and surrounding waters, 6 km west of the Beara peninsula in south-west County Cork. There is a lighthouse on Bull Rock which is owned by Commissioners of Irish Lights. Cow Rock is publicly-owned.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Hydrobates pelagicus</i> (Storm Petrel)	1987	breeding	2000	5000	breeding pairs	A4ii, B1ii, B2, C2, C6
<i>Morus bassanus</i> (Northern Gannet)	1994	breeding	1815	1815	breeding pairs	B2
<i>Alca torda</i> (Razorbill)	1987	breeding	900	900	breeding pairs	B3

Birds: This site supports important breeding seabird colonies. Additional seabirds breeding in nationally important numbers include *Phalacrocorax carbo* (50 pairs, 1987), *Rissa tridactyla* (590 pairs, 1987) and *Uria aalge* (2,000 pairs, 1987).

Protection: National High International High. IBA overlaps with Refuge for Fauna (Bull; area not known). IBA overlaps with Refuge for Fauna (Cow; area not known). IBA overlaps with Nature Reserve (Bull Rock, 0.1ha and Cow Rock 0.1ha). 311ha of IBA is a Special Protection Area (The Bull & The Cow).

Conservation issues: Fishing in surrounding waters may deplete the prey stock of seabirds, with implications for their breeding success. Isolation protects these islands from most threats.

Threat	Importance
aquaculture/fisheries	low

Beara peninsula IE081

Area: 3250

Latitude: 51.6167 **Longitude:** -10.0667

State(s): South West

Site criteria: (proposed) B2, C6 (confirmed)

Description: A linear coastal site in County Cork, which extends from Kenmare Bay south around the peninsula into Bantry Harbour and includes Dursey Island. Coastal habitats include sea cliff, grassland and heath. Information on land-use and threats is incomplete.

Birds: This is an important site for breeding *Pyrhacorax pyrrhacorax*.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Pyrrhonorax pyrrhonorax</i> (Chough)	1992	resident	65	65	breeding pairs	B2, C6

Protection: National None International None

Conservation issues: For the survival of *Pyrrhonorax pyrrhonorax* at this site, it is vital that low-intensity farming on the cliff-tops is maintained.

Threat	Importance
agricultural intensification/expansion	low
disturbance to birds	low

Sheeps Head and Mizen Head peninsulas IE082

Area: 5500

Latitude: 51.45 **Longitude:** -9.8167

State(s): South West

Site criteria: (proposed) B2, C6 (confirmed)

Description: A linear coastal site encompassing two south-westerly peninsulas in County Cork as well as Cape Clear and Sherkin Islands. Information on land-use and threats is incomplete.

Birds: This is an important site for breeding *Pyrrhonorax pyrrhonorax*.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Pyrrhonorax pyrrhonorax</i> (Chough)	1992	resident	129	129	breeding pairs	B2, C6

Habitat	Cover
coastline/rocky areas	35
grassland	60
shrubland	5
Land use	Cover
agriculture	65
not utilised	35

Protection: National None International None

Conservation issues: For the survival of *Pyrrhonorax pyrrhonorax* at this site, it is vital that low-intensity farming on the cliff-tops is maintained. The site overlaps with a proposed candidate Special Area for Conservation (Barleycove to Ballyrisode Point; area not known).

Threat	Importance
agricultural intensification/expansion	low
recreation/tourism	low

Inner Clonakilty Bay IE083

Area: 588

Latitude: 51.6167 **Longitude:** -8.8667

State(s): South West

Site criteria: (proposed) B1i, B2, C3 (confirmed)

Description: A tidal bay stretching from Clonakilty in west County Cork to the open sea, and comprising two small estuaries, separated by Inchydoney Island. Most of the intertidal area is sandflats, although mudflats occur at the sheltered upper end of each estuary, with adjacent sand-dunes and inland marshes. At the head of the western estuary there is an extensive wetland, the Cloheen Strand Intake, which comprises saline lagoons, brackish grasslands, open freshwater marsh and stands of alder *Alnus*.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Limosa limosa</i> (Black-tailed Godwit)	1995	winter	945	945	individuals	B1i, C3
<i>Numenius arquata</i> (Curlew)	1995	winter	1844	1844	individuals	B2

Birds: This is an important wetland for wintering waterfowl. Additional species that occur in numbers of national importance include *Tadorna tadorna* (160 birds, 1996), *Pluvialis squatarola* (86 birds, 1995), *Vanellus vanellus* (4,146 birds, 1995), *Calidris alpina* (1,827 birds, 1995) and *Tringa totanus* (309 birds, 1995).

Protection: National None International None

Conservation issues: From 1992 to 1996, the Cloheen Strand Intake was threatened by plans to develop a golf course. However, following court action by BirdWatch Ireland and NPW, this threat has been averted. The area has now been purchased by NPW which should ensure its long-term protection. The site is a proposed Special Protection Area (Clonakilty Bay, 588 ha) and lies within a proposed candidate Special Area for Conservation (Clonakilty Bay; area not known).

Threat	Importance
agricultural intensification/expansion	low
construction/impact of dyke/dam/barrage	medium
recreation/tourism	medium

The Gearagh and the Iniscarra reservoir IE084

Area: 323

Latitude: 51.8833 **Longitude:** -8.9667

State(s): South West

Site criteria: (proposed) C7 (confirmed)

Description: The Gearagh valley is located 3 km south of Macroom, County Cork, and forms part of the channel of the Lee river. In the 1950s the valley was dammed, trees felled and 60% of it flooded for a hydroelectric scheme. Some of the original alluvial woodland remains. The site also encompasses the upper part of the Iniscarra reservoir as far as the Carrigadrohid Dam.

Birds: The site was designated as a Special Protection Area on the basis of its migratory waterfowl, notably those species wintering in numbers of national importance: *Anas penelope* (2,000 birds, 1996), *Anas crecca* (1,600 birds, 1996), *Anas platyrhynchos* (1,750 birds, 1985), *Fulica atra* (312 birds, 1995) and *Pluvialis apricaria* (1,500 birds, 1985).

Protection: National High International High. 300 ha of IBA covered by Nature Reserve (The Gearagh, 300 ha). IBA overlaps with Wildfowl Sanctuary (Lee Reservoir; area not known). 307 ha of IBA covered by Ramsar Site (The Gearagh, 307 ha). 323 ha of IBA covered by Special Protection Area (The Gearagh, 323 ha). 300 ha of IBA covered by Biogenetic Reserve (The Gearagh, 300 ha).

Conservation issues: Wildfowling causes disturbance to birds and is a problem at this site. The site overlaps with a proposed candidate Special Area for Conservation (The Gearagh; area not known).

Habitat	Cover
forest	15
grassland	10
wetland	75
Land use	Cover
agriculture	20
hunting	100
water management	100

Threat	Importance
agricultural intensification/expansion	low
disturbance to birds	medium

Kilcolman bog IE085

Area: 63

Latitude: 52.25 **Longitude:** -8.5833

State(s): South West

Site criteria: (proposed) C7 (confirmed)

Description: Kilcolman bog, situated 4 km north-east of Buttevant in County Cork, is an area of reed-swamp, floating fen and open water. It is the site of a former lake and water-levels are currently managed for conservation using sluice gates.

Birds: This site was designated as a Special Protection Area based on its migratory waterfowl populations, particularly for *Cygnus cygnus* which is an Annex I species under the EC Birds Directive. Additionally, *Anas crecca* (950 birds, 1996) and *A. clypeata* (126 birds, 1996) winter in numbers of national importance.

Protection: National High International High. 51 ha of IBA covered by Nature Reserve (Kilcolman Bog, 51 ha). IBA overlaps with Wildfowl Sanctuary (Kilcolman Bog; area not known). 63 ha of IBA covered by Special Protection Area (Kilcolman Bog, 63 ha).

Conservation issues: The main threats are agricultural improvements and drainage on nearby land. Part of the site (21 ha) is a BirdWatch Ireland reserve.

Habitat	Cover
wetland	100
Land use	Cover
nature conservation and research	100

Threat	Importance
agricultural intensification/expansion	medium
drainage	medium

Old Head of Kinsale IE086

Area: 15

Latitude: 51.6333 **Longitude:** -8.5333

State(s): South West

Site criteria: (proposed) C7 (confirmed)

Description: A 5-km long headland situated on the south County Cork coast, approximately 5 km from Kinsale.

Birds: The site was designated as a Special Protection Area on the basis of its breeding seabirds. Old Head is a major seabird colony, the largest on the south coast apart from the Saltee Islands. Breeding seabirds recorded in nationally important numbers in 1987 include *Uria aalge* (4,500 birds), *Alca torda* (320 birds) and *Rissa tridactyla* (1,259 pairs). In addition, *Falco peregrinus* and *Falco tinnunculus* breed and

Habitat	Cover
coastline/ rocky areas	100
Land use	Cover
not utilised	100

there are cliff-nesting *Delichon urbica*. It is a moderately important breeding site for *Pyrhacorax pyrrhacorax* and large non-breeding flocks (35–50 birds) have been seen.

Protection: National High International High. 15 ha of IBA covered by Refuge for Fauna (Old Head of Kinsale, 15 ha). 15 ha of IBA covered by Special Protection Area (Old Head of Kinsale, 15 ha).

Threat	Importance
recreation/tourism	low

Conservation issues: The area above the sea cliffs has been developed as a golf course, which could pose a threat to *Pyrhacorax pyrrhacorax*.

Sovereign Islands IE087

Area: 2

Latitude: 51.6667 **Longitude:** -8.45

State(s): South West

Site criteria: (proposed) A4iii, C4 (confirmed)

Description: Two small, flat-topped islands (less than 30 m high) and surrounding waters, 1.5 km offshore from Oysterhaven in County Cork.

Habitat	Cover
coastline/rocky areas	1
grassland	1
sea/marine area	98
Land use	Cover
fisheries/aquaculture	98
not utilised	2

Birds: This site supports breeding seabirds, including *Fulmarus glacialis*, *Phalacrocorax carbo* and *Larus marinus*.

Protection: National None International None

Conservation issues: Fishing in surrounding waters may deplete the prey stock of seabirds, with implications for their breeding success. On the basis of its breeding seabirds, the area and its surrounding waters have been proposed as a Special Protection Area (Sovereign Island, 125 ha).

Threat	Importance
aquaculture/fisheries	low

Cork Harbour IE088

Area: 5950

Latitude: 51.8333 **Longitude:** -8.2833

State(s):
South West

Site criteria: (proposed) A4iii, B1i, B2, C3, C4, C6 (confirmed)

Description: A large, very sheltered sea bay with several river estuaries situated in County Cork. Intertidal mudflats are extensive with some areas of saltmarsh. There are three to four adjoining small freshwater or brackish lagoons and two large areas of open water, Lough Mahon and Lower Harbour, which are separated by Great Island. Large centres of human habitation lie adjacent to this site, including Cork city, which is a major port. Cork harbour and port form the largest industrial area on Ireland's south coast.

Habitat	Cover
artificial landscapes	5
forest	5
grassland	10
wetland	80
Land use	Cover
agriculture	20
fisheries/aquaculture	50
nature conservation and research	5
tourism/recreation	20
urban/industrial/transport	20

Species	Year	Season	Min	Max	Units	Confirmed
<i>Limosa limosa</i> (Black-tailed Godwit)	1996	winter	1399	1399	individuals	B1i, C3
<i>Limosa lapponica</i> (Bar-tailed Godwit)	1996	winter	456	456	individuals	B2
<i>Numenius arquata</i> (Curlew)	1995	winter	1669	1669	individuals	B2
<i>Tringa totanus</i> (Redshank)	1996	winter	1344	1344	individuals	B1i, C3
<i>Calidris alpina</i> (Dunlin)	1995	winter	12050	12050	individuals	B1i, B2, C3
<i>Sterna hirundo</i> (Common Tern)	1995	breeding	102	102	breeding pairs	C6

Birds: Cork Harbour regularly supports over 20,000 waterfowl. It is one of the most important sites in Ireland for breeding *Sterna hirundo* and for wintering *Podiceps cristatus* (286 birds, 1996), *Mergus serrator* (133 birds, 1996), *Haematopus ostralegus* (1,364 birds, 1995) and *Vanellus vanellus* (15,400 birds, 1995), as well as for staging *Numenius phaeopus* (3,304 birds, 1979). Several other species also occur in numbers of national importance, including *Phalacrocorax carbo* (991 birds, 1996), *Tadorna tadorna* (2,167 birds, 1986), *Anas penelope* (2,601 birds, 1995), *Anas crecca* (1,418 birds, 1996) and *Pluvialis apricaria* (4,431 birds, 1995).

Protection: National Partial International Partial. IBA overlaps with Wildfowl Sanctuary (Douglas Estuary; area not known). 1,436 ha of IBA covered by Ramsar Site (Cork Harbour, 1,436 ha). 1,436 ha of IBA covered by Special Protection Area (Cork Harbour, 1,436 ha).

Conservation issues: Ongoing road, urban and industrial development has led to considerable loss of intertidal habitat, including mudflat. Additional threats to habitat quality are infestation of mudflats by non-native cord-grass *Spartina*, intertidal shellfish cultivation, and pressure from recreation and amenity interests. Whitegate oil refinery poses an ongoing pollution threat. Given the damage to this site and ongoing pressures from development, the inclusion of unprotected wetland areas within the Special Protection Area is critical.

Threat	Importance
abandonment/reduction of land management	low
agricultural intensification/expansion	medium
aquaculture/fisheries	medium
consequences of animal/plant introductions	high
extraction industry	low
filling-in of wetlands	high
industrialization/urbanization	high
infrastructure	medium
natural events	low
recreation/tourism	low

Ballycotton, Ballynamona and Shanagarry IE089

Area: 200

Latitude: 51.8167 **Longitude:** -8.0333

State(s): South West

Site criteria: (proposed) B2, C7 (confirmed)

Description: A composite coastal system, stretching northwards from Ballycotton towards Garrvroe in County Cork. The site consists of brackish and freshwater lagoons saltwater marshes, mudflats, sandflats, dunes and wet meadows. The main lagoon was an inlet of the sea until the 1930s when it was cut off by the development of a shingle-bank. The bank was breached only from time to time until 1991 when a new breach was created which has remained open, changing the lake back to a tidal inlet.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Cygnus columbianus</i> (Bewick's Swan)	1996	winter	27	125	individuals	B2

Birds: The site is of particular importance for *Cygnus columbianus*. However, due to loss of the main lagoon, numbers have declined drastically over the last ten years. This is also one of the most important sites in Ireland for wintering *Arenaria interpres* (275 birds, 1996) which, along with several other species, including *Anas crecca* (1,109 birds, 1996), *Charadrius hiaticula* (182 birds, 1996) and *Pluvialis apricaria* (3,755 birds, 1995), occur in numbers of national importance.

Protection: National Partial International Partial. IBA overlaps with Wildfowl Sanctuary (Ballycotton, Ballynamona, and Shanagarry; area not known). 92 ha of IBA covered by Ramsar Site (Ballycotton, Ballynamona, and Shanagarry, 92 ha). 92 ha of IBA covered by Special Protection Area (Ballycotton, Ballynamona, and Shanagarry, 92 ha).

Threat	Importance
agricultural intensification/expansion	medium
drainage	high
natural events	low
recreation/tourism	medium

Conservation issues: Past drainage, land-claim and breaching of the shingle-bar have damaged this wetland site. Visitor pressure may cause disturbance to wintering birds, and the natural erosion of intertidal habitats is a threat. The site lies within a proposed candidate Special Area for Conservation (Ballycotton, Ballynamona and Shanagarry; area not known).

Ballymacoda IE090

Area: 602

Latitude: 51.9 **Longitude:** -7.9

State(s): South West

Site criteria: (proposed) B1i, B2, C3 (confirmed)

Description: A coastal site situated north-east of Ballymacoda in County Cork and encompassing the Womanagh river estuary, comprising a winding channel flanked by marshy fields, saltmarsh and mudflats. The estuary is sheltered from the open sea by a stabilized shingle-bar and extensive sand beach. Much of the land adjacent to the estuary has been claimed for agricultural use, mainly cattle-grazing and silage, but most fields remain marshy.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Limosa limosa</i> (Black-tailed Godwit)	1996	winter	181	700	individuals	B1i, C3
<i>Limosa lapponica</i> (Bar-tailed Godwit)	1996	winter	441	441	individuals	B2
<i>Numenius arquata</i> (Curlew)	1995	winter	2150	2150	individuals	B2
<i>Calidris alpina</i> (Dunlin)	1995	winter	3750	3750	individuals	B2

Birds: This is an important wetland site, which in the past has regularly held over 20,000 waterfowl, but in recent years numbers have not reached this threshold. Additional species present in nationally important numbers include *Pluvialis apricaria* (8,850 birds, 1996), *Pluvialis squatarola* (514 birds, 1995), *Vanellus vanellus* (3,050 birds, 1996), *Calidris alba* (131 birds, 1996) and *Arenaria interpres* (142 birds, 1996).

Habitat	Cover
grassland	20
wetland	80
Land use	Cover
agriculture	20
not utilised	80

Protection: National None International Partial. 375 ha of IBA covered by Ramsar Site (Ballymacoda, 375 ha). 375 ha of IBA covered by Special Protection Area (Ballymacoda, 375 ha).

Threat	Importance
agricultural intensification/expansion	medium
aquaculture/fisheries	medium

Conservation issues: Water quality is adversely affected by run-off from slurry spreading. Intertidal shellfish cultivation is a recent development within the site, which may threaten habitat quality.

Blackwater estuary IE091

Area: 500

Latitude: 51.9667 **Longitude:** -7.8333

State(s): South East/ South West

Site criteria: (proposed) B1i, B2, C3 (confirmed)

Description: A small estuary of the Blackwater river with a narrow opening to the sea. This site includes areas of intertidal mudflat and saltmarsh within the main Blackwater estuary and the smaller adjoining Tourig estuary. An intertidal pool at Foxhole, where the embankment has been breached is also within the site. The estuary is used for recreational boating activities.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Limosa limosa</i> (Black-tailed Godwit)	1996	winter	845	845	individuals	B1i, C3
<i>Numenius arquata</i> (Curlew)	1995	winter	1544	1544	individuals	B2

Birds: Several other wintering species occur in numbers of national importance, including *Anas penelope* (1,001 birds, 1995), *Pluvialis squatarola* (77 birds, 1996) and *Calidris alpina* (2,537 birds, 1996).

Protection: National None International High. 468 ha of IBA covered by Ramsar Site (Blackwater Estuary, 468 ha). 468 ha of IBA covered by Special Protection Area (Blackwater Estuary, 468 ha).

Threat	Importance
aquaculture/fisheries	low
industrialization/urbanization	low
infrastructure	medium
recreation/tourism	low

Conservation issues: Permission is currently being sought for construction of a bypass around Youghal town, which will cross the Tourig estuary. Subsequent to consultation, the route of least damage to the estuary was taken; however, some loss of intertidal habitat will occur and increased disturbance to the site is likely.

River Blackwater callows IE092

Area: 1053

Latitude: 52.15 **Longitude:** -8.05

State(s): South East

Site criteria: (proposed) B1i, B2, B3, C2, C3 (confirmed)

Description: A narrow flood-plain of the River Blackwater surrounded by parallel sandstone ridges and extending 29 km along the river from Fermoy east to Lismore. The site comprises the river itself and adjacent wet grassland along either side.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Cygnus cygnus</i> (Whooper Swan)	1996	winter	213	213	individuals	B1i, B3, C2
<i>Cygnus columbianus</i> (Bewick's Swan)	1995	winter	36	36	individuals	B2
<i>Limosa limosa</i> (Black-tailed Godwit)	1996	winter	1000	1000	individuals	B1i, C3

Birds: The river flood-plain supports important numbers of wintering waterfowl. Additional species wintering in numbers of national importance are *Anas penelope* (4,217 birds, 1996), *Anas crecca* (1,844 birds, 1996), *Anas platyrhynchos* (844 birds, 1996) and *Anas clypeata* (50 birds, 1996).

Protection: National High International High. IBA overlaps with Wildfowl Sanctuary (River Blackwater Callows; area not known). 1,053 ha of IBA covered by Special Protection Area (River Blackwater Callows, 1,053 ha).

Threat	Importance
agricultural intensification/expansion	medium
drainage	medium

Conservation issues: A potential threat to the site is loss of wet meadows due to the deepening of drains.

Helvick Head IE093

Area: 78

Latitude: 52.05 **Longitude:** -7.55

State(s): South East

Site criteria: (proposed) C7 (confirmed)

Description: Helvick Head is situated on the southern tip of Dungarvan Harbour in County Waterford. Steep sandstone cliffs provide nesting sites for seabirds. The adjacent sea area is included within the site.

Birds: Breeding seabirds include nationally important numbers of *Rissa tridactyla* (1,000–1,500 pairs, 1987), as well as *Uria aalge* (1,000 birds, 1987).

Protection: National None International None

Conservation issues: The inaccessibility of the cliffs prevents significant disturbance. On the basis of its breeding seabirds, this site has been proposed as a Special Protection Area (Helvick Head, 78 ha) by NPW and will be designated in the near future.

Habitat	Cover
coastline/rocky areas	20
sea/marine area	70
shrubland	10
Land use	Cover
fisheries/aquaculture	70
not utilised	30

Dungarvan Harbour IE094

Area: 1300

Latitude: 52.0667 **Longitude:** -7.5667

State(s): South East

Site criteria: (proposed) A4i, B1i, B2, C2, C3 (confirmed)

Description: A large, east-facing sea bay on the south coast in County Waterford. The extensive intertidal sand- and mudflats at this site are sheltered by Helvick Head to the south and Ballynacourty Point to the north. The linear Cunnigar shingle-spit extends far into the bay, providing further shelter to the inner mudflats.

Habitat	Cover
sea/marine area	20
wetland	80
Land use	Cover
fisheries/aquaculture	30
not utilised	50
tourism/recreation	20

Species	Year	Season	Min	Max	Units	Confirmed
<i>Branta bernicla hrota</i> (Light-bellied Brent Goose)	1995	winter	616	616	individuals	B1i, C3
<i>Limosa limosa</i> (Black-tailed Godwit)	1996	winter	331	952	individuals	B1i, C3
<i>Limosa lapponica</i> (Bar-tailed Godwit)	1996	winter	1593	1593	individuals	A4i, B1i, B2, C2
<i>Calidris canutus</i> (Red Knot)	1996	winter	996	996	individuals	B2
<i>Calidris alpina</i> (Dunlin)	1996	winter	6100	6100	individuals	B2

Birds: An important site for wintering waterbirds. Several additional species occur in numbers of national importance including *Tadorna tadorna* (995 birds, 1995), *Pluvialis apricaria* (6,100 birds, 1996), *Vanellus vanellus* (3,775 birds, 1996) and *Tringa totanus* (910 birds, 1996).

Protection: National None International Partial. 1,041 ha of IBA covered by Ramsar Site (Dungarvan Harbour, 1,041 ha). 1,041 ha of IBA covered by Special Protection Area (Dungarvan Harbour, 1,041 ha).

Threat	Importance
aquaculture/fisheries	high
recreation/tourism	unknown

Conservation issues: The southern side of this bay has been extensively developed for intertidal shellfish cultivation. Possible implications are loss of, and changes to, the intertidal habitat, and increased disturbance to wintering birds. The beach and harbour are also of high recreational importance with further implications in terms of disturbance to the site.

Tramore Backstrand IE095

Area: 1557

Latitude: 52.1667 **Longitude:** -7.1

State(s): South East

Site criteria: (proposed) B1i, B2, C3, C6 (confirmed)

Description: A small, shallow bay next to Tramore village in County Waterford, comprising mainly intertidal mudflat with some saltmarsh. It is sheltered from the sea by a long, shingle spit with sand-dunes, leaving only a narrow opening out to sea. The site has been extended since the last pan-European inventory (Grimmett and Jones 1989) to include Tramore Bay, outside of the shingle spit, between Great Newtown and Brownstone Head.

Habitat	Cover
wetland	100
Land use	Cover
not utilised	80
tourism/recreation	20

Species	Year	Season	Min	Max	Units	Confirmed
<i>Gavia stellata</i> (Red-throated Diver)	1996	winter	107	107	individuals	C6
<i>Branta bernicla hrota</i> (Light-bellied Brent Goose)	1996	winter	591	591	individuals	B1i, C3
<i>Limosa lapponica</i> (Bar-tailed Godwit)	1996	winter	576	576	individuals	B2

Birds: This wetland supports several wintering waterfowl in numbers of international importance. Additional species wintering in nationally important numbers include *Calidris alpina* (2,721 birds, 1996), *Pluvialis apricaria* (3,600 birds, 1996), *Pluvialis squatarola* (258 birds, 1996), *Calidris alba* (71 birds, 1995) and *Limosa limosa* (250 birds, 1995).

Protection: National None International Partial. 367 ha of IBA covered by Ramsar Site (Tramore Backstrand, 367 ha). 367 ha of IBA covered by Special Protection Area (Tramore Backstrand, 367 ha).

Conservation issues: A municipal dump adjacent to the site threatens habitat quality due to the effects of pollution. Other threats include erosion of the dune system and the spread of non-native cord-grass *Spartina* across the mudflats. The site overlaps with a proposed candidate Special Area for Conservation (Tramore Backstrand; area not known).

Threat	Importance
consequences of animal/plant introductions	medium
filling-in of wetlands	medium
industrialization/urbanization	low
natural events	medium
recreation/tourism	low

Bannow Bay IE096

Area: 958

Latitude: 52.2167

Longitude: -6.8

State(s): South East

Site criteria: (proposed) B1i, B2, C3 (confirmed)

Description: An extensive, sheltered sea bay and estuary, situated in County Wexford, 20 km east of Waterford city. At low tide over 75% of the bay is exposed mud and sand with some saltmarsh. The Ownduff and Corock rivers discharge into the head of the bay which is constricted at its mouth by sandbars and a dune system on either side. There is intertidal shellfish cultivation.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Branta bernicla hrota</i> (Light-bellied Brent Goose)	1995	winter	1161	1161	individuals	B1i, C3
<i>Limosa lapponica</i> (Bar-tailed Godwit)	1996	winter	570	570	individuals	B2
<i>Calidris alpina</i> (Dunlin)	1995	winter	5520	5520	individuals	B2

Birds: This wetland supports a wide range of wintering waterfowl. Several additional species occur in numbers of national importance including *Tadorna tadorna* (491 birds, 1996), *Pluvialis apricaria* (7,480 birds, 1995), *Pluvialis squatarola* (280 birds, 1996), *Vanellus vanellus* (3,450 birds, 1995) and *Tringa totanus* (485 birds, 1996).

Protection: National High International High. IBA overlaps with Wildfowl Sanctuary (Bannow Bay; area not known). 958 ha of IBA covered by Ramsar Site (Bannow Bay, 958 ha). 900 ha of IBA covered by Special Protection Area (Bannow Bay, 900 ha).

Conservation issues: Intertidal shellfish cultivation is a possible threat to habitat quality, while wildfowling causes disturbance to birds. Habitat quality is reduced by the spread of non-native cord-grass *Spartina*. In 1997 unauthorized mechanical cockle-harvesting caused damage to the intertidal mudflats.

Threat	Importance
aquaculture/fisheries	medium
consequences of animal/plant introductions	low
disturbance to birds	medium
recreation/tourism	medium

Keeragh Islands IE097

Area: 22

Latitude: 52.2

Longitude: -6.7333

State(s): South East

Site criteria: (proposed) C7 (confirmed)

Description: The Keeraghs are two low-lying islets located approximately 2 km offshore to the west of Ballyteigue Bay in County Wexford. The vegetation is mainly maritime in character and there are surrounding reefs.

Birds: The number of breeding *Phalacrocorax carbo* (239 pairs, 1987) comprises about 5% of the Irish population; also notable were the numbers of breeding *Sterna paradisaea* (12 pairs, 1984) which, however, have ceased to breed at the site despite an attempted restoration programme.

Protection: National None International None

Conservation issues: Fishing in surrounding waters may deplete the prey stock of seabirds, with implications for their breeding success. Day-trippers to the site may lead to disturbance. On the basis of its numbers of breeding *Phalacrocorax carbo* and *Sterna paradisaea*, this site was proposed as a Special Protection Area (Keeragh Islands, 22 ha) by NPW and should be designated in the near future.

Habitat	Cover
coastline/rocky areas	5
grassland	5
sea/marine area	90
Land use	Cover
fisheries/aquaculture	90
not utilised	10

Threat	Importance
aquaculture/fisheries	unknown
disturbance to birds	medium

The Cull/Killag IE098

Area: 896

Latitude: 52.2 **Longitude:** -6.65

State(s): South East

Site criteria: (proposed) A4i, B1i, B2, C2, C3 (confirmed)

Description: Situated next to Kilmore quay in County Wexford, the western part of this site (the Cull) is a long, narrow sea inlet and estuary, protected from the open sea by a shingle-spit with dunes. The eastern part of this intertidal system (Killag) was claimed in the last century by construction of the Cull bank and is now polderland, most of which is intensively farmed grassland and arable land.

Habitat	Level	Cover
artificial landscapes	C	20
sea/marine area	C	30
wetland	C	50
Land use	Level	Cover
agriculture	C	20
nature conservation and research	C	80

Species	Year	Season	Min	Max	Units	Confirmed
<i>Cygnus columbianus</i> (Bewick's Swan)	1996	winter	312	555	individuals	A4i, B1i, B2, C2
<i>Branta bernicla hrota</i> (Light-bellied Brent Goose)	1995	winter	695	695	individuals	B1i, C3
<i>Limosa limosa</i> (Black-tailed Godwit)	1996	winter	550	770	individuals	B1i, C3
<i>Numenius arquata</i> (Curlew)	1995	winter	1415	1415	individuals	B2

Birds: This is an important site for wintering waterbirds; additional species occurring in numbers of national importance are *Anas crecca* (520 birds, 1996), *Anas acuta* (55 birds, 1996), *Mergus serrator* (41 birds, 1996), *Pluvialis apricaria* (4,100 birds, 1995), *Vanellus vanellus* (6,210 birds, 1995) and *Calidris alpina* (1,275 birds, 1996).

Protection: National Partial International Partial. 531 ha of IBA covered by Nature Reserve (Ballyteigue Burrow, 531 ha). 8 ha of IBA covered by Nature Reserve (Ballyteigue Burrow, 8 ha). 526 ha of IBA covered by Special Protection Area (Ballyteigue Burrow, 526 ha).

Threat	Importance
agricultural intensification/expansion	low
disturbance to birds	medium
industrialization/urbanization	low
recreation/tourism	low

Conservation issues: There is a proposal for a wind-farm at Killag, which may cause displacement of *Cygnus columbianus* from parts of the site. Changes in agricultural practice threaten the feeding sites of swans *Cygnus*. The site lies within a proposed candidate Special Area for Conservation (Ballyteigue Burrow; area not known).

Saltee Islands IE099

Area: 126

Latitude: 52.1167 **Longitude:** -6.6

State(s): South East

Site criteria: (proposed) B2, B3, C7 (confirmed)

Description: The Saltee Islands (Great Saltee and Little Saltee) lie 5 km offshore from Kilmore Quay in County Wexford. Both islands have exposed rocky cliffs and boulder beaches. The islands have not been farmed since the 1940s.

Birds: The Saltees are internationally important for breeding seabird colonies. Species occurring in numbers of national importance are: *Fulmarus glacialis* (350 pairs, 1996), *Larus argentatus* (500 pairs, 1996), *Rissa tridactyla* (2,500 pairs, 1996) and *Uria aalge* (15,000 birds, 1996). Great Saltee is also a notable site for spring and autumn passerine migration.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Morus bassanus</i> (Northern Gannet)	1996	breeding	1530	1530	breeding pairs	B2
<i>Phalacrocorax aristotelis</i> (European Shag)	1996	breeding	225	0	breeding pairs	B3
<i>Larus marinus</i> (Great Black-backed Gull)	1996	breeding	100	100	breeding pairs	B3
<i>Larus fuscus</i> (Lesser Black-backed Gull)	1996	breeding	600	600	breeding pairs	B3
<i>Alca torda</i> (Razorbill)	1996	breeding	3200	3200	breeding pairs	B3
<i>Fratercula arctica</i> (Atlantic Puffin)	1996	breeding	1300	1300	breeding pairs	B2

Protection: National High International High. 126 ha of IBA covered by Nature Reserve (Saltee Islands, 126 ha). 126 ha of IBA covered by Special Protection Area (Saltee Islands, 126 ha).

Threat	Importance
recreation/tourism	low

Conservation issues: Day-trippers, mainly to Great Saltee, may cause some disturbance to seabird colonies. NPW runs a long-term seabird population monitoring and ringing programme on the islands, which are a private bird sanctuary.

Tacumshin lake IE100

Area: 528

Latitude: 52.1833

Longitude: -6.4833

State(s): South East

Site criteria: (proposed) B1i, B2, C7 (confirmed)

Description: A shallow, coastal lagoon situated on the south coast of County Wexford, 15 km south of Wexford town. The lagoon was formerly a shallow sea bay which over time has been separated from the sea by a spit of shingle and sand. A drainage pipe reduces the water-level in the lagoon during the summer months, but in the winter, inflow exceeds outflow and the lake floods.

Birds: The waterfowl population of this lagoon is exceptionally diverse and the area supports large numbers of birds throughout the year, which is unusual among Irish wetlands. Additional species occurring in numbers of national importance include *Anas penelope* (4,980 birds, 1996), *Anas acuta* (440 birds, 1996), *Anas chapeata* (111 birds, 1996), *Fulica atra* (2,100 birds, 1996), *Pluvialis apricaria* (7,860 birds, 1995) and *Vanellus vanellus* (5,660 birds, 1995).

Species	Year	Season	Min	Max	Units	Confirmed
<i>Cygnus olor</i> (Mute Swan)	0	non-breeding	300	400	individuals	B1i
<i>Cygnus columbianus</i> (Bewick's Swan)	1996	winter	145	145	individuals	B2
<i>Aythya marila</i> (Greater Scaup)	1996	winter	55	55	individuals	B2
<i>Numenius arquata</i> (Curlew)	1995	winter	1740	1740	individuals	B2

Protection: National High International High. IBA overlaps with Wildfowl Sanctuary (Tacumshin Lake; area not known). 528 ha of IBA covered by Special Protection Area (Tacumshin Lake, 528 ha).

Conservation issues: Plans are underway for the construction of a sluice at the shingle-bar, to control water-levels. Wildfowling is regulated by NPW. The site overlaps with a proposed candidate Special Area for Conservation (Tacumshin Lake; area not known).

Threat	Importance
agricultural intensification/expansion	medium
disturbance to birds	medium
drainage	medium

Lady's Island Lake IE101

Area: 466

Latitude: 52.1833

Longitude: -6.4

State(s): South East

Site criteria: (proposed) A4i, A4iii, B1i, B2, C2, C4, C6 (confirmed)

Description: A shallow coastal lagoon, separated from the sea by a barrier of sand and shingle, and situated 3 km west of Carnsore Point in County Wexford. The lake has three islands, Lady's Island (now connected to the mainland by a causeway and included within the IBA), Inish and Sgarbheen.

Birds: This is an internationally important site for breeding terns, with colonies of four species (formerly five) present. The site was formerly of international importance for wintering waterfowl and still holds nationally important numbers of *Aythya ferina* (639 birds, 1995), *Aythya marila* (140 birds, 1996), *Anas penelope* (1,850 birds, 1996), *Anas crecca* (72 birds, 1996), *Aythya fuligula* (231 birds, 1995) and *Vanellus vanellus* (2,230 birds, 1995).

Species	Year	Season	Min	Max	Units	Confirmed
<i>Cygnus olor</i> (Mute Swan)	0	non-breeding	300	400	individuals	B1i
<i>Cygnus olor</i> (Mute Swan)	0	winter	600	600	individuals	B1i
<i>Sterna sandvicensis</i> (Sandwich Tern)	1996	breeding	1358	1358	breeding pairs	B1i, B2, C2, C6
<i>Sterna dougallii</i> (Roseate Tern)	1996	breeding	124	124	breeding pairs	A4i, B1i, B2, C2, C6
<i>Sterna hirundo</i> (Common Tern)	1996	breeding	386	386	breeding pairs	C6
<i>Sterna paradisaea</i> (Arctic Tern)	1995	breeding	151	151	breeding pairs	C6

Protection: National Low International Partial. 4 ha of IBA covered by Refuge for Fauna (Lady's Island Lake (Inish and Sgarbheen), 4 ha). 356 ha of IBA covered by Special Protection Area (Lady's Island Lake, 356 ha). 4 ha of IBA covered by Special Protection Area (Lady's Island Lake (Inish and Sgarbheen), 4 ha).

Conservation issues: The lake is used by recreational windsurfers and boats, which can cause disturbance to nesting terns. In most years a channel is cut in the barrier to relieve flooding; however, this reduction in water-level can permit predators to reach nesting terns. Construction of a sluice to control water-levels is likely in the near future. There is nutrient pollution of the lake due to agricultural run-off. The terns have been studied on the islands since 1960, and BirdWatch Ireland have co-managed the colonies with NPW since 1993. The site lies within a proposed candidate Special Area for Conservation (Lady's Island Lake; area not known).

Threat	Importance
drainage	high
recreation/tourism	high

Wexford Harbour and Sloba IE102

Area: 5000

Latitude: 52.3167

Longitude: -6.4333

State(s): South East

Site criteria: (proposed) A4i, A4iii, B1i, B2, B3, C2, C3, C4 (confirmed)

Description: An extensive shallow estuary at the mouth of the Slaney river, next to Wexford town, County Wexford. The site includes intertidal mud- and sandflats which are protected by Raven and Rosslare Points and behind which lie the north and south 'sloba'. These are two flat areas of farmland, mainly arable and pasture, empoldered behind 19th century sea-walls. There are partially afforested dunes at Raven and Rosslare Points. The main remaining intertidal areas are at Hopeland on the south shore and between Ferrybank and Ferrycarrig on the inner north shore. There is bottom culture of mussels *Mytilus* within the estuary. Parts of the site are heavily used for recreation. Compared to its listing in the previous pan-European inventory (Grimmett and Jones 1989), the site has now been extended to include the waters offshore from Raven Point.

Birds: This is a wetland of international importance for several species of waterfowl, regularly holding over 20,000 wintering birds. It is one of the two most important sites in the world for wintering *Anser albifrons flavirostris* *flavirostris*. The sea off Raven Point holds nationally important numbers of *Melanitta nigra* (1,260 birds, 1997; one of the top wintering sites in Ireland) and divers *Gavia*. Many other species also occur in numbers of national importance, including wintering *Anas penelope* (5,125 birds, 1995), *Anas crecca* (690 birds, 1995), *Anas platyrhynchos* (2,521 birds, 1995), *Haematopus ostralegus* (2,205 birds, 1996) and *Vanellus vanellus* (12,080 birds, 1996).

Species	Year	Season	Min	Max	Units	Confirmed
<i>Cygnus cygnus</i> (Whooper Swan)	1996	winter	147	147	individuals	B3
<i>Anser albifrons flavirostris</i> (Greenland White-fronted Goose)	1996	winter	9793	9793	individuals	B1i, C3
<i>Branta bernicla hrota</i> (Light-bellied Brent Goose)	1995	winter	2609	2609	individuals	B1i, C3
<i>Aythya marila</i> (Greater Scaup)	1996	winter	432	432	individuals	B2
<i>Pluvialis squatarola</i> (Grey Plover)	1996	winter	2200	2200	individuals	A4i, B1i, C3
<i>Limosa limosa</i> (Black-tailed Godwit)	1995	winter	2340	2340	individuals	A4i, B1i, C3
<i>Limosa lapponica</i> (Bar-tailed Godwit)	1996	winter	2126	2126	individuals	B1i, B2, C2
<i>Numenius arquata</i> (Curlew)	1996	winter	2431	2431	individuals	B2
<i>Calidris canutus</i> (Red Knot)	1996	winter	640	640	individuals	B2
<i>Calidris alpina</i> (Dunlin)	1995	winter	9265	9265	individuals	B2

Protection: National Partial International Partial. 589 ha of IBA covered by Nature Reserve (The Raven, 589 ha). 110 ha of IBA covered by Nature Reserve (Wexford Wildfowl Reserve, 110 ha). IBA overlaps with Wildfowl Sanctuary (Rosslare Point; area not known). 589 ha of IBA covered by Ramsar Site (The Raven, 589 ha). 194 ha of IBA covered by Ramsar Site (Wexford Wildfowl Reserve, 194 ha). 589 ha of IBA covered by Special Protection Area (The Raven, 589 ha). 110 ha of IBA covered by Special Protection Area (Wexford Wildfowl Reserve, 110 ha). 2,734 ha of IBA covered by Special Protection Area (Wexford Harbour, 2,734 ha).

Conservation issues: The site has been damaged due to the filling-in of 8 ha of intertidal mudflat at Ferrybank on the north shore, which was the subject of an official complaint to the European Commission from BirdWatch Ireland. Drainage and land-claim at Hopeland, a key part of this wetland and still not included within the Special Protection Area, is another threat.

Threat	Importance
agricultural intensification/expansion	low
aquaculture/fisheries	low
disturbance to birds	medium
drainage	high
recreation/tourism	medium

Cahore marshes IE103

Area: 450

Latitude: 52.5

Longitude: -6.25

State(s): South East

Site criteria: (proposed) B1i, B2, C2, C3 (confirmed)

Description: Located just south of Cahore Point in County Wexford, this site comprises a large area of polder, which is separated from the sea by a ridge of sand-dunes. The polder was formerly a wetland, which was drained to provide agriculturally improved grassland for grazing.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Cygnus columbianus</i> (Bewick's Swan)	1996	winter	26	26	individuals	B2
<i>Anser albifrons flavirostris</i> (Greenland White-fronted Goose)	1996	winter	307	307	individuals	B1i, C3
<i>Pluvialis apricaria</i> (Eurasian Golden-plover)	1996	winter	10250	10250	individuals	B1i, C2

Birds: This is an important site for wintering waterfowl, including nationally important numbers of *Anas penelope* (1,400 birds, 1996), *Anas acuta* (22 birds, 1996), and *Vanellus vanellus* (6,800 birds, 1996).

Habitat	Cover
grassland	40
wetland	60
Land use	Cover
agriculture	40
not utilised	60

Protection: National None International None

Conservation issues: Although the site has no formal protection, the landowner is sympathetic to waterbird conservation. However, damage to the adjacent dunes for a caravan site has recently taken place.

Threat	Importance
agricultural intensification/expansion	low
drainage	low

Wicklow Head IE104

Area: 134

Latitude: 52.9667

Longitude: -6

State(s): East

Site criteria: (proposed) C7 (confirmed)

Description: Wicklow Head, situated a mile south of Wicklow town, is a rocky headland with sheer cliffs and inlets. The site includes the adjacent waters. There is a coastguard station and lighthouse on the headland.

Birds: There are nationally important colonies of breeding seabirds, mostly *Rissa tridactyla* (1,125 pairs, 1994), with smaller numbers of *Alca torda* (191 birds, 1994), *Uria aalge* (244 birds, 1994), *Fulmarus glacialis* and *Phalacrocorax aristotelis*.

Protection: National None International None

Conservation issues: Walkers may cause some disturbance to birds, while fishing in surrounding waters may deplete the prey stock of seabirds, with implications for their breeding success. On the basis of its breeding seabirds, this site has been proposed as a Special Protection Area (Wicklow Head, 134 ha) by NPW and should be designated in the near future.

Habitat	Cover
coastline/rocky areas	10
sea/marine area	70
shrubland	20
Land use	Cover
fisheries/aquaculture	70
tourism/recreation	30

Threat	Importance
aquaculture/fisheries	low
recreation/tourism	low

North Wicklow coastal marshes IE105

Area: 670

Latitude: 53.0667

Longitude: -6.05

State(s): East

Site criteria: (proposed) B1i, B2, C3, C6 (confirmed)

Description: A coastal wetland complex, extending for 18 km between Greystones and Wicklow in County Wicklow. A shingle barrier extends the length of the site, protecting brackish and freshwater marsh, estuary fen and wet grassland. Two key wetland areas are Broadlough estuary to the south and Kilcoole marshes to the north. These marshes were empoldered in the late 1980s. A mainline railway track runs along the length of the ridge. This is also an important amenity area.

Habitat	Cover
artificial landscapes	10
grassland	45
wetland	45
Land use	Cover
agriculture	50
hunting	50
nature conservation and research	10
urban/industrial/transport	10

Species	Year	Season	Min	Max	Units	Confirmed
<i>Cygnus columbianus</i> (Bewick's Swan)	0	winter	0	140	individuals	B2
<i>Branta bernicla hrota</i> (Light-bellied Brent Goose)	1995	winter	1000	1000	individuals	B1i, C3
<i>Sterna albifrons</i> (Little Tern)	1995	breeding	36	36	breeding pairs	B2, C6

Birds: An important site for wintering waterfowl and for breeding terns *Sterna*. Following empolderment, Kilcoole marshes are now a prime feeding area for *Branta bernicla hrota*. Other species wintering in numbers of national importance are *Anser anser* (250 birds, 1997), *Anas penelope* (1,084 birds, 1996), *Anas crecca* (500 birds, 1996), *Melanitta nigra* (200 birds, 1996) and *Vanellus vanellus* (2,800 birds, 1996).

Protection: National High International Partial. IBA overlaps with Wildfowl Sanctuary (Coast, Greystones–Wicklow; area not known). 237 ha of IBA covered by Special Protection Area (Broad Lough, 237 ha). 150 ha of IBA covered by Special Protection Area (Kilcoole Marshes, 150 ha).

Conservation issues: Drainage of the marshes is reducing habitat quality. There is disturbance to wintering birds due to wildfowling while the amenity importance of the area results in some disturbance to the colony of *Sterna albifrons* and to wintering birds. Proposals for an industrial jetty will lead to habitat loss and fragmentation, with implications for coastal erosion. BirdWatch Ireland and NPW have operated a Little Tern Protection Scheme at Kilcoole since 1985. The site overlaps with a proposed candidate Special Area for Conservation (Coast, Greystones–Wicklow; area not known).

Threat	Importance
disturbance to birds	medium
drainage	medium
industrialization/urbanization	medium
recreation/tourism	low

Wicklow Mountains IE106

Area: 30000

Latitude: 53.1667

Longitude: -6.4

State(s): East

Site criteria: (proposed) B2, C6 (confirmed)

Description: Located 20 km south of Dublin city, this site encompasses the upland areas of Counties Wicklow and Dublin. It comprises broad granite domes interspersed with pinnacled tops, rocky foothills, deep glens, numerous rivers and streams, and several lakes. Much of the area is a mosaic of heath, blanket bog and upland grassland, with stands of bracken and pockets of woodland. Poulaphouca reservoir, included within this site in the previous pan-European inventory (Grimmett and Jones 1989), is now treated separately (site 107). Land-uses include peat-cutting (which is also a potential threat), forestry and recreation (due to the close proximity of Dublin).

Habitat	Cover
artificial landscapes	20
forest	5
grassland	10
shrubland	15
wetland	50
Land use	Cover
agriculture	40
forestry	20
nature conservation and research	50
other	10
tourism/recreation	70

Species	Year	Season	Min	Max	Units	Confirmed
<i>Falco columbarius</i> (Merlin)	1996	breeding	20	30	breeding pairs	C6
<i>Falco peregrinus</i> (Peregrine Falcon)	0	breeding	26	0	breeding pairs	B2, C6

Birds: The nationally scarce *Falco columbarius* and *F. peregrinus* as well as *Lagopus lagopus* breed within the extensive areas of bog and moorland.

Protection: National Partial International Partial. 20,000 ha of IBA covered by National Park (Wicklow Mountains, 20,000 ha). 157 ha of IBA covered by Nature Reserve (Glendalough, 157 ha). 1,958 ha of IBA covered by Nature Reserve (Glenealo Valley, 1,958 ha). 15,399 ha of IBA covered by Special Protection Area (Wicklow Mountains, 15,399 ha).

Conservation issues: NPW own large areas of the site which they manage for nature conservation by, for example, maintaining traditional sheep-grazing methods. However, conflict between farming and the implementation of conservation management measures is yet to be fully resolved. Due to the proximity of Dublin city, careful management of visitors is required to ensure amenity use and conservation management objectives are also not in conflict. The site overlaps with a proposed candidate Special Area for Conservation (Wicklow Mountains National Park; area not known).

Threat	Importance
afforestation	medium
disturbance to birds	medium
extraction industry	low
recreation/tourism	medium

Poulaphouca reservoir IE107

Area: 1949

Latitude: 53.1333

Longitude: -6.5

State(s): East

Site criteria: (proposed) C7 (confirmed)

Description: Poulaphouca reservoir, the largest inland water-body in south-east Ireland, is located south-east of Blessington, in County Dublin. It was created in 1944 by damming the River Liffey for the purpose of generating electricity from hydro-power, and also supplies water to Dublin city. Wet grassland and sandy shores surround the lake, and some of its perimeter has been planted with conifers to stabilize eroding banks and reduce pollution.

Birds: The site was designated as a Special Protection Area on the basis of its migratory waterfowl, particularly *Anser anser* (655 birds, 1996).

Protection: National None International High. 1,949 ha of IBA covered by Special Protection Area (Poulaphouca Reservoir, 1,949 ha).

Conservation issues: The lake is an important amenity area for Dublin city and careful management is required to ensure its conservation importance is maintained. There are some problems between farming interests and the use of improved fields for grazing by geese. Wildfowling leading to disturbance to birds is also likely.

Threat	Importance
agricultural intensification/expansion	medium
recreation/tourism	low

Habitat	Cover
grassland	45
wetland	55
Land use	Cover
agriculture	45
water management	55

Upper Barrow flood-plain IE108

Area: 1000

Latitude: 53.0833

Longitude: -7.05

State(s): East

Site criteria: (proposed) A4i, A4iii, B1i, B2, B3, C2, C4 (confirmed)

Habitat	Cover
grassland	50
wetland	50
Land use	Cover
agriculture	50
not utilised	50

Description: A large river and flood-plain, confined within a narrow valley and extending from Monasterevin, 16 km south to Athy on the County Kildare/County Laois border.

Birds: An important site for wintering waterfowl.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Cygnus cygnus</i> (Whooper Swan)	1996	winter	100	100	individuals	B3
<i>Cygnus columbianus</i> (Bewick's Swan)	1987	winter	180	180	individuals	A4i, B1i, B2, C2

Protection: National None International None

Conservation issues: With the intensification of agriculture, this site may be threatened by drainage of the flood-meadows.

Threat	Importance
drainage	low

Dublin Bay IE109

Area: 3000

Latitude: 53.35 **Longitude:** -6.2

State(s): East

Site criteria: (proposed) A4i, A4iii, B1i, B2, C2, C3, C4, C6 (confirmed)

Description: A large bay and estuary adjacent to Dublin city in County Dublin. This site encompasses North Bull Island, Sandymount Strand, Tolka estuary, Dalkey Island area (a number of islands and surrounding waters), and part of Dublin docks. Dublin docks was treated as a separate IBA (former site IE089) in the previous pan-European inventory (Grimmett and Jones 1989). There are extensive sand- and mudflats, saltmarsh, and sand-dunes and beaches. North Bull Island is Dublin's main recreational beach, and its two main land-uses are conservation and recreation. There is high amenity use of Dublin Bay as a whole.

Birds: This is a wetland of international importance for waterfowl, regularly supporting over 20,000 wintering birds. Species wintering in numbers of national importance include *Tadorna tadorna* (1,119 birds, 1995), *Anas penelope* (1,270 birds, 1995), *Anas crecca* (1,490 birds, 1995), *Anas acuta* (414 birds, 1995), *Anas clypeata* (370 birds, 1995), *Pluvialis squatarola* (914 birds, 1995), *Calidris alba* (450 birds, 1995) and *Limosa limosa* (466 birds, 1995). During August, large numbers of terns *Sterna* (typically about 5,000 and occasionally up to 30,000 birds) use Sandymount Strand as an evening roost.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Branta bernicla hrota</i> (Light-bellied Brent Goose)	1995	winter	1800	1800	individuals	B1i, C3
<i>Haematopus ostralegus</i> (Eurasian Oystercatcher)	1995	winter	1067	1067	individuals	C6
<i>Limosa lapponica</i> (Bar-tailed Godwit)	1997	winter	492	1000	individuals	A4i, B1i, B2, C2
<i>Numenius arquata</i> (Curlew)	1995	winter	1007	1007	individuals	B2
<i>Tringa totanus</i> (Redshank)	1995	winter	1900	1900	individuals	B1i, C3
<i>Calidris canutus</i> (Red Knot)	1995	winter	4380	4380	individuals	B1i, B2, C3
<i>Calidris alpina</i> (Dunlin)	1995	winter	6416	6416	individuals	B2
<i>Sterna dougallii</i> (Roseate Tern)	1996	passage	100	200	individuals	A4i, B1i, C2
<i>Sterna hirundo</i> (Common Tern)	1997	breeding	120	120	breeding pairs	C6

Protection: National Partial International Partial. 1,436 ha of IBA covered by Nature Reserve (North Bull Island, 1,436 ha). IBA overlaps with Wildfowl Sanctuary (North Bull Island; area not known). 1,436 ha of IBA covered by Ramsar Site (North Bull Island, 1,436 ha). 500 ha of IBA covered by Biosphere Reserve (North Bull Island, 500 ha). 1,396 ha of IBA covered by Special Protection Area (Bull Island, 1,396 ha). 654 ha of IBA covered by Special Protection Area (Sandymount Strand and the Tolka estuary, 654 ha).

Conservation issues: Ongoing and proposed infrastructural developments (roads, port expansion, pipelines), to meet urban and industrial demands, continue to threaten this site, together with pressure from amenity users. The tern colony at Dublin port has been studied since 1950. In view of the pressures on this site, given its proximity to Dublin city, the need to complete its protection as a Special Protection Area is critical. The site overlaps with a proposed candidate Special Area for Conservation (North Bull Island; area not known).

Threat	Importance
disturbance to birds	high
industrialization/urbanization	medium
infrastructure	medium
recreation/tourism	high

Howth Head IE110

Area: 102

Latitude: 53.3667

Longitude: -6.05

State(s): East

Site criteria: (proposed) B2, C7 (confirmed)

Description: A rocky headland, sea cliffs and adjacent sea area, situated on the northern side of Dublin Bay. On the slopes above the cliffs there is a mosaic of heathland vegetation. The sewage outflow for north Dublin was off Howth Head, but has recently been stopped. The area is very popular for walkers and horse-riders.

Habitat	Cover
coastline/rocky areas	10
sea/marine area	80
shrubland	10
Land use	Cover
fisheries/aquaculture	80
other	80
tourism/recreation	10

Species	Year	Season	Min	Max	Units	Confirmed
<i>Cepphus grylle</i> (Black Guillemot)	1990	breeding	21	0	breeding pairs	B2

Birds: The sea cliffs are important for breeding seabirds, with nationally important numbers of *Rissa tridactyla* (C.1,700 pairs, 1987) and *Alca torda* (280 birds, 1987).

Protection: National None International None

Conservation issues: The site has been proposed as a Special Protection Area (Howth Head, 102 ha) by NPW and should be designated in the near future.

Threat	Importance
aquaculture/fisheries	low
industrialization/urbanization	medium

Ireland's Eye IE111

Area: 90

Latitude: 53.4 **Longitude:** -6.0667

State(s): East

Site criteria: (proposed) C7 (confirmed)

Description: An uninhabited island and surrounding waters, located 1.5 km north of Howth, in County Dublin. The island is mainly rough grassland with steep sea cliffs on the north-east side. The island receives quite high numbers of visitors in the summer months given its proximity to Dublin.

Birds: Seabirds breeding in nationally important numbers include *Morus bassana* (106 pairs, 1996), *Phalacrocorax carbo* (217 pairs, 1994), *Rissa tridactyla* (1,079 pairs, 1994), *Uria aalge* (1,498 birds, 1994) and *Alca torda* (428 birds, 1994).

Protection: National None International None

Conservation issues: Control and management of visitors to the island is important to ensure there is no disturbance to nesting seabirds. On the basis of its breeding seabirds, this site has been proposed as a Special Protection Area (Ireland's Eye, 90 ha) by NPW and should be designated in the near future.

Habitat	Cover
coastline/rocky areas	30
grassland	20
sea/marine area	50
Land use	Cover
fisheries/aquaculture	50
tourism/recreation	50

Threat	Importance
aquaculture/fisheries	low
recreation/tourism	low

Baldoyle Bay IE112

Area: 203

Latitude: 53.4 **Longitude:** -6.1333

State(s): East

Site criteria: (proposed) B1i, B2, C3 (confirmed)

Description: A coastal site extending from just south of Portmarnock village to the west pier at Howth in County Dublin. This tidal bay is located 5 km north of Dublin and is protected from the open sea by a large sand-dune system. It comprises the estuary of the Sluice and Mayne rivers and includes the marsh adjacent to the Mayne river. Up to 95% of the estuary is exposed at low tide. The site is used for recreational boating.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Branta bernicla hrota</i> (Light-bellied Brent Goose)	1995	winter	480	480	individuals	B1i, C3
<i>Limosa lapponica</i> (Bar-tailed Godwit)	1996	winter	348	348	individuals	B2

Birds: This is an important site for wintering waterfowl. Further species wintering in numbers of national importance include *Tadorna tadorna* (214 birds, 1996), *Anas acuta* (68 birds, 1996), *Melanitta nigra* (150 birds, 1996), *Pluvialis apricaria* (2,150 birds, 1996), *Pluvialis squatarola* (533 birds, 1996) and *Calidris alba* (70 birds, 1996).

Habitat	Cover
wetland	100
Land use	Cover
fisheries/aquaculture	20
not utilised	60
tourism/recreation	20

Protection: National High International High. 203 ha of IBA covered by Nature Reserve (Baldoyle Bay, 203 ha). 203 ha of IBA covered by Ramsar Site (Baldoyle Bay, 203 ha). 203 ha of IBA covered by Special Protection Area (Baldoyle Bay, 203 ha).

Conservation issues: The infestation of intertidal mudflats by non-native cord-grass *Spartina* threatens habitat quality. The site is of educational value due to its close proximity to Dublin.

Threat	Importance
consequences of animal/plant introductions	low
industrialization/urbanization	low
recreation/tourism	medium

Malahide/Broadmeadow estuary IE113

Area: 606

Latitude: 53.45 **Longitude:** -6.15

State(s):

East

Site criteria: (proposed) A4iii, B1i, B2, C3, C4 (confirmed)

Description: The Broadmeadow river estuary is situated immediately north of Malahide and east of Swords in County Dublin. The site is divided by a railway viaduct and protected from the sea by a large sand-spit. There are sand- and mudflats within the outer estuary. However, inland of the viaduct, only the extreme inner part of the estuary drains at low tide; saltmarsh is present here.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Cygnus olor</i> (Mute Swan)	1995	resident	40	99	breeding pairs	B1i
<i>Branta bernicla hrota</i> (Light-bellied Brent Goose)	1996	winter	1200	1200	individuals	B1i, C3
<i>Calidris canutus</i> (Red Knot)	1996	winter	2000	2000	individuals	B2

Birds: This is an important site for wintering waterfowl. Many other species occur in numbers of national importance, including *Tadorna tadorna* (534 birds, 1995), *Bucephala clangula* (390 birds, 1996), *Mergus serrator* (171 birds, 1996), *Haematopus ostralegus* (1,343 birds, 1995), *Pluvialis apricaria* (4,000 birds, 1996) and *Calidris alpina* (1,850 birds, 1996).

Protection: National None International High. IBA overlaps with Ramsar Site (Malahide Estuary; area not known). 546 ha of IBA covered by Special Protection Area (Broadmeadow/Swords Estuary, 546 ha).

Conservation issues: Permission has been granted for the construction of a motorway bridge across the most sensitive extreme inner part of the estuary. Infestation of mudflats by non-native cord-grass *Spartina* threatens habitat quality. The inner estuary is used for water-sports, which may cause disturbance. Housing and marina developments have claimed parts of the outer estuary. The site lies within a proposed candidate Special Area for Conservation (Malahide Estuary; area not known).

Threat	Importance
consequences of animal/plant introductions	medium
disturbance to birds	medium
industrialization/urbanization	high
infrastructure	low
recreation/tourism	medium

Lambay Island IE114

Area: 612

Latitude: 53.4833 **Longitude:** -6.0167

State(s): East

Site criteria: (proposed) A4i, A4iii, B1i, B1ii, B3, C2, C3, C4 (confirmed)

Description: Situated 4 km off the north coast of County Dublin, this site includes Lambay Island and surrounding waters. About a third of the island on the lower western shore comprises managed pasture, with much of the rest being used as rough grazing for cattle and sheep.

Birds: Lambay Island is internationally important for breeding seabirds. Several other seabird species breed in nationally important numbers, including *Fulmarus glacialis* (573 pairs, 1995), *Phalacrocorax carbo* (605 pairs, 1995) and *Rissa tridactyla* (5,102 pairs, 1995). This site also supports nationally important numbers of wintering *Anser anser* (437 birds, 1995) and is one of the top sites for this species in Ireland.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Puffinus puffinus</i> (Manx Shearwater)	1987	breeding	50	100	breeding pairs	B1ii, C3
<i>Phalacrocorax aristotelis</i> (European Shag)	1995	breeding	1164	1164	breeding pairs	A4i, B1i, B3, C2
<i>Uria aalge</i> (Common Murre)	1995	breeding	51777	51777	breeding pairs	B1ii, C3
<i>Alca torda</i> (Razorbill)	1995	breeding	3646	3646	breeding pairs	B3

Protection: National None International High. 612 ha of IBA covered by Special Protection Area (Lambay Island, 612 ha).

Habitat	Cover
artificial landscapes	5
coastline/rocky areas	10
forest	5
grassland	10
sea/marine area	55
shrubland	5
wetland	10
Land use	Cover
agriculture	35
fisheries/aquaculture	60
urban/industrial/transport	5

Conservation issues: Under the present management, the island's bird populations are secure and little disturbed. The NPW and BirdWatch Ireland have an ongoing population monitoring programme for seabirds and geese.

Threat	Importance
industrialization/urbanization	unknown
recreation/tourism	low

Rogerstown estuary IE115

Area: 368

Latitude: 53.5 **Longitude:** -6.1

State(s): East

Site criteria: (proposed) B1i, B2, C3 (confirmed)

Description: Situated 2 km north of Donabate, this is a relatively small, narrow estuary separated from the sea by a sand/shingle-bar and divided by the Dublin–Belfast railway line. The estuary drains almost completely at low tide, exposing extensive mudflats with some saltmarsh. The largest municipal dump in Ireland is situated on the north-east shore of the site.

Habitat	Cover
artificial landscapes	15
grassland	10
wetland	75
Land use	Cover
agriculture	10
nature conservation and research	5
not utilised	70
urban/industrial/transport	15

Species	Year	Season	Min	Max	Units	Confirmed
<i>Branta bernicla hrota</i> (Light-bellied Brent Goose)	1996	winter	1804	1804	individuals	B1i, C3
<i>Calidris canutus</i> (Red Knot)	1996	winter	4096	4095	individuals	B1i, B2, C3

Birds: This is an important site for wintering waterfowl. Additional species wintering in numbers of national importance include *Tadorna tadorna* (827 birds, 1996), *Anas crecca* (677 birds, 1995), *Pluvialis apricaria* (4,000 birds, 1996), *Vanellus vanellus* (7,735 birds, 1996) and *Tringa totanus* (861 birds, 1996).

Protection: National High International Partial. 196 ha of IBA covered by Nature Reserve (Rogerstown Estuary, 196 ha). 368 ha of IBA covered by Wildfowl Sanctuary (Rogerstown Estuary, 368 ha). 195 ha of IBA covered by Ramsar Site (Rogerstown Estuary, 195 ha). 196 ha of IBA covered by Special Protection Area (Rogerstown Estuary, 196 ha).

Threat	Importance
consequences of animal/plant introductions	medium
disturbance to birds	medium
filling-in of wetlands	medium

Conservation issues: Since starting in 1970, municipal rubbish-dumping has destroyed 44 ha of intertidal mudflat. Infestation of remaining mudflat by non-native cord-grass *Spartina* threatens habitat quality, and there is increasing pressure on the site from recreation, amenity and adjacent urban development. BirdWatch Ireland owns a 24 ha reserve of wet grassland, bordering the inner part of the estuary, and, with support from the local authority, have recently constructed a hide on the estuary's south shore. The site lies within a proposed candidate Special Area for Conservation (Rogerstown estuary; area not known).

Skerries Islands IE116

Area: 62

Latitude: 53.5667 **Longitude:** -6.0833

State(s): East

Site criteria: (proposed) B1i, B3, C3 (confirmed)

Description: A group of three small islands (Shenicks, St Patricks and Colt) and surrounding sea, situated 1–2 km east of Skerries, in north County Dublin.

Habitat	Cover
coastline/rocky areas	20
grassland	10
sea/marine area	70
Land use	Cover
fisheries/aquaculture	70
nature conservation and research	20
not utilised	30

Birds: The site is important for waterfowl and shorebirds. *Phalacrocorax carbo* breeds in numbers of national importance (350 pairs, 1996).

Species	Year	Season	Min	Max	Units	Confirmed
<i>Phalacrocorax aristotelis</i> (European Shag)	1986	breeding	112	0	breeding pairs	B3
<i>Branta bernicla hrota</i> (Light-bellied Brent Goose)	1996	winter	215	215	individuals	B1i, C3

Protection: National None International None

Conservation issues: Day-trippers from Skerries can cause disturbance to birds. Shenick Isle (6.3 ha) is a bird reserve managed by BirdWatch Ireland. The site is a proposed Special Protection Area (Skerries Islands, 62 ha).

Threat	Importance
aquaculture/fisheries	low
recreation/tourism	medium

Rockabill IE117

Area: 1

Latitude: 53.6 **Longitude:** -6.0167

State(s): East

Site criteria: (proposed) A4i, B1i, B2, C2, C6 (confirmed)

Description: Two small, rocky islands approximately 7 km off the north coast of County Dublin. The lighthouse present on one island has been unmanned since 1989.

Habitat	Cover
artificial landscapes	20
coastline/rocky areas	40
sea/marine area	30
shrubland	10
Land use	Cover
nature conservation and research	80
urban/industrial/transport	20

Species	Year	Season	Min	Max	Units	Confirmed
<i>Sterna dougallii</i> (Roseate Tern)	1996	breeding	563	563	breeding pairs	A4i, B1i, B2, C2, C6
<i>Sterna hirundo</i> (Common Tern)	1996	breeding	387	387	breeding pairs	C6
<i>Cepphus grylle</i> (Black Guillemot)	1998	breeding	30	0	breeding pairs	B2

Birds: Rockabill is important for breeding seabirds and supports the largest breeding colony of *Sterna dougallii* in the north-east Atlantic and, thus, in Europe.

Protection: National High International High. 1 ha of IBA covered by Refuge for Fauna (Rockabill Island; area not known). 1 ha of IBA covered by Special Protection Area (Rockabill, 1 ha).

Conservation issues: Since 1989 BirdWatch Ireland have, with NPW, managed the tern colony and there is presently very little disturbance.

Threat	Importance
disturbance to birds	high
recreation/tourism	medium

Nanny estuary and shoreline IE118

Area: 150

Latitude: 53.6667 **Longitude:** -6.2167

State(s): East

Site criteria: (proposed) B2 (confirmed)

Description: Situated in County Meath this is a 3 km long and approximately 500 m wide stretch of shoreline, extending between Laytown and Benhead on the east coast. This site includes the muddy estuarine channel of the River Nanny, which opens out into a wide, exposed sand beach. This is an important recreation and amenity area.

Birds: Additional species which winter in nationally important numbers include *Melanitta nigra*, *Pluvialis apricaria*, *Pluvialis squatarola*, *Charadrius hiaticula* and *Calidris alba*.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Calidris canutus</i> (Red Knot)	1996	winter	800	800	individuals	B2

Protection: National None International None

Conservation issues: Beach-users may cause some disturbance to wintering waterfowl.

Threat	Importance
recreation/tourism	low

Boyne estuary IE119

Area: 404

Latitude: 53.7167 **Longitude:** -6.25

State(s): North East/ East

Site criteria: (proposed) B1i, B2, C3, C6 (confirmed)

Description: A rather narrow estuary, which widens at its mouth and comprises intertidal mudflat and saltmarsh habitats. It is situated on the east coast, at the border between Counties Louth and Meath and is the port for the town of Drogheda. The estuary has been modified by the construction of training walls on either side, to facilitate deep water access to the port.

Habitat	Cover
wetland	100
Land use	Cover
fisheries/aquaculture	80
hunting	100
urban/industrial/transport	20

Species	Year	Season	Min	Max	Units	Confirmed
<i>Branta bernicla hrota</i> (Light-bellied Brent Goose)	1996	winter	210	210	individuals	B1i, C3
<i>Calidris canutus</i> (Red Knot)	1996	winter	1777	1777	individuals	B2
<i>Sterna albifrons</i> (Little Tern)	1995	breeding	14	14	breeding pairs	B2, C6

Birds: An important site for wintering waterfowl; additional species that winter in numbers of national importance include *Pluvialis apricaria* (6,000 birds, 1995), *Pluvialis squatarola* (255 birds, 1996), *Vanellus vanellus* (7,500 birds, 1996), *Calidris alba* (163 birds, 1996), *Limosa limosa* (287 birds, 1996) and *Arenaria interpres* (444 birds, 1995).

Protection: National High International High. IBA overlaps with Wildfowl Sanctuary (Boyne Estuary; area not known). 404 ha of IBA covered by Special Protection Area (Boyne Estuary, 404 ha).

Conservation issues: This estuary is threatened with urban and particularly industrial expansion, including dredging and land-claim of wetlands.

Threat	Importance
filling-in of wetlands	medium
industrialization/urbanization	medium
recreation/tourism	medium

Stabannan-Braganstown IE120

Area: 491

Latitude: 53.8667 **Longitude:** -6.4333

State(s): North East

Site criteria: (proposed) A4iii, B1i, B2, B3, C3, C4 (confirmed)

Description: Situated between Ardee and Castlebellingham in County Louth, this site consists of drained wetlands on the River Glyde flood-plain which are now predominantly improved grassland and tillage.

Birds: This site is an important winter feeding area for waterfowl. Additionally, *Pluvialis apricaria* (3,000 birds, 1995) occur in numbers of national importance.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Cygnus cygnus</i> (Whooper Swan)	1995	winter	120	120	individuals	B3
<i>Cygnus columbianus</i> (Bewick's Swan)	1989	winter	0	26	individuals	B2
<i>Anser anser</i> (Greylag Goose)	1996	winter	1661	1661	individuals	B1i, C3

Protection: National None International High. 491 ha of IBA covered by Special Protection Area (Stabannan-Braganstown, 491 ha).

Conservation issues: Disturbance to wintering wildfowl is limited, as access to this private estate is limited and no shooting is allowed. However, changes in agricultural practice, which could alter the feeding habitat of geese, is a possible threat.

Threat	Importance
agricultural intensification/expansion	low

Dundalk Bay IE121

Area: 4920

Latitude: 53.9167 **Longitude:** -6.3333

State(s): North East

Site criteria: (proposed) A4i, A4iii, B1i, B2, C2, C3, C4 (confirmed)

Description: A very large, open, shallow sea bay on the east coast, extending east from Dundalk town in County Louth. This site encompasses extensive sand- and mudflats, which at low tide are up to 3 km wide, as well as saltmarshes, shingle-beaches and tidal rivers. The estuaries of the rivers Dee, Glyde, Fane and Castletown are all included in the site. There is intertidal shellfish cultivation. Saltmarshes at Lurgangreen and Marsh South are partially fenced and used for grazing sheep.

Birds: This wetland is of international importance for its waterfowl, regularly holding over 20,000 wintering birds. Several other species occur in numbers of national importance including *Tadorna tadorna* (391 birds, 1996), *Anas penelope* (1,026 birds, 1995), *Anas acuta* (112 birds, 1996), *Haematopus ostralegus* (6,605 birds, 1995), *Pluvialis apricaria* (7,240 birds, 1996) and *Limosa limosa* (360 birds, 1995).

Species	Year	Season	Min	Max	Units	Confirmed
<i>Anser anser</i> (Greylag Goose)	1996	winter	1661	1661	individuals	B1i, C3
<i>Branta bernicla hrota</i> (Light-bellied Brent Goose)	1996	winter	447	447	individuals	B1i, C3
<i>Limosa lapponica</i> (Bar-tailed Godwit)	1995	winter	1660	1660	individuals	A4i, B1i, B2, C2
<i>Numenius arquata</i> (Curlew)	1995	winter	2278	2278	individuals	B2
<i>Tringa totanus</i> (Redshank)	1995	winter	1857	1857	individuals	B1i, C3
<i>Calidris canutus</i> (Red Knot)	1995	winter	15545	15545	individuals	A4i, B1i, B2, C3
<i>Calidris alpina</i> (Dunlin)	1996	winter	5834	5834	individuals	B2

Protection: National Partial International High. IBA overlaps with Wildfowl Sanctuary (Ballymascanlon; area not known). IBA overlaps with Wildfowl Sanctuary (Lurgan Green; area not known). 4,768 ha of IBA covered by Ramsar Site (Dundalk Bay, 4,768 ha). 4,768 ha of IBA covered by Special Protection Area (Dundalk Bay, 4,768 ha).

Threat	Importance
agricultural intensification/expansion	low
aquaculture/fisheries	low
consequences of animal/plant introductions	low
industrialization/urbanization	medium

Conservation issues: Pressure from housing development is leading to loss of saltmarsh. Further habitat loss, due to the proximity of Dundalk town, may impact on the site. Habitat quality may be reduced by intertidal shellfish cultivation and by the spread of non-native cord-grass *Spartina*.

Carlingford Lough IE122

Area: 4660

Latitude: 54.0667

Longitude: -6.2

State(s): North East

Site criteria: (proposed) B1i, B2, C3 (confirmed)

Description: A 15 km long, narrow sea lough, surrounded by mountains. The southern shore lies in County Louth, while the rest of the site is in Northern Ireland (UK site 274), this being a cross-border site—the stated area of 4,660 ha covers the entire site on both sides of the border but other data given here (on habitats, land-uses, threats and birds) are specific to the Republic of Ireland side. Much of the lough is relatively deep. However, there are intertidal mudflats in the south-east and north-east and pockets of saltmarsh. There is intertidal shellfish cultivation and the lough is used for boating.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Branta bernicla hrota</i> (Light-bellied Brent Goose)	1995	winter	315	315	individuals	B1i, C3
<i>Aythya marila</i> (Greater Scaup)	1996	winter	640	640	individuals	B2

Birds: This is an important site for wintering waterfowl. Other waterbirds which winter in numbers of national importance are *Podiceps cristatus* (40 birds, 1996), *Phalacrocorax carbo* (106 birds, 1995) and *Charadrius hiaticula* (126 birds, 1995).

Protection: National None International Low. 172 ha of IBA covered by Special Protection Area (Carlingford Lough, 172 ha).

Conservation issues: Habitat quality may be threatened by intertidal shellfish cultivation and increasing pressure from recreation interests.

Habitat	Cover
sea/marine area	-
Land use	Cover
fisheries/aquaculture	-
tourism/recreation	-

Threat	Importance
aquaculture/fisheries	medium
recreation/tourism	medium

Lough Oughter IE123

Area: 1464

Latitude: 54

Longitude: -7.4667

State(s): North East

Site criteria: (proposed) B1i, B3, C2 (confirmed)

Description: A complicated system of inter-drumlin lakes, basins and islands on the River Erne, County Cavan. Sheltered shores support swamp and marsh habitat and the site also includes adjacent fields which occasionally flood. The site is a southward extension of Upper Lough Erne (UK site 287) in Northern Ireland.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Cygnus cygnus</i> (Whooper Swan)	1995	winter	174	174	individuals	B1i, B3, C2

Birds: This site is important for its wintering birds. Other species wintering in numbers of national importance are *Podiceps cristatus* (40 birds, 1996), *Phalacrocorax carbo* (139 birds, 1996), *Cygnus olor* (137 birds, 1996) and *Anas penelope* (1,544 birds, 1995).

Protection: National High International High. IBA overlaps with Wildfowl Sanctuary (Lough Oughter; area not known). 1,464 ha of IBA covered by Ramsar Site (Lough Oughter, 1,464 ha). 1,464 ha of IBA covered by Special Protection Area (Lough Oughter, 1,464 ha).

Conservation issues: The deepening of drains and excessive use of fertilizer are resulting in nutrient pollution of the lake.

Habitat	Cover
artificial landscapes	10
forest	10
grassland	10
wetland	70
Land use	Cover
agriculture	20
fisheries/aquaculture	70
not utilised	10

Threat	Importance
agricultural intensification/expansion	high
drainage	low
recreation/tourism	low

Lough Kinale and Lough Derragh IE124

Area: 281

Latitude: 53.7667 **Longitude:** -7.4

State(s): Midlands/ North East

Site criteria: (proposed) B1i, C7 (confirmed)

Description: Located east of Longford town mainly within County Longford, this site comprises the larger Lough Kinale and, to its south-east, Lough Derragh. Lough Kinale has two main basins which are almost separated by swamp formations. The main input of water comes from Lough Sheelin via the River Inny. Both lakes are linked by a short channel and are used for fishing.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Cygnus olor</i> (Mute Swan)	1987	resident	0	100	breeding pairs	B1i

Birds: Loughs Kinale and Derragh are important for waterfowl. Species occurring in nationally important numbers are *Aythya ferina* (1,639 birds, 1996), *Aythya fuligula* (873 birds, 1996) and *Fulica atra* (552 birds, 1996).

Protection: National Nature International High. 281 ha of IBA covered by Special Protection Area (Lough Kinale and Derragh Lough, 281 ha).

Conservation issues: There is some disturbance to birds due to wildfowling and boating. The site is state-owned, allowing shooting pressure to be regulated by NPW. Pollution of the lake due to adjacent conifer plantations, causing siltation and fertilizer run-off, is likely.

Habitat	Cover
wetland	100
Land use	Cover
hunting	100
tourism/recreation	100

Threat	Importance
afforestation	medium
disturbance to birds	medium
recreation/tourism	medium

Loughs Kilglass and Forbes, and Ballykenny/Fishertown bogs IE125

Area: 1352

Latitude: 53.7667 **Longitude:** -7.8833

State(s): Midlands

Site criteria: (proposed) C7 (confirmed)

Description: This site, situated north-west of Longford, has been expanded since the previous European inventory (Grimmett and Jones 1989) when it only included the Castles Forbes complex (comprising the Camlin river flood-plain and two adjacent raised bogs). The revised site extends north to include Lough Forbes. Adjacent callows are also included.

Birds: This site has been designated as a Special Protection Area as it supports nationally important numbers of *Anser albifrons flavirostris* in winter. A flock (217 birds, 1994) uses 20 known feeding sites, mainly callows, marsh and improved grassland within and to the north of this site, and is likely to use the lakes and bogs for roosting. Fieldwork is required to establish details of site use.

Protection: National Nature International High. 1,352 ha of IBA covered by Special Protection Area (Lough Forbes and Ballykenny/Fishertown Bog Complex, 1,352 ha).

Conservation issues: Wildfowl numbers have declined recently and this could be due to an increase in cruisers and other pleasure boats on the site. The site overlaps with a proposed candidate Special Area for Conservation (Lough Forbes Complex; area not known).

Threat	Importance
agricultural intensification/expansion	low
disturbance to birds	medium
recreation/tourism	medium

Habitat	Cover
forest	5
grassland	20
wetland	75
Land use	Cover
agriculture	20
tourism/recreation	80

Lough Arrow IE126

Area: 1266

Latitude: 54.0667 **Longitude:** -8.3167

State(s): Midlands/ North West

Site criteria: (proposed) C7 (confirmed)

Description: Lough Arrow is a large, limestone lake with wooded islands and reedbeds. It is situated north of Ballinafad in Counties Sligo and Roscommon. Historically, the nutrient-levels in the lake-water have been moderate (mesotrophic). There is trout- and eel-fishing and boating. Information on land-uses is incomplete.

Birds: The site was designated as a Special Protection Area on the basis of migratory waterfowl, with the following number of individuals recorded during the period 1986–1987: *Tachybaptus ruficollis* (35), *Anas penelope* (87), *Anas platyrhynchos* (27), *Aythya ferina* (36), *Aythya fuligula* (226), *Bucephala clangula* (49) and *Fulica atra* (325).

Habitat	Cover
wetland	100
Land use	Cover
tourism/recreation	100

Protection: National None International High. 1,266 ha of IBA covered by Special Protection Area (Lough Arrow, 1,266 ha).

Threat	Importance
agricultural intensification/expansion	medium

Conservation issues: Little information is available on threats but it is believed that nutrient pollution of the lake due to fertilizer run-off from adjacent farmland may be a problem.

Bellanagare bog IE127

Area: 1243

Latitude: 53.8167 **Longitude:** -8.4167

State(s): Midlands

Site criteria: (proposed) C7 (confirmed)

Habitat	Cover
wetland	100
Land use	Cover
other	50
water management	50

Description: A large, upland bog situated 6 km north-east of Castlerea in County Roscommon. The bog consists of ridges and flushes and several streams rise within the site. Peat-cutting takes place within the site ('Other' land-use).

Birds: The site was designated as a Special Protection Area on the basis of breeding *Pluvialis apricaria*, a species listed under Annex I of the EC Birds Directive.

Protection: National None International High. 1,243 ha of IBA covered by Special Protection Area (Bellanagare Bog, 1,243 ha).

Conservation issues: The site is vulnerable to water loss, as it has an extensive drainage network in its northern half, and peat is actively cut in places all around the site. As the bog has become quite dry it is now vulnerable to burning to improve it for grazing. The site lies within a proposed candidate Special Area for Conservation (Bellanagare Bog; area not known).

Threat	Importance
burning of vegetation	medium
drainage	medium
extraction industry	medium

Lough Ree IE128

Area: 10788

Latitude: 53.5333 **Longitude:** -7.95

State(s): Midlands

Site criteria: (proposed) C7 (confirmed)

Habitat	Cover
grassland	10
wetland	90
Land use	Cover
agriculture	10
hunting	50
tourism/recreation	50

Description: Lough Ree is the third-largest lake in Ireland, and is situated on the River Shannon system between Lanesborough and Athlone. The shoreline, with many indented bays, has extensive reedbeds, callow and lowland wet grassland. Land-uses include low-intensity grazing on the grasslands, angling and other recreational uses.

Birds: This site was designated a Special Protection Area on the basis of its migratory waterfowl, with nationally important numbers of *Tachybaptus ruficollis* (145 birds, 1985), *Anas penelope* (1,306 birds, 1985), *Anas crecca* (584 birds, 1985), *Aythya fuligula* (1,317 birds, 1985) and *Fulica atra* (798 birds, 1985). This is also one of only three regular breeding sites in Ireland for *Melanitta nigra* (37 birds, 1995).

Protection: National None International High. 10,788 ha of IBA covered by Special Protection Area (Lough Ree, 10,788 ha).

Conservation issues: The lake is threatened by nutrient pollution, with organic enrichment coming from agricultural and probably domestic sources. There is increasing pressure on the lake, from leisure developments, such as lakeshore holiday homes, marinas and hotels as well as cruiser traffic. The site lies within a proposed candidate Special Area for Conservation (Lough Ree; area not known).

Threat	Importance
agricultural intensification/expansion	high
disturbance to birds	low
recreation/tourism	low

River Suck Callows: Shannon Bridge-Castlecoote IE129

Area: 4000

Latitude: 53.4 **Longitude:** -8.1667

State(s): Midlands/ West

Site criteria: (proposed) A4i, B1i, B2, B3, C2, C3 (confirmed)

Habitat	Cover
artificial landscapes	20
grassland	20
wetland	60
Land use	Cover
agriculture	40
fisheries/aquaculture	60
hunting	100

Description: A long, sinuous stretch of semi-natural, lowland wet grassland (callows) alongside the River Suck, in Counties Galway and Roscommon. This site extends for 50 km from Castlecoote in the north to Shannonbridge in the south where it meets the River Shannon callows (site 131). The callows are seasonally flooded between October and April. The area is flanked by raised bogs, many of which have been converted to agricultural use following peat extraction.

Birds: This is an important site for wintering waterfowl. Additional species wintering in numbers of national importance include *Anas penelope* (1,351 birds, 1995) and *Vanellus vanellus* (3,282 birds, 1995). *Crex crex* was breeding until recently (1 pair, 1993).

Species	Year	Season	Min	Max	Units	Confirmed
<i>Cygnus cygnus</i> (Whooper Swan)	1995	winter	116	116	individuals	B3
<i>Cygnus columbianus</i> (Bewick's Swan)	1982	winter	180	180	individuals	A4i, B1i, B2, C2
<i>Anser albifrons flavirostris</i> (Greenland White-fronted Goose)	1994	winter	377	377	individuals	B1i, C3

Protection: National Partial International Partial. 1,100 ha of IBA covered by Nature Reserve (Muckanagh Wildfowl Sanctuary, 1,100 ha). 3,225 ha of IBA covered by Special Protection Area (River Suck Callows: Shannon Bridge–Athleague, 3,225 ha).

Conservation issues: *Crex crex* is highly sensitive to changes in farming practice. Agricultural intensification is likely to have caused the decline and eventual loss of breeding *Crex crex* at this site. Water and habitat quality are threatened by siltation due to mechanical peat extraction in surrounding areas. Wildfowling is likely to cause disturbance to wintering birds.

Threat	Importance
agricultural intensification/expansion	medium
disturbance to birds	medium
drainage	medium
extraction industry	low
filling-in of wetlands	medium
recreation/tourism	low

Lough Derg IE130

Area: 11989

Latitude: 52.9833

Longitude: -8.3167

State(s): West

Site criteria: (proposed) A4iii, B1i, C3, C4 (confirmed)

Description: An extensive lake system, extending from Portumna south to Killaloe in Counties Tipperary, Clare, Offaly and Galway. In the previous European inventory (Grimmett and Jones 1989) the site included only Church Island, but the area has been expanded to incorporate the whole of Lough Derg and its islands. Lough Derg is used by anglers and for recreational boating.

Birds: *Cygnus olor* winters in numbers of national importance (327 birds, 1995).

Species	Year	Season	Min	Max	Units	Confirmed
<i>Limosa limosa</i> (Black-tailed Godwit)	1995	winter	1200	1200	individuals	B1i, C3

Protection: National None International High. 11,989 ha of IBA covered by Special Protection Area (Lough Derg [River Shannon], 11,989 ha).

Conservation issues: The main threat to the lake is nutrient pollution, due to increasing input from adjacent farmland and from adjoining towns. The lake is also under increasing pressure from amenity development, with the construction of lakeshore holiday homes, hotels, marinas and jetties.

Threat	Importance
agricultural intensification/expansion	high
industrialization/urbanization	medium
recreation/tourism	low

River Shannon Callows: Portumna-Athlone IE131

Area: 5788

Latitude: 53.25 **Longitude:** -8.0667

State(s): Midlands/ West/ Mid West

Site criteria: (proposed) A1, A4i, A4iii, B1i, B2, B3, C1, C2, C3, C4, C6 (confirmed)

Description: The flood-plain of the River Shannon, the longest waterway in Ireland with a catchment that drains more than 20% of the country. The area lies between Lough Ree in the north (site 128) and Lough Derg in the south (site 130) and is contiguous with the Little Brosna callows (site 132) and the Suck callows (site 129), both of which are tributaries. This complex is one of the few relatively unmodified flood-plains within the European Union. Beside the river are extensive areas of callow (seasonally flooded, semi-natural wet grassland) which is used for permanent hay or silage or for summer grazing, mainly by cattle. The river is used for coarse angling and leisure-boat cruising. The callows were once flanked by raised bog, which is now largely lost due to mechanical peat-cutting.

Birds: This site is of international importance for wintering waterfowl and regularly supports over 20,000 wintering birds. The Shannon callows are one of the last strongholds for the globally threatened *Crex crex* in Ireland and are also of importance for breeding waders, particularly *Tringa totanus*. Additional wintering species that occur in numbers of national importance, include *Cygnus olor* (575 birds, 1995), *Anas penelope* (3,135 birds, 1996), *Anas crecca* (576 birds, 1995), *Aythya fuligula* (200 birds, 1995), *Vanellus vanellus* (15,400 birds, 1995) and *Calidris alpina* (1,250 birds, 1996).

Habitat	Cover
grassland	40
wetland	60
Land use	Cover
agriculture	40
fisheries/aquaculture	40
nature conservation and research	100
water management	10

Species	Year	Season	Min	Max	Units	Confirmed
<i>Cygnus cygnus</i> (Whooper Swan)	1995	winter	901	901	individuals	A4i, B1i, B3, C2
<i>Cygnus columbianus</i> (Bewick's Swan)	1995	winter	31	31	individuals	B2
<i>Crex crex</i> (Corncrake)	1996	breeding	54	54	breeding pairs	A1, C1, C2, C6
<i>Pluvialis apricaria</i> (Eurasian Golden-plover)	1995	winter	10000	10000	individuals	B1i, C2
<i>Limosa limosa</i> (Black-tailed Godwit)	1995	winter	1150	1150	individuals	B1i, C3
<i>Numenius phaeopus</i> (Whimbrel)	1995	passage	5000	0	individuals	A4i, B1i, C3
<i>Tringa totanus</i> (Redshank)	1987	breeding	400	400	breeding pairs	B2

Protection: National None International High. 5,788 ha of IBA covered by Special Protection Area (River Shannon Callows: Portumna to Athlone, 5,788 ha).

Conservation issues: The callows are threatened by changes in farming practice, mainly intensification, with serious implications for breeding birds, particularly *Crex crex*. BirdWatch Ireland, with support from NPW and RSPB, operates a grant scheme to encourage farming practices that favour *Crex crex*, and breeding numbers have recently stabilized. However, problems remain due to earlier mowing of hay and the replacement of hay with silage (which involves earlier mowing, increased use of fertilizer, and multiple cuts per year). Further, an extension of the grazing season and higher stocking rates have increased the risk of disturbance to breeding waders. The River Shannon is of high recreational value, being used by anglers, water- and jet-skiers, and for boating holidays (motor-cruisers), all of which may cause some disturbance to birds. Pressure to develop the recreation potential of the river has increased, with particular pressure for marina developments away from existing towns. Siltation of the river due to extensive mechanical peat extraction within the surrounding area is a further threat. Athlone town is expanding, with increasing pressure for drainage of callow habitat. BirdWatch Ireland own a reserve at Bullock and Bishops Island on the callows (3 ha).

Threat	Importance
agricultural intensification/expansion	high
disturbance to birds	medium
drainage	low
extraction industry	unknown
industrialization/urbanization	medium
recreation/tourism	low

River Little Brosna Callows: New Bridge-River Shannon IE132

Area: 1154

Latitude: 53.1333 **Longitude:** -8.05

State(s): Midlands/ South East

Site criteria: (proposed) A4i, A4iii, B1i, B2, B3, C2, C3, C4 (confirmed)

Description: This site follows the Little Brosna river from its junction with the River Shannon callows (site 131) for 9 km south-eastwards to just beyond New Bridge. It is situated 6 km north-west of Birr, in Counties Offaly and Tipperary. The main habitat is callow (low-lying, semi-natural, wet grassland), which is seasonally flooded between October and April.

Birds: This is an internationally important wetland, regularly supporting over 20,000 wintering waterfowl. Additional species wintering in numbers of national importance include *Anas platyrhynchos* (700 birds, 1996), *Anas acuta* (250 birds, 1996), *Anas clypeata* (200 birds, 1996), *Pluvialis apricaria* (8,100 birds, 1996), *Vanellus vanellus* (6,500 birds, 1995) and *Calidris alpina* (1,250 birds, 1995). Until recently *Crex crex* were breeding (2 pairs, 1993).

Species	Year	Season	Min	Max	Units	Confirmed
<i>Cygnus cygnus</i> (Whooper Swan)	1995	winter	178	178	individuals	B1i, B3, C2
<i>Cygnus columbianus</i> (Bewick's Swan)	0	winter	100	250	individuals	A4i, B1i, B2, C2
<i>Anser albifrons flavirostris</i> (Greenland White-fronted Goose)	1996	winter	566	566	individuals	B1i, C3
<i>Anas penelope</i> (Wigeon)	1996	winter	14000	14000	individuals	B1i, C3
<i>Anas crecca</i> (Teal)	1996	winter	4000	4000	individuals	B1i, C3
<i>Limosa limosa</i> (Black-tailed Godwit)	1995	winter	4300	4300	individuals	A4i, B1i, C3

Protection: National None International High. 1,154 ha of IBA covered by Special Protection Area (River Little Brosna Callows: New Bridge-River Shannon, 1,154 ha).

Threat	Importance
agricultural intensification/expansion	medium
disturbance to birds	medium
drainage	low

Conservation issues: *Crex crex* is highly sensitive to changes in farming practice. The intensification of farming, with earlier mowing and the replacement of hay with silage (involving earlier mowing, increased use of fertilizer, and multiple silage cuts), is likely to have caused

the decline and eventual absence of breeding *Crex crex* from this site. Further, an extension of the grazing season and higher stocking rates have increased the risk of disturbance to breeding waders. Disturbance to wintering birds is minimized by the bogland to the south of the site, which serves to isolate it. However, wildfowling on parts of the site is likely to cause disturbance.

All Saints bog IE133

Area: 326

Latitude: 53.1167

Longitude: -7.9333

State(s): Midlands

Site criteria: (proposed) B1i, C3 (confirmed)

Description: All Saints bog is a lowland raised bog lying about 5 km north-west of Birr, County Offaly. It includes a wooded section with birch *Betula* and also areas of cutaway and drained bog. Peat-cutting ('Other' land-use) takes place in parts of the site.

Birds: *Anser albifrons flavirostris* uses this site as a refuge from the adjacent Little Brosna callows (site 132).

Species	Year	Season	Min	Max	Units	Confirmed
<i>Anser albifrons flavirostris</i> (Greenland White-fronted Goose)	1994	winter	555	555	individuals	B1i, C3

Habitat	Cover
shrubland	5
wetland	95
Land use	Cover
nature conservation and research	100
other	20

Protection: National None International High. 326 ha of IBA covered by Special Protection Area (All Saints bog, 326 ha).

Threat	Importance
disturbance to birds	low
extraction industry	medium

Conservation issues: The site has been damaged by continuing commercial peat extraction. The site lies within a proposed candidate Special Area for Conservation (All Saints Bog; area not known).

Mongan bog IE134

Area: 129

Latitude: 53.3167

Longitude: -7.95

State(s): Midlands

Site criteria: (proposed) C7 (confirmed)

Description: Mongan bog is a raised bog situated immediately east of the monastic site of Clonmacnoise and 12 km south of Athlone in County Offaly. Lying in a basin, it is surrounded mainly by high ground, including an esker ridge, and comprises a well-developed system of hummocks, pools and Sphagnum lawns.

Birds: This site was formerly important for wintering *Anser albifrons flavirostris*, although it is now only occasionally visited by this species. Other species which are listed on Annex I of the EC Birds Directive occasionally seen at this site are *Falco peregrinus*, *Falco columbarius* and *Circus cyaneus*.

Protection: National High International High. 119 ha of IBA covered by Reserve (Mongan Bog, 119 ha). 129 ha of IBA covered by Ramsar Site (Mongan Bog, 129 ha). 129 ha of IBA covered by Special Protection Area (Mongan Bog, 129 ha). 117 ha of IBA covered by Biogenetic Reserve (Mongan Bog, 117 ha).

Conservation issues: No threats are known. This site is almost entirely privately-owned by An Taisce (it is a private, non-statutory reserve) and has been intensively researched since 1972. The area lies within a proposed candidate Special Area for Conservation (Mongan Bog; area not known).

Habitat	Cover
wetland	100
Land use	Cover
nature conservation and research	100

Lough Iron-Glen Lough IE135

Area: 263

Latitude: 53.6167

Longitude: -7.4833

State(s): Midlands

Site criteria: (proposed) B1i, B2, B3, C2, C3 (confirmed)

Description: Glen Lough is situated approximately 5 km north-west of Lough Iron, and is connected to it via the Black River. Both lakes are located in County Westmeath and have suffered drastic drops in water-level subsequent to drainage in the 1960s. As a result both lakes are now occupied by freshwater marsh, with little surface water except when winter flooding occurs. Parts of both lakes have also suffered from the planting of conifers and both are surrounded by farmland. Reedbed fringes, and is encroaching further into, Lough Iron, while Glen Lough supports *Salix* scrub, reed-swamp, dry grassland, cutaway bog and fen. Wildfowling occurs at both sites.

Birds: In recent years numbers of wintering swans *Cygnus* and *Anser albifrons flavirostris* have declined at Glen Lough. Birds of the latter species also use Lough Ennell (site 140), Lough Owel (site 139), Lough Derravaragh (site 138) and Garriskil bog (site 136). Dabbling duck

Habitat	Cover
artificial landscapes	30
grassland	20
shrubland	10
wetland	40
Land use	Cover
agriculture	60
forestry	10
hunting	30

occur in large numbers and this is one of the most important sites in Ireland for wintering *Anas clypeata* (159 birds, 1996). Other species occurring in numbers of national importance are *Anas penelope* (3,118 birds, 1995), *Anas crecca* (950 birds, 1995), *Aythya fuligula* (350 birds, 1995), *Fulica atra* (370 birds, 1996), *Pluvialis apricaria* (5,300 birds, 1996) and *Vanellus vanellus* (7,000 birds, 1995).

Species	Year	Season	Min	Max	Units	Confirmed
<i>Cygnus cygnus</i> (Whooper Swan)	1995	winter	248	248	individuals	B1i, B3, C2
<i>Cygnus columbianus</i> (Bewick's Swan)	1989	winter	10	20	individuals	B2
<i>Anser albifrons flavirostris</i> (Greenland White-fronted Goose)	1996	winter	408	408	individuals	B1i, C3

Protection: National Partial International High. 182 ha of IBA covered by Wildfowl Sanctuary (Lough Iron, 182 ha). 263 ha of IBA covered by Ramsar Site (Lough Iron–Glen Lough, 263 ha). 81 ha of IBA covered by Special Protection Area (Glen Lough, 81 ha). 82 ha of IBA covered by Special Protection Area (Lough Iron, 182 ha).

Threat	Importance
afforestation	low
disturbance to birds	low
drainage	high

Conservation issues: In 1997 the Office of Public Works completed maintenance drainage at Glen Lough which resulted in less frequent winter flooding over shorter periods. A complaint in relation to this damage was made to the European Commission. Restoration measures are now in place, though their success is yet to be determined. Also within Glen Lough the area where *Anser albifrons flavirostris* used to feed has been planted with conifers. At both lakes disturbance to birds is likely due to wildfowling.

Garriskil bog IE136

Area: 324

Latitude: 53.6667 **Longitude:** -7.45

State(s): Midlands

Site criteria: (proposed) B1i, C3 (confirmed)

Habitat	Cover
wetland	100
Land use	Cover
nature conservation and research	80
water management	20

Description: A raised bog situated 3 km west of Lough Derravaragh (site 138) and 3 km east of the village of Rathowen, in County Westmeath. It is bounded to the south-west by the Inny and Riffey rivers. The site comprises a well-developed system of pools and hummocks and there are some areas of cutaway bog which have drier heathland vegetation. Human use of the site is low.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Anser albifrons flavirostris</i> (Greenland White-fronted Goose)	1996	winter	408	408	individuals	B1i, C3

Birds: This site was designated as a Special Protection Area based on its use by *Anser albifrons flavirostris flavirostris*—the same flock that uses Lough Iron–Glen Lough (site 135), Lough Derravaragh (site 138), Lough Owel (site 139) and Lough Ennel (site 140).

Protection: National None International High. 324 ha of IBA covered by Ramsar Site (Garriskil bog; area not known). 324 ha of IBA covered by Special Protection Area (Garriskil Bog, 324 ha).

Threat	Importance
burning of vegetation	low
drainage	low

Conservation issues: This site has been damaged in the past by peat-cutting and burning. Further damage by drainage has been reduced as the drains have now been blocked. Most of the site is now owned by NPW and managed for nature conservation. The area lies within a proposed candidate Special Area for Conservation (Garriskil Bog; area not known).

Lough Sheelin IE137

Area: 1885

Latitude: 53.8 **Longitude:** -7.3333

State(s): Midlands/ East/ North East

Site criteria: (proposed) C7 (confirmed)

Habitat	Cover
forest	5
wetland	95
Land use	Cover
tourism/recreation	100

Description: Situated south of Cavan town, Lough Sheelin is part of the Inny sub-catchment of the Shannon system, lying north-east of Loughs Kinale/Derragh (site 124) into which it drains. Raised bogs surround the lake and there are two wooded islands. The lake is used for angling.

Birds: Lough Sheelin is one of the most important wintering sites in Ireland for *Podiceps cristatus* (140 birds, 1996), *Aythya ferina* (635 birds, 1985), *Aythya fuligula* (1,125 birds, 1996) and *Bucephala clangula* (219 birds, 1996), which all occur in nationally important numbers.

Protection: National None International High. 1,885 ha of IBA covered by Special Protection Area (Lough Sheelin, 1,885 ha).

Conservation issues: Since the 1970s the lake has suffered periodic heavy agricultural pollution, although water quality is now approaching its natural nutrient-poor status.

Threat	Importance
agricultural intensification/expansion	high

Lough Derravaragh IE138

Area: 1120

Latitude: 53.65 **Longitude:** -7.3333

State(s): Midlands

Site criteria: (proposed) B1i, B3, C3 (confirmed)

Description: Lough Derravaragh is located approximately 12 km north of Mullingar town, in County Westmeath. The River Inny flows into and out of the north-west end of the lake, which is wide and shallow with extensive reedbed and swamp, backed by small areas of raised bog. The south-east arm of the lake is long and narrow, with freshwater marsh and fen. The lake is important for fishing and is used for water-sports.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Cygnus cygnus</i> (Whooper Swan)	1996	winter	108	108	individuals	B3
<i>Anser albifrons flavirostris</i> (Greenland White-fronted Goose)	1996	winter	408	408	individuals	B1i, C3
<i>Aythya ferina</i> (Common Pochard)	1996	winter	3701	3701	individuals	B1i, C3

Birds: The same flock of *Anser albifrons flavirostris* also uses sites 135, 136, 139 and 140. Other species which occur in numbers of national importance are *Tachybaptus ruficollis* (34 birds, 1996), *Cygnus olor* (128 birds, 1996), *Aythya fuligula* (1,800 birds, 1996) and *Fulica atra* (643 birds, 1996).

Protection: National None International High. 1,120 ha of IBA covered by Ramsar Site (Lough Derravaragh, 1,120 ha). 1,120 ha of IBA covered by Special Protection Area (Lough Derravaragh, 1,120 ha).

Threat	Importance
agricultural intensification/expansion	high
recreation/tourism	medium

Conservation issues: Nutrient pollution, due to agricultural intensification, threatens habitat quality. There is increasing pressure on the site due to recreation activities and wildfowling may cause some disturbance to birds.

Lough Owel IE139

Area: 1032

Latitude: 53.5667 **Longitude:** -7.4

State(s): Midlands

Site criteria: (proposed) B1i, C3 (confirmed)

Description: Lough Owel is a large calcareous lake located north-west of Mullingar in County Westmeath. It is relatively shallow with a rocky, marl-covered bottom, and a rocky shoreline with patchy vegetation. Marsh and fen areas are present in the south-western and northern corners of the lake, and the surrounding farmland is used by geese *Anser*. Fishing, especially for trout, is popular at this site.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Anser albifrons flavirostris</i> (Greenland White-fronted Goose)	1996	winter	408	408	individuals	B1i, C3

Birds: *Anser albifrons flavirostris* occurs in numbers of international importance; the birds also use Lough Ennell (site 140), Lough Iron–Glen Lough (site 135), Lough Derravaragh (site 138) and Garriskil bog (site 136). Other waterfowl species which winter in numbers of national importance are *Anas clypeata* (268 birds, 1996), *Aythya fuligula* (500 birds, 1995), *Aythya ferina* (500 birds, 1995), *Bucephala clangula* (195 birds, 1995) and *Fulica atra* (2,500 birds, 1996).

Protection: National None International High. 1,032 ha of IBA covered by Ramsar Site (Lough Owel, 1,032 ha). 1,032 ha of IBA covered by Special Protection Area (Lough Owel, 1,032 ha).

Conservation issues: Possible threats include increasing abstraction for water-supply to Mullingar, resulting in a lowering of the lake's water-level. Nutrient pollution due to agricultural intensification and pressure from recreational boating and fishing may also adversely impact on the site.

Threat	Importance
agricultural intensification/expansion	medium
aquaculture/fisheries	medium
drainage	medium
recreation/tourism	low

Lough Ennell IE140

Area: 1404

Latitude: 53.4667 **Longitude:** -7.4

State(s): Midlands

Site criteria: (proposed) B1i, C3 (confirmed)

Description: A large open, steep-sided but shallow limestone lake, situated 3 km south of Mullingar in County Westmeath. The Brosna river flows into the lake from the north. There are limited areas of reedbed

Habitat	Cover
forest	10
shrubland	10
wetland	80
Land use	Cover
agriculture	20
fisheries/aquaculture	60
tourism/recreation	60

and scrub and a number of small wooded islands. Calcareous grassland has colonized parts of the former lake bed. The site is used for angling, boating and camping, and some sections are managed for visitor access.

Species	Year	Season	Min	Max	Units	Confirmed
<i>Cygnus olor</i> (Mute Swan)	1987	winter	424	424	individuals	B1i
<i>Anser albifrons flavirostris</i> (Greenland White-fronted Goose)	1996	winter	408	408	individuals	B1i, C3

Birds: This site supports internationally important numbers of *Anser albifrons flavirostris*, which also use Lough Owel (site 139), Lough Iron–Glen Lough (site 135), Lough Derravaragh (site 138) and Garriskil bog (site 136).

Protection: National None International High. 1,404 ha of IBA covered by Ramsar Site (Lough Ennell, 1,404 ha). 1,404 ha of IBA covered by Special Protection Area (Lough Ennell, 1,404 ha).

Threat	Importance
agricultural intensification/expansion	medium
industrialization/urbanization	medium
Recreation/ tourism	medium

Conservation issues: Past discharge of effluent from the Mullingar sewage-treatment plant (now upgraded), together with fertilizer input from surrounding farmland, have had a negative impact on water quality.

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