



**Comhairle Contae Fhine Gall**  
Fingal County Council

# HOWTH HEAD

## BREEDING BIRD SURVEYS 2018

**FINAL REPORT**  
**July 2018**



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## Contents

SUMMARY .....	3
1. INTRODUCTION .....	4
2. STATEMENT OF COMPETENCE .....	4
3. SITE LOCATION AND SURVEY AREAS .....	4
4 METHODS .....	6
4.1 Desktop review.....	6
4.2 Field Surveys .....	6
4.3 Public Guided Walk .....	8
5 RESULTS.....	8
5.1 Breeding species.....	8
5.2 Habitat preferences .....	11
5.2.1 Scrub .....	12
5.2.2 Heathland and dense bracken .....	13
5.2.3 Grassland .....	13
5.2.4 Woodland.....	14
5.2.5 Other habitats.....	14
5.3 Historical information .....	14
6 MANAGEMENT RECOMMENDATIONS .....	14
6.1 Pathway management .....	14
6.2 Grassland management .....	14
6.3 Creation of firebreaks.....	15
6.4 Gorse clearance.....	15
6.5 Rhododendron control.....	15
6.6 Woodland regeneration .....	16
REFERENCES .....	16
APPENDIX 1: Scientific names of all bird species .....	17

## SUMMARY

Three breeding bird surveys were undertaken in the 2018 breeding season at five sites on Howth Head, Co. Dublin. The surveys were carried out to inform Fingal County Council on habitat management strategies that will have the greatest positive impact on breeding bird populations in forthcoming years. The five sites contain a variety of habitats including exposed rock, grassland, heathland, dense bracken, scrub, mature woodland, treelines and hedges. Invasive *Rhododendron* is extensive on one of the sites, Sheilmartin. The survey did not cover any sea-cliff habitats and excluded all seabird species.

A total of 39 breeding bird species was recorded within the five sites. Not all species were encountered at all sites with East Mountain holding the highest number of species and Bellingham's Farm holding the lowest number. This difference may have been due to the difference in size of the sites and the contrasting range of habitats available. The majority of species encountered showed strong breeding evidence in at least one site with approximately one third of species exhibiting weak evidence of breeding across all five sites. All of the species recorded are common and widespread in suitable habitats in Ireland. Only one species, Meadow Pipit, is red-listed (high conservation concern) with a further 10 species being amber-listed (moderate conservation concern). Meadow Pipit was found in all five sites during this survey.

Nesting habitat preferences are given for all species encountered. Woodland and scrub held the greatest number of breeding species with heath and grassland holding fewer species due largely to lack of cover. Only Meadow Pipit and Skylark were recorded nesting in grassland while heathland also held several additional species such as Wren and Wheatear. Gorse scrub was used for nesting by a number of other species including Stonechat, Linnet, Whitethroat, Willow Warbler and Lesser Redpoll in addition to a range of commoner species. The small areas of woodland held the largest number of typical species such as Woodpigeon, Chaffinch, Blackcap, Blackbird, Song Thrush, Wren, Great Tit and Sparrowhawk.

Recommendations are made for conservation management on several of the sites in order to increase the diversity of the habitats and their associated bird species. Other measures are required for public access, fire control and removal of invasive species. Specific recommendations are given for grassland management, pathway management, creation of firebreaks, gorse management, woodland regeneration and *Rhododendron* control.

## 1. INTRODUCTION

Three breeding bird surveys were undertaken in the 2018 breeding season at five sites on Howth Head, Co. Dublin. The surveys were carried out to inform Fingal County Council on habitat management strategies that will have the greatest positive impact on breeding bird populations in forthcoming years. Particular attention is given to those species listed in the amber or red categories of the Birds of Conservation Concern in Ireland 2014-2019 (Colhoun and Cummins 2013).

## 2. STATEMENT OF COMPETENCE

The surveys were undertaken by a team of three ornithologists organised by Natura Environmental Consultants. **Richard Nairn** holds an MSc in Zoology and a Fellowship of the Chartered Institute of Ecology and Environmental Management. He is also a Chartered Environmentalist. He has over 40 years experience in bird surveys of all types in Ireland. He has published extensively in the scientific literature and is editor of the book *Bird Habitats in Ireland* (2012). **John Fox** holds an honours diploma in Field Ecology from University College Cork in 2014. He is a regular participant in the I-WeBS survey of Dublin Bay and he has taken part in the Countryside Bird Survey since 2008. He has worked on many breeding bird surveys in the Dublin area. **Tim Nairn** holds a BSc degree in Zoology. He has studied the breeding biology of seabirds in the Sechelles, Indian Ocean. He has trained in breeding bird survey methods and GIS applications in ecology. He is also proficient in data analysis and presentation of maps in GIS.

## 3. SITE LOCATION AND SURVEY AREAS

The study area is located on Howth Head, Co. Dublin comprises five discreet sites as indicated in Figure 1.



Figure 1. Breeding bird survey areas on Howth Head (1. Redrock; 2. Bellingham's Farm; 3. Sheilmartin; 4. Summit; 5. East Mountain)



**Site 1: Redrock**

This site is publicly-owned land along the south-west coast of Howth Head and is comprised of exposed rock, grassland, heathland, dense bracken, scrub, mature woodland, treelines and hedges. The grassland is largely comprised of dry meadows and grassy verges (GS1)<sup>1</sup> with some species-rich areas that correspond to the habitat ‘Lowland hay meadows (*Alopecurus pratensis*, *Sanguisorba officinalis*)’ listed in Annex 1 of the EU Habitats Directive (Directive 92/43/EEC, amended by Directive 97/62/EC). The criteria and indicators for this classification are given by O’Neill *et al.* (2013). The small woodland area (WD2) is dominated by mature Scot’s Pine (*Pinus sylvestris*). There is a significant area of dense gorse (*Ulex europaeus*) scrub (WS1) and exposed siliceous rock (ER1) in the southeast corner of the site.



*Exposed rock, heathland and gorse scrub at Redrock*

**Site 2: Bellingham’s Farm**

This is the only site included in the surveys that is not open to the public and is also the smallest of the survey sites. It is located just south of Site 1 along the southwest coast of Howth Head. The sections accessible for surveys consist primarily of improved agricultural grassland (GA1) that surrounds several private properties including gardens and small areas with mature trees. An area of dense gorse scrub (WS1) occupies approximately one third of the site due to lack of grazing but this is mostly inaccessible. This site boundary does not extend to the rocky shore of the coast.

**Site 3: Sheilmartin**

This site is a hill backing onto Howth Golf course to the north, comprising of mostly heathland (HH1), scrub vegetation and trees of varying ages. The scrub vegetation (WS1) is uniform for the majority of the site, being dominated by gorse. There is an extensive area of invasive *Rhododendron ponticum* on the southern slopes of the site and some areas of exposed rock, mostly at the summit. Immature trees on site include Birch. At the south-eastern boundary, the site borders some private gardens with mature trees.

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<sup>1</sup> Habitat codes are given in Fossitt (2000)

#### Site 4: Summit

This site consists of a relatively large area around the summit (The Ben of Howth), between Howth Golf Course and Howth Castle Demesne. The site is dominated by a mosaic of heath (HH1) and scrub vegetation (WS1) of heather (*Calluna vulgaris*) and gorse. For the majority of the site the scrub is immature but areas of dense, more mature vegetation do exist, especially in the eastern section. The site contains some areas of naturally regenerating immature woodland, notably Downy Birch. The site backs onto privately owned mature woodland along the northern edge and in the southwest corner. Artificial structures (radio masts) exist at the three summit points and a tarmac road is present on-site, along with one private house and surrounding garden with mature trees.



*Heathland and young birch woodland on the northern side of the Summit*

#### Site 5: East Mountain

This is the largest of the survey sites and comprises a long, narrow area sloping down to the east-facing cliffs of Howth Head, which border the site from Balscadden to the Baily lighthouse at the south-east corner. The site is dominated by coastal siliceous heath (HH1), gorse scrub (WS1), dry meadows and grassy verges (GS1) with some small areas of rocky outcrops and private buildings with gardens. There are also well-worn walking paths throughout the site.

## 4 METHODS

### 4.1 Desktop review

A desktop review was undertaken to search for any records of breeding birds at Howth Head. This included a review of data from the National Biodiversity Data Centre (NBDC), Fingal County Council Biodiversity website, *East Coast Bird Reports 1974-2003* and *The Birds of Dublin and Wicklow* (Hutchinson 1975).

### 4.2 Field Surveys

The methods employed during this study are detailed below. Three visits were made to each of the sites over the breeding season, from late-April to early-June, separated by approximately two weeks. Surveys aimed to collect the following information, in order of priority:

- A comprehensive list of bird species occurring in the breeding season within each of the survey areas.
- Identification of any species of particular conservation significance.
- An indication of the abundance of these species.
- The breeding status of each species recorded.

All five survey areas were comprehensively walked at moderate to slow pace, interspersed with stationary 5-minute observations at regular intervals, particularly in more dense vegetation. Efforts were made to visit all habitats present. This survey method was designed to maximise the detection of bird species visually and/or by identification of territorial song.

Surveys began in early morning, shortly after dawn, and were generally completed by mid-morning. The aim was to detect as many species as possible and bird song reaches a maximum at this time of day. No night time surveys were conducted to survey for nocturnal species. On each visit, the order of visiting the three survey areas was varied in order to reduce biases due to varying diurnal activity. Individual surveyors were rotated around the sites throughout the survey period to ensure that individual abilities were evenly spread throughout the sites. Surveys were conducted in calm and fine weather conditions to maximise detections.

All registrations of birds were recorded on maps, along with behaviours indicating breeding or territoriality. Confirmation of breeding status was assigned according to the codes used in the latest *Bird Atlas 2017-11* (Balmer *et al.* 2013) and presented in Table 1. Mapping of records assisted with efforts to avoid double counting individuals and allowed for subsequent discrimination of species by habitat. Juvenile birds were noted as confirmation of breeding. Species flying over the study areas were counted but marked as being in flight only. The likelihood of these species breeding on site was assessed by professional judgement. Following each survey, the table of results was populated or updated on the same day so that any potential issues arising were fresh in memory.

**Table 1: Categorisation of Breeding Status (after Balmer *et al.* 2013).**

<b>Breeding Status</b>	<b>Code</b>	<b>Description for Code</b>
<b>NON-BREEDING</b>	<b>F</b>	Flying over
	<b>M</b>	Species observed but suspected to be still on migration
	<b>U</b>	Species observed but suspected to be summering non-breeder
<b>POSSIBLE</b>	<b>H</b>	Species observed in breeding season in suitable nesting Habitat
	<b>S</b>	Singing male present (or breeding calls heard) in breeding season in suitable breeding habitat
<b>PROBABLE</b>	<b>P</b>	Pair observed in suitable nesting habitat in breeding season
	<b>T</b>	Permanent Territory presumed through registration of territorial behaviour (song etc) on at least two different days a week or more apart at the same place or many individuals on one day
	<b>D</b>	Courtship and display (judged to be in or near potential breeding habitat; be cautious with wildfowl)
	<b>N</b>	Visiting probable nest site
	<b>A</b>	Agitated behaviour or anxiety calls from adults, suggesting probable presence of nest or young nearby

<b>Breeding Status</b>	<b>Code</b>	<b>Description for Code</b>
	<b>I</b>	Brood patch on adult examined in the hand, suggesting incubation
	<b>B</b>	Nest building or excavating nest-hole
<b>CONFIRMED (CO)</b>	<b>DD</b>	Distraction-display or injury feigning
	<b>UN</b>	Used nest or eggshells found (occupied or laid within period of survey)
	<b>FL</b>	Recently fledged young (nidicolous species) or downy young (nidifugous species). Careful consideration should be given to the likely provenance of any fledged juvenile capable of significant geographical movement. Evidence of dependency on adults (e.g. feeding) is helpful. Be cautious, even if the record comes from suitable habitat.
	<b>ON</b>	Adults entering or leaving nest-site in circumstances indicating occupied nest (including high nests or nest holes, the contents of which cannot be seen) or adults seen incubating
	<b>FF</b>	Adult carrying faecal sac or food for young
	<b>NE</b>	Nest containing eggs
	<b>NY</b>	Nest with young seen or heard

### 4.3 Public Guided Walk

A guided walk for the public was held at Redrock on the evening of 3<sup>rd</sup> June 2018. This was attended by at least 70 people and was led by experienced ornithologists who identified any birds present and gave the participants an understanding of the conservation management measures required.

## 5 RESULTS

### 5.1 Breeding species

The evidence for breeding of each bird species in each of the five sites is given in Table 2.

**Table 2: Breeding evidence for bird species at five sites on Howth Head, 2018 (see explanation in Table 1)**

<b>Species<sup>2</sup></b>	<b>1. Red Rock</b>	<b>2.Bellinghams Farm</b>	<b>3.Sheilmartin</b>	<b>4.Summit</b>	<b>5.East Mountain</b>
Blackbird	Probable	Probable	Possible	Probable	Probable
Blackcap	Probable	Possible	Possible	Possible	Probable
Bullfinch	-	-	Probable	Possible	Probable
Blue Tit	Possible	Possible	Possible	Possible	Probable
Chiffchaff	Possible	-	-	Possible	-
Chaffinch	Possible	Possible	Probable	Probable	Possible
Coal Tit	Possible	Probable	Possible	Possible	-
Dunnock	Probable	Possible	Possible	Possible	Probable
Feral Pigeon	-	-	-	-	Possible
Goldfinch	Possible	-	Possible	-	-
Greenfinch	-	-	Possible	-	-

<sup>2</sup> Scientific names of all bird species are given in Appendix 1.



Species <sup>2</sup>	1. Red Rock	2. Bellinghams Farm	3. Sheilmartin	4. Summit	5. East Mountain
Great Tit	Probable	Possible	Possible	Possible	Possible
Hooded Crow	Probable	Possible	Probable	Probable	Probable
House Sparrow	Possible	-	-	-	-
Jackdaw	-	-	Probable	Probable	-
Kestrel	Possible	Possible	-	-	Possible
Linnet	Probable	Probable	Probable	Probable	Probable
Lesser Redpoll	-	-	-	Possible	Possible
Mistle Thrush	-	-	-	-	Possible
Magpie	Probable	Probable	Possible	Probable	Probable
Meadow Pipit	Probable	Possible	Confirmed	Confirmed	Probable
Pheasant	Possible	Probable	-	Possible	Probable
Pied Wagtail	-	-	-	Possible	Possible
Robin	Possible	Possible	Confirmed	Possible	Possible
Reed Bunting	-	Possible	Probable	-	Possible
Rock Pipit	-	Possible	-	-	-
Raven	-	-	-	-	Probable
Rook	-	-	-	-	Probable
Skylark	-	-	Possible	-	-
Stonechat	Possible	-	-	-	Probable
Starling	-	-	-	-	Probable
Sparrowhawk	Possible	-	-	Possible	-
Swallow	Possible	-	-	-	Possible
Song Thrush	Probable	Possible	Possible	Possible	Possible
Wheatear	-	-	-	-	Possible
Whitethroat	-	Confirmed	Possible	-	Probable
Woodpigeon	Probable	Possible	Confirmed	Possible	Possible
Wren	Probable	Probable	Probable	Probable	Probable
Willow Warbler	Possible	-	Possible	Probable	Possible
<b>No. of species</b>	<b>23</b>	<b>20</b>	<b>23</b>	<b>23</b>	<b>31</b>

A total of 39 bird species was recorded within the five sites. Not all species were encountered at all five sites with Site 5 (East Mountain) holding the highest number of species recorded and Site 2 (Bellingham's Farm) holding the lowest number. This difference may have been due to the difference in size of the sites and the contrasting range of habitats available. The majority of species encountered (67%) showed strong breeding evidence ('probable' or 'confirmed' breeding status) in at least one site with approximately one third of species (33%) exhibiting weak evidence of breeding ('possible' breeding status) across all five sites. All of the species recorded are common and widespread in suitable habitats in Ireland (Nairn and O'Halloran 2012).



Meadow Pipit (Photo: John Fox)



Skylark (Photo: John Fox)

The level of national conservation concern (Colhoun and Cummins 2013) and relative abundance of each species is outlined in Table 3. Only one species, Meadow Pipit, is red-listed (high conservation concern) with a further 10 species being amber-listed (moderate conservation concern). Meadow Pipit was found in all five sites during this survey. Abundance categories are given in a footnote to Table 3.

Relatively scarce species in this study were

**One site:** House Sparrow, Mistle Thrush, Skylark, Sparrowhawk, Wheatear.

**Two sites:** Chiffchaff, Goldfinch, Jackdaw, Lesser Redpoll, Pied Wagtail, Sparrowhawk, Stonechat, Swallow.

**Table 3: Level of national conservation concern and abundance of all breeding bird species at five sites on Howth Head, 2018**

Species <sup>3</sup>	BoCCI National Level of Conservation Concern <sup>4</sup>	Abundance*				
		1. Red Rock	2. Bellinghams Farm	3. Sheilmartin	4. Summit	5. East Mountain
Blackbird	Not listed	Abundant	Frequent	Frequent	Abundant	Abundant
Blackcap	Not listed	Frequent	Occasional	Occasional	Occasional	Frequent
Bullfinch	Not listed			Rare	Rare	Rare
Blue Tit	Not listed	Rare	Rare	Rare	Rare	Occasional
Chiffchaff	Not listed	Rare			Rare	
Chaffinch	Not listed	Frequent	Occasional	Frequent	Frequent	Frequent
Coal Tit	Not listed	Rare	Rare	Rare	Rare	
Dunnock	Not listed	Rare	Rare	Frequent	Frequent	Abundant
Feral Pigeon	Not listed					Occasional
Goldfinch	Not listed	Occasional		Rare		

<sup>3</sup> Scientific names of all bird species are given in Appendix 1.

<sup>4</sup> BoCCI = Birds of Conservation Concern in Ireland (Colhoun & Cummins 2013)

Species <sup>3</sup>	BoCCI National Level of Conservation Concern <sup>4</sup>	Abundance*				
		1. Red Rock	2. Bellinghams Farm	3. Sheilmartin	4. Summit	5. East Mountain
Greenfinch	Amber			Rare		
Great Tit	Not listed	Frequent	Occasional	Occasional	Occasional	Occasional
Hooded Crow	Not listed	Frequent	Occasional	Occasional	Frequent	Abundant
House Sparrow	Amber	Rare				
Jackdaw	Not listed			Rare	Occasional	
Kestrel	Amber	Rare	Rare			Rare
Linnet	Amber	Frequent	Frequent	Abundant	Occasional	Abundant
Lesser Redpoll	Not listed				Occasional	Rare
Mistle Thrush	Amber					Rare
Magpie	Not listed	Frequent	Frequent	Occasional	Frequent	Abundant
Meadow Pipit	Red	Rare	Rare	Abundant	Frequent	Abundant
Pheasant	Not listed	Rare	Rare		Rare	Occasional
Pied Wagtail	Not listed				Rare	Rare
Robin	Amber	Frequent	Frequent	Frequent	Occasional	Frequent
Reed Bunting	Not listed		Rare	Rare		Rare
Rock Pipit	Not listed		Rare			
Raven	Not listed					Rare
Rook	Not listed					Occasional
Skylark	Amber			Rare		
Stonechat	Amber	Rare				Frequent
Starling	Not listed					Frequent
Sparrowhawk	Amber				Rare	
Swallow	Amber	Frequent				Rare
Song Thrush	Not listed	Frequent	Occasional	Abundant	Occasional	Occasional
Wheatear	Amber					Rare
Whitethroat	Not listed		Rare	Rare		Frequent
Woodpigeon	Not listed	Abundant	Occasional	Frequent	Occasional	Occasional
Wren	Not listed	Abundant	Abundant	Abundant	Abundant	Abundant
Willow Warbler	Not listed	Occasional	-	Abundant	Abundant	Occasional

\* Abundance: Rare (1 bird); Occasional (2-5 birds); Frequent (6-10 birds); Abundant (>10 birds)

## 5.2 Habitat preferences

The main habitat preferences are given in Table 4 and are described below. This is based on direct observation in this study and literature sources (e.g. Nairn & O'Halloran 2012).

Table 4. Habitat preferences of all breeding species

Species	Main Habitat Preferences	Species	Main Habitat Preferences	Habitat codes	Habitat category (Fossitt 2000) levels 1 & 2
Blackbird	WD,WS,B	Meadow Pipit	H,GS	WD	Woodland
Blackcap	WD,WS	Pheasant	WD,WS	WS	Scrub
Bullfinch	WD,WS	Pied Wagtail	B	GA	Improved grassland
Blue Tit	WD,WS,B	Robin	WD,WS,B	GS	Semi-natural grassland
Chiffchaff	WD,WS	Reed Bunting	WS	B	Gardens and buildings
Chaffinch	WD,WS,B	Rock Pipit	CS	CS	Rocky cliffs
Coal Tit	WD,WS	Raven	WD,CS	H	Heath and bracken
Dunnock	WD,WS,B	Rook	WD,B		
Feral Pigeon	CS,B	Skylark	H,GS		
Goldfinch	WD,WS,B	Stonechat	H,WS,		
Greenfinch	WD,WS,B	Starling	B,CS		
Great Tit	WD,WS,B	Sparrowhawk	WD,B		
Hooded Crow	WD,B	Swallow	B		
House Sparrow	B	Song Thrush	WD,WS,B		
Jackdaw	CS,B	Wheatear	H,CS		
Kestrel	CS,WD	Whitethroat	H,WS		
Linnet	H,WS	Woodpigeon	WD,WS,B		
Lesser Redpoll	H,WS	Wren	H,WD,WS,B		
Mistle Thrush	WD,WS,B	Willow Warbler	WD,WS,B		
Magpie	WD,WS,B				



Stonechat male (Photo: John Fox)



Linnet juvenile (Photo: John Fox)

### 5.2.1 Scrub

The following species were recorded breeding in scrub, mainly gorse: Blackbird, Blue Tit, Bullfinch, Chiffchaff, Chaffinch, Coal Tit, Dunnock, Great Tit, Lesser Redpoll, Linnet, Mistle Thrush, Magpie, Pheasant, Robin, Reed Bunting, Rook, Song Thrush, Stonechat, Whitethroat, Woodpigeon, Wren. Of these species, Lesser Redpoll, Linnet and Stonechat are especially associated with scrub. They use the gorse as a song-post and forage on the ground in clearings. Stonechat is primarily found in coastal habitats in eastern Ireland (Balmer *et al.*



2013). It was previously noted as a significant breeding species on Howth Head in 2004 but was found in lower numbers here than in some other coastal sites within Fingal (Visser *et al.* 2004). After the severe winter of 1962-63 no Stonechats were observed on Howth Head despite numerous visits (Doran 1964).



**Whitethroat (Photo: John Fox)**



**Lesser Redpoll (Photo: John Fox)**

### **5.2.2 Heathland and dense bracken**

These two habitats often occur in a mosaic with Bracken (*Pteridium aquilinum*) spreading in areas that have been disturbed or burnt and it normally forms dense stands. True heath is normally dominated by ling heather (*Calluna vulgaris*) but can also occur in combination with dwarf gorse (*Ulex gallii*) and gorse. Meadow Pipit and Skylark are also present in these habitats but the latter has declined significantly in Ireland and is now red-listed (Colhoun & Cummins 2013). Dense bracken provides very few nest sites for birds.

### **5.2.3 Grassland**

Coastal grassland occurs at Redrock (where some of this is classified as lowland hay meadow) and East Mountain. Improved grassland fields (generally grazed by horses are present at Bellinghams Farm and East Mountain). Meadow Pipit and Skylark are the two breeding species most associated with unmanaged grassland although they can use heathland where there is a mosaic with gorse and bracken. They tend to nest in tussocks on the ground. Many other species forage in grassland, especially where this is semi-natural and has a high diversity of invertebrate species and seeds in the late summer and autumn. Swallows and Sand Martins were seen hawking insects here in the evening. Sand Martin nest in holes in the east Pier at Howth and in the sandy cliff to the east of Howth Harbour.



**Species-rich grassland at Redrock**



**Scots Pine dominated woodland at Redrock**

#### **5.2.4 Woodland**

The only significant block of mature woodland is that at Redrock where Scots Pine (*Pinus sylvestris*) is the dominant tree species. A number of typical woodland breeding species are found here such as Chaffinch, Great Tit, Robin, Blackbird and Woodpigeon. Nesting Sparrowhawk was probable here although this could not be confirmed. Kestrel was recorded in several of the sites and may nest in wooded properties adjacent to Redrock and Bellingham's Farm. There is some young birch woodland on the northern side of the summit and this holds a typical suite of woodland and scrub breeding nesting species.

#### **5.2.5 Other habitats**

Gardens occur close to the boundaries of a number of the sites. These support a wide range of breeding bird species, many of which also use scrub and woodland within the sites. Houses and other buildings within these gardens are used for breeding by such species as House Sparrow, Jackdaw and Swallow.

### **5.3 Historical information**

There is very little published historical information on the birds of Howth Head. Ring Ouzel (*Turdus torquatus*) was recorded nesting on Howth Head in the mid-19<sup>th</sup> century (Hutchinson 1975) but there are no recent records. This species has declined markedly in Ireland and is now largely confined to Kerry (Balmer *et al.* 2013). There is a suggestion that Nightjar (*Caprimulgus europaeus*) was once found on Howth Head but no records with dates or locations are available (J. Fox, pers. com). This species is virtually extinct in Ireland now with only one confirmed breeding record in 2007-2011 (Balmer *et al.* 2013). Cooney (1998) gave an account of passerine migration observed on Howth Head in October 1998 but this did not concern local breeding bird species. A comprehensive account of the birds of the Fingal Coast was compiled in 2004 with special emphasis on seabirds and wintering waterbirds (Visser *et al.* 2004). Breeding seabirds have been monitored at intervals on Howth Head with the most recent published information from the period 1998-2002 (Mitchell *et al.* 2014).

## **6 MANAGEMENT RECOMMENDATIONS**

Management is required on several of the sites in order to increase the diversity of the habitats and their associated bird species. Other measures are required for public access, fire control and removal of invasive species. It is recommended that no management of the vegetation should take place between 1<sup>st</sup> March and 31<sup>st</sup> August which covers the breeding season of most bird species.

### **6.1 Pathway management**

In the majority of the sites there are adequate pathways for access by the general public. In some areas it is necessary to improve access for emergency services to control outbreaks of fire in the vegetation. These will not cause any significant impacts on bird species in any of the sites.

### **6.2 Grassland management**

At Redrock, management of the semi-natural grassland has been undertaken by scraping off topsoil and introducing late summer mowing. This has been successful in increasing the plant biodiversity in the sward. This area does not hold any sensitive nesting bird species although a number of species (e.g. Blackbird, Linnet, Whitethroat) regularly feed in such grasslands. It also holds significant insect populations attracting foraging hirundines (Swallows and Sand Martins). Provided that grass-mowing is undertaken outside the breeding season there will be no significant impacts on birds.



*Heathland at East Mountain. The area to right of the pathway has recently been burnt*

### **6.3 Creation of firebreaks**

Fire is a significant threat to all the habitats on the five sites and there were several wildfires during the survey period on two of the sites (Redrock and Bellingham's Farm). Firebreaks are necessary to limit the spread of fires and these are particularly required at Sheilmartin, Summit and East Mountain. This will involve the clearance of strips of gorse and some trees. Provided that this management is undertaken outside the breeding season there will be no significant impacts on birds.

### **6.4 Gorse clearance**

Clearance of gorse is recommended in several areas in order to diversify the habitat and to develop firebreaks. In particular, opening up of the extensive stands of gorse at Bellingham's Farm would be beneficial for birds by providing more patches of grassland which can be used for foraging by such species as Stonechat and Linnet. It would also provide additional nesting opportunities for Skylark and Meadow Pipit if grazing is limited to winter season.

### **6.5 Rhododendron control**

Control of invasive plant species is also required to improve habitat diversity and regeneration of native plant communities. Rhododendron is especially abundant on the south side of Sheilmartin where it has evidently spread from the adjacent gardens. This habitat is quite poor in breeding bird species and none are completely dependent on it. Provided that this management is undertaken outside the breeding season there will be no significant impacts on birds.



## 6.6 Woodland regeneration

A block of mature woodland occurs at Redrock where Scots Pine is the dominant tree species. Nesting by Sparrowhawk was suspected here but could not be confirmed. The canopy in this woodland is very dense and the ground cover below is very sparse as a result. Regeneration of native trees is thus prevented due to lack of light. The habitat would benefit by removal of several groups of mature trees to open up sunny rides or glades. These could then be planted with native species such as birch (*Betula pubescens*) or oak (*Quercus robur*). This would provide more varied foraging habitat for bird species and ultimately better breeding opportunities for hole-nesting species such as Blue Tit, Coal Tit and Starling and those that nest in the shrub layer such as Blackbird, Robin and Chaffinch.

On the north side of the summit there is an area of immature birch woodland which adjoins the boundary of Howth Castle Demesne. This is relatively rich in bird species and should be allowed to mature providing a range of habitat types.

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## APPENDIX 1: SCIENTIFIC NAMES OF ALL BIRD SPECIES

<b>Common Name</b>	<b>Scientific Name</b>
Blackbird	<i>Turdus merula</i>
Blackcap	<i>Sylvia atricapilla</i>
Blue Tit	<i>Cyanistes caeruleus</i>
Bullfinch	<i>Pyrrhula pyrrhula</i>
Chaffinch	<i>Fringilla coelebs</i>
Chiffchaff	<i>Phylloscopus collybita</i>
Coal Tit	<i>Periparus ater</i>
Dunnock	<i>Prunella modularis</i>
Goldfinch	<i>Carduelis carduelis</i>
Greenfinch	<i>Chloris chloris</i>
Great Tit	<i>Parus major</i>
Feral Pigeon	<i>Columba livia</i>
Hooded Crow	<i>Corvus cornix</i>
House Sparrow	<i>Passer domesticus</i>
Jackdaw	<i>Corvus monedula</i>
Kestrel	<i>Falco tinnunculus</i>
Linnet	<i>Linaria cannabina</i>
Lesser Redpoll	<i>Carduelis flammea</i>
Magpie	<i>Pica pica</i>
Meadow Pipit	<i>Anthus pratensis</i>
Mistle Thrush	<i>Turdus viscivorus</i>
Pheasant	<i>Phasianus colchicus</i>
Pied Wagtail	<i>Motacilla alba</i>
Reed Bunting	<i>Emberiza schoeniclus</i>
Robin	<i>Erithacus rubecula</i>
Rock Pipit	<i>Anthus petrosus</i>
Raven	<i>Corvus corax</i>
Rook	<i>Corvus frugilegus</i>
Skylark	<i>Alauda arvensis</i>
Song Thrush	<i>Turdus philomelos</i>
Sparrowhawk	<i>Accipiter nisus</i>
Stonechat	<i>Saxicola torquata</i>
Starling	<i>Sturnus vulgaris</i>
Swallow	<i>Hirundo rustica</i>
Wheatear	<i>Oenanthe oenanthe</i>
Whitethroat	<i>Sylvia communis</i>
Willow Warbler	<i>Phylloscopus trochilus</i>
Woodpigeon	<i>Columba palumbus</i>
Wren	<i>Troglodytes troglodytes</i>