



BioAtlantis

Nature Working Naturally™

License Application for Sustainable hand-harvesting of *Ascophyllum nodosum* at Clew Bay (SAC Site Code 1482). In accordance with National Parks & Wildlife Service conservation objectives for marine and coastal habitats and species and the EU Habitats Directive 92/43/EEC.

Appendix 6:

Supplementary Assessment of bird species in Clew Bay.

Prepared by: BioAtlantis Ltd.
Date of submission: 20/01/2014
Date of revision: 21/02/2024



Introduction

Overview: This section describes the distribution, conservation status, breeding and wintering requirements of important species of birds in Clew Bay SAC, protected under the E.U. Birds Directive. Potential hazards have been identified and mitigation measures put in place where required.

Site Name: Clew Bay Complex (Site Code 1482)

Activity under assessment: Harvesting *A. nodosum* in Clew Bay and its potential impact on avian species. Assessors: BioAtlantis Ltd.

Scope of current assessment:

Clew Bay SAC is not designated as a Special Protection Areas (SPA). Therefore, there are no published specifications outlining conservation requirements for bird species within the complex. Following a Scoping Meeting on (13_11_2013), the following datasets were sourced in accordance with the suggestions of NPWS:

- **The Irish Wetland Bird Survey (I-WeBS):** data describing the broad distribution of winter bird species within 4 subsites of Clew Bay (personal correspondence with BirdWatch Ireland between 2013 and 2020).
- **NPWS:** data describing breeding and wintering sites of relevance to important bird species within Clew Bay (03_12_2013, courtesy of NPWS).

Methodology employed:

Birds were selected for mitigation on the basis of NPWS recommendation of species for consideration (13th November 2013). This included barnacle and brent geese (wintering birds) and terns (breeding birds). In addition, data was provided courtesy of NPWS on the 3rd December, 2013, indicating specific sites of known relevance to breeding and wintering birds species. In addition, species identified from the IWEBS data that occur in significant numbers (national / international) within the study area were considered. Curlew are also identified taking account of their Red-listed status, presence on Annex I of the EU Birds Directive (2009) and sensitivity to disturbance (summer breeding populations). The assessment was expanded to include additional species of conservation concern recorded in Clew Bay. For all species, the average counts and general distribution was updated to cover a longer time period between 1994/95 to 2018/19. The analysis was updated to account for additional bird species and to include findings from the I-WeBS Trends Report 1994/95 – 2019/20 (Published 2022-04-03, Updated 2023-08-17, Kennedy *et al.*, 2022 and 2023). The data from Kennedy *et al.*, 2022 and 2023, includes details of the long term trends of species nationally and at sites based on the data gathered in the seasons 1994/95 through 2019/20. Information relating to species life cycle, conservation status, etc, was derived from <https://birdwatchireland.ie/>, and additional sources as indicated.

On the basis of this assessment, the harvesting plan was adjusted to ensure protection of important species at sensitive times of year. Table 1 in this appendix describes the distribution, requirements, potential hazards and mitigations measures for avian species of interest in Clew Bay. In addition, Appendix 4, “Code of Practice”, has been developed to ensure the protection of bird species in Clew Bay.

Table 1: Distribution, requirements and mitigation measures for avian species of interest in Clew Bay.

† Specific sites of relevance to breeding and wintering species provided courtesy of NPWS (03/12/2013).

*General distribution of species in winter determined from sub-site data provided courtesy of BirdWatch Ireland (I-WeBS database) on 27/11/2013 and June 2020. The distribution data is presented as mean counts per annum, for the years in which a particular species was identified as present during a particular survey (time period: 1994/95 to 2018/19).

‘Northern Bay’ refers to a defined area between Mallaranny in the northwest to Raigh, north-central of the complex (Subsite Code: 0D426, Ss_Grid: L880950)

‘Southern Bay’ refers to a defined area between Old Head in the south west to Bartraw, south-central of the complex (Subsite Code: 0D429, Ss_Grid: L870823)

‘Newport Bay’ refers to a defined area between Rockfleet Bay in the north east to Castleaffy Strand, central east of the complex (Subsite Code: 0D427, Ss_Grid: L941910)

‘Westport Bay’ refers to a defined area between Rosmoney Quay located central east and Ummeraboy Strand, south central of the complex (Subsite Code: 0D428, Ss_Grid: L950840)

‡ Additional ecologically sensitive species within the study area.

Information relating to species life cycle, conservation status, etc, was derived from <http://www.birdwatchireland.ie> and additional sources as indicated. See reference section for list of citations.

Species	Presence in Ireland	Status in Ireland	Diet	Breeding	Wintering	Distribution in Clew Bay • General* • Specific sites of relevance†	Potential hazards	Control measures at sites of relevance
Arctic Tern (<i>Sterna paradisaea</i>)	Summer (Mar-Sept)	Amber-conservation status	Fish, crustaceans & insects.	Mar-Sept: Nests on the ground (coast & inland)	Both hemispheres.	General distribution in Winter: Not recorded in I-WeBS. Sites of relevance (Spring/summer): Mauherillan (L920919). Inishimmel (L908857). Moynish Beg (L865938). Inishcorky (L891932).	Feeding source: no impact Habitat loss: no impact Human disturbance: Highly territorial and will attack humans. Human presence may lead to trampling of nests.	No harvest during breeding season (Mar- Sept) at sites of relevance.
Bar-tailed Godwit (<i>Limosa lapponica</i>)	Winter	Red-conservation status (Long Term Trend: intermediate decline)	Feed on Polychaete at the tidal edge and ragworms and bivalves on muddy estuaries.	Norway and Finland.	Oct-April: Coastal regions, mainly estuaries.	General distribution: • Southern Bay (n=20 /annum). • Westport Bay (n=53 /annum). • Newport Bay (n=12 /annum). • Northern Bay (n=47 /annum). Sites of relevance: Unknown.	Feeding source: no impact Habitat loss: no impact Human disturbance: species can be sensitive to human disturbance when resting and feeding and are vulnerable to human leisure activities (Kirby JS <i>et al.</i> , 1993; and Holden and Housden, 2016, pg. 107). There is no significant risk of harvest activities impacting on food source or habitat.	Avoid estuarine areas containing soft mud or marsh at the mouths of rivers between Sept-April. Ensure caution if in the vicinity of these areas between May-Aug.
Barnacle Geese (<i>Branta</i>)	Winter (Oct -Mar)	Amber-conservation status. Most	Primarily grazers, feeding on grasses and	Greenland, Siberia & area around Baltic Sea.	Mainly remote islands, free	General distribution in Winter: Absence in south and north east, present in north and south east:	Feeding source: no impact Habitat loss: no impact Human disturbance:	No harvest at sites between (Oct -Mar) at sites of relevance.

Species	Presence in Ireland	Status in Ireland	Diet	Breeding	Wintering	Distribution in Clew Bay • General* • Specific sites of relevance†	Potential hazards	Control measures at sites of relevance
<i>leucopsis</i>)		winter at <10 sites.	sedges on the tundra during the breeding season, and on coastal pastures during the winter.		from disturbance.	<ul style="list-style-type: none"> Southern Bay (n=0/annum). Westport Bay (n=188/annum). Newport Bay (n=0/annum). Northern Bay (n=117/annum). Sites of relevance: Main wintering sites: Rosmurrevagh (L853957). Moynish More (L865943). Rosturk (L869956). Inisheeny (L920845). Pigeon Point (L949850).	Sensitive to human disturbance.	
Black-headed Gull (<i>Larus ridibundus</i>)	Resident all year round	Amber-conservation status	Insects (arable field). Domestic & fisheries waste)	Breed on coast and inland. Nests on ground (wetland areas).	Numbers increase in winter due to migrations from other regions	General distribution in Winter: Highest in south & south east: <ul style="list-style-type: none"> Southern Bay (n=124/annum). Westport Bay (n=207/annum). Newport Bay (n=51/annum). Northern Bay (n=64/annum). Sites of relevance (Spring/summer): Stony Island (L943854).	Feeding source: no impact Habitat loss: no impact Human disturbance: Human presence is not a significant risk.	No harvest during breeding season (Mar- Sept) at sites of relevance.
Black-legged Kittiwake (<i>Rissa tridactyla</i>)	Summer visitor to steep coastal cliffs along all Irish coasts.	Red-conservation status	Fish, waste from commercial fishing and invertebrates	Breeds on steep sea cliffs.	At sea.	General distribution in Winter: Westport Bay: n=2 counts in 2006/2007. Not recorded in other parts of the bay. Sites of relevance: Unknown. (A qualifying interest in Clare Island SPA (004136)).	Feeding source: no impact Habitat loss: no impact Human disturbance: no impact Significant impacts due to human disturbance are unlikely. The population occupies a broad range of coastal habitats and is not limited to the intertidal zone where harvest activities will occur. There is no significant risk of harvest activities impacting on feeding source or habitat.	Mitigation not required.
Black-tailed Godwit (<i>Limosa</i>	Mainly in winter, particularly	Red-conservation status	Invertebrates, bivalves, polychaete	Breed in marshes and lowland wet grasslands.	Winters inland and on estuarine	General distribution in Winter: Higher in southern bay: <ul style="list-style-type: none"> Southern Bay (n=11/annum). 	Feeding source: no impact. Habitat loss: no impact. Human disturbance: Disturbance is	Avoid estuarine areas containing soft mud or marsh at the

Species	Presence in Ireland	Status in Ireland	Diet	Breeding	Wintering	Distribution in Clew Bay • General* • Specific sites of relevance†	Potential hazards	Control measures at sites of relevance
<i>limosa</i>)	September.	(Long Term Trend: stable or increasing)	worms and shore crabs in muddy estuaries, brackish pools. Feed on species in rough pastures also.		coast.	<ul style="list-style-type: none"> Westport Bay (n=42/annum). Newport Bay (n=1/annum). Northern Bay (n=0/annum). Sites of relevance: Unknown.	<p>unlikely to be significant as the species also occurs inland and is not restricted to the intertidal zone. It is rarely found on sandy beaches and avoids rocky shores (Wilson J, 2011), where <i>A. nodosum</i> is found. The species is sensitive to human activity when feeding or roosting (Wilson J, 2011) at estuarine mudflats.</p> <p>There is no significant risk of harvest activities impacting on food source or habitat.</p>	mouths of rivers between Sept-April. Ensure caution if in the vicinity of these areas between May-Aug.
Brent Geese (<i>Branta bernicla hrota</i>)	Winter (Oct -Mar)	Amber-conservation status as most winter at <10 sites (Long Term Trend: stable or increasing)	Winter: Primarily Eel-grass in intertidal areas and muddy estuaries. However, may feed in algae or in grasslands in absence of eelgrass.	Nests at coastal tundra, with pools and small inlets.	Coastal estuaries (autumn-early winter) Grasslands (mid-winter late April).	General distribution in Winter: High in north & south east, low in south and north east. <ul style="list-style-type: none"> Southern Bay (n=29/annum). Westport Bay (n=83/annum). Newport Bay (n=20/annum). Northern Bay (n=152/annum). Sites of relevance in Winter: Main roosting/grazing sites: Mulranny Saltmarsh (L827963). Rosmurrevagh (L852958). Carrowholly (L965850). Smaller feeding sites: Several, inc. Bertraw (L903834).	Feeding source: Potential impact on algae as secondary food source (ref: NPWS 2013). Habitat loss: no impact Human disturbance: disturbance leading to flight events (Phalan B & Nairn RGW 2007)	<p>No harvest at sites between (Oct -Mar) at sites of relevance.</p> <p>There will be no harvest activities at night which would disturb roosting.</p>
Chough (<i>Pyrhocorax pyrrhocorax</i>)	Resident along rocky coasts.	Amber-conservation status	Varied: insects, larvae, worms, berries, grain, small mammals and birds.	Nests along coasts in caves or crevices.	Coastal areas relatively close to breeding sites.	General distribution in Winter: Sites of relevance: Not recorded in I-WeBS. Sites of relevance: unknown	Feeding source: no impact Habitat loss: no impact Human disturbance: no impact Disturbance is unlikely as the species is mainly distributed,	Mitigation not required.

Species	Presence in Ireland	Status in Ireland	Diet	Breeding	Wintering	Distribution in Clew Bay • General* • Specific sites of relevance†	Potential hazards	Control measures at sites of relevance
						(A qualifying interest in Clare Island SPA (004136)).	outside the <i>A. nodosum</i> zone. There is no significant risk of harvest activities impacting on feeding source or habitat.	
Common gull (<i>Larus canus</i>)	Resident all year round	Amber-conservation status (decline in localised breeding population)	Insects, invertebrates, fish	Nest on ground (cliffs, island, shingle)	Numbers increase in winter due to migrations from other regions	General distribution in Winter: Highest in South east: • Southern Bay (n=80/annum). • Westport Bay (n=413/annum). • Newport Bay (n=60/annum). • Northern Bay (n=78/annum). Sites of relevance (Spring/summer): Dorinish (L9086). Roeillaun (L875930). (A qualifying interest in Clare Island SPA (004136)).	Feeding source: no impact Habitat loss: no impact Human disturbance: Intensive human activity can cause nest desertion (Anon, 2009).	No harvest during breeding season (Mar- Sept) at sites of relevance.
Common Tern (<i>Sterna hirundo</i>)	Summer (Mar- Oct)	Amber-conservation status	Mainly fish	Mar-Oct: Nests on the ground (coast & inland)	West and south Africa	General distribution in Winter: Very rare (n<3/annum). Sites of relevance (Spring/summer): Stony Island (L943854). Green island (L943847).	Feeding source: no impact Habitat loss: no impact Human disturbance: Human disturbance at nesting colonies can lead to abandonment of nest or chicks.	No harvest during breeding season (Mar- Oct) at sites of relevance.
Cormorant (<i>Phalacrocorax carbo</i>)	Resident all year round	Amber-conservation status (due localised breeding population) (Long Term Trend: stable or	Fish	April-July: Cliffs (coast) or in trees (inland)	At sea and inland.	General distribution in Winter: Highest in Southern areas: • Southern Bay (n=34/annum). • Westport Bay (n=47/annum). • Newport Bay (n=19/annum). • Northern Bay (n=10/annum). Sites of relevance (Spring/summer): Dorinish (L9086).	Feeding source: no impact Habitat loss: no impact Human disturbance: Human presence may cause cormorants to leave nest.	No harvest during breeding season (April- July) at sites of relevance.

Species	Presence in Ireland	Status in Ireland	Diet	Breeding	Wintering	Distribution in Clew Bay • General* • Specific sites of relevance†	Potential hazards	Control measures at sites of relevance
Curlew <i>(Numenius arquata)‡</i>	Mainly a winter visitor to wetlands Breeds in low numbers (floodplains boglands).	increasing) Red-conservation status due to small and declining breeding population (Long Term Trend: moderate decline)	Mainly invertebrates, e.g. ragworms, crabs, molluscs. Feed in estuaries. Roost communally, usually along salt marshes and sand banks.	Ground nesting (rough pastures, meadows, heather).	Coastal and inland wetland habitats.	General distribution in Winter: Predominance in south east: • Southern Bay (n=51/annum). • Westport Bay (n=283/annum). • Newport Bay (n=96/annum). • Northern Bay (n=93/annum). Sites of relevance: Unknown.	Feeding source: no impact Habitat loss: no impact Human disturbance: no impact While summer breeding populations are sensitive to disturbance, they are mainly found ground nesting (rough pastures, meadows, heather). <i>A. nodosum</i> harvest activities will not impact on nesting requirements of Curlew. There is no significant risk of harvest activities causing species disturbance, impacting on feeding source or habitat.	Mitigation not required.
Dunlin <i>(Calidris alpina)</i>	Mainly occur in mid winter.	Red-conservation status (Long Term Trend: large decline)	Small invertebrates, polychaete and small gastropods in estuarine mudflats, close to the tide edge.	Ground nesting in sparse vegetation, and Machair, sandy grassland habitats.	Mainly coastal areas such as on tidal mudflats and estuaries.	General distribution in Winter: Higher in south east: • Southern Bay (n= 89/annum). • Westport Bay (n=218/annum). • Newport Bay (n=60/annum). • Northern Bay (n=124/annum). Sites of relevance: unknown	Feeding source: no impact. Habitat loss: no impact. Human disturbance: Species can be sensitive to human disturbance (Kirby JS et al., 1993). Recreational activities may disturb roosts, particularly in winter (Holden and Housden, 2016, pg. 101). There is no significant risk of harvest activities impacting on feeding source or habitat.	Avoid estuarine areas containing soft mud or marsh at the mouths of rivers between Sept-April. Ensure caution if in the vicinity of these areas between May-Aug.
European Shag <i>(Phalacrocorax aristotelis)</i>	Resident along all Irish coasts.	Amber-conservation status in Ireland due to its localised breeding	Fish taken from just below the surface.	Nests in cliff areas on ledges, in crevasses, in caves or under boulders.	Adults winter in vicinity of breeding colonies, while young disperse.	General distribution in Winter: Present in all four regions: • Southern Bay (n=17/annum). • Westport Bay (n=6/annum). • Newport Bay (n=11/annum). • Northern Bay (n=4/annum).	Feeding source: no impact Habitat loss: no impact Human disturbance: no impact Disturbance is unlikely as the species is mainly breeds and is distributed on cliffs and other areas	Mitigation not required.

Species	Presence in Ireland	Status in Ireland	Diet	Breeding	Wintering	Distribution in Clew Bay • General* • Specific sites of relevance†	Potential hazards	Control measures at sites of relevance
		population.				Sites of relevance: unknown (A qualifying interest in Clare Island SPA (004136)).	outside the <i>A. nodosum</i> zone. There is no significant risk of harvest activities impacting on feeding source or habitat.	
Fulmar (<i>Fulmarus glacialis</i>)	Resident along all Irish coasts.	Amber-conservation status	Varied: fish, trawler discard, crustaceans.	Breeds on sea cliffs, nesting at lower level on buildings, burrows and crevasses.	Mainly winters at sea.	General distribution in Winter: Not recorded in I-WeBS. Sites of relevance: Unknown. (A qualifying interest in Clare Island SPA (004136)).	Feeding source: no impact Habitat loss: no impact Human disturbance: no impact Disturbance is unlikely as the species is mainly distributed on cliffs and other areas outside the <i>A. nodosum</i> zone. There is no significant risk of harvest activities impacting on feeding source or habitat.	Mitigation not required.
Golden Plover (<i>Pluvialis apricaria</i>)	Mainly winter visitor, also present in summer in north west.	Red-conservation status in Ireland due to a large decline in the breeding population. (Long Term Trend: intermediate decline)	Soil and surface-living invertebrates, beetles, earthworms, plant material, berries, seeds, grasses.	Breed in heather moors, blanket bogs & acidic grasslands.	Oct-Feb: Occurs in a variety of habitats, both coastal and inland.	General distribution in Winter: Higher in east: • Southern Bay (n= 32/annum). • Westport Bay (n=121/annum). • Newport Bay (n=144/annum). • Northern Bay (n=66/annum). Sites of relevance: unknown (A qualifying interest in Owenduff/ Nephin Complex SPA (004098)).	Feeding source: no impact. Habitat loss: no impact. Human disturbance: no impact Significant impacts due to human disturbance are unlikely. The population of this species occupies a broad range of coastal habitats and is not limited to the intertidal zone where harvest activities will occur. There is no significant risk of harvest activities impacting on feeding source or habitat	Mitigation not required.
Goosander (<i>Mergus merganser</i>)	Resident at larger lakes in. Winter visitor throughout Ireland (Anon, 2013).	Amber-conservation status in Ireland, due to its small breeding population.	Mainly small and medium sized fish.	Breed on freshwater lakes and pools in some areas (Anon, 2013).	Unfrozen lakes, rivers, lagoons, brackish waters and marshes (BirdLife International, 2016H &	General distribution in Winter: Very rare: • Southern Bay (n=0/annum). • Westport Bay (n=0/annum). • Newport Bay (n=0/annum). • Northern Bay (n≤6/annum). Sites of relevance: Unknown.	Feeding source: no impact. Habitat loss: no impact. Human disturbance: no impact Significant impacts due to human disturbance are unlikely. The population of this species occupies a broad range of coastal habitats and is not limited to the intertidal	Mitigation not required.

Species	Presence in Ireland	Status in Ireland	Diet	Breeding	Wintering	Distribution in Clew Bay • General* • Specific sites of relevance†	Potential hazards	Control measures at sites of relevance
					references therein)		zone where harvest activities will occur. There is no significant risk of harvest activities impacting on feeding source or habitat.	
Great Northern Diver (<i>Gavia immer</i>)‡	Winter (Sept -April)	Amber-conservation status	Mostly fish Also crustaceans, molluscs, annelids, insects, amphibians	Iceland, Greenland, North America	Irish coasts (Sept -April)	General distribution in Winter: Predominance in south: • Southern Bay (n=13/annum). • Westport Bay (n=7/annum). • Newport Bay (n=6/annum). • Northern Bay (n=5/annum). Sites of relevance: Unknown	Feeding source: no impact Habitat loss: no impact Human disturbance: no impact. Food source is mainly fish. There is no significant risk of harvest activities causing species disturbance, impacting on feeding source or habitat.	Mitigation not required.
Greater Black-backed Gull (<i>Larus marinus</i>)	Resident all year round (all Irish coasts)	Green-conservation status	Fish, Fisheries waste, offal, other birds, food of other birds (kleptoparasitism)	On the ground in difficult to access areas. Also at inland lakes	Around the coast and inland. On the ground in difficult to access areas. Few in inland lakes	General distribution in Winter: Highest in north: • Southern Bay (n=7/annum). • Westport Bay (n=11/annum). • Newport Bay (n=8/annum). • Northern Bay (n=28/annum). Sites of relevance (Spring/summer): Dorinish (L9086)	Feeding source: no impact Habitat loss: no impact Human disturbance: Human presence can cause abandonment.	No harvest during breeding season (Mar- Sept) at sites of relevance.
Greenshank (<i>Tringa nebularia</i>)	Present at estuaries from September to April.	Green conservation status (Long Term Trend: stable or increasing)	Deep water, channels, brackish pools and lakes (fish, invertebrates, shrimps, crabs and <i>Hediste</i> sp.)	Scotland and Scandinavia	September to April. Mainly at estuarine coasts.	General distribution: • Southern Bay (n=2 /annum). • Westport Bay (n=15 /annum). • Newport Bay (n=17 /annum). • Northern Bay (n=8 /annum). Sites of relevance: Unknown.	Feeding source: no impact Habitat loss: no impact Human disturbance: sensitive to human disturbance. There is no significant risk of harvest activities impacting on feeding source or habitat	Avoid estuarine areas containing soft mud or marsh at the mouths of rivers between Sept-April. Ensure caution if in the vicinity of these areas between May-Aug.
Grey Heron (<i>Ardea cinerea</i>)	Common in wetlands, estuaries and rivers.	Green conservation status	Fish, amphibians, insects reptiles and small mammals. Feeds	Found in wetland habitats. Nests located in large trees, on the	Found in same wetlands in as in breeding	General distribution: • Southern Bay (n=2 /annum). • Westport Bay (n=22 /annum). • Newport Bay (n=19 /annum).	Feeding source: no impact Habitat loss: no impact Human disturbance: no impact Grey heron are most sensitive to	Mitigation not required.

Species	Presence in Ireland	Status in Ireland	Diet	Breeding	Wintering	Distribution in Clew Bay • General* • Specific sites of relevance†	Potential hazards	Control measures at sites of relevance
		(Long Term Trend: stable or increasing)	along the edge of a wide range of wetland habitats (coastal waters, estuaries to loughs, streams and marshy ground).	ground or on cliff edges, in reedbeds or in bushes (BirdLife International, 2016F and references therein).	season.	<ul style="list-style-type: none"> Northern Bay (n=4 /annum). Sites of relevance: Unknown.	human disturbance during breeding season (Holden & Cleeves, 2006).Disturbance during this period is unlikely, as harvesting will not take place inland, near reed beds of cliff edges. There is no significant risk of harvest activities impacting on feeding source or habitat.	
Guillemot (<i>Uria aalge</i>)	Resident, occurring inshore/ land during breeding season (March/April to August/September).	Amber-conservation status	Fish and invertebrates (caught by surface diving).	Nests on cliff ledges.	Winters at sea	General distribution in Winter: Sites of relevance: Not recorded in I-WeBS. Sites of relevance: Unknown. (A qualifying interest in Clare Island SPA (004136)).	Feeding source: no impact Habitat loss: no impact Human disturbance: no impact Disturbance is unlikely as the species winters in deep open waters outside the <i>A. nodosum</i> zone, and nests on cliff ledges in exposed areas where <i>A. nodosum</i> is not located. There is no significant risk of harvest activities impacting on feeding source or habitat.	Mitigation not required.
Herring Gull (<i>Larus argentatus</i>)	Resident all year round, along coast and inland.	Amber-conservation status	Predator and scavenger. Feeds on the coast, near fishing boats and landfill sites.	April-July: Breeds around the coast of Ireland and inland in some counties.	Widespread on Irish coast and inland.	General distribution in Winter: <ul style="list-style-type: none"> Southern Bay (n= 35/annum). Westport Bay (n=35/annum). Newport Bay (n=23/annum). Northern Bay (n=18/annum). Sites of relevance: Unknown.	Feeding source: no impact Habitat loss: no impact Human disturbance: no impact Significant impacts due to human disturbance are unlikely. The Herring Gull population occupies a broad range of inland and coastal habitats and is not limited to the intertidal zone where harvest activities will occur. While the species is territorial when defending their young, they typically nest in elevated areas. There is no significant risk of	Mitigation not required.

Species	Presence in Ireland	Status in Ireland	Diet	Breeding	Wintering	Distribution in Clew Bay • General* • Specific sites of relevance†	Potential hazards	Control measures at sites of relevance
							harvest activities impacting on feeding source or habitat.	
Lapwing (<i>Vanellus vanellus</i>)	Residents and migrants. Greatest numbers between September & April.	Red-conservation status (National, BoCCI), SPEC 2 vulnerable (Europe). (Long Term Trend: large decline)	Usually feed during the day on soil and surface invertebrates, e.g. small arthropods and earthworms.	Breed on open farmland.	Widespread distribution in winter on major wetlands, pasture and rough land close to bogs.	General distribution in Winter: Present in all regions: • Southern Bay (n= 40/annum). • Westport Bay (n=64/annum). • Newport Bay (n=55/annum). • Northern Bay (n=13/annum). Sites of relevance: Unknown.	Feeding source: no impact. Habitat loss: no impact. Human disturbance: no impact Disturbance is unlikely as the species is mainly distributed inland. There is no significant risk of harvest activities impacting on feeding source or habitat.	Mitigation not required.
Lesser black-backed Gull (<i>Larus fuscus</i>)	Summer (Mar-Sept)	Amber-conservation status (due localised breeding population)	Fish, fisheries waste, landfill rubbish, insects, young birds.	On the ground (offshore & inland islands, sand dunes, coastal cliffs)	inland and along the south and east coasts of Ireland	General distribution in Winter: Highest in South east: • Southern Bay (n=6/annum). • Westport Bay (n=11/annum). • Newport Bay (n=6/annum). • Northern Bay (n=7/annum). Sites of relevance (Spring/summer): Roeillaun (L875930).	Feeding source: no impact Habitat loss: no impact Human disturbance: no impact. Species well adapted to human presence.	Mitigation not required.
Little Grebe (<i>Tachybaptus ruficollis</i>)‡	Resident on ponds and lakes	Green conservation status (Long Term Trend: stable or increasing)	Invertebrates (e.g. insect larvae), molluscs and small fish.	Northeast of Ireland. shallow, freshwater rivers, streams, loughs and ponds	Ephemeral wetlands, sheltered coasts, estuaries, coastal lakes and lagoons	General distribution in Winter: Rare in south and north, present in east: • Southern Bay (n=3/annum). • Westport Bay (n=9/annum). • Newport Bay (n=20/annum). • Northern Bay (n ≤1/annum). Sites of relevance: Unknown.	Feeding source: no impact Habitat loss: no impact Human disturbance: no impact Wintering habitat is broad and not limited to sheltered rock coasts. There is no significant risk of harvest activities causing species disturbance, impacting on feeding source or habitat.	Mitigation not required.
Little Tern (<i>Sterna albifrons</i>)	Summer (April-Aug)	Amber-conservation status	Mainly marine fish	Apr-Aug: Nest colonially on the ground on shingle beaches and inland.	Western Africa	General distribution: Little Tern (9 pairs in 2000; NPWS (2011)).	Feeding source: no impact Habitat loss: no impact Human disturbance: Human disturbance, primarily due to dog	Exposed beach areas will be avoided all year round.

Species	Presence in Ireland	Status in Ireland	Diet	Breeding	Wintering	Distribution in Clew Bay • General* • Specific sites of relevance†	Potential hazards	Control measures at sites of relevance
						Sites of relevance: Unknown.	walkers and vehicles, are a potential threat (Holden and Housden, 2016, pg. 132). Human disturbance at coastal and inland nesting sites can also lead to nest failures (BirdLife International, 2016A, Barcena <i>et al.</i> 1984, del Hoyo <i>et al.</i> 1996). Harvesting will take place within the <i>A. nodosum</i> intertidal zone and beach areas will be avoided. Harvesting is not permitted in coastal habitats located beyond the intertidal zone. This ensures that potential interactions with nests are avoided. There is no significant risk of harvest activities impacting on feeding source or habitat.	Avoid approaching, chasing, scaring or putting birds to flight at any time.
Mallard (<i>Anas platyrhynchos</i>)	Resident and winter migrant from Europe.	Amber-conservation status (Long Term Trend: stable or increasing)	Variable diet including plant material, seeds. molluscs crustaceans, grain stubble, food presented by humans.	Nest on ground.	Widespread, occurring in almost all available wetland habitats in Ireland	General distribution: • Southern Bay (n=18 /annum). • Westport Bay (n=77 /annum). • Newport Bay (n=60 /annum). • Northern Bay (n=14 /annum). Sites of relevance: Unknown.	Feeding source: no impact Habitat loss: no impact Human disturbance: no impact There is no significant risk of harvest activities impacting on feeding source or habitat. Disturbance is unlikely as the species occurs mainly inland.	Mitigation not required.
Merlin (<i>Falco columbarius</i>)	Local summer visitor to uplands. Winter visitor at lowland sites	Amber-conservation status	Small birds (e.g. Meadow Pipits and Skylarks).	Rare in Ireland. Nests on ground (moorland, mountain, blanket bog).	Widely distributed in the winter (inland and coastal)	General distribution in Winter: Sites of relevance: Not recorded in I-WeBS. Sites of relevance: Unknown. (A qualifying interest in Owenduff/	Feeding source: no impact Habitat loss: no impact Human disturbance: no impact Disturbance is unlikely as the species is distributed in a wide range of areas outside the <i>A. nodosum</i> zone. There is no	Mitigation not required.

Species	Presence in Ireland	Status in Ireland	Diet	Breeding	Wintering	Distribution in Clew Bay • General* • Specific sites of relevance†	Potential hazards	Control measures at sites of relevance
	(October to April).					Nephin Complex SPA (004098).	significant risk of harvest activities impacting on feeding source or habitat.	
Mute Swan (<i>Eala bhalbh</i> ; <i>Cygnus olor</i>)	Wetlands throughout Ireland.	Amber-conservation status in Ireland, as more than 20% of the European population winter in Ireland. (Long Term Trend: intermediate decline)	Water plants, land plants, snails, amphibians and insects.	Breeds on lakes, ponds & rivers. Nests constructed from aquatic material and seaweed along coasts.	Occurs both inland and on the Irish coast.	General distribution in Winter: Relatively low numbers reported in each region: • Southern Bay (n=2/annum). • Westport Bay (n=10/annum). • Newport Bay (n=7/annum). • Northern Bay (n≤2/annum). Sites of relevance: Unknown.	Feeding source: no impact Habitat loss: no impact Human disturbance: no impact Significant impacts due to human disturbance are unlikely. The mute swan population occupies a broad range of inland and coastal habitats and is not limited to the intertidal zone where harvest activities will occur. Harvesting is not permitted in coastal habitats located beyond the intertidal zone. This ensures that potential interactions with nests are avoided. There is no significant risk of harvest activities impacting on feeding source or habitat.	Mitigation not required.
Oystercatcher (<i>Haematopus ostralegus</i>)	Resident all year round	Red conservation status (Long Term Trend: stable or increasing)	Larger invertebrates such mussels, cockles (sandy coasts) Grasslands (earthworms, tipulid larvae). Feed by sight (polychaetes) and touch (bivalve mussels).	beaches, dunes, salt marshes and rocky shores	mainly open sandy coasts	General distribution in Winter: Well distributed throughout bay: • Southern Bay (n=72/annum). • Westport Bay (n=195/annum). • Newport Bay (n=83/annum). • Northern Bay (n=176/annum). Sites of relevance (Spring/summer): Several islands and coastal areas.	Feeding source: no impact Habitat loss: no impact Human disturbance: Human presence may alter behaviour (Tjørve KMC & Tjørve E (2010). Disturbance leading to flight events (Phalan B & Nairn RGW 2007)	Beaches, sand dunes and salt marsh areas will be avoided all year round.

Species	Presence in Ireland	Status in Ireland	Diet	Breeding	Wintering	Distribution in Clew Bay • General* • Specific sites of relevance†	Potential hazards	Control measures at sites of relevance
Pintail (<i>Anas acuta</i>)	Local winter visitor to wetlands Ireland from October to March.	Amber conservation status	Plant seeds and underwater plants, insects, crustaceans, farmland, stubble.	Shallow freshwater marshes, small lakes and rivers, ideally with dense vegetative cover.	Brackish coastal lagoons, in estuaries and on large inland lakes.	General distribution in Winter: Relatively rare: • Southern Bay (n=3/annum). • Westport Bay (n=3/annum). • Newport Bay (n=0/annum). • Northern Bay (n≤1/annum). Sites of relevance: Unknown.	Feeding source: no impact Habitat loss: no impact Human disturbance: no impact	Mitigation not required.
Purple Sandpiper (<i>Calidris maritima</i>)	Winter visitor, mainly between September to April.	Red-conservation status (Long Term Trend: stable or increasing)	Invertebrates amongst rocks and along wave exposed shorelines among storm cast algae. Also feeds on invertebrates washed ashore by tides (Holden & Housden, 2016).	Tundra habitat, mountains and rocky shores (Iceland and Scandinavia).	Coastal areas, exposed rocky shores, rocky beaches and harbours. Can associate with Turnstones.	General distribution in Winter: Relatively rare: • Southern Bay (n=10/annum) • Westport Bay (n=11/annum). • Newport Bay (n=0/annum). • Northern Bay (n=0/annum). Sites of relevance: Unknown.	Feeding source: no impact Habitat loss: no impact Human disturbance: no impact Varied distribution and diet, also occurring in exposed areas. There is no significant risk of harvest activities causing species disturbance, impacting on feeding source or habitat.	Mitigation not required.
Razorbill (<i>Alca torda</i>)	Resident and occurs inshore & inland during breeding season.	Red-conservation status	Fish and invertebrates mainly via by surface diving.	Nests on sea cliffs.	At sea.	General distribution in Winter: Sites of relevance: Not recorded in I-WeBS. (A qualifying interest in Clare Island SPA (004136)).	Feeding source: no impact Habitat loss: no impact Human disturbance: no impact Disturbance is unlikely as the species is mainly distributed on cliffs, outside the <i>A. nodosum</i> zone. There is no significant risk of harvest activities impacting on feeding source or habitat.	Mitigation not required.
Red-breasted Merganser (<i>Mergus serrator</i>)‡	Resident all year round (mainly north & west coasts)	Amber conservation status (Long Term	Mainly fish (small cod, hake, plaice). roach, trout, salmon, eels and pike (freshwater	Nest on sheltered lakes and large rivers in Ireland (mainly west and north).	Widespread in Ireland in marine or brackish waters,	General distribution in Winter: Predominance in south east: • Southern Bay (n=8/annum). • Westport Bay (n=55/annum). • Newport Bay (n=25/annum).	Feeding source: no impact Habitat loss: no impact Human disturbance: no impact Food source is mainly fish.	Mitigation not required.

Species	Presence in Ireland	Status in Ireland	Diet	Breeding	Wintering	Distribution in Clew Bay • General* • Specific sites of relevance†	Potential hazards	Control measures at sites of relevance
		Trend: intermediate decline)	in breeding season). Rarely eat crustaceans and molluscs.		(shallow estuaries, bays and lagoons). Also present offshore.	<ul style="list-style-type: none"> Northern Bay (n=18/annum). Sites of relevance: Unknown.	There is no significant risk of harvest activities causing species disturbance, impacting on feeding source or habitat.	
Redshank (<i>Tringa totanus</i>)	Resident and winter migrant from Iceland and other areas.	Red-conservation status in Ireland, due to its small and declining breeding population (Long Term Trend: stable or increasing)	Feeds on <i>Hydrobia</i> sp., <i>Corophium</i> sp. and nereid worms on upper shore of estuaries and muddy river channels.	Nest inland on wet, marshy areas or heather.	Coast including mudflats, large estuaries and inlets.	General distribution in Winter: Highest in east: <ul style="list-style-type: none"> Southern Bay (n=22/annum). Westport Bay (n=181/annum). Newport Bay (n=118/annum). Northern Bay (n=51/annum). Sites of relevance: Unknown.	Feeding source: no impact. Habitat loss: no impact. Human disturbance: Human disturbance during the breeding season is highly unlikely to occur due to harvesting, as the species nests inland. If disturbed, Redshank may stop feeding and potentially fly away (Fitzpatrick S et al., 1998). There is no significant risk of harvest activities impacting on feeding source or habitat.	Avoid estuarine areas containing soft mud or marsh at the mouths of rivers between Sept-April. Ensure caution if in the vicinity of these areas between May-Aug. Avoid approaching, chasing, scaring or putting birds to flight at any time.
Red-throated Diver (<i>Gavia stellata</i>)	Winter visitor to all Irish coasts	Amber-conservation status due to its very small breeding range and population.	Small fish, fish spawn, frogs, shrimps, molluscs, insects and annelids.	Very few pairs breed in Ireland (northwest only). Breed on small fresh water loughs. Nests located close to water's edge.	September to April. Typically associated with shallow sandy bays.	General distribution in Winter: Relatively low numbers reported in each region: <ul style="list-style-type: none"> Southern Bay (n= 4/annum). Westport Bay (n=3/annum). Newport Bay (n=2/annum). Northern Bay (n=2/annum). Sites of relevance: Unknown.	Feeding source: no impact. Habitat loss: no impact. Human disturbance: no impact. Human disturbance during the breeding season is highly unlikely as the species nests inland. Disturbance during winter is also highly unlikely as the species primarily occupies shallow sandy bays which will not be subject to harvesting. There is no significant risk of harvest activities impacting on feeding source or habitat.	Mitigation not required.
Ringed Plover (<i>Charadrius hiaticula</i>)	Resident all year round	Amber-conservation status as internation-	Invertebrates (polychaetes % crustaceans).	Nest on exposed wide sandy or shingle beaches.	Numbers increase in winter due to migrations	General distribution in Winter: Predominance in north and south: <ul style="list-style-type: none"> Southern Bay (n=95/annum). 	Feeding source: no impact Habitat loss: no impact Human disturbance: Human presence may affect	Exposed sandy beach areas will be avoided all year round.

Species	Presence in Ireland	Status in Ireland	Diet	Breeding	Wintering	Distribution in Clew Bay • General* • Specific sites of relevance†	Potential hazards	Control measures at sites of relevance
		ally important numbers winter in Ireland. (Long Term Trend: intermediate decline)			from other regions (e.g. Scandinavia)	<ul style="list-style-type: none"> • Westport Bay (n=100/annum). • Newport Bay (n=25/annum). • Northern Bay (n=145/annum). Sites of relevance (Spring/summer): Several islands and coastal areas.	breeding pairs (ref: Liley, D. & W.J. Sutherland, 2007)	
Sanderling (<i>Calidris alba</i>)	Winter visitor	Green conservation status (Long Term Trend: stable or increasing)	Small invertebrates along the tidal edge (sandy coastlines) including polychaete worms and shrimp-like crustaceans.	Arctic tundra	Along sandy coastlines, especially non-estuarine.	General distribution: <ul style="list-style-type: none"> • Southern Bay (n=46 / annum). • Westport Bay (n=23 / annum). • Newport Bay (n=83 / annum). • Northern Bay (n=167 / annum). Sites of relevance: Unknown.	Feeding source: no impact Habitat loss: no impact Human disturbance: no impact There is no significant risk of harvest activities impacting on feeding source or habitat.	Mitigation not required.
Sandwich Tern (<i>Sterna sandvicensis</i>)	Summer (Mar-Sept)	Amber-conservation status	Mainly Surface dwelling fish	Mar-Sept: Nests on the ground (coast & inland)	Mainly southern Europe and Africa	General distribution in Winter: Present in all regions: <ul style="list-style-type: none"> • Southern Bay (n=14/annum). • Westport Bay (n=11/annum). • Newport Bay (n≤59/annum). • Northern Bay (n=6/annum). Sites of relevance (Spring/summer): Stony Island (L943854).	Feeding source: no impact Habitat loss: no impact Human disturbance: Human disturbance at nesting colonies.	No harvest between Mar- Oct at sites of relevance.
Shelduck (<i>Tadorna tadorna</i>)	Resident and winter during the winter from Scandinavia and the Baltic	Amber-conservation status in Ireland, as the majority of wintering population occurs at	Feeding mainly during the day on <i>Hydrobia ulvae</i> which is present in estuaries.	Along seashores, larger lakes and rivers.	Sheltered estuaries, tidal mudflats	General distribution in Winter: Higher in south east: <ul style="list-style-type: none"> • Southern Bay (n= 10/annum). • Westport Bay (n=48/annum). • Newport Bay (n=9/annum). • Northern Bay (n=3/annum). Sites of relevance: Unknown.	Feeding source: no impact Habitat loss: no impact Human disturbance: The development of ports, marinas, harbours and recreational pressures are considered as having potential to impact on Shelduck (Holden & Housden, 2016, pg. 26). The species	Avoid estuarine areas containing soft mud or marsh at the mouths of rivers between Sept-April. Ensure caution if in the vicinity of these areas between May-

Species	Presence in Ireland	Status in Ireland	Diet	Breeding	Wintering	Distribution in Clew Bay • General* • Specific sites of relevance†	Potential hazards	Control measures at sites of relevance
		>ten sites. (Long Term Trend: intermediate decline)					is also sensitive to human disturbance when feeding (Martin, 1973, Hockin et al., 1992 and references therein). There is no significant risk of harvest activities impacting on feeding source or habitat.	Aug.
Teal (<i>Anas crecca</i>)	Resident & winter migrant from Iceland.	Amber-conservation status in Ireland due to a decline in the breeding population. (Long Term Trend: stable or increasing)	Small seeds, green algae (<i>Enteromorpha</i> sp), chironomid (midges).	Nest away from the coast near freshwater lakes, pools and streams.	Found in coastal lagoons, estuaries wetlands, inland marshes, lakes & ponds.	General distribution in Winter: Higher in south east: • Southern Bay (n=14 /annum) • Westport Bay (n=135/annum). • Newport Bay (n=79/annum). • Northern Bay (n=23/annum). Sites of relevance: Unknown.	Feeding source: no impact Habitat loss: no impact Human disturbance: no impact Significant impacts due to human disturbance are unlikely. The population occupies a broad range of inland and coastal habitats and is not limited to the intertidal zone where harvest activities will occur. Human disturbance is highly unlikely during breeding season as the species nests inland. There is no significant risk of harvest activities impacting on feeding source or habitat.	Mitigation not required.
Turnstone (<i>Arenaria interpres</i>)	Occurs late July to late April	Amber-conservation status (Long Term Trend: moderate decline)	Marine invertebrates, amphipods, fish carrion.	Scandinavia	All around the Irish coast including rocky shores, headlands, islands and piers	General distribution: • Southern Bay (n=24 /annum). • Westport Bay (n=42 /annum). • Newport Bay (n=30 /annum). • Northern Bay (n=12 /annum). Sites of relevance: Unknown.	Feeding source: no impact Habitat loss: no impact Human disturbance: The species tends to be faithful to wintering sites and may be sensitive to human disturbance when resting/roosting at high tide (Anon, 2016C). There is no significant risk of harvest activities impacting on feeding source or habitat.	If approaching shore at high tide, move slowly and keep distance from groups of resting birds. Avoid approaching, chasing, scaring or putting birds to flight at any time, including roosting or feeding birds.

Species	Presence in Ireland	Status in Ireland	Diet	Breeding	Wintering	Distribution in Clew Bay • General* • Specific sites of relevance†	Potential hazards	Control measures at sites of relevance
Wigeon (<i>Anas Penelope</i>)	Winter (Sept-April)	Amber-listed in Ireland as the majority winter at less than ten sites. (Long Term Trend: stable or increasing)	Graze on seagrass and algae such as <i>Zostera</i> spp., <i>Enteromorpha</i> spp., grasslands and cereal crops.	Breed on shallow freshwater marshes.	Inland wetlands, lakes, rivers and turloughs. Coastal marshes, freshwater and brackish lagoons, estuaries, bays.	General distribution: • Southern Bay (n=23 /annum). • Westport Bay (n=165 /annum). • Newport Bay (n=64 /annum). • Northern Bay (n=20 /annum). Sites of relevance: Unknown.	Feeding source: no impact Habitat loss: no impact Human disturbance: no impact Impacts due to human disturbance are unlikely. While feeding rates may be reduced by human disturbance (Hockin D, 1992, Cramp & Simmons, 1977), they occupy a broad range of inland and coastal habitats which are not limited to the intertidal zone where harvesting will occur. There is no significant risk of harvest activities impacting on feeding source or habitat.	Mitigation not required.

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