



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 protected bird species in Clew Bay, as recommended by NPWS on 13/11/2013.**

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# 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 also 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 it's potential impact on avian species. Assessors: Kieran J. Guinan, PhD., 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).
- **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 (13<sup>th</sup> November 2013). This included barnacle and brent geese (wintering birds) and terns (breeding birds). In addition, data was provided courtesy of NPWS on the 3<sup>rd</sup> 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).

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.

‘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, derived from <http://www.birdwatchireland.ie> and additional sources as indicated. See reference section for full 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
Common Tern ( <i>Sterna hirundo</i> )	Summer (Mar- Oct)	Amber-listed	Mainly fish	<b>Mar-Oct:</b> Nests on the ground (coast & inland)	West and south Africa	<b>General distribution in Winter:</b> Very rare (n<1/annum)  <b>Sites of relevance (Spring/summer):</b> Stony Island (L943854) Green island (L943847)	<b>Feeding source:</b> no impact  <b>Habitat loss:</b> no impact  <b>Human disturbance:</b> Human disturbance at nesting colonies can lead to abandonment of nest or chicks.	No harvest during breeding season (Mar- Oct) at sites of relevance.
Sandwich Tern ( <i>Sterna sandvicensis</i> )	Summer (Mar-Sept)	Amber-listed	Mainly Surface dwelling fish	<b>Mar-Sept:</b> Nests on the ground (coast & inland)	Mainly southern Europe and Africa	<b>General distribution in Winter:</b> Rare (n=7/annum)  <b>Sites of relevance (Spring/summer):</b> Stony Island (L943854)	<b>Feeding source:</b> no impact <b>Habitat loss:</b> no impact <b>Human disturbance:</b> Human disturbance at nesting colonies.	No harvest between Mar- Oct at sites of relevance.
Arctic Tern ( <i>Sterna paradisaea</i> )	Summer (Mar-Sept)	Amber-listed	Fish, crustaceans & insects.	<b>Mar-Sept:</b> Nests on the ground (coast & inland)	Both hemispheres.	<b>General distribution in Winter:</b> No data  <b>Sites of relevance (Spring/summer):</b> Mauherillan (L920919) Inishimmel (L908857) Moynish Beg (L865938) Inishcorky (L891932)	<b>Feeding source:</b> no impact <b>Habitat loss:</b> no impact <b>Human disturbance:</b> 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.
Black-headed Gull ( <i>Larus ridibundus</i> )	Resident all year round	Red-listed (rapidly declining breeding)	Insects (arable field). Domestic & fisheries waste)	Breed on coast and inland. Nests on ground (wetland areas).	Numbers increase in winter due to migrations	<b>General distribution in Winter:</b> Highest in south & south east: • Southern Bay (n=357/annum) • Westport Bay (n=445/annum)	<b>Feeding source:</b> no impact <b>Habitat loss:</b> no impact <b>Human disturbance:</b> Human presence is not a significant	No harvest during breeding season (Mar- Sept) at sites of relevance.

		population)			from other regions	<ul style="list-style-type: none"> <li>Newport Bay (n=58/annum)</li> <li>Northern Bay (n=7/annum)</li> </ul> <b>Sites of relevance (Spring/summer):</b> Stony Island (L943854)	risk	
Cormorant ( <i>Phalacrocorax carbo</i> )	Resident all year round	Amber-listed (due localised breeding population)	Fish	<b>April-July:</b> Cliffs (coast) or in trees (inland)	At sea and inland.	<b>General distribution in Winter:</b> Highest in Southern areas: <ul style="list-style-type: none"> <li>Southern Bay (n=64/annum)</li> <li>Westport Bay (n=73/annum)</li> <li>Newport Bay (n=28/annum)</li> <li>Northern Bay (n=10/annum)</li> </ul> <b>Sites of relevance (Spring/summer):</b> Dorinish (L9086)	<b>Feeding source:</b> no impact <b>Habitat loss:</b> no impact <b>Human disturbance:</b> Human presence may cause cormorants to leave nest.	No harvest during breeding season (April- July) at sites of relevance.
Common gull ( <i>Larus canus</i> )	Resident all year round	Amber-listed (decline in localised breeding population)	Insects, invertebrates, fish	Nest on ground (cliffs, island, shingle)	Numbers increase in winter due to migrations from other regions	<b>General distribution in Winter:</b> Highest in South east: <ul style="list-style-type: none"> <li>Southern Bay (n=141/annum)</li> <li>Westport Bay (n=503/annum)</li> <li>Newport Bay (n=44/annum)</li> <li>Northern Bay (n=54/annum)</li> </ul> <b>Sites of relevance (Spring/summer):</b> Dorinish (L9086) Roeillaun (L875930)	<b>Feeding source:</b> no impact <b>Habitat loss:</b> no impact <b>Human disturbance:</b> Intensive human activity can cause nest desertion (Anon, 2009).	No harvest during breeding season (Mar- Sept) at sites of relevance.
Lesser black-backed Gull ( <i>Larus fuscus</i> )	Summer (Mar-Sept)	Amber-listed (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	<b>General distribution in Winter:</b> Highest in South east: <ul style="list-style-type: none"> <li>Southern Bay (n=8/annum)</li> <li>Westport Bay (n=17/annum)</li> <li>Newport Bay (n=2/annum)</li> <li>Northern Bay (n=0/annum)</li> </ul> <b>Sites of relevance (Spring/summer):</b> Roeillaun (L875930)	<b>Feeding source:</b> no impact <b>Habitat loss:</b> no impact <b>Human disturbance:</b> no impact. Species well adapted to human presence.	No mitigation
Greater Black-backed Gull ( <i>Larus marinus</i> )	Resident all year round (all Irish coasts)	Amber-listed due to a decline in the breeding	Fish, Fisheries waste, offal, other birds, food of other birds	On the ground in difficult to access areas. Also at inland lakes	Around the coast and inland. On the ground in	<b>General distribution in Winter:</b> Highest in South east: <ul style="list-style-type: none"> <li>Southern Bay (n=5/annum)</li> <li>Westport Bay (n=13/annum)</li> <li>Newport Bay (n=5/annum)</li> </ul>	<b>Feeding source:</b> no impact <b>Habitat loss:</b> no impact <b>Human disturbance:</b> Human presence can cause abandonment.	No harvest during breeding season (Mar- Sept) at sites of relevance.

		population	(kleptoparasitism)		difficult to access areas. Few in inland lakes	<ul style="list-style-type: none"> <li>Northern Bay (n=4/annum)</li> </ul> <b>Sites of relevance (Spring/summer):</b> Dorinish (L9086)		
Oystercatcher ( <i>Haematopus ostralegus</i> )	Resident all year round	Amber-listed. as Ireland hosts internationally important numbers of Oystercatchers in winter.	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	<b>General distribution in Winter:</b> Well distributed throughout bay: <ul style="list-style-type: none"> <li>Southern Bay (n=100/annum)</li> <li>Westport Bay (n=241/annum)</li> <li>Newport Bay (n=89/annum)</li> <li>Northern Bay (n=162/annum)</li> </ul> <b>Sites of relevance (Spring/summer):</b> Several islands and coastal areas.	<b>Feeding source:</b> no impact <b>Habitat loss:</b> no impact <b>Human disturbance:</b> 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.
Ringed Plover ( <i>Charadrius hiaticula</i> )	Resident all year round	Amber-listed as internationally important numbers winter in Ireland.	Invertebrates (polychaetes % crustaceans).	Nest on exposed wide sandy or shingle beaches.	Numbers increase in winter due to migrations from other regions (e.g. Scandinavia)	<b>General distribution in Winter:</b> Predominance in north and south: <ul style="list-style-type: none"> <li>Southern Bay (n=130/annum)</li> <li>Westport Bay (n=68/annum)</li> <li>Newport Bay (n=3/annum)</li> <li>Northern Bay (n=186/annum)</li> </ul> <b>Sites of relevance (Spring/summer):</b> Several islands and coastal areas.	<b>Feeding source:</b> no impact <b>Habitat loss:</b> no impact <b>Human disturbance:</b> Human presence may affect breeding pairs (ref: Liley, D. & W.J. Sutherland, 2007)	Exposed sandy beach areas will be avoided all year round.
Brent Geese ( <i>Branta bernicla hrota</i> )	Winter (Oct -Mar)	Amber-listed as most winter at <10 sites	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).	<b>General distribution in Winter:</b> High in North & south east, low in south and north east. <ul style="list-style-type: none"> <li>Southern Bay (n=30/annum)</li> <li>Westport Bay (n=110/annum)</li> <li>Newport Bay (n=26/annum)</li> <li>Northern Bay (n=186/annum)</li> </ul> <b>Sites of relevance in Winter:</b> Main roosting/grazing sites: Mulranny Saltmarsh (L827963)	<b>Feeding source:</b> Potential impact on algae as secondary food source (ref: NPWS 2013). <b>Habitat loss:</b> no impact <b>Human disturbance:</b> disturbance leading to flight events (Phalan B & Nairn RGW 2007)	No harvest at sites between (Oct -Mar) at sites of relevance.  There will be no harvest activities at night which would disturb roosting.

						Rosmurrevagh (L852958) and Carrowholly (L965850)  Smaller feeding sites: Several, inc. Bertraw (L903834).		
Barnacle Geese ( <i>Branta leucopsis</i> )	Winter (Oct -Mar)	Amber-listed as most winter at <10 sites	Primarily grazers, feeding on grasses and sedges on the tundra during the breeding season, and on coastal pastures during the winter.	Greenland, Siberia & area around Baltic Sea.	Mainly remote islands, free from disturbance.	<b>General distribution in Winter:</b> Absence in south and north east, present in north and south east: <ul style="list-style-type: none"> <li>• Southern Bay (n=0/annum)</li> <li>• Westport Bay (n=62/annum)</li> <li>• Newport Bay (n=0/annum)</li> <li>• Northern Bay (n=56/annum)</li> </ul> <b>Sites of relevance:</b> Main wintering sites: Rosmurrevagh (L853957) Moynish More (L865943), Rosturk (L869956), Inisheeny (L920845) Pigeon Point (L949850).	<b>Feeding source:</b> no impact <b>Habitat loss:</b> no impact <b>Human disturbance:</b> Sensitive to human disturbance.	No harvest at sites between (Oct -Mar) at sites of relevance.
Great Northern Diver ( <i>Gavia immer</i> )†	Winter (Sept -April)	Green-listed in Ireland	Mostly fish Also crustaceans, molluscs, annelids, insects, amphibians	Iceland, Greenland, North America	Irish coasts (Sept -April)	<b>General distribution in Winter:</b> Predominance in south: <ul style="list-style-type: none"> <li>• Southern Bay (n=13/annum)</li> <li>• Westport Bay (n=10/annum)</li> <li>• Newport Bay (n=3/annum)</li> <li>• Northern Bay (n=8/annum)</li> </ul> <b>Sites of relevance:</b> Unknown	<b>Feeding source:</b> no impact <b>Habitat loss:</b> no impact <b>Human disturbance:</b> no impact.  Food source is mainly fish. There is no significant risk of harvest activities causing species disturbance, impacting on feeding source or habitat.	No mitigation
Red-breasted Merganser ( <i>Mergus serrator</i> )†	Resident all year round (mainly north & west coasts)	Green-listed	Mainly fish (small cod, hake, plaice). roach, trout, salmon, eels and pike (freshwater in breeding season). Rarely eat crustaceans and molluscs.	Nest on sheltered lakes and large rivers in Ireland (mainly west and north).	Widespread in Ireland in marine or brackish waters, (shallow estuaries, bays and lagoons). Also present	<b>General distribution in Winter:</b> Predominance in south east: <ul style="list-style-type: none"> <li>• Southern Bay (n=0/annum)</li> <li>• Westport Bay (n=69/annum)</li> <li>• Newport Bay (n=19/annum)</li> <li>• Northern Bay (n=10/annum)</li> </ul> <b>Sites of relevance:</b> Unknown	<b>Feeding source:</b> no impact <b>Habitat loss:</b> no impact <b>Human disturbance:</b> no impact  Food source is mainly fish. There is no significant risk of harvest activities causing species disturbance, impacting on feeding source or habitat.	No mitigation

					offshore.			
Little Grebe ( <i>Tachybaptus ruficollis</i> )#	Resident on ponds and lakes	Amber-listed due to a contraction in the breeding range	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	<b>General distribution in Winter:</b> Rare in south and north, present in east: <ul style="list-style-type: none"> <li>• Southern Bay (n=0/annum)</li> <li>• Westport Bay (n=13/annum)</li> <li>• Newport Bay (n=23/annum)</li> <li>• Northern Bay (n=0/annum)</li> </ul> <b>Sites of relevance:</b> Unknown	<b>Feeding source:</b> no impact <b>Habitat loss:</b> no impact <b>Human disturbance:</b> 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.	No mitigation
Curlew ( <i>Numenius arquata</i> )#	Mainly a winter visitor to wetlands  Breeds in low numbers (floodplains boglands).	Red-listed due to small and declining breeding population	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.	<b>General distribution in Winter:</b> Predominance in south east: <ul style="list-style-type: none"> <li>• Southern Bay (n=123/annum)</li> <li>• Westport Bay (n=381/annum)</li> <li>• Newport Bay (n=105/annum)</li> <li>• Northern Bay (n=111/annum)</li> </ul> <b>Sites of relevance:</b> Unknown	<b>Feeding source:</b> no impact <b>Habitat loss:</b> no impact <b>Human disturbance:</b> 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.	No mitigation

### References:

Anon 2009. European Union Management Plan 2009-2011. Common Gull, *Larus canus* (Technical Report - 2009 – 035).

Liley, D. & W.J. Sutherland (2007). Predicting the population consequences of human disturbance for Ringed Plovers *Charadrius hiaticula*: a game theory approach. Ibis 149(s1): 82–94.

NPWS (2013). Rogerstown Estuary Special Protection Area (Site Code 4015). Conservation Objectives Supporting Document VERSION 1. page 30.

[http://www.npws.ie/publications/archive/004015\\_Rogerstown%20Estuary%20SPA%20Supporting%20Doc\\_V1.pdf](http://www.npws.ie/publications/archive/004015_Rogerstown%20Estuary%20SPA%20Supporting%20Doc_V1.pdf) . Accessed on 09/12/2013.

Phalan, B. and Nairn, R. (2008). Disturbance to waterbirds in South Dublin Bay. Irish Birds 8: 223-230.

Tjørve KMC & Tjørve E (2010). Contrasting reactions to human disturbance in Eurasian Oystercatchers *Haematopus ostralegus* on the south coast of Norway. *Wader Study Group Bulletin* 117: 62-63.