

Appendix N

Sample Site Specific Conservation Objectives for Lough Corrib SPA

N1

Sample Site Specific Conservation Objectives for the qualifying interests of Lough Corrib SPA based on existing, published conservation objective documents for other European sites

October 2017

Conservation Objectives for : Inner Galway Bay SPA [004031]

A056 Shoveler *Anas clypeata*

To maintain the favourable conservation condition of Shoveler in Inner Galway Bay SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document
Distribution	Number and range of areas used by waterbirds	No significant decrease in the range, timing or intensity of use of areas by shoveler, other than that occurring from natural patterns of variation	Waterbird distribution from the 2009/2010 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A065 Common Scoter *Melanitta nigra*

To maintain the favourable conservation condition of Common Scoter in Dundalk Bay SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trend assessment using (Generalised Additive Modelling (GAM)) could not be undertaken for this species due to an incomplete dataset. A measure of population change was calculated using the 'generic threshold' method. See Section 4 of the SPA conservation objectives supporting document for more details
Distribution	Number and range of areas used by waterbirds	No significant decrease in the numbers or range of areas used by waterbird species, other than that occurring from natural patterns of variation	As determined by regular low tide and other waterbird surveys. Waterbird distribution from the 2009/2010 waterbird survey programme is discussed in Section 5 of the SPA conservation objectives supporting document

Conservation objectives for: Wexford Harbour and Slobs SPA [4076]

A082 Hen Harrier *Circus cyaneus*

To maintain the favourable conservation condition of Hen Harrier in Wexford Harbour and Slobs SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Roost attendance: individual hen harriers	Number	No significant decline	Wexford Harbour and Slobs SPA contains an important winter roost site for hen harriers. The five year mean peak recorded for this roost (based on the period 2005/06 - 2009/10) equates to five hen harriers. Measure based on standard survey methods (see O'Donoghue, 2011)
Suitable foraging habitat	hectares	No significant decline	Key prey items: broad diet encompassing birds and mammals. Key habitats: Wetlands, scrub, tillage, hedgerows. Estimated potential foraging area within the SPA is calculated from terrestrial areas plus aquatic (terrestrial) habitat 1889.5ha (see the conservation objectives supporting document (for waterbirds) for further information on wetland habitats). Adjacent areas outside of the SPA are also used by hen harrier during the non-breeding season albeit to an unknown extent
Roost site: condition	Area (hectares); structure	The roost site should be maintained in a suitable condition	A winter roost site occurs within Wexford Harbour and Slobs SPA and is estimated to be 14.1ha in size
Disturbance at the roost site	Level of impact	Human activities should occur at levels that do not adversely affect the Hen Harrier winter roost population	Hen Harriers are sensitive to disturbance at roost sites during the non-breeding season

A125 Coot *Fulica atra*

To maintain the favourable conservation condition of Coot in Lough Swilly SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trend assessment (Generalised Additive Modelling (GAM)) was undertaken using waterbird count data collected through the Irish Wetland Bird Survey and other surveys. See the the SPA conservation objectives supporting document for further details
Distribution	Number and range of areas used by waterbirds	No significant decrease in the numbers or range of areas used by waterbird species, other than that occurring from natural patterns of variation	As determined by regular low tide and other waterbird surveys. Waterbird distribution from the 2009/2010 waterbird survey programme is discussed in Section 5 of the SPA conservation objectives supporting document

A140 Golden Plover *Pluvialis apricaria*

To maintain the favourable conservation condition of Golden Plover in Inner Galway Bay SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Number, range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by golden plover, other than that occurring from natural patterns of variation	Waterbird distribution from the 2009/2010 waterbird survey programme is discussed in part five of the conservation objectives supporting document

Conservation Objectives for : Inner Galway Bay SPA [004031]

A179 Black-headed Gull *Chroicocephalus ridibundus*

To maintain the favourable conservation condition of Black-headed Gull in Inner Galway Bay SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document
Distribution	Number and range of areas used by waterbirds	There should be no significant decrease in the range, timing and intensity of use of areas used by black-headed gull other than that occurring from natural patterns of variation	As determined by regular low tide and other waterbird surveys. Waterbird distribution from the 2009/2010 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A182 Common Gull *Larus canus*

To maintain the favourable conservation condition of Common Gull in Inner Galway Bay SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Population trends are presented in part four of the conservation objectives supporting document
Distribution	Number and range of areas used by waterbirds	No significant decrease in the range, timing or intensity of use of areas by the common gull, other than that occurring from natural patterns of variation	Waterbird distribution from the 2009/2010 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A193 Common Tern *Sterna hirundo*

To maintain the favourable conservation condition of Common Tern in Inner Galway Bay SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Breeding population abundance: apparently occupied nests (AONs)	Number	No significant decline	Measure based on standard tern survey methods (see Walsh et al., 1995). Hannon et al. (1997) and Mitchell et al. (2004) provide summary population information. The Seabird Monitoring Programme (SMP) (JNCC, 2013) provides population data for this species
Productivity rate: fledged young per breeding pair	Mean number	No significant decline	Measure based on standard tern survey methods (see Walsh et al., 1995). The Seabird Monitoring Programme (SMP) (JNCC, 2013) provides population data for this species
Distribution: breeding colonies	Number; location; area (Hectares)	No significant decline	Common tern breeding colonies can be sited in both coastal and inland areas using a wide variety of habitats including sandy, rocky or well-vegetated islands in estuaries, lakes and rivers. This species can also use man-made substrates (Del Hoyo et al., 1996)
Prey biomass available	Kilogrammes	No significant decline	Key prey items: Small fish, crustaceans, insects and occasionally squid. Key habitats: common tern forage in/over shallow coastal waters, bays, inlets, shoals, tidal-rips, drift lines, beaches, saltmarsh creeks, lakes, ponds, or rivers. Foraging range: max. 37km, mean max. 33.81km, mean 8.67km (BirdLife International Seabird Database (Birdlife International, 2013))
Barriers to connectivity	Number; location; shape; area (hectares)	No significant increase	Seabird species can make extensive use of marine waters adjacent to their breeding colonies. Foraging range: max. 37km, mean max. 33.81km, mean 8.67km (BirdLife International Seabird Database (Birdlife International, 2013))
Disturbance at breeding site	Level of impact	Human activities should occur at levels that do not adversely affect the breeding little tern population	Breeding colonies can be sited in both coastal and inland areas using a wide variety of habitats including sandy, rocky or well vegetated islands in estuaries, lakes and rivers. This species can also use man-made substrates (Del Hoyo et al., 1996)

Conservation Objectives for : South Dublin Bay and River Tolka Estuary SPA [004024]

A193 Common Tern *Sterna hirundo*

To maintain the favourable conservation condition of Common Tern in South Dublin Bay and River Tolka Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Breeding population abundance: apparently occupied nests (AONs)	Number	No significant decline	Measure based on standard tern survey methods (see Walsh et al., 1995). For more information on the history and recent population estimates of the tern colony at this SPA see Newton et al. (2014)
Productivity rate: fledged young per breeding pair	Mean number	No significant decline	Measure based on standard tern survey methods (see Walsh et al., 1995). For more information on the history and recent population estimates of the tern colony at this SPA see Newton et al. (2014)
Passage population: individuals	Number	No significant decline	Evening surveys of roosting terns in South Dublin Bay and River Tolka Estuary SPA confirm the conservation importance of the south Dublin Bay area during the post-breeding/pre-migration period. Up to 11,700, 9,025 and 8,020 terns were recorded in 2006, 2007 and 2010 respectively. Given the counting conditions (i.e. low light levels and long distance recording), it was rarely possible to identify terns to species level but the majority of the birds appear to have been common terns (<i>Sterna hirundo</i>), with smaller numbers of Arctic and roseate terns (<i>S. paradisaea</i> , <i>S. dougallii</i>); (sandwich, little and black terns (<i>S. sandvicensis</i> , <i>S. albifrons</i> , <i>Chlidonias niger</i>) were also recorded) (Merne et al., 2008; Merne 2010). At least 4,887 common tern have been recorded here during the aforementioned survey years. This estimate does not factor in turnover rates and therefore the total number of common tern using this SPA may be significantly higher
Distribution: breeding colonies	Number; location; area (Hectares)	No significant decline	The common tern breeding colony in Dublin Bay is primarily sited on an artificial structure known as the 'ESB Dolphin' (see Newton et al., 2014)
Distribution: roosting areas	Number; location; area (Hectares)	No significant decline	Merne et al. (2008) describe the main roosting area as the exposed sand banks in south Dublin Bay, primarily between the Martello Towers of at Sandymount (319524, 232021) and Williamstown (320796, 229979). Terns have been occasionally recorded outside of this area on adjacent sandflats extending to Irishtown/South Bull Wall and to Blackrock but these birds eventually joined the birds roosting in the main area (Merne et al 2008)
Prey biomass available	Kilogrammes	No significant decline	During the breeding season, common terns can make extensive use of marine waters adjacent to their breeding colonies. Key prey items: Small fish, crustaceans, insects and occasionally squid. Key habitats: forage in/over shallow coastal waters, bays, inlets, shoals, tidal-rips, drift lines, beaches, saltmarsh creeks, lakes, ponds or rivers. Foraging range: max. 37km; mean max. 33.81km; mean 8.67km (Birdlife International, 2014). Terns associated with the roost are thought to feed during the day in the wider Dublin Bay area but direct survey evidence is incomplete. Evening observations of arriving terns to the primary roosting area indicated that most flew into Dublin Bay from an easterly and southeasterly direction leading the authors to suggest they were feeding in the shallow waters of the Kish/Bray and Burford Banks (Merne et al., 2008). Foraging ranges between post-breeding roost sites and feeding areas may be greater than the estimates given for the breeding season

Barriers to connectivity	Number; location; shape; area (hectares)	No significant increase	During the breeding season, common terns can make extensive use of marine waters adjacent to their breeding colonies. Foraging range: max. 37km; mean max. 33.81km; mean 8.67km (Birdlife International, 2014). Terns associated with the roost are thought to feed during the day in the wider Dublin Bay area but direct survey evidence is incomplete. Evening observations of arriving terns to the primary roosting area indicated that most flew into Dublin Bay from an easterly and southeasterly direction leading the authors to suggest the birds were feeding in the shallow waters of the Kish/Bray and Burford Banks (Merne et al., 2008). Foraging ranges between post-breeding roost sites and feeding areas may be greater than the estimates given for the breeding season
Disturbance at breeding site	Level of impact	Human activities should occur at levels that do not adversely affect the breeding common tern population	The common tern breeding colony in Dublin Bay is primarily sited on an artificial structure known as the 'ESB Dolphin' (see Newton et al., 2014)
Disturbance at roosting site	Level of impact	Human activities should occur at levels that do not adversely affect the numbers of common tern among the post-breeding aggregation of terns	Merne et al (2008) describes the main roosting area as the exposed sand banks in south Dublin Bay primarily between the Martello Towers at Sandymount (319524, 232021) and Williamstown (320796, 229979). Although principally used as a night roost, birds begin to roost at least one hour before sunset during the period July - September with peak activity occurring between mid-August and mid-September (Merne et al 2008; Merne 2010). Merne (2010) recorded significant disturbance events to the roosting terns caused by people with dogs off the leash and kite surfing

Conservation Objectives for : Rockabill SPA [004014]

A194 Arctic Tern *Sterna paradisaea*

To maintain the favourable conservation condition of Arctic Tern in Rockabill SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Breeding population abundance: apparently occupied nests (AONs)	Number	No significant decline	For census methodology see Newton and Glenister (2008). 165 Arctic tern nests were recorded during the 2012 breeding season (for more information see Burke et al., 2012)
Productivity rate: fledged young per breeding pair	Mean number	No significant decline	For productivity estimation methodology see Newton and Glenister (2008). In 2012, a productivity rate of 0.14 - 0.22 fledglings per nest was estimated (Burke et al., 2012)
Distribution: breeding colonies	Number; location; area (hectares)	No significant decline	For details of the sections and enclosures delineated for Rockabill SPA consult Newton and Glenister (2008). For the most recent information on how Arctic tern nest sites are distributed within the SPA, see Burke et al. (2012)
Prey biomass available	Kilogrammes	No significant decline	Key prey items: Small fish, crustaceans and other invertebrates. Key habitats: include open waters and shallow bays, rocky shores, tidal flats, shoals, tide rips, ocean fronts and upwellings. Foraging range: max. 20.6km, mean max. 12.24km, mean 11.75km (BirdLife International Seabird Database (Birdlife International, 2013)). For more site-specific information, consult Burke et al. (2012)
Barriers to connectivity	Number; location; shape; area (hectares)	No significant increase	Seabird species make extensive use of the marine waters adjacent to their breeding colonies. Foraging range: max. 20.6km, mean max. 12.24km, mean 11.75km (BirdLife International Seabird Database (Birdlife International, 2013)) For more site-specific information, consult Burke et al. (2012)
Disturbance at breeding site	Level of impact	Human activities should occur at levels that do not adversely affect the breeding Arctic tern population	For recent information on disturbance levels during the breeding season, refer to Burke et al. (2012)

Conservation Objectives for : South Dublin Bay and River Tolka Estuary SPA [004024]

A194 Arctic Tern *Sterna paradisaea*

To maintain the favourable conservation condition of Arctic Tern in South Dublin Bay and River Tolka Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Passage population	Number of individuals	No significant decline	Evening surveys of roosting terns in South Dublin Bay and River Tolka Estuary SPA confirm the conservation importance of the south Dublin Bay area during the post-breeding/pre-migration period. Up to 11,700, 9,025 and 8,020 terns were recorded in 2006, 2007 and 2010 respectively. Given the counting conditions (i.e. low light levels and long distance recording) it was rarely possible to identify the terns to species level but the majority of the birds appear to have been common terns (<i>Sterna hirundo</i>), with smaller numbers of Arctic and roseate terns (<i>S. paradisaea</i> , <i>S. dougalli</i>); (sandwich, little and black terns (<i>S. sandvicensis</i> , <i>S. albifrons</i> , <i>Chlidonias niger</i>) were also recorded) (Merne et al., 2008; Merne 2010). At least 200 Arctic tern have been recorded here during the aforementioned survey years. This estimate does not factor in turnover rates and therefore the total number of Arctic tern using this SPA may be significantly higher
Distribution: roosting areas	Number; location; area (hectares)	No significant decline	Merne et al. (2008) describe the main roosting area as the exposed sand banks in south Dublin Bay primarily between the Martello Towers at Sandymount (319524, 232021) and Williamstown (320796, 229979). Terns have been occasionally recorded outside of this area on adjacent sandflats extending to Irishtown/South Bull Wall and to Blackrock but these birds eventually join the birds roosting in the main area (Merne et al., 2008)
Prey biomass available	Kilogrammes	No significant decline	Terns associated with the roost are thought to feed during the day in the wider Dublin Bay area but direct survey evidence is incomplete. Evening observations of terns arriving to the roosting area indicated that most flew in from an easterly and southeasterly direction leading the authors to suggest they were feeding in the shallow waters of the Kish/Bray and Burford Banks (Merne et al., 2008). During the breeding season Arctic terns can make extensive use of marine waters adjacent to their breeding colonies. Key prey items: Small fish, crustaceans and other invertebrates. Key habitats: forage in/over open waters and shallow bays, rocky shores, tidal flats, shoals, tide rips and ocean fronts. Foraging range: max. 20.6km, mean max. 12.24km, mean 11.75km (Birdlife International, 2014). As these foraging range estimates relate to birds during the breeding season, the distances between post-breeding roost sites and feeding areas may be greater

Barriers to connectivity	Number; location; shape; area (hectares)	No significant increase	Terns associated with the roost are thought to feed during the day in the wider Dublin Bay area but direct survey evidence is incomplete. Evening observations of arriving terns to the primary roosting area indicated that most flew into Dublin Bay from an easterly and southeasterly direction leading the authors to suggest the birds were feeding in the shallow waters of the Kish/Bray and Burford Banks (Merne et al., 2008). During the breeding season Arctic terns can make extensive use of marine waters adjacent to their breeding colonies. Foraging range: max. 20.6km, mean max. 12.24km, mean 11.75km (Birdlife International, 2014). As these foraging range estimates relate to birds during the breeding season, the distances between post-breeding roost sites and feeding areas may be greater
Disturbance at roosting site	Level of impact	Human activities should occur at levels that do not adversely affect the numbers of Arctic tern among the post-breeding aggregation of terns	Merne et al. (2008) describes the main roosting area as the exposed sand banks in south Dublin Bay primarily between the Martello Towers at Sandymount (319524, 232021) and Williamstown (320796, 229979). Although principally used as a night roost, birds begin to roost at least one hour before sunset during the period July - September with peak activity occurring between mid-August and mid-September (Merne et al., 2008; Merne, 2010). Merne (2010) recorded significant disturbance events to the roosting terns caused by people with dogs off the leash and kite surfing

A395 Greenland White-fronted goose *Anser albifrons flavirostris*

To maintain the favourable conservation condition of Greenland White-fronted Goose in The Raven SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population trend	Percentage change	Long term population trend stable or increasing	Waterbird population trends are presented in part four of the conservation objectives supporting document
Distribution	Number and range of areas used by waterbirds	There should be no significant decrease in the numbers or range of areas used by waterbird species, other than that occurring from natural patterns of variation	Waterbird distribution from the 2009/2010 waterbird survey programme is discussed in part five of the conservation objectives supporting document

A999 Wetlands

To maintain the favourable conservation condition of wetland habitat in Inner Galway Bay SPA as a resource for the regularly occurring migratory waterbirds that utilise it. This is defined by the following attribute and target:

Attribute	Measure	Target	Notes
Habitat area	Hectares	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 13,267ha, other than that occurring from natural patterns of variation	The wetland habitat area was estimated as 13,267ha using OSi data and relevant orthophotographs. For further information see part three of the conservation objectives supporting document