## Species of concern – collision risk

Developers and SOSS steering group members were contacted and asked to provide details of species which they felt were at a particularly high risk of collision in different seasons. Responses were received from 5 developers as well as the RSPB and SNH. However, there was a bias towards North Sea developers, with only a single response from developers in the Irish Sea. As a result, species such as Manx Shearwater, which are more abundant in the Irish Sea than the North Sea, are not represented here. Species were ranked according to the number of respondents that identified them as being at risk in each season, summed across all four seasons.

Species felt to be most at risk from collision, in the highest number of zones, are widespread species, such as the Northern Gannet, Black-legged Kittiwake and large gulls, of which a high proportion are thought to fly at collision risk height (Cook *et al.* 2011). Species ranked as at a moderate risk of collisions were typically those most likely to occur with offshore wind farm zones during spring or autumn passage, for example many species of waterfowl. Those with the lowest score (identified as at risk of collision by the lowest number of respondents) include species, such as the Corncrake, which are highly restricted in their range and those, such as the Northern Fulmar and auks, which fly at low heights unlikely to bring them into contact with turbines.

**Table 1.** Species ranks according to their perceived risk of collision with offshore wind turbines as assessed by developers and other members of the SOSS steering group. Darker colours indicate species that are perceived as a high collision risk by a larger number of respondents.

| Rank | Species | Spring Passage | Breeding Season | Autumn Passage | Winter |
|---|---|---|---|---|---|
| 1 | Northern Gannet | | | | |
| 2 | Black-legged Kittiwake | | | | |
| 3= | Great Black-backed Gull | | | | |
| 3= | Lesser Black-backed Gull | | | | |
| 5= | Herring Gull | | | | |
| 5= | Arctic/Great Skua | | | | |
| 7 | Terns | | | | |
| 8 | Whooper Swan | | | | |
| 9 | Pink-footed Goose | | | | |
| 10 | Little Gull | | | | |
| 11= | Black-headed Gull | | | | |
| 11= | Common Gull | | | | |
| 11= | Dark-bellied Brent Goose | | | | |
| 11= | Seaduck | | | | |
| 15= | Greylag Goose | | | | |
| 15= | Migrating Waterfowl | | | | |
| 15= | Barnacle Goose | | | | |
| 15= | Auks | | | | |
| 15= | Northern Fulmar | | | | |
| 15= | Corncrake | | | | |
| 15= | White-fronted Goose | | | | |

These results can be used to prioritise the species on which future work to monitor collisions at offshore sites could focus, or to help choose appropriate sites for such work, at which the majority of the species ranked as of highest concern occur. Langston (2010) assessed the collision risk of species in relation to offshore windfarm. Species collision risks were assessed as follows:

| | |
|---|---|
| High Risk | Bewick's/Tundra Swan, Whooper Swan, Corncrake |
| Moderate Risk | Bean Goose (Taiga), Greenland Greater White-fronted Goose, European Greater White-fronted Goose, Greylag Goose (Iceland), Greylag Goose (NW Scotland), Barnacle Goose (Nearctic), Barnacle Goose (Svalbard), Dark-bellied Brent Goose, Light-bellied Brent Goose (Svalbard), Light-bellied Brent Goose (Canada), Northern Gannet, Great Cormorant, Pomarine Skua, Great Skua, Arctic Skua, Long-tailed Skua, Mediterranean Gull, Lesser Black-backed Gull, Herring Gull, Iceland Gull, Glaucous Gull, Great Black-backed Gull, Black-legged Kittiwake, Sandwich Tern, Arctic Tern, Common Tern Roseate Tern |
| Low Risk | Greater Scaup, Common Eider, Long-tailed Duck, Common Scoter, Velvet Scoter, Goldeneye, Red-breasted Merganser, Red-throated Diver, Black-throated Diver, Great Northern Diver, Slavonian Grebe, Northern Fulmar, Cory's Shearwater, Great Shearwater, Sooty Shearwater, Manx Shearwater, Balearic Shearwater, European Storm-petrel, Leach's Storm-petrel, European Shag, Little Gull, Black-headed Gull, Common Gull, Little Tern, Common Guillemot, Razorbill, Little Auk, Atlantic Puffin. |

Our results share a number of similarities with those of Langston (2010). Both studies ranked auks, northern fulmar and seaducks as being at low risk of collision. However, there are a number of key differences. Langston (2010) ranks Bewick's Swan, Whooper Swan and Corncrake as carrying the highest risk of collision, whilst the results from our study rank them amongst the lowest species at risk of collision. A key reason for this difference is that by targeting contractors and developers, our study strongly favoured species which were widespread, for example the Northern Gannet and Black-legged Kittiwake, whilst Langston (2010) placed a greater emphasis on species flight capabilities.

**References:**

Cook, A.S.C.P., Ross-Smith, V.H., Roos, S., Burton, N.H.K., Beale, N., Coleman, C., Daniel, H., Fitzpatrick, S., Rankin, E., Norman, K. & Martin, G. 2011. *Identifying a range of options to prevent or reduce avian collision with offshore wind farms, using a UK-based case study*. BTO Research Report No. 580 to Defra. British Trust for Ornithology, Thetford.

Langston, R.H.W. 2010. *Offshore wind farms and birds: Round 3 zones, extensions to Round 1 and Round 2 sites and Scottish Territorial Waters*. RSPB Research Report No. 39. RSPB, Sandy, UK.