Habitats Regulations Assessment document: FARNE – tLSE 023

European Marine Site:	**Farne Islands SPA**
Generic sub-feature(s):	**Pursuit & Plunge diving birds, Benthic feeding birds, Water column**
Gear type(s):	**Trammel nets**
NIFCA tLSE type:	**Detailed**
Gear/feature interaction reference(s):[1]	**FARNE-115** **FARNE-117** **FARNE-267**

Revision history		
Date	***Revision***	***Editor***
22/12/2015	Document created	VR
10/02/2016	Document revised following consultation with Natural England (05/02/16)	SM
13/06/2016	Document revised following consultation with Natural England (10/06/16)	VR

Has Natural England been formally consulted on this tLSE (and do they agree)?	Yes

Date of document completion/'sign-off':	**13/06/2016**

Test for Likely Significant Effect (LSE)

FARNE-363: Plunge & Pursuit Diving Birds

1. Is the activity/activities directly connected with or necessary to the management of the site for nature conservation?	No
2. What pressures (such as abrasion, disturbance) are potentially exerted by the gear type(s)? *Sensitivities as listed are based on DRAFT Interim conservation advice. No Regulation 33 or 35 Advice is available for the Farne Islands SPA and best judgement has been used to determine which of these pressures are truly exerted by the gear type(s).	Above water noise (Sensitive)[1] Collision ABOVE water with static or moving objects not naturally found in the marine environment. (Sensitive)[2] Collision below water (Sensitive)[2] Introduction or spread of non-indigenous species (Sensitive)[3] Litter i.e. Ghost fishing (Sensitive)[4] Removal of non-target species i.e. bycatch (Sensitive)[5] Underwater noise changes (Sensitive)[6] Visual disturbance (Sensitive)[7] Selective extraction of species (i.e. removal of target species)[8,9]
3. Is the feature potentially exposed to the pressure(s)?	No No current activity within the vicinity of the Farne Islands SPA or the NIFCA district as a whole (Jon Green, pers. comms.).

4. What are the conservation objectives for the feature? *DRAFT interim conservation advice does not give definitive conservation objectives. However, completing an HRA without COs is difficult. The CO as listed in this document is based on current knowledge of the status, and the pressures, affecting designated features (see sections 4 &5). Expert judgement has been used to determine which features may be exposed to the pressure(s) resulting in inferred COs. These COs are assigned a degree of uncertainty i.e. a subjective confidence level based on evidence 'High', 'Medium,' 'Low', and 'Unknown'.	Conservation objective for plunge & pursuit diving birds: **Maintain*:** - the structure, function and supporting processes associated with the feature and its supporting habitat through management or other measures (whether within and/or outside the site boundary as appropriate) and ensure these measures are not being undermined or compromised. - the abundance and structure of the assemblage at or above its current or target level (whichever is the higher) through [maintaining/restoring] breeding productivity and adult survival. - the concentrations and deposition of air pollutants[to] below the site-relevant Critical Load or Level values given for this feature of the site on the Air Pollution Information System (www.apis.ac.uk). - the extent, distribution and availability of suitable breeding habitat which supports the feature for all necessary stages of its breeding cycle (courtship, nesting, feeding). - the water quality and quantity to a standard which provides the necessary conditions to support the SPA feature, where the supporting habitats of the feature are dependent on surface water. - the size of the population at a level which is above either the population-size included on the SPA Citation or an alternative baseline-population or that based on the current mean peak count or equivalent, whichever is the higher. Those conservation objectives that might be affected by trammel netting activities are underlined. *Confidence level for interim, inferred Conservation Objective: **MEDIUM** (see section 6 for detail).
5. What are the potential effects/impacts of the pressure(s) on the feature, taking into account the exposure level?	The greatest risk of trammel netting to Pursuit and Plunge diving birds within the Farne Islands SPA is likely to come from accidental bycatch of birds in nets. However, as there is no current activity within the vicinity of the Farne Islands SPA (or the NIFCA district as a whole), exposure levels are currently zero and there is no current interaction. NIFCA Byelaw 6 (Fixed Engines) includes a number of technical, spatial and temporal restrictions designed to minimise the potential of accidental bycatch of birds within the district. For instance, between 26th March – 31st October it is prohibited to set a fixed engine in waters less than 7m depth and the headline of the fixed engine must be at least 4m below the surface of the water.

<table>
<tr><td>6. Condition and Conservation Objective Inferences</td><td colspan="2">Of the two species of pursuit and plunge diving birds designated for the Farne Islands SPA, puffins had a poor season in 2015 attributed to flooding of burrows, resulting in reduced productivity[15]. This decline in puffin abundance reflects a national trend, which has resulted in puffins being added to the IUCN Red List. Guillemot numbers on the Farne Islands however are increasing, with 35,820 pairs recorded in 2015, a 3% increase from 2014 and a 2555% increase since records began in 1971[15].

No conservation objective is provided for the combined feature of ‘Pursuit and Plunge diving birds’ and because of the contrasting population trends between species, the Conservation Objectives have been inferred separately; ‘Maintain’ for guillemots and ‘Recover’ for puffins, from the National Trust’s 2015 report for breeding birds on the Farne Islands with a medium level of confidence.</td></tr>
<tr><td>7. Is the potential scale or magnitude of any effect likely to be significant?</td><td>Alone:

No

*However given the similarities with other forms of static fixed netting (i.e. gill and entangling nets), Trammel netting will be considered alongside gill and entangling netting in a full Appropriate Assessment.</td><td>OR In-combination

No</td></tr>
<tr><td>8. Have NE been consulted on this LSE test? If yes, what was NE’s advice?</td><td colspan="2">Yes

Synthesis of evidence and local knowledge informing this decision occurred between January 2014 and the date of this document’s creation with stakeholders (where appropriate) and other statutory authorities. Natural England (CS) was involved with this formal process.</td></tr>
</table>

Conclusion

Is the proposal likely to have a significant effect 'alone or in combination' on the Farne Islands SPA?

No, however given the similarities with other forms of static fixed netting (i.e. gill and entangling nets), Trammel netting will be considered alongside gill and entangling netting in a full Appropriate Assessment.

Test for Likely Significant Effect (LSE)

FARNE-364: Benthic Feeding Birds

1. Is the activity/activities directly connected with or necessary to the management of the site for nature conservation?	No
2. What pressures (such as abrasion, disturbance) are potentially exerted by the gear type(s)? *Sensitivities as listed are based on DRAFT Interim conservation advice. No Regulation 33 or 35 Advice is available for the Farne Islands SPA and best judgement has been used to determine which of these pressures are truly exerted by the gear type(s).	Above water noise (Sensitive)[1] Collision ABOVE water with static or moving objects not naturally found in the marine environment. (Sensitive)[2] Collision below water (Sensitive)[2] Introduction or spread of non-indigenous species (Sensitive)[3] Litter i.e. Ghost fishing (Sensitive)[4] Removal of non-target species i.e. bycatch (Sensitive)[5] Underwater noise changes (Sensitive)[6] Visual disturbance (Sensitive)[7] Selective extraction of species (i.e. removal of target species)[8,9]
3. Is the feature potentially exposed to the pressure(s)?	No No current activity within the vicinity of the Farne Islands SPA or the NIFCA district as a whole (Jon Green, pers. comms.).

4. What are the conservation objectives for the feature? *DRAFT interim conservation advice does not give definitive conservation objectives. However, completing an HRA without COs is difficult. The CO as listed in this document is based on current knowledge of the status, and the pressures, affecting designated features (see sections 4 &5). Expert judgement has been used to determine which features may be exposed to the pressure(s) resulting in inferred COs. These COs are assigned a degree of uncertainty i.e. a subjective confidence level based on evidence 'High', 'Medium,' 'Low', and 'Unknown'.	Conservation objective for Benthic feeding birds: **Maintain*** - the structure, function and supporting processes associated with the feature and its supporting habitat through management or other measures (whether within and/or outside the site boundary as appropriate) and ensure these measures are not being undermined or compromised. - the abundance and structure of the assemblage at or above its current or target level (whichever is the higher) through [maintaining/restoring] breeding productivity and adult survival. - the concentrations and deposition of air pollutants[to] below the site-relevant Critical Load or Level values given for this feature of the site on the Air Pollution Information System (www.apis.ac.uk). - the extent, distribution and availability of suitable breeding habitat which supports the feature for all necessary stages of its breeding cycle (courtship, nesting, feeding). - the water quality and quantity to a standard which provides the necessary conditions to support the SPA feature, where the supporting habitats of the feature are dependent on surface water. - the size of the population at a level which is above either the population-size included on the SPA Citation or an alternative baseline-population or that based on the current mean peak count or equivalent, whichever is the higher. Those conservation objectives that might be affected by trammel netting activities are underlined. *Confidence level for interim, inferred Conservation Objective: **MEDIUM** (see section 6 for detail).

5. What are the potential effects/impacts of the pressure(s) on the feature, taking into account the exposure level?	The greatest risk of trammel netting to Benthic feeding seabirds within the Farne Islands SPA is likely to come from accidental bycatch of birds in nets. However, as there is no current activity within the vicinity of the Farne Islands SPA (or the NIFCA district as a whole), exposure levels are currently zero and there is no current interaction. NIFCA Byelaw 6 (Fixed Engines) includes a number of technical, spatial and temporal restrictions designed to minimise the potential of accidental bycatch of birds within the district. For instance, between 26th March – 31st October it is prohibited to set a fixed engine in waters less than 7m depth and the headline of the fixed engine must be at least 4m below the surface of the water.	
6. Condition and Conservation Objective Inferences	Benthic feeding seabirds are not included as a designated feature of the Farne Islands SPA in the Interim Conservation Advice (2015), however they are present at the site and are a classified bird species (e.g. Common eider). Eider duck numbers dropped on the Farne Islands in 2015 by 10.79% although productivity only dropped by ~5%[15]. Good numbers of other benthic feeding birds such as the Oystercatcher and Ringed Plover were recorded at the site in 2015[15]. In lieu of conservation objectives for 'Benthic feeding seabirds' within the Farne Islands SPA, the Conservation Objective of 'Maintain' is inferred from the data provided by the National Trust 2015 report on breeding birds on the Farne Islands with a 'Medium' confidence level.	
7. Is the potential scale or magnitude of any effect likely to be significant?	**Alone:** **No** *However given the similarities with other forms of static fixed netting (i.e. gill and entangling nets), Trammel netting will be considered alongside gill and entangling netting in a full Appropriate Assessment.	**OR In-combination** **No**

8. Have NE been consulted on this LSE test? If yes, what was NE's advice?	**Yes** Synthesis of evidence and local knowledge informing this decision occurred between January 2014 and the date of this document's creation with stakeholders (where appropriate) and other statutory authorities. Natural England (CS) was involved with this formal process.

Conclusion

Is the proposal likely to have a significant effect 'alone or in combination' on the Farne Islands SPA?

No, however given the similarities with other forms of static fixed netting (i.e. gill and entangling nets), Trammel netting will be considered alongside gill and entangling netting in a full Appropriate Assessment.

Test for Likely Significant Effect (LSE)

FARNE-264: Water Column

1. Is the activity/activities directly connected with or necessary to the management of the site for nature conservation?	No

2. What pressures (such as abrasion, disturbance) are potentially exerted by the gear type(s)? *Sensitivities as listed are based on DRAFT Interim conservation advice. No Regulation 33 or 35 Advice is available for the Farne Islands SPA and best judgement has been used to determine which of these pressures are truly exerted by the gear type(s).	Barrier to species movement (Sensitive) Genetic modification & translocation of indigenous species (Sensitive)[10] Hydrocarbon & PAH contamination. Includes those priority substances listed in Annex II of Directive 2008/105/EC. (Sensitive)[11a] Introduction to light (Sensitive)[12] Introduction of other substances (solid, liquid or gas) (Sensitive)[11b] Introduction or spread of non-indigenous species (Sensitive)[3] Litter i.e. Ghost fishing (Sensitive)[4] Organic enrichment (Sensitive)[13] Removal of non-target species i.e. bycatch (Sensitive)[5] Synthetic compound contamination (incl. pesticides, antifoulants, pharmaceuticals). Includes those priority substances listed in Annex II of Directive 2008/105/EC. (Sensitive)[14] Transition elements & organo-metal (e.g. TBT) contamination. Includes those priority substances listed in Annex II of Directive 2008/105/EC.(Sensitive)[14] Underwater noise changes (Sensitive)[6] Visual disturbance (Sensitive)[7]
3. Is the feature potentially exposed to the pressure(s)?	No No current activity within the vicinity of the Farne Islands SPA or the NIFCA district as a whole (Jon Green, pers. comms.).

4. What are the conservation objectives for the feature? *DRAFT interim conservation advice does not give definitive conservation objectives. However, completing an HRA without COs is difficult. The CO as listed in this document is based on current knowledge of the status, and the pressures, affecting designated features (see sections 4 &5). Expert judgement has been used to determine which features may be exposed to the pressure(s) resulting in inferred COs. These COs are assigned a degree of uncertainty i.e. a subjective confidence level based on evidence 'High', 'Medium,' 'Low', and 'Unknown'.	Conservation objectives for supporting habitat 'Coastal and offshore waters' for <u>all</u> designated SPA bird features are to **Maintain*** - <u>availability of preferred prey species (e.g. sandeel and sprat) at preferred prey sizes (Arctic tern and Sandwich tern</u>) *Confidence level for interim, inferred Conservation Objective: **LOW** (see section 6 for detail).	
5. What are the potential effects/impacts of the pressure(s) on the feature, taking into account the exposure level?	There is no current trammel netting activity within the vicinity of the Farne Islands SPA (or the NIFCA district as a whole) (Jon Green, pers. comms.). Exposure levels are therefore currently zero.	
6. Condition and Conservation Objective Inferences	No evidence is available on the current condition of the 'water column' within the Farne Islands SPA. In lieu of a definitive conservation objective for this feature, a CO of 'Maintain' has been inferred, based on a 'Low' level of confidence.	
7. Is the potential scale or magnitude of any effect likely to be significant?	**Alone:** **No**	**OR In-combination** **No**
8. Have NE been consulted on this LSE test? If yes, what was NE's advice?	**Yes** Synthesis of evidence and local knowledge informing this decision occurred between January 2014 and the date of this document's creation with stakeholders (where appropriate) and other statutory authorities. Natural England (CS) was involved with this formal process.	

Conclusion

Is the proposal likely to have a significant effect 'alone or in combination' on the Farne Islands SPA?

No.

References

1. ICES (International Council for Exploration of the Sea), 2013; Stillman et al., 2007; Wildfowl and Wetlands Trust (WWT) Consulting, 2012. “Whilst activity would cause pressure, impact considered better captured by 'visual disturbance”. **706 (UK9006021_Farnes_Islands_SPA_Advice_on_Operations)**

2. Davenport and Davenport, 2006. “Collision can occur as a result of this activity in instances where a vessel in used”. **150 (UK9006021_Farnes_Islands_SPA_Advice_on_Operations)**

3. ICES (International Council for Exploration of the Sea), 2009 ’The introduction and movement of invasive non-indigenous species may occur as a result of vessel movements, hull fouling and fishing activities.’ **619 (UK9006021_Farnes_Islands_SPA_Advice_on_Operations)**

4. Wildfowl and Wetlands Trust (WWT) Consulting, 2012. “Discarded/lost lines, hooks and nets which could be problematic for mobile species. Other types of litter generated by activity generally not considered to occur at level that would cause concern.”. **190 (UK9006021_Farnes_Islands_SPA_Advice_on_Operations)**

5. Gubbay and Knapman, 1999; ICES (International Council for Exploration of the Sea), 2013; Kaiser et al., 2001; Sewell and Hiscock, 2005; Wildfowl and Wetlands Trust (WWT) Consulting, 2012. “Pressure may be exerted by by-catch associated with fixed nets and lines. However, vulnerability of feature to pressure will need to be considered on a case-by-case basis.” **543 (UK9006021_Farnes_Islands_SPA_Advice_on_Operations)**

6. Thomsen and Intersessional correspondence group on underwater noise (2007 - 2009), 2009. “Pressure (e.g. increase in noise above ambient level) would be exerted via vessel movement, gear deployment/towing/hauling and the use of fish finding sonars.”. **536 (UK9006021_Farnes_Islands_SPA_Advice_on_Operations)**

7. Stillman et al., 2007; Wildfowl and Wetlands Trust (WWT) Consulting, 2012. “May result from the presence/movement of the vessel and potentially also the presence/movement of the gear. Magnitude of pressure would depend on nature and scale/intensity of activity.” **362 (UK9006021_Farnes_Islands_SPA_Advice_on_Operations)**

8. Sewell, J., & Hiscock, K. 2005. Effects of fishing within UK European Marine Sites: guidance for nature conservation agencies. Report to the Countryside Council for Wales, English Nature and Scottish Natural Heritage from the Marine Biological Association.

9. Gubbay, S. & Knapman, P.A. 1999. A review of the effects of fishing within UK European marine sites. English Nature (UK Marine SACs Project) 134.

10. Gubbay and Knapman, 1999; Kaiser et al., 2001; Sewell et al., 2007; Sewell and Hiscock, 2005 ‘Fishing can lead to genetic selection for different body and reproductive traits, result in changes in the genetic makeup of populations and can extirpate distinct local stocks.’**256 (UK9006021_Farnes_Islands_SPA_Advice_on_Operations)**

11. Ware, 2009.a) ‘Fishing vessels could result in hydrocarbon contamination but considered unlikely to generally occur at level that would cause concern (with exception of large scale pollution event).’**258 (UK9006021_Farnes_Islands_SPA_Advice_on_Operations)**
    b). ‘Vessels used during these activities could result in e.g. oil slicks but considered unlikely to generally occur at level that would cause concern (with exception of large scale pollution event)’. **684 (UK9006021_Farnes_Islands_SPA_Advice_on_Operations)**

12. BirdLife International, 2012b. ‘Lighted vessels pose a collision risk to many species of birds. Birds drawn to light often become disoriented and collide with these structures, resulting in injury and death.’ **323 (UK9006021_Farnes_Islands_SPA_Advice_on_Operations)**

13. Dayton et al., 1995 ‘Discarded fish or fish that experience fishing mortality that are retained within the marine environment decompose and add organic material to the benthic environment’. **752 (UK9006021_Farnes_Islands_SPA_Advice_on_Operations)**

14. OSPAR Commission, 2011. ‘Could occur as a result of vessels associated with this activity. Generally considered unlikely to occur at level that would cause concern (with exception of large scale pollution event)’ **166 (UK9006021_Farnes_Islands_SPA_Advice_on_Operations).**

15. Blakely L. & Tooth E. 2015. Breeding birds on the Farne Islands 2015. National trust report [draft].