Report under The Conservation of Habitats and Species Regulations 2017 (as amended), Regulation 9A

2019-2024

Conservation status assessment for the species:

S6353 - Whitefish

(*Coregonus lavaretus*)

England

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This report was produced by JNCC in collaboration with Natural England.

This document should be cited as:

Natural England and JNCC. (2026). Conservation status assessment for the species: S6353 Whitefish (*Coregonus lavaretus*).

Important note - Please read

- The information in this document represents the England Report under The Conservation of Habitats and Species Regulations 2017 (as amended), Regulation 9A, for the period 2019-2024.
- It is based on supporting information provided by Natural England, which is documented separately.
- The Habitats Regulations reporting 2019-2024 Approach Document provides details on how this supporting information contributed to the UK Report and the fields that were completed for each parameter.
- Maps showing the distribution and range of the species are included.
- Explanatory notes (where provided) are included at the end. These provide additional audit trail information to that included within the assessments. Further underpinning explanatory notes are available in the related country reports.
- Some of the reporting fields have been left blank because either: (i) there was insufficient information to complete the field; (ii) completion of the field was not obligatory; and/or (iii) the field was not relevant to this species (section 12 National Site Network coverage for Annex II species).

Further details on the approach to the Habitats Regulations Reporting 2019-2024 are available on the JNCC website.

Assessment Summary: Whitefish

Distribution Map

Range Map

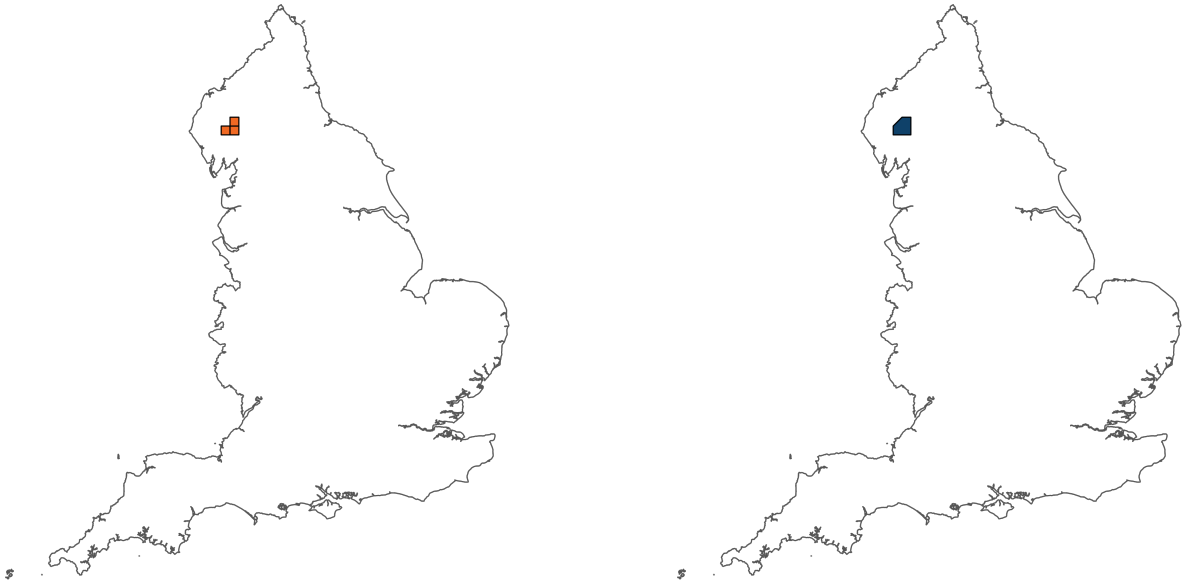

Figure 1: England distribution and range map for S6353 - Whitefish (*Coregonus lavaretus*). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority. The 10km grid square distribution map is based on available species records within the current reporting period.

Table 1: Table summarising the conservation status for S6353 - Whitefish (*Coregonus lavaretus*). Overall conservation status for species is based on assessments of range, population, habitat for the species, and future prospects.

Overall Conservation Status (see section 11)

Unfavourable-inadequate (U1)

Breakdown of Overall Conservation Status

Range (see section 5)	**Favourable (FV)**
Population (see section 6)	**Unknown (XX)**
Habitat for the species (see section 7)	**Unfavourable-inadequate (U1)**
Future prospects (see section 10)	**Unfavourable-inadequate (U1)**

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National Level

1. General information

1.1 Country	England
1.2 Species code	S6353
1.3 Species scientific name	*Coregonus lavaretus*
1.4 Alternative species scientific name	
1.5 Common name	Whitefish
Annex(es)	V

2. Maps

2.1 Sensitive species	No
2.2 Year or period	2000-2024
2.3 Distribution map	Yes
2.4 Distribution map; Method used	Complete survey or a statistically robust estimate

2.5 Additional information

The whitefish (Coregonus lavaretus) exists as seven native populations in the UK and is referred to as Schelly in England, Gwyniad in Wales and Powen in Scotland. Four of the seven whitefish sites are located in England, all within the Lake District, and include the lakes of Brotherswater, Haweswater, Red Tarn and Ullswater. Togther with Loch Eck and Loch Lomond in Scotland and Llyn Tegid in Wales, this small number of populations and the rarity of whitefish within these sites indicates the high biodiversity value of this fish species within the UK. These sites also reflect the habitat requirements for Schelly of deep lakes with cool, well oxygenated water and shallow gravelly areas free from fine sediment for spawning.

Due to the vulnerability of these whitefish populations, successful translocations have been made to a number of sites including Blea Water and Small Water in England. However, although these sites are located within a similar geographic area (the Lake District) these translocation sites are not known to have been naturally colonised by schelly and will not be used for Reg 9a reporting in this round.

A taxonomic revision proposed by Kottelat & Freyhof for a reversion to Coregonus stigmaticus for the English, C. clupeoides for the Scottish and C. pennantii for the Welsh populations has been rejected following a study of pheonotypic traits across the UK by Etheridge et al. which demonstrated that they should all be classified as C. lavaretus.

3. Information related to Annex V Species

3.1 Is the species taken in the wild / exploited?	No
3.2 What measures have been taken?	
a) Regulations regarding access to property	
b) Temporary or local prohibition on the taking of specimens in the wild and exploitation	
c) Regulation of the periods and/or methods of taking specimens	
d) Application of hunting and fishing rules which take account of the conservation of such populations	
e) Establishment of a system of licences for taking specimens or of quotas	
f) Regulation of the purchase, sale, offering for sale, keeping for sale, or transport for sale of specimens	
g) Breeding in captivity of animal species as well as artificial propagation of plant species	
Other measures	
Other measures description	

3.3: Hunting bag or quantity taken in the wild for Mammals and Acipenseridae (Fish)

a) Unit	

Table 2: Quantity taken from the wild during the reporting period (see 3.3a for units). For species with defined hunting seasons, Season 1 refers to 2018/2019 (autumn 2018 to spring 2019), and Season 6 to 2023/2024. For species without hunting seasons, data are reported by calendar year: Year 1 is 2019, and Year 6 is 2024.

	Season/ year 1	Season/ year 2	Season/ year 3	Season/ year 4	Season/ year 5	Season/ year 6

b) Minimum	-	-	-	-	-	-
c) Maximum	-	-	-	-	-	-
d) Unknown	-	-	-	-	-	-

3.4: Hunting bag or quantity taken in the wild; Method used

3.5: Additional information

No additional information

Biogeographical Level

4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs ATL

4.2 Sources of information

See section 14 References

5. Range

5.1 Surface area (km²) 350

5.2 Short-term trend; Period 2013-2024

5.3 Short-term trend; Direction Stable

5.4 Short-term trend; Magnitude

a) Estimated minimum

b) Estimated maximum

c) Pre-defined range

d) Unknown	
e) Type of estimate	95% confidence interval
f) Rate of decrease	
5.5 Short-term trend; Method used	Complete survey or a statistically robust estimate
5.6 Long-term trend; Period	2000-2024
5.7 Long-term trend; Direction	Stable
5.8 Long-term trend; Magnitude	
a) Minimum	
b) Maximum	
c) Rate of decrease	
5.9 Long-term trend; Method used	Complete survey or a statistically robust estimate

5.10 Favourable Reference Range (FRR)

a) Area (km²)	12.74
b) Pre-defined increment	
c) Unknown	No
d) Method used	Reference-based approach
e) Quality of information	high

5.11 Change and reason for change in surface area of range

a) Change	No
b) Genuine change	
c) Improved knowledge or more accurate data	
d) Different method	
e) No information	
f) Other reason	

g) Main reason	

5.12 Additional information

No additional information

6. Population

6.1 Year or period	2015-

6.2 Population size (in reporting unit)

a) Unit	number of individuals
b) Minimum	
c) Maximum	
d) Best single value	23
6.3 Type of estimate	Minimum
6.4 Quality of extrapolation to reporting unit	low

6.5 Additional population size (using population unit other than reporting unit)

a) Unit	
b) Minimum	
c) Maximum	
d) Best single value	
e) Type of estimate	
6.6 Population size; Method used	Based mainly on extrapolation from a limited amount of data
6.7 Short-term trend; Period	
6.8 Short-term trend; Direction	Unknown
6.9 Short-term trend; Magnitude	
a) Estimated minimum	

b) Estimated maximum	
c) Pre-defined range	
d) Unknown	
e) Type of estimate	
f) Rate of decrease	
6.10 Short-term trend; Method used	Insufficient or no data available
6.11 Long-term trend; Period	2000-2024
6.12 Long-term trend; Direction	Unknown
6.13 Long-term trend; Magnitude	
a) Minimum	
b) Maximum	
c) Confidence interval	
d) Rate of decrease	
6.14 Long-term trend; Method used	Insufficient or no data available

6.15 Favourable Reference Population (FRP)

ai) Population size	
aii) Unit	
b) Pre-defined increment	Current population is between 51% and 100% smaller than the FRP
c) Unknown	No
d) Method used	Expert opinion
e) Quality of information	

6.16 Change and reason for change in population size

a) Change	No

b) Genuine change	
c) Improved knowledge or more accurate data	
d) Different method	
e) No information	
f) Other reason	
g) Main reason	

6.17 Additional information

No additional information

6.18 Age structure, mortality and reproduction deviation	Yes, strongly deviating from normal

7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat (for long-term survival)

a) Is area of occupied habitat sufficient?	Yes
b) Is quality of occupied habitat sufficient?	No
c) If No or Unknown, is there a sufficiently large area of unoccupied habitat of suitable quality?	No

7.2 Sufficiency of area and quality of occupied habitat; Method used

a) Sufficiency of area of occupied habitat; Method used	Complete survey or a statistically robust estimate
b) Sufficiency of quality of occupied habitat; Method used	Based mainly on extrapolation from a limited amount of data
7.3 Short-term trend; Period	2013-2024
7.4 Short-term trend; Direction	Decreasing

7.5 Short-term trend; Method used	Complete survey or a statistically robust estimate
7.6 Long-term trend; Period	2000-2024
7.7 Long-term trend; Direction	Decreasing
7.8 Long-term trend; Method used	Complete survey or a statistically robust estimate

7.9 Additional information

Haweswater is subject to anthropogenic water level fluctuations due to abstraction during use as a drinking water supply reservoir. This is thought to be the primary reason for a long-term decline in the lakes schelly population. Repeated recruitment failures caused by rapid falls in water level during the spawning and egg incubation period is the likely mechanism of impact.

During the early 1990s predation pressure by a newly-established breeding colony of cormorants at Haweswater may be responsible for the schelly population's failure to recover despite a more sensitive water level management regime being implemented.

Ullswater schelly populations may be impacted in localised areas around the inlet of Glenridding Beck by lead ore washings from Greenside mine. This may have been compounded by the extremely high flows associated with storm Desmond in 2015 depositing an additional load of fine sediment containing mine tailings. The 2014 lake SSSI CSM report stated that phosphorus concentrations lay within the mesotrophic range (less than 15 µgl-1) and had remained relatively stable since 2007, with high dissolved oxygen concentrations throughout the water column, indicating good water quality at the site. However, the high levels of tourism and amenity use in the area was highlighted as a risk to the site. In addition, the existence of roach have been reported which are not native to Ullswater and may compete with schelly.

Studies undertaken in Ullswater in 2019 determined that suitable spawning habitat was widely distributed along the north-west shore of the lake. However, additional studies in carried out along the south east shore in 2021 found potentially-suitable substrates are increasingly covered by fine sediment, benthic algae, and organic matter. In the more northerly locations there is the potential for eggs to become smothered by re-suspended sediment and to be exposed to low oxygen concentrations, caused by microbial decomposition of organic matter. Such sedimentation is a recognised threat to coregonid populations.

Concerns have been expressed regarding low dissolved oxygen concentrations at depth within Brotherswater. In 2015 the schelly population was considered to be in favourable condition, however, climate change effects have the potential to exacerbate DO fluctuations and stress on schelly in future years.

8. Main pressures

8.1 Characterisation of pressures

Table 3: Pressures affecting the species, including timing and importance/impact ranking. Pressures are defined as factors acting currently and/or during the reporting period (2019–2024). Rankings are: High (direct/immediate influence and/or large spatial extent) and Medium (moderate direct/immediate influence, mainly indirect and/or regional extent).

Pressure	Timing	Ranking
PK01: Mixed source pollution to surface and ground waters (limnic and terrestrial)	Ongoing and likely to be in the future	High (H)
PI02: Other invasive alien species (other than species of Union concern)	Only in future	High (H)
PI03: Problematic native species	Ongoing and likely to be in the future	High (H)
PA17: Agricultural activities generating pollution to surface or ground waters (including marine)	Ongoing and likely to be in the future	High (H)
PL05: Modification of hydrological flow (mixed or unknown drivers)	Ongoing and likely to be in the future	High (H)
PJ14: Other climate related changes in abiotic conditions	Ongoing and likely to be in the future	High (H)
PJ01: Temperature changes and extremes due to climate change	Ongoing and likely to be in the future	High (H)
PJ03: Changes in precipitation regimes due to climate change	Ongoing and likely to be in the future	High (H)
PL06: Physical alteration of water bodies (mixed or unknown drivers)	Ongoing and likely to be in the future	High (H)
PG07: Freshwater fish and shellfish harvesting (recreational)	Ongoing and likely to be in the future	Medium (M)
PC08: Extraction activities generating pollution to surface or ground waters	Ongoing and likely to be in the future	Medium (M)

8.2 Sources of information

See section 14 References

8.3 Additional information

PK01: Polluting inputs resulting in eutrophication effects such as deoxygenation of the hypolimnion and fine sediment deposition on spawning substrates. Impacts may continue for the foreseeable future due to catchment land use.

PI02: While not currently thougt to be present in the 4 lakes representing schelly habitat in England Crassula helmsii smothering of sub-littoral spawning is a future risk as it is present in other Cumbrian lakes and may be easily spread. As there is currently no effective control agent/method for Crassula the risk of impact is likely to remain and increase.

PI03: Competitive pressure from locally non-native fish species, notably roach. Locally non-native fish species have been introduced to Ullswater. The impact is likely to remain at or above the current state as there is no suitable method of control for these species in large waterbodies. It is possible that additional locally non-native/non-native fish species may be released into these water bodies. Cormorant populations at Haweswater were actively managed, however, management has reduced in recent years and therefore the population and associated predation pressure may be expected to increase.

PA17: Polluting inputs resulting in eutrophication effects such as deoxygenation of the hypolimnion and fine sediment deposition on spawning substrates. Impacts may continue for the foreseeable future due to catchment land use.

PL05: Schelly require littoral gravels for egg deposition. Artificially severe drawdown during spawning periods at Haweswater may lead to lack of access to suitable spawning gravels or subsequent desiccation of eggs within these areas. Although a more sympathetic abstraction regime has been implemented at Haweswater, increasing demand for potable water may lead to the need for a return to more rapid drawdown at sensitive times of the schelly lifecycle. Changes to the hydrological regime of inflowing rivers and streams may increase deposition rates of fine sediment on these gravels. River engineering works may increase spate flow velocities within the catchment resulting in excess sediment transport. If low flows are maintained over long periods of time, elevated water temperatures and deoxygenation of inflowing rivers and streams may become evident. Increased pressure within the catchment for flood risk management and drinking water supply may lead to increased river engineering and flow management.

PJ14: Warming of the climate may act synergistically with nutrient increases to reduce the area of suitable aquatic habitat for schelly. Oxygen depletion within the hypolimnion at Brotherswater has ben recorded. Increased storm intensity leading to catastrophic high flow events may lead to increased siltation of spawning areas. Increased warming of the water column may remove the thermal refugia required by schelly. Warming of the climate is predicated to continue and may ultimately exclude schelly due to the removal of a suitable cool, well oxygenated deep-water refuge areas. In addition weather events may continue to become more intense and unpredictable leading to a degradation of spawning habitat.

PJ01: Warming of the climate may act synergistically with nutrient increases to reduce the area of suitable aquatic habitat for schelly. Oxygen depletion within the hypolimnion at Brotherswater has ben recorded. Increased storm intensity leading to catastrophic high flow events may lead to increased siltation of spawning areas. Increased warming of the water column may remove the thermal refugia required by schelly. Warming of the climate is predicated to continue and may ultimately exclude schelly due to the removal of a suitable cool, well oxygenated deep-water refuge areas. In addition weather events may continue to become more intense and unpredictable leading to a degradation of spawning habitat.

PJ03: Warming of the climate may act synergistically with nutrient increases to reduce the area of suitable aquatic habitat for schelly. Oxygen depletion within the hypolimnion at Brotherswater has ben recorded. Increased storm intensity leading to catastrophic high flow events may lead to increased siltation of spawning areas. Increased warming of the water column may remove the thermal refugia required by schelly. Warming of the climate is predicated to continue and may ultimately exclude schelly due to the removal of a suitable cool, well oxygenated deep-water refuge areas. In addition weather events may continue to become more intense and unpredictable leading to a degradation of spawning habitat.

PC08: Fine sediment contaminated with lead ore may become deposited on gravels used for spawning in Ullswater.

9. Conservation measures

9.1: Status of measures

a) Are measures needed?	No
b) Indicate the status of measures	

9.2 Main purpose of the measures taken

9.3 Location of the measures taken

9.4 Response to measures

9.5 List of main conservation measures

Table 4: Key conservation measures addressing current pressures and/or anticipated threats during the next two reporting periods (2025–2036). Measures are ranked by importance/impact: High (direct/immediate influence and/or large spatial extent) and Medium (moderate direct/immediate influence, mainly indirect and/or regional extent).

Conservation measure	Ranking
No conservation measures	

9.6 Additional information

No additional information

10. Future prospects

10.1a Future trends of parameters

ai) Range	Overall stable
bi) Population	Overall stable
ci) Habitat for the species	Negative - slight/moderate deterioration

10.1b Future prospects of parameters

aii) Range	Good
bii) Population	Poor
cii) Habitat for the species	Poor

10.2 Additional information

The Haweswater schelly population has persisted at a low level from its rapid decline in the early 1980's to the present day, therefore, if abstraction / drawdown regimes are managed sympathetically and cormorant predation rates are controlled schelly populations may remain stable over the next 12 year period. Should a suitable management regime be found it is possible that the Haweswater population may increase. In addition, although not included in Regulation 9a reporting, the translocated

populations in Blea Water and Small water appear to be stable and offer a refuge, should Haweswater populations decline further.

The 2015 survey carried out at Brotherswater indicated a healthy population. This is encouraging and, in the forseeable future/next 12 years, there is no reason to suspect that this should change. However, in the longer term, climate change may lead to an increase in the severity of deoygenation in the deeper water areas, leading to a reduction in the available habitat for schelly and possible impacts on the population.

The long term prospects for the Ullswater schelly population is uncertain due to the potential for impacts from non-native species such as roach and the possible introduction of Crassula, which has the potential to smother spawning gravels, from other areas of the lake district. The input of contaminated fine sediment may increase if climate change leads to more frequent extreme high flow events. In 2023 a total of 4 schelly were taken from Ullswater as part of a study to determine the feasibility of reintroducing Arctic charr to the lake. Although no attempt was made to quantitatively assess the resident schelly population, given the level of survey effort undertaken capturing only 4 schelly (verses 117 perch), it may reasonably be inferred that while schelly were present, the biomass was low.

The status of the Red Tarn population is unknown.

11. Conclusions

11.1 Range	Favourable (FV)
11.2 Population	Unknown (XX)
11.3 Habitat for the species	Unfavourable-inadequate (U1)
11.4 Future prospects	Unfavourable-inadequate (U1)
11.5 Overall assessment of Conservation Status	Unfavourable-inadequate (U1)
11.6 Overall trend in Conservation Status	Stable

11.7 Change and reason for change in conservation status

This field is not reported as the period 2019-2024 marks the first instance in which conservation status has been assessed at the national level, meaning no comparisons to previous reports can be drawn.

11.7 Change and reason for change in conservation status trend

This field is not reported as the period 2019-2024 marks the first instance in which conservation status has been assessed at the national level, meaning no comparisons to previous reports can be drawn.

11.8 Additional information

Due to the persistence and perceived relative stability of the current populations across their English range, it may reasonably be assumed that if continued work is undertaken to address hydrology, water quality and sedimentation issues within the catchment, schelly populations may remain stable (and possibly increase) over the next 12 year period. However, in the longer term, climate change impacts may remove required cold water refugia rendering current habitats unsuitable for schelly. In addition, there are no effective management techniques to address the impact of non-native and locally non-native species at the present time. It is considered unlikely that new techniques will become available in the near future, therefore, the impact on schelly will continue and may increase.

12. UK National Site Network (pSCIs, SCIs, SACs) coverage for Annex II species

12.1 Population size inside the pSCIs, SCIs and SACs network

a) Unit	
b) Minimum	
c) Maximum	
d) Best single value	
12.2 Type of estimate	
12.3 Population size inside the network; Method used	
12.4 Short-term trend of population size within the network; Direction	
12.5 Short-term trend of population size within the network; Method used	

12.6 Short-term trend of habitat for the species inside the pSCIs, SCIs and SACs network; Direction

12.7 Short-term trend of habitat for the species inside the pSCIs, SCIs and SACs network; Method used

12.8 Additional information

No additional information

13. Complementary information

13.1 Justification of percentage thresholds for trends

No justification information

13.2 Trans-boundary assessment

No trans-boundary assessment information

13.2 Other relevant information

No other relevant information

14. References

Biogeographical and marine regions

4.2 Sources of information

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Main pressures

8.2 Sources of information

No sources of information

15. Explanatory Notes

Field label	Note
6.2: Population size	Robust population data is only available for Haweswater from 1997 to 2010 and Brothers Water in 2015. Due to this lack of comparable data, it is inappropriate to calculate an overall population size for all four English sites in 2017. Red Tarn has not been surveyed, therefore anecdotal angler evidence has been used to indicate the continued presence of schelly at the site. Caution should be exercised if attempting to use estimated population sizes to determine the conservation status of shelly. However, sampling of potential coregonid sites undertaken during 2024 and subsequent eDNA analysis may provide confirmation of schelly presence within its native range during this reporting round. Minimum number of schelly in Brotherswater in 2015 (prior to gill net survey) = 23 individuals
6.6: Population size; Method used	In 2015 a project was undertaken by CEH to provide fish information for 20 standing water bodies in the English Lake District. Schelly were directly surveyed in Brotherswater and information collated for Haweswater and Ullswater. The Brotherswater survey indicated that schelly populations in this lake were recruiting successfully and the CSM status of this population was considered favourable. In 2012 analysis of data on fish entrained in the Haweswater water abstraction system indicated some level of recovery in the schelly population in this waterbody, however, hydroacoustic surveys in 2015 demonstrated that overall fish populations in Haweswater remained low. The most recent Ullswater fish survey was undertaken in 2008 and confirmed the presence of Schelly in the lake but is well outside of this 2019 - 2024 reporting period. Schelly spawning grounds in Hawswater and Ullswater

	were mapped in 2013 by examining otter spraints and identifying the presence of schelly scales and remains. Spraint frequency was several times higher during the spawning seasons and whitefish scales were almost entirely restricted to spraints collected during these periods. In addition, motion-triggered infra-red cameras recorded otters bringing fish ashore to eat. More extensive searches around the shore of Ullswater during the spawning seasons of 2010 and 2011 found whitefish remains and high numbers of spraints in numerous other locations. At Haweswater, a survey of the lake's shore during the spawning season of 2010 found remains of otter-predated whitefish only at sites on the east shore, including an area adjacent to the only known whitefish spawning ground. In 2023 a total of 4 schelly were taken from Ullswater as part of a study to determine the feasibility of reintroducing Arctic charr to the lake, however, no attempt was made to quantitatively assess the schelly population.
6.18: Age structure, mortality and reproduction	Information is limited to Brotherswater, Haweswater and Ullswater. While the population may be persisting at a low level, fish survey information for Brotherswater indicates a diverse size range, with a strong contibution from 0+/1+ year class and active recruitment. Schelly spawning grounds in Hawswater and Ullswater were mapped in 2013 by examining otter spraints and identifying the presence of schelly scales and remains. Searches around the shore of Ullswater during the spawning seasons of 2010 and 2011 found whitefish remains and high numbers of spraints in numerous locations. At Haweswater, a survey of the lake's shore during the spawning season of 2010 found remains of otter-predated whitefish only at sites on the east shore, including an area adjacent to the only known whitefish spawning ground. Further direct assessments of schelly spawing habitats in Ullswater were undertaken in 2021 and high levels of

	siltation were detected whaich may impact on juvenile recruitment. In addiion In 2023 a total of 4 schelly were taken from Ullswater as part of a study to determine the feasibility of reintroducing Arctic charr to the lake. Although no attempt was made to quantitatively assess the resident schelly population, given the level of survey effort undertaken capturing only 4 schelly (verses 117 perch), it may reasonably be inferred that while schelly were present, the biomass was low. This information indicates an acceptable population structure, however, the numbers of individuals are very low and therefore pressures must be considered to be acting on some elements of the schelly lifecycle, leading to a deviation from an unimpacted condition.
3.1: Is the species taken in the wild/ exploited	Schelly are not directly exploited as a quarry species for recreational angling or as a commercial species in England. It is possible that they could be captured as bycatch when fishing for other freshwater fish species, however, they have specific protection under Schedule 5 of the wildlife and Countryside Act 1981 and general protections from fishery activity under the Salmon and Freshwater Fisheries Act 1975.
5.3: Short-term trend; Direction	The species still occupies all four sites where it is thought to have been naturally resident. Whitefish populations have been successfully translocated to Blea Water and Small Water, however, although these sites are located within a similar geographic area (the lake district) these translocation sites are not known to have been naturally colonised by schelly and will not be used for Reg 9a reporting.
5.7: Long-term trend; Direction	The species still occupies all four sites where it is thought to have been naturally resident. Whitefish populations have been successfully translocated to Blea Water and Small Water, however, although these sites are located within a similar geographic area (the lake

	district) these translocation sites are not known to have been naturally colonised by schelly and will not be used for Reg 9a reporting.
7.1: Sufficiency of area and quality of occupied habitat	7.a. workings below: Brotherswater = 19 ha Haweswater = 379 ha Red Tarn = 8 ha Ullswater = 868 ha Total area schelly habitat = 1274 ha 7.c This assessment is solely based on schelly populations only being present in Haweswater, Ullswater, Botherswater and Red Tarn since the last glacial retreat from the lake district. At the present time, there is no evidence for schelly having been present within England at any other location. However, in the geographical area described by the Lake District, it is likley that waterbodies with a similar water chemistry, thermal regime, morphology and speicies assemblage may have been/are available for colonisation by schelly, should suitable conditions allowing their colonisation of these water bodies have become or will become available. If this principle is taken to its conclusion, suitable transloction sites (e.g. free from non-native species and with low future risks) in a similar geographic area (Lake District) are likely to exist. These sites may be capapble of mitigating for uncontrollable climate change effects, severe water level changes and predation pressure. It is thought that translocations of schelly from Haweswater to nearby Blea Water and Small Water have been successful, thereby creating two current refuge populations.