

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

2019-2024

Conservation status assessment for the species:

S5085 - Barbel

(Barbus barbus)

England



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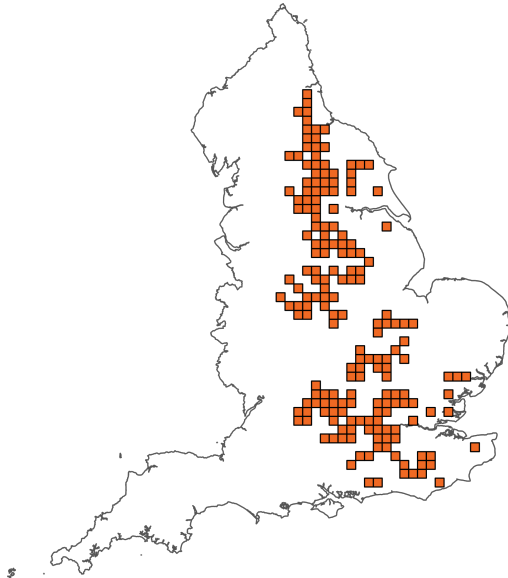
Important note - Please read

- 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: Barbel

Distribution Map



Range Map

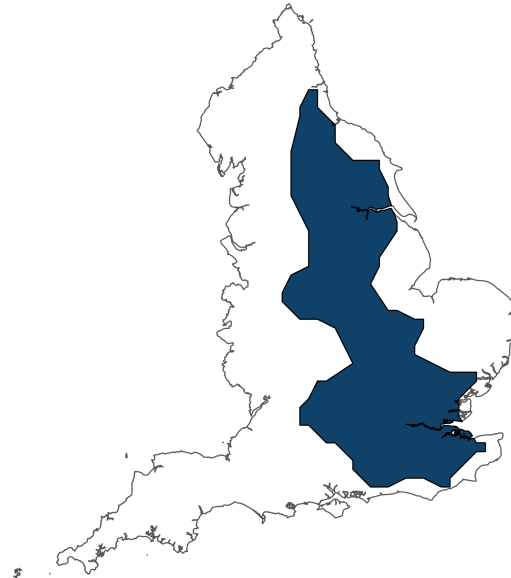


Figure 1: England distribution and range map for S5085 - Barbel (*Barbus barbus*). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority. The 10km grid square distribution map is based on available species records within the current reporting period.

Table 1: Table summarising the conservation status for S5085 - Barbel (*Barbus barbus*). 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)

Favourable (FV)

Breakdown of Overall Conservation Status

Range (see section 5)

Favourable (FV)

Population (see section 6)

Favourable (FV)

Habitat for the species (see section 7)

Favourable (FV)

Future prospects (see section 10)

Unknown (XX)

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National Level

1. General information

1.1 Country	England
1.2 Species code	S5085
1.3 Species scientific name	<i>Barbus barbus</i>
1.4 Alternative species scientific name	
1.5 Common name	Barbel
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	Based mainly on extrapolation from a limited amount of data

2.5 Additional information

The barbel is a widespread and common species in England. The species' natural distribution is limited to rivers in the east of England that during the periglacial period formed part of the catchment of the Proto-Rhine, along with rivers of north-western Europe such as the Schelde that now run into the North Sea and/or English Channel. However, the natural range has been artificially increased due to fish movements associated with recreational angling, the River Severn catchment being a notable example. Records related to artificial expansions of range due to stocking for recreational angling have been excluded from the distribution map as they are outside of the natural range of the species and solely a result of human intervention.

3. Information related to Annex V Species

3.1 Is the species taken in the wild / exploited? Yes

3.2 What measures have been taken?

a) Regulations regarding access to property	Yes
b) Temporary or local prohibition on the taking of specimens in the wild and exploitation	Yes
c) Regulation of the periods and/or methods of taking specimens	Yes
d) Application of hunting and fishing rules which take account of the conservation of such populations	Yes
e) Establishment of a system of licences for taking specimens or of quotas	Yes
f) Regulation of the purchase, sale, offering for sale, keeping for sale, or transport for sale of specimens	Yes
g) Breeding in captivity of animal species as well as artificial propagation of plant species	Yes
Other measures	Yes

Other measures description

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

a) Unit No unit - not reported

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	Yes	Yes	Yes	Yes	Yes	Yes

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

Insufficient or no data available

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) 46,361.88

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

f) Rate of decrease

5.5 Short-term trend; Method used Based mainly on extrapolation from a limited amount of data

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**

Based mainly on extrapolation from a limited
amount of data

5.10 Favourable Reference Range (FRR)

a) Area (km²)

b) Pre-defined increment

Current range is less than 2% smaller than the
FRR

c) Unknown

No

d) Method used

Expert opinion

e) Quality of information

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

2000-2024

6.2 Population size (in reporting unit)

a) Unit number of map 1x1 km grid cells

b) Minimum

c) Maximum

d) Best single value 735

6.3 Type of estimate Best estimate

6.4 Quality of extrapolation to reporting unit moderate

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 2013-2024

6.8 Short-term trend; Direction Stable

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 Based mainly on extrapolation from a limited amount of data

6.11 Long-term trend; Period	2000-2024
6.12 Long-term trend; Direction	Stable
6.13 Long-term trend; Magnitude	
a) Minimum	
b) Maximum	
c) Confidence interval	
d) Rate of decrease	
6.14 Long-term trend; Method used	Based mainly on extrapolation from a limited amount of data
6.15 Favourable Reference Population (FRP)	
ai) Population size	
aii) Unit	
b) Pre-defined increment	Current population is less than 5% 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 Unknown

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? Yes

c) If No or Unknown, is there a sufficiently large area of unoccupied habitat of suitable quality?

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

a) Sufficiency of area of occupied habitat; Method used Based mainly on extrapolation from a limited amount of data

b) Sufficiency of quality of occupied habitat; Method used Insufficient or no data available

7.3 Short-term trend; Period 2013-2024

7.4 Short-term trend; Direction Stable

7.5 Short-term trend; Method used Based mainly on extrapolation from a limited amount of data

7.6 Long-term trend; Period 2000-2024

7.7 Long-term trend; Direction Stable

7.8 Long-term trend; Method used Based mainly on extrapolation from a limited amount of data

7.9 Additional information

No additional information

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)
PI01: Invasive alien species of Union concern	Ongoing and likely to be in the future	High (H)
PL01: Abstraction from groundwater, surface water or mixed water (mixed or unknown drivers)	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)
PL03: Old barriers or other obsolete infrastructures (mixed or unknown drivers)	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)
PD02: Hydropower (dams, weirs, run-off-the-river and respective infrastructure)	Ongoing and likely to be in the future	Medium (M)
PG07: Freshwater fish and shellfish harvesting (recreational)	Ongoing and likely to be in the future	Medium (M)

8.2 Sources of information

See section 14 References

8.3 Additional information

No additional information

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	Overall stable
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10.1b Future prospects of parameters

a ii) Range	Good
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b ii) Population	Unknown
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c ii) Habitat for the species	Unknown
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10.2 Additional information

As improvements continue to be made regarding water quality and the re-establishment of natural riverine processes in England the area of freshwater habitat suitable for barbel may be expected to increase. Set in opposition to this generally positive outlook are the unknowns of climate change effects which may lead to more extreme flow variations, the potential for continued diffuse agricultural pollution resulting in inputs of nutrients and fine sediment, the increase and expansion of non-native crayfish populations and the possibility of increases in energy production infrastructure associated with run of river hydropower.

11. Conclusions

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

No additional information

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
2.4: Distribution map; Method used	Data contained within the National Biodiversity Network Database has been used to produce distribution maps for barbel. Adult and juvenile barbel are captured during routine electric fishing surveys, therefore, recording effort across England is relatively high. However, they may be under recorded due to the difficulty of surveying barbel habitats with electric fishing gear caused by strong flows, shallow or deep water, abundant submerged macrophytes and bankside cover. In addition, these surveys do not account of the behaviour of the barbel and its tendency to take refuge during daylight hours and to venture into open water during darkness.
3.1: Is the species taken in the wild/ exploited	Barbel are highly valued as a quarry species for recreational anglers due to their relatively large size and power. They are subject to catch and release in England and are not removed from the population, however, angler capture may lead to mortality in a small number of individuals and a reduction in fitness or spawning success for others.
3.3: Hunting bag or quantity taken in the wild for Mammals and Acipenseridae (Fish)	Barbel are subject to catch and release in England and are not removed from the population. There is no national requirement for catch returns to be submitted
5.3: Short-term trend; Direction	The barbel is a widespread species in England and records for barbel are common throughout the short term trend period, however, survey effort is not consistent across the species range. The species' natural distribution is limited to rivers in the east of England that during the periglacial period formed part of the catchment of the Proto-Rhine, along with rivers of north-western Europe such as the Schelde that now run into the North Sea and/or English Channel. However, the natural range has been artificially increased due to fish movements associated with recreational angling. Records related to artificial expansions of range due to stocking for recreational

	<p>angling have been excluded from the distribution map as they are outside of the natural range of the species and solely a result of human intervention. The species is being regularly recorded across its natural range and there has been no significant increase in pressures suggesting that the population is at least stable. The water quality of many English rivers has improved in recent years increasing the probability of both adult and juvenile survival. On this basis, It is likely that the range is at least stable and possibly increasing.</p>
5.7: Long-term trend; Direction	<p>Due to varying levels of survey effort throughout the barbel range it is not possible to accurately assess population trends for this period. However, as the species has been consistently recorded across much of its natural range and pressures have not increased, the species is considered to be at least stable. Water quality has improved markedly in many English rivers, which may in turn benefit adult and juvenile survival. This may have led to an increase in the distribution and abundance of the species within the overall range.</p>
6.8: Short-term trend; Direction	<p>Records for barbel are common throughout the short term trend period, however, survey effort is not consistent across the species natural range. In addition, surveys may underestimate barbel numbers due to the difficulties of carrying out detailed surveys within typical barbel habitat. It is therefore impossible to accurately assess a trend direction. The species is regularly recorded across its natural range and there has been no significant increase in pressures suggesting that the population is at least stable. The water quality of many English rivers has improved in recent years improving the probability of adult and juvenile survival, it is likely that the population is stable and possibly increasing.</p>
6.12: Long-term trend; Direction	<p>Due to varying levels of survey effort throughout the natural range of barbel it is not possible to accurately assess population trends for this period. However, as the species has been consistently recorded across much of its natural range and pressures have not increased, the species is</p>

considered to be at least stable. Water quality in many English rivers has improved markedly over the period, which may in turn benefit adult and juvenile survival. This may have led to an increasing trend in the population over this period, however, this may have been counteracted by the rapid expansion of the invasive, non-native signal crayfish population which has the potential to impact on rheophilous fish species. In addition, fine sediments resulting from poor agricultural practices have continued to be deposited on spawning gravels in many typical barbel rivers, potentially reducing successful recruitment.

6.18: Age structure, mortality and reproduction

Although barbel are captured by routine fish surveys, the lack of a coordinated monitoring programme for barbel makes it impossible to accurately assess whether the population is recruiting efficiently.

10.1: Future trends and prospects of parameters

10.1 a) Assumes widespread species, with a large natural range within England. The species may expect to become increasingly distributed and abundant within this range and outside of it, assuming no further increases in barriers to upstream movement associated with hydropower development and unsuitable fish passage solutions.

10.1 b) The species may expect to become increasingly distributed and abundant within its natural range, assuming no further increases in altered hydrology, barriers to upstream movements associated hydropower development and unsuitable fish passage solutions. However, the potential impact of increasing range and biomass of non-native crayfish and pressures associated with climate change effects is unquantified.

10.1 c) Assumes water quality improvements and physical habitat restoration continues and no further increases in altered hydrology, barriers to upstream movements associated hydropower development and unsuitable fish passage solutions. However, the potential impact of increasing range and biomass of non-native crayfish and

pressures associated with climate change effects is unquantified.