

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

2019-2024

Conservation status assessment for the species:

S1029 - Freshwater pearl mussel

(Margaritifera margaritifera)

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.
- 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: Freshwater pearl mussel

Table 1: Table summarising the conservation status for S1029 - Freshwater pearl mussel (*Margaritifera margaritifera*). 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-bad (U2)

Breakdown of Overall Conservation Status

Range (see section 5)	Unfavourable-bad (U2)
Population (see section 6)	Unfavourable-bad (U2)
Habitat for species (see section 7)	Unfavourable-bad (U2)
Future Prospects (see section 10)	Unfavourable-bad (U2)

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National Level

1. General information

1.1 Country	England
1.2 Species code	S1029
1.3 Species scientific name	<i>Margaritifera margaritifera</i>
1.4 Alternative species scientific name	
1.5 Common name	Freshwater pearl mussel
Annex(es)	II, V

2. Maps

2.1 Sensitive species	Yes
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

No additional information

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	No
b) Temporary or local prohibition on the taking of specimens in the wild and exploitation	No
c) Regulation of the periods and/or methods of taking specimens	No
d) Application of hunting and fishing rules which take account of the conservation of such populations	No

e) Establishment of a system of licences for taking specimens or of quotas	No
f) Regulation of the purchase, sale, offering for sale, keeping for sale, or transport for sale of specimens	No
g) Breeding in captivity of animal species as well as artificial propagation of plant species	No
Other measures	No

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) 1,555.35

5.2 Short-term trend; Period 2013-2024

5.3 Short-term trend; Direction Decreasing

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 Decreasing >1% (more than one percent) per year on average

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 Decreasing

5.8 Long-term trend;
Magnitude

a) Minimum

b) Maximum

c) Rate of decrease

	Decreasing >1% (more than one percent) per year on average
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5.9 Long-term trend; Method used	Based mainly on extrapolation from a limited amount of data
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5.10 Favourable Reference Range (FRR)

a) Area (km²)

b) Pre-defined increment	Current range is between 11% and 50% smaller than the FRR
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c) Unknown	No
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d) Method used	Expert opinion
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e) Quality of information	moderate
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5.11 Change and reason for change in surface area of range

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

No additional information

6. Population

6.1 Year or period	2019-2024
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6.2 Population size (in reporting unit)

a) Unit	number of map 1x1 km grid cells
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b) Minimum	
c) Maximum	
d) Best single value	151
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	number of localities
b) Minimum	
c) Maximum	
d) Best single value	2
e) Type of estimate	Best 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	Decreasing
6.9 Short-term trend; Magnitude	
a) Estimated minimum	
b) Estimated maximum	
c) Pre-defined range	Decreasing 26 - 50%
d) Unknown	No
e) Type of estimate	Pre-defined range
f) Rate of decrease	Decreasing >1% (more than one percent) per year on average
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	Decreasing
6.13 Long-term trend; Magnitude	
a) Minimum	
b) Maximum	
c) Confidence interval	
d) Rate of decrease	Decreasing >1% (more than one percent) per year on average
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	
a ii) Unit	
b) Pre-defined increment	Current population is between 26% and 50% smaller than the FRP
c) Unknown	No
d) Method used	Expert opinion
e) Quality of information	moderate
6.16 Change and reason for change in population size	
a) Change	Yes
b) Genuine change	Yes
c) Improved knowledge or more accurate data	Yes
d) Different method	
e) No information	
f) Other reason	
g) Main reason	Genuine change
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? No

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 Based mainly on extrapolation from a limited amount of data

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 Uncertain

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 Decreasing

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
PA02: Conversion from one type of agricultural land use to another (excluding drainage and burning)	Ongoing and likely to be in the future	Medium (M)
PA07: Intensive grazing or overgrazing by livestock	Ongoing and likely to be in the future	Medium (M)
PA17: Agricultural activities generating pollution to surface or ground waters (including marine)	Ongoing and likely to be in the future	High (H)
PB19: Forestry activities generating pollution to surface or ground waters (including marine)	Ongoing and likely to be in the future	Medium (M)
PL05: Modification of hydrological flow (mixed or unknown drivers)	Ongoing and likely to be in the future	Medium (M)
PL06: Physical alteration of water bodies (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)
PJ12: Decline or extinction of related species (e.g. food source / prey, predator / parasite, symbiote, etc.) due to climate change	Ongoing and likely to be in the future	Medium (M)
PJ10: Change of habitat location, size, and / or quality due to climate change	Only in future	Medium (M)
PK01: Mixed source pollution to surface and ground waters (limnic and terrestrial)	Ongoing and likely to be in the future	Medium (M)
PL01: Abstraction from groundwater, surface water or mixed water (mixed or unknown drivers)	Ongoing and likely to be in the future	Medium (M)
PL04: Development and operation of dams (mixed or unknown drivers)	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? Yes

b) Indicate the status of measures Measures identified and taken

9.2 Main purpose of the measures taken Increase the population size and/or improve population dynamics (related to 'Population')

9.3 Location of the measures taken Both inside and outside National Site Network

9.4 Response to measures Medium-term results (within the next two reporting periods, 2025–2036)

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
MS01: Reinforce populations of species from the directives	High (H)
MA10: Reduce/eliminate point or diffuse source pollution to surface or ground waters (including marine) from agricultural activities	High (H)
MB10: Reduce diffuse or point source pollution to surface or ground waters (incl. marine) from forestry activities	Medium (M)
MF09: Adapt the management of water abstraction for public supply and for industrial and commercial use to reduce negative impacts on habitats and species (incl. restoration of habitats)	High (H)
MJ02: Implement climate change adaptation measures	Medium (M)

MA13: Manage agricultural drainage and water abstraction (incl. the restoration of drained or hydrologically altered habitats)	Medium (M)
MK03: Restoration of habitats impacted by multi-purpose hydrological changes	High (H)
MS04: Manage native species (incl. non-Directive species)	Medium (M)

9.6 Additional information

No additional information

10. Future prospects

10.1a Future trends of parameters

ai) Range	Negative - decreasing $\leq 1\%$ (one percent or less) per year on average
bi) Population	Negative - decreasing $\leq 1\%$ (one percent or less) per year on average
ci) Habitat for the species	Negative - slight/moderate deterioration

10.1b Future prospects of parameters

aii) Range	Bad
bii) Population	Bad
cii) Habitat for the species	Bad

10.2 Additional information

Future trend of Range is Negative - decreasing $\leq 1\%$ (one percent or less) per year on average; Future trend of Population is Negative - decreasing $\leq 1\%$ (one percent or less) per year on average; and Future trend of Habitat for the species is Negative - slight/moderate deterioration.

11. Conclusions

11.1 Range	Unfavourable-bad (U2)
11.2 Population	Unfavourable-bad (U2)

11.3 Habitat for the species	Unfavourable-bad (U2)
11.4 Future prospects	Unfavourable-bad (U2)
11.5 Overall assessment of Conservation Status	Unfavourable-bad (U2)
11.6 Overall trend in Conservation Status	Deteriorating

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

Conclusion on Range reached because: (i) the short-term trend direction in Range surface area is decreasing by more than 1% per year; and (ii) the current Range surface area is more than 10% below the Favourable Reference Range. Conclusion on Population reached because: (i) the short-term trend direction in Population size is decreasing by more than 1% per year; (ii) the current Population size is between 25%-50% below the Favourable Reference Population; and (iii) age structure, mortality and reproduction are strongly deviating from normal. Conclusion on Habitat for the species reached because: (i) the area of occupied and unoccupied habitat is sufficiently large and (ii) the habitat quality is not adequate for the long-term survival of the species; and (iii) the short-term trend in area of habitat is uncertain. Conclusion on Future prospects reached because: (i) the Future prospects for Range are bad; (ii) the Future prospects for Population are bad and (iii) the Future prospects for Habitat for the species are bad. Overall assessment of Conservation Status is Unfavourable-bad because all of the conclusions are Unfavourable-bad. Overall trend in Conservation Status is based on the combination of the short-term trends for Range - decreasing, Population - decreasing, and Habitat for the species - uncertain. The Overall assessment is Unfavourable-bad. The overall trend is declining.

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	number of map 1x1 km grid cells
b) Minimum	
c) Maximum	
d) Best single value	20
12.2 Type of estimate	Best estimate
12.3 Population size inside the network; Method used	Complete survey or a statistically robust estimate
12.4 Short-term trend of population size within the network; Direction	Decreasing
12.5 Short-term trend of population size within the network; Method used	Complete survey or a statistically robust estimate
12.6 Short-term trend of habitat for the species inside the pSCIs, SCIs and SACs network; Direction	Decreasing
12.7 Short-term trend of habitat for the species inside the pSCIs, SCIs and SACs network; Method used	Based mainly on extrapolation from a limited amount of data

12.8 Additional information

The only trans-boundary population is the River Wye which flows from Wales into England. Historically, the Wye has supported a large mussel population in the 1970s. The river was last surveyed in the 1990s. Without any recent records, it is likely that the population has been lost in the England sections of the Wye.

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
5.1: Surface area	Species range value is based on data that is known to be incomplete, and is therefore likely to be an underestimate.
2.1: Sensitive species	Yes. Freshwater pearl mussel is vulnerable to illegal pearl fishing and disturbance.
2.4: Distribution map; Method used	For the 2025 Regulation 9A reporting round the distribution datasets reported for all features have been created using existing Natural England source data and additional datasets made available to Natural England for Regulation 9a reporting under Open Government (OGL) or Creative Commons (CC-BY) license. The reinterpretation of source data is a methodological change which has resulted in changes to mapped distribution and hence range for some features. In a few cases the available data is known to not reflect the full distribution of a feature. Where apparent change is an artefact of the mapping approach, rather than real change in distribution it will be highlighted, and associated changes in range explained, in the assessment text.
2.5: Additional information	The Species distribution map for England is incomplete and does not reflect the full distribution of the feature in England. This is due to data ownership and copyright issues and with no agreements in place with other data providers. NBN Atlas data has not been used due to the data being generalised to protect location details of sensitive species.
5.3: Short-term trend; Direction	Although the overall range at 10km scale in England has not changed since the previous reporting period (2013-2018), the species continues to be lost from areas of suitable habitat within existing rivers due to habitat degradation (e.g. siltation, water quality and inadequate flows). There is no recent recruitment to the majority of populations to replace losses of adult mussels. The short-term range trend is assessed as decreasing.

5.11: Change and reason for change in surface area of range	<p>The freshwater pearl mussel historically has been recorded in at least 73 10km squares across England.</p> <p>Populations have been lost across most of its former 10km range in the South-west (78% loss) and West Midlands (73% loss) regions and occur in half of its former range in Northern England. For the period 2000-2024, the species is estimated to occur in only 26 10km squares, a third (36%) of its former range. In most of these, populations are small and further loss of range is likely in the near future.</p>
6.5: Additional population size	<p>The number of localities refers, as in previous reports, to the number of viable populations (note - there are further non-viable populations). For the period 2019-2024, two populations have had recent juvenile recruitment an increase of one since the last reporting period due to recent survey work.</p>
6.17: Additional information	<p>Successful conservation measures (captive breeding) has meant we are now in the position to reintroduce juvenile mussels back to their native rivers to augment threatened populations. For the period 2013-2024 mussels have been reintroduced to two populations and for one population has seen 1000% increase in numbers. In future we expect populations to become viable through conservation measures but currently they don't meet the FRP criteria.</p>
7.1: Sufficiency of area and quality of occupied habitat	<p>The freshwater pearl mussel burrows into sand and gravel substrates, often between larger boulders and cobbles, in fast-flowing rivers and streams. It requires cool, well oxygenated soft water, free of pollution and very low in turbidity. The pearl mussels spends its larval, or glochidial, stage attached to the gills of salmonid fish. The quality of habitat is therefore vital to conserving freshwater pearl mussel populations and improving the condition of some habitat would help restore some populations so they would become viable, and help increase the species' range. A lack of rivers (per se as wetted channels) is not a reason for the sufficiency of habitat, it is the quality of river habitat that is important.</p>

7.4: Short-term trend; Direction	Although there may have been limited short-term improvements in habitat quality over the reporting period, these are in response to specific remediation measures that are not necessarily representative of the wider environment. Further data is required to establish wider trends. Given the improving condition of habitat in some rivers, and the apparently deteriorating picture (particularly) in some populations outside protected areas then the short-term habitat trend is uncertain.
7.5: Short-term trend; Method used	Field work has been undertaken from 2014 - 2017 to determine the extent of current and potential habitat for juvenile freshwater mussels in the River Ehen SAC. This provides a baseline that alongside routine monitoring will help ensure that ongoing and planned restoration works will be successful in bringing the SAC to favourable condition. Initial results for the main sections supporting FPM population show that 29% has good juvenile habitat and a further 26% has potential juvenile habitat. Out of the total area of riverbed in the upstream sections (33,000m ²), it is estimated that c.18,000m ² could support juvenile mussels (Killeen and Moorkens, 2020)
7.7: Long-term trend; Direction	Although there is no quantitative long-term habitat trend data, repeated surveys of populations during the last two reporting periods have reported that several populations (which had last been surveyed in approx. mid-1990s) had declined significantly in numbers and distribution within rivers. This has been largely due to changes to habitat quality. It is important to note that freshwater pearl mussels are extremely sensitive to changes in some habitat determinants (e.g. nutrients, organic pollution, fine sediment). Such determinants are regulated and, although the implementation of the Water Framework Directive has helped to improve the ecological status of many waterbodies in England, it is considered that the habitat requirements of the freshwater pearl mussel are very high that much of the restoration action required under the WFD objectives (e.g. good ecological status) are insufficient to restore the habitat such that freshwater pearl mussels will

become viable. Further, many of the pressures on the habitat quality of pearl mussels are from diffuse or long-term (such as diffuse pollution, morphological quality of rivers) which in larger catchments can have considerable lead-in times before benefits are realised.

7.9: Additional information

The long-term decline of pearl mussels in English rivers is rooted in changes in river management that occurred from the late 19th century to the mid-late 20th century.

8.1: Characterisation of pressures

Pressures: The most important impacts on pearl mussel populations are morphological changes to rivers as a result of in-channel works, and associated land drainage (PL05, PL06). Historically rivers have been artificially widened and straightened and have weirs that affect the natural flow and sediment transfer regime of the river. These have resulted in destabilisation of river substrates and banks, increased siltation, higher flows and clogging of gravels and sands with fine material. These activities also help transport pollutants from agriculture, forestry and other activities (PA17, PB19, PK01).

Abstraction of water for public supply, industry and hydropower (PL01, PL04) negatively impacting natural flow of river systems and on river habitat conditions for FWPM.

Agriculture and forestry activities can have a significant impacts on pearl mussel populations through water pollution (PA17, PB19), drainage and hydromorphological effects (PA21), and land management changes (PA02, PA07).

Increased storminess and precipitation due to climate change (PJ03) is likely to result in greater flooding, causing washout of adult and juvenile mussels and the eggs of their salmonid hosts. Likewise increased droughts and prolonged low flows can cause stress to mussels due to temperature increases, oxygen depletion and reduction of silt transport. These impacts have or are expected to

	<p>further destabilise river habitats. Climate change risks (PJ01, PJ03, PJ10, PJ12) are expected to increase over the coming decades and the risk of impacts therefore increases from medium to high.</p> <p>There have been no reported cases of illegal pearl fishing (PG12) in England hence current impact is assessed as zero, but there is a residual threat assessed as Low.</p>
9.3: Location of the measures taken	<p>Due to the very small number of sites designated for freshwater pearl mussel in England, a high proportion of conservation works are required outside the National Site Network.</p>
9.5: List of main conservation measures	<p>The Conservation measures are aimed at improving the species' habitat to a point where natural recruitment can be established and safeguarded, while ensuring that populations are not lost until this long-term improvement is achieved. This requires a combination of actions to reverse or mitigate past habitat damage including drainage from agriculture and forestry activities (MA13, MB13); hydropower public/water supply scheme management (MF09, MC04); general morphological damage such as removal of boulders and channel straightening (MK03) to restore the quality of the river bed gravels; and management of short-term impacts on and risks to water quality (MA10, MB10, MK01). Integrated catchment management is essential alongside this habitat works and will predominantly need to be carried out in partnership with the agricultural and forestry sectors.</p> <p>An important priority at present is to implement climate change adaptation measures (MJ02) such as establishing riparian woodlands along some watercourses (to improve habitat and provide shade), as well as restore riparian wetlands to improve flow management, and to restore in-river natural processes.</p> <p>Measures to ensure populations of salmonid hosts are sufficient to support mussel recruitment (MG02/MS04) may</p>

be needed in some circumstances. Majority of remaining pearl mussel populations in England are unlikely to be viable due to very low mussel numbers. Therefore, we cannot rely only on habitat measures alone to ensure the survival of pearl mussels in England and a programme of captive rearing for the purpose of population reinforcement (MS01) and reintroduction (MS02) is under way to ensure short- and medium-term persistence and improve the long-term prospects for recovery. Population reinforcement will also improve survival chances of remaining populations, as there is evidence that pearl mussel recruitment improves at higher densities (Arvidsson et al. 2012)..

10.1: Future trends and prospects of parameters

Range: For a long-lived species the overall range in England is not expected to change greatly (macro-scale). However, this masks a continuing decline at a local level with a contraction within-river range and with no juvenile recruitment to replace adult losses. This will be counteracted through moderate improvements in water/habitat quality and conservation efforts (e.g. reintroductions through captive breeding). Overall, the range is assessed as declining/bad due to uncertainties of the outcomes of listed conservation measures.

Population: Future trend in population is dependent on the success and nature of conservation measures. However, due to the fragmented distribution and small size of many populations, further losses of population are likely in the short term at least. The key focus at present is preventing extinction in England. Conservation efforts are looking to address this through captive breeding and population augmentation. The outcome of these measures will be long-term (beyond 2035). Overall population is assessed as declining/bad.

Habitat: The future prospects for habitat quality are slightly negative. There is very considerable investment underway in England to improve habitat quality in our rivers. Much of this investment has been driven by the implementation of the Water Framework Directive. While that is leading to

	<p>improved water quality, the improvements in many places may not lead to sufficiently high-quality habitat to support recruiting pearl mussel populations (given their very demanding habitat requirements and river flows). Therefore, there will likely still be a deterioration in the range and population size of freshwater pearl mussels while habitat quality overall does not decline as much. However, there is much uncertainty around future impacts from climate change on river habitat conditions through increased droughts/low flows and flood events.</p>
11.5: Overall assessment of Conservation Status	Range area >10% below FRR; Population >25% below FRP; Habitat area is insufficient. Future prospects for one or more parameters are 'bad'
12.1: Population size inside the pSCIs, SCIs and SACs network	The UK national site network (NSN) currently supports four populations for the species in England. A further three sites (River Wye, River Derwent, River Camel), the populations are considered lost with no recent records from the last 25 years. One river (River Ehen) holds 90% of the English population total. The data quality is relatively good, with all designated SACs for the feature having been surveyed in the reporting time period. Where trend data exists, this shows that in some populations there has been a clear decline in conservation status during the time period. There has been no reduction in the number of viable populations (1 population) within the NSN, however some populations have lost a considerable proportion of their populations over the reporting period (>90% in one case).
12.4: Short-term trend of the population size within the network; Direction	The short-term trend is classed a declining as there has been a clear decline in the population size in 3 out of the 4 sites within the NSN with extant FPM populations. At two sites the populations are almost extinct with very few remaining adults and for another site the population has seen a rapid decline in adult numbers. There is only one site where the population is stable with large numbers of adults and with recent recruitment of juvenile mussels.