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

2019-2024

Conservation status assessment for the habitat:

H3260 - Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation

Wales

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Important note - Please read

- The information in this document represents Wales 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 Resources Wales, 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 habitat 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 habitat (section 11 National Site Network coverage for Annex I habitats).

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

Assessment Summary: Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation

Distribution Map

Range Map

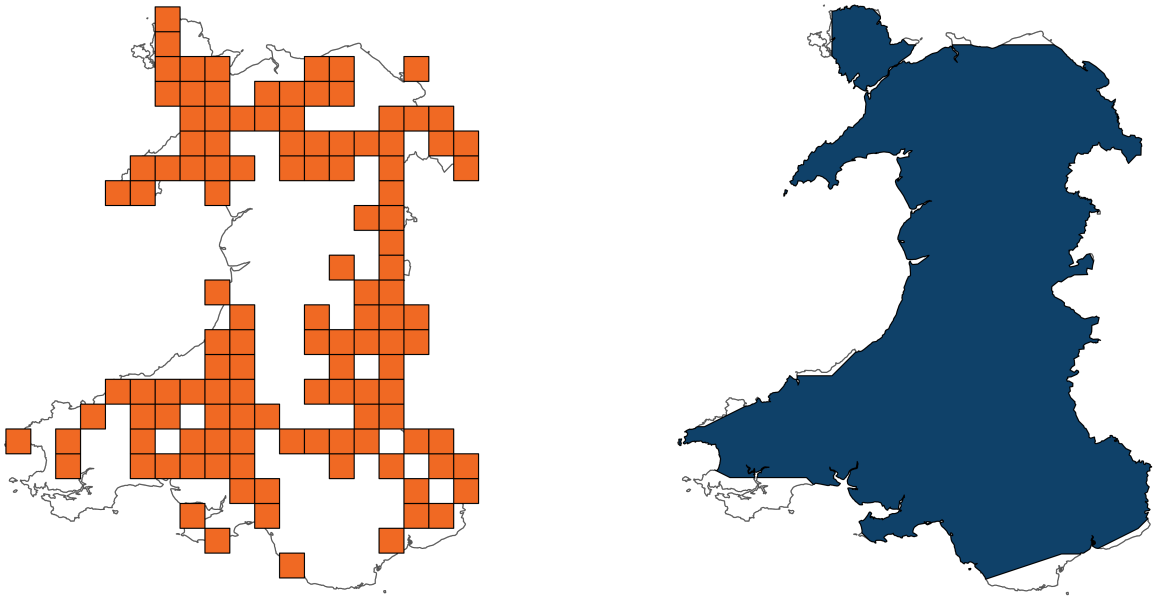

Figure 1: Wales distribution and range map for H3260 - Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority. The 10km grid square distribution map is based on available habitat records within the current reporting period.

Table 1: Table summarising the conservation status for H3260 - Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation. Overall conservation status for habitat is based on assessments of range, area covered by habitat, structure and functions, and future prospects.

Overall Conservation Status (see section 10)

Unfavourable-bad (U2)

Breakdown of Overall Conservation Status

Range (see section 4)	**Favourable (FV)**
Area covered by habitat (see section 5)	**Favourable (FV)**
Structure and functions (see section 6)	**Unfavourable-bad (U2)**
Future prospects (see section 9)	**Unfavourable-bad (U2)**

List of Sections

National Level

1. General information

1.1 Country	Wales
1.2 Habitat code	H3260 - Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation

2. Maps

2.1 Year or period	2007-2024
2.2 Distribution map	Yes
2.3 Distribution map; Method used	Based mainly on extrapolation from a limited amount of data

2.4 Additional information

No additional information

Biogeographical Level

3. Biogeographical and marine regions

3.1 Biogeographical or marine region where the habitat occurs ATL

3.2 Sources of information

See section 13 References

4. Range

4.1 Surface area (km²)	19,857.49
4.2 Short-term trend; Period	2013-2024
4.3 Short-term trend; Direction	Stable

4.4 Short-term trend; Magnitude	
a) Estimated minimum	
b) Estimated maximum	
c) Pre-defined range	
d) Unknown	
e) Type of estimate	
f) Rate of decrease	
4.5 Short-term trend; Method used	Based mainly on expert opinion with very limited data
4.6 Long-term trend; Period	2000-2024
4.7 Long-term trend; Direction	Stable
4.8 Long-term trend; Magnitude	
a) Minimum	
b) Maximum	
c) Rate of decrease	
4.9 Long-term trend; Method used	Based mainly on extrapolation from a limited amount of data

4.10 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	Reference-based approach
e) Quality of information	moderate

4.11 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	

4.12 Additional information

No additional information

5. Area covered by habitat

5.1 Year or period	2019-2024
5.2 Surface area (km²)	
a) Minimum	
b) Maximum	
c) Best single value	20
5.3 Type of estimate	Best estimate
5.4 Surface area; Method used	Based mainly on extrapolation from a limited amount of data
5.5 Short-term trend; Period	2013-2024
5.6 Short-term trend; Direction	Stable
5.7 Short-term trend; Magnitude	
a) Estimated minimum	
b) Estimated maximum	
c) Pre-defined range	
d) Unknown	
e) Type of estimate	
f) Rate of decrease	

5.8 Short-term trend; Method used	Based mainly on expert opinion with very limited data
5.9 Long-term trend; Period	2000-2024
5.10 Long-term trend; Direction	Stable
5.11 Long-term trend; Magnitude	
a) Minimum	
b) Maximum	
c) Confidence interval	
d) Rate of decrease	
5.12 Long-term trend; Method used	Based mainly on expert opinion with very limited data
5.13 Favourable Reference Area (FRA)	
a) Area (km²)	
b) Pre-defined increment	Current area is less than 2% smaller than the FRA
c) Unknown	No
d) Method used	Expert opinion
e) Quality of information	

5.14 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	

5.15 Additional information

No additional information

6. Structure and functions

6.1 Condition of habitat (km²)

Area in good condition	
ai) Minimum	0
aii) Maximum	0
Area not in good condition	
bi) Minimum	11.8
bii) Maximum	11.8
Area where condition is unknown	
ci) Minimum	8.2
cii) Maximum	8.2
6.2 Condition of habitat; Method used	Based mainly on extrapolation from a limited amount of data
6.3 Short-term trend of habitat area in good condition; Period	2019-2024
6.4 Short-term trend of habitat area in good condition; Direction	Stable
6.5 Short-term trend of habitat area in good condition; Method used	Based mainly on extrapolation from a limited amount of data

6.6 Typical species

Has the list of typical species changed in comparison to the previous reporting period?	No

6.7 Typical species; Method used

6.8 Additional information

Typical species were not used directly in the assessment of conservation status for habitat structure and function as a comprehensive list of typical species for each habitat was not available. However, the status of typical species was considered when the condition of individual sites was assessed using Common Standards Monitoring Guidance. Common Standards Monitoring (CSM) data was used to assess the area of habitat in 'good' and 'not good' condition (field 6.1). Species were a component of the attributes assessed under CSM. Therefore, an assessment of species is considered to have formed part of the reporting under field 6.1 which supported the Habitats Structure and Function assessment (field 10.3).

7. Main pressures

7.1 Characterisation of pressures

Table 2: Pressures affecting the habitat, 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
PA19: Agricultural activities generating soil pollution	Ongoing and likely to be in the future	Medium (M)
PI01: Invasive alien species of Union concern	Ongoing and likely to be in the future	High (H)
PK01: Mixed source pollution to surface and ground waters (limnic and terrestrial)	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)
PL04: Development and operation of dams (mixed or unknown drivers)	Ongoing and likely to be in the future	Medium (M)
PA23: Physical alteration of water bodies (including dams, channels, etc.)	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)
PA20: Live stock farming generating pollution	Ongoing and likely to be in the future	High (H)
PM02: Flooding	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)
PL06: Physical alteration of water bodies (mixed or unknown drivers)	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	Medium (M)
PL02: Drainage (mixed or unknown drivers)	Ongoing and likely to be in the future	Medium (M)
PJ03: Changes in precipitation regimes due to climate change	Ongoing and likely to be in the future	Medium (M)

7.2 Sources of information

See section 13 References

7.3 Additional information

No additional information

8. Conservation measures

8.1: Status of measures

a) Are measures needed?	Yes
b) Indicate the status of measures	Measures identified and taken
8.2 Main purpose of the measures taken	Restore the structure and functions, including the status of typical species (related to 'Specific structure and functions')
8.3 Location of the measures taken	Both inside and outside National Site Network
8.4 Response to measures	Medium-term results (within the next two reporting periods, 2025–2036)

8.5 List of main conservation measures

Table 3: 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
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	High (H)
MC04: Reduce impact of hydropower operation and infrastructure (incl. the restoration of freshwater habitats)	Medium (M)
MF04: Reduce/eliminate pollution to surface or ground waters from commercial, residential and recreational areas and activities, and from industrial activities and structures	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)
MI02: Management, control or eradication of established invasive alien species of Union concern	High (H)
MJ01: Implement climate change mitigation measures	Medium (M)
MJ02: Implement climate change adaptation measures	Medium (M)
MK01: Reduce impact of mixed source pollution	High (H)
MK02: Reduce impact of multi-purpose hydrological changes	High (H)
MK03: Restoration of habitats impacted by multi-purpose hydrological changes	High (H)
MK04: Other measures related to mixed source pollution.	High (H)

8.6 Additional information

No additional information

9. Future prospects

9.1a Future trends of parameters

ai) Range	Overall stable
bi) Area	Overall stable
ci) Structure and functions	Negative - slight/moderate deterioration

9.1b Future prospects of parameters

aii) Range	Good
bii) Area	Good
cii) Structure and functions	Bad

9.2 Additional information

No additional information

10. Conclusions

10.1 Range	Favourable (FV)
10.2 Area	Favourable (FV)
10.3 Specific structure and functions (incl. typical species)	Unfavourable-bad (U2)
10.4 Future prospects	Unfavourable-bad (U2)
10.5 Overall assessment of Conservation Status	Unfavourable-bad (U2)
10.6 Overall trend in Conservation Status	Stable

10.7 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.

10.7 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.

10.8 Additional information

No additional information

11. UK National Site Network (pSCIs, SCIs, SACs) coverage for Annex I habitat types

11.1 Surface area of the habitat type inside the pSCIs, SCIs and SACs network (km²)

a) Minimum	15
b) Maximum	18
c) Best single value	
11.2 Type of estimate	Best estimate
11.3 Habitat area inside the network; Method used	Based mainly on extrapolation from a limited amount of data
11.4 Short-term trend of habitat area within the network; Direction	Stable
11.5 Short-term trend of habitat area within the network; Method used	Based mainly on expert opinion with very limited data
11.6 Short-term trend of habitat area in good condition within the network; Direction	Stable
11.7 Short-term trend of habitat area in good condition within the network; Method used	Based mainly on extrapolation from a limited amount of data

11.8 Additional information

No additional information

12. Complementary information

12.1 Justification of percentage thresholds for trends

No justification information

12.2 Other relevant information

No other relevant information

13. References

Biogeographical and marine regions

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Main pressures

7.2 Sources of information

No sources of information

14. Explanatory Notes

Field label	Note
2.3: Distribution map; Method used	There is no new information about the distribution of H3260 therefore the 10km distribution map from the 2018 reporting for H3260 is used here with some updating of errors. This is based on a pragmatic approach to mapping H3260 rivers using existing data sets, such as that used for Water Framework Directive, that have been amended to best include or exclude rivers based on expert opinion.
4.1: Surface area	This habitat is widespread in Wales
4.2: Short-term trend; Period	No data on short-term range trend are available, as most data relate to structure and function. However, there is no evidence that this habitat has been subject to significant changes in range over the last decade.
4.5: Short-term trend; Method used	The data for range estimation cover a wide geographical range. However, they also cover a wide time span and in some cases may not reflect the current distribution of the habitat. At a UK scale with 10km² resolution this issue is unlikely to cause serious problems.
4.6: Long-term trend; Period	No data on long-term range trend are available, as most data relate to structure and function. However, there is no evidence that this habitat has been subject to significant changes in range over the last decade. Habitat range does not tend to change as river habitat is generally not lost; modifications tend to result in deterioration of the habitat or localised shortening of river length rather than elimination of the river habitat within a geographical area.
4.11: Change and reason for change in surface area of range	The 10km distribution map provided by JNCC shows no change in range of H3260.
5.1: Year or period	There is no new information about the area covered by H3620 therefore the area estimate from the 2018 reporting for H3620 and the accompanying rationale is used here (JNCC 2018).

5.2: Surface area	There is no standard method available for measuring H3620. Moreover, on the whole river habitat is not destroyed, apart from when rivers are straightened and therefore shortened (JNCC 2007). Rivers are dynamic systems and most methods for monitoring them focus on biological communities and on measuring processes, rather than on habitat extent. The value reported represents a combination of data extracted from GIS with a correction factor based on expert judgement. Recent modelling carried out by UKCEH (Mainstone et. al. 2022) gives an area of 14.9 km2 of H3260 in Wales. This is based on cells flagged as H3260 with high probability according to the model (all cells on our 1:50K network are given a probability flag of high, medium or low. Further quality assurance and checking is required in order to use this dataset as a basis for range and area of H3620. Due to the topology of river networks, river length could be a more appropriate measure of H3620 and is much more widely used in the scientific literature. This should be considered for future reporting.
5.4: Surface area; Method used	We took the total area of running water in Wales as measured by the Phase I habitat survey, and excised upland areas (where this habitat does not usually occur) and brackish water using GIS. This gave a total area just under 60km2. However, H3260 occurs only patchily in many Welsh rivers due to the presence of unstable sediments that are unsuitable for the development of macrophyte beds. We therefore applied a correction factor of 0.33 to allow for the fact that 66% of the length of lowland rivers may be geomorphologically unsuitable to support substantial macrophyte beds. This gives a figure of 20km2. There is great uncertainty around this figure, however and the true value may be as much as double or as little as half of the figure reported.
5.6: Short-term trend; Direction	Inadequate data are available within Wales to make an assessment of trend in area for this habitat type.

	However, very little, if any channelisation or rehabilitation work has occurred in Wales since 2001 and it is therefore highly unlikely that there has been a detectable change in area of this habitat. In addition, there has been significant restoration work since 2019 carried out by the Rivers Trusts in Wales and via large scale restoration projects. In total, 854 km of river has been improved, protected or restored (NRW 2025a). Whilst not all of this was targeted for H3620, this will have resulted in an increase in the overall area of H3260 as well as an improvement in the condition. There have been reports of decline in extent of H3260 in rivers where it was once abundant, including the River Wye and the River Usk (Karran, 2022). Declines have also been reported by Natural England on the River Wye and the River Wensum, with ranunculion beds very scarce on the Wye and absent in the Wensum.
5.8: Short-term trend; Method used	Inadequate data are available within Wales to make an assessment of trend in area for this habitat type.
5.9: Long-term trend; Period	No accurate data on trends are available. However, very little channelisation has occurred since 1988 and it is therefore highly unlikely that there has been a detectable change in area of this habitat.
5.10: Long-term trend; Direction	No data on long term trend in area are available. See 5.9
5.11: Long-term trend; Magnitude	No data on long term trend in area are available. See 5.9
6.1: Condition of habitat	1. Analysis of WFD classification data (overall status) for all river waterbodies inside and outside of SAC rivers: Area in good condition: none Area not in good condition: 409 river waterbodies (59%) Area where condition is not known: 308 river waterbodies (41%)

2. Analysis of WFD classification data (overall status) for river waterbodies in SAC rivers:

Area in good condition: 0 waterbodies

Area not in good condition:

80 waterbodies (63%)

Area where condition is not known:

47 water bodies (37%)

3. Analysis of WFD classification data (macrophyte status) for river waterbodies inside and outside of SAC rivers:

Area in good condition: 90 waterbodies (37%)

Area not in good condition:

45 waterbodies (18%)

Area where condition is not known:

109 water bodies (45%)

Analysis of 2024 interim WFD ecological classification data for Wales for this reporting round provides an indication of the condition of the entire Welsh resource of H3620 (NRW 2024). The analyses assumes that high ecological status is equivalent to good condition, good ecological status is equivalent to unknown condition and less than good status (or not available) is equivalent to not in good condition.

Analyses 1 and 2 use 2024 overall waterbody status. Of 717 river waterbodies covering 7146km, none are high status (good condition), 409 (59% or 4226km) are less than good status (not good condition) and 308 (41% or 2920km) are good status (unknown condition). Of the 127 water

bodies within the SAC network, none are high status, 80 (63%) are less than good status and 47 (37%) are good status.

Analysis 3 uses 2024 macrophyte waterbody status in the interim classification data (NRW 2024) for 244 river waterbodies.

Note that the area figures in 6.1 are based on the overall ecological status for all 717 waterbodies, as percentages of the total estimated area of H3260 habitat (20km2).

The Water Framework Directive classification process gives an indicative measure of river quality and is a reasonable proxy for the H3260 network both inside and outside the designated sites network, assuming that they are proportionally represented. All WFD river waterbodies were used to generate these statistics, since there is no reliable way of identifying rivers across the Welsh river network that conform to H3260. The fact that no water bodies are at high ecological status equivalent to good condition for H3260 is a huge concern.

The WFD reports on the ecological status of rivers that form part of defined 'waterbodies'. Ecological status is defined in terms of a number of biological quality elements: the phytobenthos (algae and submerged higher plants), macroinvertebrates and fish, as well as the nutrient status of waterbodies. A number of environmental standards are also defined that support ecological status. Status categories are high, good, moderate, poor and bad. Where significant anthropogenic modifications are present in a waterbody, which cannot be removed to restore good ecological status, the waterbody is designated as heavily modified and an objective is assigned in terms of ecological potential. There is no simple relationship between favourable condition of H3260 habitat (as defined for use in SACs) and ecological status classes. In fact, some attributes of habitat condition used in the assessment of

SACs are not directly addressed by ecological status assessment (e.g. impacts on riparian habitat, impacts on physical habitat quality including habitat extent, flow modifications and the presence of non-native species). However, for most biological and environmental indicators that both assessment methods use, favourable condition is most closely associated with high ecological status.

Looking just at the macrophyte element of the WFD classification data (analysis 3) presents a better picture with 37% of waterbodies at high status (good condition). This assumes that the areas surveyed are stretches of river where there is Ranunculion habitat, which is not necessarily the case depending on how the surveys are targeted.

Approximately 13% of all WFD river waterbodies in Wales have been designated as heavily modified and therefore have objectives relating to ecological potential rather than ecological status. Of those waterbodies not designated as heavily modified, around 47.5% are currently recorded at good status or better overall (no waterbodies are recorded at high status). This assessment is based on the worst performing quality element making up the assessment (biological quality elements and nutrient levels).

Assessment of the condition of riverine SACs in Wales provides a direct source of data on H3260 habitat, however this data is limited. Analysis against revised water quality conservation objectives for river SACs in Wales have been carried out in 2021 and again in 2024. Results for phosphorus showed 48 (38%) of water bodies met their targets in 2021 and 61 (48%) met their targets in 2024 (Hatton-Ellis and Jones 2021; NRW 2024). The proportion of waterbodies within the SAC network at high status/good condition for the macrophyte element is similar at 50% (sample size is small with only 24 waterbodies out of 127

	with any data). There have been reports of decline in condition (as well as extent) of H3260 in rivers where it was once abundant, including the River Usk (Karran, 2022). Declines have also been reported by Natural England on the River Wye and the River Wensum, with ranunculion beds very scarce on the Wye and absent in the Wensum.
6.2: Condition of habitat; Method used	The H3260 habitat resource is extensive and widespread. WFD monitoring is only undertaken at discrete points in each water body and results are extrapolated to the entire waterbody.
6.3: Short-term trend of habitat area in good condition; Period	Condition data on protected sites is not adequate to quantify changes as there have been too few condition assessments of sites and these are based on insufficient data. The indication from WFD data is that there has been relatively little change in the status of rivers in recent years, while some studies suggest over the longer term between 1990 and 2023, orthophosphate, nitrite, ammonia and BOD, concentrations have been substantially reduced: arithmetic mean ammonia concentrations have reduced by 85%, BOD by 46% and orthophosphate by 83% (GOV, 2025). Despite the reduction in pollution load from both agriculture and the water industry, more than half (57%) of water bodies in Wales are at moderate status or below. Whilst there has been a decrease in the area of habitat in 'not good' condition from 12km2 in 2015 to 11.8km2 between 2015 and 2024, there is still no habitat in 'good' condition.
7.1: Characterisation of pressures	Pressures: Pressures have been assessed by collating a range of evidence sources including literature, previous reporting

and Safle, NRW's protected sites database.

The key factors affecting the aquatic macrophytes in H3620 (including flow regime, water quality, geomorphology and riverine corridor management) are complex and interlinked (Hatton-Ellis et al 2003). Flow velocity is thought to be the single most important factor in terms of the condition of H3620 but geology, water quality and channel modifications also have a major influence.

Important pressures on H3620 in Wales are modification of flow and abstractions such as for drinking water. Modification of flow regimes tends to increase the flashiness of rivers, increasing suspended solid loads and levels of scouring which leads to loss of sensitive species. Equally high levels of abstraction leads to lower than natural flows and to loss of species diversity alongside increased silt deposition and nutrient retention.

Physical modifications of waterbodies for a variety of purposes either to improve drainage or flood risk protection are also key pressures in Wales and account for 14% of issues listed in Safle against H3260 for SAC rivers (NRW 2025b). Channel modifications (loss of river length, reduced habitat complexity, stabilised water levels and siltation) and in-stream modifications or impoundments (restricting movement of water and some biota) lead to reductions in species diversity of H3620. In severely modified channels the overall plant community is degraded and species poor.

Infrastructure associated with pressures already listed also puts pressure on rivers with H3620 in the form of dams either for hydropower or water abstraction. Impoundments alter the composition of H3620, favouring species that thrive in stable flow depths, low velocities and fine substrates at the expense of species requiring faster flows and coarse substrates.

Pollution is also a major pressure on H3620 in Wales, from

	a variety of sources, and comprises 28% of the issues listed against H3620 in Safle (NRW 2025b). A mixture of point source and diffuse source pollution from agriculture and forestry as well as urban causes eutrophication, organic pollution, toxic pollution and acidification which can all cause shifts in plant community composition. High sediment loads are also a widespread problem which interacts negatively with low flows and channel modifications. Other pressures on H3620 are invasive species, with Japanese knotweed (Fallopia japonica) and Himalayan balsam (Impatiens glandulifera) present along many river corridors throughout Wales. In addition, Signal crayfish (Pacifastacus leniusculus) and Chinese mitten crab (Eriocheir sinensis) numbers are increasing with reports of Signal crayfish across the River Wye catchment and Mitten crab further up the River Dee than previously. Again this is a key issue listed in Safle, making up 23% of issues listed for H3260 (NRW 2025b). Climate change is also a pressure, leading to increased water temperatures and extreme rainfall events. Prolonged dry spells lead to temporary lower flows, reductions in wetted area, loss of niche habitats and disconnection with floodplain features. Increased periods of heavy rainfall lead to more frequent flooding, increased scouring of river beds, bank erosion, and 'wash-out' of resident plants and invertebrates.
8.5: List of main conservation measures	There are a range of conservation measures underway and planned across rivers in Wales which will have a significant positive impact on the multiple pressures impacting on H3620. Since 2019, there has been a lot of progress to address physical modifications in rivers to restore natural functions and processes. This includes large scale river restoration projects such as the Dee LIFE project and the Four Rivers

for LIFE project alongside NRW's Water Capital Programme also supports environmental priorities including river restoration, metal mine remediation, fisheries and water quality.

These projects delivered the following between 2020 and the end of 2024 (NRW 2025a):

854 km of river environment improved, protected or restored

100 ha of habitat created, protected or restored

77 barriers to migratory fish improved

954 km of habitat connectivity improved for migratory fish.

It is anticipated that these measures will make progress towards restoring natural processes, features and physical habitats.

The Rivers Trusts in Wales have been instrumental in delivering the measures above. They carry out a wide range of river restoration, public engagement and catchment management activities including most of the required measures, but especially those related to land use, bank erosion and invasive species.

Measures in river catchments such as those implemented in the projects listed above are managing agricultural, forestry and other impacts and thereby help river water quality to recover. These will complement the options due to be introduced in Welsh Government's Sustainable Farming Scheme. Where rivers are designated as protected sites, management agreements are also used to control agricultural inputs. Further support for catchment-based approaches across Wales is required to continue to address the multiple factors impacting on H3620.

	Invasive species are a significant concern and measures to control them are of limited effectiveness unless a catchment wide strategy is used as the Dee Invasive Species project has demonstrated. Further work is needed to develop and implement effective catchment-based control of invasive species. Identification of suitable climate change mitigation and adaptation measures are highly site-specific, but an effective measure is increasing tree cover in riverine corridors creating shade and reducing the temperature of water. General morphological restoration also helps increase resilience to climate change by providing a wider range of instream habitats and water depths.
9.1:Future trends and prospects of parameters	Range: There are no reasons to expect a decline or increase in range of H3620 in Wales in the next 12 years. Distribution of this habitat type is dependent on a range of factors including gradient, flow, geology and adjacent land management. It is unlikely that these factors will change enough to lead to a contraction in range; what is more likely is that the condition of the habitat will change in the foreseeable future. Area: There are no reasons to expect a decline in area of this habitat in Wales in the foreseeable future. Also whilst restoration of natural river length is being achieved at some sites through restoration of natural riverine processes (particularly in river SACs), it is unlikely that this will be widespread across the river network and result in an increase in habitat area. Structure & function: In summary, the H3260 river network, as represented by WFD, is failing to meet high ecological status and more

	than half is below good status. The reasons for this are broadly agriculture and sewage pollution, physical habitat degradation, invasive species and climate change. Physical habitat, in particular, is poorly recorded. Whilst there is significant prospect of restoration of natural water quality, hydrology and morphology in SAC rivers as well as other rivers prioritised for salmon, the actions required to remedy the situation are slow to progress and involve significant lag time in terms of ecological benefits. The risks are increasing at a pace that outruns the delivery of solutions and climate change is already impacting rivers and will present us with some serious challenges in the very near future.
10.1: Range	Conclusion on Range reached because: (i) the short-term trend direction in Range surface area is stable; and (ii) the current Range surface area is approximately equal to the Favourable Reference Range.
10.2: Area	Conclusion on Area reached because: (i) the short-term trend direction in Area is stable; (ii) the current Area is approximately equal to the Favourable Reference Area; and iii) there has been no significant change in distribution pattern within range.
10.3: Specific structure and functions	Conclusion on structure and function reached because: i) habitat condition data indicates that more than 25% of the habitat is in unfavourable (not good) condition; ii) short-term trend in area of habitat in good condition is stable; and iii) expert opinion determines that there are significant issues for this habitat.
10.4: Future prospects	Conclusion on Future prospects reached because: (i) the future prospects for Range are good; (ii) the Future prospects for Area covered by habitat are good; and (iii) the Future prospects for Structure and function are bad.
10.5: Overall assessment of Conservation Status	Overall assessment of Conservation Status is Unfavourable-bad because two of the conclusions are Unfavourable-bad.
11.1: Surface area of the habitat type inside	There is no new information about the distribution of H3620 either inside or outside of SACs and therefore the 10km

the pSCIs, SCIs and SACs network	distribution map from the 2013 and 2018 reporting for H3620 and the accompanying rationale is used here (NRW, 2013; NRW 2018). There is a reasonably good understanding of the extent and distribution of this habitat within the SAC network as a result of monitoring data. The maximum value includes areas of marginal habitat quality and/or locations where we are uncertain of the presence of this habitat type. It should be noted that the habitat type is viewed here as being a whole river reach scale habitat, rather than as a mesohabitat type corresponding to (for example) Ranunculus beds. This is in line with the approach previously taken by the UK Conservation Agencies in river classification and monitoring (see Holmes et al. 1999; Hatton-Ellis et al. 2003; JNCC 2005). If only mesohabitat was considered, the habitat extent would be much smaller.
11.3: Surface area of the habitat type inside the network; Method used	The extent within the SAC network was estimated by overlaying a GIS layer of SAC boundaries onto the running waters map of the Phase I habitats dataset. Watercourses inside SACs not designated for Ranunculion habitat were removed. The dataset was quality assured to ensure that the river network was continuous and corresponded with site boundaries (mismatches sometimes occurred due to mapping at different spatial scales, or due to river activity). The polygon area was then summed to estimate a total area for Wales.
11.4: Short-term trend of habitat area within the network; Direction	Data on protected sites is not adequate to quantify changes but there is no reason to there is no evidence that this habitat has been subject to significant changes in range over the last decade.
11.5: Short-term trend of habitat area within the network; Method used	Inadequate data are available to make an assessment of trend in area for this habitat type within SACs.

11.6: Short-term trend of habitat area in good condition within the network; Direction	Note the period here is 2013-2024 rather than 2011-2024 as in field 5.5. Based on WFD data for waterbodies within SAC rivers (127 waterbodies), there has been a decline in condition between 2015 and 2024 with the number of bad, poor or moderate status waterbodies increasing from 74 to 80 (57% to 62%) and the number of good status waterbodies decreasing from 53 to 47 (42% to 37%) over the same period (NRW 2024). The previous comments on applicability of this data to condition of H3260 apply however this trend does align with a concern over the future condition of this habitat.
5.13: Favourable Reference Area (FRA)	The UK-level FRV for surface area was developed by JNCC using an audit trail based on the year the FRV was first established and any changes made in subsequent reporting rounds. The audit may draw from any combination of the 2007, 2013, or 2019 Habitats Directive reports and reflects the full rationale used for the 2019 Article 17 reporting. Following expert review, a Wales-level FRV was derived based on habitat extent and trend evidence specific to Wales, rather than adopting the UK-level value. The revised FRV has been set for Wales as the FRA is considered to be approximately equal to the favourable reference area.
4.10: Favourable Reference Range (FRR)	The UK-level FRV for range was developed by JNCC using an audit trail based on the year the FRV was first established and any changes made in subsequent reporting rounds. The audit may draw from any combination of the 2007, 2013, or 2019 Habitats Directive reports and reflects the full rationale used for the 2019 Article 17 reporting. This FRV was reviewed by Welsh experts and considered appropriate for use in Wales based on current distribution and trends.