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

2019-2024

Conservation status assessment for the species:

S1441 - Shore dock

(*Rumex rupestris*)

Wales

Cyfoeth Naturiol Cymru
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JNCC

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Important note - Please read

- The information in this document represents the 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 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: Shore dock

Distribution Map

Range Map

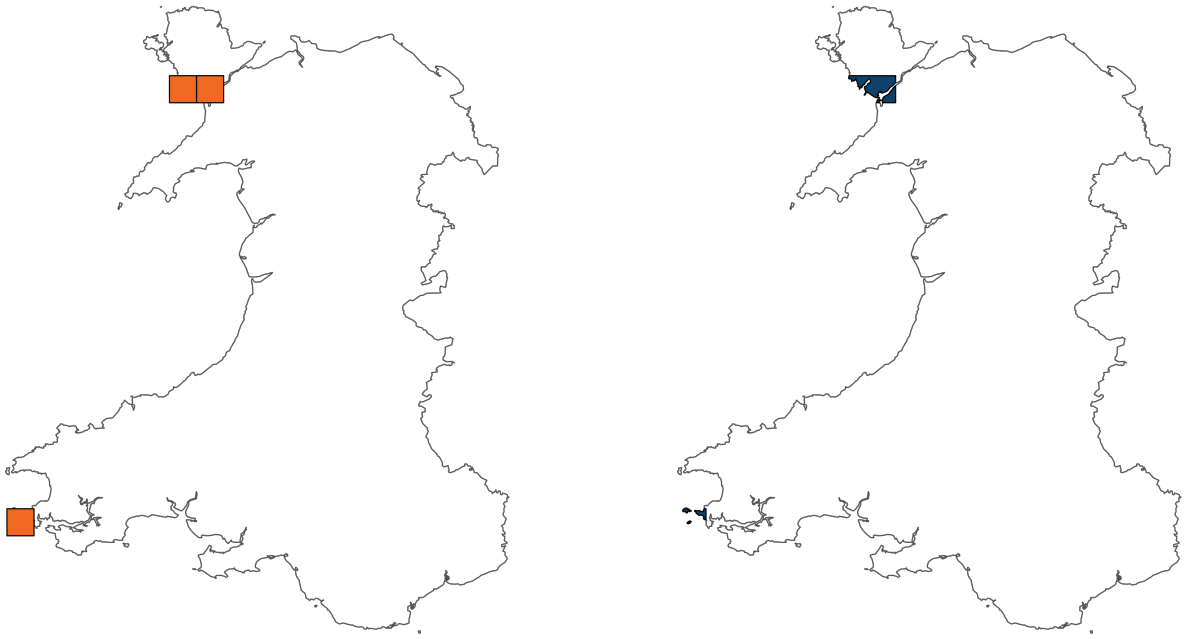

Figure 1: Wales distribution and range map for S1441 - Shore dock (*Rumex rupestris*). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority. The 10km grid square distribution map is based on available species records within the current reporting period.

Table 1: Table summarising the conservation status for S1441 - Shore dock (*Rumex rupestris*). 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 the species (see section 7)	**Unfavourable-bad (U2)**
Future prospects (see section 10)	**Unfavourable-bad (U2)**

List of Sections

National Level

1. General information

1.1 Country	Wales
1.2 Species code	S1441
1.3 Species scientific name	*Rumex rupestris*
1.4 Alternative species scientific name	
1.5 Common name	Shore dock
Annex(es)	II, IV

2. Maps

2.1 Sensitive species	No
2.2 Year or period	2018-2024
2.3 Distribution map	Yes
2.4 Distribution map; Method used	Complete survey or a statistically robust estimate

2.5 Additional information

No additional information

3. Information related to Annex V Species

3.1 Is the species taken in the wild / exploited?

3.2 What measures have been taken?

a) Regulations regarding access to property
b) Temporary or local prohibition on the taking of specimens in the wild and exploitation
c) Regulation of the periods and/or methods of taking specimens
d) Application of hunting and fishing rules which take account of the conservation of such populations

e) Establishment of a system of licences for taking specimens or of quotas

f) Regulation of the purchase, sale, offering for sale, keeping for sale, or transport for sale of specimens

g) Breeding in captivity of animal species as well as artificial propagation of plant species

Other measures

Other measures description

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

a) Unit

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

	Season/ year 1	Season/ year 2	Season/ year 3	Season/ year 4	Season/ year 5	Season/ year 6
b) Minimum	-	-	-	-	-	-
c) Maximum	-	-	-	-	-	-
d) Unknown	-	-	-	-	-	-

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

3.5: Additional information

No additional information

Biogeographical Level

4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs ATL

4.2 Sources of information

See section 14 References

5. Range

5.1 Surface area (km²)	112.07
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	Decreasing 13 - 25%
d) Unknown	No
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	Complete survey or a statistically robust estimate
5.6 Long-term trend; Period	2001-2024
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
5.9 Long-term trend; Method used	Complete survey or a statistically robust estimate

5.10 Favourable Reference Range (FRR)

a) Area (km²)	
b) Pre-defined increment	Current range is between 11% and 50% 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	Yes
b) Genuine change	Yes
c) Improved knowledge or more accurate data	No
d) Different method	No
e) No information	No
f) Other reason	No
g) Main reason	Genuine change

5.12 Additional information

No additional information

6. Population

6.1 Year or period	2024-

6.2 Population size (in reporting unit)

a) Unit	number of individuals

b) Minimum	
c) Maximum	
d) Best single value	158
6.3 Type of estimate	Best estimate
6.4 Quality of extrapolation to reporting unit	high

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	Complete survey or a statistically robust estimate
6.7 Short-term trend; Period	2017-2024
6.8 Short-term trend; Direction	Decreasing
6.9 Short-term trend; Magnitude	
a) Estimated minimum	45
b) Estimated maximum	45
c) Pre-defined range	
d) Unknown	No
e) Type of estimate	Best estimate
f) Rate of decrease	Decreasing >1% (more than one percent) per year on average
6.10 Short-term trend; Method used	Complete survey or a statistically robust estimate
6.11 Long-term trend; Period	2000-2024

6.12 Long-term trend; Direction	Decreasing
6.13 Long-term trend; Magnitude	
a) Minimum	14
b) Maximum	14
c) Confidence interval	
d) Rate of decrease	Decreasing <=1% (one percent or less) per year on average
6.14 Long-term trend; Method used	Complete survey or a statistically robust estimate

6.15 Favourable Reference Population (FRP)

ai) Population size	
aii) Unit	
b) Pre-defined increment	Current population is between 5% and 25% 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	Yes
b) Genuine change	Yes
c) Improved knowledge or more accurate data	No
d) Different method	No
e) No information	No
f) Other reason	No
g) Main reason	Genuine change

6.17 Additional information

No additional information

6.18 Age structure, mortality and reproduction deviation	No deviation 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	Decreasing
7.5 Short-term trend; Method used	Based mainly on extrapolation from a limited amount of data

7.6 Long-term trend; Period	
7.7 Long-term trend; Direction	
7.8 Long-term trend; Method used	

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
PB26: Other forestry activities, excluding those relating to agro-forestry	Ongoing and likely to be in the future	Medium (M)
PM05: Avalanches, landslides and collapse of terrain	Ongoing and likely to be in the future	High (H)
PJ04: Sea-level rise due to climate change	Ongoing and likely to be in the future	High (H)

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	Maintain the current range, population and/or habitat for the species
9.3 Location of the measures taken	Only inside 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
MB05: Adapt/change forest management and exploitation practices	High (H)
MI03: Management, control or eradication of other invasive alien species	Medium (M)
MI05: Management of problematic native species	Medium (M)
MM01: Management of habitats (others than agriculture and forest) to slow, stop or reverse natural processes that occur without direct or indirect influence from human activities or climate change	High (H)
MS01: Reinforce populations of species from the directives	High (H)

9.6 Additional information

No additional information

10. Future prospects

10.1a Future trends of parameters

ai) Range	Overall stable
bi) Population	Unknown
ci) Habitat for the species	Unknown

10.1b Future prospects of parameters

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

10.2 Additional information

No additional information

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

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	number of individuals
b) Minimum	
c) Maximum	
d) Best single value	158
12.2 Type of estimate	Minimum

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	Complete survey or a statistically robust estimate

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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NRW, (2024) Pembrokeshire Marine/ Sir Benfro Morol Special Area of Conservation Site-level Feature Condition Assessments: Rumex rupestris.

NRW (2022) Core management plan including conservation objectives for Y Twyni o Abermenai i Aberffraw / Abermenai to Aberffraw Dunes SAC Glannau Môn: Cors Heli / Anglesey Coast: Saltmarsh SAC Glantraeth SAC incorporating Newborough Warren – Ynys Llanddwyn SSSI Tywyn Aberffraw SSSI Morfa Dinlle SSSI Glantraeth SSSI . Version 3.

NRW (in prep) Newborough Forest Resouce Plan.

Paddock, R. (2024) Rumex Rupestris Population Restoration to the Southerndown Coast SSSI Summary Report. Internal NRW report.

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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	The 10km square distribution is considered to be near complete. There is good recent survey data from local botanists and NRW staff on the distribution of this species, with considerable effort put into searching suitable sites in north and south Wales. However, the potential habitat for this species is widely distributed around the Welsh coast and small populations of Shore Dock could readily be overlooked and new sites could be colonised. It is at present too early to say if the (re)introduced plants at Southerndown will persist in the longer-term and establish themselves as natural component of the habitat here. Until they have, they have been excluded from the distribution and range maps, and estimates of population size and trend.
5.3: Short-term trend; Direction	There has been a loss of the Glamorgan population since the last reporting round.
5.11: Change and reason for change in surface area of range	Loss of Dunraven (Glamorgan location) and retraction of the Pembrokeshire population to the core, cliff, location at Watery Bay.
6.6: Population size; Method used	Individual adult plants (both flowering and non-flowering) have been counted at all extant sites and nil results for previously occupied sites noted. At the same time, it is worth noting that plants vary considerably in size (number of flowering / fruiting stems) and in seed output. A small number of individuals may represent a very large fruiting population and vice versa.
6.8: Short-term trend; Direction	See 6.9
6.9: Short-term trend; Magnitude	The total Welsh population has decreased from 286 in 2016 -2017 to 158 in 2024. The bulk of this decline was seen at Newborough where the population fell from177 in2016 to just 36 plants in 2024. In Pembokeshire the population at Watery Bay continues to flourish with 122

	plants in 2024, but the satellite populations continue to draw a blank. At Dunraven, Glamorgan, only two plants were present in 2017 and the population was lost between 2019 – 2021 (it was last recorded in 2018 and confirmed lost in 2021). There has since been an attempt to introduce Rumex rupestris at two nearby locations, in suitable habitat east of the previous location. 64 plug plants were planted between the two sites in April 2024. It is too soon to include these locations until there is some recruitment.
6.10: Short-term trend; Method used	The population at Dunraven was assessed regularly by NRW and Heritage Coast staff until its demise between 2020 and 2021. The Newborough populations are assessed annually by a mixture of NRW staff and local botanists. The Marloes population were assessed annually by the BSBI county recorder, until and including 2019. After that a rockfall meant access was not possible on foot. There was a gap in recording until 2024 when the author undertook a census of the Watery Bay population with the help of the Skomer Marine team. Other previous known satellite locations, and any other intervening suitable habitat, were also checked this year and drew a blank.
6.12: Long-term trend; Direction	The population of Rumex rupestris in Wales has fallen overall since 2000, declining from 184 plants in 2000-2003 to 158 in 2024. There has been considerable flux in the size of some populations during this period but the dominant trend overall has been one of decline with the loss of the population and Dunraven and the cliff base sub-populations at Marloes and a net decline in numbers at Newborough.
6.14: Long-term trend; Method used	The overall trend is based on regular comprehensive counts of all known populations. However the dune and cliff base populations at Newborough and Marloes respectively are subject to large fluctuations in size resulting from both natural processes and human interventions which may reduce our confidence in assessments over short to medium-term particularly where fixed periods are considered.

6.16: Change and reason for change in population size	Habitat condition (Newborough) and loss of habitat and sites (Marloes and Dunraven).
6.18: Age structure, mortality and reproduction	There is no reason to believe that the population structure of Rumex rupestris in Wales deviates significantly from the norm.
7.1: Sufficiency of area and quality of occupied habitat	In Wales Rumex rupestris has historically occupied three distinct habitats, flushed cliffs and cliff bases (Dunraven and Watery bay at Marloes), flushed coastal shingle/ cliff base (sub-populations at Marloes and perhaps historically Lystep), and slacks and flush-lines/stream margins within sand dunes (Newborough and historically Kenfig and Merthyr Mawr). The species is now confined to a single cliff site (Watery bay) following the loss of the population at Dunraven, along with the bulk of the suitable habitat as a result of erosion. The habitat at Watery bay is more stable but the area occupied is small and should not be consider sufficient for the long term survival of the species in this niche in the long-term given the ongoing risk posed by coastal erosion. Areas of potentially suitable flushed coastal cliff are relatively rare but reasonably widely distributed around the coast including in the vicinity of both the extant and former localities in South Wales. Rumex rupestris has also disappeared from its locations on cliff base, shingle depositions in Wales following the apparent loss of colonies at Hoopers Point at Marloes in 2013/14. Such populations are always likely to have been relatively dynamic and it is not impossible that the species will re-establish here from a seed bank or from the nearby population on the cliffs at Watery Bay. Areas of flushed supra-littoral shingle and similar beach head deposits are rare, but again relatively widely distributed around the Welsh coastline and are still present at Hooper's point and other locations near the extant colony on Marloes.

	The species formerly occurred within a small number of sand dune systems in North and South Wales but is now confined to Newborough Forest in Anglesey where it is found along the margins of a small flush and pond. Former localities around the margins of early successional dune slacks at Kenfig, Merthyr Mawr and within the open dune system at Newborough have been lost. Over stabilization of dune systems in Wales has led to a very significant long-term decrease in the extent of early successional dune slack habitats of the sort formerly occupied by Rumex rupestris. Recent interventions under the Sands of Life project and other conservation initiatives have increased the area of apparently suitable habitat but it seems unlikely that these will be recolonised naturally. Overall Rumex rupestris is currently confined to very small areas of habitat in Wales, which on their own, are insufficient to support long-term viable populations. The quality of the occupied cliff and recently occupied beach-head shingle is near natural, although sea level rise and increases in storminess driven by climate change may make them less suitable as a result of over frequent perturbation. The remaining sand dune sites are atypical and threatened by habitat succession. Larger areas of unoccupied cliff and beach-head habitat do occur, but stands of suitable dune slack habitat remain restricted. And limited dynamism within these systems mean that even if Rumex rupestris was to re-establish with these areas it would be unlikely persist without ongoing interventions.
7.5: Short-term trend; Method used	All extant and recently occupied sites for Rumex rupestris have been regularly visited over the course of the last 12 years including both casual and more structured assessments of the habitats' condition.
8.1: Characterisation of pressures	Pressures: There is a risk to the early-successional habitat for Shore Dock from agricultural inputs (PA17), perhaps most significantly in the Dunraven and Pembrokeshire

catchments, although these are relatively low risk as management at present is low intensity on land above and adjacent to the cliffs at these sites. Shore Dock relies on freshwater flushing of cliff and cliff base sites and any nutrient loading could encourage coarse species to dominate.

The risk of human induced changes to site hydrology (PB23), is also perceived to be low (perhaps most significantly as a side-effect of forestry at Newborough) but the direct effects of Forest and Plantation management, (PB26), represents a significant pressure on available habitat here and the mobility of the species (Creer 2012).

The presence of other dock species (especially R. conglomeratus) at all sites is seen as a low threat to the genetic integrity of populations through possible hybridisation (PI03). There may be other factors and the small population sizes of some of the sites, could be seen as a threat but it may not be as damaging for such a species as Rumex rupestris (Kay 1998).

A natural rock-fall at Dunraven Bay SAC in 2005 and subsequent cliff erosion (ultimately resulting in the species loss here in 2020/21) has greatly reduced the extent of tufaceous rock. Rockfalls and storm damage affected some of the Pembrokeshire colonies in 2008 and more recently in 2014 (Evans 2015) resulting in contraction of the Marloes population to the single Watery Bay colony. The role of landslides and rockfalls (PM05) is uncertain and could very probably be necessary for regeneration in large, stochastically sound populations but they are given as a high pressure here based on recent evidence.

Climate change is linked to an overall increase in storm activity (PJ04), with winter storms having a significant impact on the Pembrokeshire populations in 2014. (Evans 2015) and the loss of the Dunraven population in 2020/21.

	Threats: All current pressures are expected to continue to act over the next two reporting cycles and are given the same ranking as threats. There is not expected to be any expansion of forestry at Newborough, but significant conifer removal is still required specifically around the Cerrig Duon and Pond sites to improve the connectivity between sub-populations here (Creer 2012). In terms of connection it is hoped the removal of trees would provide more open habitat and a degree of bare sand. A connection to the sea is seen as a key issue for long term sustainability and this is especially so at Newborough (NRW 2022). The draft forestry resource plan for Newborough Forest does include providing an open corridor to the sea and other internal ones and providing more suitable habitat for Rumex rupestris here (NRW, in prep).
9.5: List of main conservation measures	The existing 'adaptations to forest management (MB05)', including local tree removal together with the clearance of coarse streamside vegetation and removal of conifer seedlings (MI03 and CI05), at Newborough have been instrumental in maintaining this population in recent years. However, they provide only a temporary, mechanism for maintaining this now isolated population and a more widespread programme of tree clearance (MI05) would be required to restore the population to viability. The current Newborough Forest Resource Plan (NRW, in prep), provides some planning for further works here for the life of the plan. Bolstering and management works are planned at Newborough as part of the Natur am Byth project. (Blackhall-Miles 2024). A significant programme of sand dune rejuvenation and remobilisation has been undertaken on dune systems throughout Wales, including Newborough Warren, Kenfig and Merthyr Mawr (MM01). These interventions have created areas of open damp sand/embryo slack which are likely to be suitable for Rumex rupestris, but further measures, potentially including seed translocation (MS01)

	will almost certainly be required if these areas are to be exploited by the species. Following the loss of the population at Dunraven in 2021 as a result of cliff erosion Rumex rupestris was introduced in nearby locations (Paddock 2024) (MS01).
10.1: Future trends and prospects of parameters	Future prospects of range Rumex rupestris has experienced losses and contraction at all three of its locations in Wales during this reporting round. The situation is likely to remain vulnerable with increasing storminess and sea level rise predicted into the near future. It is too early to say how successful the introductions at Southerndown will be. There are proposals to undertake population bolstering and habitat works at Newborough as part of the Natur am byth project (Blackhall-Miles, 2024). While both surviving populations remain vulnerable as a consequence of their small size and the ongoing threat provided by sea level rise and increased storminess at one site and habitat succession etc at the other. It is unlikely either will be lost given the planned interventions at Newborough and the relative resilience of the remaining population at Marloes. If the (re-)introduction at Southerndown proves successful then it is possible that the range may actual be restored to some extent. Ongoing habitat restoration work at Newborough and planned population bolstering may increase the resilience of the population here too making the current range more secure. Future prospects of habitat for species With the increased storminess and sea-level rise attributable to climate change, then the prospects of the cliff based population at Watery bay and wider Marloes area is likely to remain vulnerable. Satellite beach head populations in the Marloes area may establish but this hasn't occurred so far, since the storms of 2014.

	Increased storminess and sea incursion may be beneficial to colonisation of dune sites close to cliff populations. Recent and Proposed works at Newborough should increase the availability of suitable habitat but future maintenance of these areas will be necessary.
11.1: Range	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.
11.2: Population	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 not more than 25% below the Favourable Reference Population and iii) reproduction, mortality and age structure not deviating from normal
11.3: Habitat for the species	Conclusion on Habitat for the species reached because: (i) the area of occupied habitat is not sufficiently large for long-term survival of the species (ii) the quality of occupied habitat is not suitable for the long-term survival of the species; and iii) there is a not a sufficiently large area of occupied and unoccupied habitat of suitable quality for long term survival (iv) the short-term trend in area of habitat is decreasing; and v) expert opinion determines that the habitat quality of occupied and unoccupied habitat is bad; and vi) expert opinion determines that the habitat area is clearly insufficient.
11.4: Future prospects	Conclusion on Future prospects reached because: (i) the Future prospects for Range are bad; (ii) the Future prospects for Population are unknown; and (iii) the Future prospects for Habitat for the species are unknown.
11.5: Overall assessment of Conservation Status	Overall assessment of Conservation Status is Unfavourable-bad because all of the conclusions are Unfavourable-bad.

12.4: Short-term trend of the population size within the network; Direction	See 6.9
6.15: Favourable Reference Population (FRP)	The UK-level FRV for population 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 population trend and abundance data specific to Wales, rather than adopting the UK-level value. The revised FRV has been set as an operator of 5 - 25% smaller than FRP.
5.10: 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. Following expert review, a Wales-level FRV was derived based on distribution and trend evidence specific to Wales, rather than adopting the UK-level value. The revised FRV has been set as between 11% and 50% smaller than FRR.