

Cyngor Castell-nedd Port Talbot Neath Port Talbot Council

Replacement Local Development Plan

2023-2038

Green Infrastructure Assessment

December 2024



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ossary of Terms

Introduction

Introduction to Green Infrastructure Assessments

National planning policy sets out the approach that must be taken in respect of Green Infrastructure when preparing Local Development Plans. Future Wales: The National Plan 2040¹ addresses this in Policy 9:

Policy 9 – Resilient Ecological Networks and Green Infrastructure

To ensure the enhancement of biodiversity, the resilience of ecosystems and the provision of green infrastructure, the Welsh Government will work with key partners to:

• identify areas which should be safeguarded and created as ecological networks for their importance for adaptation to climate change, for habitat protection, restoration or creation, to protect species, or which provide key ecosystems services, to ensure they are not unduly compromised by future development; and

• identify opportunities where existing and potential green infrastructure could be maximised as part of placemaking, requiring the use of nature-based solutions as a key mechanism for securing sustainable growth, ecological connectivity, social equality and well-being.

Planning authorities should include these areas and/or opportunities in their development plan strategies and policies in order to promote and safeguard the functions and opportunities they provide. In all cases, action towards securing the maintenance and enhancement of biodiversity (to provide a net benefit), the resilience of ecosystems and green infrastructure assets must be demonstrated as part of development proposals through innovative, nature-based approaches to site planning and the design of the built environment.

Explanatory text to Policy 9 states:

Strategic and Local Development Plans should consider how designated sites fit within the wider network of habitats and assess what action needs to be taken to safeguard land which may be needed to connect or enlarge those sites.

Any actions should:

• contribute to their long-term resilience;

¹ Future Wales: The National Plan 2040 | GOV.WALES

- contribute to the wider resilience of ecological networks;
- protect and enhance ecosystems services; and
- ensure the provision of green infrastructure for social, cultural and economic benefits.

Planning Policy Wales $(PPW)^2$ gives further guidance in Chapter 6.

Green Infrastructure Assessments

Planning authorities must, as part of adopting a strategic and proactive approach to green infrastructure, biodiversity and ecosystems resilience, produce up to date inventories and maps of existing green infrastructure and ecological assets and networks.

Green Infrastructure Assessments provide key evidence to support the preparation of development plans and where authorities are not already actively undertaking assessments, they should be undertaken as part of development plan preparation.

In accordance with the above policy and guidance, this document aims to provide a strategic overview of Neath Port Talbot's green infrastructure to help to inform the Preferred Strategy of the Replacement Local Development Plan.

Approach to Green Infrastructure Assessment in Neath Port Talbot

To inform the NPT Green Infrastructure Assessment (GIA) for the Replacement Local Development Plan (RLDP), information is required pertaining to the existing green infrastructure (GI) or nature network within Neath Port Talbot (NPT). There are numerous datasets that could be used to establish where existing assets are located in NPT. This document sets out the approach taken using the most appropriate datasets available to present a simplified green infrastructure/nature network that can be used to inform development siting, design and where protection measures are needed. The resilience of this network is discussed along with the identification of key issues and opportunities that could be considered or incorporated into development.

Using this GI existing network, opportunity networks have been created, where relevant, to set out areas where the GI could be improved be it through additional connectivity, extent or management to improve condition.

² <u>Planning policy Wales | GOV.WALES</u>

This strategic information can help with the identification of local priorities and ecosystem services/nature-based solutions.

Method

The GI biodiversity networks maps have been created using a geographic information system (QGIS). The network is created through the analysis of and simplification of relevant ecosystem data layers. The below sets out the methodology for creation of the existing and opportunity network maps and the data layers used are set out in appendix 2. It should be noted that a QGIS GI project is being developed that includes all of the relevant layers, enabling the maps to be interactive and be analysed further. It is anticipated that this project will form the basis of a published interactive map on the NPT Council website as supporting information for the RLDP in due course. Details of the data sources used is in Appendix 2.

The maps are intended to be 'live' and the below analysis will need to be periodically updated following the same method, as more up to date habitat data is acquired.

Existing Network

The GI existing network is set out for each ecosystem type, defined by the broad habitat types set out the Natural Resources Wales (NRW) State of Natural Resources Report SoNaRR report³. Such broad habitat types are used as proxies for 'ecosystems' following the standard approach used across Wales. The NPT State of Nature Report (SON)⁴ assesses each of the broad habitat types in relation to their resilience in the county according to the DECCA Framework (Diversity, Extent, Condition, Connectivity, Adaptability).

Information pertaining to ecosystems is held in numerous datasets. However, the most up to date and comprehensive information is the Phase 1 Habitat Survey data that was updated in 2021. All habitats are mapped within this dataset and in line with the SON report a mapped network of each broad habitat (aggregation of combinations of similar habitats) can be produced. Additional, ecosystem specific data sets are also available and in some cases are easier to interpret e.g. ancient woodland inventory. The below sections set out how an existing network of GI assets of a particular ecosystem/broad habitat type has been produced and what other data sets may also be useful to consider when establishing options within that network.

³ Natural Resources Wales / State of Natural Resources Report (SoNaRR) for Wales 2020

⁴ <u>The State of Nature of NPT | Neath Port Talbot Nature | NPTLNP (naturenpt.cymru)</u>

For each ecosystem the existing network plan is created by simplifying the symbology of the phase 1 habitat survey (or specific alternative data set where stated). These plans can be aggregated to give a full picture of the GI assets of a particular area. It should be noted that statutory and non-statutory protected sites are covered by these plans in respect of their broad habitat types (see appendix 1 demonstrating coverage of protected sites).

Descriptions of the resilience of each network is explained, based on the SON, and a summary of key issues and opportunities for improvement are also identified.

Opportunity Networks

GI opportunity networks are created for some of the ecosystems. These are based on NRW's Habitat Network plans where available or as 500m from existing networks (a proxy for the modelling undertaken by NRW). These areas are where ecologically it appears appropriate to consider delivering improvements to the network to increase resilience e.g. through increasing extent, improving condition through management or by providing additional connectivity. The below sections detail how such networks have been mapped and explain why they are not considered necessary for some ecosystem types.

Overlap

The GI networks may overlap, particularly where it comes to areas of opportunity for expansion of extent. This can complicate interpretation as relates to a proposal. An explanation of how to interpret overlap, setting priorities based on local resilience is detailed.

Further Detailed Analysis

The networks produced by this document can then be utilised as part of ward level assessments to inform local priorities.

Strategic GI Network

Coastal Strategic Network



Data Displayed:

All coastal habitats -phase
 1 habitat survey

Other Useful data:

- Protected Sites
- SINCs
- NRW Flood Zone Rivers and Sea merged
- Shoreline Management Plan
- NPT SON

Existing Coastal Network

Habitat Network Description

"The coastal strip of NPT between Crymlyn Burrows and Morfa Dunes once supported a well-connected, biodiverse ecosystem with sand dunes, dune slacks and coastal fen. However, it has suffered huge losses in species-rich habitats in the last 100 years mainly as a result of industrial development. Unfortunately, much of what remains is also in a perilous position with an uncertain future, still threatened by development. Consequently, the unique wildlife communities and the dynamic mobile sand dune structures which have managed to survive remain vulnerable. Recent downward trends in the movements of wintering Sanderling (and other waders) on Crymlyn Burrows are also of concern.

Several factors have contributed to changes in the biodiversity and resilience of coastal ecosystems in NPT: (i) lack of recognition in the past of the importance of sites such as Crymlyn Burrows and Baglan Dunes, (ii) lack of proper management of habitats containing species of high conservation value and (iii) no regulation of recreational activities in sensitive areas such as wader roosting sites in intertidal zones. In addition, there are a number of invasive non-native species that are established on Crymlyn Burrows, the most significant of which are Japanese Rose, Sea Buckthorn, a number of Cotoneaster species, Canadian Golden Rod, Michaelmas Daisy and Holm Oak. In view of all this the state of nature and resilience of coastal ecosystems in Neath Port Talbot has been assessed as **poor.**" *NPT State of Nature and Nature Recovery Action Plan 2023*⁵

This lack of resilience is also exacerbated by connectivity and climate change factors. The NRW Flood Maps for Planning⁶ and the Flood and Coastal Erosion Risk Maps⁷ suggest that much of our coastal habitats are under threat from flooding and sea level rise. Climate change adaptation is therefore a key concern for habitats and species along the Coast. The Shoreline Management Plan⁸ recommends holding the line for much of the coastline due to existing infrastructure behind, managed realignment is recommended for the Baglan Burrows section. Some provision for allowing coastal habitats, especially dunes, to move inland is recommended in such realignment areas to ensure coastal defence is maintained for the industrial hinterland behind.

A number of protected sites and Sites of Importance for Nature Conservation (SINCs) are designated for coastal habitats but the majority of these are at Crymlyn, Baglan and Kenfig either end of the coastline. Connectivity is limited between these sites. With

⁵ <u>The State of Nature of NPT | Neath Port Talbot Nature | NPTLNP (naturenpt.cymru)</u>

⁶ Flood Map for Planning (naturalresources.wales)

⁷ Flood and Coastal Erosion Risk Maps (naturalresources.wales)

⁸ Home | SCBCEG (southwalescoastalgroup.cymru)

climate change and sea level rise likely to reduce the extent of coastal habitats it is likely that the connectivity will reduce over time without intervention.

A number of rare and S7⁹ coastal species are present along the coast, especially invertebrates, plants and birds. The coastal area has been identified as an important corridor for invertebrates by Buglife and maintaining/improving this corridor will be important to support such species. Particularly those that have a key pollinating function.

Improvements to verges, amenity areas and underused manmade space may be able to support the creation of habitats suitable for coastal species and in some cases coastal habitats. Use of small patches to improve the permeability of the urban and industrial areas to support and improve the resilience of the coastal network is considered necessary to be a focus for GI improvements in the area. River corridors also provide connectivity options to encourage coastal habitats inland.

Summary of Key Issues:

- Lack of resilience especially as relates to extent of habitat
- Connectivity
- Adaptation to climate change

Summary of Opportunities:

- Baglan Burrows inland retreat
- Enhance existing connectivity and encourage inland patches through GI improvements especially for pollinators e.g. NPT beefriendly¹⁰

Coastal Network Plan:

NRW have not produced habitat network plans for coastal habitats. It should be noted that we are unable to run similar modelling to establish the network area in the same way as NRW at this time. This however can be revisited at a later date, as part of updates to the GIA interactive map. In the interim, a 500m buffer from existing habitat has been used as a proxy (and agreed with NRW).

⁹ Habitats or species of principal importance for maintaining and enhancing biodiversity in Wales as set out in the Environment Wales Act.

¹⁰ NPT Bee Friendly - Neath Port Talbot Council



Coastal Network Plan:

The strategic coastal network plan shows:

- Broad coastal habitat network within which existing coastal habitat occurs and where opportunities could be taken to expand these existing habitat areas to support resilience (flesh colour). The boundary of opportunity areas are fuzzy.
- Opportunity network for coastal GI improvementsa general area with a fuzzy boundary, seaward of the M4 and A48 where patches of GI that support coastal habitat and/or species may be created and managed.

Coastal Network Map

Woodland Strategic Network



Data Displayed:

- Woodland habitats -phase
 1 habitat survey
- NRW Ancient Woodland Inventory

Other Useful Data:

- Woodland habitats -phase 1
- SINCs

-

- NRW Ancient Woodland Inventory
- NRW Habitat Networks

Existing Woodland Network

Habitat Network Description

"Woodland accounts for 40% of the land area of NPT making it one the most wooded counties in Wales. Most of this is conifer plantation, but a considerable amount of ancient deciduous woodland survives, particularly in the Vale of Neath. Significantly, over a third of NPT's Priority Species occur in its woodland.

Conifer forests have a poor diversity of flowering plants but some mature Sitka Spruce coupes have a luxuriant bryophyte ground flora of species normally associated with upland oak woodland. In addition, many species of birds have benefitted greatly from conifer plantations in NPT. Clear-felled and pre-thicket areas provide breeding habitat for Tree Pipit and Nightjar while mature conifer forests support breeding populations of Common Crossbill, Lesser Redpoll, Siskin, Goshawk and Honey Buzzard.

In contrast, the wooded corridors along the main river systems often support a diverse flora with Wych Elm, Small-leaved Lime, Ash, Alder, Sycamore and Hazel and colourful vernal, ground floras populated by lots of ancient woodland indicator species such as Bluebell, Primrose, Wood Anemone, Yellow Archangel, Sanicle, Toothwort, Pignut and Ramsons. Cwm Du Wood near Pontardawe and much of the riparian corridor between Aberdulais and Glynneath provide good examples. In the Vale of Neath, Meadow Saxifrage occurs along the shaded riverside edges of these woods where it was known back in the early 19th Century.

Sessile Oak woodland with Holly and Rowan predominate on the steeper sides of the Neath, Afan and upper Tawe Valleys. Good examples in the Neath Valley can be seen above Baglan, Tonna, Cadoxton and Cilfrew. Although these woodlands support a less diverse ground flora than those along the rivers, they provide important habitats for woodland mammals (e.g. Badger), birds (e.g. Wood Warbler) and invertebrates. Of particular note is the remarkable discovery of a Blue Ground Beetle population in Maesmelin Wood and more recently in some other Sessile Oak woodlands in the vicinity. Nationally important assemblages of Atlantic bryophytes are found in the woodlands, waterfall areas and ravines in the Pyrddin and Nedd Fechan Valleys, parts of which are in NPT. Upland, valley oak woodlands in the vicinity also provide habitats for the few Pied Flycatchers that still breed in the county. The steep, wooded ravine of the Melincwrt Valley supports ancient Sessile-oak Woodland with a rich flora of lower plants, which includes a small population of Tunbridge Filmy-fern.

Ancient species-rich hedges occur throughout NPT, typically on raised banks along old parish lanes. Good examples can be seen along the Bwlch Road between Cimla and Cwmafan, along Fairyland Hill between Llantwit and Mosshouse Reservoir and in numerous places in

the northern sector of the county, e.g. Cilebebyll, Godre'r graig, Rhyd y Fro and along the Gwrhyd Road. They form an important connectivity network for wooded habitats in the county.

Woodland and hedgerows provide habitats for almost 40% of the priority species in NPT. Their value for biodiversity is enormous. Fortunately, there have been few major changes in the diversity, extent and connectivity of this habitat in the county in the last 20 years and the large area of woodland represented is particularly significant. However, there are important concerns about the occurrence of invasive non-native species such as Rhododendron in some woodland habitats, which precludes an assessment of excellent. Accordingly, the resilience and state of nature in woodland in NPT has been assessed as **good**." *NPT State of Nature and Nature Recovery Action Plan 2023*

Summary of Key Issues:

• Invasive Non-Native Species

Summary of Opportunities:

• Expand the existing woodland sites within the network to support continued resilience

Woodland Network Plan:

NRW have produced Habitat Network plans for Lowland Woodland and these are the basis of this assessment. This dataset is however based on out of date phase 1 habitat survey data, however the overlay of new phase 1 data, SINCs and the Ancient Woodland Inventory onto the broad network corridor plan appears to correlate reasonably well. The use of the more fine grained core network maps however have limited use as these are missing areas that have been identified in the more up to date woodland habitat datasets.



This assessment therefore only uses the broad network plan. The broad network plan with minor additions along the Afan Valley, Neath Valley and at Margam (that were probably excluded as upland woodlands, highlighted above in black) is considered to form the strategic existing network for woodland in NPT. It should be noted that we are unable to run similar modelling to establish the network area in the same way as NRW at this time. This however can be revisited at a later date, as part of updates to the GIA interactive map. In the interim, a 500m buffer from existing habitat within the missing highlighted additional areas has been used as a proxy (and agreed with NRW).

The connectivity of woodland habitats in NPT appears to be relatively good, particularly along valley sides and river corridors.



Woodland Network Plan:

The strategic Woodland network plan shows:

 Broad woodland habitat network within which existing woodland habitat occurs and where opportunities could be taken to expand these existing habitat areas to support resilience (green). The boundary of opportunity areas are fuzzy.

Woodland Network Plan

Heathland, Moorland and Grassland Strategic Network



Heathland and Moorland Existing Network

Data Displayed:

- Heathland and Moorland habitats -phase 1 habitat survey

Other Useful Data:

- Heath, acid grassland, marshy grassland -phase 1
- SINCs
- NRW Habitat Networks



Data displayed:

- Semi-natural grassland - phase 1 habitat survey

Other Useful Data:

- Semi-natural grassland
 - phase 1
- SINCs
- NRW Habitat Networks

Semi-natural Grassland Existing Network

Habitat Network Description – Heathland and Moorland

"This broad habitat category consists of marshy grassland, acid grassland/ heathland and moorland and ffridd (coed cae).

The upland landscape of NPT has changed significantly over the last 70 years. Much of the moorland and heath that was once extensive there has been planted with conifers and other parts have been converted to improved grazing land. However, some significant areas of moorland remain, particularly in the northern sector of the county, e.g. Gwrhyd, Sarn Helen. These habitats are often dominated by Purple Moor-grass, Sheep's Fescue and other calcifuge grasses/ sedges with areas of dwarf shrub heath containing Heather and Bilberry. Petty Whin and Dyer's Greenweed still survive in a few places and wetter areas often contain colourful swards of Bog Asphodel.

Marshy grassland (including rhos pasture) is an important specific habitat in this category which can support unique and diverse communities of plants with Devil's-bit Scabious, Saw-wort, Meadow Thistle, Heath Spotted-orchid, Whorled Caraway, Ivy-leaved Bellflower and Bog Pimpernel. A few marshy grasslands in the northern sector have Marsh Fritillary meta-populations. Where there is base-rich flushing, these habitats may also contain Butterwort, Marsh Valerian and Fen Bedstraw, which are all scarce species in NPT.

Ffridd habitats have largely been planted with conifer plantations. They are important for bird species such as Cuckoo where they exist and invertebrates such as Dark Green Fritillary.

Heathland and moorland fauna of conservation importance in NPT include Brown Hare, Skylark, Linnet, Cuckoo, Adder, Grass Snake, Hornet Robber-fly and a number of bees such as the Moss Carder Bee.

The resilience of heathland and moorland in NPT is under pressure from lack of appropriate management, broken connectivity and invasive non-native species, e.g. Rhododendron, Sitka Spruce.

Heathland and Moorland provides habitats for almost one fifth of NPT's Priority Species, but only a small proportion of it is in good condition. Large amounts of habitat have been lost due to land use changes and neglect and, apart from the northern sector of the county, overall connectivity is poor.

Marshy grassland and rhos pasture in particular have suffered badly and many species that were once widespread are now very scarce. In some places invasive non-native species are a significant problem. There is insufficient data available at this time to assess the health of our surviving ffridd habitats, but much has been lost to forestry plantation. In view of these issues the resilience and state of nature of heathland and moorland in NPT has been assessed as **poor.**" NPT State of Nature and Nature Recovery Action Plan 2023

Habitat Network Description- Semi-Natural Grasslands:

"Semi-improved grasslands in NPT provide habitats for a fifth of the county's priority species. Most of these habitats are neutral, mesotrophic grasslands such as hay meadows, roadside verges/roundabouts, alluvial meadows, levels and restored grassland on coal spoil. If marshy grassland (which is included in the Heathland and Moorland category) is added, then the proportion of priority species is greater than one quarter, which is very significant. Traditionally managed hay meadows are rare in NPT, but the biodiverse Hafod Wennol SSSI meadows (and neighbouring areas) north of Pontardawe are exemplary with key indicator/priority species such as Largeflowered Eyebright, Greater Butterfly-orchid, and Greater Burnet.

The inventory of biodiverse neutral grassland in NPT is augmented to some extent by an extensive network of roadside verges and roundabouts, some of which support diverse, colourful mesotrophic grassland communities. Good examples are found along Fabian Way (A465) near Jersey Marine, along Central Avenue near Baglan Energy Park, on the Saltings Roundabout near Neath and on Harbour Way in Port Talbot (near the steelworks) where colonies of Small Blue Butterfly can be found.

Large amounts of restored grassland on coal spoil occur in the county. Good examples can be seen on Bryn Tip, the restored Selar opencast grasslands near Blaengwrach and restored grasslands in the upper Dulais Valley. Some of these sites have complex habitat mosaics and a rich diversity of grassland species, often with key indicator species such as Bee Orchid, Common Spotted-orchid, Carline Thistle, Pignut and Rough Hawkbit.

The plight of species-rich grasslands in NPT is a major concern. Land use changes, development, agricultural improvement and neglect have all played a role in the disappearance of these habitats in the county over the last 70 years. Reversing this trend will require a step change in attitudes, recognition of their intrinsic value and changes in management practices. Sympathetic stewardship, habitat creation, roadside verge management and restoration can all play a part in this.

Semi-improved, mesotrophic grassland supports almost one fifth of NPT's priority species and is one of the county's most important biodiversity resources. Unfortunately, it is also the habitat that has suffered the greatest decreases in extent, condition and connectivity.

This is particularly true for species-rich hay meadows which are scarce, disconnected and often badly managed or neglected. Broken connectivity in these habitats has had a significant negative effect on the distribution of priority species such as Narrow-bordered Bee Hawk-moth and numerous priority plant species such as Meadow Thistle, Wood Bitter-vetch, Petty Whin and Dyer's Greenweed.

In view of this we have assessed the resilience and state of nature in semi-improved grasslands in NPT as **poor.**" NPT State of Nature and Nature Recovery Action Plan 2023

Summary of Key Issues:

- Invasive Non-Native Species
- Land use change including loss to forestry and agriculture
- Lack of appropriate management

Summary of Opportunities:

- Roadside verge and green space management e.g. NPT Bee-friendly
- Creation to improve connectivity

Heathland and Moorland Network Plan:

NRW have produced Habitat Network plans for heathland, however these do not cover the other habitats in the broad habitat class used in this GIA. In addition, there appears to be areas of heathland missing from the network plan. This heath network data was therefore considered unsuitable to use as a strategic network for heathland and moorland.



The broad habitat category of Heathland and Moorland used in this GIA assessment includes grassland habitats – acid grassland and marshy grassland. Therefore, the NRW grassland network plan in addition to the heathland was considered. As a large proportion of grasslands in NPT fall under the broad habitat category of heathland and moorland this was considered appropriate.

Grassland Network Plan:

Comparing the phase 1 habitat survey information and the broad network mapping it appears that they correlate well with the exception of an area of grassland missing in the east of county. This area is within a forestry area that was likely to have been missed in the old and out of date phase 1 habitat survey data the network plan is based upon.

The broad network plan includes other grasslands not included in the Heathland and Moorland broad category. As other semi-natural grasslands occur in mosaic with those in Heathland and Moorland and are permeable to such habitat species movements it was considered appropriate to consider these grasslands at the same time.

Heathland, Moorland and Grassland Network Plan:



The broad grassland and heathland network corridor plans produced by NRW correlates well with the phase 1 habitat survey in relation to heathland, moorland and grassland habitats, although there are 2 areas that appear to be missing from the plans. The heathland in

the north east of the plan and the grassland in the south east. As both of these areas appear connected to network areas and are therefore likely to be key connections these areas we decided to be added to the network.

The broad network plan with minor additions (circled in black) is considered to form the strategic network for grassland and heathland in NPT. It should be noted that we are unable to run similar modelling to establish the network area in the same way as NRW at this time. This however can be revisited at a later date, as part of updates to the GIA interactive map. In the interim, a 500m buffer from existing habitat within this highlighted additional areas has been used as a proxy (agreed with NRW).

The connectivity of Heathland, Moorland and



Grassland habitats in NPT appears to be relatively good in places but with significant gaps in the North and South of the county.



Data Displayed:

- Heathland and Moorland habitats -phase 1 habitat survey

Other Useful Data:

- Heath, acid grassland, marshy grassland -phase 1
- SINCs
- NRW Habitat Networks

Heathland and Moorland Existing Network



Heathland, Moorland and Grassland Network Plan

Heathland, Moorland and Grassland Network Plan: The strategic Heathland, Moorland and Grassland network plan shows:

> The Broad Heathland, Moorland and Grassland habitat network within which existing habitat occurs and where opportunities could be taken to expand and connect these existing habitat areas to support resilience (Orange). The boundary of opportunity areas are fuzzy.

Wetlands Strategic Network



Data displayed:

- Wetland habitats -phase 1 habitat survey
- Unified Peat Map

Other Useful Data:

- Wetland habitats -phase 1
- SINCs
- Unified Peat Map
- NRW Habitat Networks

Habitat Network Description

Wetland including fens, bogs, springs and seepages.

"NPT is fortunate to have a number of important wetland sites which added together support a fifth of the county's priority species. Specific habitats in this category include fen, swamp, and ombrotrophic mires (bogs).

Fen habitats dominated by reeds and other tall graminoids are well represented in NPT with Crymlyn Bog (east of the Glan y Wern Canal) and Pant y Sais Fen being preeminent examples. Slender Cottongrass, a nationally rare Red Data Book species, is found at both sites along with a long list of other notables like Greater Spearwort, Least Bur-reed, Lesser Bulrush, Mares-tail, Marsh Cinquefoil, Mash Fern, Marsh Lousewort, Royal Fern, Saw-sedge and Yellow Loosestrife. Smaller areas of fen-like habitat occur in many places between Jersey Marine and Aberdulais which are connected by the Tennant Canal and large patches of Reed-dominated marshland also occur on and near the grazing marsh between Neath and Tonna and on Margam Moors. An interesting fragment of coastal fenland occurs in the vicinity of Kenfig Marshalling Yards, near Morfa. Cyperus Sedge, Round-headed Club-rush, Saw-sedge and Tubular Water-dropwort are found here, the latter at one of its few sites in South Wales. All these habitats are important for marshland birds such as Cetti's Warbler, Grasshopper Warbler, Marsh Harrier, Reed Bunting, Reed Warbler, Sedge Warbler and Water Rail as well as reptiles such as Grass Snake and Common Lizard. Insects are well represented too and particularly damselflies (e.g. Variable Damselfly) and dragonflies (e.g. Hairy Dragonfly). The population of Fen Raft Spider on the Tennant Canal between Crymlyn Bog, Pant y Sais and Red Jacket clearly benefits from the connectivity between fen and aquatic habitats here.

Large areas of ombrotrophic mire are uncommon in NPT, but parts of Gors Llwyn near Onllwyn have a raised bog structure. Tufted Sedge and Greater Tussock-sedge are conspicuous on this site, which also contains Marsh Lousewort, Marsh St John's-wort and an interesting inland population of Marsh Helleborine. Swampy tall herb fen areas here and in ecologically connected habitats nearby have huge populations of Bogbean with Bottle-sedge, Water Horsetail and Yellow Loosestrife. Decades ago, in post-war years, Globe Flower also occurred on Gors Llwyn but it has not been seen in recent times. The lowland raised bog at Fforest Goch near Rhos is also notable for the range of wetland communities it contains, which includes a population of Bog Notchwort, a liverwort that is rare in South Wales. Smaller areas of flushed boggy ground are widespread in the moorland landscapes of the upper Dulais Valley and in the Gwrhyd area between Cwmllynfell and Rhyd-y-Fro where Greater Tussock-sedge, Many-stalked Spikerush, Marsh St John's-wort and White Sedge are found.
During the last 70 years, extensive areas of upland habitat on deep peat in NPT have been ploughed, drained and planted with conifers. This has contributed to substantial losses of wetland habitat in the county, which now only represent 1% of the county's land area. However, some fragments of wetland habitat survive within plantations and projects aimed at recovering other lost peatlands are in progress.

Lowland fen habitats in NPT support diverse communities of plants and animals and are generally well connected to other lowland wetland systems. However, their condition is poor in places with evidence of eutrophication and pollution and also problems with successional scrub encroachment and invasive non-native species, e.g. Rhododendron on Pant y Sais Fen and Sea Buckthorn in the marsh and fen habitats near Kenfig Marshalling Yards. Some upland wetland systems such as Gors Llwyn are in reasonable condition but the loss of other upland wetland habitats through neglect, afforestation, development and agricultural improvements has compromised their connectivity. Overall, wetland habitats in NPT are small, fragmented and not well connected.

In view all this, the resilience of wetlands as a whole in NPT is viewed as significantly less than good and, consequently, their state of nature has been assessed as **poor**." NPT State of Nature and Nature Recovery Action Plan 2023

Summary of Key Issues:

- Drainage and planting on peatlands
- Eutrophication and pollution
- Scrub and Invasive Non-Native Species encroachment

Summary of Opportunities:

- Restoration of drained or afforested peatlands
- Creation of new wetland features as part of drainage schemes and natural flood management

Wetlands Network Plan:

NRW have produced Habitat Network plans for wetlands and these were the initial basis of this assessment. This dataset is based on out of date phase 1 habitat survey data, the overlay of new phase 1 data, and peat soils data onto the broad network corridor plan does not show much alignment. Much of the wetlands are missing from this network map. Therefore, the phase 1 and peat soils data has been used to form the strategic network plan.

It should be noted that we are unable to run similar modelling to establish the network area in the same way as NRW at this time. This however can be revisited at a later date, as part of updates to the GIA interactive map. In the interim, a 500m buffer from existing habitat within this highlighted additional areas has been used as a proxy.

The connectivity of wetland habitats in NPT



appears to be poor, however could be greatly improved if peat soils in the network were fully restored to functioning peatbodies.



Wetland Network Plan:

The strategic wetland network plan shows:

 Broad Wetland habitat network within which existing habitat occurs and where opportunities could be taken to expand, restore and connect these existing habitat areas to support resilience (blue). The boundary of opportunity areas are fuzzy.

Wetlands Network Map

Freshwater Strategic Network



Data Displayed:

- Freshwater habitats -phase 1 habitat survey
- Watercourse SINCs

Other Useful Data:

- Freshwater habitats -phase 1
- Watercourse SINCs

Existing Freshwater Network

Habitat Network Description

"Freshwater ecosystems provide habitats for a fifth of NPT's priority species, many of which are associated specifically with this habitat. Specific habitats in this category include rivers and tributaries, canals, lakes, reservoirs, reens and dykes, and numerous ponds and pools scattered throughout the county. Key priority species include Otter, Water Vole, Great Crested Grebe, Dipper, Spotted Flycatcher, Grass Snake, Great Crested Newt, Atlantic Salmon, Brown and Sea Trout, Fen Raft Spider, Flowering Rush, Quillwort, Water Lobelia, Floating Bur-reed and Whorled Water-millfoil.

Among the larger freshwater water bodies in NPT, Llyn Fach is unique in being the only significant oligotrophic tarn in Glamorgan. The occurrence here of an aquatic community that includes Water Lobelia, Quillwort and Floating Bur-reed gives the site a very distinctive montane feel. In addition, the recent discovery of a population of Water vole, hitherto believed to be extinct in the county, has confirmed the importance of this site for the county's biodiversity. Other large lakes and reservoirs in NPT include Eglwys Nunydd Reservoir, which is an important site for wintering wildfowl and a breeding habitat for Great Crested Grebe.

The Neath, Swansea and Tennant Canals support diverse aquatic and emergent vegetation and provide crucial connectivity between a number of fen, swamp and marsh habitats in the county (e.g. Crymlyn Bog, Pant y Sais Fen). Notable plants include Flowering Rush, Greater Spearwort, Marsh Cinquefoil and Mare's-tail which are otherwise scarce in NPT. All the common damselflies and dragonflies are found here as well as other more notable species such as the Variable Damselfly and Beautiful Demoiselle. The occurrence of Fen Raft Spider at its only site in Wales on the Tennant Canal is particularly significant. The reens on Margam Moors contain a number of scarce aquatic plants such as Arrow-head and Frogbit.

The River Afan and River Neath, and their tributaries, are notable for their fish populations particularly salmonids such as Atlantic Salmon, Brown Trout and Sea Trout but also for populations of European Bullhead and European Eel. Common Sandpiper, Dipper and Spotted Flycatcher are among a number of characteristic bird species associated with these rivers and Otter have made a welcome comeback in recent decades. Meadow Saxifrage, a plant which has undergone a significant decrease in Wales is still frequent along the banks of the River Neath between Aberdulais and Glynneath.

The waterbody status of the main watercourses in NPT have been recorded as Good/Excellent by the Water Framework Directive. However, there are still a number of local issues that are of concern on its rivers and canals, e.g. invasive non-native species, mine water pollution, sewerage discharge and other eutrophication problems.

Freshwater ecosystems are well represented in NPT and many of the specific habitats in this category support a large diversity of plants and animals. This includes important aquatic and marshland communities which contribute to the overall connectivity of marsh, fen and swamp in the county. Many are in good or reasonable condition but there are local concerns with mine water pollution, eutrophication and the occurrence of invasive non-native species. While river water quality has undoubtedly improved in recent decades, and this has benefitted populations of salmonid fish and their predators (e.g. Otter), more improvements in water quality are required.

The resilience of and state of nature in freshwater ecosystems in NPT has been assessed as **fair**." NPT State of Nature and Nature Recovery Action Plan 2023

Summary of Key Issues:

- Water Quality due to pollution
- Invasive Non-Native Species

Summary of Opportunities:

- Sustainable Urban Drainage (SUDs) schemes to reduce pollution entering into watercourses
- Improvements to sewer network

Freshwater Network Plan:

No habitat network plan for freshwater has been produced by NRW. However, the SINC and phase 1 habitat survey information maps the key freshwater habitats with a 7m buffer. As watercourses are within defined channels it is considered appropriate to use this SINC layer to define the existing network and opportunities for improvement (that will within the existing extent). The existing network plan therefore forms the strategic network plan for freshwater.

The strategic Freshwater network plan shows that the freshwater habitats are well connected and therefore improvements to such habitats are likely to be within the existing extent of the habitats or relate to improvements to reduce pollution impacts.

Open Mosaic Strategic Network



Data Displayed:Open Mosaic habitats - phase 1

Other Useful Data:

- Open Mosaic habitats -phase
- 1

- SINCs

Existing Open Mosaic Network

Habitat Network Description

"Most of the coastal zone of NPT has been altered radically by the development of heavy industry, perhaps more than any other part of Wales. This has resulted in the loss of large amounts of biodiverse habitats such as sand dunes, coastal marshes and fens. However, when such industrial land is cleared, the open mosaic habitats that are created can provide opportunities and refuge for uncommon species. Basil Thyme is a good example of an otherwise rare Section 7 species in Wales that has benefitted from the creation of coastal, open mosaic habitats in NPT such as on Baglan Energy Park. Other notable species found here include Lapwing, Linnet, Shrill Carderbee, Small Blue, Dingy Skipper, Inclined Ditrichum (a moss), Autumn Lady's Tresses, Common Cudweed, Deptford Pink, Marsh Helleborine, Sticky Stork's-bill, and Yellow Bartsia. This remarkable open mosaic habitats provide refuges for priority and Section 7 species such as Adder, Grass Snake and numerous uncommon beetles, ground bugs, solitary bees and other pollinators.

These sites are often designated as 'brownfield' and are therefore vulnerable to development. However, many of these sites in NPT are designated as Sites of Importance for Nature Conservation (SINCs) although this does not always protect them from development. Other threats include inappropriate reclamation/ remediation, tree planting, planting with crop biofuels, absence of management, lack of recognition of their value and invasive non-native species.

Open mosaic sites provide habitats for a quarter of NPT's priority species, including 18 Section 7 species. They provide refuge for numerous species that are vulnerable and they are an asset for wildlife conservation.

Open mosaic habitats support a significant proportion of the priority species in NPT. This, along with the sheer diversity of species often found in these habitats, and the large number of Section 7 species among them, qualifies these habitats as some of the most important biodiversity resources in the county. However, they are vulnerable to re-development, habitat destruction and species losses. They are also susceptible to successional changes through scrub encroachment by native woody species and invasive non-native species such as Buddleia and Cotoneasters.

The role played by open mosaic habitats as refuges for Section 7 species should not be underestimated and there is an urgent requirement to find solutions compatible with development and the maintenance of their biodiversity in the future. e.g. designation of biodiversity refuge areas for protection and management.

Because of their uncertain future, it is difficult to assess the long-term resilience of these habitats. However, attributes such as diversity, extent and connectivity currently score well, so the status quo resilience and the short-term state of nature in open mosaic habitats in NPT has been assessed as **good.** Maintaining this in the long term will require careful, sympathetic planning." *NPT State of Nature and Nature Recovery Action Plan 2023*

Summary of Key Issues:

- Re-development resulting in loss
- Destruction
- Succession
- Invasive Non-Native Species

Summary of Opportunities:

- Creation through demolition and clearance of man-made infrastructure
- Management through scrub and Invasive Non-Native Species management and disturbing the ground
- Incorporation of `man-made' structures that replicate conditions e.g. modular units such as gabion baskets, dry stone walls, green/brown roofs and walls.

Open Mosaic Network Plan:

This is a temporal habitat created by nature re-establishing on previously developed sites. It occurs where the opportunity arises and as such has a scattered distribution. Such habitats will function within the networks of other habitats and as such there is no strategic network for this habitat type. Opportunities for new or improved habitat areas are discrete throughout the county and is reliant upon the cycle of development. Existing sites however have significant value and should be protected and managed where possible. The existing sites plan above provides details of the existing areas, however this habitat can be created at any time anywhere through the cycle of development. Therefore, opportunities to create or manage existing habitat are recommended to be taken wherever possible.

Inland Rock and Cliff Strategic Network

Data Displayed:

- Inland Rock and Cliff habitats -phase 1 habitat survey

Other Useful Data:

- Inland Rock and Cliff habitats -phase 1
- SINCs

Existing Inland Rock and Cliff Network

Habitat Network Description

"The north-facing sandstone cliffs of Craig y Llyn above Llyn Fach are the most important example of this type of habitat in Glamorgan and although this habitat only supports a small proportion of NPT's priority species, there is a community of northern boreal and arcticmontane plants here which has a unique place in the county. For example, species such as Cowberry, Crowberry, Lesser Meadow-rue, Stone Bramble, Fir Clubmoss, Wilson's Filmy-fern, Oak Fern, Brittle Bladder-fern, Beech Fern, Parsley Fern, Mountain Male-fern, Black Rock-moss and Stiff Apple-moss are either only found here or are very uncommon elsewhere in NPT.

Smaller north-facing outcrops such as those at Craig y Pant in the Neath Valley and above Cymmer in the upper Afan Valley also support interesting bryophyte assemblages with Hill Notchwort, Trunk Paw-wort and Neat Silk-moss and the only occurrence of Lanceolate Spleenwort in NPT.

In the past these habitats have provided breeding grounds for Kestrel, Peregrine Falcon, Whinchat and Ring Ouzel, although the latter has not bred in the county for over 50 years.

The extent and connectivity of Inland Rock and Cliff in NPT has hardly changed for hundreds of years. However, there has been some deterioration in the condition of Craig y Llyn in recent decades. Invasion of scree and cliff by Sitka Spruce regenerating from seed that has rained in from surrounding plantations has become a significant problem and traffic pollution originating from the nearby Rhigos Mountain Road may also be a problem. The construction of a zipline above nearby Llyn Fawr is a reminder that many upland cliff habitats in South Wales are under pressure from tourist developments.

Overall, we have assessed the resilience and state of nature in Inland Rock and Cliff in Neath Port Talbot as **fair.**" NPT State of Nature and Nature Recovery Action Plan 2023

Summary of Key Issues:

- Invasion by non-native conifer trees
- Pollution
- Tourism pressures
- Wildfire

Summary of Opportunities:

- Creation through quarry development
- Reduction of traffic pollution through electric vehicle use and SUDs

• Careful design and development of tourism uses

Inland Rock and Cliff Network Plan:

This habitat is very limited in extent and distribution across the county and as such does not form a network. It occurs where the geology allows. Opportunities for creation of new habitat is limited to quarry development that are discrete sites. In addition, improvement of existing habitat areas can only occur where the habitat already exists. Existing sites however have significant value and should be protected and managed where possible. The existing sites plan above provides details of the existing areas.

Urban Strategic Network

Data displayed:

- Urban habitats -phase 1

Other Useful Data:

- Urban habitats -phase 1
- SINCs

Existing Urban Network

Habitat Network Description

"Urban Habitats, such as buildings, parks and gardens, support 5% of NPT's Priority Species although none of them are specific to this broad habitat category. Nevertheless, since Urban Habitats make up more than 15% of the land surface of NPT, there is a significant potential here to enhance biodiversity through the creation and management of nature-friendly networks of gardens, parkland and buildings. They are particularly important habitats for birds that utilise the eaves of houses for nesting places, and bat species that make their homes in roof spaces and dilapidated buildings. Other important species such as Hedgehog and Slow Worm are commonly associated with urban gardens. Urban Habitats can also play a significant connectivity role, e.g. parks can provide 'stepping stones' of habitat in amongst urban features, while grassy commons, verges and hedges may be important for connecting these habitats throughout urban areas. Bee-friendly gardens can play a crucial role in the conservation of pollinators.

The Hedgehog is an iconic garden species that has been recorded in most urban settlements in NPT and a few gardens may also provide opportunities for Badger and Otter. Margam Park is one of the best bat sites in the UK, providing roosting sites and foraging habitat for 14 of the 18 UK bat species. Breeding populations of Herring Gull, House Sparrow, and House Martin can be found on buildings in suitable places, while Swift have undergone significant decreases in numbers over the last 50 years. Toads breed in Cwm-Clydach pond before dispersing to neighbouring gardens and fields for the rest of the year. Along the coastal conurbations of Sandfields and Aberavon, rare bumblebees including the Brown Banded Carder and Shrill Carder Bees can be found foraging on patches of wildflowers.

As a result of the COVID Lockdowns in 2020, the NPT LNP noticed an increase in public interest in nature conservation as people became more aware of the nature in their local areas. This is an important opportunity to encourage appropriate action and raise awareness of ways in which local people can assist nature locally without causing inadvertent harm.

There are significant challenges for nature in the urban landscape and species are threatened by, amongst other things, loss of nesting sites, lack of connectivity and inappropriate habitat management (e.g. mowing through flowering season). Although most urban areas in NPT contain wildlife habitat, in many areas this is not by design and there is a need for more areas to be specifically managed and maintained for nature in urban areas. Many species in urban habitats have decreased significantly in NPT in recent decades e.g. swifts and hedgehogs.

Urban habitats support 13 priority species and, accordingly, their diversity has been assessed as fair. Connectivity between urban landscapes is good, but it is difficult to frame this specifically in terms of good habitat connectivity. For example, the level of connectivity between gardens for species such as Hedgehog and Slow Worm is unknown. Most of the urban habitats in NPT are not managed with biodiversity in mind and there are regular losses of habitat as a result of human activity e.g. loss of nest sites for swifts as repairs take place on buildings, therefore their condition is poor. Taking all of this into account, the state of nature and resilience of Urban Habitats in NPT has been assessed as **fair.**" *NPT State of Nature and Nature Recovery Action Plan 2023*

Summary of Key Issues:

- Loss of nesting sites
- Lack of connectivity
- Inappropriate management

Summary of Opportunities:

- Provision of new nesting and roosting sites in buildings and provide space under fencing for wildlife movement
- Managed greenspaces for nature
- Building with Nature Standards¹¹
- Green Infrastructure features e.g. street trees, sustainable urban drainage, rain gardens, living walls and green roofs

Urban Habitats Network Plan:

Features such as street trees, parks, sustainable urban drainage, gardens, rain gardens, living walls and green roofs will function within the networks of other habitats and act as stepping stones within built up areas to support such habitats and associated wildlife. These can be important oasis within built up areas dominated by man-made structures and buildings. These habitats occur where people and development does and as such, there is no strategic network for this habitat type. Opportunities for urban habitat areas to include more greenspace and green infrastructure features (mentioned above) would provide improved opportunities for wildlife. The scale of improvement likely to be achieved within the existing habitat areas are likely to reflect the development type (e.g. residential developments often have greenspace and gardens) and species-specific measures (such as bird and bat boxes). Species networks are not included in this assessment due to the complexity of lifecycles and the number of species that would need to be assessed (habitat type is used as a proxy as without habitat species cannot occur). Therefore, no network for this habitat type is suggested at this time.

¹¹ Building with Nature

Enclosed Farmland Strategic Network

Data Displayed:

- Farmland habitats -phase 1 habitat survey

Data used:

Data Source Layers used:

- Farmland habitats -phase 1
- SINCs

Existing Enclosed Farmland Network

Habitat Network Description

"While enclosed areas of farmland might include a variety of biodiverse habitats such as <u>Marshy</u> and <u>Mesotrophic</u> Grasslands, those specific habitats are discussed elsewhere in this document under other broad habitat headings. In this document Enclosed Farmland only includes categories such as arable land, improved pasture, drystone walls and field boundaries, which provide habitats for 10% of NPT's Priority Species and play a significant role in connectivity with other broad habitats such as <u>Heathland and Moorland</u>, <u>Semi-improved</u> <u>Grassland</u> and <u>Woodland</u>. In suitable places notable species such as Barn Owl, Linnet, Skylark, Brown Hare and Small Heath butterfly may be found in Enclosed Farmland but none of these are restricted to Enclosed Farmland in the county.

Much of the Enclosed Farmland in NPT is dominated by low-diversity improved pasture while arable land is restricted largely to small areas between Margam and the Kenfig River in the southern sector of the county. There have been no detailed surveys of these habitats. Preliminary surveys suggest that arable fields support characteristic bryophyte communities but little is known about their arable weed flora. They provide important feeding opportunities for Linnet and Starling, and occasionally Stock Dove and Lapwing.

Hedge boundaries within enclosed farmland are generally poor while dry stone walls, such as they still exist in reasonable condition near the upper enclosure line, provide breeding opportunities for Wheatear and habitats for Weasel, other small mammals, bryophytes and lichens.

In recent decades Enclosed Farmland has provided an important habitat for Red Kite and Buzzard but there have been some significant decreases in wildlife in farmland in NPT in the last 50 years, notably the loss of Yellowhammer and large decreases in other birds associated with farmland, e.g. Starling and Linnet. However, the provision of nest boxes in farm buildings for Barn Owl has resulted in some success recently.

Beyond this, we are limited in our knowledge of the state of nature of enclosed farmland in NPT since a large proportion has never been surveyed and we have few records for these habitats at present.

Our knowledge of Enclosed Farmland in NPT is limited and more survey data is required to increase our understanding of this important habitat. At present, we are unable to make a reasonable assessment of the resilience and state of nature in this habitat category." NPT State of Nature and Nature Recovery Action Plan 2023

Summary of Key Issues:

Unknown

Summary of Opportunities:

• Additional species specific improvements e.g. barn owl nest sites

Enclosed Farmland Network Plan:

The mapping data shown in the existing data plan only displays improved grasslands. This habitat more often than not has limited biodiversity value. We currently do not have enough information about other farmland features and the value of these areas to assess the biodiversity value. However, such habitats will function within the networks of other habitats and as such there is no strategic network for this habitat type. Opportunities for improved habitat areas would most likely convert this habitat type into a different type of grassland or woodland that is covered in the other habitats listed above. The scale of improvement likely to be achieved within the existing habitat type are likely to relate to species specific measures such as nesting for barn owls. Species networks are not included in this assessment due to the complexity of lifecycles and the number of species that would need to be assessed (habitat type is used as a proxy as without habitat species cannot occur). Therefore, no network for this habitat type is suggested at this time.

Marine Strategic Network

Habitat Network Description

"The marine habitats of NPT are defined in this document as the inshore, subtidal and surface seawaters of Swansea Bay off the coast of NPT to a distance of 12 nautical miles. The seabed here consists of sandstones and mudstones overlain by sand, gravel and mud. The main habitats enclosed are suitable for marine mammals, fish and invertebrates but there are no rocky subtidal areas.

Specific and detailed knowledge of the biodiversity of these habitats is lacking but surveys undertaken in 2013 found 6 infaunal groups dominated by polychaete worms and bivalves. *Sabellaria alveolata* reefs are formed in the bay, some of which are on man-made structures such as groynes. At least 55 species of fish and 38 species of shellfish have been recorded in the bay. These include some of international importance such as European Eel, Allis Shad, Twaite Shad and Sea Lamprey. The area is also an important nursery for flatfish and ray, while Herring are known to spawn in several places around the bay. It is possible that Sand Eel spawn here also.

The bay has a year-round presence of Harbour Porpoise with annual mother-calf sightings in late summer-autumn and near-shore foraging has been noted in several places. Common Dolphin are sighted occasionally in summer and mid-winter, perhaps a reflection of the range expansion of the Celtic Sea population which has occurred in the last 15 years, and Grey Seals have been sited occasionally. Large and significant numbers of Great Crested Grebes are counted in the bay each winter from Aberavon Beach and Crymlyn Burrows.

The marine ecosystem provides habitats for 24 of NPT's priority species.

At present we have insufficient data to give a robust assessment of the resilience and state of nature in the marine habitats of NPT. Attributes such as extent and connectivity can be assumed to be good. However, the 2018 Water Framework Directive interim assessment rated the overall and ecological status of our local coastal water to be moderate and it failed on chemical status. We conclude from this that the condition of our marine habitats is poor. Furthermore, issues such as pollution and invasive non-native species continue to threaten ecosystem resilience. At this point, we can only conclude that the state of nature in marine habitats in NPT is **poor**." *NPT State of Nature and Nature Recovery Action Plan 2023*

Summary of Key Issues:

- Pollution
- Invasive Non-Native Species

Summary of Opportunities:

- SUDS to improve pollution run-off
- Sewer network improvement

• Bio-security at Ports, Harbours and Marinas

Marine Network Plan:

We currently do not have enough information about our marine environment to assess the biodiversity value. Opportunities to improve impacts from pollution and Invasive Non-Native Species will however be essential for ports, harbours and marinas.

Interpretation of the Strategic Habitat Networks

The next few sections provide additional guidance as relates to the use and interpretation of the strategic network maps.

Interpretation of Network Overlap

Many of the habitat networks overlap. The ecosystems of the county exist in a patchwork across the area. At a local scale habitat types can exist together in a mosaic and the combination can be more important for biodiversity than as a single habitat type. This can make decision-making difficult when it comes to making improvements to the network. Existing networks are already eroded and most of the ecosystems (broad habitat types) do not have good resilience and therefore as a bare minimum, the existing habitat areas (particularly those that meet SINC criteria or are S7 habitats under the Environment Wales Act) need to be retained wherever possible¹².

However, where sites allow opportunities to increase extent, condition or connectivity this is where interpretation may become more complicated. Where sites have the space for all habitat types, providing multi-habitat creation would be ideal, and if appropriately designed and planned this may well be possible. However, when dealing with sites at a more localised scale it may be necessary to establish a hierarchy of priority when interpreting the strategic networks opportunities. The below sets out a hierarchy of priority based upon the ecosystem resilience of the broad habitat types.

Broad Habitat Type Network	Resilience	Overlap with	Priority for Habitat Creation/Connection/ Improvement Opportunity
Coastal	Poor	Urban (fair)	Coastal (but most likely incorporated into GI features)
		Woodland (good)	Coastal
		Heathland, Moorland and Grassland (poor)	Dependent upon substrate – coastal influence is likely to steer habitat creation towards coastal habitats
		Wetlands (poor)	Dependent upon hydrological and substrate conditions –wetlands likely where ground is wet although elements of coastal habitats such as dune slacks could also be considered where possible
		Freshwater (fair)	Freshwater existing network to be retained

¹² The status of such habitats on any particular site will need to be updated via ecological survey at the planning application stage. This desk study can only provide an indication of what is expected to be present based on a snapshot using remote sensing techniques.

		Open Mosaic (good)	Dependent upon substrate. In coastal locations
			open mosaic is likely to include coastal habitats.
			Both are compatible in this situation.
		Enclosed Farmland (unknown)	Coastal
Woodland	Good	Coastal (poor)	Coastal
		Heathland, Moorland and Grassland (poor)	Heathland, Moorland and Grassland , although connectivity of the woodland habitats should be considered and where possible incorporating connections through hedgerows may also be appropriate
		Wetlands (poor)	Dependent upon hydrological and substrate conditions – wetlands likely where ground is wet although elements of wet woodland could also be considered where possible. Areas with peat should be restored to peatlands.
		Freshwater (fair)	Freshwater existing network to be retained
		Open Mosaic (good)	Dependent upon substrate. Woodland is unlikely to establish in areas of previously developed land without significant remediation, therefore open mosaic habitats including elements of scrub may be more appropriate
		Urban (fair)	Outside of existing urban areas (and immediate surrounds) – woodland is the priority. Likely to be able to include GI features that include woodland patches, street trees and hedgerows
		Inland Rock and Cliff (fair)	Inland Rock and Cliff is a very restricted habitat
		Enclosed Farmland (Unknown)	Either dependent upon local context
Heathland, Moorland and Grassland	Poor	Coastal (poor)	Dependent upon substrate – coastal influence is likely to steer habitat creation towards coastal habitats
		Woodland (good)	Heathland, Moorland and Grassland, although connectivity of the woodland habitats should be considered and where possible incorporating

			connections through hedgerows may also be
			appropriate
		Wetlands (poor)	Dependent upon hydrological, typographical and
			substrate conditions – in peat areas peatlands or
			wet heath likely to develop. Bog pools can also be
			an important part of an upland landscape. In drier
			conditions or on slopes heathland and grassland
			may establish.
		Freshwater (fair)	Freshwater existing network to be retained
		Open Mosaic (good)	Dependent upon substrate. In inland locations,
			open mosaic is likely to include heathland and
			grassland habitats. Both are compatible in this
			situation
		Urban (fair)	Outside of existing urban areas (and immediate
			surrounds) – heathland, moorland and
			grassland is the priority. Within urban areas it is
			likely to be able to include GI features that include
			grassland habitats e.g. road verges parks
		Inland Pock and Cliff (fair)	Inland Pock and Cliff is a very restricted babitat
			and where present is uplikely to support wotland
			creation
		Enclosed Farmland (Unknown)	Heathland Meerland and Creesland
Watlanda	Deer		Dependent upon budgelegiest and substrate
wetiands	POOr	Coastal (poor)	Dependent upon nydrological and substrate
			conditions –wetiands likely where ground is wet
			although elements of coastal habitats such as dune
			slacks could also be considered where possible
		Woodland (good)	Dependent upon hydrological and substrate
			conditions – wetlands likely where ground is wet
			although elements of wet woodland could also be
			considered where possible. Areas with peat should
			be restored to peatlands.
		Heathland, Moorland and Grassland (poor)	Dependent upon hydrological, typographical and
			substrate conditions – in peat areas peatlands or

			wet heath likely to develop. Bog pools can also be an important part of an upland landscape. In drier
			conditions or on slopes heathland and grassland may establish.
		Freshwater (fair)	Freshwater existing network to be retained
		Open Mosaic (good)	Dependent upon hydrological and substrate conditions –wetlands likely where ground is wet although such habitat can form part of an open mosaic habitat.
		Urban (fair)	Outside of existing urban areas (and immediate surrounds) – wetland is the priority. Within urban areas it is likely to be able to include GI features that include wetland habitats e.g. SUDs, ponds.
		Inland Rock and Cliff (fair)	Inland Rock and Cliff is a very restricted habitat
		Enclosed Farmland (Unknown)	Dependent upon hydrological and substrate conditions – wetlands likely where ground is wet although such habitat can form part of enclosed farmland.
Freshwater	Fair	All (except Marine)	Freshwater existing network to be retained
Open Mosaic	Good	Coastal (poor)	Dependent upon substrate. In coastal locations, open mosaic is likely to include coastal habitats. Both are compatible in this situation.
		Woodland (good)	Dependent upon substrate. Woodland is unlikely to establish in areas of previously developed land without significant remediation, therefore open mosaic habitats including elements of scrub may be more appropriate
		Heathland, Moorland and Grassland (poor)	Dependent upon substrate. In inland locations, open mosaic is likely to include heathland and grassland habitats. Both are compatible in this situation.
		Freshwater (fair)	Freshwater existing network to be retained

		Wetlands (poor)	Dependent upon hydrological and substrate conditions – wetlands likely where ground is wet although such habitat can form part of an open mosaic habitat.
		Inland Rock and Cliff (fair)	Inland Rock and Cliff is a very restricted habitat
		Urban (fair)	habitat. Open mosaic is likely to support a greater variety of species and may be incorporated into urban GI features. Both are compatible in this situation.
Inland Rock and Cliff	Fair	All	Inland Rock and Cliff is a very restricted habitat
Urban	Fair	Coastal (poor)	Coastal (but most likely incorporated into GI features)
		Woodland (good)	Outside of existing urban areas (and immediate surrounds) – woodland is the priority. Likely to be able to include GI features that include woodland patches, street trees and hedgerows
		Heathland, Moorland and Grassland (poor)	Outside of existing urban areas (and immediate surrounds) – heathland, moorland and grassland is the priority. Within urban areas it is likely to be able to include GI features that include grassland habitats e.g. road verges, parks.
		Freshwater (fair)	Freshwater existing network to be retained
		Wetlands (poor)	Outside of existing urban areas (and immediate surrounds) – wetland is the priority. Within urban areas it is likely to be able to include GI features that include wetland habitats e.g. SUDs, ponds.
		Open Mosaic (good)	Dependent upon substrate and the type of urban habitat. Open mosaic is likely to support a greater variety of species and may be incorporated into urban GI features. Both are compatible in this situation.

		Enclosed Farmland (Unknown)	Dependent upon the variety of wildlife features in
			either. Both can be of value to wildlife.
Enclosed Farmland	Unknown	Coastal (poor)	Coastal
		Woodland (good)	Either dependent upon local context
		Heathland, Moorland and Grassland (poor)	Heathland, Moorland and Grassland
		Freshwater (fair)	Freshwater existing network to be retained
		Wetlands (poor)	Dependent upon hydrological and substrate
			conditions – wetlands likely where ground is wet
			although such habitat can form part of enclosed
			farmland.
		Inland Rock and Cliff (fair)	Inland Rock and Cliff is a very restricted habitat
		Urban Habitats (unknown)	Dependent upon the variety of wildlife features in
			either. Both can be of value to wildlife.
Marine	Unknown	No Overlaps	Marine

Appendices

Appendix 1 Strategic Network and Designated Sites

Data Displayed:

- NRW Protected Sites
- Relevant habitat networks

Protected Sites and Habitat Networks Existing


Data Displayed:

- NPT SINCs
- NPT Woodland SINCs
- Local Nature Reserves
- All habitat networks

Non-Statutory Sites and Habitat Networks Existing

Statutory and Non-Statutory Sites and Habitat Networks

The plans above show that the habitat network maps cover all of the statutory and non-statutory designated sites. The habitats included in these designated sites form part of the habitat networks. It is therefore not necessary to further assess these sites.

Appendix 2 Data Sources

Data Sources

Data referenced and used in this assessment and to create the network plans include the following:

GIS Layer	Data Source	Other Details
Ancient Woodland Inventory	© Natural Resources Wales	Available via DataMap Wales
Habitat Networks	© Natural Resources Wales	Available via DataMap Wales
Unified Peat Map of Wales	© Welsh Government	Available via DataMap Wales. Based on
		combination of BGS surface peat, Forestry
		Commission survey peats, Lowland Peat
		Survey (NRW), Phase 1 habitat peats (all E
		class with the exception of E2)
Protected Site Layers	© Natural Resources Wales	Individual Layers are available for each
		type of protected sites via DataMap Wales.
Phase 1 Habitat Survey	© NPTCBC	Due to data size this data is currently not
		available outside of NPT Council.
NPT SINCs	© NPTCBC	Available externally from the South East
		Wales Biodiversity Records Centre.
NPT Woodland SINCs	© NPTCBC	Based on the NRW Ancient Woodland
		Inventory. Available externally from the
		South East Wales Biodiversity Records
		Centre.
NPT Watercourse SINCs	© NPTCBC	Available externally from the South East
		Wales Biodiversity Records Centre.

Appendix 3 Glossary of Terms

Glossary of Terms

Ancient Woodland and Ancient Woodland Inventory	Woodland that has either: 1. been assessed and listed in the Ancient Woodland Inventory for Wales as being in continual existence on a site since 1600 and greater than 5ha in size. Ancient Woodland 2. supports ancient woodland indicator species such as Bluebell. These species are slow to colonise surrounding areas and therefore may remain on a site of woodland which may have since been cleared. Many Ancient woodland sites in Neath Port Talbot have been overplanted by coniferous plantation however there are still semi-natural and replanted examples. The Ancient woodland inventory can be obtained from the Natural Resources Wales
Biodiversity	The variety of plant and animal life.
Climate Change	The long term alteration of temperature and weather patterns, largely a result of human activity e.g. carbon emissions.
Connectivity (ecological)	The unimpeded movement of species and natural processes between areas or habitats.
DECCA framework	A set of attributes, taken together provide an assessment of ecosystem resilience. The attributes are: Diversity, Extent, Condition, Connectivity and Adaptability to change. Detail of how

	these are interpreted in realtion to development is set out in Planning Policy Wales 12 page 146 ¹³ .
Ecosystem	An interacting community of wildlife species and their physical environment.
Enhancement (biodiversity)	The provision of measures to support biodiversity that are over and above any necessary mitigation or compensation required to address development impacts.
Green Infrastructure	Green infrastructure is the network of natural and semi-natural features, green spaces, rivers and lakes that intersperse and connect places ¹⁴ .
Green Infrastructure Assessment	Inventories and maps of existing green infrastructure and ecological assets and networks. A key evidence base for the preparation of development plans that includes an integrated map-based evidence resource for biodiversity, ecosystem resilience and ecosystem service provision.
Green or Brown Roofs	Roofs intentionally designed to enable vegetation to grow on them. They may be of an intensive form akin to ground-level gardens, or extensive self-sustaining forms based on a thin layer of soil-type matter. Roofs that have been designed to mitigate for the loss of brownfield (previously developed land) that supports species such as ground nesting birds an invertebrates. A substrate of Brown Roofs varying size from crushed aggregates, through to pebbles and small boulders laid over a waterproof membrane and allowed to colonise naturally with a sparse covering of vegetation
Habitat	A place in which a population of a species lives, a term used also to refer to assemblages of plants and animals such as woodland, grassland
Impacts	The effect and implications of a development

 ¹³ Planning Policy Wales - Edition 12 (gov.wales)
¹⁴ Planning Policy Wales - Edition 12 (gov.wales)

Intertidal zone	Ecosystem found along the shoreline that is influenced by the ebb and flow of the tide. This ecosystem has both aquatic and terrestrial influences.
Invasive Non-Native Species	Non-native species that have become a particular problem through their tendency to proliferate and threaten native species. They include Japanese Knotweed, Rhododendron and Invasive Species Himalayan Balsam. A full list of invasive non-native species is available under S9 of the Wildlife and Countryside Act 1981 as amended
Living Walls	A wall covered in vegetation, normally climbing upwards from containers or planted in plan box systems. Can be free standing or connected to a building. Also known as green walls.
Nature Conservation	Actions taken to ensure the continued existence of species populations and their habitats; this includes restoration and enhancement measures
Non-statutory protected/designated sites	Sites afforded protection from harm policy not legislation e.g. SINCs. These are generally local sites.
Phase 1 Habitat Survey	Standard habitat classification and survey methodology, published by the JNCC. Based on key species and features a habitat is classed as a certain type and mapped using standard codes and colours. <u>Handbook for Phase 1 habitat survey (jncc.gov.uk)</u>
Protected Species	Plant and animal species listed in and protected by national wildlife legislation
Rain Gardens	A planted feature designed to capture, hold, filter and slowly release rainwater. This reduces water runoff.
Resilience (of ecosystems)	The resilience of ecosystems is a term to encompass the ability of our ecosystems (including habitats, species, air, water, soils and ecological processes) to continue to function and provide the services upon which we rely. In considering ecosystem resilience the following must be considered: Diversity between and within ecosystems; Connections between and within ecosystems; Extent of ecosystems; Condition of ecosystems (including their structure and functioning); and Adaptability of ecosystems. Together these

	make up the DECCA framework as set out in Environment Wales Act 2016 and Planning Policy Wales ¹⁵ .
S7	Lists of species and habitats identified that are of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales, under S7 of the Environment (Wales) Act 2016.
Sites of Importance for Nature Conservation (SINC)	Non-statutorily protected sites. These are local sites that meet standard criteria adopted by NPT Council and form an important part of the biodiversity/GI network across the county.
Species	A group of animals or plants of the same kind which reproduce amongst themselves but are usually reproductively isolated from other types of animals or plants.
Statutory protected/designated sites	Sites that are given particular protection under law. For biodiversity these include: Special Sites of Scientific Interest (SSSI), Special Area of Conservation (SAC), Special Protection Area (SPA) and National Nature Reserve (NNR)
Sustainable Urban Drainage	Drainage schemes designed to improve control of, and the quality of, run-off from a development, usually by incorporating features that mimic more natural drainage systems Sustainable Drainage Schemes (SuDS) as opposed to impermeable surfaces and concrete drains. Such features include ponds, rain gardens and reed-beds, which may also improve the amenity and biodiversity value of a site

¹⁵ <u>Planning Policy Wales - Edition 12 (gov.wales)</u>

Click on the QR code below for further information





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