

FWP 17

Ymateb gan : Cyfoeth Naturiol Cymru Evidence from : Natural Resources Wales

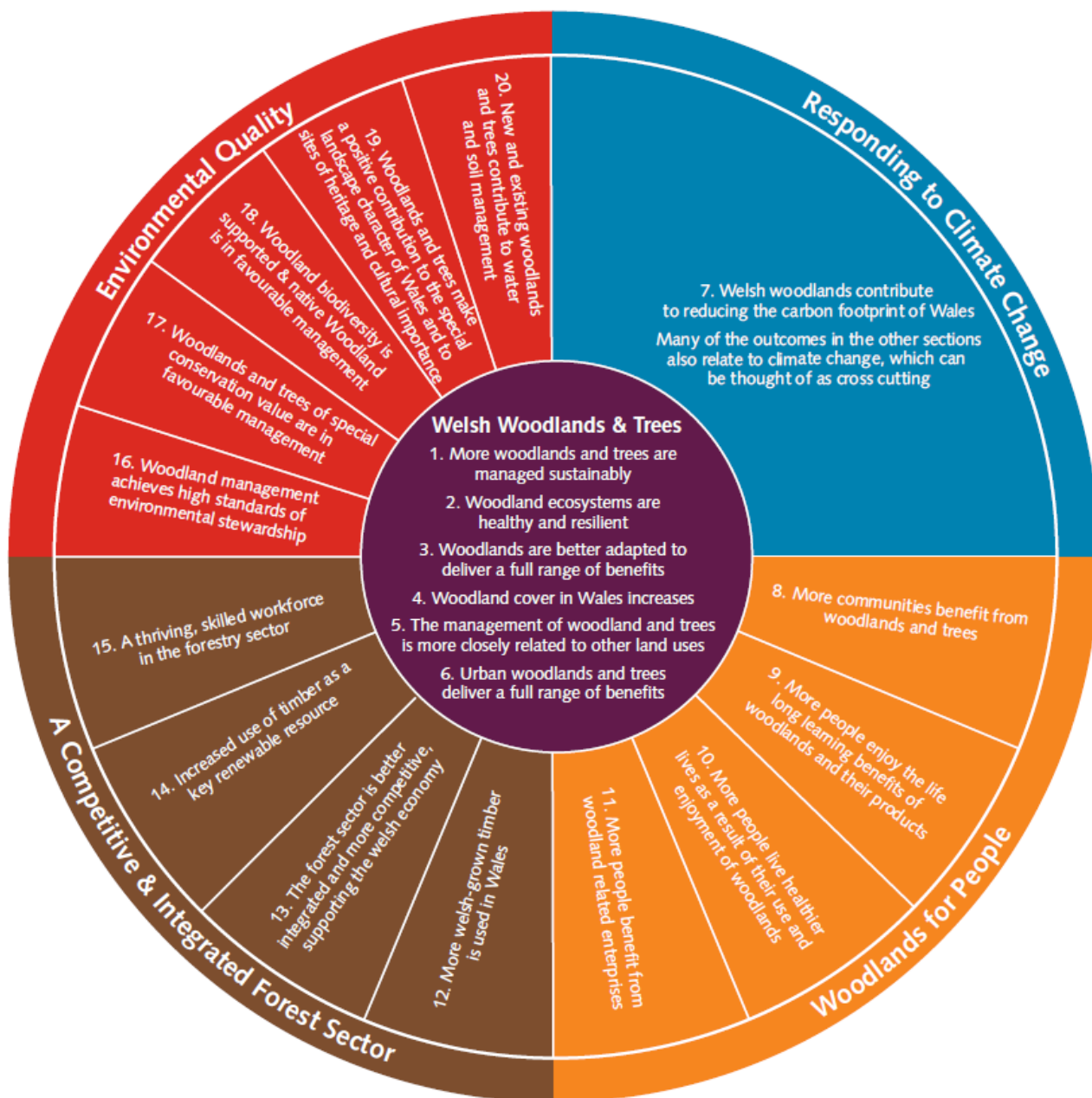
Executive Summary: key messages

1. The Welsh Government's (WG) Woodlands for Wales (WfW) Strategy (2009) remains broadly fit for purpose but a refreshed third edition would allow closer alignment with recent Welsh legislation and the National Natural Resources Policy (NNRP) to fully deliver the aspirations of the WG. It is critical that the 50 year vision remains the same. Once refreshed the strategy must become a more prominent part of Wales' sustainable land management policy and practice to capitalise on the offer that trees, woodlands and the forest industry can make to people, the environment, economy and culture of Wales.
2. There are opportunities to significantly improve the delivery of outcomes contained within WfW via a more ambitious and funded five year Action Plan. Partnership activity could be driven through updated 'agenda for action' sections in a refresh of the eight supporting WfW Policy Positions.
3. The Woodlands Strategy Advisory Panel (WSAP) is a valuable forum providing expertise, oversight and a co-production approach to the delivery of WfW. However the group needs to be revitalised and more dynamic in its approach to securing delivery of partnership actions with clear focus on progress to the WfW vision. If the work of WSAP is to be capable of resonating beyond the woodland and forestry sector its work needs to be better promoted and incorporated into WG policy, programmes and funding.
4. The Welsh Forest Resource makes a valuable contribution to the health and resilience of ecosystems, and generates multiple benefits that directly contribute to well-being (as reported in the State of Natural Resources Report [SoNaRR] 2016). There needs to be greater integration between WfW, NNRP, Area Statements and the work of Public Services Boards (PSBs) as well as collaborative working across the various land management sectors.
5. The foundation theme of WfW - the nature, condition, extent and management of our woodlands and trees – underpins delivery of the whole WfW Strategy. Integrated opportunities to support these outcomes are often overlooked in rural development, land management and other policies yet are critical to achievement of all 20 outcomes sought as well as the 50 year vision. Slow progress has been made to bring more woodland into management and create more new woodland.
6. The ambition to create 100,000 hectares of new woodland by 2030 to help meet Wales' carbon reduction targets has seen little progress, just 104 hectares in 2015-16, and requires a radical change in the level of incentives available together with a more enabling regulatory approach. SoNaRR highlighted that planting the right trees in the right place is the single action most likely to derive the greatest benefit in terms

of delivering the sustainable management of natural resources (SMNR) and making a significant contribution to Wales' well-being goals.

7. The WfW Strategy Action Plan requires a closer link to the contemporary outputs of the Science and Innovation Strategy for Forestry in Great Britain. This is particularly critical to tackling the challenges of the Climate Change Risk Assessment 2017 for forestry and tree health. More focused work via the WSAP would help secure the integrated actions required.
8. Illegal activity and anti-social behaviour associated with forests, woodlands and trees is a growing concern which we take seriously in our management of the Welsh Government Woodland Estate (WGWE) and through our regulatory responsibilities and enforcement activity. Targeted campaigns could be better integrated through key Rural Development Plan delivery models such as Farming and Forestry Connect.
9. The perception of declining numbers of foresters and woodland managers with professional, specialist skills in Wales is a concern. Linked to this, is the challenge of continuing to promote the role of woodlands and trees in education, learning, health and well-being more widely.
10. Land use change and land management policy needs to be more cognisant of the contribution, value and potential of Wales' (soft and hardwood) timber industry to deliver against key WG policies. If Wales does not create more new productive woodland the forecasted drop in softwood timber availability from the 2030s poses a risk to wood supply, jobs and the growth of the forest industry. Wales needs to better support growth in the supply chain and optimise the 'value added' of the timber processed in Wales.
11. The transition from European Union membership presents both challenges and opportunities for the trees, woodland and the forest industry. Wales' future rural development policies must support better delivery of the NNRP, the 20 outcomes sought by WfW and the recommendations of SoNaRR. The positive role of trees and woodlands in urban and peri-urban policies must be reinforced.

Figure 1 - The outcomes for the foundation and four strategic themes of the Woodlands for Wales Strategy and a summary of documents supporting implementation and tracking of progress



Woodlands for Wales (WfW) Strategy documents	Publication Date
Policy Position Statements (eight separate publications providing further evidence for the Strategy)	2010
Woodlands for Wales Strategy (1 st edition)	2001
Progress report (2001-2006)	2006
Woodlands for Wales Strategy (2 nd edition)	2009
Action Plan (1 st edition)	2010-2015
Action Plan (2 nd edition)	2015-2020
Indicators (annual statistics)	2009 onwards

Introduction

1. We welcome this opportunity to contribute to the CCERA Committee inquiry into forestry and woodland policy in Wales. We have multiple roles and responsibilities in relation to forestry, woodlands and trees and our response provides an overview of our work across all areas via case studies (**Annex 1**) as well as more focused content on what we consider to be the key issues.

NRWs roles and responsibilities

2. NRWs purpose, as set out in the Environment (Wales) Act 2016, is to pursue sustainable management of natural resources. We apply a specific set of sustainable management principles while maximising our contribution to the well-being goals in all of the work that we do. In addition we have various duties delegated to us from WG including many from the extant Forestry Act (1967 as amended) including having ‘... *due regard to the national interest in maintaining and expanding the forestry resources of Wales*’. We have a general statutory duty to ‘... *promote in Wales the interests of forestry; the development of afforestation; and the production and supply of timber*’. Our new duties under the Environment (Wales) Act 2016 and Well-Being of Future Generations (Wales) Act 2015 cut across everything that we do, and woodland and trees have an important role to play. Consistent with our statutory duties there are also significant non-statutory opportunities for us to positively influence the management of the wider Welsh Forest Resource¹, as well as support woodland creation, through partnership working and engagement.
3. We have a close working relationship with WG in relation to our management of the Welsh Government Woodland Estate (WGWE). This is a public asset and is managed to support delivery of WfW as well as other public policy priorities. Of relevance to our role in managing the WGWE is the previous NAW Environment and Sustainability Committee [inquiry](#) into the Public Forest Estate in Wales in 2014 and our [written submission](#). One of our key actions is the implementation of a forest sector engagement plan known as the ‘[Ten Areas for Action](#)’, in partnership with WG, [Confor](#) and [Wood Knowledge Wales](#). Progress of the ‘Ten Areas for Action’ plan is reviewed quarterly with NRWs Forest Business Sector Group and actions updated in agreement with partners annually.
4. WG are responsible for the provision and allocation of funding for woodland under the Glastir Woodland element of the Rural Communities – Rural Development Programme 2014-2020. In relation to funding towards the cost of establishing new woodland, Glastir Woodland Creation, NRW undertake the verification role on behalf of WG. NRWs roles and responsibilities are summarised in **Annex 1** and a summary of NRW and WG roles and responsibilities in **Annex 2**.

Policy and legislative context

5. We have a lead or key supporting role to play in delivery of the 20 outcomes under the foundation theme and four strategic themes of WfW (**Figure 1**) through our management of the WGWE, as well as through our regulatory and advisory roles. We recently provided an update on progress to WG on our contribution to delivery of the Action Plan and forms part of the [documentation](#) supporting this inquiry. Our contribution is measured and reported via the [Woodlands for Wales Indicators](#) report.

¹ We use this term to include all forests, woodlands and trees in Wales

6. Enshrined within WfW, and the [UK Forestry Standard](#), is the concept of sustainable forest management². This is compatible with the principles of SMNR and we are currently undertaking a piece of work to better understand and communicate the ‘fit’ between these two sets of guiding principles. This work will ensure that NRW’s long term planning (25 year) and management practices within the WGWE fully support the delivery of SMNR and maximise the contribution that forestry makes to the achievement of the well-being goals. It will also underpin our approach to regulation and advisory functions.
7. The nature and extent of ecosystem services and the well-being benefits derived from woodlands are well documented in the 2016 [State of Natural Resources Report](#) (SoNaRR). Increasing woodland cover was identified as one of the seven areas offering the greatest opportunity for dealing with the challenges and risks highlighted in SoNaRR and for contributing to Wales’ well-being goals:
“Creating more woodland and bringing existing woodland into more sustainable management would: help increase diversity and connectivity of woodlands (making them more resilient to disease and better for wildlife, for example); increase the woodland resource; provide building materials and fuel; help reduce flood risk; help store carbon to tackle climate change; and provide recreation opportunities to improve health and happiness”.
8. However, five of the seven opportunities identified in SoNaRR are relevant to wider land management policy and practice. In particular, woodlands and trees can make a significant contribution to:
 - greening our urban areas;
 - increasing active travel;
 - sustainable drainage;
 - restoration of our floodplains;
 - improving air quality;
 - providing urban sound barriers;
 - better soil management; and the,
 - restoration of our peatlands and uplands.

Whilst WfW is broadly in line with these opportunities the strategic actions required, especially for new woodland creation, have not been able to achieve sufficient traction in the development and implementation of broader WG policy and programmes. This is highlighted in the CCERA Committee’s report on [‘The future of land management in Wales’](#).

9. Our response to the [WG consultation](#) to inform the development of the NNRP reinforced SoNaRR’s key messages and highlighted the key issues in relation to forestry and wider land use and its management. It also emphasised the importance of all sectors across Wales breaking away from their traditional silos to seize opportunities to build new partnerships and networks that can drive a significant change in the way that we seek to meet our goals. NRW is committed to playing our part through our role on PSBs, and via the preparation of Area Statements. These priorities will be at the heart of our Well-being Objectives which were published on 31st March in [our Well-being Statement](#) and new Corporate Plan which will be published in summer 2017.

² Sustainable Forest Management was defined in 1993 by the Ministerial Conference for the Protection of Forests in Europe as “... the stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfil, now and in the future, relevant ecological, economic and social functions, at local, national and global levels, and that does not cause damage to other ecosystems”.

Key messages

10. **WfW remains broadly fit for purpose but it would benefit from a refreshed third edition.** The 50 year vision should remain in place, in recognition of the long timescales needed to establish trees and manage change in woodlands. The environmental, social, economic and cultural issues relevant to the planning and management of forests, woodlands and trees are consistent with contemporary evidence and policy. However the foundation theme and four strategic themes are not easily related to the interconnected and cross-cutting principles of SMNR and the well-being goals. The Strategy, once refreshed, should be more visible across the Programme for Government so that it is clear what action is being taken to improve and secure the future of the Welsh Forest Resource and what 'offer' it can make to the people, environment, economy and culture of Wales by delivering SMNR at National and Area levels.
11. **There are opportunities to significantly improve the delivery of outcomes contained within the Strategy,** through for example:
- A comprehensive update of the eight [Policy Positions](#) and their 'agenda for action' sections that support WfW, ensuring that prioritised actions then feed into the five year Action Plan;
 - Revision of the five year Action Plan to ensure prioritised, funded and adequate actions relevant to all outcomes in the Strategy, not just some. For example, actions to address the achievement of soil and water outcomes is absent;
 - The role, purpose and committed contribution of each partner is not clearly established within the current Action Plan and Progress Reports are not now regularly published beyond the annual Indicators Report. More focused attention on obtaining commitment of delivery and driving actions by all partners involved in the Action Plan and regularly reporting progress on outputs and progress towards the Strategy outcomes (the WfW Indicators). This should be the core business of the WSAP and could benefit from a 'rapporteur' or 'outcome champion' approach;
 - Reviewing, improving and resourcing the Woodlands for Wales Indicators³, as a means of tracking progress over time alongside consideration of the suite of [National Statistics](#) and Forestry Statistics already published at UK and Wales levels. Extending the incorporation of key measures for trees, woodland and forestry into broader WG progress reporting frameworks would be beneficial.
 - More collaborative and secure partnership working with the wider land management sector, alongside cross-directorate working within Welsh Government, will help to ensure delivery of SMNR and well-being benefits in an integrated way. For example, the relevant role of woodlands and trees in new infrastructure and transport developments (National Development Framework for Wales); and by,
12. **The WGs Woodlands Strategy Advisory Panel (WSAP) should continue but the group needs to be revitalised and more dynamic in its approach.** NRW currently has two members on the panel. WSAP has a long-standing and active role in guiding delivery towards the 20 WfW outcomes since the first Strategy was developed and published in 2001. Without the expertise and representation of this group the WfW Strategy, Action Plan and Indicators risk losing focus in broader WG policy oversight. This risk is especially prevalent with the changes to governance of forestry at UK and country level including tree health, research in forestry, international policy and representation and the production of UK and country forecasts, economics and

³ This work is due to commence shortly, via a WSAP commissioned Task and Finish Group

statistics. If WSAP is to realise its full potential and be capable of resonating beyond the woodland and forestry sector its work needs to be better represented and linked to other key WG stakeholder groups especially those guiding rural and economic development policy and programmes. In summary WfW requires action in eight main areas and yet WSAP and the Action Plan do not sufficiently drive action across the whole Welsh Forest Resource to:

- bring more woodlands under management;
- increase tree species diversity (improve resilience to climate change, pests and diseases but also to improve woodland habitat condition);
- reduce the areas managed by clearfelling;
- increase new woodland creation;
- mitigate for climate change – including the role of timber substituting for other more carbon intensive materials, new woodland creation capable of producing good quality wood products, and woodlands providing locations for renewable energy projects;
- extend native woodland area and improve condition;
- improve public involvement in decision making; and,
- stimulate economic development in the forest sector via investment, enterprise and skills.

13. Tackling the challenges to meet the six outcomes of the foundation theme is critical to the success of the other four strategic themes (Figure 1). The Welsh Forest Resource makes a valuable contribution to the health and resilience of ecosystems, and generates multiple benefits that directly contribute to well-being, as reported in [SoNaRR](#). However, we note that the scope of the inquiry does not cover the Foundation theme of the strategy - Welsh woodlands and trees. The six outcomes of this Foundation theme are that:

- More woodlands and trees are sustainably managed;
- Woodland ecosystems are healthy and resilient;
- Woodlands are better adapted to deliver a full range of benefits;
- Woodland cover in Wales increases;
- The management of woodlands and trees is more closely related to other land uses; and that,
- Urban woodlands and trees deliver a full range of benefits.

14. There are ongoing concerns about their nature, condition and extent of the Welsh Forest Resource⁴:

- Around 40% (147,000 ha) of Wales' woodlands have little or no management which may affect their resilience and ability to provide ecosystem services and well-being benefits.
- Fragmentation is a significant pressure affecting woodland condition: there are nearly 22,000 woodlands identified as being smaller than 2.0ha.
- Woodland condition continues to be negatively impacted by browsing and grazing pressures from domesticated and wild animals, especially wild deer, and is also affected by Invasive Non-Native Species (INNS) and increasingly tree pests and diseases.

⁴ More information is available from the [State of Natural Resources Report 2016](#) chapter 3 section 8 pages 48-53

- The overall conservation status of woodland habitats on protected sites in Wales is regarded as unfavourable although woodland processes operate over long timescales so the recovery to favourable condition may lag behind management action that is being taken.
- Our urban forest is in decline⁵. There is just 1% of urban tree cover to be found in modern high density housing, which is often in our most deprived wards where more tree cover could provide health and well-being benefits.
- Wales is reported as having the highest proportion of declining parks, with the highest percentage reduction in staff and no foreseeable improvement in the condition of parks in the next three years⁶.
- Tree health is declining and pests and diseases are likely to be more prevalent in future due to climate change and our reliance on imported goods.
- The forecasted drop in softwood timber availability in the 2030's poses a risk to wood supply and the wider benefits that woodlands provide. WfW stated that this should be tackled by bringing more woodland into sustainable management and by creating new woodland that is capable of producing utilisable timber but progress has been slow. As a productive resource, Welsh woodlands contribute a GVA of £528.6M per annum⁷ to the Welsh economy. There is likely to be an increase in demand for timber, fibre and wood products in the future.

15. **More new woodland creation is needed and the potential for investment needs to be unlocked.** The 2010 ambition to create 100,000 hectares of policy aligned new woodland by 2030 to help meet Wales' carbon reduction targets⁸ has seen little progress and requires a radical change⁹ in the level of support available including an enabling approach to regulation. Public funding available for new woodland creation currently preferentially supports the creation of small, mainly native woodlands on farms. New woodland creation is recognised as having cost-effective potential¹⁰ to significantly contribute to the management of Wales' carbon budgets but requires consistent policy and additional funding to encourage investment and act as a stimulus for green growth. All sectors across Wales have roles to play in reducing emissions and transitioning to a low carbon economy. Confor state that there is at least £20M of potential investment available for Wales¹¹ and this needs to be matched to WGs ambition for new woodland creation. Investment requires available land, the ability to realistically scope financial return and an enabling decision-making approach to that helps to develop viable planting schemes that meet the requirements of the UK Forestry Standard. If new woodland creation proposals are expected to meet broader WG policy objectives including those required by WfW then additional financial support would be appropriate in line with recommendation 18 made in the CCERA Committee's report on '[The future of land management in Wales](#)' that:

⁵ More information is available from our website <https://naturalresources.wales/media/4123/tree-cover-in-wales-towns-and-cities-2014-study.pdf> [accessed on 29.3.17]

⁶ HLF (2016) State of UK Public Parks available at <https://www.hlf.org.uk/state-uk-public-parks-2016> [accessed on 29.3.17]

⁷ WG (2016) WfW Indicators Report available at <http://gov.wales/statistics-and-research/woodlands-wales-indicators/?lang=en> [accessed on 29.3.17]

⁸ [Climate Change Strategy for Wales](#) Delivery Plan for Emission reduction (2010)

⁹ IWA (2012) [Growing our woodlands in Wales](#)

¹⁰ The [Read Report](#) (2009) *Combating climate change – a role for UK forests. An assessment of the potential of the UK's trees and woodlands to mitigate and adapt to climate change.*

¹¹ Pers comm

‘The Welsh Government must ensure that future funding for land managers is based on the delivery of outcomes which contribute to the ambitious targets for climate change adaptation and mitigation set out in Welsh legislation such as the Environment (Wales) Act 2016 and the Well-being of Future Generations (Wales) Act 2015.’

16. SoNaRR highlighted that **planting the right trees in the right place** is the single action most likely to derive the greatest benefit in terms of delivering the sustainable management of natural resources (SMNR) and making a significant contribution to Wales’ well-being goals. More planting of native broadleaves, mixed woodland and productive softwoods would for example:
- increase the diversity and connectivity of woodlands (making them more resilient to disease and better for wildlife, for example);
 - increase the woodland resource;
 - provide building materials and fuel;
 - help reduce flood risk;
 - help store carbon to tackle climate change; and,
 - provide access and recreational opportunities to improve health, education and learning outcomes and well-being.

The location and design of planting, including that in urban areas, needs to be carefully considered to maximise these benefits whilst avoiding damage to the structure and functioning of other priority open habitats.

17. The WfW Strategy Action Plan requires a closer link to the outputs of the [Science and Innovation Strategy for Forestry in Great Britain](#). This will be particularly critical in seeking to **tackle the challenges set out in the 2017 Climate Change Risk Assessment for forestry and tree health**. More focused work via the WSAP would help secure the integrated actions required to support the achievement of healthy trees and woodland ecosystems. The [Climate Change Risk Assessment \(CCRA\) 2017 Evidence Report](#) has identified risks and opportunities from changes in forestry productivity and land suitability for particular woodland habitat types and individual native and non-native tree species. There are also risks associated with water scarcity and flooding; from pests, pathogens and invasive species; and from change in frequency and/or magnitude of extreme weather and wildfire events. Woodland productivity and carbon sequestration rates are also likely to be impacted by climate change. The same key messages are highlighted in the [Living with Environmental Change \(LWEC\) Report Card 2016 on Agriculture and Forestry Climate Change Impacts](#). A relevant Welsh example is the [‘Living with Climate Change’](#) report for the Clwydian Range and Dee Valley AONB which looks at future impacts and resilience issues.
18. **Illegal activity associated with forests, woodlands and trees is a growing concern.** In relation to our management of the WGWE, the additional land manager liability arising from illegal mountain bike trail building and use (known as wild trails), and of illegal off-roading activity is a growing challenge. Increasing and significant numbers of wild trails are being built, particularly in the South Wales Valleys. These sometimes involve illegal tree felling and obstruction of highways, with public safety potentially at risk through unknown trail quality and build. There is a further risk related to the acquisition of rights through prolonged usage. Limited resources are available to manage these activities, either through formal adoption or through their removal. Illegal off-roading is a growing challenge across Wales, and NRW’s Enforcement Teams have worked well with local policing teams to challenge perpetrators. Reports of Alleged Illegal Felling (AIFs) have also steadily increased over the last 6 years, from

approximately 70 in 2010/11 to approximately 180 in 2016/17. The recent example from Blackwood¹² in Caerphilly highlights that this is an issue that the general public feels strongly about. In addition to illegal activity, there is also concern about anti-social behaviour which reduces public access to, and enjoyment of, woodlands. It will be important to continue with public funding for targeted management campaigns to help tackle these issues.

19. The **perception of declining numbers of foresters and woodland managers with professional, specialist skills in Wales is a concern**¹³. There is a need for investment in skills and training to ensure the future prosperity of the forest sector. As part of the Cyfle Placement Scheme, NRW currently has four Trees and Timber apprentices in their first year of study towards a Level 3 qualification. Linked to this, is the challenge of continuing to promote the role of woodlands and trees in education and learning more widely, from increasing physical literacy and the provision of places to play, through to increasing understanding and appreciation of trees and woodlands and towards long term behaviour change. We now take an enabling role rather than that of direct delivery following difficult choices made as part of our Business Area Review in December 2015, recognising that other providers may be better placed to take on direct delivery of formal education.
20. **Land use change and land management policy needs to be more cognisant of the contribution, value and potential of Wales' timber industry to deliver key WG policies.** If Wales does not bring more woodland into management and the rate of new woodland creation remains low the forecasted drop in softwood timber availability from the 2030s poses a risk to wood supply, jobs and the growth of the softwood forest industry. Hardwoods account for under 5% of the Welsh forest industry. The majority of the forecasted timber potentially available will continue to be coniferous, but the relative proportion of broadleaves will slowly increase. Whilst there is potential to significantly increase production and use of broadleaves in Wales, there are also constraints related to costs, time, planning, woodland fragmentation, access arrangements, and poor stem form and timber quality including pressures from pests such as the grey squirrel¹⁴. Rising prices for timber will make imports more expensive, help drive demand for home-grown supplies and continue to improve the economic case for investment in new woodland creation. Despite continuing to import 80% of our wood product needs Wales is capable of adding high value in the processing sector (UK value-add is not far behind Sweden and more than Finland)¹⁵. Alongside an enabling approach to release investment for new woodland creation, Wales needs to better support growth in the supply chain and optimise the 'value add' of the timber processed in Wales.
21. There are two fundamental issue around wider land use and management, beyond the WfW Strategy that needs to be addressed which we highlighted in our response to the [NNRP consultation](#). The first is the **need for clear direction on land use change** priorities at national, area and local levels¹⁶ alongside a more streamlined regulatory and change support framework. The second is that, by inference, **delivering more sustainable land management requires an 'extensification' of land use to achieve SMNR whilst the expectation is that Wales will increase timber and food**

¹² Further information is available from the BBC website at <http://www.bbc.co.uk/news/uk-wales-south-east-wales-38694393> [accessed on 29.3.17]

¹³ Confor Wales Manager and WSAP chair pers comm

¹⁴ Sylva Foundation (2014) [British Woodland Survey](#)

¹⁵ Forest Europe (2015) [State of Europe's Forests 2015 report](#)

¹⁶ Area Statements may provide an opportunity to do this

outputs. For forestry the pursuit of more nature based solutions (such as the eight actions listed in paragraph 12) is impacting on forecasted future timber availability¹⁷. There will clearly be a need for compromise at least in the short term, recognising there may be a need to develop an approach to sustainable intensification or increase imports. Compromise could include zoning by objective such as intensive productive, functional protective or extensive multi-purpose forests. Innovative solutions could include better choice of genetic material, changes in planting prescriptions and modified harvesting scenarios.

22. **The forest industry and timber should be included in the development of ‘Brand Wales’ alongside agriculture and fisheries.** These two issues need to be recognised and addressed in the WGs development of future economic and rural policies and programmes to drive clearer SMNR outcomes that embrace the potential for green growth of the forest sector in Wales. Policy choices must be explicit so that all delivery agencies, the private sector and communities are aware of the intended goals. In future more equitable rural development plan support for forestry in line with its value and potential alongside consideration of agriculture is necessary. For NRW, this is particularly important where we have a specific role in managing our own land and regulating natural resources, as in the case of forestry.
23. **The transition from European Union membership presents both challenges and opportunities.** In terms of challenges, an example is the need to maintain, as part of the processes surrounding the Great Repeal Bill, the level of protection for both species and habitats as currently provided by the Birds and Habitats Directives¹⁸. In terms of opportunities, EU transition may release potential investment flows for woodland management and new woodland creation alongside supporting process improvements in forest regulation, rural development plan support payments and the stronger development of woodland related Payments for Ecosystem Services Schemes (and sustainable land management in general).
24. **The condition of woodland and trees is being heavily affected by increasing pressure from pests and pathogens.** *Phytophthora ramorum* is the most significant tree disease to affect woodlands in Wales in recent years. It has caused the widespread death of larch, a significant timber-producing tree species, and is a potentially serious threat to other trees and plants. As of 28th February 2017, approximately 8,850 of larch in Wales has been found to be infected with *Phytophthora ramorum* and larch is no longer used for restocking on the WGWE. Chalara Dieback of Ash (*Hymenoscyphus fraxineus*) is also of concern, having been first confirmed in South Wales in 2012. It is potentially a very serious threat, having caused widespread damage to ash populations in continental Europe, including estimated losses of 60-90% of Denmark’s ash trees. Chalara Dieback of Ash has now been found in 63% of the 10km grid squares across Wales (180 of 284)¹⁹. The disease is now clearly established and sporulating in the wider natural environment across the country, albeit at low levels, and not restricted to new planting sites as previously thought. The majority of new cases have been found in roadside hedgerows and natural regeneration. The predicted effects of climate change together with increased reliance on imported goods will increase the incidence of pests and diseases: for

¹⁷ NRW Board paper (March 2017) [Future timber availability](#): implications for NRW, the forest sector and woodland resource in Wales for the delivery of Sustainable Management of Natural Resources.

¹⁸ Ref: “[The EU and Our Environment](#)” produced by WWF, RSPB and Wildlife Trusts

¹⁹ Chalara data correct as of 17th March 2017

example, more frequent milder winters will increase the size of overwintering populations.

Key successes

25. In relation to the four strategic themes of the Woodlands for Wales Strategy, the breadth of our work is summarised in **Annex 3** in a series of case studies. Each case study, highlights how it contributes to the achievement of the well-being goals.

Key opportunities

26. In this section we set out what are considered to be opportunities in the future. Success will be largely dependent on leadership from WG, NRW and WSAP. The WfW Action Plan and activity of WSAP is critical to secure partnership working across the forestry and land management sectors (with public, private and third sector engagement), and that forests, woodland and trees are considered ‘in the round’ in terms of their contribution to SMNR and the achievement of the well-being goals.
27. The **transition from European Union** membership presents both opportunities as well as challenges. **Leadership and closer collaboration** is needed to seize the opportunities highlighted in SoNaRR for all sectors including greater use of both woodland and trees as part of designing solutions to complex environmental problems. NRW is involved in ongoing discussion with Welsh Government and UK colleagues to inform the debate. Much of the existing framework of environmental regulation is derived from European Union (EU) law. Until such time as the exit negotiations are concluded, the UK remains a full member of the EU, and all the rights and obligations attached to EU membership remain in force. We will continue to implement EU legislation until exit negotiations are finalised.
28. A Defra-led public consultation on **amendments to EIA regulations** on forestry has recently closed to examine ways of reducing the burden on applicants which may, in time, result in more ambitious woodland creation proposals. New woodland creation projects are assessed for likely significant effect on the environment according to their nature, size and location. The amendments to the EIA Regulations are intended to ensure that fewer projects are subject to assessment; the size and cost of environmental statements is reduced; and fewer assessments are required. The focus should now be on those environmental factors that are *significantly* affected and not *any potential* impact. Applications received after 16th May 2017 will be processed to the amended regulations. We are also streamlining our regulatory and verification processes to help achieve the “right trees in the right place” and make planting as simple as possible (see also paragraph 34).
29. The development of a Welsh **policy position²⁰ on permanent woodland removal and compensatory planting** beyond what may be required in accordance with planning regulations would be beneficial. This would set out clear guidance for new woodland creation to compensate for woodland permanently removed to optimise other benefits and bring together evidence-based policy supporting permanent woodland removal (e.g. wind energy projects, open habitat restoration). The policy could be developed alongside the NNRP, Area Statements and National Development Framework. We have recently recruited a Woodland Creation Advisor who will enable us to manage a £500,000 ring-fenced fund that will increase annually, to achieve compensatory planting for woodland loss that occurs on the WGWE due to our Energy Delivery Programme. The Advisor could also contribute to development of a policy position and supporting framework.

²⁰ WfW states that permanent woodland removal should be offset by compensatory planting where possible

30. The Welsh Government consultation and proposed **White paper on Access Reform in Wales**, will provide opportunities for how access and recreational opportunities on the WGWE (and other woodland where access rights exist) are managed, provided and regulated. These proposals cover:
- Achieving consistency in the opportunities available for participation in different activities and how activities are restricted and regulated;
 - Simplifying and harmonising procedures for designating and recording public access;
 - Improving existing advisory forums and how access rights and responsibilities are communicated to all interests.
31. The **investment potential for the forest industry is high** for all parts of the supply chain. There are big opportunities for the diversification of SME businesses particularly in innovative engineered wood products. This is dependent on the strength of the spotlight placed on the forest industry, woodland management and creation and its integration into WG economic and rural development policy and programmes during the transition from membership of the European Union. This should build upon the recommendations made following the forest sector workshop led by Confor to advise WG on Welsh softwood timber supplies and the green economy.²¹ For example NRW are leading a task and finish group¹⁷ in conjunction with WSAP that will report to our Forest Sector Business Group to look at all practical actions linked to future timber availability. In addition we are supporting potential applicants in the development of proposals for the Rural Development Plan 2014-20 funded [Co-operative Forest Planning Scheme](#) which aims encourage innovative planning approaches for the creation of broadleaves and coniferous woodland.
32. We will be using the opportunities presented by **Public Services Boards and Area Statement processes** to identify where integrated and collaborative working utilising woodland, trees and forests in a place can maximise the contribution to SMNR and the seven well-being goals. We are mindful of the fact that a place based approach must deliver a coherent whole at a national level in keeping with our key messages in SoNaRR and the emerging NNRP.
33. Having a greater understanding of our urban tree canopy cover resource (via NRW's Tree Canopy in Wales' Towns and Cities Report) enables Wales to understand the extent, nature and trend of our urban forest more comprehensively than ever before. Work through assessments such as i-Tree Eco enable us to **quantify the range of benefits that urban trees provide, and provide a stronger evidence** base on which to build more ambitious and comprehensive local policies and design solutions for urban green infrastructure.
34. Following the NAW Environment and Sustainability Committee's investigation into the management of the WG woodland estate of 2014 **we have been working closely with the forestry sector to improve all aspects of our forestry regulatory processes**. The need for a level playing field between the regulation of public and private forest management, was reiterated in the Better Regulation Delivery Office's (now Better Regulation) report of 2015, and our progress here is monitored by NRW's Forestry Business Sector Group as one of our 'Ten Areas for Action'. In particular we have strengthened the [NRW guidance available to Glastir applicants](#) to support better quality applications and streamline our regulatory and verification role. In conjunction with the forest sector we are finalising our approach to felling permissions linked to

²¹ Ibid.

delivery of long-term forest management plans compatible with the UKFS and plans produced as part of certification to the [UK Woodland Assurance Standard](#) and capable of adaption to future rural development support for woodland management.

35. We are investigating the scope for **introducing Payment for Ecosystem Services** by considering the roles PES might play, developing our approach to inform WG policy development, and playing an active part in the development of some pathfinder schemes. This includes looking at Green Markets to establish how we can support Wales to harness a range of funding sources to deliver the environmental outcomes we seek. We are working with WG to develop the proposals and processes to utilise experimental powers and incorporate new thinking into our work. All of this will be built in to the Area Statement guidance we are developing. For example, there is growing support for the use of tree planting in areas where it can reduce the flow of diffuse pollutants from agriculture into water. Forest Research is leading [a European wide project](#) called [PESFOR-W](#) to understand better how Payments for Ecosystem Services (PES) can be developed to provide cost-effective solutions to enable tree planting for water benefits.
36. We are working closely with WG to better communicate the opportunities stated in SoNaRR and how they may be communicated spatially through platforms such as WGs [GeoPortal Y Lle](#). Also under development is an approach to natural capital inventory and accounting which has the potential to better inform integrated policy development and decision making about land use, land use change and management priorities for better outcome delivery. Building on the SoNaRR 2016 report we are working on improved spatial analysis to inform land use and land management policy development and decision-making including the identification of 'opportunity spaces'²² for key WG policy delivery.

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Annex 2 - Simplified governance structure and relationship to NRW and WG forestry role and responsibilities

Annex 3 - Case studies demonstrating success against the four strategic themes of WfW and the well-being goals

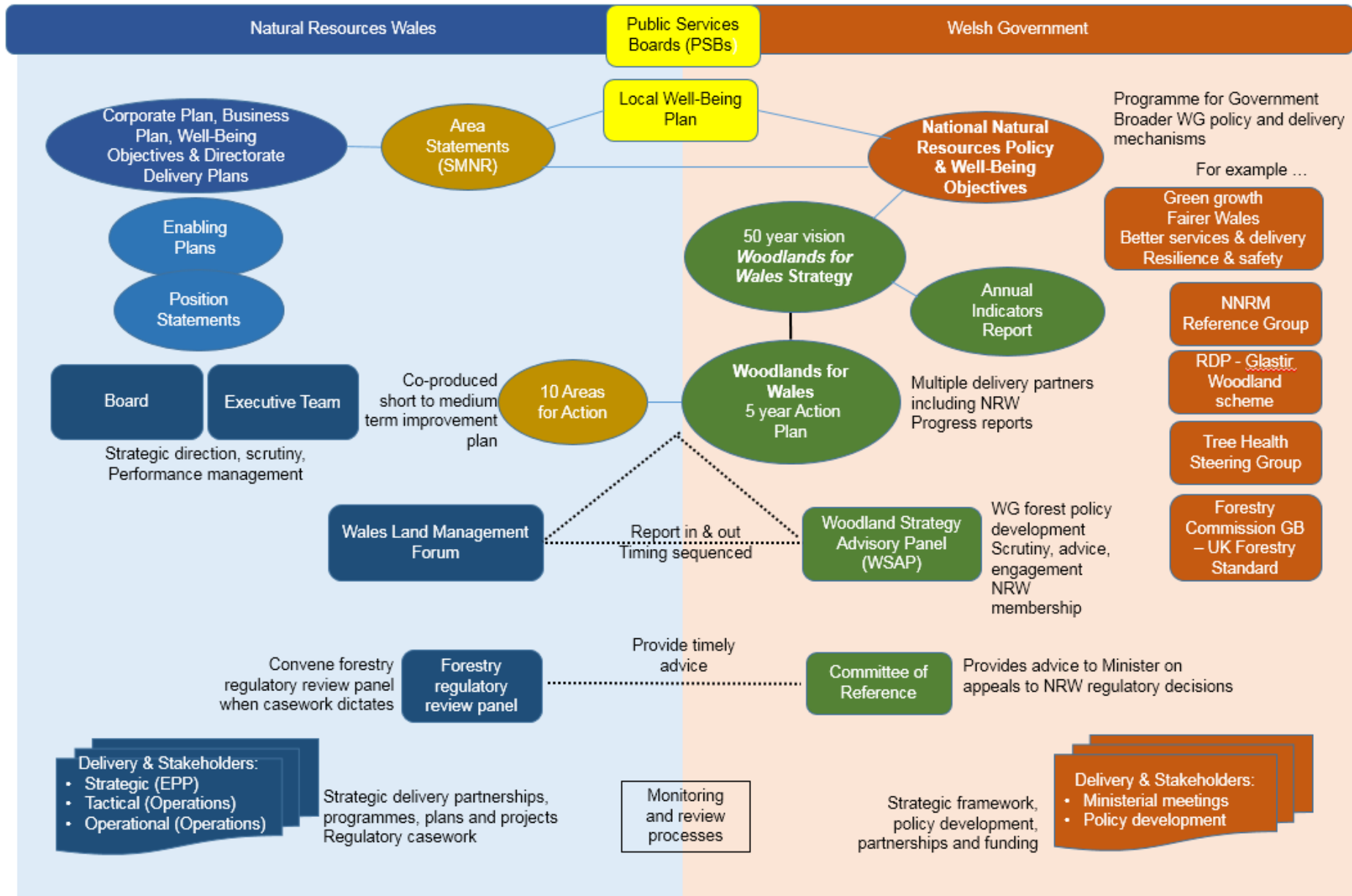
²² SoNaRR (2016) chapter 7 [Towards sustainable management of natural resources](#)

Annex 1: NRW roles and responsibilities in relation to forests, woodlands and trees

Role	Responsibilities
<p>Land manager</p>	<p>We manage the Welsh Government Woodland Estate (WGWE) as well as National Nature Reserves which include some of the finest native woodlands in Wales with very high cultural and biodiversity value.</p> <p>The WGWE accounts for approximately 40% of the Welsh Forest Resource, and supplies almost 60% of Welsh timber certified to FSC/PEFC.</p> <p>The WGWE is dedicated Open Access Land, providing opportunities across Wales for access under the Countryside and Rights of Way (CRoW) Act (2000), often close to where people live and work.</p> <p>In addition, we provide and manage a range of recreational events, facilities and trails including visitor centres, walking, riding, cycling, running and mountain biking routes. These opportunities attract over 4 million visits annually, providing opportunity for increased physical activity, for learning in and about the environment and for downstream economic benefit to communities.</p>
<p>Regulator</p>	<p>We are responsible for the control of felling and replanting of woodland, new woodland creation, deforestation, forest tracks and quarries, and tree health in forest situations through the granting of permits and licences, the assessment of compliance, the investigation of potential offences and taking enforcement action.</p> <p>We are the statutory conservation body for designated sites: SSSI to comply with Countryside and Rights of Ways Act (1981) and CRoW Act; SAC and SPA under EU Habitats and Species Directives. These sites safeguard some of our native woodland.</p> <p>We also administer the Ancient Woodland Inventory.</p> <p>We are a regulator under the Habitats Regulations (2010) where forestry/woodland activities may affect European Protected Species.</p>
<p>Advisor / consultation body</p>	<p>We provide statutory and non-statutory advice and guidance across our organisational remit, to Welsh Government, industry and the wider public and voluntary sector. This includes development planning advice, conservation advice for protected sites, forest management and regulatory advice and guidance.</p> <p>We are a consultation body for our own and others programmes, plans and projects in respect of environmental assessments.</p> <p>We also advise on management of species that may be damaging woodlands such as deer and grey squirrels.</p>
<p>Evidence gatherer</p>	<p>We monitor our environment, commissioning and undertaking research, developing our knowledge, and being a public records body, including in relation to forestry and woodland management.</p>










<p>Partner / Educator / Enabler</p>	<p>We manage third party activity on the WGWE (on which we may then provide statutory advice to other authorities and be required to consider applications for permits against regulatory regimes where we have responsibility).</p> <p>Through our Mynediad (formerly Woodlands and You) framework we encourage individuals, groups and other organisations to use the WGWE for activities, projects, events and learning.</p> <p>We aim to be a catalyst for others' work, helping them to also contribute to well-being goals. For example, we offer advice, guidance, training and resources on woodland based learning, working with Forest School Practitioners and facilitating the Outdoor Learning Training Network which ensures the standards and quality of training for practitioners in partnership with Agored Cymru.</p>
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Annex 2 – Simplified governance structure and relationship to NRW and WG forestry role and responsibilities



Annex 3: Case studies demonstrating success against the four strategic themes

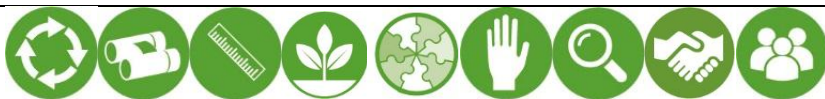
The following infographics highlight the relevance of each of the case studies to the achievement of the well-being goals.

	Adaptive management
	Long term
	Scale
	Building resilience
	Multiple benefits
	Preventative action
	Evidence
	Collaboration and engagement
	Public participation

Index of case studies

WfW strategic theme	Case study
Responding to climate change	Good Practice Guides – Forest Resilience Carbon sequestration Carbon substitution
Woodlands for people	Actif Woods project Spirit of Llynfi woodland Green infrastructure
A competitive and integrated forest sector	NRW five year Timber Marketing Plan Innovation Fund
Environmental quality	Biodiversity - Protected species and habitats Water quality management New Woodland Creation and Plant!

WfW strategic theme - Responding to climate change



Good Practice Guides – Forest Resilience

We have produced three new good practice guides that are intended for all forest and woodland managers in Wales. They provide information and advice to support decision-making to manage and improve the diversity and hence resilience of Welsh woodlands, and also improve outcomes for people. The guides address structural, species and genetic diversity, and they support compliance with the UK Forestry Standard (UKFS), the benchmark for sustainable forest management across the UK. They also directly contribute to delivery of the Woodlands for Wales Strategy²³.

The guide on **structural diversity** summarises the main types of silvicultural management systems, and explains the significance of each in terms of opportunities for improving structural diversity, and the impact they have on the range of benefits (or ecosystem services) that woodlands provide.

The guide on **tree species diversity** discusses the factors and variables that influence tree species selection, including climatic zones, forest type, soil type and exposure, and the importance of scale, and identifies the tree species or range of species that are most likely to be suited to a range of different forestry scenarios.

The guide on **genetic diversity** explains a range of different approaches to sourcing forest reproductive material (seeds, cones, cuttings and planting stock used in forest establishment). Genetic diversity is an important consideration as it will affect the extent to which tree species can adapt to the predicted effects of climate change in Wales. Options for managing genetic diversity, for native and non-natives species and for different planting scenarios, are discussed.



Carbon sequestration

The Carbon Positive Project is evaluating NRW's net carbon status, accounting for both carbon sequestration and greenhouse gas emissions across the whole of NRW's owned or managed estate. Part of the project has involved estimating the amount of carbon stored in the vegetation and soils of habitats on the NRW owned or managed estate, and the rate of additional carbon being stored each year (annual sequestration).

Woodland and peatland habitats make up approximately 84% of the land that NRW manage, and make significant contributions to the Wales' carbon budget. An improved understanding of carbon storage in these valuable habitats and soils will help us to plan how we can best manage them to protect existing carbon stocks and enhance sequestration, e.g. by restoring and expanding our key peatland and woodland habitats. In relation to the restoration of afforested deep peat to open

²³ See p17 of the Strategy

habitat, approximately 650 ha have undergone restoration to date. 1,095 hectares have been identified for restoration over the next five years, with another 1,000+ ha in the following five year period.

The project has identified mitigation opportunities to reduce our carbon impact as an organisation, and is in the process of analysing the costs, carbon savings and wider benefits of these measures to produce a costed, prioritised programme of work for NRW. Through sharing our approach and experience, the Carbon Positive Project will help to disseminate best practice in carbon management across the Welsh public sector, with the ambition of accelerating decarbonisation.



Carbon substitution

Wood and timber products are renewable and effective at sequestering carbon; approximately 50% of wood is carbon²⁴. Every tonne of wood that grows absorbs approximately 1.8 tonnes of atmospheric CO₂. This carbon remains sequestered until the wood decays or is burned. Whilst this is not permanent sequestration, it is estimated that there is currently around 20 million tonnes of absorbed carbon (representing 70 million tonnes of CO₂) in the UK housing stock, with the potential to increase this to 29 million tonnes of carbon by 2019. There is significant potential to increase the use of locally processed and grown timber in sustainable construction as Wales currently imports 80% of its needs.

In our recently published Timber Marketing Plan for the period 2017-22 (see later box), we have committed to adopting a simple 'carbon hierarchy of use' as a way of comparing the contribution of different wood products to reducing greenhouse gas emissions and supporting the effective storage of carbon. The hierarchy means that for roadside sales (which we directly control), we will: :

- Sell and grade out products to encourage the greatest degree of added value in the supply chain, e.g. maximise the availability of timber for construction
- Encourage the production of wood fuel from forest products with low end-value-use in areas close to high-value markets and established processing businesses
- Explore the potential to harvest additional biomass from all parts of the tree including branches/lop/top and roadside vegetation management programmes, to maximise the use of low-grade timber for fuel.

We have also been working with WoodKnowledge Wales, a not-for-profit, for public good, membership organisation that promotes green growth and the sustainable use of timber and wood products in Wales as part of a circular economy. The organisation's mission is to, '*... champion the development of wood-based industries for increased prosperity and well-being in Wales*'. A series of joint site visits are planned in 2017 that highlight use of timber in sustainable construction. WoodKnowledge Wales are also working with Powys County Council on a [new approach](#) to join-up timber supply with housing demand to facilitate the construction of modern high performance timber houses and do this in a manner that maximises the social benefit of their procurement helping to create much

²⁴ [Low Carbon: How Does Timber Fit the Bill?](#)

needed employment opportunities for local people. An early priority has been to develop the Powys Wood Encouragement Policy which is to be underpinned by an Action Plan to help turn aspiration into reality. It is hoped that the pioneering leadership shown in Powys will spread to other Local Authorities, with the ultimate hope that Welsh Government will create and implement an industrial strategy for wood.

WfW strategic theme - Woodlands for people



Actif Woods project

Delivered by Coed Lleol with funding from NRW and Big Lottery, the Actif Woods programme provides woodland activities for people with chronic health conditions (including heart disease, obesity, diabetes, osteoporosis, depression and mental health conditions). Overseen by a steering group comprising, amongst others, Public Health Wales, National Exercise Referral Scheme, Welsh Wildlife Trust, Coed Cymru, Age Cymru and Llais y Goedwig, Actif Woods has worked since 2013 with local organisations to provide woodland activities developed co-productively around the needs of participants in order to improve mental and physical health and well-being.

Delivering in ten areas across Wales, identified by high levels of deprivation and health inequalities, Actif Woods has worked with over 1000 participants in 1400 sessions (2013- 2016) with wide ranging positive impacts on individual health and well-being.

Actif Woods has had a broader impact through sharing experiences and learning with a wide range of stakeholders, including research, policy and practitioner communities. Through this the programme makes a valuable contribution to the understanding of green and social prescribing and the social value of the natural environment.

www.coedlleol.org.uk <https://vimeo.com/157699484>

<https://vimeo.com/102464719>



Spirit of Llynfi woodland

An opportunity to create 30ha of new woodland planting, transforming a former industrial site (Coegnant Colliery and Maesteg Washery) into a multi-functional 75ha community woodland in Upper Llynfi Valley, nine miles north of Bridgend and bordering the communities of Maesteg, Caerau and Nant-y-fyllon. Demonstrating how under-utilised land can be managed to bring multiple benefit to environmental and local people, helping communities become healthier, build resilience and be more prosperous. The challenge was to bring people together to develop a dynamic and resilient woodland resource to respond to the changing needs of people and the environment, both now and in the future.

Over the last decade, site investigations coupled with evidence demonstrating local deprivation and reduced healthy-life expectancy, led to Welsh Government,

NRW and Ford Motor company funding. Collaboration and engagement with various partners including Swansea University, the Amphibian Reptile Conservation Trust and Bridgend Borough Council has helped to ensure the success of the project to date.

Public participation has been fundamental in the early development of site and will be integral to its long term management. Working with the community to prepare plans for the site, enabled local needs and aspirations to be assessed and incorporated. The community have taken an active role in developing the site including participating in the planting of 60,000 trees and 50,000 bulbs, choosing the site's name, creating an outdoor learning area and participating in the 'keeping the collieries' sculpture initiative.

The site has delivered numerous benefits including the creation of accessible space for relaxation and exercise, improved biodiversity, landscape and local flood risk. It provides performance space and a celebration of local industrial heritage. As site-based volunteering group has been established with the aim of further in-bedding the project within the community, ensuring the long term success and sustainability of the site. Projects which the group will be involved in include a geocache trail, dog activity area, pond creation, a sensory area and green exercise prescription pilot.



Green infrastructure

Trees and woodlands are important elements of Green Infrastructure in urban areas and beyond, and deliver multiple benefits including encouraging exercise, improving health and well-being, improving community cohesion, removing dust from air, slowing surface floodwater run-off, providing shelter, shade and cooling, and storing carbon.

The City of Cardiff Council, Dŵr Cymru Welsh Water and NRWs are investing £2 million in Greener Grangetown, an innovative scheme to better manage rainwater in the community. Using the latest techniques, this scheme will catch, clean and divert rainwater directly into the River Taff instead of pumping it over eight miles through the Vale of Glamorgan to the sea. It will help to make Grangetown a greener, cleaner place to live. We want to ensure Greener Grangetown delivers a wide range of benefits for the environment and the local community. The street designs include installing attractive rain gardens and curbside planting areas. These will not only enhance local biodiversity and wildlife, but deliver important improvements to water quality in the River Taff, and encourage water efficiency. At the same time, planting 135 new trees, from 19 different species, and creating 1,600m² additional green space will open up new opportunities for people to enjoy walking, cycling and other recreation close to where they live and work. There is overwhelming research that being closer to green space also improves people's physical and mental well-being. More greenery and tree planting will also mean noise and pollutants should be better absorbed, and air will be cleaner too. The scheme will be completed by December 2017.

www.greenergrangetown.wordpress.com

<https://www.youtube.com/watch?v=cQW84iRZUXo>

We have also worked with Local Authorities and others to produce local tree assessments in [Wrexham, Bridgend and the Tawe Catchment](#). These used an approach called 'i-Tree-Eco' to gain important extra information on the quality of the urban tree resource to inform local tree management strategies. Looking to the future, we will be focusing our work at a strategic level to recognise opportunities for green infrastructure, but also working to help others turn policy into good design and management practice on the ground. This will happen through National and Local Planning Policy and Local Development Plans, master planning, Public Service Boards and Well-being Plans, and Area Statements.

WfW strategic theme - A competitive and integrated forest sector



NRW five year Timber Marketing Plan

In January 2017 we published our [Timber Marketing Plan for the period 2017-22](#). This plan communicates our approach to the harvesting and marketing of timber from the WGWE, and was informed by a [public consultation](#) exercise in 2015. As managers of 38% of the Welsh forest resource we currently supply around 60% of the harvested timber volume in Wales, making this plan unique in many ways. All of our forests have long term plans setting out how their nature and character will change over the next 25 to 50 years. Timber harvesting and sales are a crucial part of the forest management cycle allowing us to restructure and shape our future forests.

We aim to secure the best value from the sale of timber by offering it for sale in a fair, open and transparent way that allows as many customers to compete for it as possible. This includes community woodland groups, social enterprises, new entrants and micro-business. Our [Woodlands and you](#) / Mynediad scheme encourages those wishing to be involved in the sustainable management of natural resources on the WGWE.

The maximum level of timber offered for sale each year will remain at 850,000 cubic metres over-bark standing (m³ obs). This will comprise a "baseline volume" of around 700,000m³ obs in the form of Direct Production or conventional Standing Sales contracts. Up to a further 150,000m³ obs will be offered in the form of Standing Sales contracts with special conditions, in which the buyer will be responsible for carrying out their own civil engineering work and restocking clearfelled areas to an agreed specification. This will help to improve integration across the supply chain.

We will continue to have a number of Long Term Contracts, although these will reduce during the period of the plan with a resultant increase in open market sales which will enable us to be more responsive to market conditions. In the past, LTCs have helped to stimulate supply chain investments and in the future they may also be used to support our wider marketing objectives and policies in the context of SMNR.

We will continue to sell our timber with FSC and PEFC certification, which supports the wider supply chain in Wales who rely on this to maintain their own certification. We are committed to achieving best practice including the UK Forest Industry Safety Accord, UK Forestry Standard and Timber Haulage Code of Conduct, and work closely with our contractors and customers to help protect their safety and livelihoods.

Via quarterly formal sector business meetings, an annual Customer Liaison Meeting, and regular contact between customers and our sales team, we maintain good working relations with the sector.

Our performance against the UK Woodland Assurance Scheme is regularly audited, to support our certification to FSC and PEFC. In 2016, we received a number of commendations, including in relation to our timber harvesting standards (roadside stacking of timber), the mitigation of environmental and social impact linked to timber traffic management via the Tywi Timber Transport Forum, the management of accidental spillages during operations, the community woodland partnership project known as 'Coed y Bont', the use of long term timber sales contracts to facilitate supply chain investment in machinery, and support given to new entrants to the harvesting sector.



Innovation Fund

Working with the ES&T Department in Welsh Government and Innovate UK, we have set a number of challenges to industry and academia. The challenges are designed to develop new innovative products and services which, if adopted across Wales, will not only help solve significant environmental problems but also deliver economic benefits. Two of the challenges are directly related to the woodland sector.

The first considers extending the life of fence posts. Two solutions are currently being taken to the commercial stage and look at solving the issue of rotting that can take place at the soil interface. One product involves coating the lower section of the fence post with a plastic compound. The other uses nano-scale bio char (carbon) derived from local wood. This is made into a coating which is applied under pressure to the fence post. Both approaches considerably extend the life of fence posts. This will ensure fencing is more cost effective, and this is essential in protecting newly planted trees from grazing stock.

A second challenge has also used locally sourced nano scale bio char, but this time as a soil improver. Many areas of Wales suffer from the inundation by invasive non-native species such as Rhododendron. These plants damage the native flora and fauna in the soil. This damage is often so great that even after clearing the invasive species, native plants are unable to re-colonise. A test site near Pontarddulais is being used to test how adding bio char to these damaged soils can assist natural regeneration. The results of applying bio char has to date been very encouraging.

WfW strategic theme - Environmental quality



Biodiversity - Protected species and habitats

The Environment Act places a duty on public authorities to “seek to maintain and enhance biodiversity” and “promote the resilience of ecosystems”. The WGWE, as well as the wider Welsh Forest Resource, support a whole range of protected species and habitats, and we are committed to playing our part in managing these to maintain and enhance biodiversity and promote resilience.

Wales holds a diverse range of semi-natural woodland types, reflecting variations in climate, soils, hydrology and historical management. Six broad types have been widely recognised, for example as priority habitats within Section 42(7). Upland Oakwood is the predominant of these types in Wales, occupying up to 50% of the semi-natural habitat area. The Meirionnydd Oakwoods and Bat Sites Special Area of Conservation (SAC) in Gwynedd contains internationally significant rare mosses, lichens and liverworts. We have been working in partnership with other organisations such as Plantlife, National Trust, RSPB and the Woodland Trust to manage this unique “temperate rainforest”, to maintain and enhance biodiversity and resilience but also the economic and social values of the area, by providing a high quality environment for peaceful enjoyment by local people and visitors. Despite the protection afforded to these woodlands, and the ongoing work to conserve them, there are worrying declines for several Welsh woodland specialists of upland Atlantic Oakwood such as wood warbler, pied flycatcher and tree pipit.

Our management of National Nature Reserves in Wales, including the Meirionnydd Oakwoods, was featured in a recent publication which highlights the contribution NNRs make to the well-being objectives.

<http://www.plantlife.org.uk/uk/our-work/conservation-projects/woodland/meirionnydd-woodlands-gwynedd>

<http://www.bbc.co.uk/earth/story/20150605-important-rainforest-in-wales>

Welsh woodlands are the home of many protected species, including European Protected Species such as the hazel dormouse, some of our rarest bats such as the lesser horseshoe bat and barbastelle bat, and great crested newt, and a host of other protected Section 42 (7) species. There are mixed success stories in relation to protected species in Wales. Monitoring information indicates that dormouse populations are declining across Wales and England. The reasons for this are likely to be complex but this decline emphasises the importance of sympathetic woodland management for this species which requires a highly diverse habitat. Red squirrels are now widespread in Anglesey, but remain vulnerable in other parts of Wales. Their success is intrinsically linked to woodland habitat and grey squirrel management. The ongoing reinforcement of pine marten populations in mid Wales is a recent success story with the relocated pine martens giving birth to their first offspring in 2016.

Annually, approximately 200 coupes within the WGWE are identified as having protected species which are subject to licensing or constraints requirements,

including in relation to foraging and roosting bats, dormice and several raptor breeding sites. A range of Section 42 (7) species utilise the rides and edges of conifer forest including reptiles, butterflies and moths that require the open or flowery conditions found there. Our management of these sensitive areas is important, as it is for other niche habitats such as upland conifer restock for nightjars. As we implement long term FRPs in the context of SMNR, we will deliver more diverse and resilient woodlands, including restoration of our ancient woodland, and there will a greater opportunity to enhance woodland habitats and connectivity to support more species populations in Wales.



Water quality management

We are working hard to tackle EU Water Framework Directive (WFD) pressures related to forestry and woodlands. In Wales, forestry is identified as a reason for failure to achieve “good status” in 42 river catchments and two lakes, some 4% of our rivers. The failure is caused principally by acidification with the dominant causes of failure being low pH and poor fish populations. Other threats include sedimentation, pesticides, excessive shading, nutrient enrichment, contamination from fuel oils and barriers to fish migration.

We are committed to reducing the number of times forestry is identified as a reason for failure by dealing with the causes of those failures and improving environmental quality across the WGWE. We have a programme of work in place to achieve this, particularly to in relation to acidification.

- We have identified 22 prioritised water bodies where our actions can lead to a significant improvement in their status, and made a commitment to review the forest riparian management and drainage systems and ensure they meet best practice for water management by 2021. This is being done by undertaking river surveys along all the watercourses of a failing waterbody that lie within the forests of the WGWE. The surveys record a wide range of information including riparian habitat quality, fish blockages, forest and roadside drain connections. Following the survey, a programme of works is identified for these watercourses that is further be prioritised where there are protected sites downstream, or communities at risk of flooding.
- We have published an '*Implementation guide to managing forests in acid-sensitive areas*,' with the aim of clarifying and simplifying the ways in which the Forestry Commission (FC) Practice Guide (2014) on [Managing forests in acid sensitive catchments](#)', is put into practice in Wales. Implementing the guidance is an important step towards ensuring “good status” in some of our failing upland water bodies. We have several roles to play in order to ensure proper progress is made, working as forestry regulators, water regulators, a conservation body and as an advisor and land manager.

Despite some success to date, challenges remain, for example in relation to tackling diffuse pollution from forestry and agriculture more generally and when using the critical load exceedance methodology on a site by site by site basis where felling or new planting is planned (assessment using catchment-based critical load assessments would allow greater understanding on a Wales-wide basis to support SMNR).



New Woodland Creation

We are involved in delivering a number of different strands of Welsh Governments sustainable land management scheme, Glastir. One such strand is Glastir Woodlands. The Glastir Woodland Creation scheme provides support for the creation of new woodlands, including agroforestry options, which are designed to integrate the management of trees and woodlands into rural businesses.

We play an important role in delivering the Glastir Woodland Creation (GWC) scheme on behalf of the Welsh Government by advising applicants about whether new planting management plans meet Glastir scheme rules, the [UK Forestry Standard \(UKFS\)](#) and value for money requirements. This process is known as verification. Our verification role sits independently of our role as Regulatory Authority under the Environmental Impact Assessment (Forestry) (England and Wales) Regulations 1999. In accordance with these regulations, we determine whether new planting proposals will have a significant impact on the local environment.

A recent example of a successful application under the GWC scheme relates to an organic farm in mid Wales where 17ha was planted up in February and March 2016 with a “native carbon” broadleaves mixture (sessile oak, rowan, silver birch, alder, hazel and hawthorn) at 2m spacing. The farm business comprises 120 milking cows, a flock of 700 sheep and 50 fattening cattle.

Over 40,000 trees were planted with 6,000m fenced-out over a number of compartments on three farms. GWC is realising a number of benefits to the farm business and wider economy.

- The fencing and new planting are improving the structure and biosecurity of the farm by enhancing boundaries with neighbouring holdings.
- A regular income from GWC premium grants for 12 years
- A supply of timber and firewood in the future. The farm has a biomass boiler to heat the farmhouse and farm buildings.
- An improved carbon footprint, which the farmer feels will become more important in the future, especially with farm assurance schemes.

Benefits to the local economy, with the farm using a local planting contractor to carry out the work and trees purchased from a local tree nursery.

Plant!

The Welsh Governments Plant! Programme began in January 2008, in partnership with the Woodland Trust, and for the past three years has been delivered by Natural Resources Wales on behalf of the partnership. This long standing and very successful programme has had continued and consecutive Ministerial support and created national and international interest. The programme is designed to contribute to the Welsh Governments tree planting target of 100 000ha of trees to help mitigate against climate change and provide a tangible link between young children, their families and the natural environment. The programme contributes to the people of Wales feeling the connection between themselves and the benefits of trees and woodlands, and therefore contributes to the Well-Being goals.

The programme has successfully planted a tree for every child born and adopted in Wales since January 2008 and the tree total now stands at 312,034 trees over 143.02ha. Areas planted include locations Usk, Tredegar, Bridgend, Wrexham, Llanwrst, Blaenavon and Anglesey.

From 1st April 2014 the commitment was extended to plant an additional tree in Uganda for every child. Wales and Mbale work together through the Welsh Government's Wales for Africa Programme and the Ugandan project is run by the Size of Wales charity <http://plant.sizeofwales.org.uk/> Welsh Government's Wales for Africa Programme is covering the direct costs of the Ugandan trees as part of its wider efforts to promote greater resilience to climate change in the Mbale Region. By making a direct connection between people and communities in Wales and by tree planting both in Wales and in Uganda, Wales for Africa is building on the strong links that have been developed between communities over many years.

More information can be found at www.wales.gov.uk/plantatree